

LAX MAY 2015

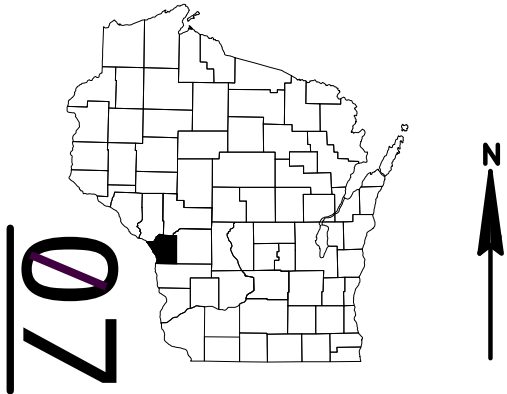
PROJECT ID: 5163-07-60

COUNTY: LA CROSSE

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 = 74



DESIGN DESIGNATION

A.A.D.T.	2014	=	12500 - 22800
A.A.D.T.	2034	=	14940 - 25500
D.H.V.		=	
D.D.		=	
T.		=	6.2%-10.8%
DESIGN SPEED		=	40 - 55 MPH
ESALS		=	2,000,000

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

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

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

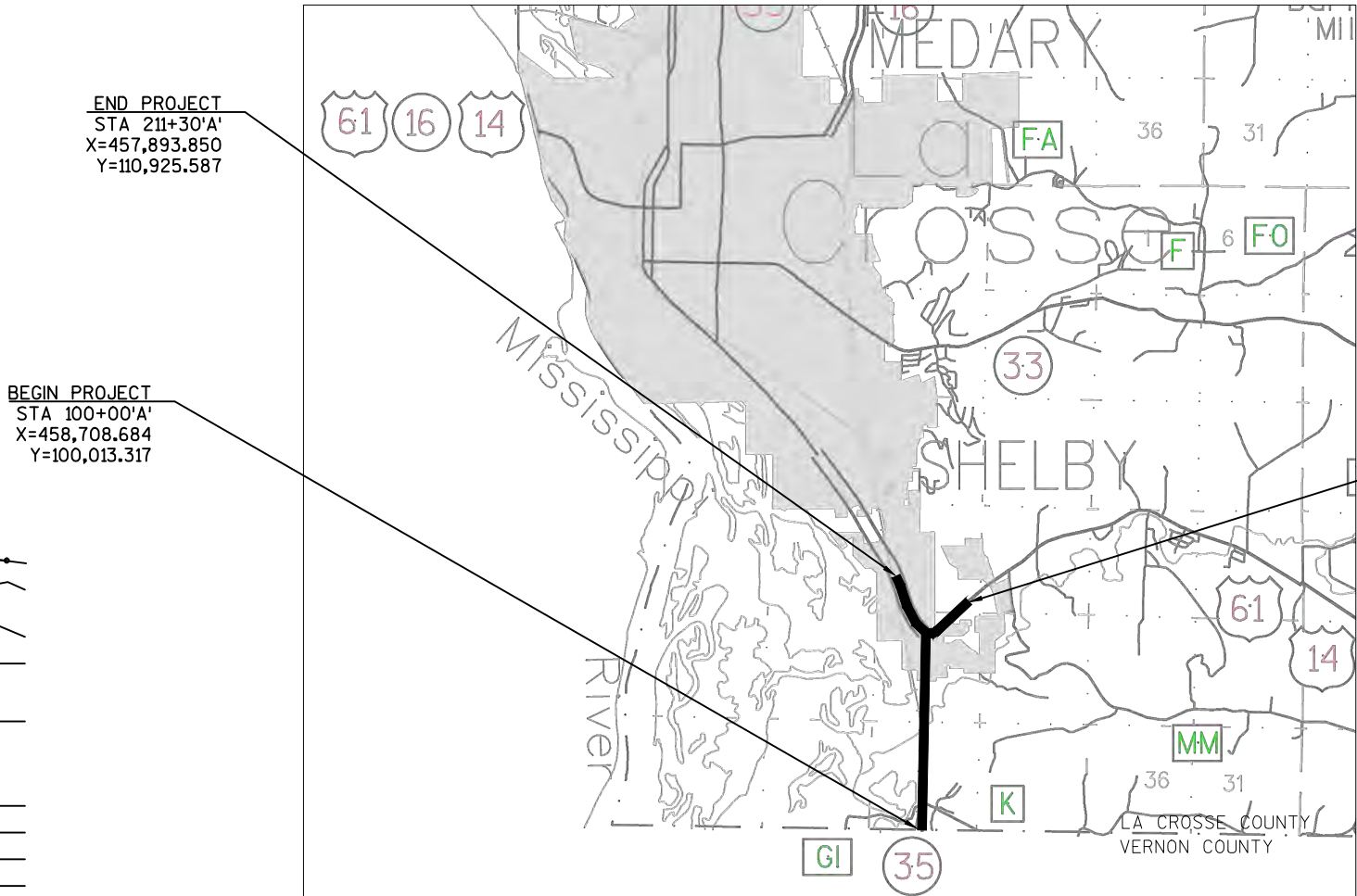
GENOA - LA CROSSE

LA CROSSE COUNTY LINE TO GARNER PL

STH 35

LA CROSSE COUNTY

STATE PROJECT NUMBER
5163-07-60



END PROJECT
STA 211+30'A'
X=457,893.850
Y=110,925.587

BEGIN PROJECT
STA 100+00'A'
X=458,708.684
Y=100,013.317

END PROJECT
STA 78+16'B'
X=460,751.708
Y=111,289.562

LAYOUT

SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 2.830 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, LA CROSSE COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5163-07-60	---	---

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	WISDOT
Designer	TOREY LEONARD
Project Manager	TIM MAEDKE
Regional Examiner	
Regional Supervisor	REINY YAHNKE
APPROVED FOR THE DEPARTMENT	
DATE: 1-21-2015	<i>T. J. Maedke</i> (Signature)
	E

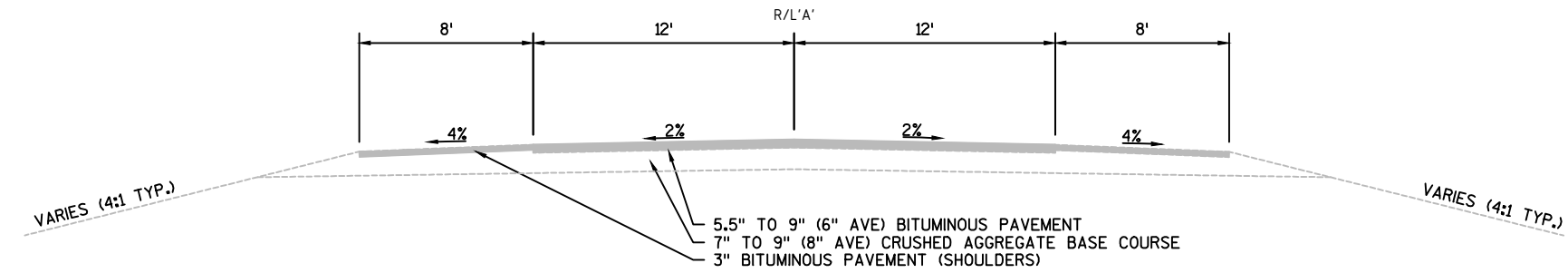
GENERAL NOTES

- THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLING AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE
- DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.
- ASPHALTIC WASTE MATERIAL RESULTING FROM THE VARIOUS OPERATIONS UNDER THIS CONTRACT SHALL BE ENTIRELY REMOVED AND DISPOSED OF AT THE TIME OF OCCURRENCE AS DIRECTED BY THE ENGINEER.
- ALL WASTE MATERIAL RESULTING FROM THE VARIOUS CONSTRUCTION OPERATIONS ADJACENT TO PAVEMENT UNDER TRAFFIC SHALL BE ENTIRELY REMOVED AND PROPERLY DISPOSED OF IMMEDIATELY OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE OR PARKING LANE.
- WHEN THE QUANTITIES OF ASPHALTIC CONCRETE PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS OF THE MATERIAL THAT IS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- HMA PAVEMENT AND ASPHALTIC MATERIAL WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- THE RATE OF APPLICATION FOR TACK COAT IS COMPUTED AT 0.070 GAL/SY.
- ASPHALT MATERIAL FOR PLANT MIXES HAS BEEN ESTIMATED AT 5.5% OF THE HMA PAVEMENT.
- PAVING LIMITS AT INTERSECTIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- WHEREVER ASPHALTIC CONCRETE PAVEMENT ABUTS OR OVERLAPS ONTO PORTLAND CEMENT CONCRETE, THE EXISTING PAVEMENT SHALL RECEIVE A TACK COAT OF RS-1 OR RS-2 EMULSIFIED ASPHALT.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AND SIDEROADS AT ALL TIMES.
- ADD TYPE III BARRICADES, LIGHTS, CONES, AND DRUMS FOR T.C. AT THE ENGINEER'S REQUEST.
- ALL SAWCUT AND REPAIR LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.
- THE EROSION CONTROL ITEMS SHOWN ON THE PLAN ARE AT THE SUGGESTED LOCATIONS. ENGINEER SHALL CONFIRM ACTUAL LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL ITEMS SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. AT THAT TIME, THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION CONTROL ITEM INCIDENTAL TO THE COST OF THE RESPECTIVE BID ITEM.
- NO EQUIPMENT OR MATERIALS SHALL BE STORED OR IMPACT ANY WETLANDS OR WATERWAYS.
- NO GROUND DISTURBANCE SHALL OCCUR BEYOND THE ROADWAY SHOULDERS EXCEPT FOR LOCATIONS NOTED ON PLAN. EQUIPMENT OR MATERIALS SHALL ONLY BE STORED ON A PAVED SURFACE.
- ALL CLOSED LANES MUST BE SWEEPED PRIOR TO BEING OPENED TO TRAFFIC.

STANDARD ABBREVIATIONS

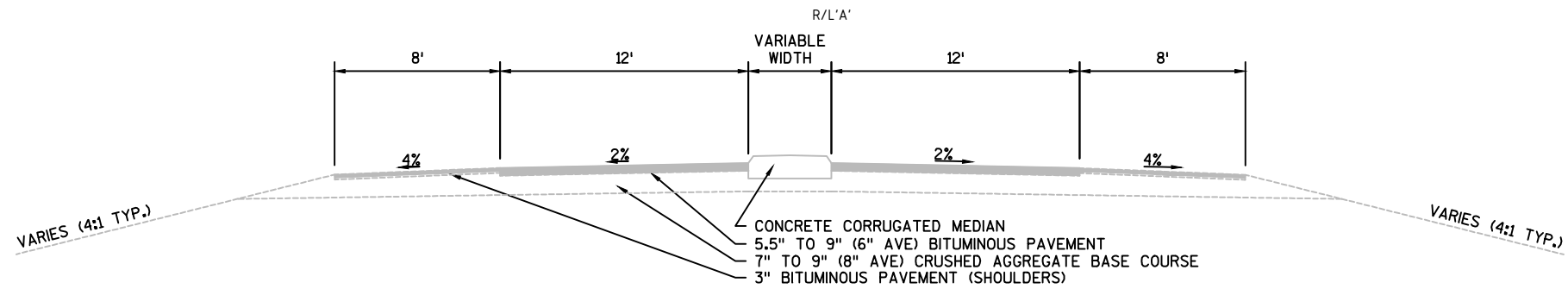
AC	ACRE	LC.	LONG CHORD
AGG	AGGREGATE	LS	LUMP SUM
<	ANGLE	M.P.	MARKER POST
A.E. AEW	APRON ENDWALL	MGAL	1000 GALLONS
ASPH.	ASPHALTIC	N.C.	NORMAL CROWN
A.D.T.	AVERAGE DAILY TRAFFIC	N	NORTH
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC	NB	NORTHBOUND
B.F.	BACK FACE	NOR	NORMAL
BM	BENCHMARK	NO.	NUMBER
BTWN	BETWEEN	PAV'T	PAVEMENT
CTR.	CENTER	P.L.E	PERMANENT LIMITED EASEMENT
C/L	CENTER LINE	P.C.	POINT OF CURVATURE
Δ	CENTRAL ANGLE OR DELTA	P.I.	POINT OF INTERSECTION
C.E	COMMERCIAL ENTRANCE	P.T.	POINT OF TANGENCY
CONST.	CONSTRUCTION	PCC	PORTLAND CEMENT CONCRETE
CMCP	CORRUGATED METAL CULVERT PIPE	P.E	PRIVATE ENTRANCE
CMP	CORRUGATED METAL PIPE	PGL	PROFILE GRADE LINE
CO.	COUNTY	P.L.	PROPERTY LINE
CTH	COUNTY TRUNK HIGHWAY	R	RADIUS OR RANGE
CR.	CREEK	R/L	REFERENCE LINE
CABC	CRUSHED AGGREGATE BASE COURSE	R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
CY	CUBIC YARD	REQ'D	REQUIRED
CP	CONTROL POINT OR CULVERT PIPE	RT	RIGHT
C&G	CURB AND GUTTER	R.H.F.	RIGHT HAND FORWARD
D	DEGREE OF CURVE	R/W	RIGHT OF WAY
D.H.V.	DESIGN HOURLY VOLUME	RD.	ROAD
DIA.	DIAMETER	SHLD.	SHOULDER(S)
D.D.	DIRECTIONAL DISTRIBUTION	SHR.	SHRINKAGE
DISCH.	DISCHARGE	S	SOUTH
DMS	DYNAMIC MESSAGE SIGN	SB	SOUTHBOUND
EA	EACH	S.F.	SQUARE FOOT (FEET)
E	EAST	SDD	STANDARD DETAIL DRAWING(S)
EB	EASTBOUND	STH	STATE TRUNK HIGHWAY
ELEC.	ELECTRIC(AL), ELEC. CABLE	STA.	STATION
EL., ELEV.	ELEVATION	S.E	SUPERELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	S/L	SURVEY LINE
EXC.	EXCAVATION	SYM	SYMMETRICAL
EXIST	EXISTING	T.	PERCENT TRUCKS
F.F.	FACE TO FACE	TEL.	TELEPHONE
FERT.	FERTILIZER	TEMP.	TEMPORARY
F.E	FIELD ENTRANCE	T.L.E	TEMPORARY LIMITED EASEMENT
F/L, F.L.	FLOW LINE	T.O.C.	TOP OF CURB
GALV.	GALVANIZE	TYP	TYPICAL
H.S.	HIGH STRENGTH	UNCL.	UNCLASSIFIED
CWT	HUNDRED WEIGHT	U.G.	UNDERGROUND (CABLE)
INL	INLET	VAR	VARIABLE
INTER.	INTERSECTION	V.C.	VERTICAL CURVE
IH	INTERSTATE HIGHWAY	V.P.C.	VERTICAL POINT OF CURVATURE
JT.	JOINT	V.P.I.	VERTICAL POINT OF INTERSECTION
LT	LEFT	V.P.T.	VERTICAL POINT OF TANGENCY
L.H.F.	LEFT HAND FORWARD	Wt.	WEIGHT
L.	LENGTH OF CURVE	W	WEST
L.F.	LINEAR FOOT(FEET)	WB	WESTBOUND

2					2



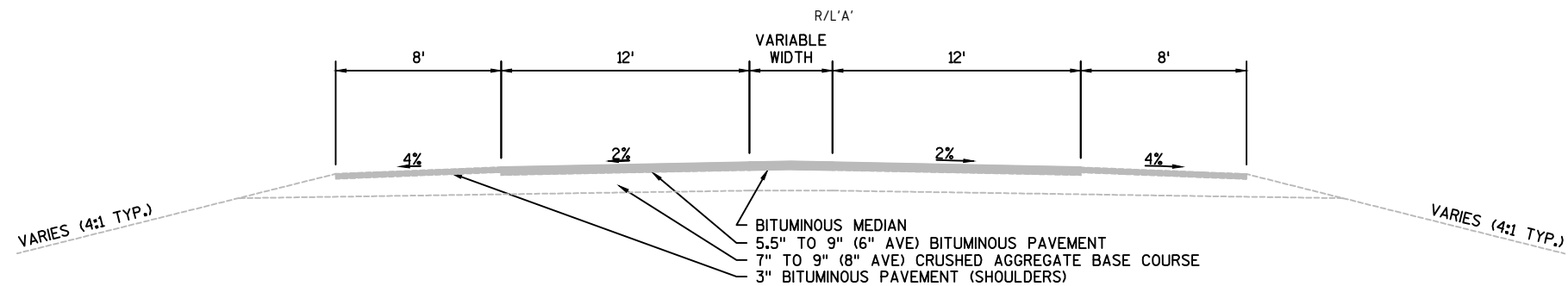
TYPICAL EXISTING SECTION - STH 35

STA 100+00-103+05'A'
STA 124+45-148+90'A'
STA 151+13-185+84'A'



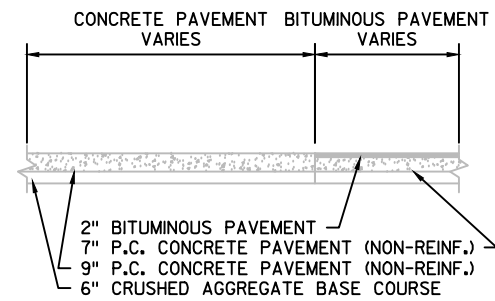
TYPICAL EXISTING SECTION - STH 35

STA 107+60-109+52'A'
STA 110+28-112+45'A'
STA 113+30-114+06'A'
STA 114+97-122+90'A'



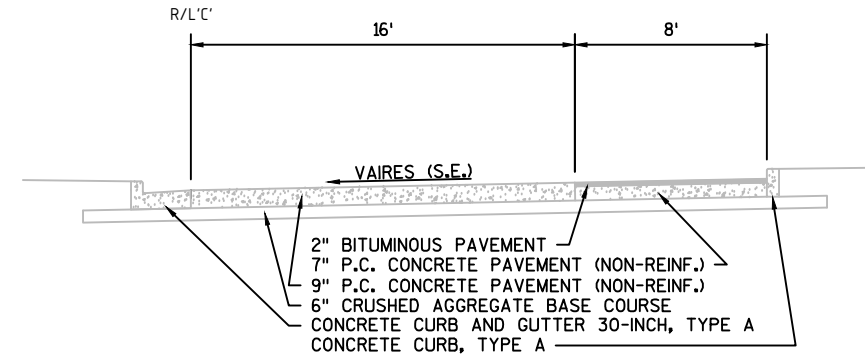
TYPICAL EXISTING SECTION - STH 35

STA 103+05-107+60'A'
STA 109+52-110+28'A'
STA 112+45-113+30'A'
STA 114+06-114+97'A'
STA 122+90-124+45'A'



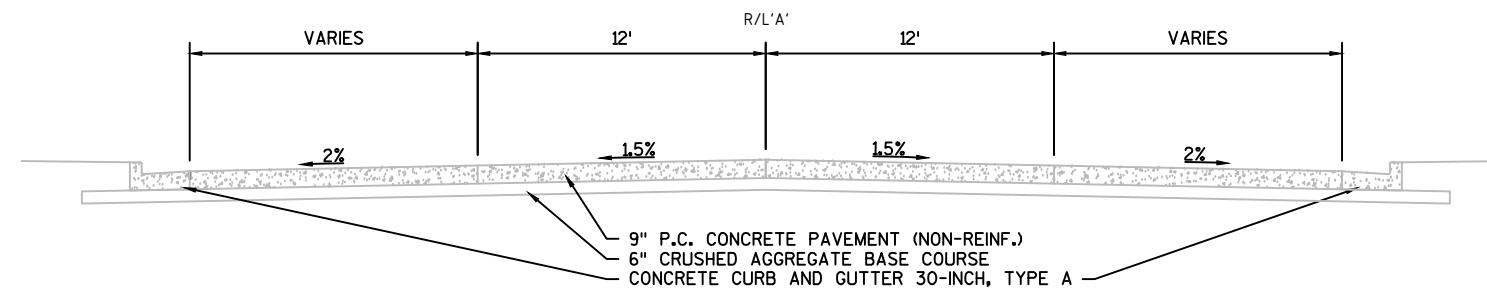
TYPICAL EXISTING PAVEMENT SECTION - STH 35, USH 14, USH 61

STA 185+84'A'-211+30'A'
STA 50+00'B'-78+16'B'
STA 6+00'C'-15+98'C'



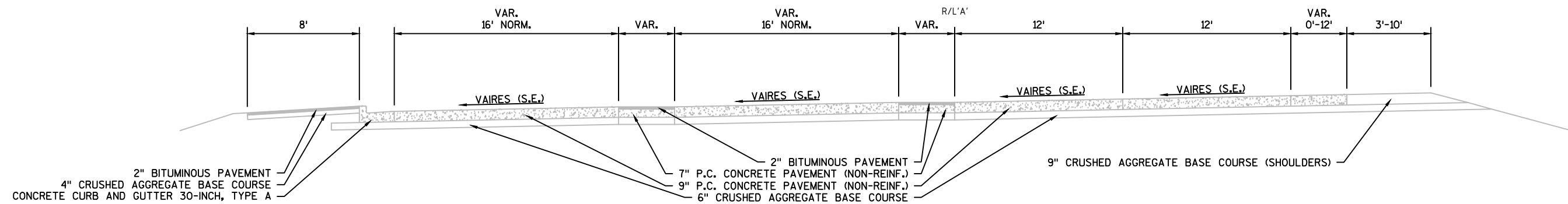
TYPICAL EXISTING SECTION - USH 14 & 61 WESTBOUND RAMP

STA 6+00'C'-15+98'C'



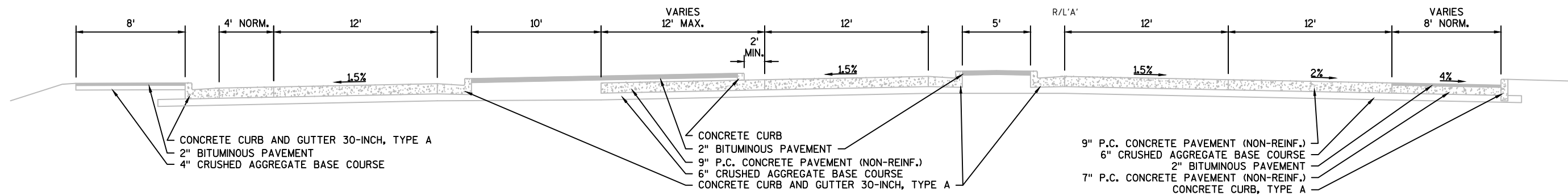
TYPICAL EXISTING SECTION - STH 35

STA 185+84'A'-188+88'A'

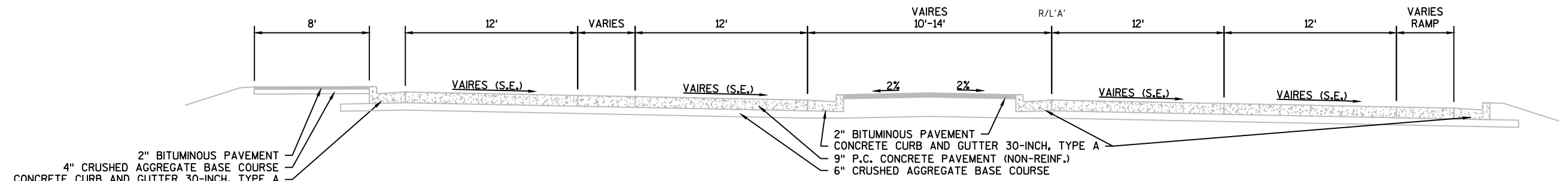


TYPICAL EXISTING SECTION - STH 35

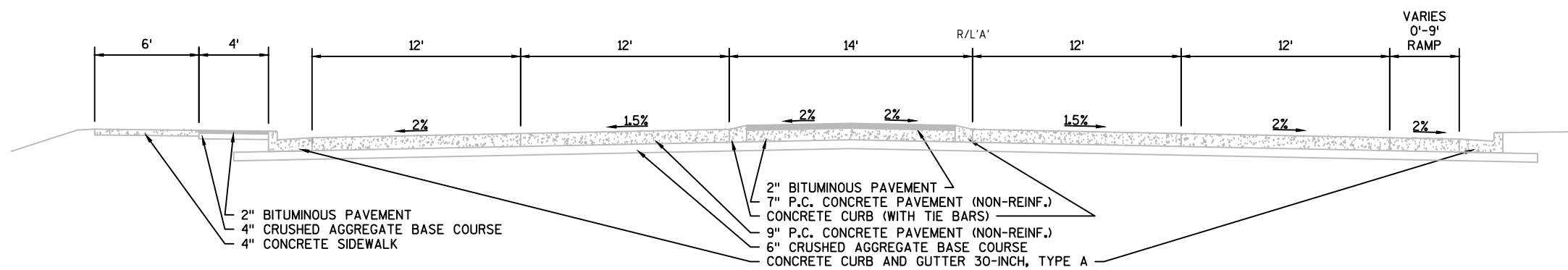
STA 188+88'A'-197+24'A'



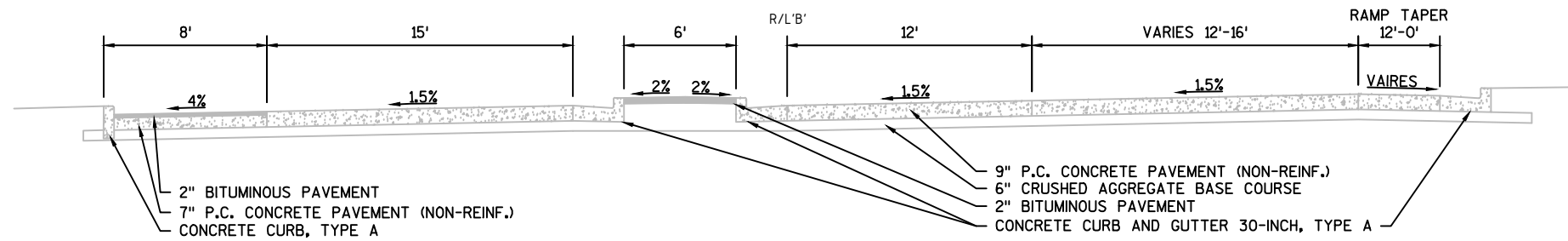
TYPICAL EXISTING SECTION - STH 35, USH 14, USH 61
STA 197+24'A'-202+42'A'



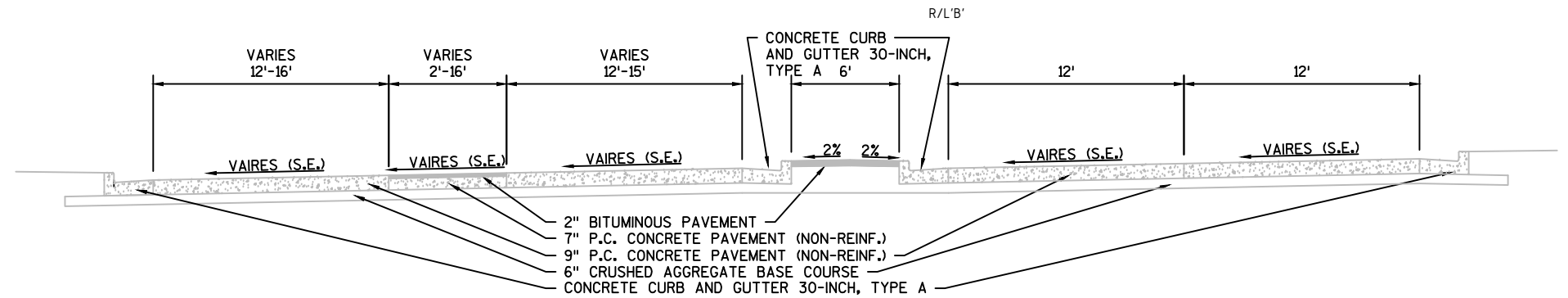
TYPICAL EXISTING SECTION - STH 35, USH 14, USH 61
STA 202+42'A'-205+37'A'



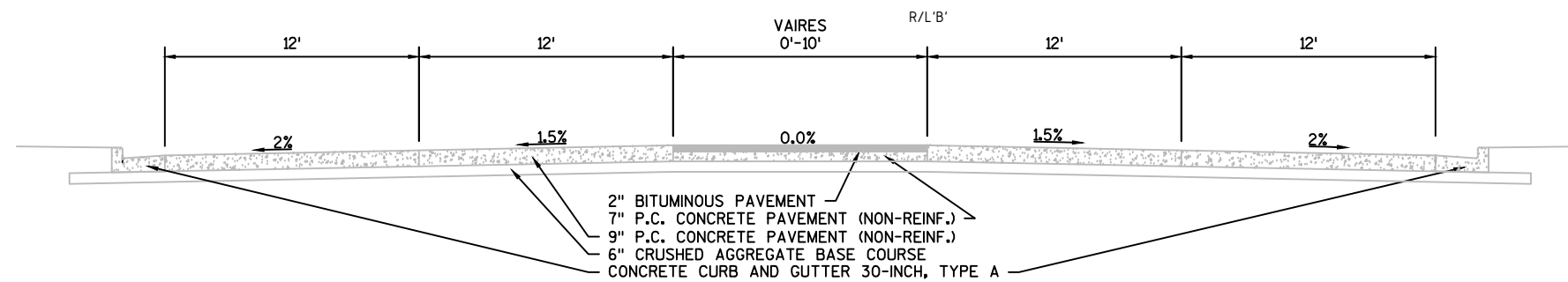
TYPICAL EXISTING SECTION - STH 35, USH 14, USH 61
STA 205+37'A'-211+30'A'



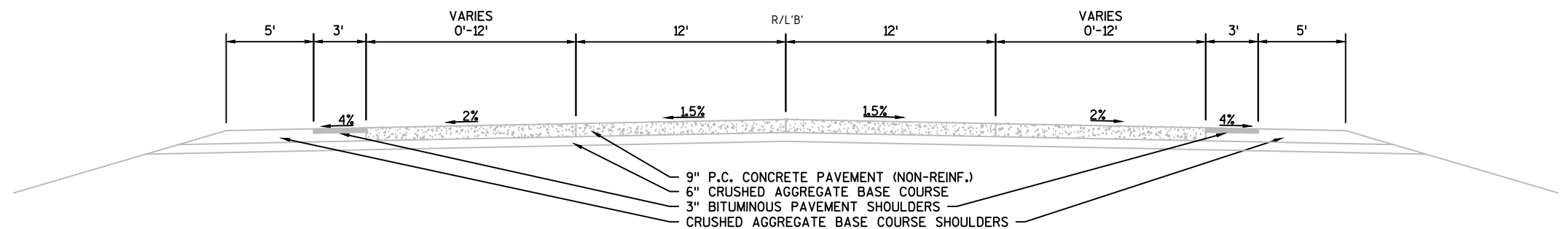
TYPICAL EXISTING SECTION - USH 14, USH 61
STA 50+50'B'-52+88'B'



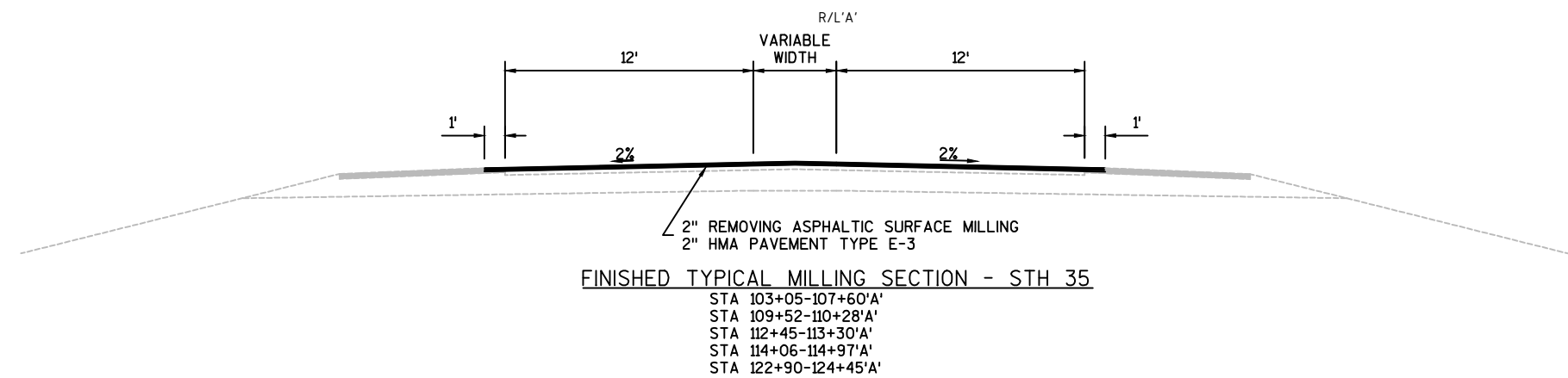
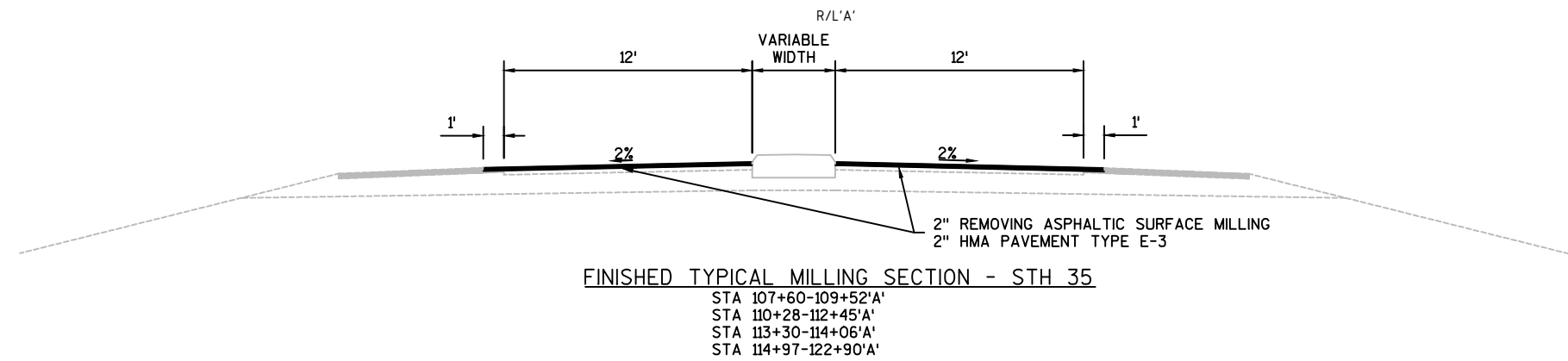
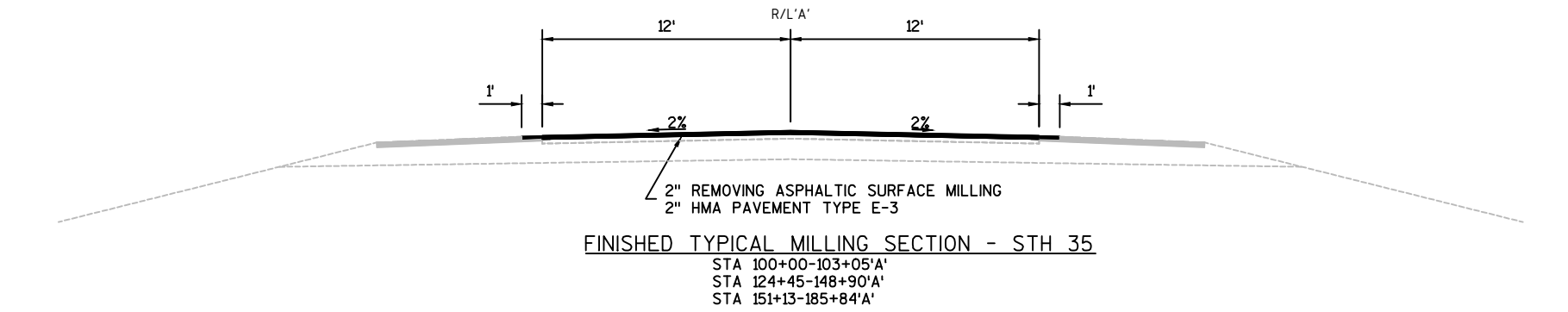
TYPICAL EXISTING SECTION - USH 14, USH 61
STA 52+88'B'-57+62'B'



TYPICAL EXISTING SECTION - USH 14, USH 61
STA 57+62'B'-65+16'B' RT
STA 57+62'B'-71+16'B' LT



TYPICAL EXISTING SECTION - USH 14, USH 61
STA 65+16'B'-78+16'B' RT
STA 71+16'B'-78+16'B' LT



NOTES:
-MILL FULL WIDTH AT ALL BYPASS LANES, RIGHT TURN LANES, LEFT TURN LANES, AND TAPER LOCATIONS.
-CROSS SLOPES SHOWN ON THE TYPICAL SECTIONS WILL VARY DEPENDING ON SUPERELEVATION AND INTERSECTION GRADES.

PROJECT NO:5163-07-60

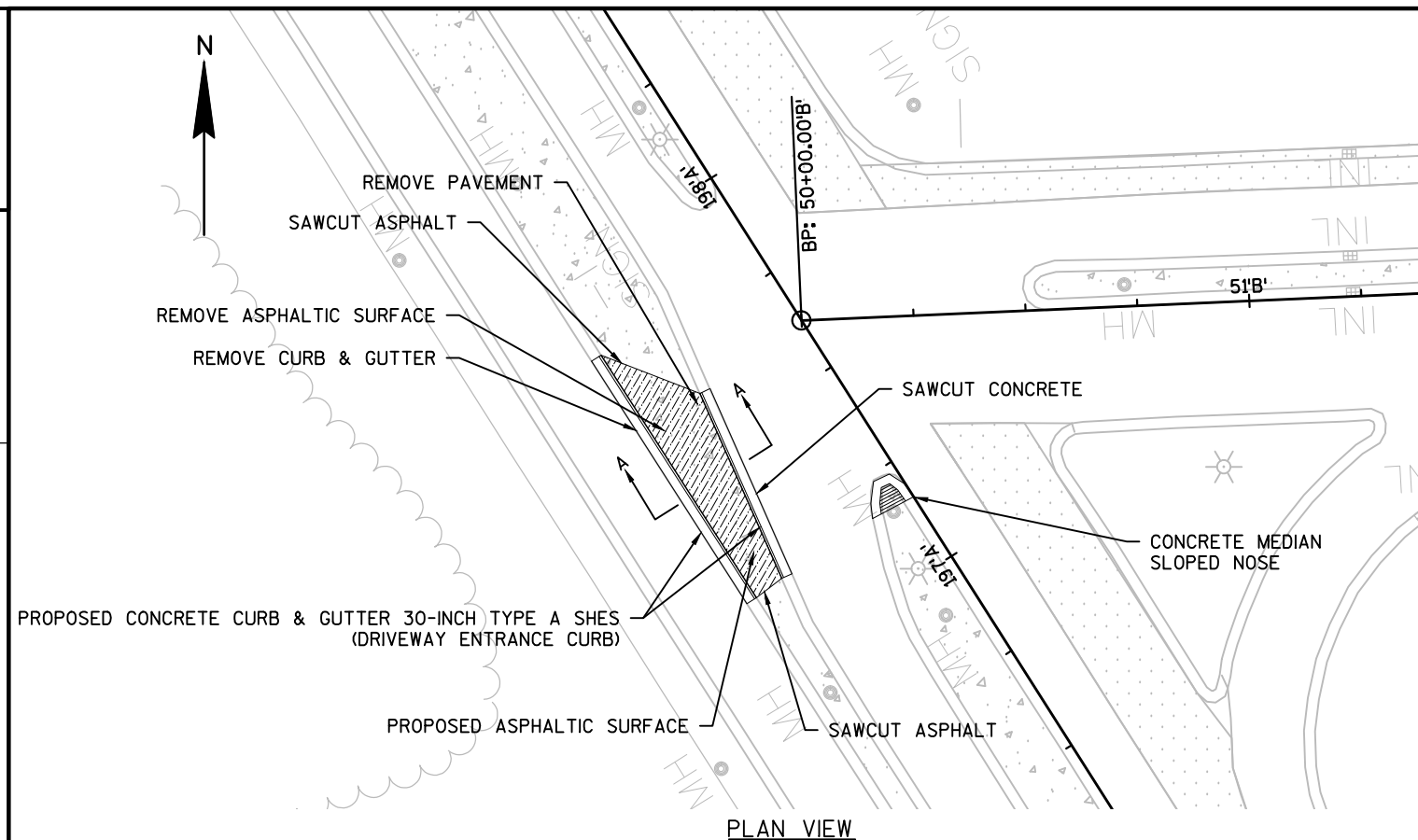
HWY:STH 35

COUNTY:LA CROSSE

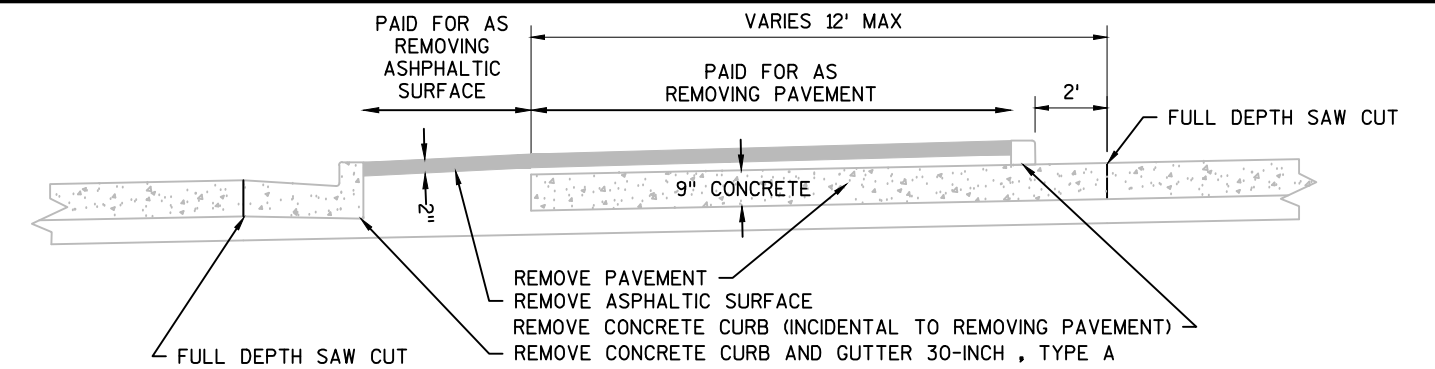
TYPICAL SECTIONS

SHEET _____ E

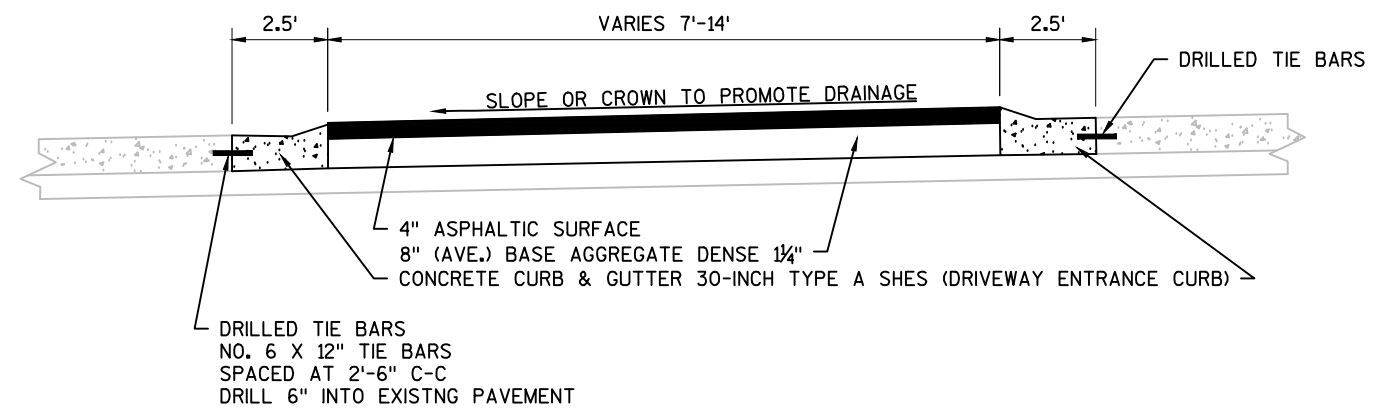
2



PLAN VIEW

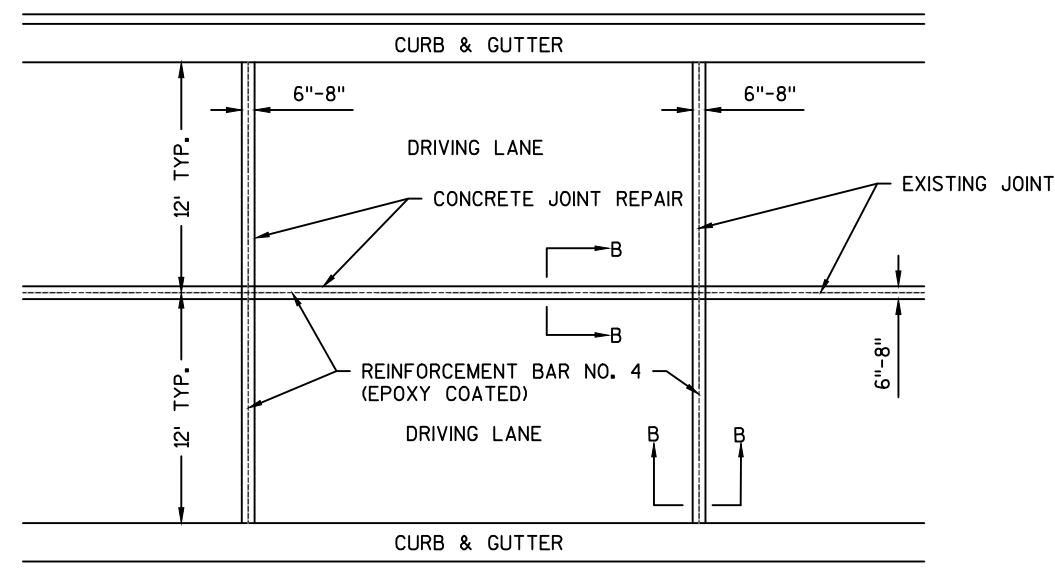


EXISTING TYPICAL SECTION A-A



PROPOSED TYPICAL SECTION A-A

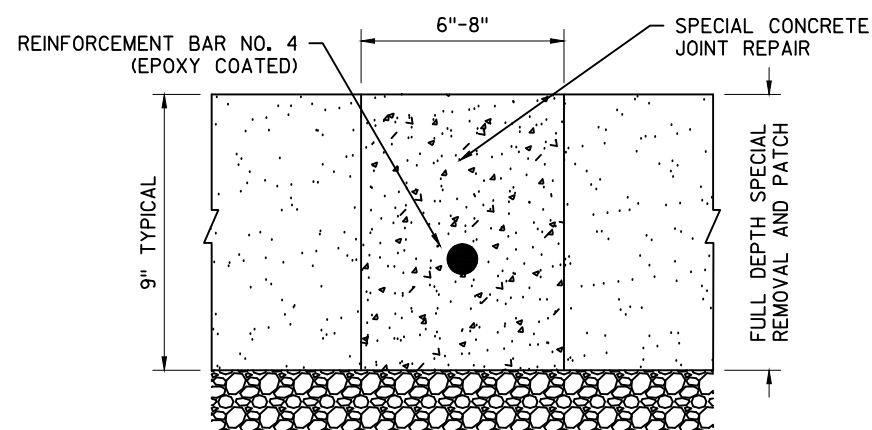
EMERGENCY VEHICLE BYPASS DETAIL



PLAN VIEW

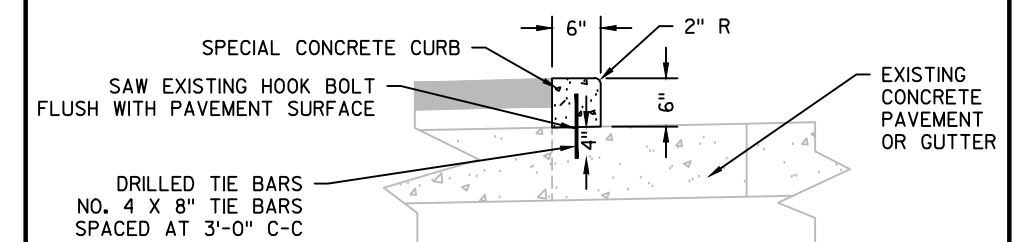
- NOTES:
- PAYMENT FOR REINFORCEMENT BAR NO. 4 SHOWN IN THIS DETAIL SHALL BE INCIDENTAL TO "CONCRETE JOINT REPAIR".
 - REINFORCEMENT BAR NO. 4 SHOWN IN THIS DETAIL SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.7 OF THE STANDARD SPECIFICATIONS.

SPECIAL CONCRETE JOINT REPAIR DETAIL

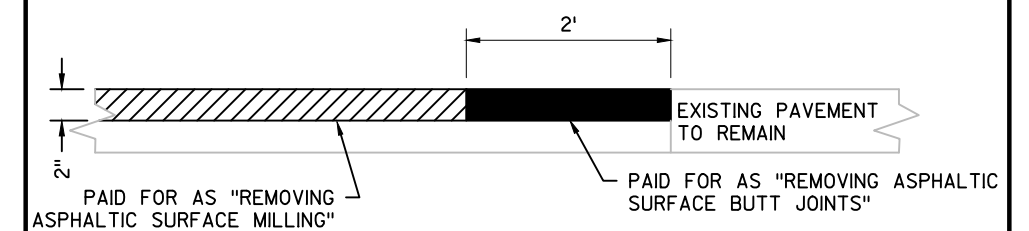


SECTION B-B

- NOTES:
- EXISTING CURB TO BE REMOVED UNDER "REMOVING CURB" OR "REMOVING CURB & GUTTER" ITEMS.
 - SAWING OF EXISTING HOOK BOLT SHALL BE INCIDENTAL TO "REMOVING CURB"



SPECIAL CONCRETE CURB DETAIL



REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

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HWY:STH 35

COUNTY:LA CROSSE

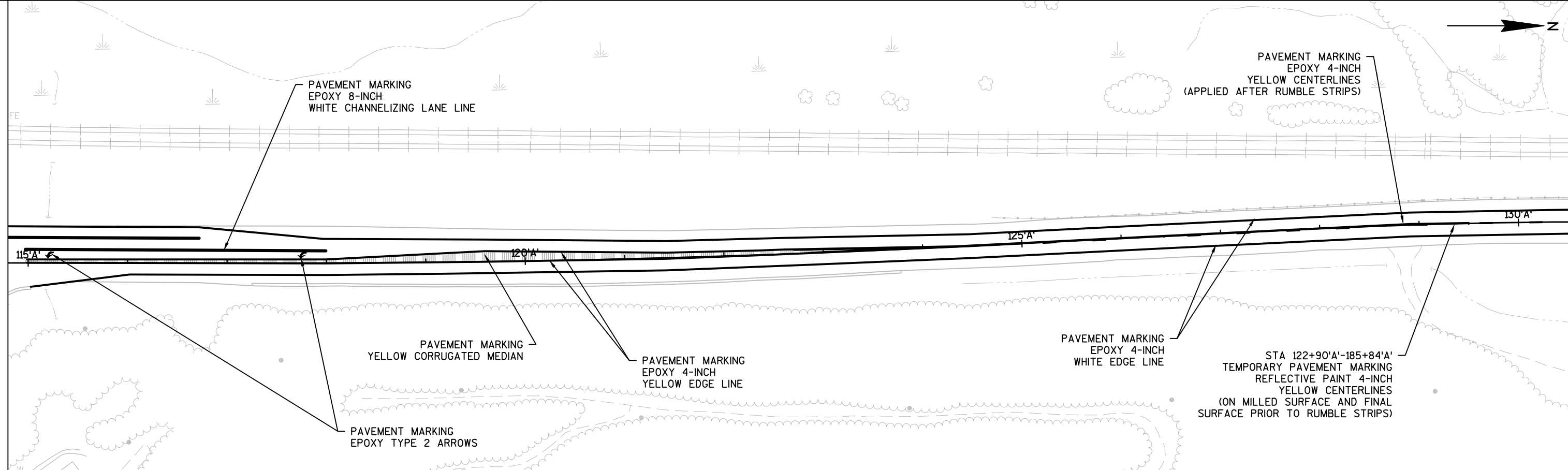
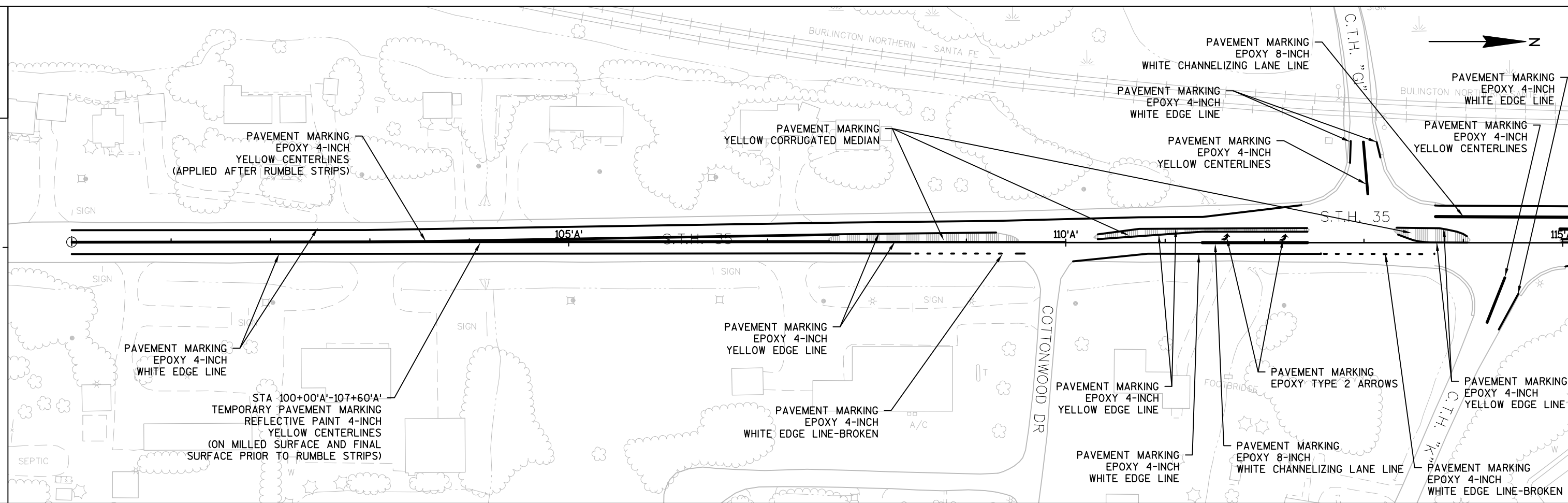
CONSTRUCTION DETAILS

SHEET

E

2

2



PROJECT NO:5163-07-60

HWY: STH 35

COUNTY: LA CROSSE

PERMANENT SIGNING AND PAVEMENT MARKING
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SHEET

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FILE NAME : N:\PDS\C3D\51630730\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM

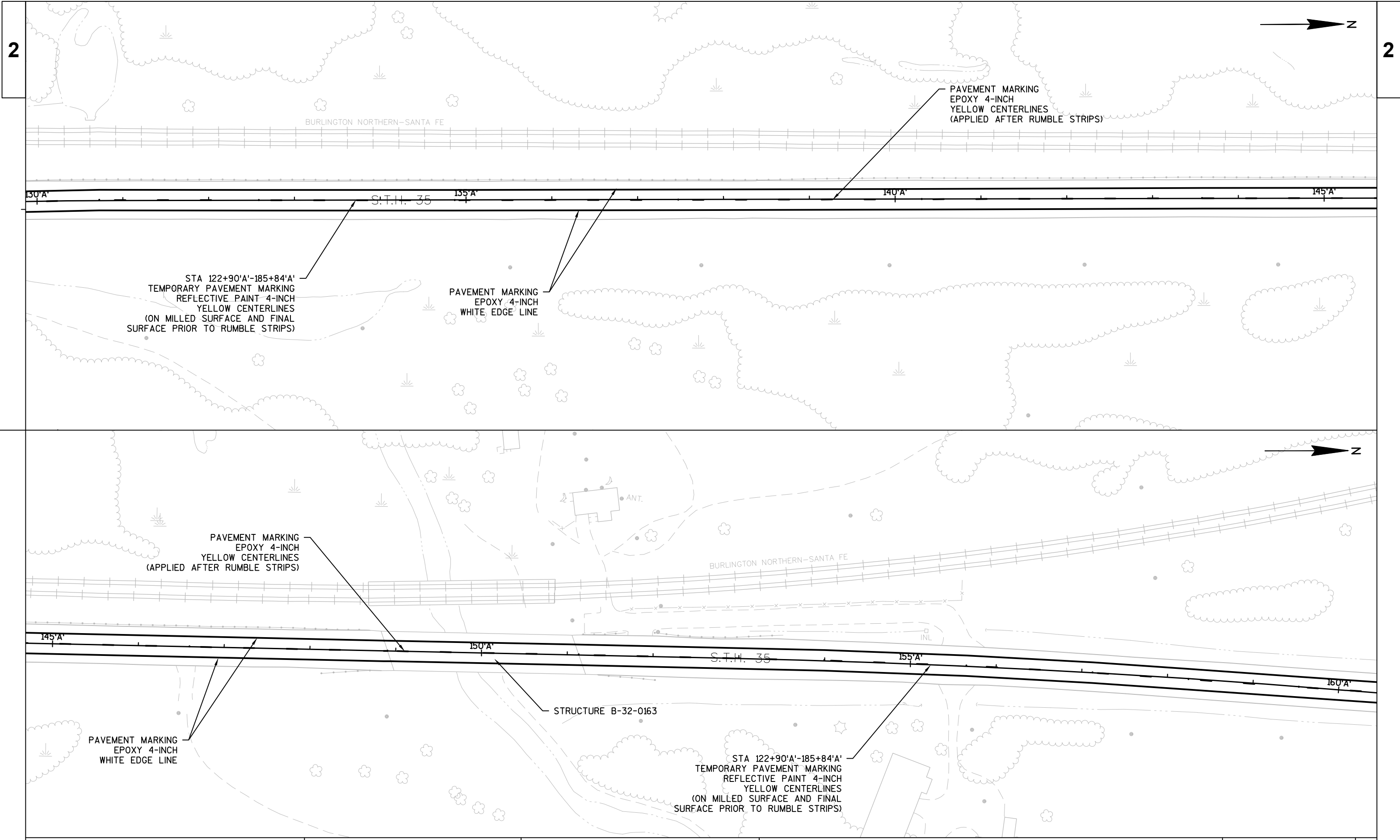
PLOT DATE : 1/12/2015 1:54 PM

PLOT BY : LEONARD, TOREY R

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



PROJECT NO:5163-07-60	HWY:STH 35	COUNTY:LA CROSSE	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET	E
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PAVEMENT MARKING
EPOXY 4-INCH
WHITE EDGE LINE

PAVEMENT MARKING
EPOXY 4-INCH
YELLOW CENTERLINES
(APPLIED AFTER RUMBLE STRIPS)

STA 122+90'A'-185+84'A'
TEMPORARY PAVEMENT MARKING
REFLECTIVE PAINT 4-INCH
YELLOW CENTERLINES
(ON MILLED SURFACE AND FINAL
SURFACE PRIOR TO RUMBLE STRIPS)

PAVEMENT MARKING
EPOXY 4-INCH
YELLOW CENTERLINES
(APPLIED AFTER RUMBLE STRIPS)

PAVEMENT MARKING
EPOXY 4-INCH
WHITE LANE LINE

PAVEMENT MARKING
EPOXY 12-INCH
WHITE CROSSWALK

PAVEMENT MARKING
EPOXY 4-INCH
YELLOW CENTERLINE(S)

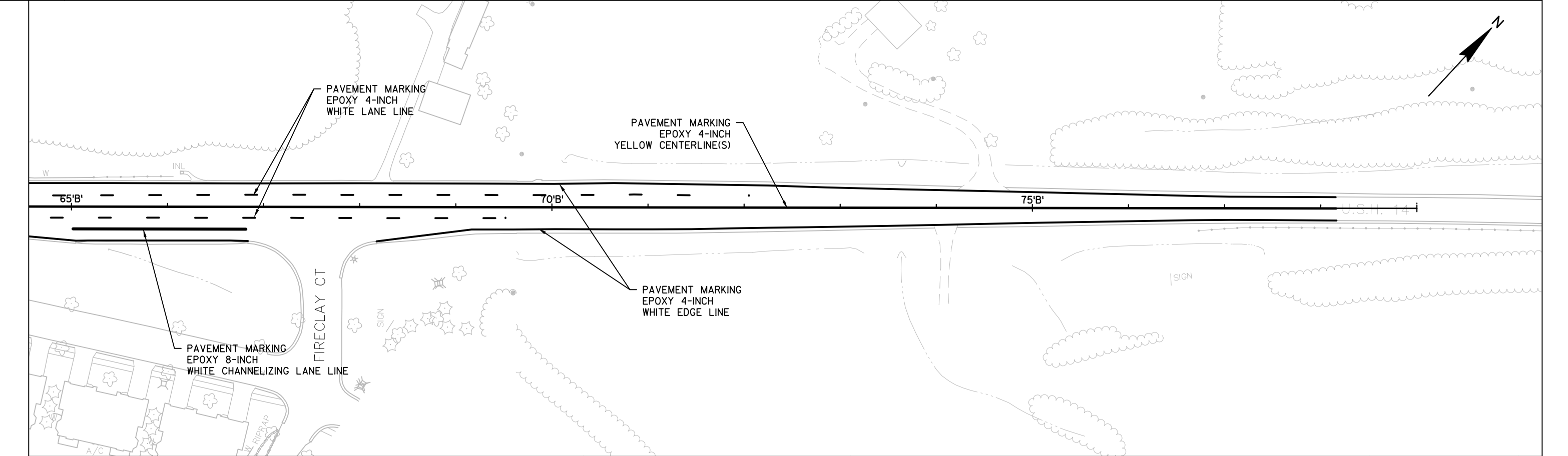
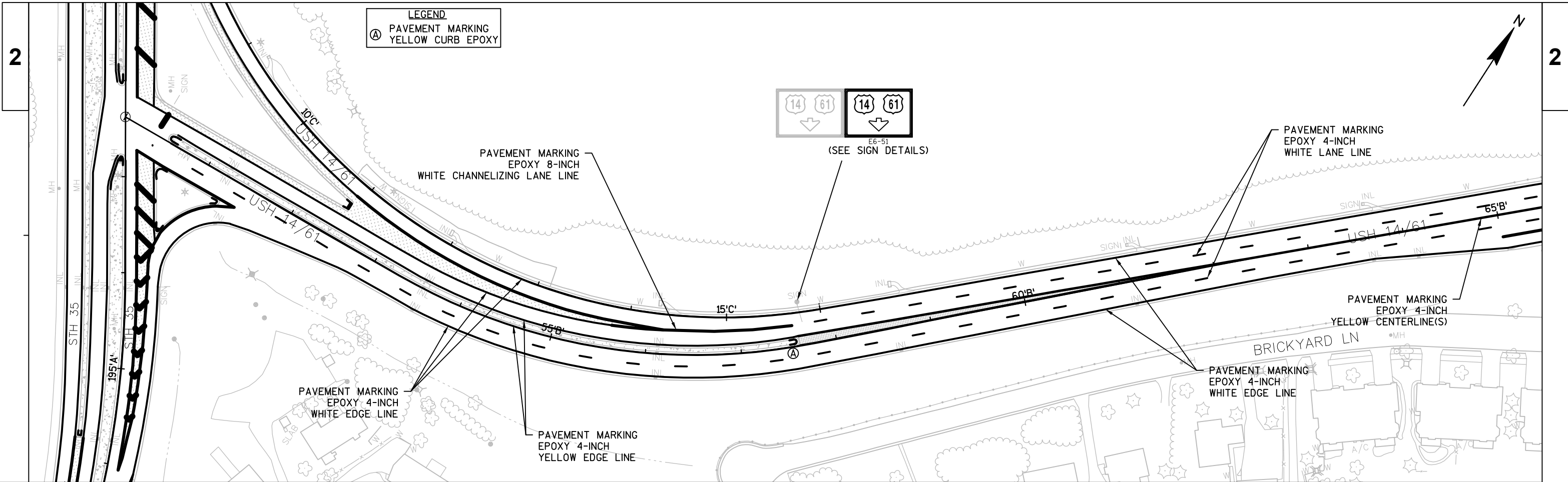
PAVEMENT MARKING
EPOXY 4-INCH
WHITE EDGE LINE

STA 122+90'A'-185+84'A'
TEMPORARY PAVEMENT MARKING
REFLECTIVE PAINT 4-INCH
YELLOW CENTERLINES
(ON MILLED SURFACE AND FINAL
SURFACE PRIOR TO RUMBLE STRIPS)

PAVEMENT MARKING
EPOXY 8-INCH
WHITE CHANNELIZING LANE LINE

PAVEMENT MARKING
EPOXY 4-INCH
WHITE EDGE LINE-BROKEN

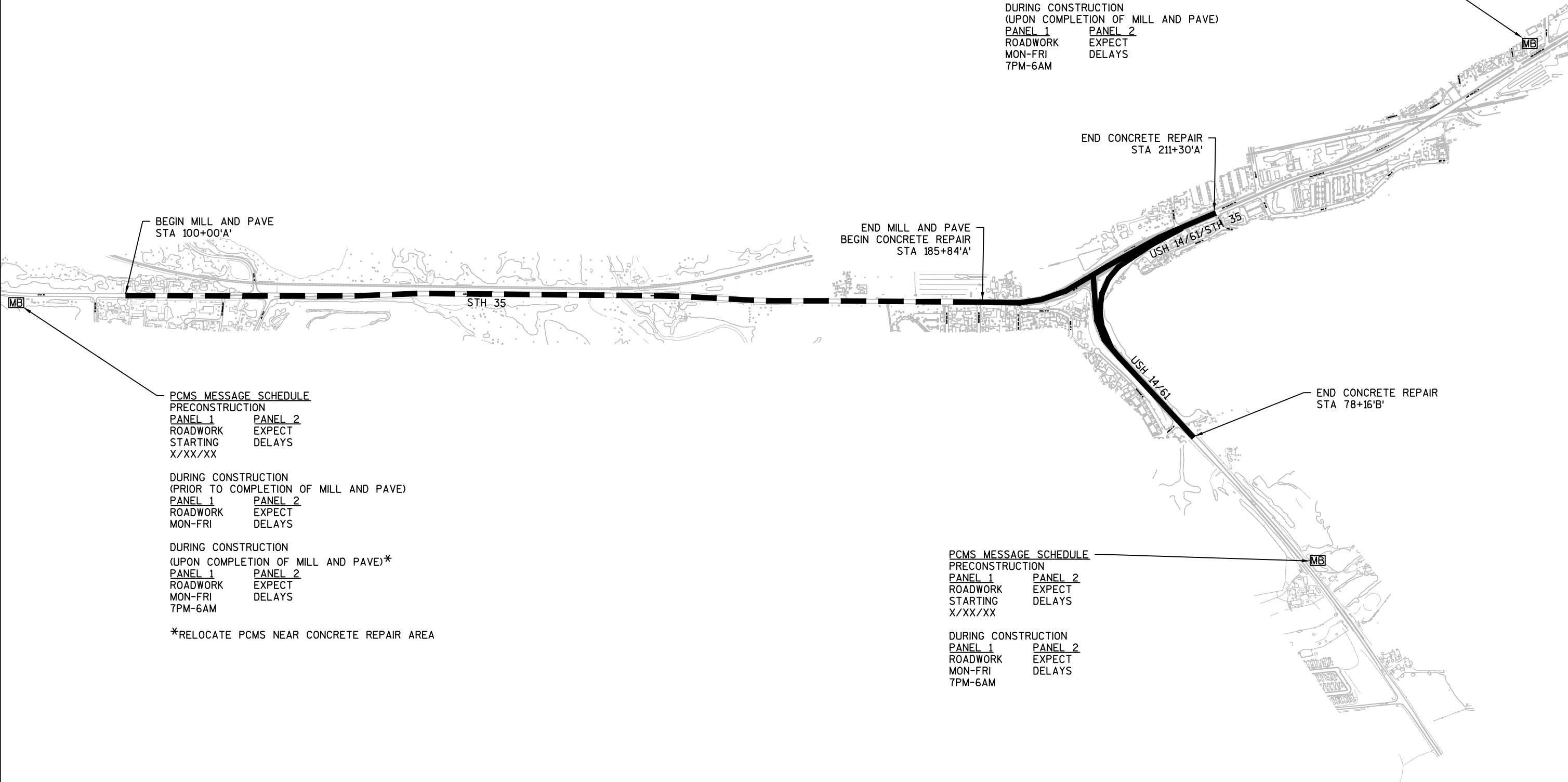
PAVEMENT MARKING
EPOXY 8-INCH
WHITE CHANNELIZING LANE LINE



PROJECT NO: 5163-07-60	HWY: USH 14	COUNTY: LA CROSSE	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET	E
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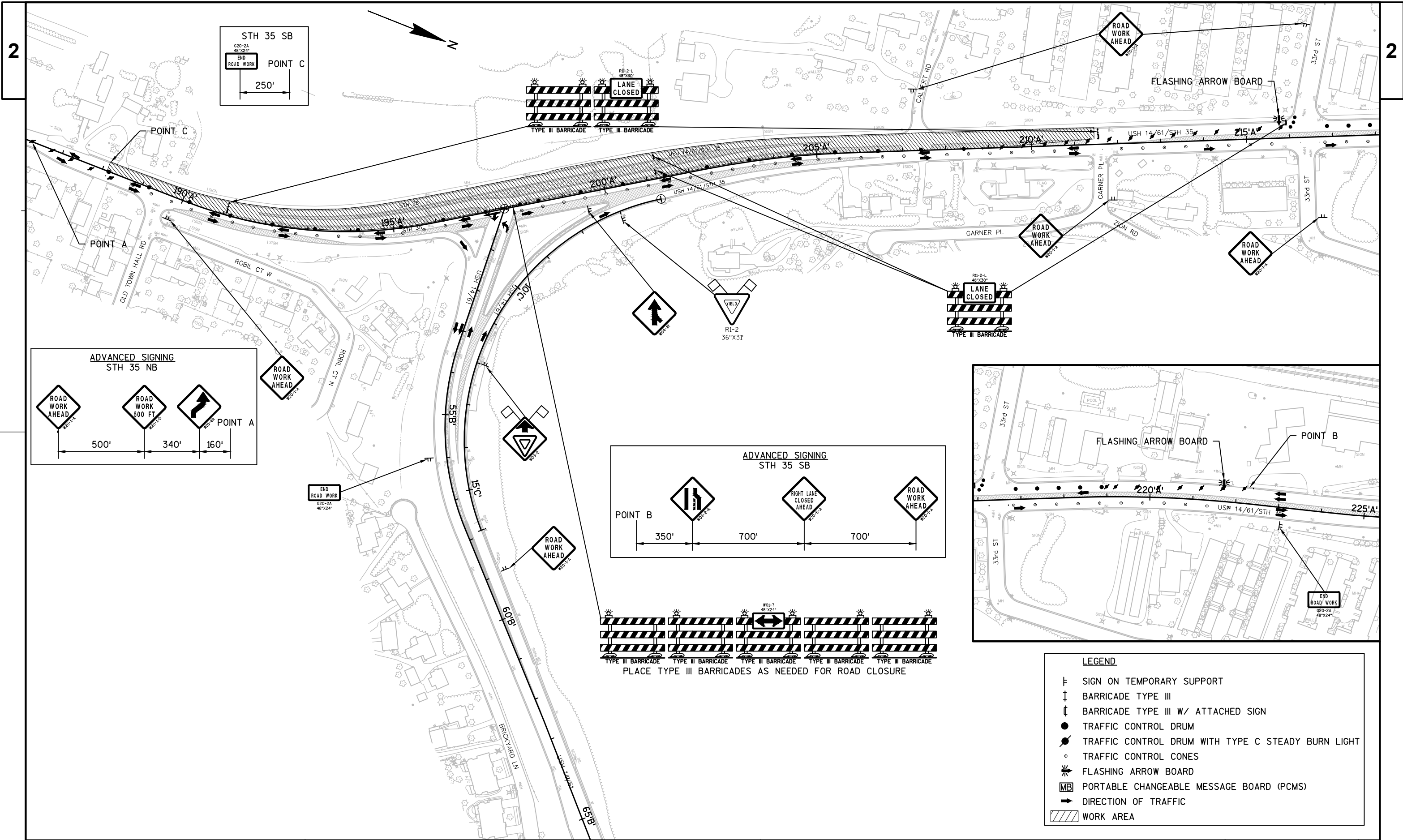
- NOTES:
- PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE OPERATIONAL FOR A MINIMUM OF ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
 - PCMS MESSAGE SCHEDULE MAY REQUIRE ADJUSTMENT TO ACCOMMODATE CONSTRUCTION SCHEDULE. MESSAGES MUST BE APPROVED BY THE ENGINEER.
 - ALL PCMS BOARDS SHALL REMAIN OPERATIONAL UNTIL PROJECT COMPLETION, AS APPROVED BY THE ENGINEER.

PCMS MESSAGE SCHEDULE	
PRECONSTRUCTION	
PANEL 1	PANEL 2
ROADWORK	EXPECT
STARTING	DELAYS
X/XX/XX	
DURING CONSTRUCTION	
(PRIOR TO COMPLETION OF MILL AND PAVE)	
PANEL 1	PANEL 2
ROADWORK	EXPECT
MON-FRI	DELAYS
DURING CONSTRUCTION	
(UPON COMPLETION OF MILL AND PAVE)	
PANEL 1	PANEL 2
ROADWORK	EXPECT
MON-FRI	DELAYS
7PM-6AM	



PCMS MESSAGE SCHEDULE	
PRECONSTRUCTION	
PANEL 1	PANEL 2
ROADWORK	EXPECT
STARTING	DELAYS
X/XX/XX	
DURING CONSTRUCTION	
(PRIOR TO COMPLETION OF MILL AND PAVE)	
PANEL 1	PANEL 2
ROADWORK	EXPECT
MON-FRI	DELAYS
DURING CONSTRUCTION	
(UPON COMPLETION OF MILL AND PAVE)*	
PANEL 1	PANEL 2
ROADWORK	EXPECT
MON-FRI	DELAYS
7PM-6AM	
*RELOCATE PCMS NEAR CONCRETE REPAIR AREA	

PCMS MESSAGE SCHEDULE	
PRECONSTRUCTION	
PANEL 1	PANEL 2
ROADWORK	EXPECT
STARTING	DELAYS
X/XX/XX	
DURING CONSTRUCTION	
PANEL 1	PANEL 2
ROADWORK	EXPECT
MON-FRI	DELAYS
7PM-6AM	



PROJECT NO:5163-07-60

HWY:STH 35

COUNTY:LA CROSSE

TRAFFIC CONTROL STAGE 1

SHEET

E

FILE NAME : N:\PDS\C3D\51630730\SHEETSP\LAN\025001-TC.DWG
LAYOUT NAME - 025002-TC

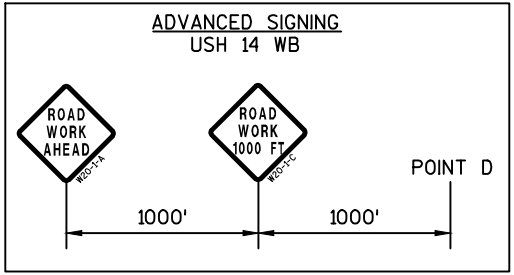
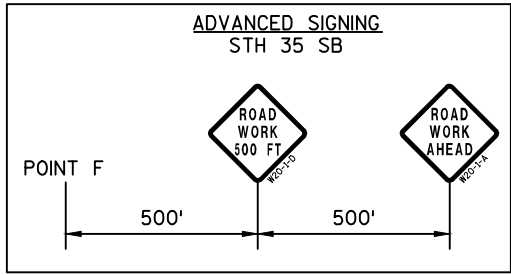
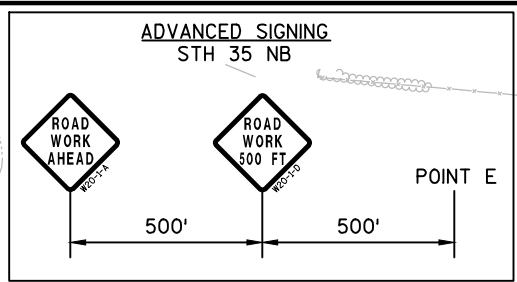
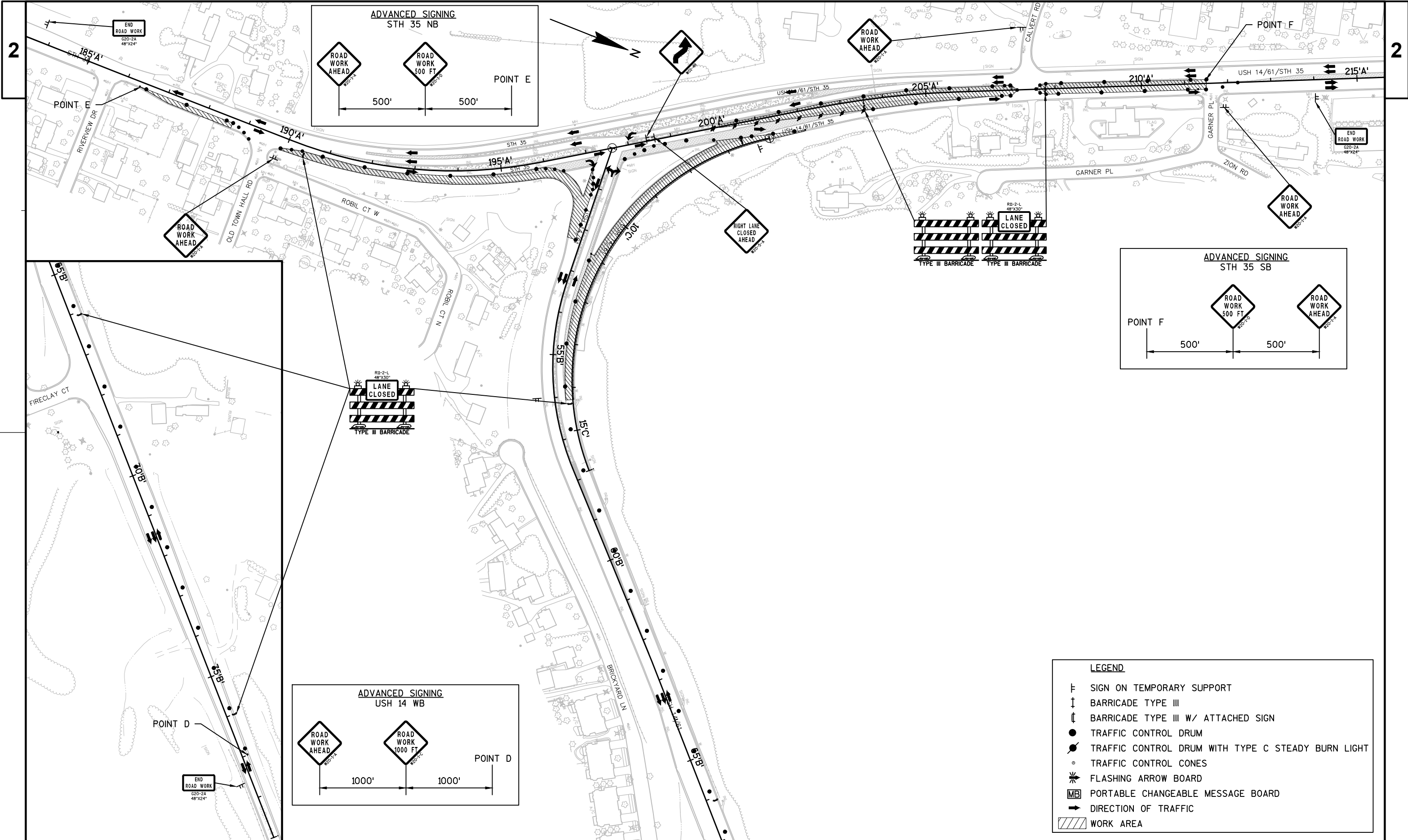
PLOT DATE : 1/12/2015 1:58 PM

PLOT BY : LEONARD, TOREY R

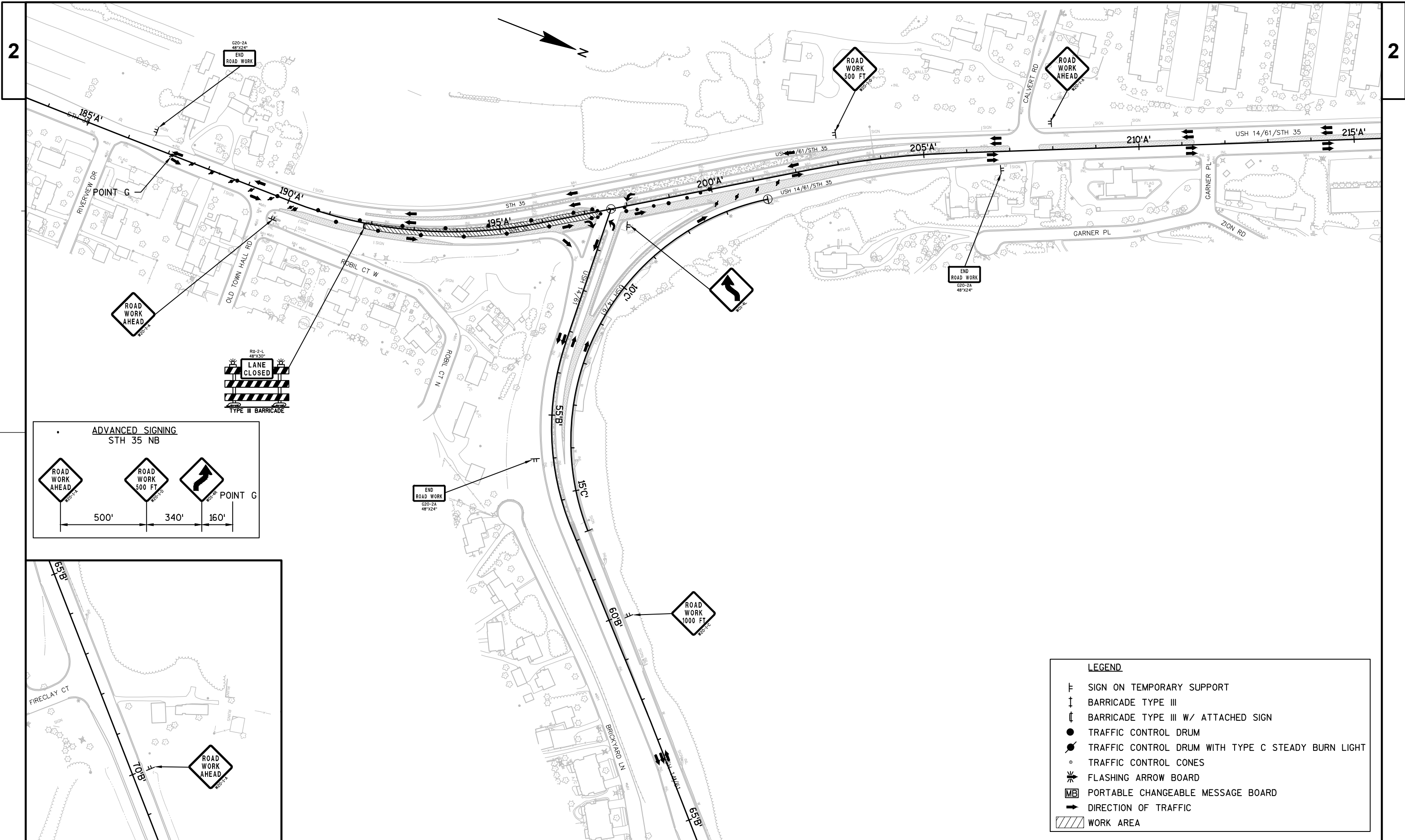
PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42



LEGEND	
	SIGN ON TEMPORARY SUPPORT
	BARRICADE TYPE III
	BARRICADE TYPE III W/ ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	TRAFFIC CONTROL CONES
	FLASHING ARROW BOARD
	PORTABLE CHANGEABLE MESSAGE BOARD
	DIRECTION OF TRAFFIC
	WORK AREA



PROJECT NO:5163-07-60

HWY:STH 35

COUNTY:LA CROSSE

TRAFFIC CONTROL STAGE 3

SHEET

E

FILE NAME : N:\PDS\C3D\51630730\SHEETPLAN\025001-TC.DWG
LAYOUT NAME - 025004-TC

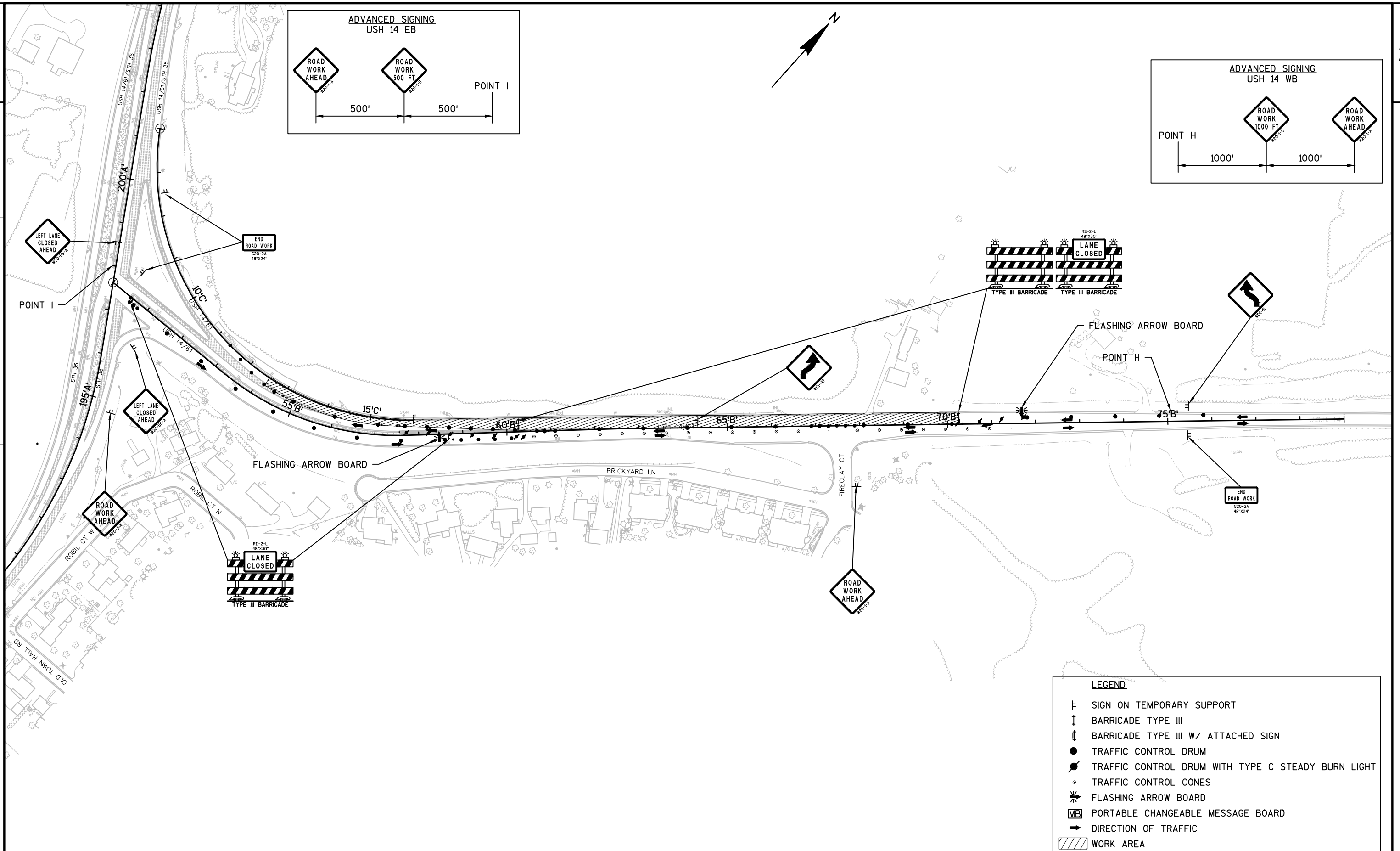
PLOT DATE : 1/12/2015 1:58 PM

PLOT BY : LEONARD, TOREY R

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDs SHEET 42



PROJECT NO:5163-07-60

HWY:USH 14

COUNTY:LA CROSSE

TRAFFIC CONTROL STAGE 4

SHEET

E

FILE NAME : N:\PDS\C3D\51630730\SHEETPLAN\025001-TC.DWG
LAYOUT NAME - 025005-TC

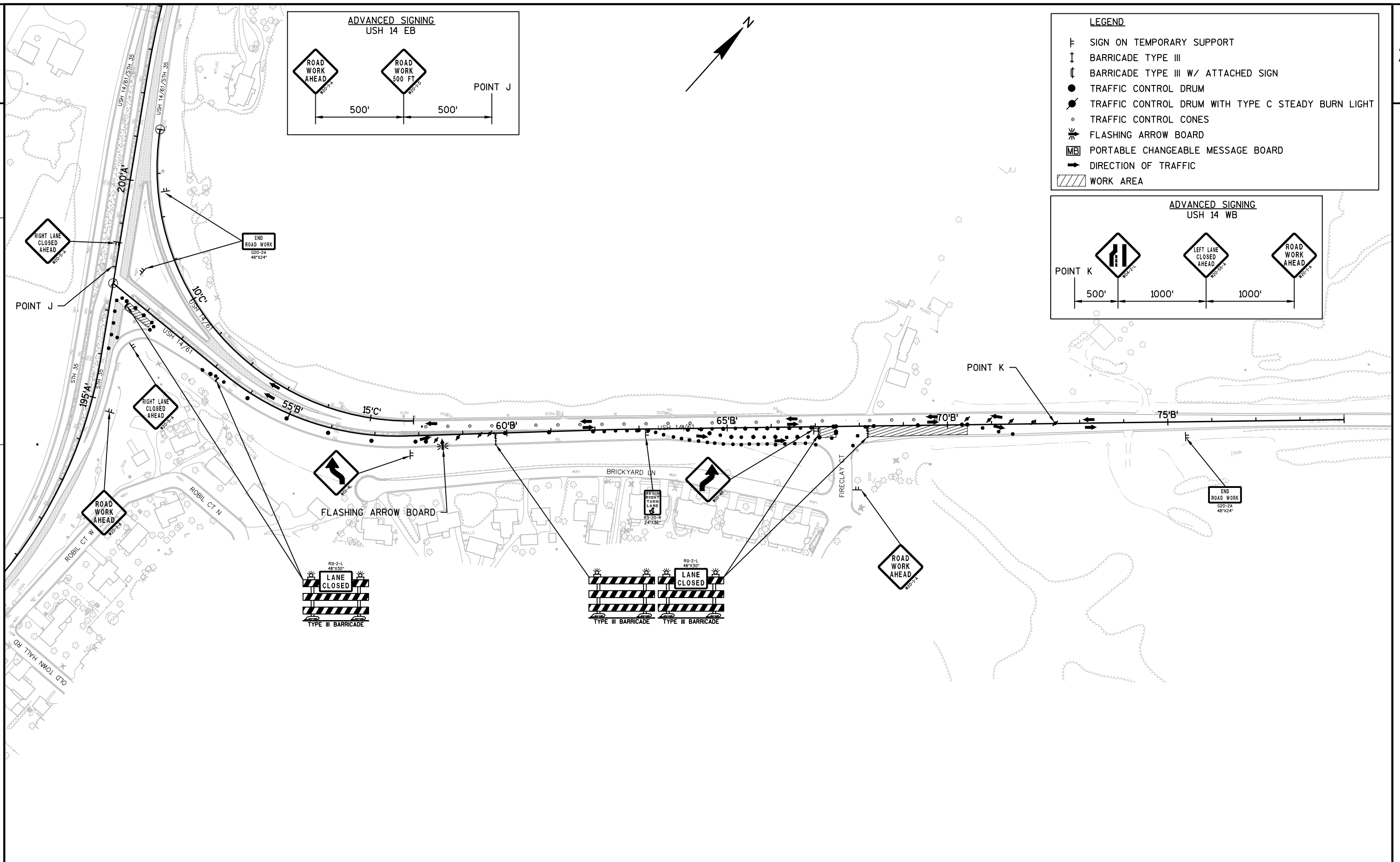
PLOT DATE : 1/12/2015 1:58 PM

PLOT BY : LEONARD, TOREY R

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42



DATE 23FEB15		E S T I M A T E O F Q U A N T I T I E S			
LINE				5163-07-60	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0100	Removing Pavement	SY	16.000	16.000
0020	204.0110	Removing Asphaltic Surface	SY	54.000	54.000
0030	204.0115	Removing Asphaltic Surface Butt Joints	SY	32.000	32.000
0040	204.0120	Removing Asphaltic Surface Milling	SY	29,315.000	29,315.000
0050	204.0130	Removing Curb	LF	266.000	266.000
0060	204.0150	Removing Curb & Gutter	LF	95.000	95.000
0070	213.0100	Finishing Roadway (project) 01. 5163-07-60	EACH	1.000	1.000
0080	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	30.000	30.000
0090	416.0610	Drilled Tie Bars	EACH	756.000	756.000
0100	416.0620	Drilled Dowel Bars	EACH	458.000	458.000
0110	416.1725	Concrete Pavement Replacement SHES	SY	1,500.000	1,500.000
0120	455.0105	Asphaltic Material PG58-28	TON	182.000	182.000
0130	455.0605	Tack Coat	GAL	2,054.000	2,054.000
0140	460.1103	HMA Pavement Type E-3	TON	3,284.000	3,284.000
0150	460.2000	Incentive Density HMA Pavement	DOL	2,120.000	2,120.000
0160	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	9,300.000	9,300.000
0170	465.0105	Asphaltic Surface	TON	20.000	20.000
0180	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	5,093.000	5,093.000
0190	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0200	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5163-07-60	EACH	1.000	1.000
0210	619.1000	Mobilization	EACH	1.000	1.000
0220	620.0300	Concrete Median Sloped Nose	SF	60.000	60.000
0230	625.0100	Topsoil	SY	160.000	160.000
0240	627.0200	Mulching	SY	160.000	160.000
0250	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0260	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0270	628.7015	Inlet Protection Type C	EACH	47.000	47.000
0280	628.7570	Rock Bags	EACH	20.000	20.000
0290	629.0210	Fertilizer Type B	CWT	0.130	0.130
0300	630.0130	Seeding Mixture No. 30	LB	3.000	3.000
0310	637.1220	Signs Type I Reflective SH	SF	90.000	90.000
0320	638.2601	Removing Signs Type I	EACH	3.000	3.000
0330	642.5001	Field Office Type B	EACH	1.000	1.000
0340	643.0100	Traffic Control (project) 01. 5163-07-60	EACH	1.000	1.000
0350	643.0300	Traffic Control Drums	DAY	1,559.000	1,559.000
0360	643.0420	Traffic Control Barricades Type III	DAY	212.000	212.000
0370	643.0705	Traffic Control Warning Lights Type A	DAY	396.000	396.000
0380	643.0715	Traffic Control Warning Lights Type C	DAY	430.000	430.000
0390	643.0800	Traffic Control Arrow Boards	DAY	31.000	31.000
0400	643.0900	Traffic Control Signs	DAY	485.000	485.000
0410	643.1050	Traffic Control Signs PCMS	DAY	114.000	114.000
0420	646.0106	Pavement Marking Epoxy 4-Inch	LF	60,469.000	60,469.000
0430	646.0126	Pavement Marking Epoxy 8-Inch	LF	5,461.000	5,461.000
0440	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	10.000	10.000
0450	647.0456	Pavement Marking Curb Epoxy	LF	248.000	248.000
0460	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	14.000	14.000
0470	647.0606	Pavement Marking Island Nose Epoxy	EACH	3.000	3.000
0480	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	763.000	763.000
0490	647.0776	Pavement Marking Crosswalk Epoxy 12-Inch	LF	70.000	70.000
0500	647.0856	Pavement Marking Concrete Corrugated Median Epoxy	SF	2,829.000	2,829.000

DATE 23FEB15		E S T I M A T E O F Q U A N T I T I E S			
LINE		5163-07-60			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0510	648.0100	Locating No-Passing Zones	MI	1.480	1.480
0520	649.0200	Temporary Pavement Marking Reflective Paint 4-Inch	LF	17,748.000	17,748.000
0530	690.0250	Sawing Concrete	LF	4,253.000	4,253.000
0540	SPV.0045	Special 01. Traffic Control Cones	DAY	839.000	839.000
0550	SPV.0090	Special 01. Concrete Joint Repair	LF	7,512.000	7,512.000
0560	SPV.0090	Special 02. Concrete Curb & Gutter 30-Inch Type A Shes	LF	210.000	210.000
0570	SPV.0090	Special 03. Removing HMA Pavement Notched Wedge Longitudinal Joint Milling	LF	9,300.000	9,300.000
0580	SPV.0090	Special 04. Concrete curb	LF	282.000	282.000

REMOVING PAVEMENT

CATEGORY	STATION TO	STATION	LOCATION	204.0100 SY	REMARKS
0010	197+15'A'	- 197+80'A'	LT	16	EMERGENCY VEHICLE BYPASS
TOTAL 0010				16	

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION TO	STATION	LOCATION	204.0110 SY	REMARKS
0010	197+15'A'	- 197+22'A'	LT	3	EMERGENCY VEHICLE BYPASS
0010	197+15'A'	- 197+80'A'	LT	51	
TOTAL 0010				54	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

CATEGORY	STATION	LOCATION	204.0115 SY	REMARKS
0010	100+00'A'	MAINLINE	10	BEGIN PROJECT
0010	113+00'A'	LT	7	CTH GI
0010	114+25'A'	RT	7	CTH K
0010	185+84'A'	MAINLINE	8	END OF ASPHALT
TOTAL 0010			32	

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION TO	STATION	LOCATION	204.0120 SY
0010	100+00'A'	- 122+90'A'	MAINLINE	9817
0010	122+90'A'	- 148+95'A'	MAINLINE	7544
0010	151+08'A'	- 185+84'A'	MAINLINE	11954
TOTAL 0010				29315

REMOVING CURB AND CURB & GUTTER

CATEGORY	STATION TO	STATION	LOCATION	REMOVING CURB 204.0130 LF	REMOVING CURB & GUTTER 204.0150 LF	REMARKS
0010	197+15'A'	- 197+22'A'	LT		14	WEST SIDE OF EMERGENCY VEHICLE BYPASS
0010	197+15'A'	- 197+80'A'	LT		65	
0010	198+00'A'	- 198+68'A'	LT	68		WEST SIDE OF EB 14 TURN BAY
0010	199+12'A'	- 199+80'A'	LT	68		WEST SIDE OF EB 14 TURN BAY
0010	200+34'A'	- 200+84'A'	LT	50		WEST SIDE OF EB 14 TURN BAY
0010	201+33'A'	- 202+13'A'	LT	80		WEST SIDE OF EB 14 TURN BAY
0010	52+02'B'	- 52+18'B'	LT		16	REMOVE CURB HEAD ONLY FROM 30-INCH TYPE A
TOTAL 0010				266	95	

BASE AGGREGATE DENSE 1 1/4-INCH

CATEGORY	STATION TO	STATION	LOCATION	305.0120 TON	REMARKS
0010	197+15'A'	- 197+80'A'	LT	30	EMERGENCY VEHICLE BYPASS
TOTAL 0010				30	

CONCRETE PAVEMENT REPLACEMENT ITEMS

CATEGORY	STATION TO	STATION	LOCATION	DRILLED	DRILLED	CONCRETE PAVEMENT	SAWING	REMARKS
				TIE BARS 416.0610 EACH	DOWEL BARS 416.0620 EACH	REPLACEMENT SHES 416.1725 SY	CONCRETE 690.0250 LF	
0010	186+33'A'	- 188+63'A'	RT	158	8	251	796	325 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	190+43'A'	- 190+64'A'	LT	14	16	33	100	30 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	191+98'A'	- 192+18'A'	RT	14	16	27	86	24 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	196+00'A'	- 196+18'A'	RT	7	23	31	92	36 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	196+73'A'	- 197+35'A'	RT	44	16	86	209	108 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	197+15'A'	- 198+00'A'	LT	55	21	194	422	237 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	197+15'A'	- 197+80'A'	LT	40			130	EMERGENCY VEHICLE BYPASS
0010	198+00'A'	- 198+68'A'	LT	22				FOR SPECIAL CONCRETE CURB
0010	199+12'A'	- 199+80'A'	LT	22				FOR SPECIAL CONCRETE CURB
0010	199+13'A'	- 199+53'A'	LT	28	16	54	164	60 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	200+13'A'	- 200+35'A'	LT	16	16	30	92	24 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	200+34'A'	- 200+84'A'	LT	16				FOR SPECIAL CONCRETE CURB
0010	201+33'A'	- 202+13'A'	LT	26				FOR SPECIAL CONCRETE CURB
0010	210+54'A'	- 210+89'A'	LT	24	32	69	190	72 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	50+52'B'	- 50+78'B'	RT	18	22	39	122	42 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	50+95'B'	- 51+40'B'	RT		24	83	161	115 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	51+02'B'	- 51+69'B'	RT	44	22	107	288	126 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	52+02'B'	- 52+18'B'	LT	5				FOR SPECIAL CONCRETE CURB
0010	67+21'B'	- 67+41'B'	RT	7	16	27	68	24 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	68+40'B'	- 68+60'B'	RT	7	16	27	68	24 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	69+40'B'	- 69+82'B'	RT	28	16	54	164	60 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	69+82'B'	- 70+02'B'	RT	7	16	27	68	24 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	69+82'B'	- 70+02'B'	LT	7	16	27	68	24 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	7+79'C'	- 7+98'C'	RT	12	26	31	100	32 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	8+17'C'	- 8+56'C'	RT	28	26	70	192	80 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	12+81'C'	- 12+99'C'	RT	12	26	31	100	32 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010	13+16'C'	- 13+53'C'	RT	26	26	65	186	80 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
0010			UNDISTRIBUTED	69	42	137	387	133 LF SAWING CONCRETE TO SATISFY SPEC 690.4.(2).3
TOTAL 0010				756	458	1500	4253	

HMA PAVEMENT ITEMS

ASPHALTIC SURFACE

CATEGORY	STATION TO	STATION	LOCATION	465.0105	REMARKS
				TON	
0010	197+15'A'	- 197+80'A'	LT	15	EMERGENCY VEHICLE BYPASS
0010			UNDISTRIBUTED	5	ASPHALT AREAS ADJACENT TO CONCRETE WORK
TOTAL 0010				20	

				ASPHALTIC MATERIAL PG58-28 455.0105	TACK COAT 455.0605	HMA PAVEMENT TYPE E-3 460.1103
CATEGORY	STATION TO	STATION	LOCATION	TON	GAL	TON
0010	100+00'A'	- 122+90'A'	MAINLINE	61	688	1100
0010	122+90'A'	- 148+95'A'	MAINLINE	47	529	845
0010	151+08'A'	- 185+84'A'	MAINLINE	74	837	1339
TOTAL 0010				182	2054	3284

REHEATING HMA LONGITUDINAL JOINTS

CATEGORY	STATION TO	STATION	LOCATION	460.4110.S
				LF
0010	100+00'A'	- 122+90'A'	MAINLINE	1900
0010	122+90'A'	- 148+95'A'	MAINLINE	2600
0010	151+08'A'	- 185+84'A'	MAINLINE	4800
TOTAL 0010				9300

ASPHALT CENTER LINE RUMBLE STRIP 2-LANE RURAL

CATEGORY	STATION TO	STATION	LOCATION	465.0475
				LF
0010	123+15'A'	- 148+65'A'	CL	2550
0010	151+38'A'	- 176+81'A'	CL	2543
TOTAL 0010				5093

ADJUSTING INLET COVERS

CATEGORY	STATION	LOCATION	611.8115 EACH
0010	51+36 'B'	RT	1
TOTAL 0010			1

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	STATION	LOCATION	620.0300 SF
0010	197+18 'A'	LT	60
TOTAL 0010			60

INLET PROTECTION TYPE C

CATEGORY	STATION	LOCATION	628.7015 EACH
0010	185+17 'A'	RT	1
0010	186+00 'A'	RT	1
0010	187+05 'A'	RT	1
0010	189+33 'A'	RT	1
0010	189+83 'A'	RT	1
0010	189+85 'A'	LT	1
0010	192+34 'A'	LT	2
0010	194+24 'A'	LT	3
0010	195+84 'A'	LT	5
0010	199+44 'A'	RT	1
0010	199+84 'A'	LT	5
0010	199+90 'A'	RT	1
0010	201+32 'A'	LT	3
0010	202+40 'A'	LT	1
0010	203+70 'A'	LT	2
0010	205+35 'A'	LT	1
0010	208+24 'A'	LT	1
0010	211+41 'A'	RT	1
0010	211+82 'A'	LT	1
0010	51+23 'B'	LT	3
0010	51+37 'B'	RT	1
0010	53+58 'B'	LT & RT	3
0010	56+12 'B'	LT & RT	3
0010	58+65 'B'	RT	1
0010	61+14 'B'	RT	1
0010	63+65 'B'	RT	1
0010	64+12 'B'	RT	1
TOTAL 0010			47

FINISHING ITEMS

CATEGORY	STATION	LOCATION	TOPSOIL 625.0100 SY	MULCHING 627.0200 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 30 630.0130 LB	REMARKS
0010	196+10 'A'	RT	40	40	0.03	1	NB 35 TO EB 14 RT TURN LANE
0010	51+30 'B'	RT	120	120	0.10	2	NB 35 TO EB 14 RT TURN LANE
TOTAL 0010			160	160	0.13	3	

SIGNS TYPE I REFLECTIVE SH

CATEGORY	STATION	LOCATION	637.1220 SF	REMARKS
0010	203+84 'A'	LT, SINGLE MONOTUBE SIGN BRIDGE	35	USH 14, USH 61
0010	203+84 'A'	LT, SINGLE MONOTUBE SIGN BRIDGE	20	STH 35
0010	15+78 'C'	LT, SINGLE MONOTUBE CANTILEVER	35	USH 14, USH 61
TOTAL 0010			90	

REMOVING SIGNS TYPE I

CATEGORY	STATION	LOCATION	638.2601 EACH	REMARKS
0010	203+84 'A'	LT, SINGLE MONOTUBE SIGN BRIDGE	1	USH 14, USH 61
0010	203+84 'A'	LT, SINGLE MONOTUBE SIGN BRIDGE	1	STH 35
0010	15+78 'C'	LT, SINGLE MONOTUBE CANTILEVER	1	USH 14, USH 61
TOTAL 0010			3	

ROCK BAGS

CATEGORY	STATION	LOCATION	628.7570 EACH
0010	203+60 'A'	RT	2
0010	208+15 'A'	RT	2
0010	58+75 'B'	LT	2
0010	61+25 'B'	LT	2
0010	63+75 'B'	LT	2
0010	66+25 'B'	LT	2
0010	6+00 'C'	LT	2
0010	9+30 'C'	LT	2
0010	12+05 'C'	LT	2
0010	14+40 'C'	LT	2
TOTAL 0010			20

MOBILIZATIONS EROSION CONTROL

CATEGORY	LOCATION	628.1905 EACH
0010	PROJECT LIMITS	2
TOTAL 0010		2

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	LOCATION	628.1910 EACH
0010	PROJECT LIMITS	2
TOTAL 0010		2

3

PAVEMENT MARKINGS																			
					YELLOW	EPOXY 4-INCH 646.0106 LF	WHITE	EPOXY 8-INCH 646.0126 LF	ARROWS EPOXY TYPE 2 647.0166 EACH	CURB EPOXY 647.0456 LF	STOP LINE EPOXY 18-INCH 647.0566 LF	ISLAND NOSE EPOXY 647.0606 EACH	DIAGONAL EPOXY 12-INCH 647.0726 LF	CROSSWALK EPOXY 12-INCH 647.0776 LF	CONCRETE CORRUGATED MEDIAN EPOXY 647.0856 SF	TEMPORARY REFLECTIVE PAINT 4-INCH 649.0200 LF			
CATEGORY	STATION	TO	STATION	LOCATION														REMARKS	
0010	100+00'A'	-	107+60'A'	CL													4437	APPLIED TO MILLED SURFACE	
0010	100+00'A'	-	107+60'A'	CL													4437	APPLIED TO FINAL SURFACE PRIOR TO RUMBLE STRIPS	
0010	100+00'A'	-	107+60'A'	CL	2310													4" YELLOW CENTERLINES	
0010	100+00'A'	-	211+30'A'	LT, STH 35 SB			10900											4" WHITE EDGE LINE	
0010	100+00'A'	-	211+30'A'	RT, STH 35 NB			10604											4" WHITE EDGE LINE	
0010	107+60'A'	-	109+52'A'	LT											590				
0010	107+60'A'	-	122+90'A'	LT, STH 35 NB	1306													4" YELLOW EDGE LINE	
0010	107+60'A'	-	122+90'A'	LT, STH 35 SB	1212													4" YELLOW EDGE LINE	
0010	108+45'A'	-	109+60'A'	RT, COTTONWOOD DR			29											4" WHITE EDGE LINE 3' SKIPS	
0010	110+28'A'	-	112+45'A'	LT											355				
0010	111+37'A'	-	112+43'A'	LT, CTH GI LEFT TURN				105										8" WHITE CHANNELIZING LANE LINE	
0010	111+60'A'			LT					1									CTH GI LEFT TURN	
0010	112+20'A'			LT					1									CTH GI LEFT TURN	
0010	112+56'A'	-	113+71'A'	RT, CTH K			29											4" WHITE EDGE LINE 3' SKIPS	
0010	113+00'A'			LT, CTH GI	106													4" YELLOW CENTERLINES	
0010	113+00'A'			LT, CTH GI			38											4" WHITE EDGE LINES	
0010	113+30'A'	-	114+06'A'	LT											324				
0010	113+72'A'	-	116+72'A'	LT, CTH GI RIGHT TURN				300										8" WHITE CHANNELIZING LANE LINE	
0010	114+40'A'			RT, CTH K	99													4" YELLOW CENTERLINES	
0010	114+40'A'			RT, CTH K			41											4" WHITE EDGE LINES	
0010	114+97'A'	-	118+00'A'	LT, CTH K LEFT TURN				303										8" WHITE CHANNELIZING LANE LINE	
0010	114+97'A'	-	122+89'A'	LT											1560				
0010	115+22'A'			LT					1									CTH K LEFT TURN	
0010	117+77'A'			LT					1									CTH K LEFT TURN	
0010	122+90'A'	-	185+84'A'	CL													4437	APPLIED TO MILLED SURFACE	
0010	122+90'A'	-	185+84'A'	CL	5845												4437	APPLIED TO FINAL SURFACE PRIOR TO RUMBLE STRIPS	
0010	122+90'A'	-	192+32'A'	CL														4" YELLOW CENTERLINES (1325 LF OF 12.5' SKIPS)	
0010	179+95'A'	-	181+95'A'	RT, SUNNYSIDE DR RIGHT TURN				200										8" WHITE CHANNELIZING LANE LINE	
0010	181+34'A'	-	183+84'A'	LT, SUNNYSIDE DR BYPASS			63											4" WHITE LANE LINE 12.5' SKIPS	
0010	183+68'A'	-	185+18'A'	RT, RIVERVIEW DR			38											4" WHITE EDGE LINE 3' SKIPS	
0010	186+04'A'			MAINLINE STH 35											35				
0010	186+10'A'			MAINLINE STH 35											35				
0010	187+05'A'	-	188+95'A'	RT, OLD TOWN HALL RD RIGHT TURN				190										8" WHITE CHANNELIZING LANE LINE	
0010	190+10'A'	-	205+81'A'	RT									763						
0010	190+24'A'	-	194+22'A'	LT, STH 35 SB (2 LANES)				780										8" WHITE CHANNELIZING LANE LINE	
0010	192'32'A'		211+30'A'	LT, STH 35 NB	1750													4" YELLOW EDGE LINE	
0010	192'32'A'		211+30'A'	LT, STH 35 SB TURN LANE	1757													4" YELLOW EDGE LINE	
0010	192+34'A'	-	192+42'A'	LT						17									
0010	192+54'A'	-	193+95'A'	RT, USH 14			36											4" WHITE EDGE LINE 3' SKIPS	
0010	193+95'A'	-	206+45'A'	RT, STH 35 NB & USH 14 WB RAMP			2131											8" WHITE CHANNELIZING LANE LINE	
0010	194+22'A'	-	202+33'A'	LT, STH 35 SB	805													4" YELLOW EDGE LINE	
0010	194+22'A'	-	202+35'A'	LT, STH 35 SB TURN LANE			809											4" WHITE EDGE LINE	
0010	194+24'A'	-	194+30'A'	LT						12									
0010	196+45'A'	-	196+53'A'	RT						12		1						STH 35 TO USH 14 EB RIGHT TURN ISLAND	
0010	196+87'A'	-	197+18'A'	LT						36									
0010	197+18'A'			LT								1							
0010	197+97'A'	-	198+17'A'	LT						31									
0010	202+28'A'	-	202+38'A'	LT						26									
0010	202+35'A'	-	205+13'A'	LT, STH 35 SB (2 LANES)				565										8" WHITE CHANNELIZING LANE LINE	
0010	205+13'A'	-	211+30'A'	LT, USH 14 EB			155											4" WHITE CENTERLINE 12.5' SKIPS	
0010	205+25'A'	-	205+34'A'	LT						25									
0010	205+30'A'	-	211+30'A'	LT, STH 35 NB	134													4" YELLOW EDGE LINE 12.5' SKIPS	
0010	205+30'A'	-	211+30'A'	LT, STH 35 SB	135													4" YELLOW EDGE LINE 12.5' SKIPS	
0010	206+45'A'	-	211+30'A'	RT, USH 14 WB			122											4" WHITE CENTERLINE 12.5' SKIPS	
0010	206+56'A'			LT					1									TWLTL AT CALVERT RD	
0010	206+82'A'			LT					1									TWLTL AT CALVERT RD	
0010	207+85'A'			LT					1									TWLTL AT CALVERT RD	
0010	208+11'A'			LT					1									TWLTL AT CALVERT RD	
0010	210+88'A'			LT					1									TWLTL AT GARNER PL	
0010	211+14'A'			LT					1									TWLTL AT GARNER PL	
CONTINUED ON NEXT SHEET																			
PROJECT NO: 5163-07-60					HWY: STH 35				COUNTY: LA CROSSE				MISCELLANEOUS QUANTITIES				SHEET:		E

3

3

3

CONTINUED FROM PREVIOUS SHEET																		
PAVEMENT MARKINGS																		
CATEGORY	STATION	TO	STATION	LOCATION	YELLOW	EPOXY 4-INCH 646.0106 LF	WHITE	EPOXY 8-INCH 646.0126 LF	ARROWS EPOXY TYPE 2 647.0166 EACH	CURB EPOXY 647.0456 LF	STOP LINE EPOXY 18-INCH 647.0566 LF	ISLAND NOSE EPOXY 647.0606 EACH	DIAGONAL EPOXY 12-INCH 647.0726 LF	CROSSWALK EPOXY 12-INCH 647.0776 LF	CONCRETE CORRUGATED MEDIAN EPOXY 647.0856 SF	TEMPORARY REFLECTIVE PAINT 4-INCH 649.0200 LF	REMARKS	
0010	50+00'B'	-	78+16'B'	LT, USH 14 WB			2610										4" WHITE EDGE LINE	
0010	50+28'B'	-	51+47'B'	RT, USH 14 EB				166									8" WHITE CHANNELIZING LANE LINE	
0010	50+37'B'			LT							14						USH 14 WB TO STH 35 SB	
0010	50+39'B'	-	69+52'B'	RT, USH 14 EB			480										4" WHITE CENTERLINE 12.5' SKIPS	
0010	50+39'B'	-	69+52'B'	RT, USH 14 EB			1921										4" WHITE CENTERLINE 12.5' SKIPS	
0010	50+52'B'	-	50+62'B'	LT						23								
0010	50+55'B'	-	57+55'B'	LT, USH 14 EB	702												4" YELLOW EDGE LINE	
0010	50+55'B'	-	57+55'B'	LT, USH 14 WB	695												4" YELLOW EDGE LINE	
0010	50+57'B'	-	50+66'B'	RT						21							STH 35 TO USH 14 EB RIGHT TURN ISLAND	
0010	51+19'B'	-	78+16'B'	RT, USH 14 EB			2592										4" WHITE EDGE LINE	
0010	51+20'B'	-	51+27'B'	RT						15							STH 35 TO USH 14 EB RIGHT TURN ISLAND	
0010	52+42'B'	-	52+49'B'	LT						13		1						
0010	57+52'B'	-	57+59'B'	LT						17								
0010	57+55'B'	-	72+05'B'	LT, USH 14 WB			1449										4" WHITE CENTERLINE 12.5' SKIPS	
0010	57+55'B'	-	78+16'B'	CL, USH 14	4995												4" YELLOW CENTERLINES	
0010	57+57'B'	-	72+05'B'	RT, USH 14 WB			362										4" WHITE CENTERLINE 12.5' SKIPS	
0010	57+61'B'	-	78+16'B'	CL	4995												4" YELLOW CENTERLINES	
0010	65+02'B'	-	66+82'B'	RT, FIRECLAY CT RIGHT TURN				180									8" WHITE CHANNELIZING LANE LINE	
0010	6+00'C'	-	15+67'C'	LT, USH 14 WB RAMP			967										4" WHITE EDGE LINE	
0010	7+25'C'	-	10+93'C'	RT, USH 14 WB RAMP	378												4" YELLOW EDGE LINE	
0010	10+92'C'	-	15+67'C'	RT, USH 14 WB RAMP				541									8" WHITE CHANNELIZING LANE LINE	
SUBTOTAL						27224	33245											
TOTAL 0010						60469		5461	10	248	14	3	763	70	2829		17748	
TRAFFIC CONTROL																		
					TRAFFIC CONTROL DRUMS 643.0300	TRAFFIC CONTROL BARRICADES TYPE III 643.0420	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715	TRAFFIC CONTROL ARROW BOARDS 643.0800	TRAFFIC CONTROL SIGNS 643.0900	TRAFFIC CONTROL SIGNS PCMS 643.1050	TRAFFIC CONTROL CONES SPV.0045.01						
CATEGORY	LOCATION				DAY	DAY	DAY	DAY	DAY	DAY	DAY	DAY	DAY	DAY	DAY	DAY		
0010	PRECONSTRUCTION														21			
0010	STAGE 1				684	144	260	324	24	288	48	756						
0010	STAGE 2				510	40	80	40		100	21							
0010	STAGE 3				80	2	4	24		26	6							
0010	STAGE 4				189	18	36	33	6	51	15	60						
0010	STAGE 5				96	8	16	9	1	20	3	23						
0010	MILL AND PAVE																	
TOTAL 0010					1559	212	396	430	31	485	114	839						
PROJECT NO: 5163-07-60				HWY: STH 35				COUNTY: LA CROSSE				MISCELLANEOUS QUANTITIES				SHEET:		E

LOCATING NO-PASSING ZONES

CATEGORY	STATION TO	STATION	LOCATION	648.0100 MI
0010	100+00'A'	- 104+00'A'	STH 35	0.08
0010	124+00'A'	190+00'A'	STH 35	1.25
0010	71+00'B'	79+00'B'	USH 14	0.15
TOTAL 0010				1.48

SPECIAL CONCRETE JOINT REPAIR

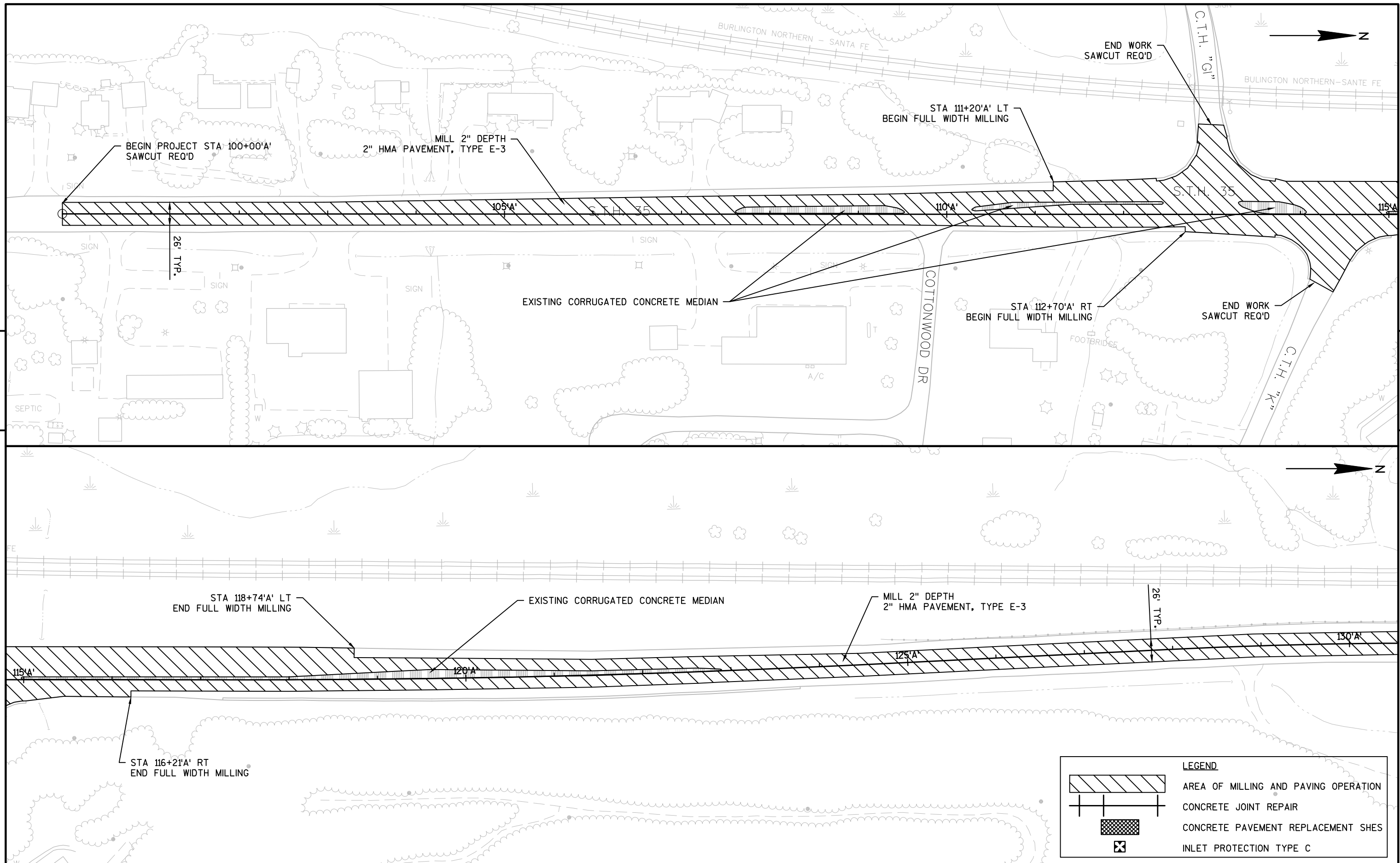
				SPV.0090.01		
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	188+15'A'	-	194+20'A'	LT	478	TC STAGE 1, TRANSVERSE JOINTS
0010	196+05'A'	-	197+15'A'	LT	110	TC STAGE 1, LONGITUDINAL JOINTS
0010	190+64'A'	-	202+53'A'	LT	1044	TC STAGE 1, LONGITUDINAL JOINTS
0010	194+20'A'	-	205+35'A'	LT	1425	TC STAGE 1, TRANSVERSE JOINTS
0010	205+35'A'	-	211+30'A'	LT	745	TC STAGE 1, TRANSVERSE JOINTS
0010	205+35'A'	-	211+30'A'	LT	563	TC STAGE 1, LONGITUDINAL JOINTS
0010	192+73'A'	-	196+75'A'	RT	212	TC STAGE 2
0010	195+24'A'	-	196+08'A'	RT	85	TC STAGE 2, LONGITUDINAL JOINTS
0010	51+00'B'	-	51+95'B'	RT	36	TC STAGE 2, TRANSVERSE JOINTS
0010	203+93'A'	-	211+30'A'	RT	402	TC STAGE 2, TRANSVERSE JOINTS
0010	203+93'A'	-	211+30'A'	RT	738	TC STAGE 2, LONGITUDINAL JOINTS
0010	7+80'C'	-	14+35'C'	RT	63	TC STAGE 2, TRANSVERSE JOINTS
0010	196+70'A'	-	197+81'A'	RT	97	TC STAGE 3
0010	56+20'B'	-	70+15'B'	LT	814	TC STAGE 4
0010	67+20'B'	-	70+15'B'	RT	20	TC STAGE 5
0010				UNDISTRIBUTED	680	
				TOTAL 0010	7512	

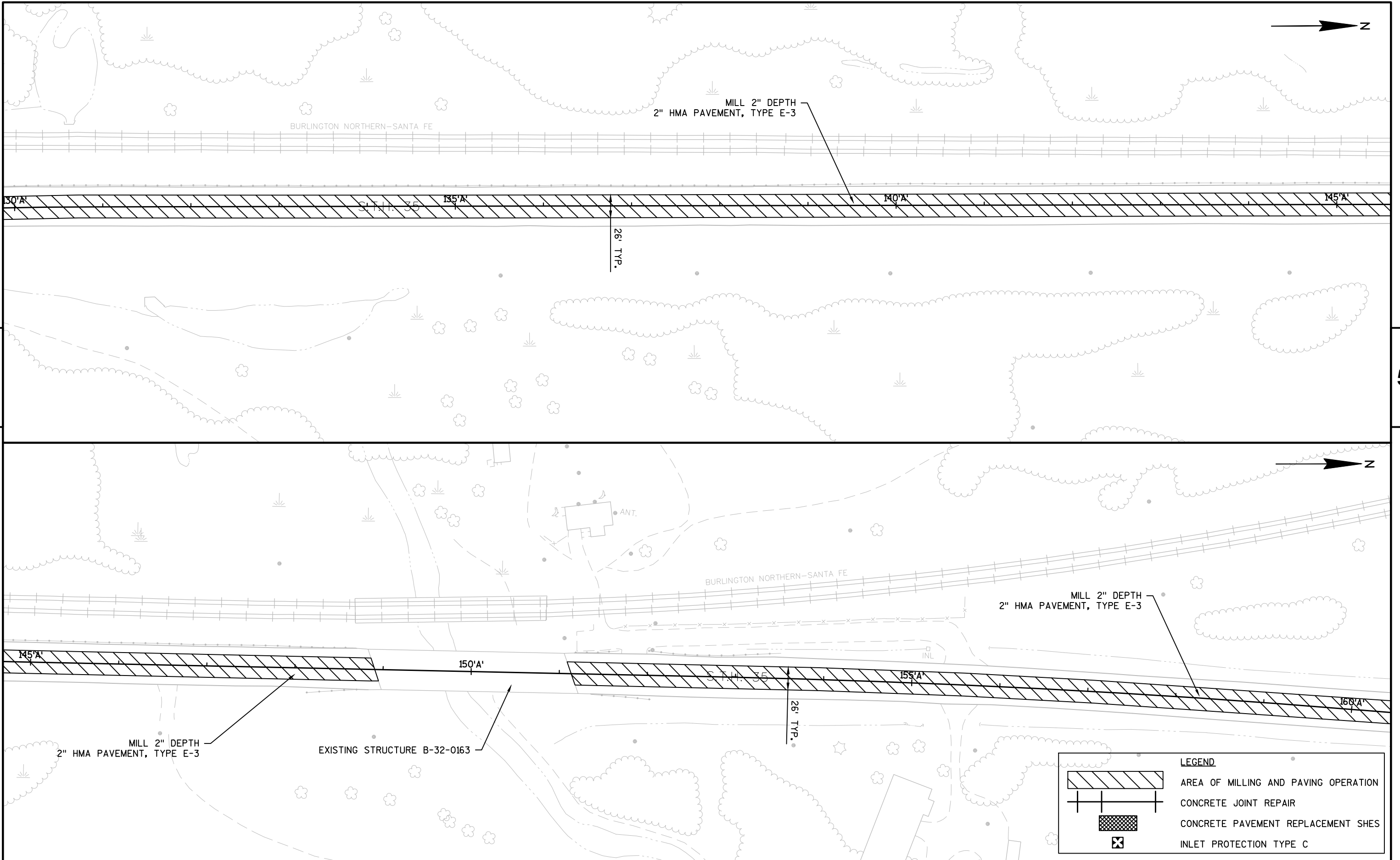
SPECIAL CONCRETE CURB ITEMS

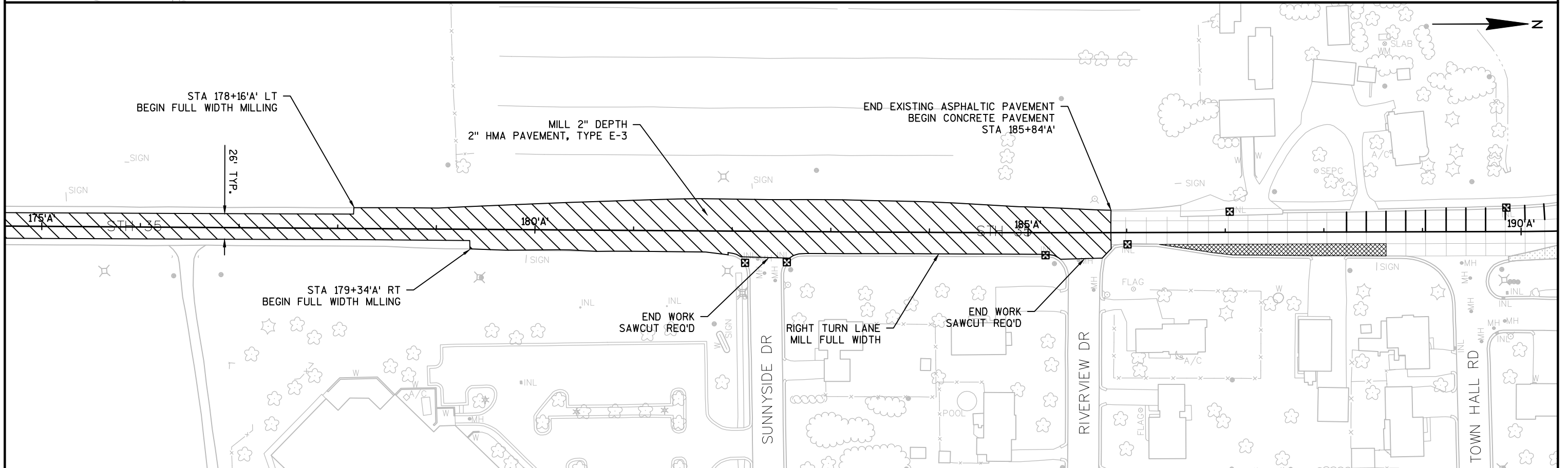
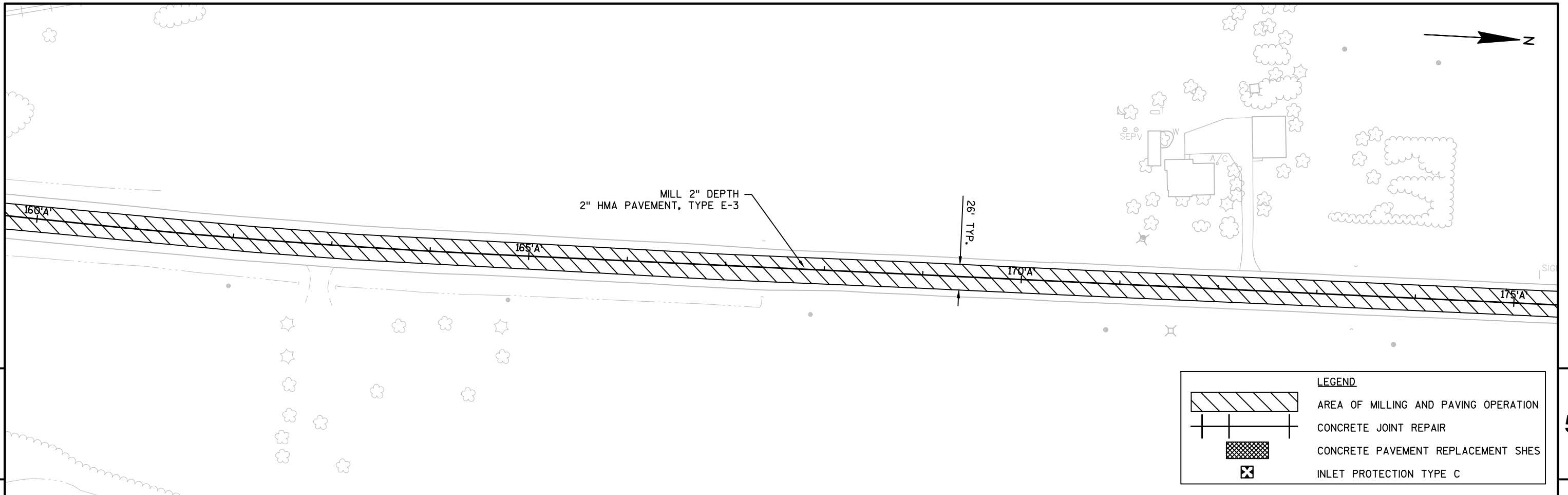
			SPECIAL CONCRETE CURB & GUTTER 30-INCH TYPE A SHES SPV.0090.02	SPECIAL CONCRETE CURB SPV.0090.04	REMARKS
CATEGORY	STATION TO	STATION	LOCATION	LF	
0010	196+00'A'	- 196+18'A'	RT	18	RT TURN LANE, NB 35 TO EB 14; RT SIDE
0010	197+15'A'	- 197+60'A'	LT	45	EAST SIDE OF EMERGENCY VEHICLE BYPASS
0010	197+15'A'	- 197+80'A'	LT	65	WEST SIDE OF EMERGENCY VEHICLE BYPASS
0010	198+00'A'	- 198+68'A'	LT		WEST SIDE OF EB 14 TURN BAY
0010	199+12'A'	- 199+80'A'	LT		WEST SIDE OF EB 14 TURN BAY
0010	200+34'A'	- 200+84'A'	LT		WEST SIDE OF EB 14 TURN BAY
0010	201+33'A'	- 202+13'A'	LT		WEST SIDE OF EB 14 TURN BAY
0010	50+95'B'	- 51+40'B'	RT	46	RT TURN LANE, NB 35 TO EB 14; REVERSE SLOPE; LT SIDE
0010	50+95'B'	- 51+40'B'	RT	36	RT TURN LANE, NB 35 TO EB 14; RT SIDE
0010	52+02'B'	- 52+18'B'	LT		REMOVE CURB HEAD ONLY FROM 30-INCH TYPE A
TOTAL 0010				210	282

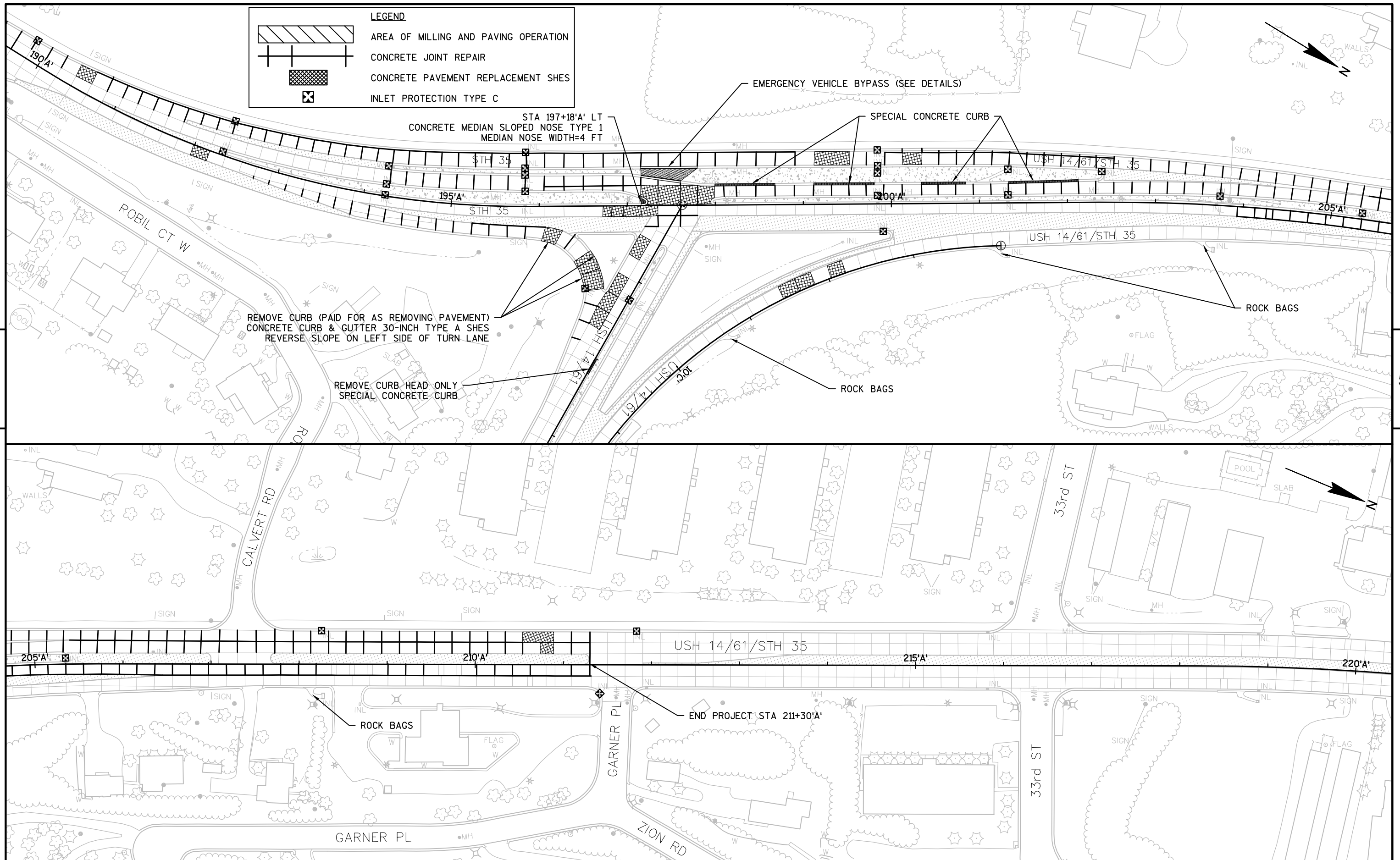
SPECIAL REMOVING HMA PAVEMENT NOTCHED WEDGE LONGITUDINAL JOINT MILLING

CATEGORY	STATION TO	STATION	LOCATION	SPV.0090.03 LF
0010	100+00'A'	- 122+90'A'	MAINLINE	1900
0010	122+90'A'	- 148+95'A'	MAINLINE	2600
0010	151+08'A'	- 185+84'A'	MAINLINE	4800
TOTAL 0010				9300

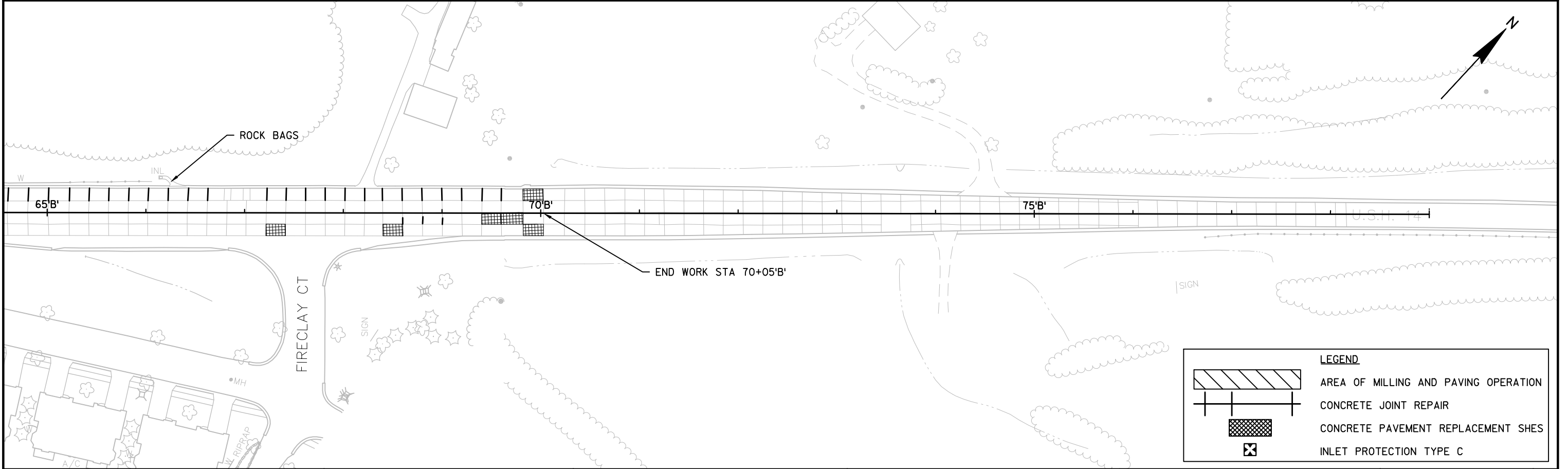
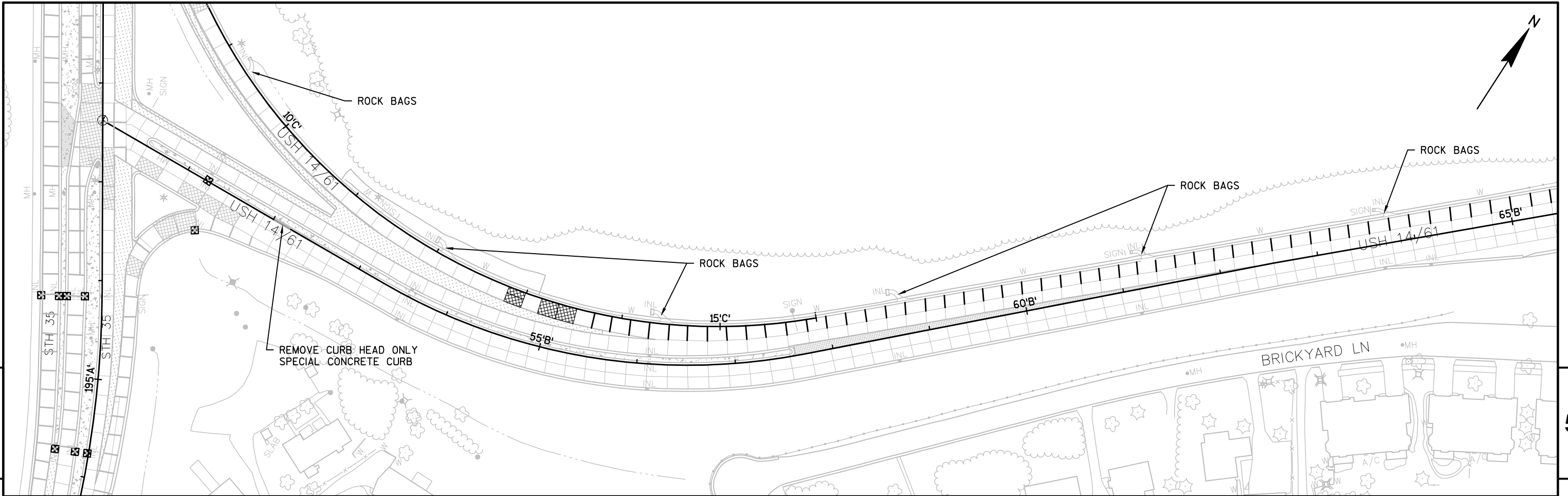








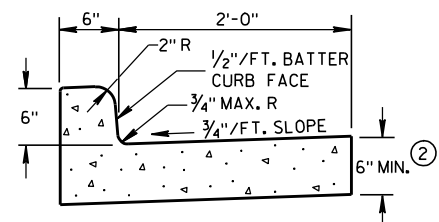
PROJECT NO:5163-07-60	HWY:STH 35	COUNTY:LA CROSSE	PLAN	SHEET	E
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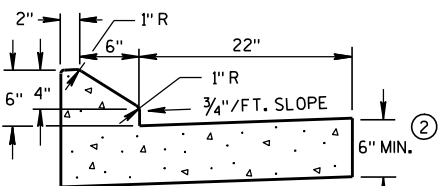
LEGEND	
	AREA OF MILLING AND PAVING OPERATION
	CONCRETE JOINT REPAIR
	CONCRETE PAVEMENT REPLACEMENT SHES
	INLET PROTECTION TYPE C

Standard Detail Drawing List

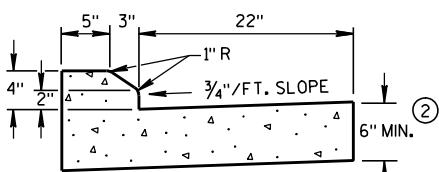
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E10-02	INLET PROTECTION TYPE A, B, C AND D
11B02-02	CONCRETE MEDIAN NOSE
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M. P. H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M. P. H. OR LESS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-02B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C19-02C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D22-02	TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY



TYPES A & D ①

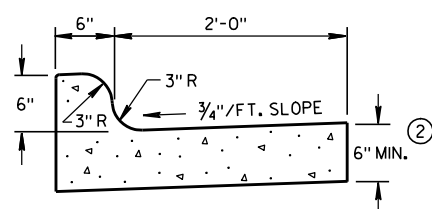


6" SLOPED CURB TYPES G & J ①

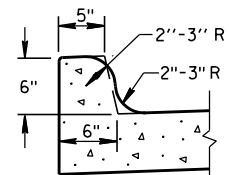
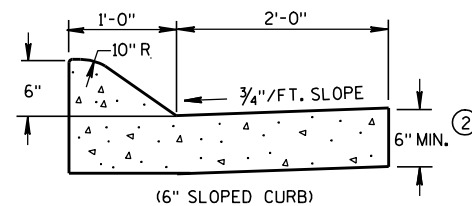


4" SLOPED CURB TYPES G & J ①

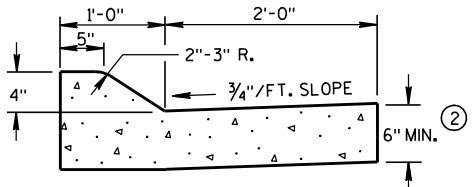
CONCRETE CURB & GUTTER 30"



TYPES K & L ①

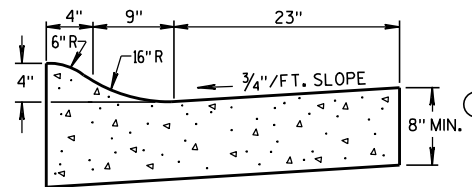
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

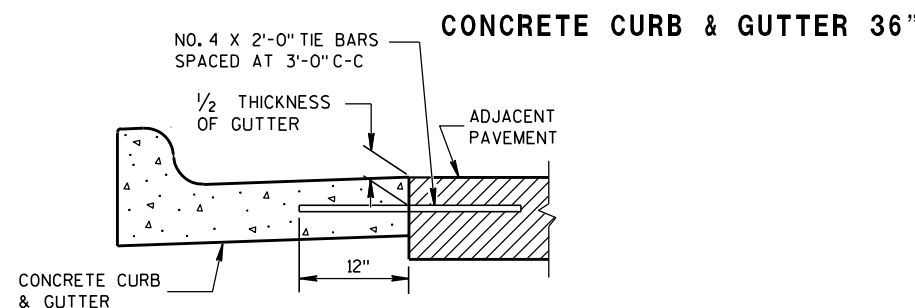


(4" SLOPED CURB)

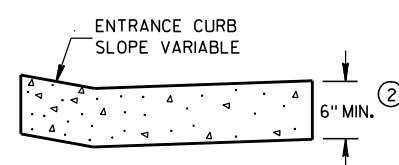
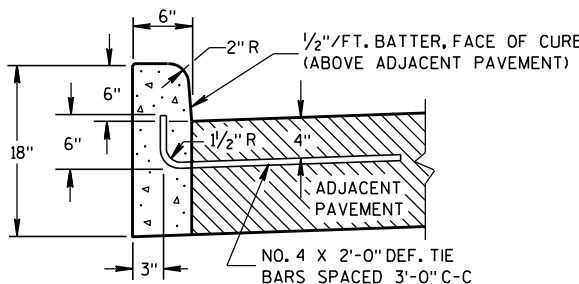
TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

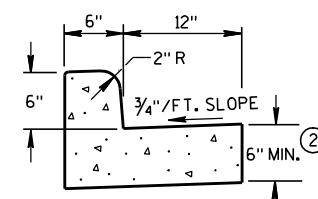
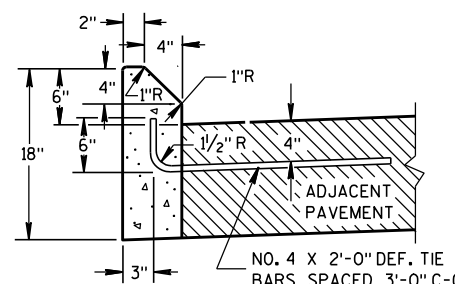


TYPICAL TIE BAR LOCATION ①

DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

TYPES A & D ①

CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

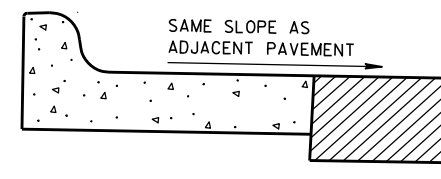
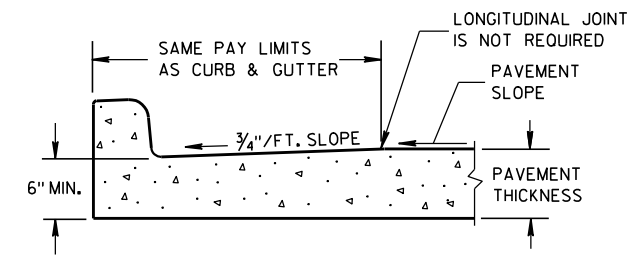
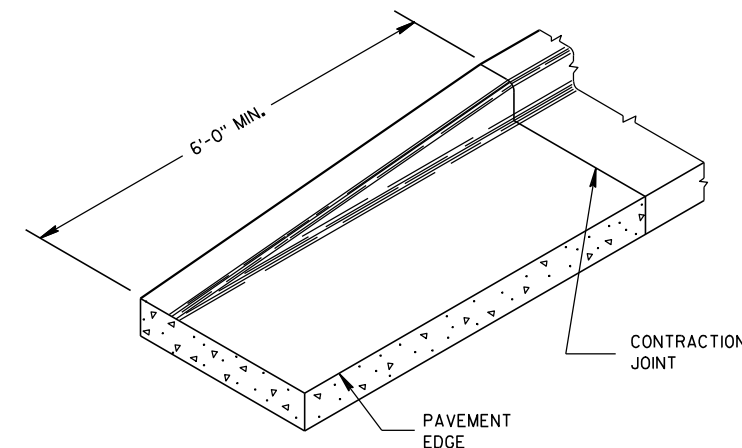
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

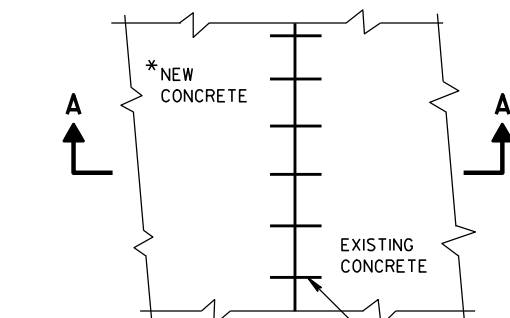
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

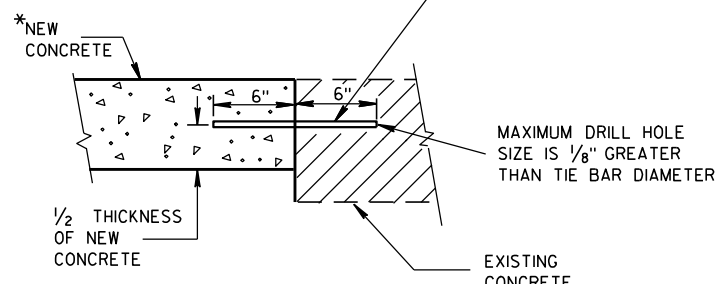
END SECTION CURB & GUTTER



PLAN VIEW

* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

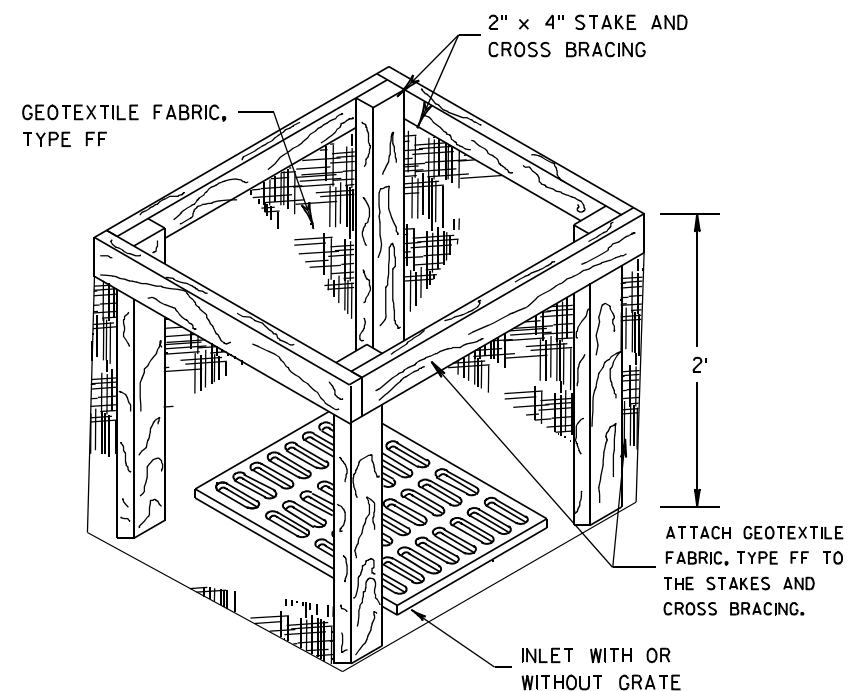
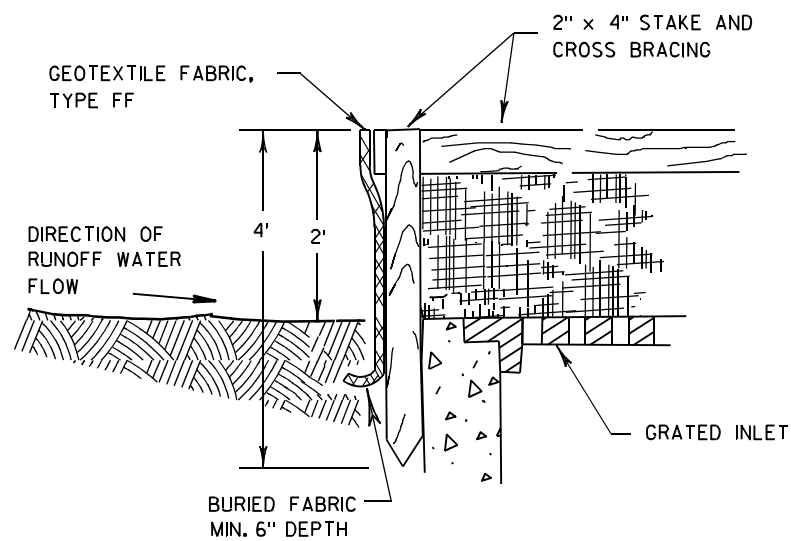
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



INLET PROTECTION, TYPE A

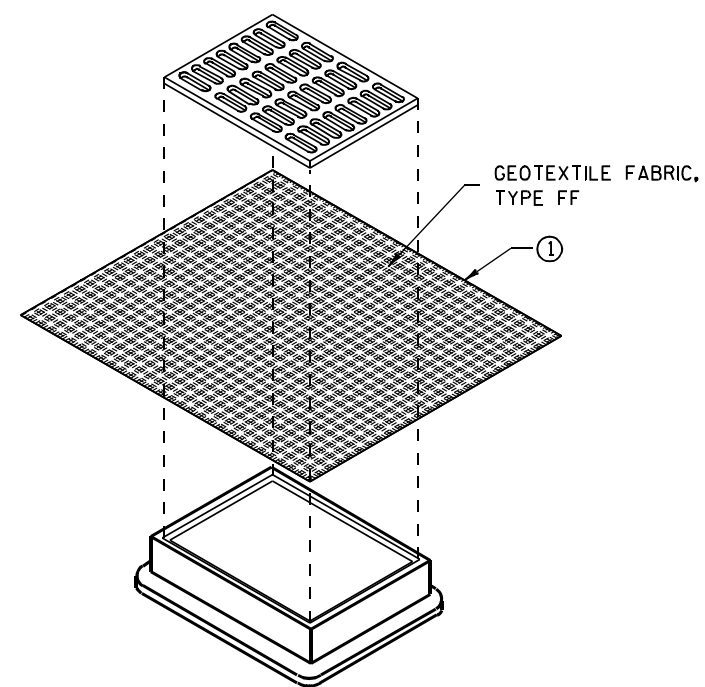
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

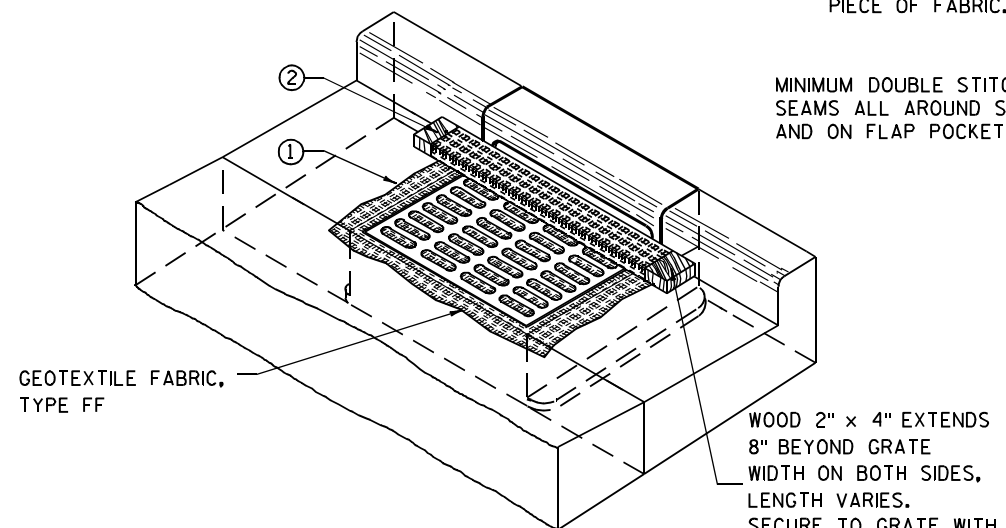
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

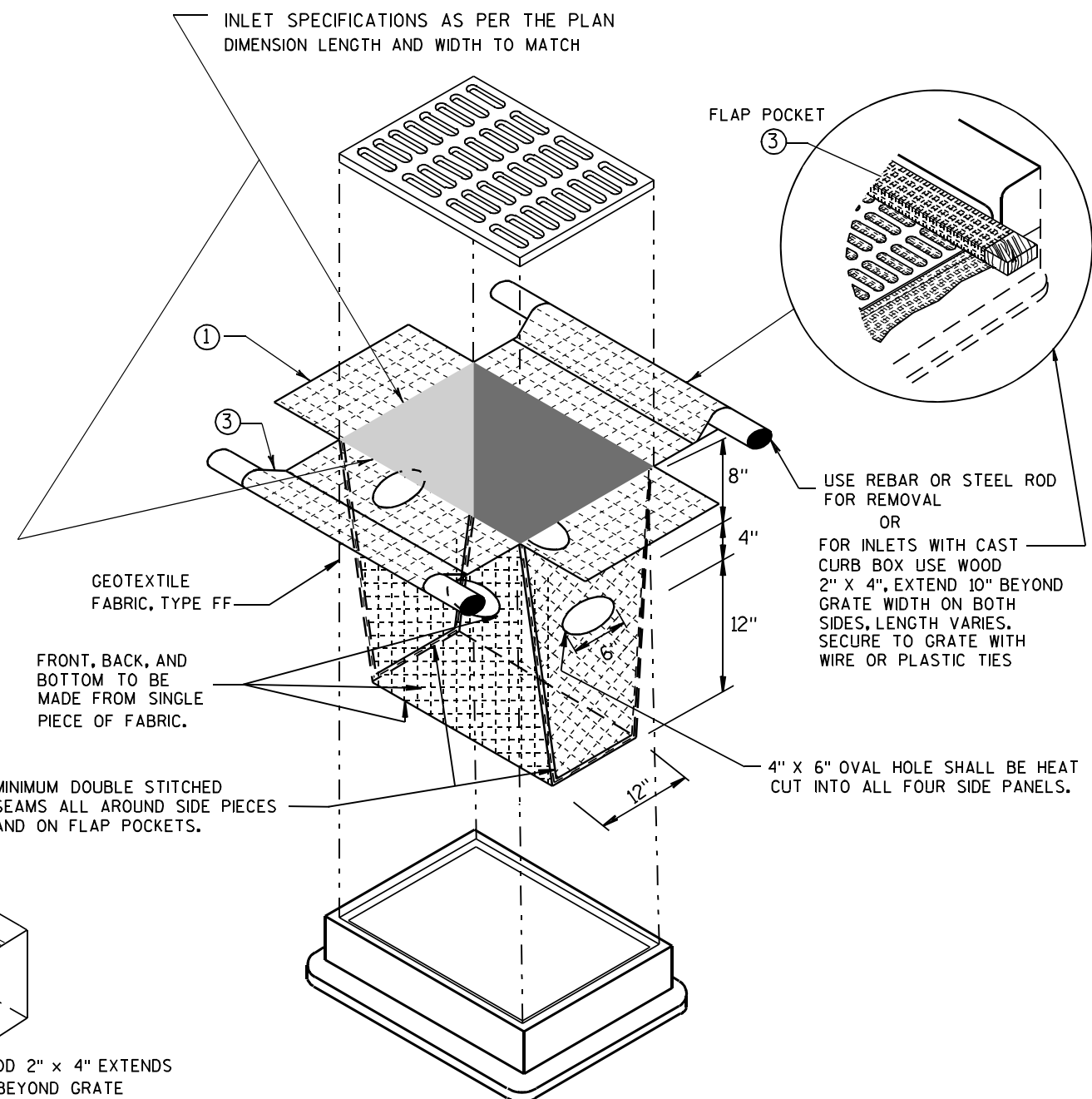
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



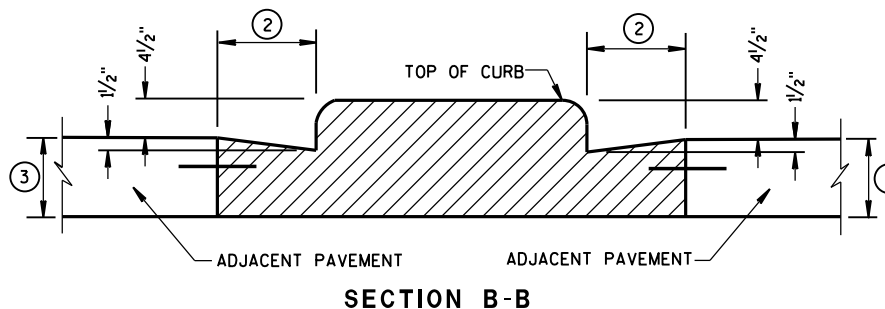
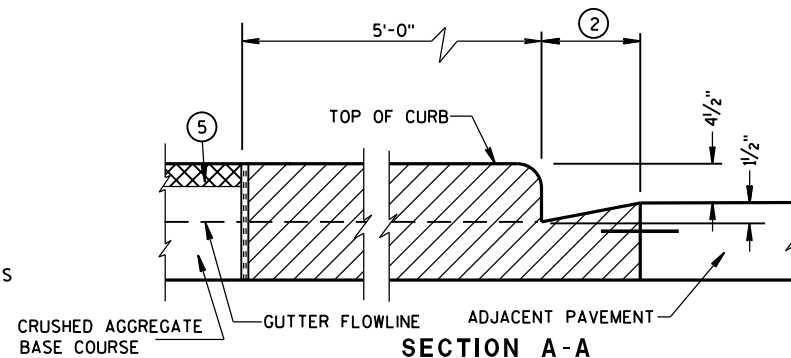
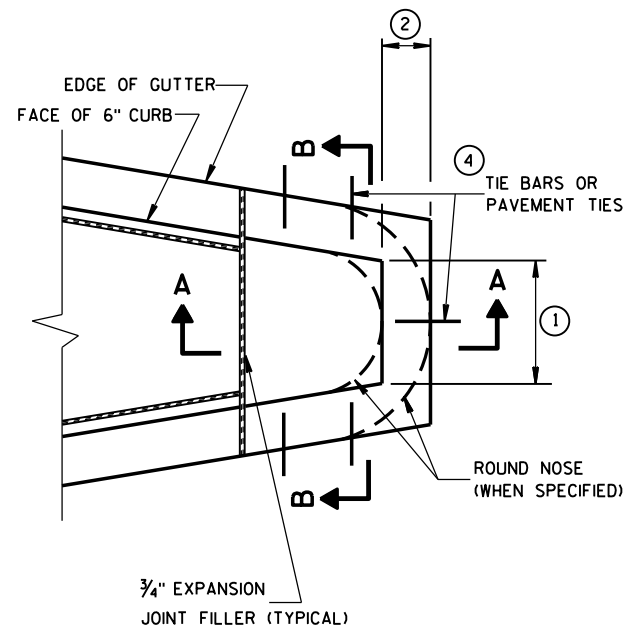
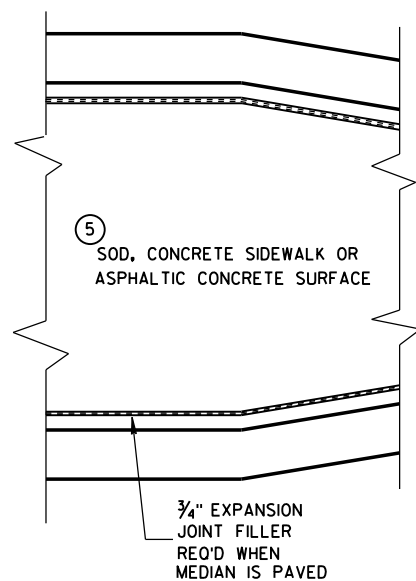
INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

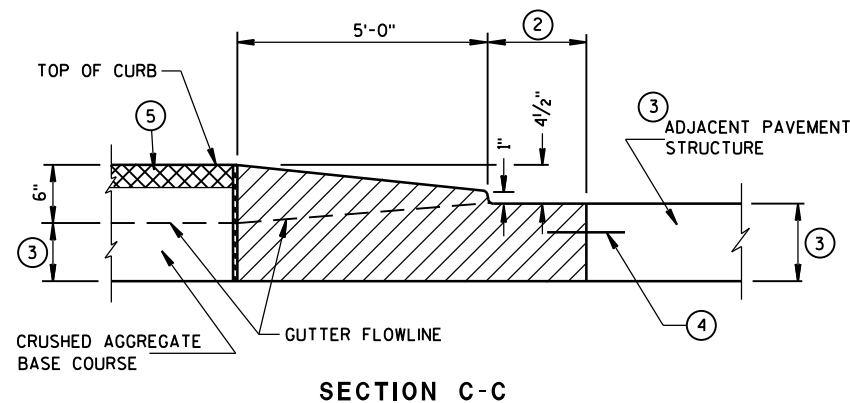
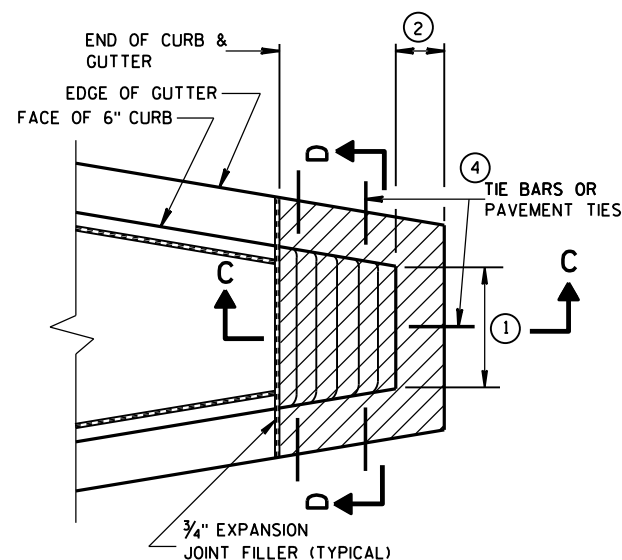
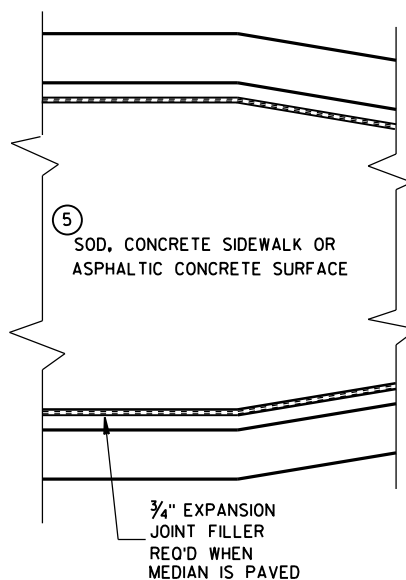
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

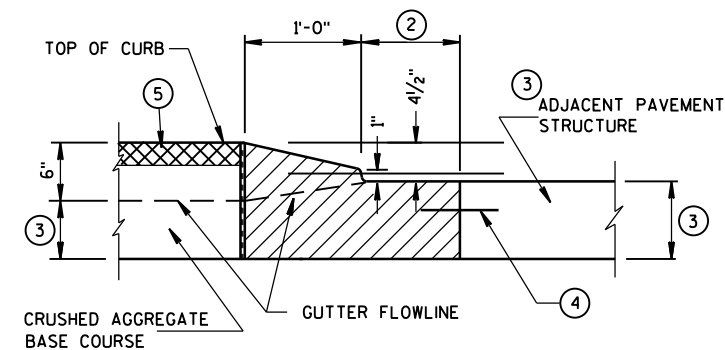
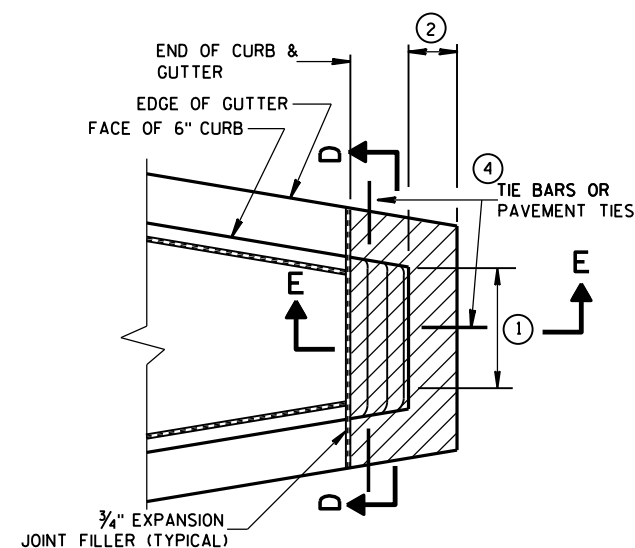
APPROVED
10/16/02 /S/ Beth Cannestra
DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



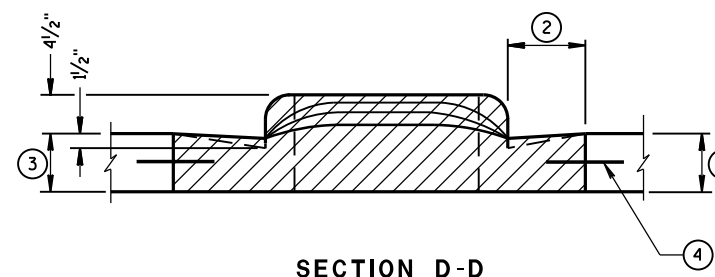
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



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.

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006

DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

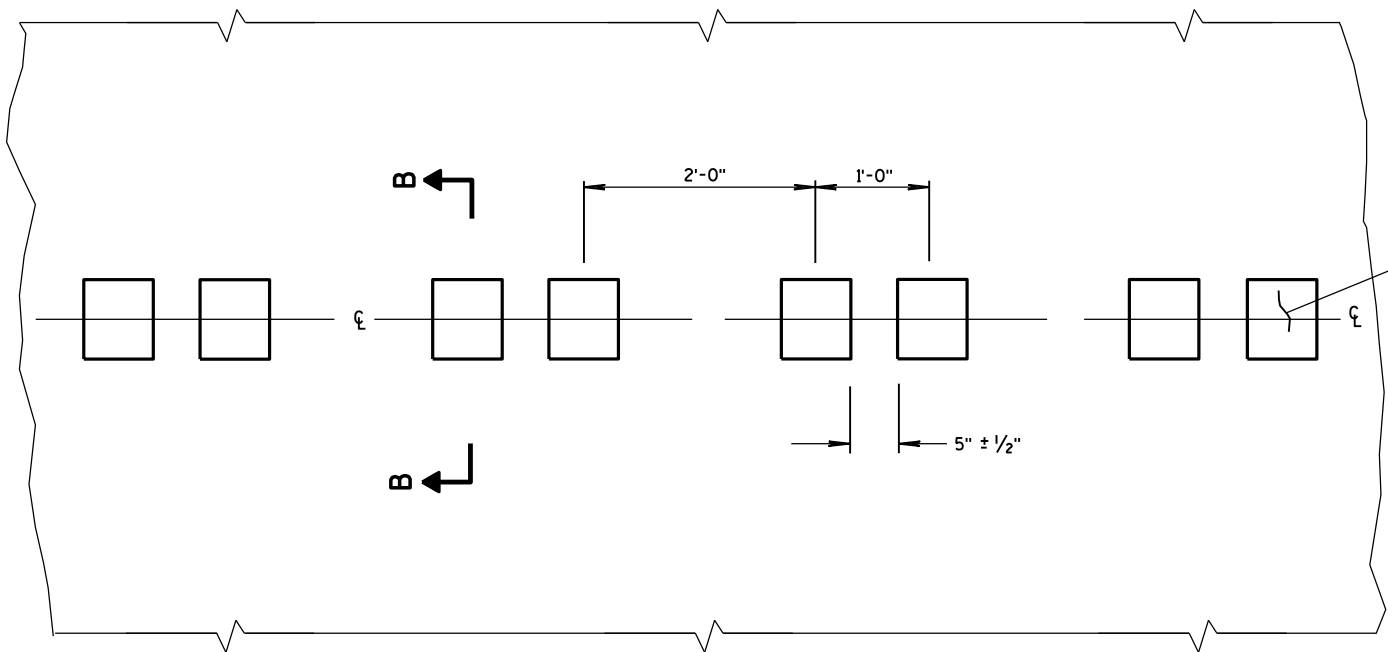
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

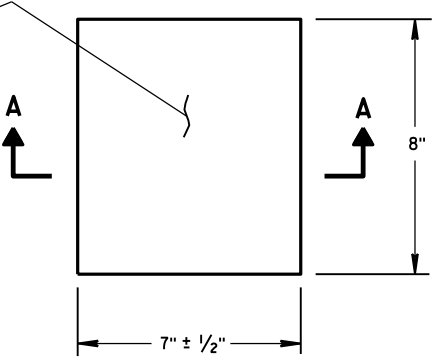
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

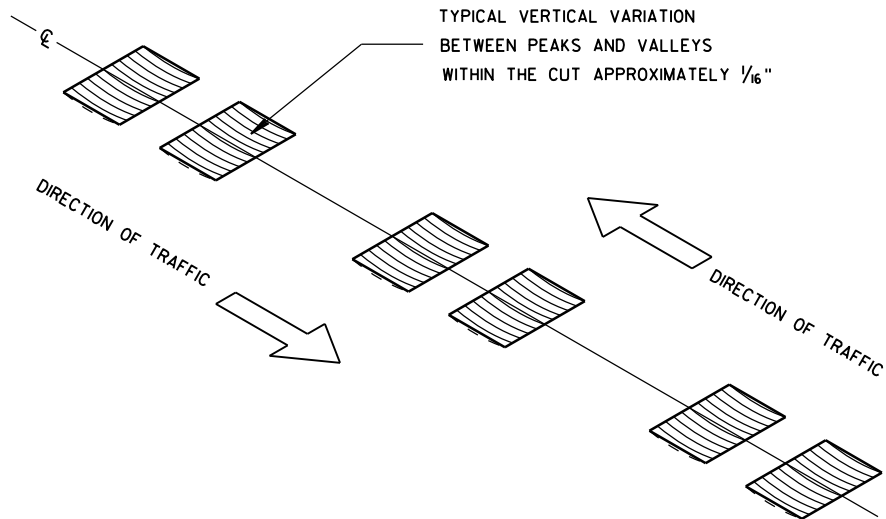
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



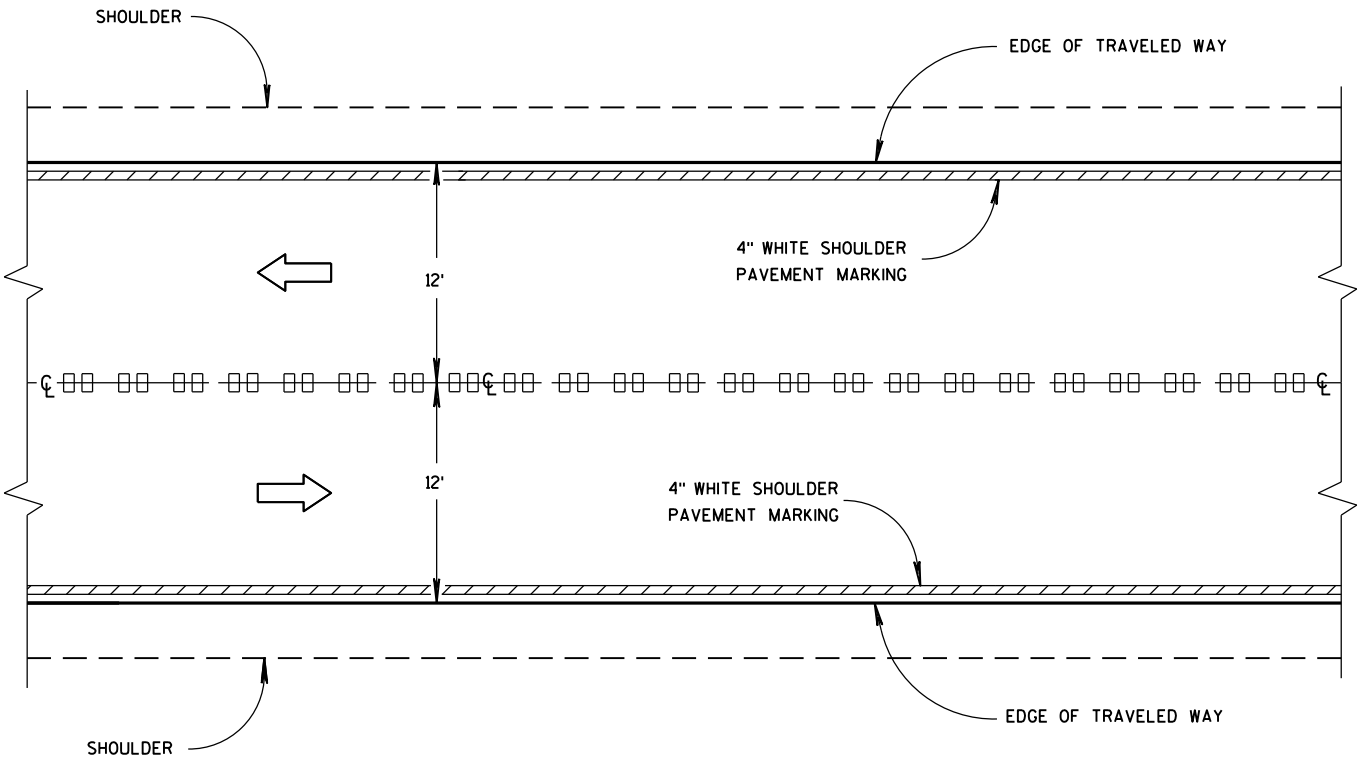
PLAN VIEW
CENTER LINE WITH GROOVES



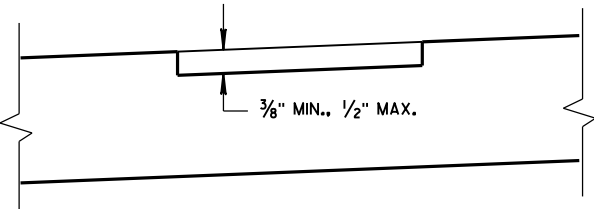
PLAN VIEW
(SINGLE GROOVE)



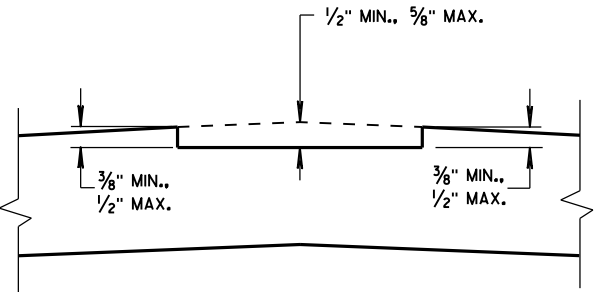
ISOMETRIC



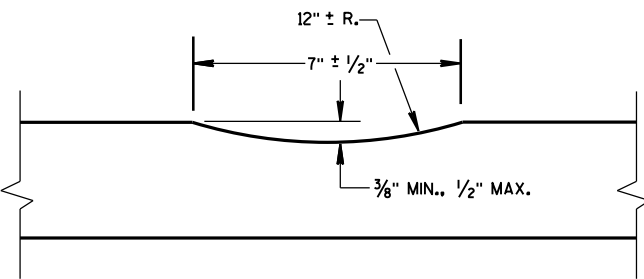
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



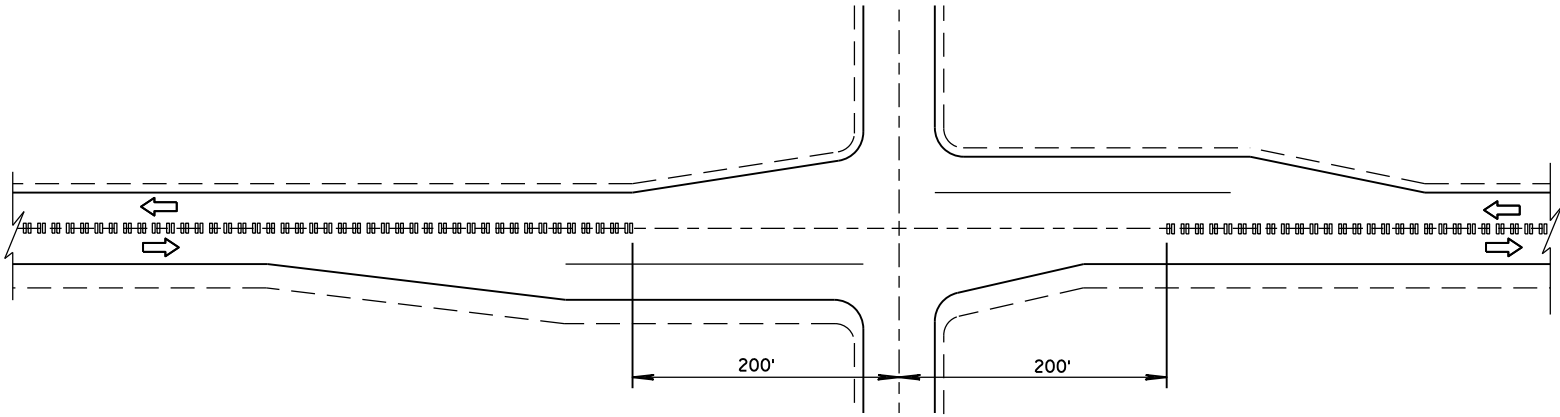
SECTION B-B
CROWNED ROADWAY



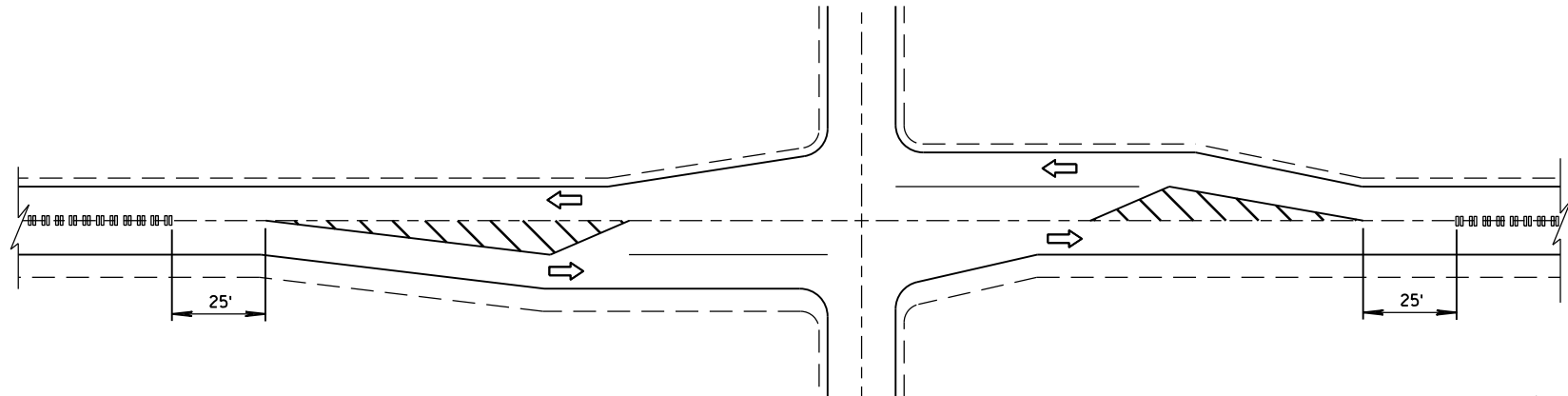
SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

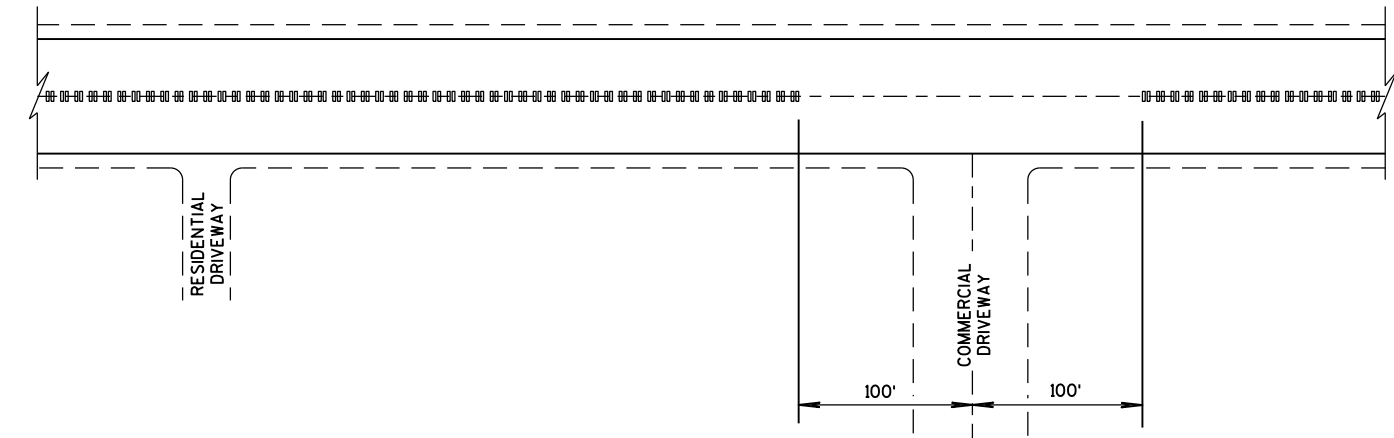
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS

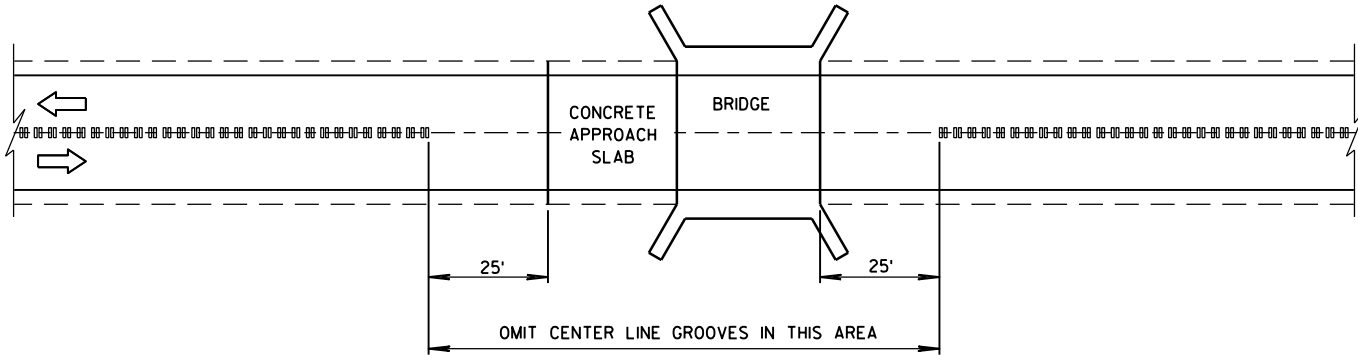


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

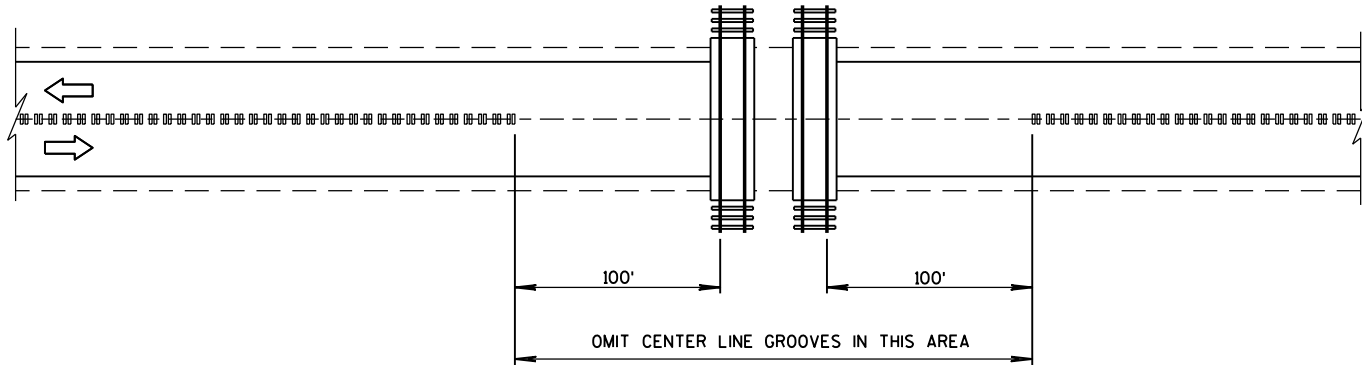


CENTER LINE GROOVES AT DRIVEWAYS^①

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

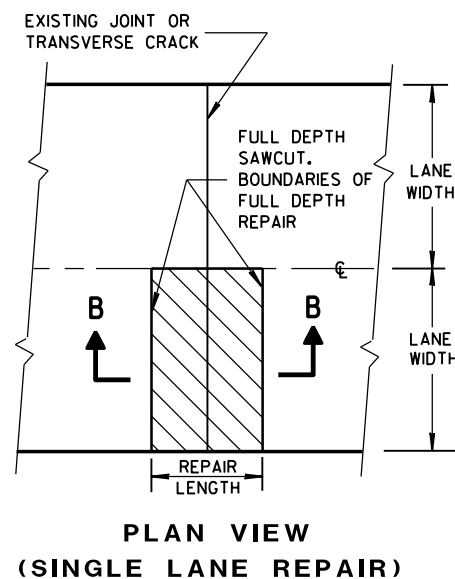
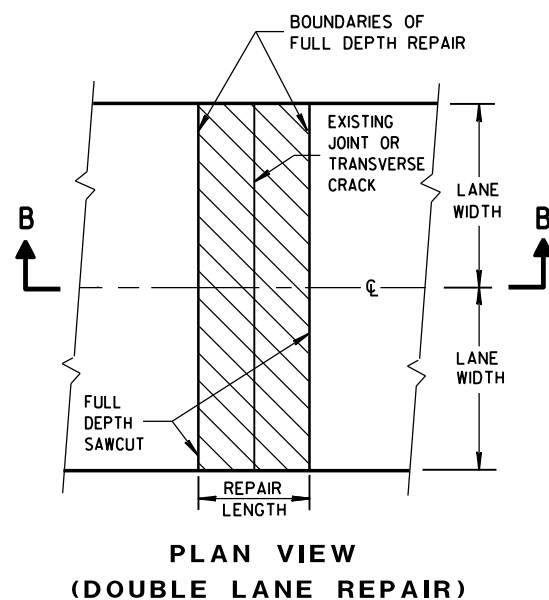
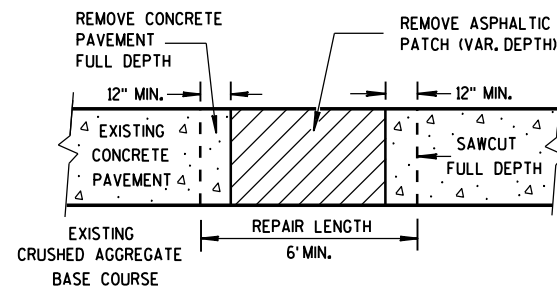
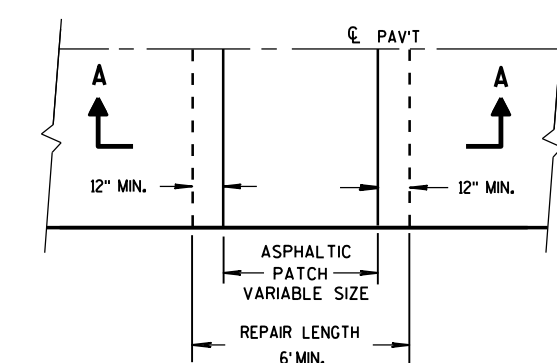


CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/15/2013 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)

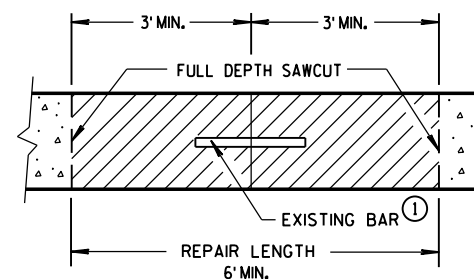
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

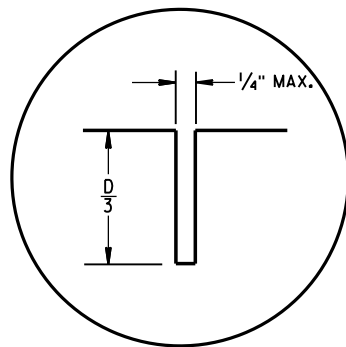
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

① DOWEL BARS MIGHT NOT EXIST.

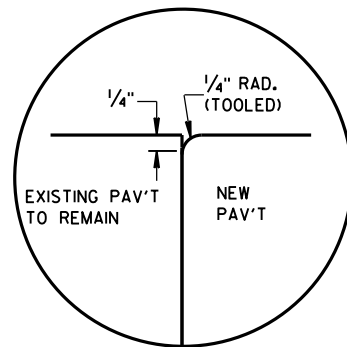


TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"

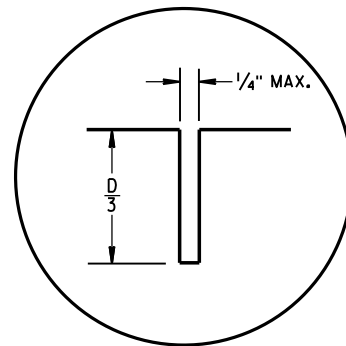


C1

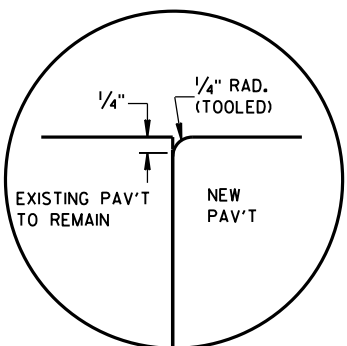


C2

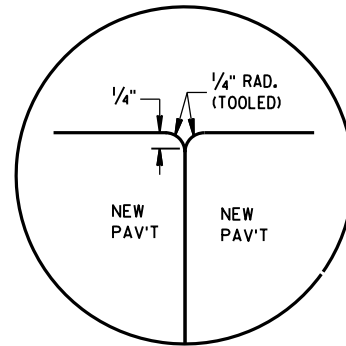
TRANSVERSE JOINTS



L1

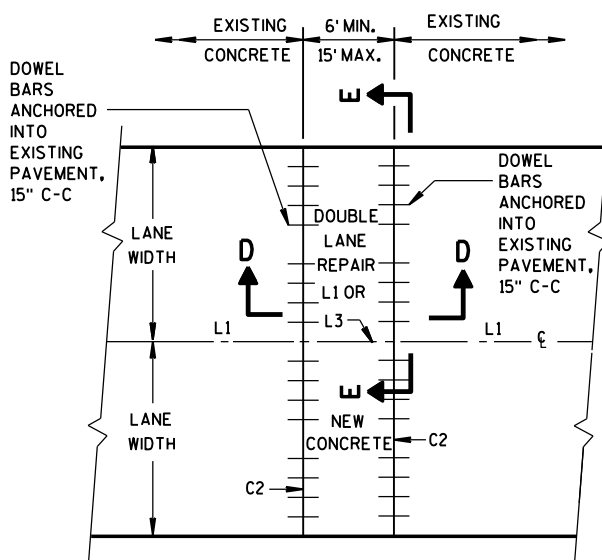


L2



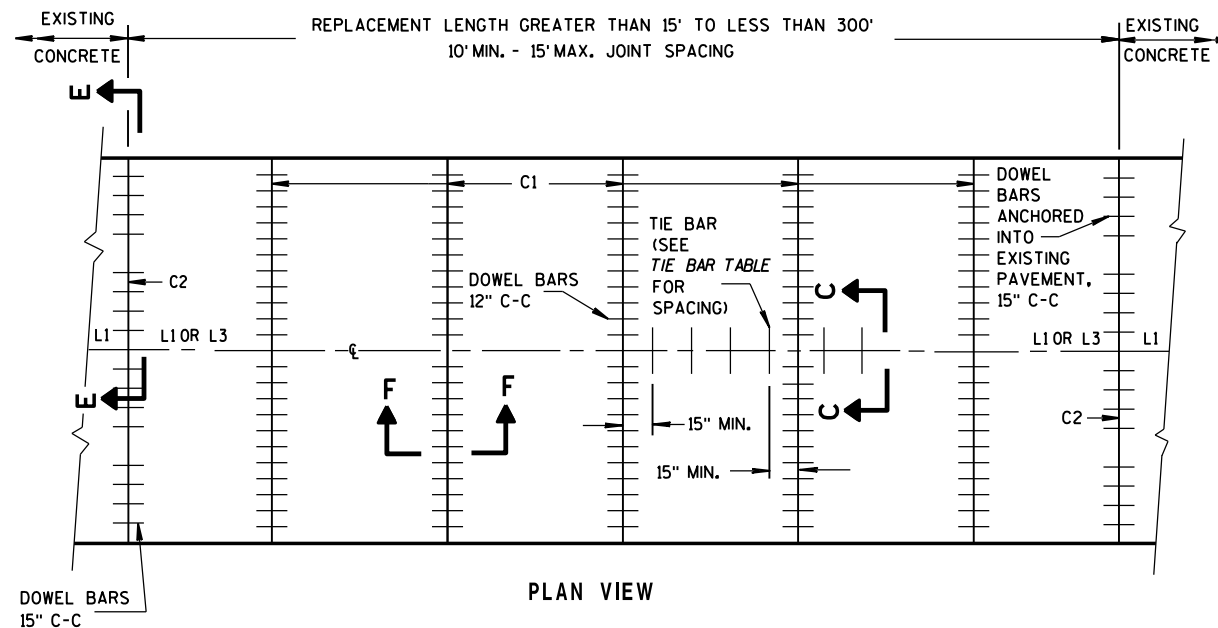
L3

LONGITUDINAL JOINTS



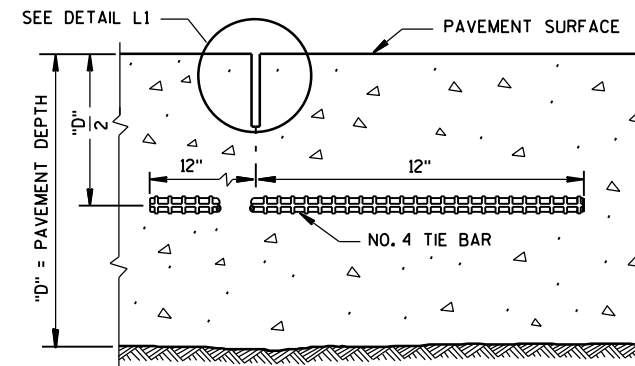
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



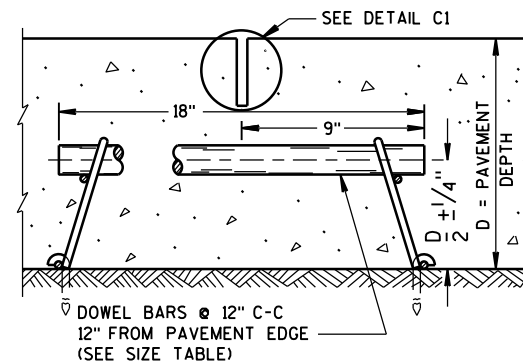
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT



SECTION C-C

SAWED LONGITUDINAL JOINT

SECTION F-F
CONTRACTION JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

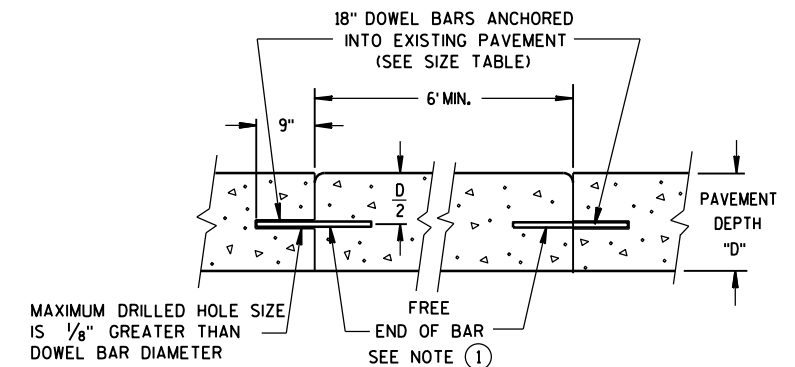
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

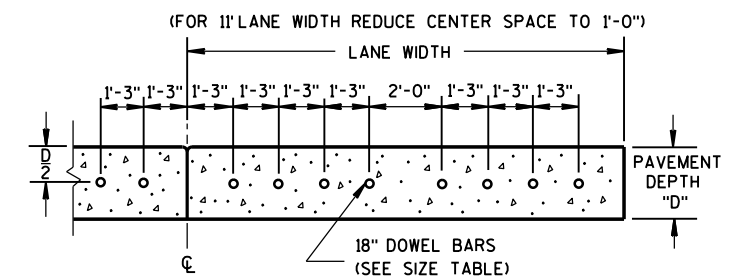
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION D-D



SECTION E-E

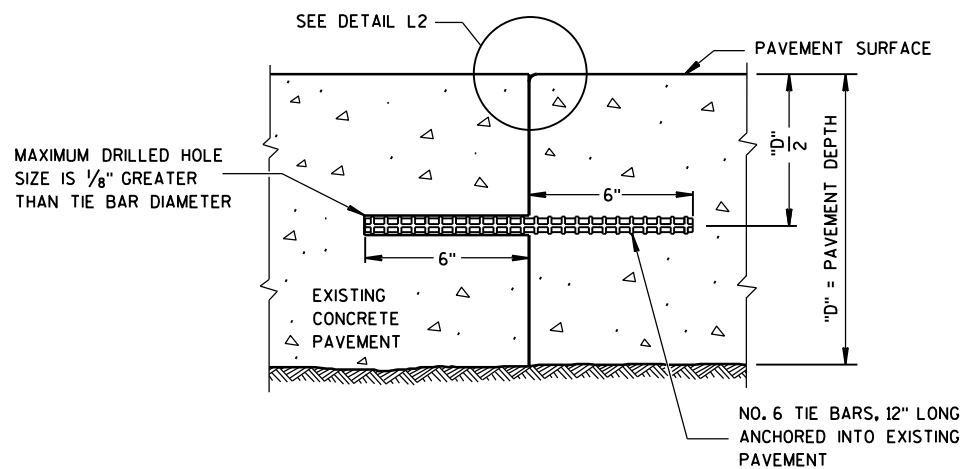
DRILLED DOWEL BAR CONSTRUCTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

CONCRETE PAVEMENT
REPAIR AND REPLACEMENT

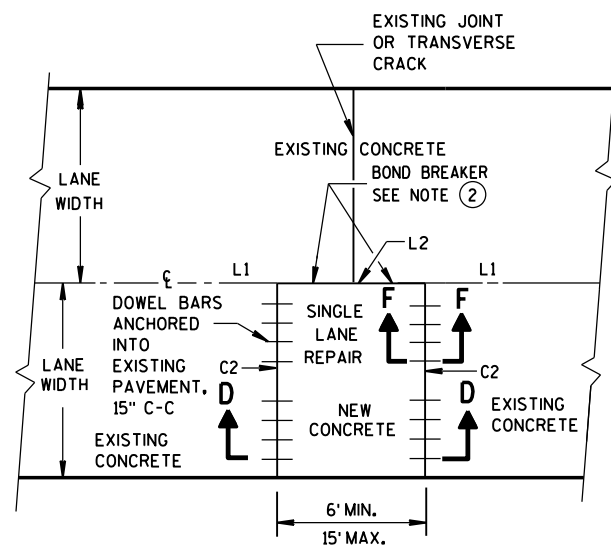
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



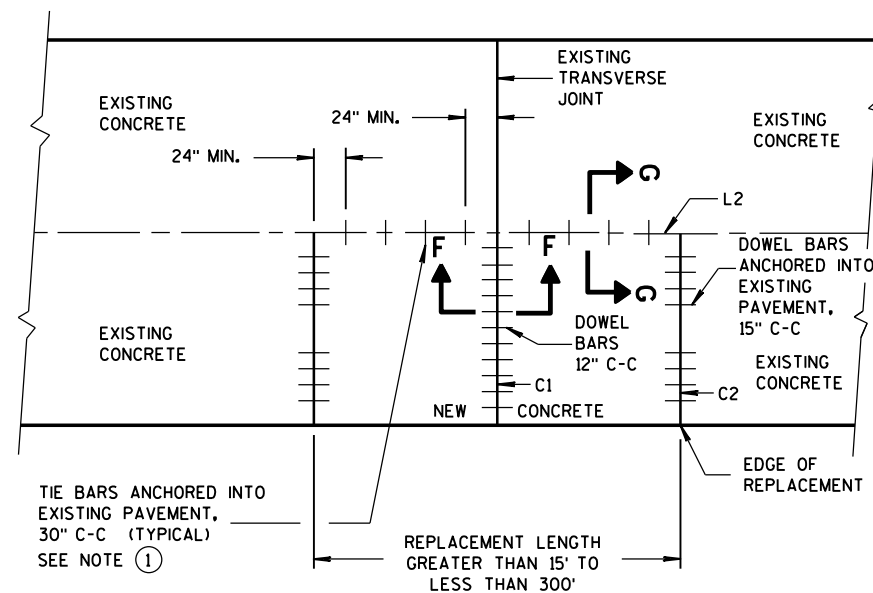
SECTION G-G
TIE BARS ANCHORED
INTO EXISTING PAVEMENT

GENERAL NOTES

- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPAIR



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

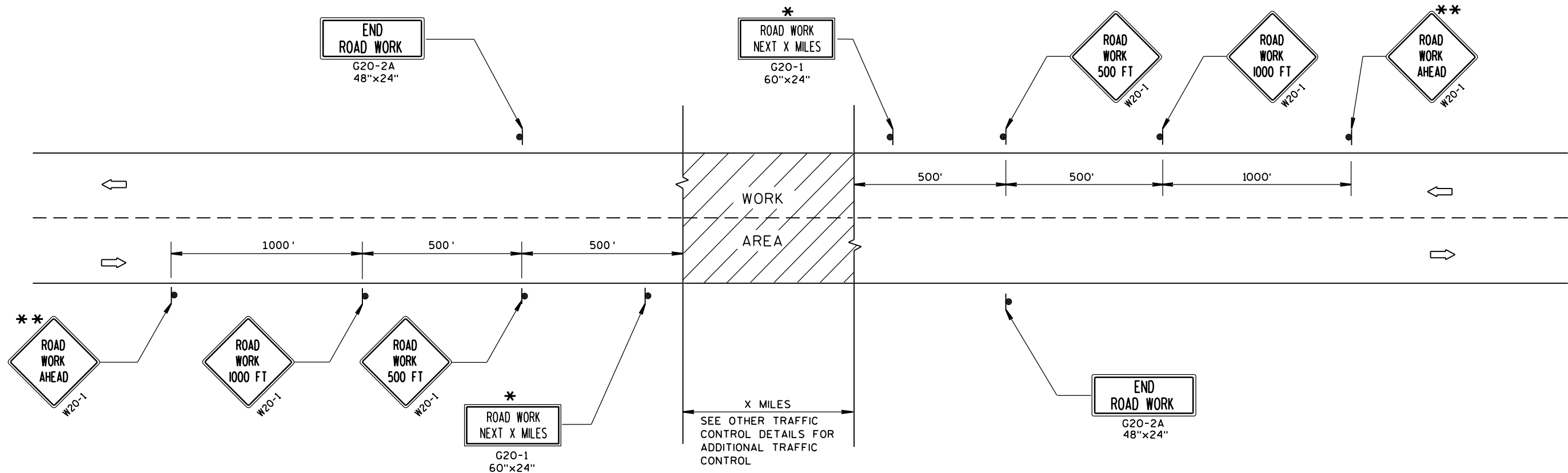
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-2013
DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

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.

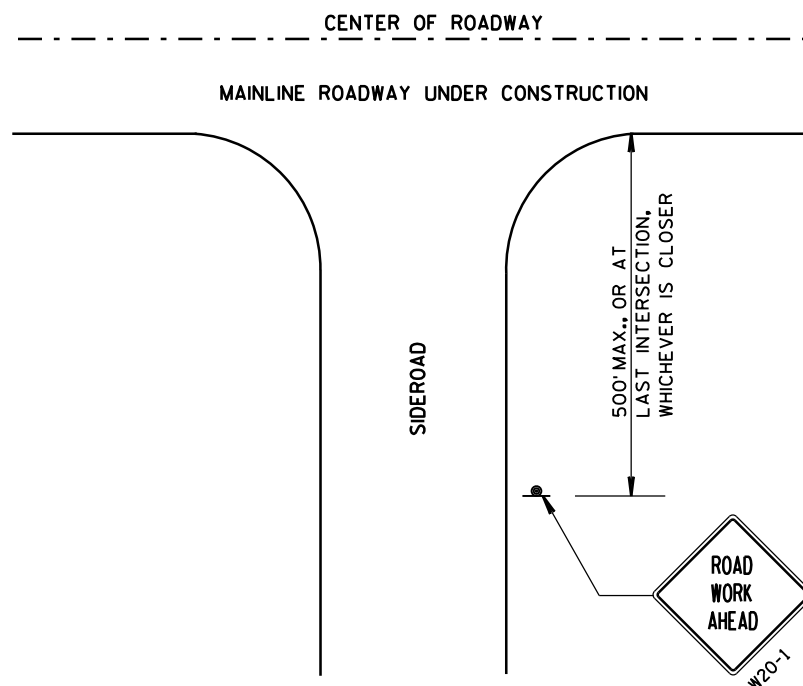
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "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

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

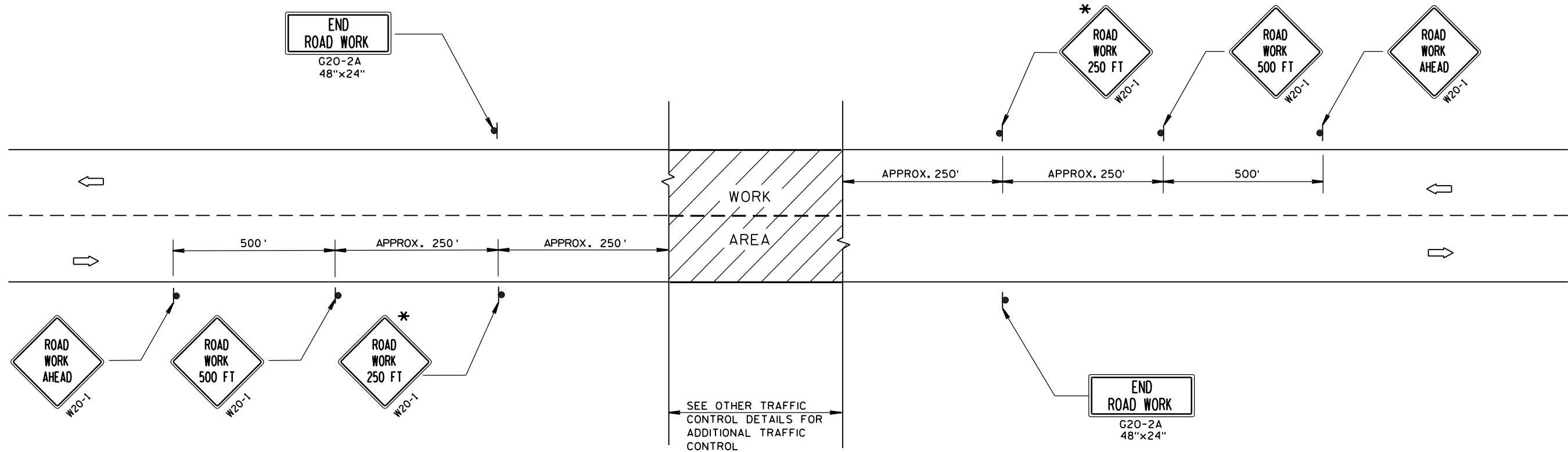
8/2013

DATE

FHWA

/S/ Travis Feltes

STATE TRAFFIC ENGINEER OF DESIGN



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

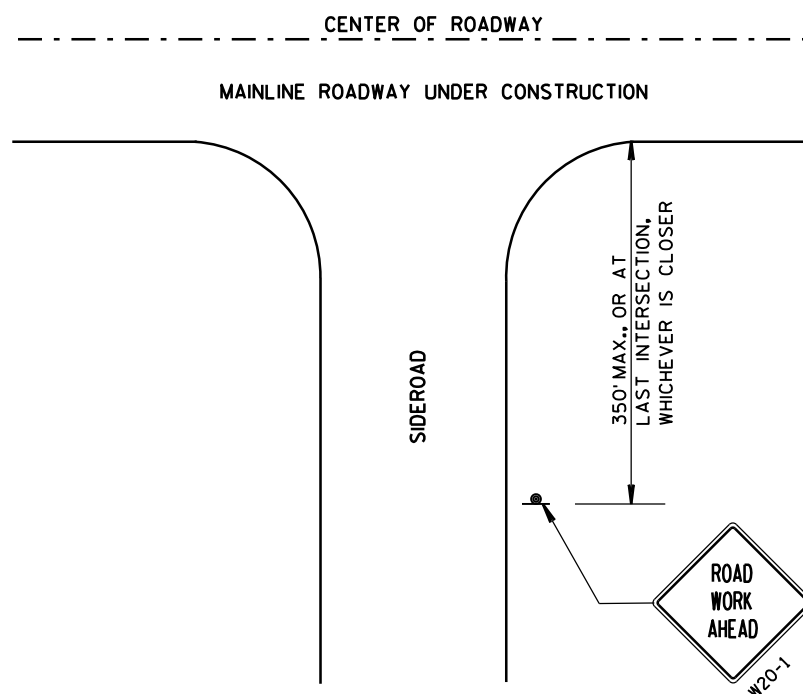
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.

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



LEGEND

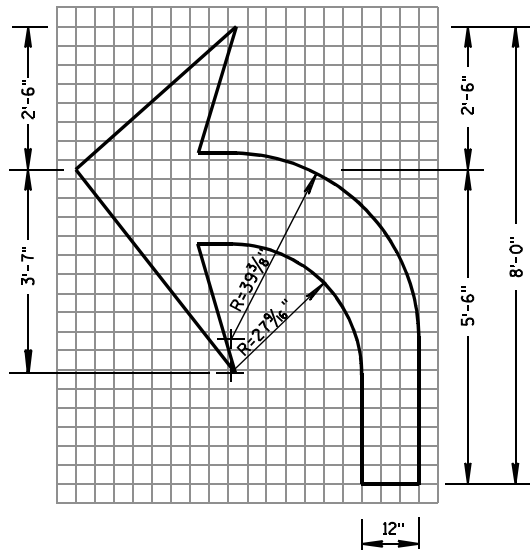
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

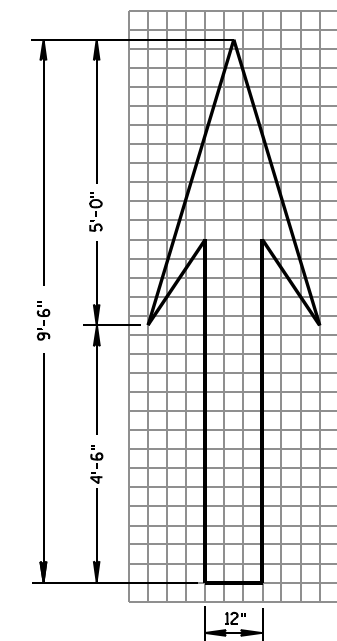
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

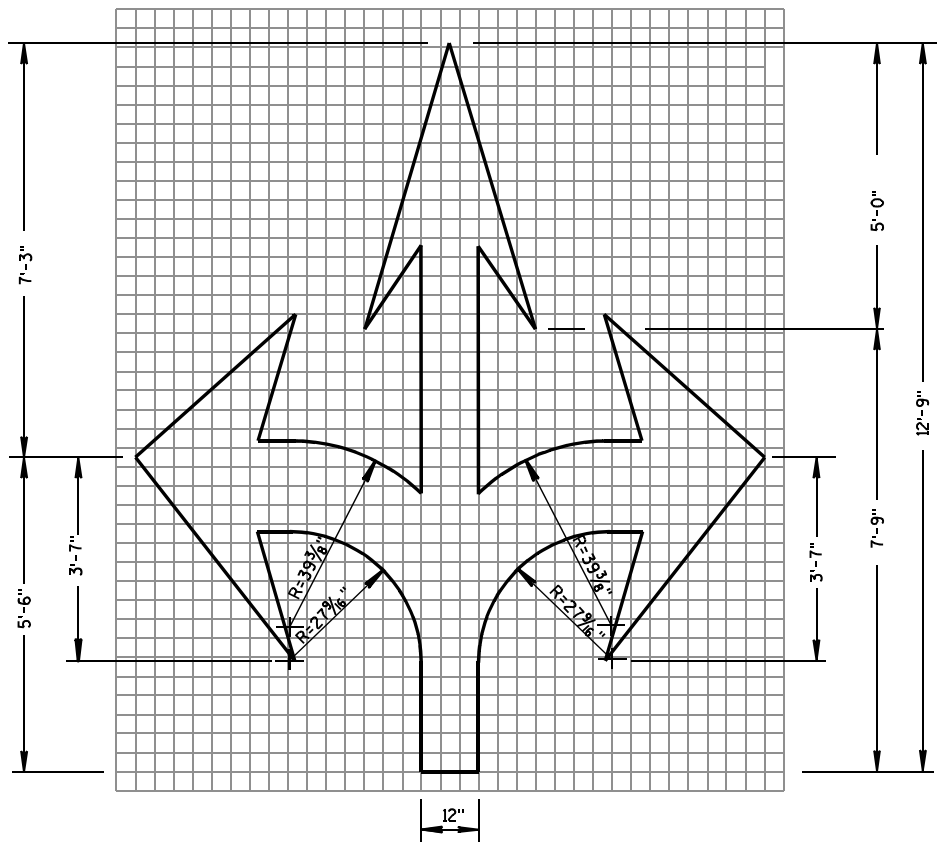
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



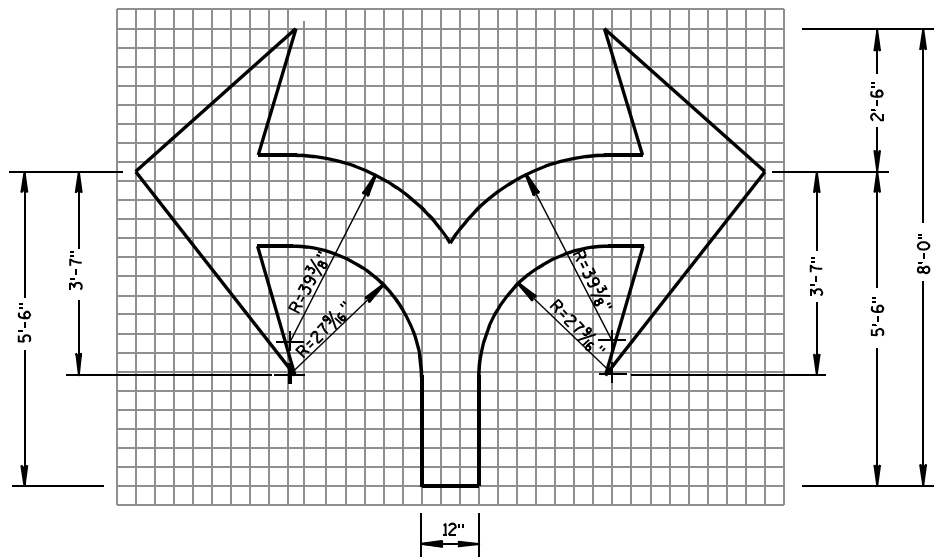
TYPE 2



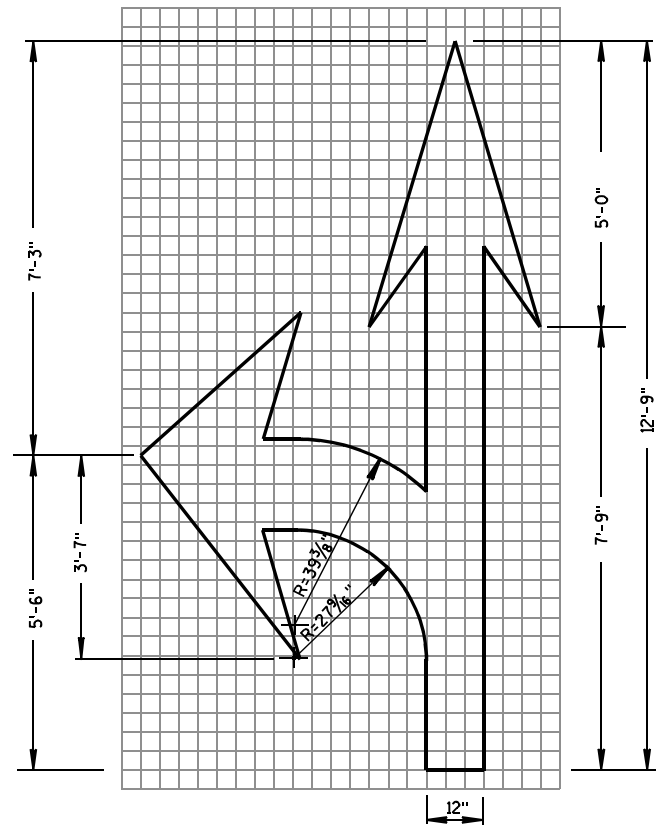
TYPE 1



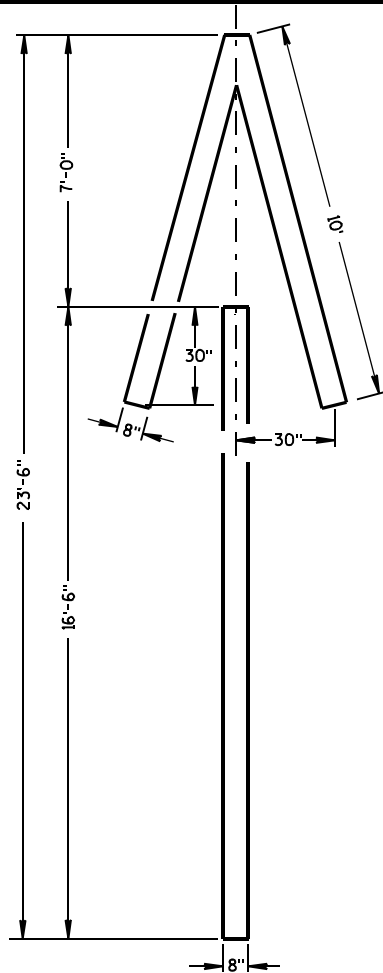
TYPE 6



TYPE 7



TYPE 3

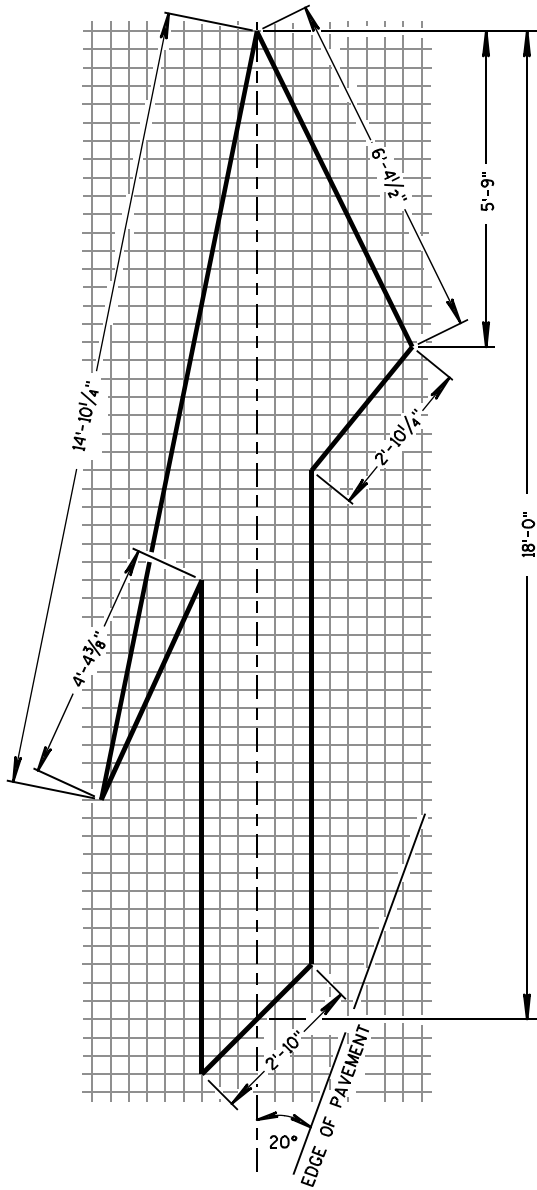


TYPE 4

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 5 LANE DROP ARROW

PAVEMENT MARKING ARROWS

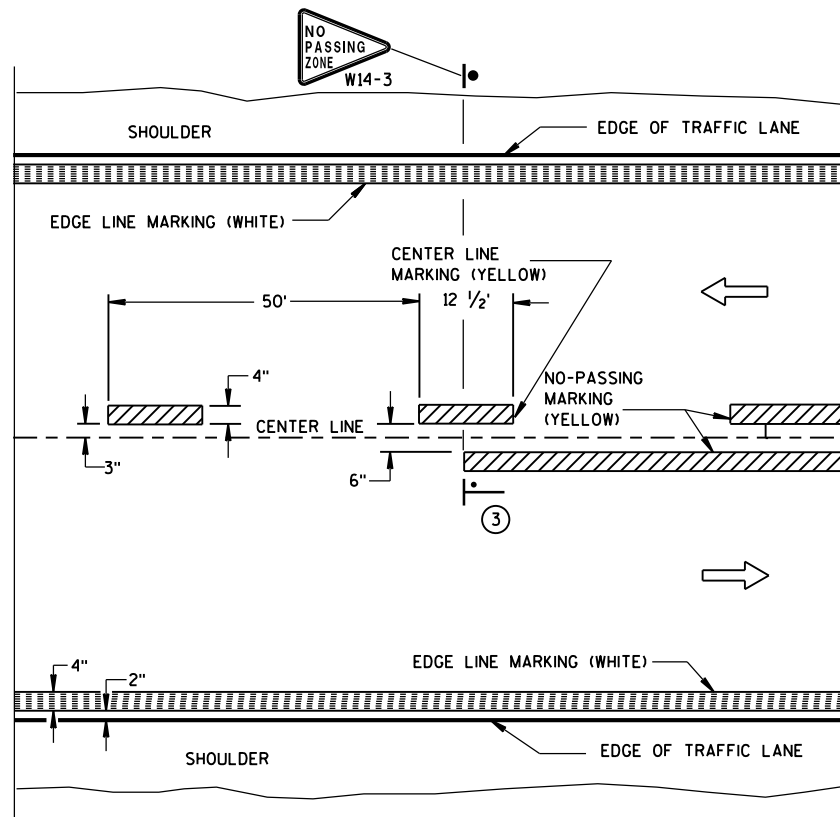
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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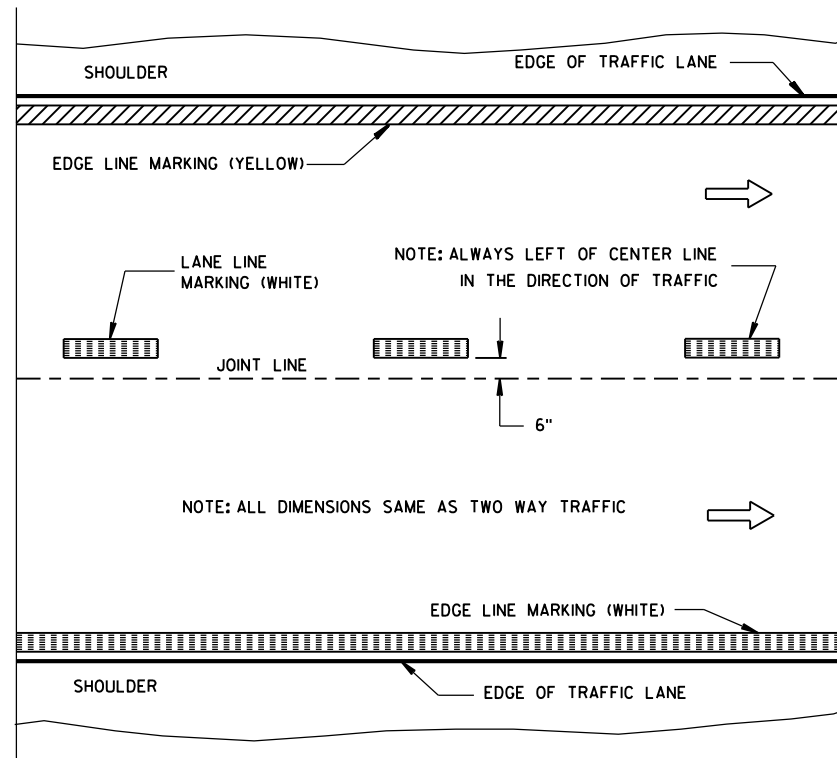
7/1/11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

FHWA

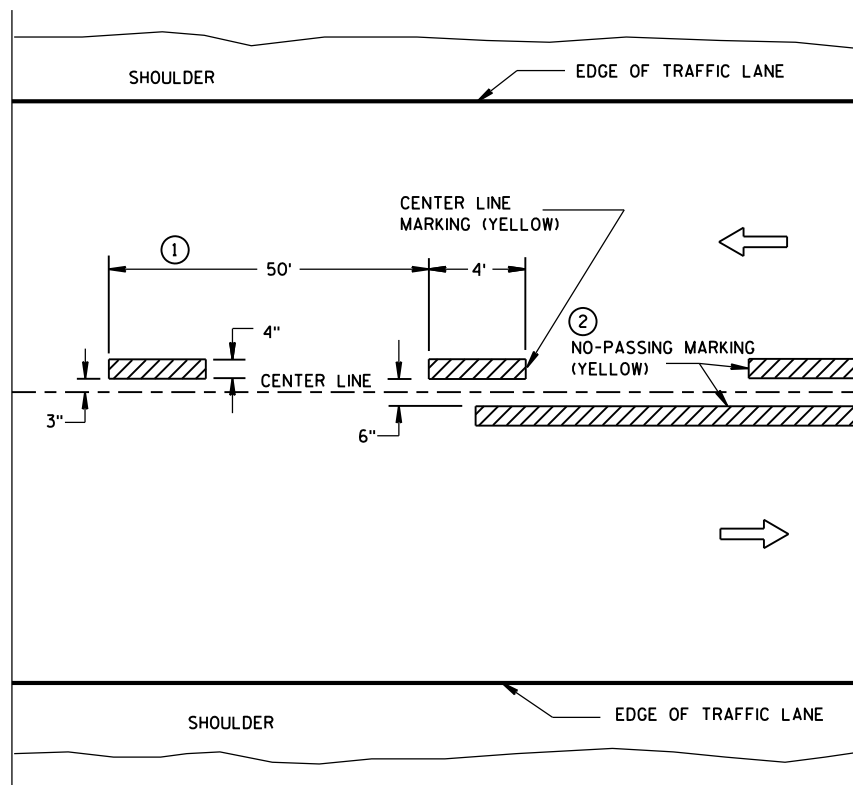


TWO WAY TRAFFIC

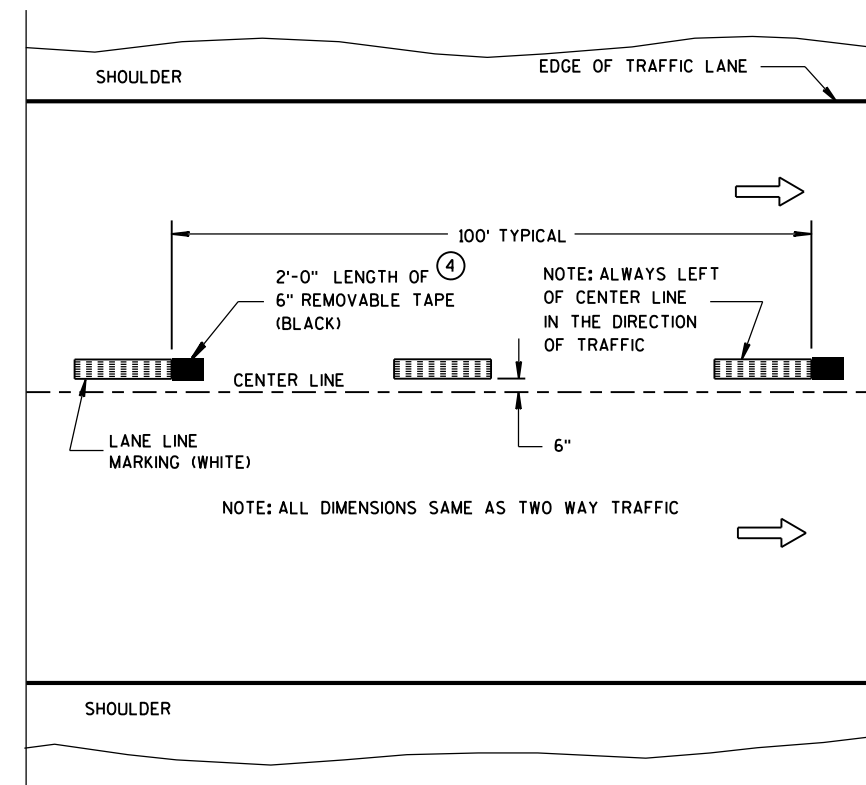


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

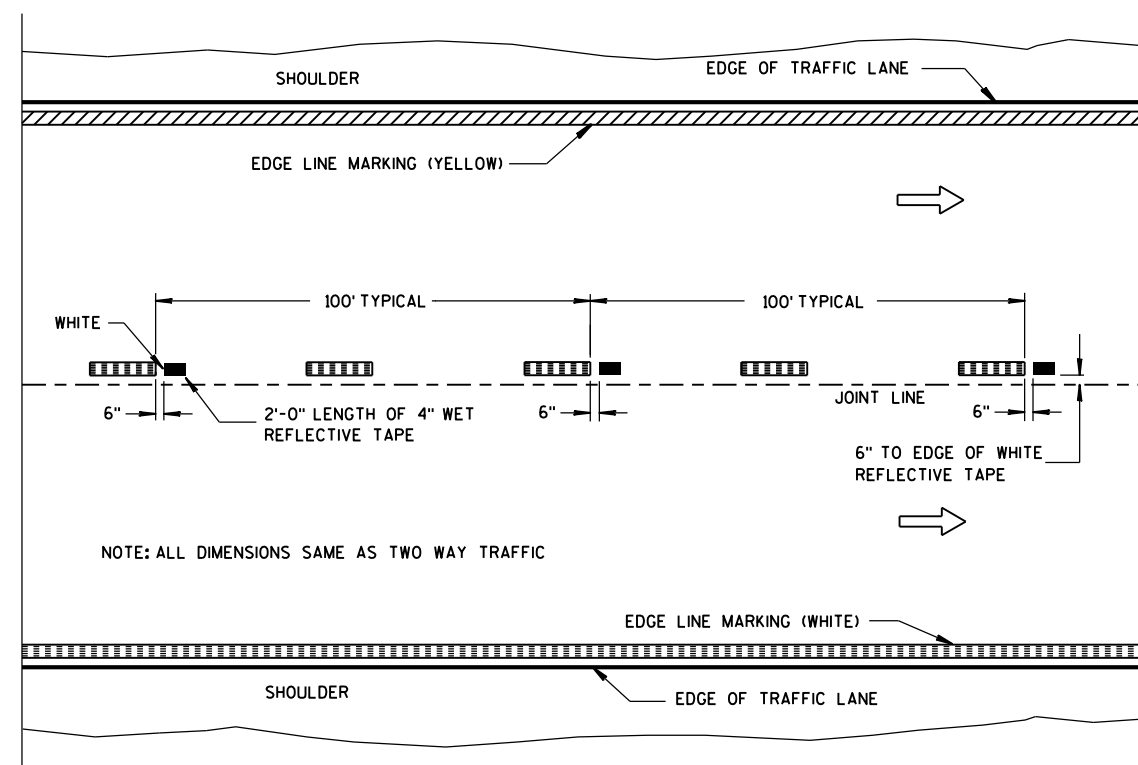
GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

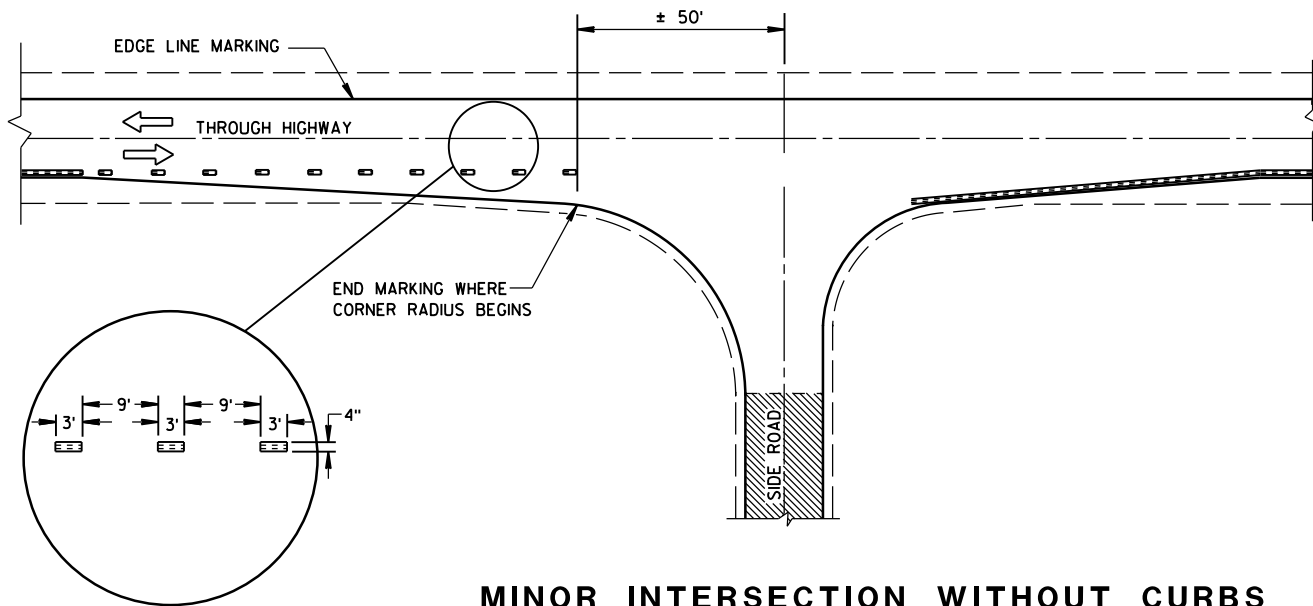
STATE OF WISCONSIN
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APPROVED

5-13-2013
DATE

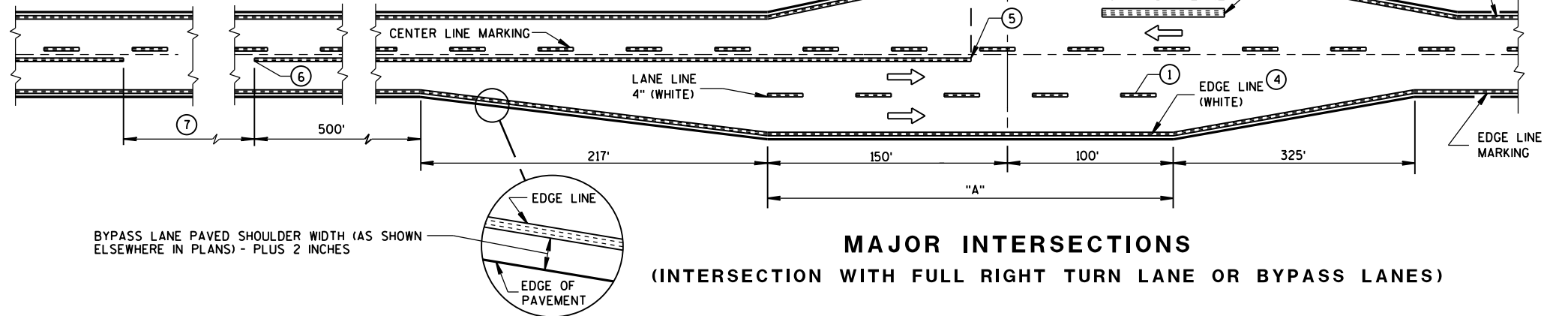
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER



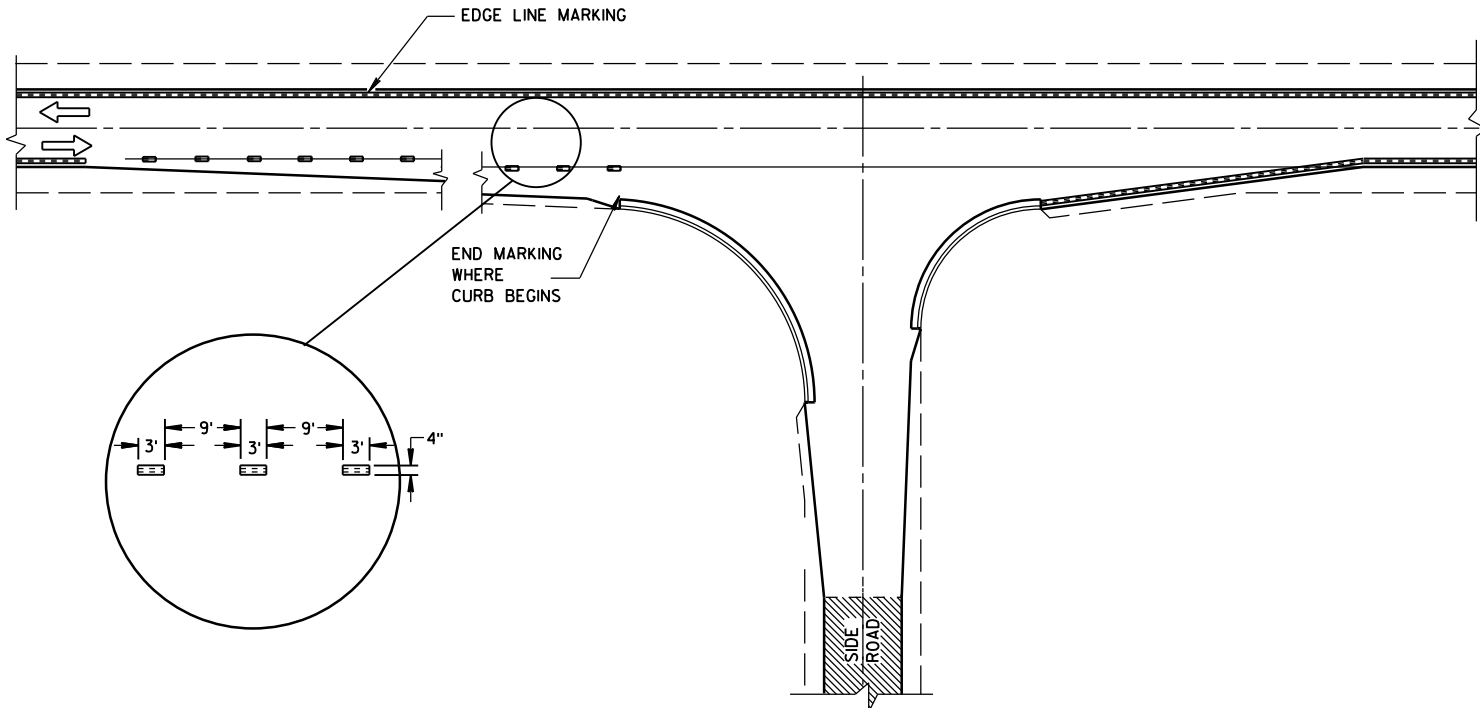
MINOR INTERSECTION WITHOUT CURBS

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792

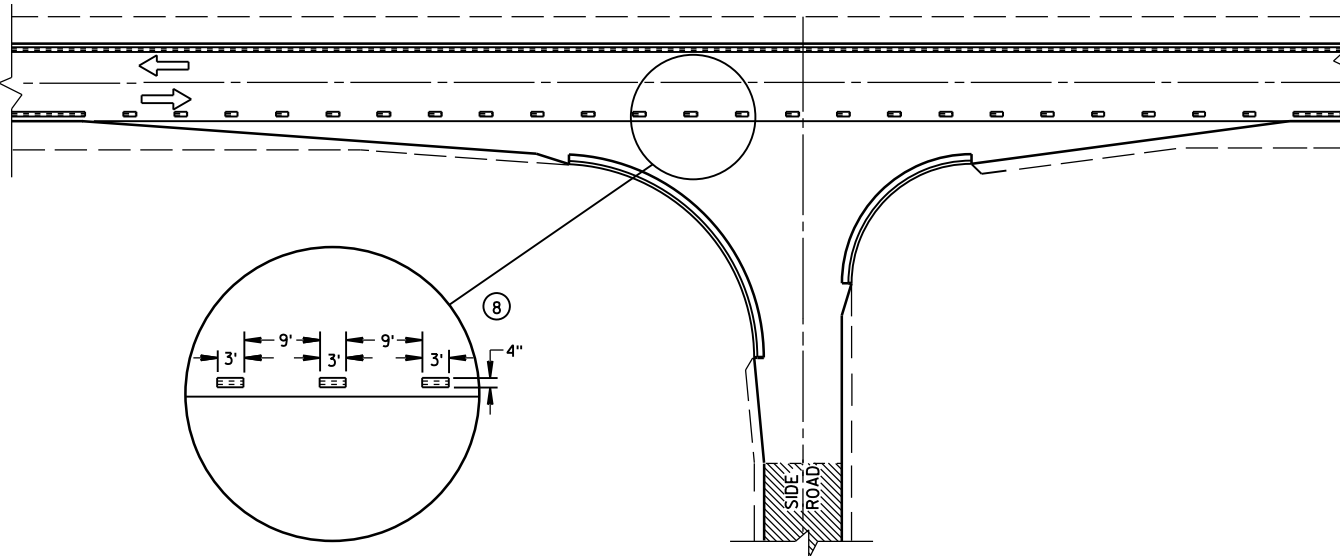


MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



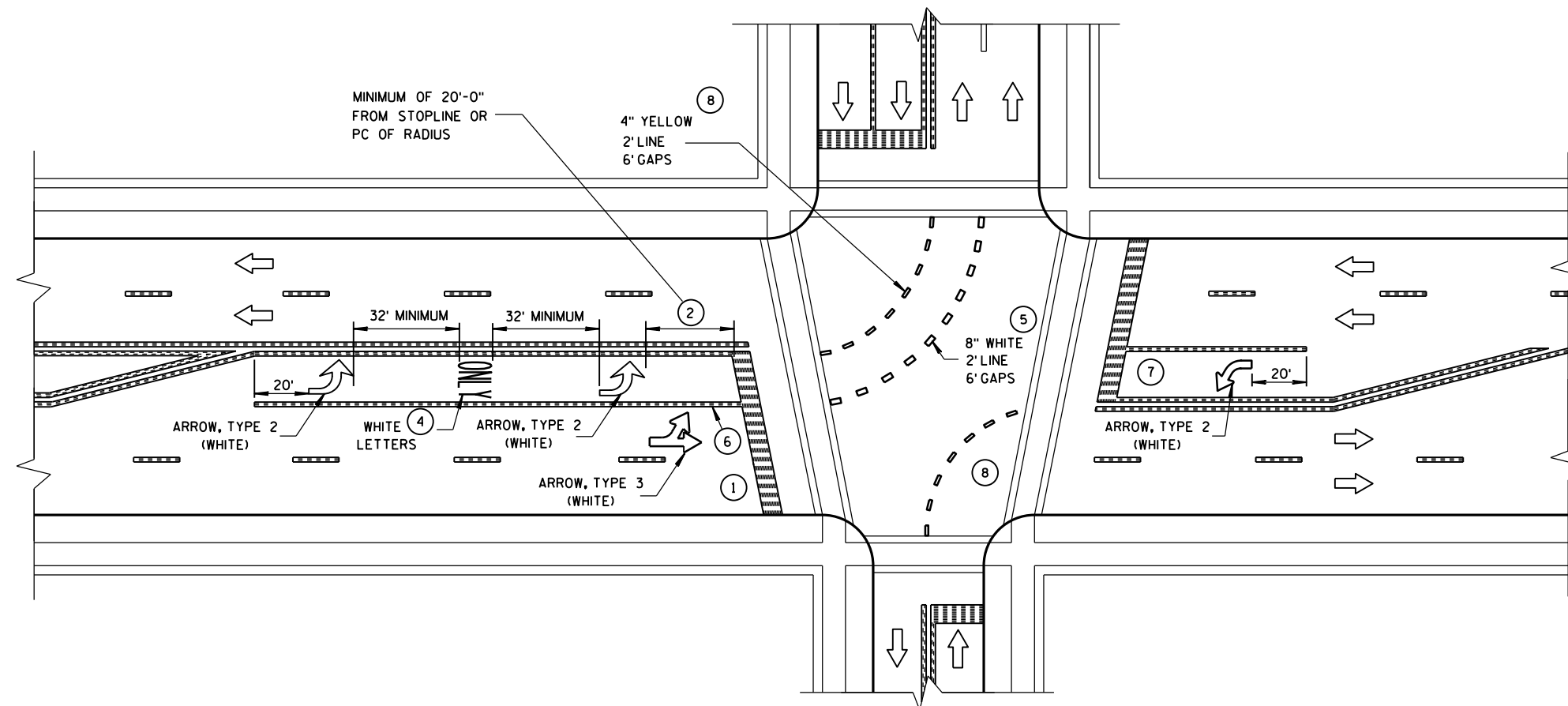
MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
(FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

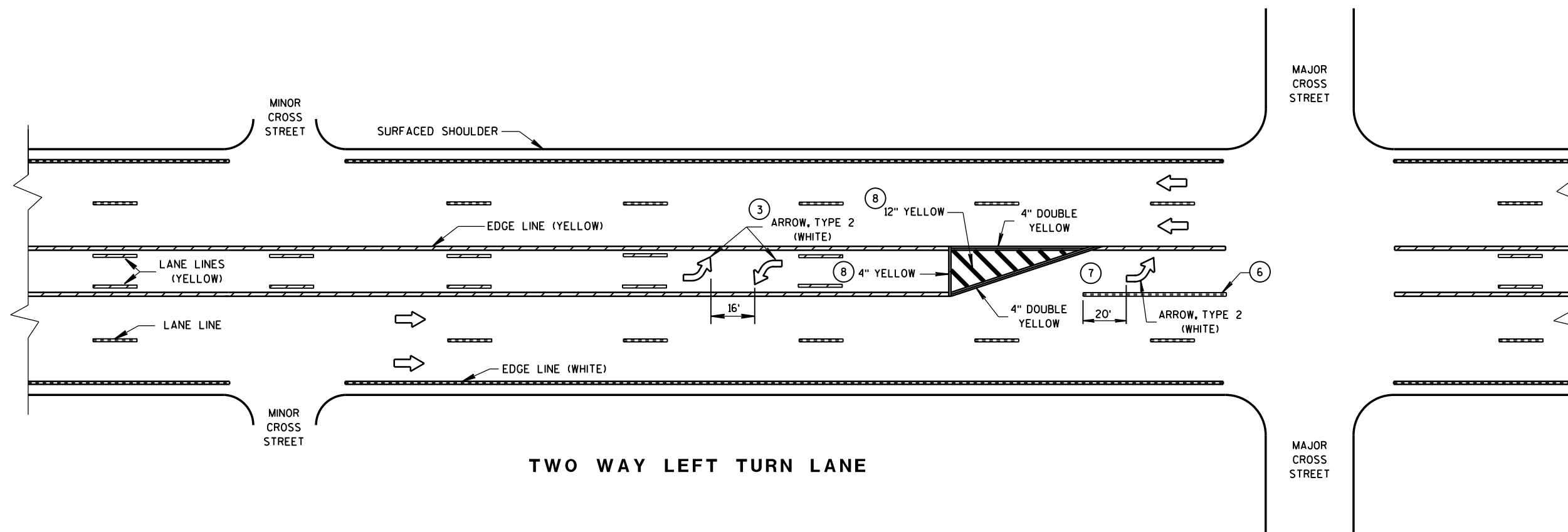
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- 1 WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - 2 WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - 3 ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - 4 THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - 5 BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - 6 BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - 7 IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - 8 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



GENERAL NOTES

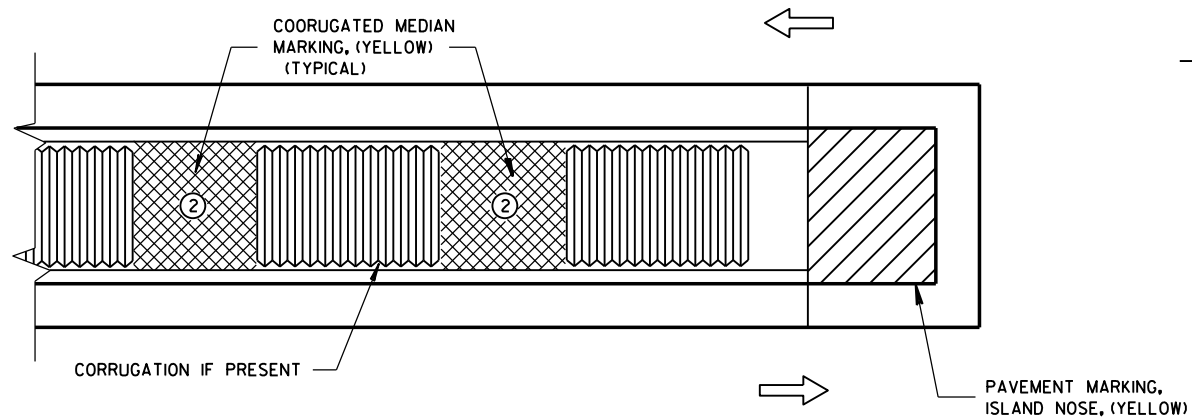
- ① STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DISTANCE MAY BE ADJUSTED TO ACCOMMODATE SHORT LEFT TURN LANES, AS APPROVED BY THE ENGINEER.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
- ⑤ 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- ⑥ 8" WHITE
- ⑦ ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
- ⑧ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (➡)
SHOWS DIRECTION OF TRAVEL

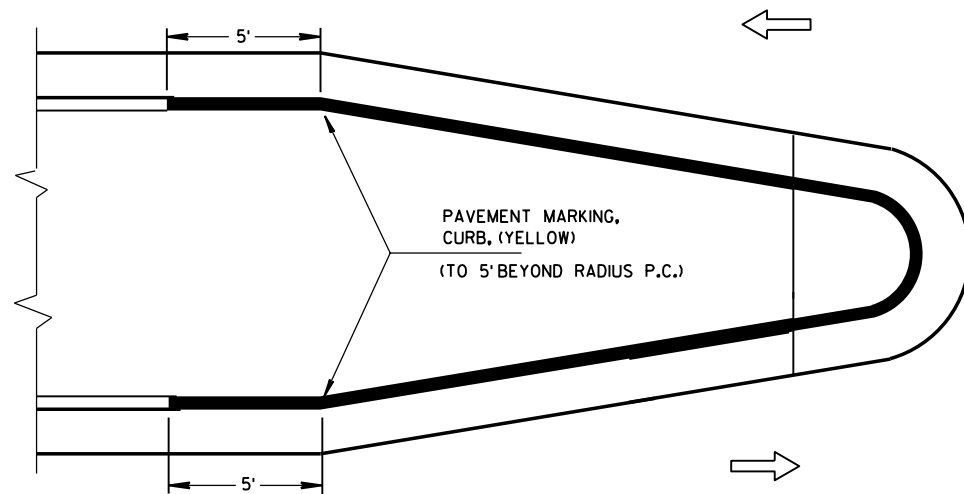


PAVEMENT MARKING
(LEFT TURN LANE)

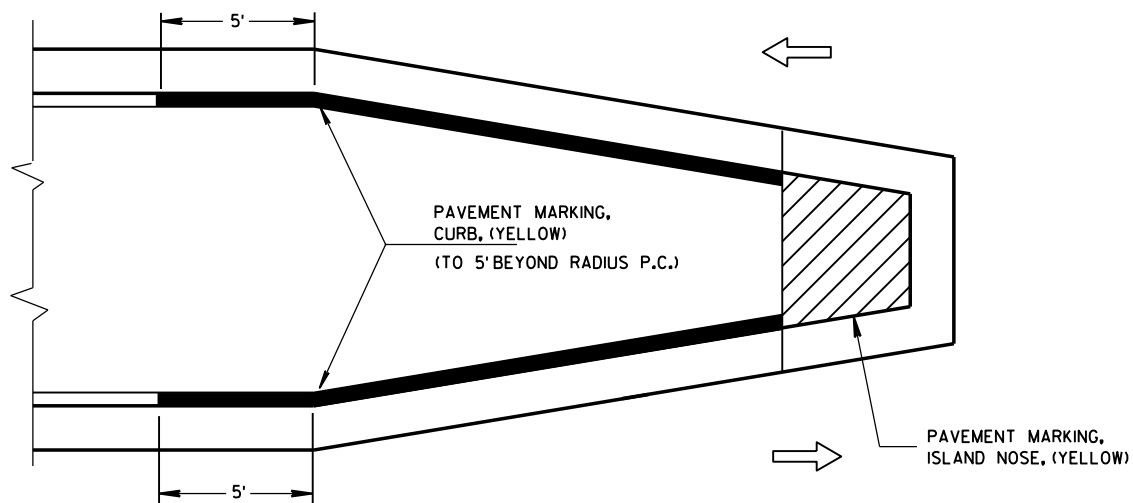
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

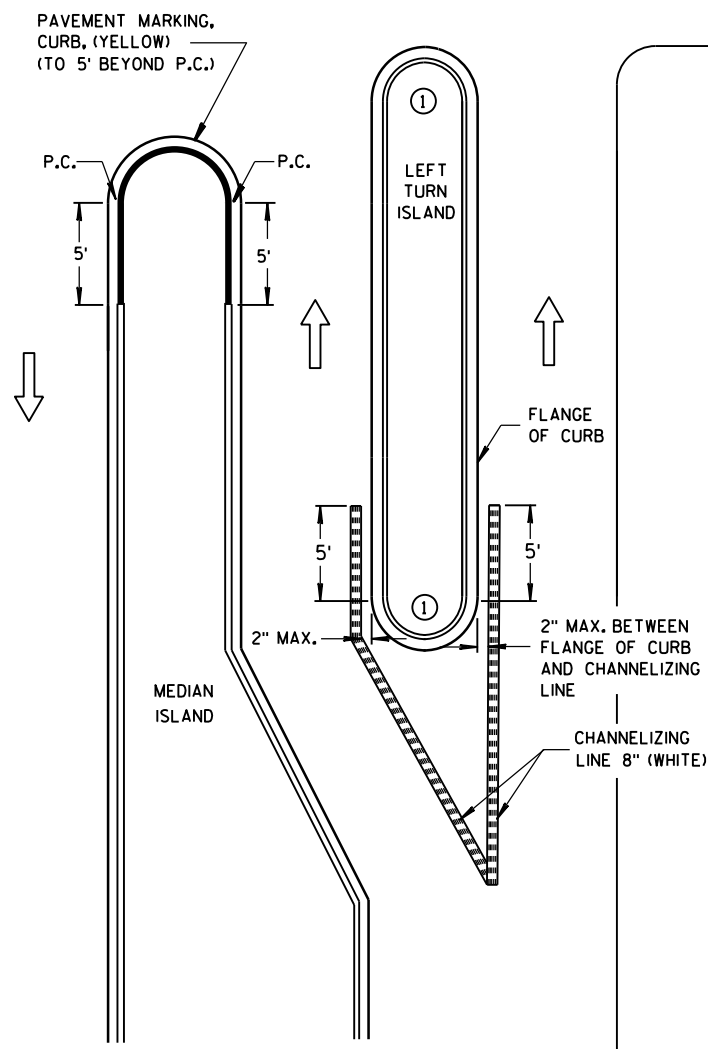


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

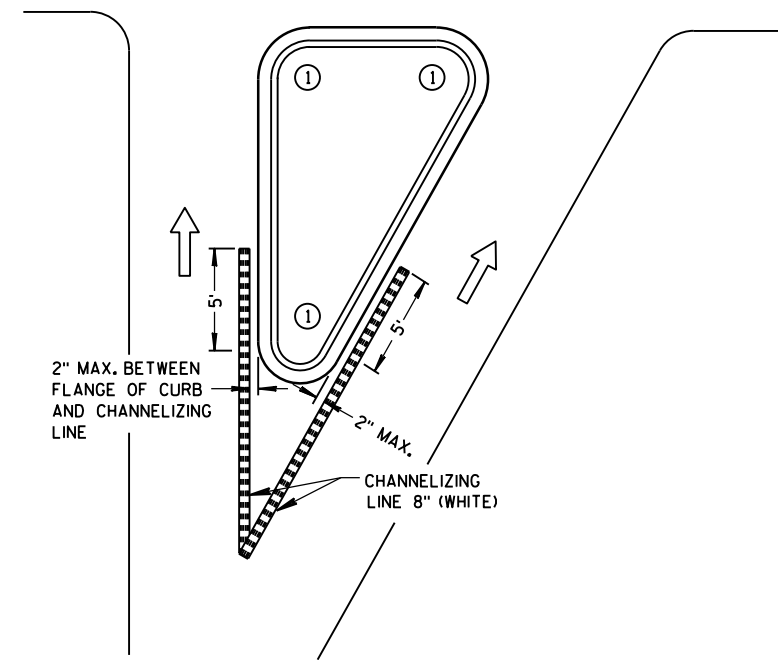
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- 1 DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- 2 WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND





LEGEND

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

PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

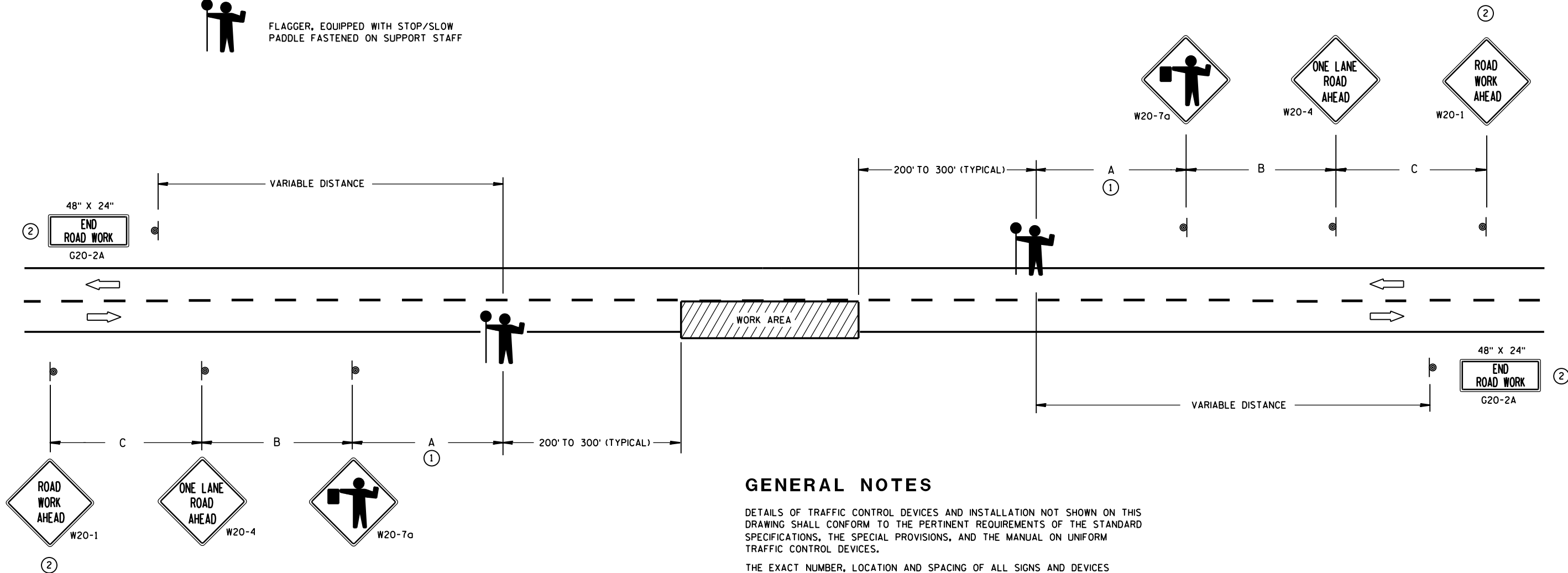
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



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.

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

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

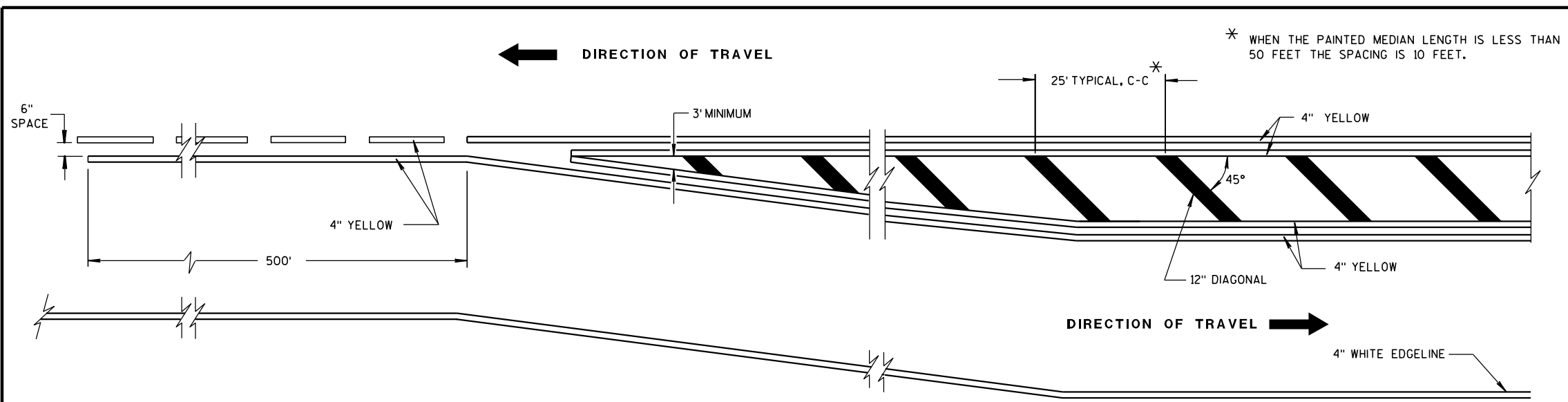
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT 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.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

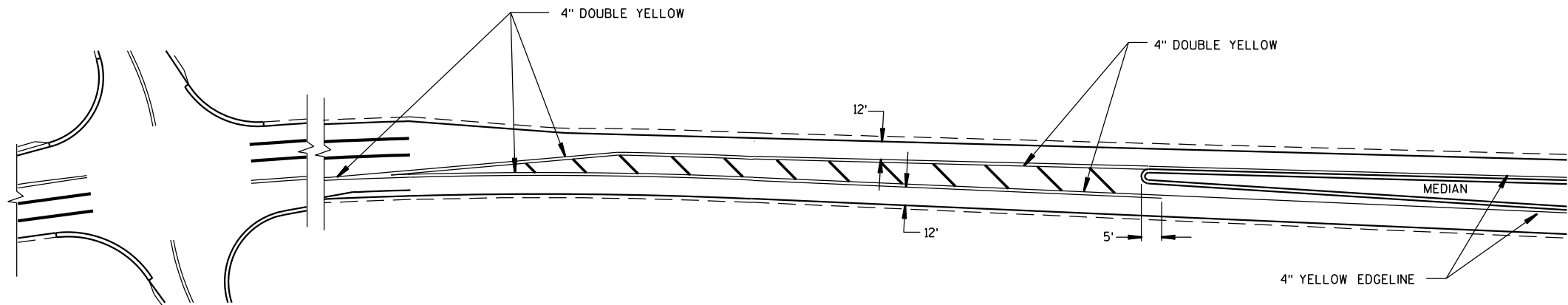
APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



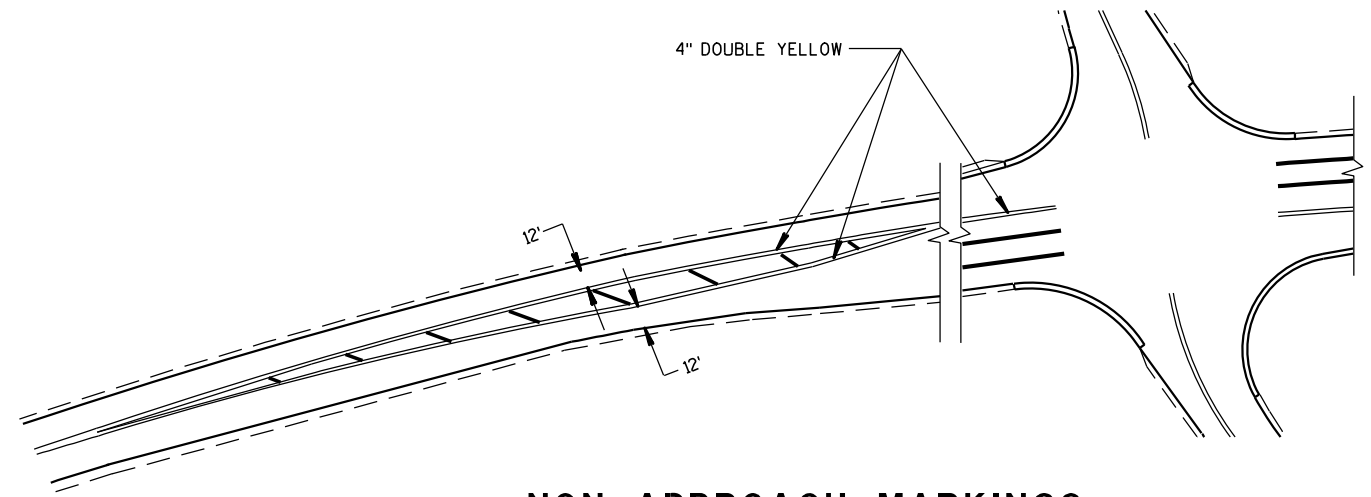
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

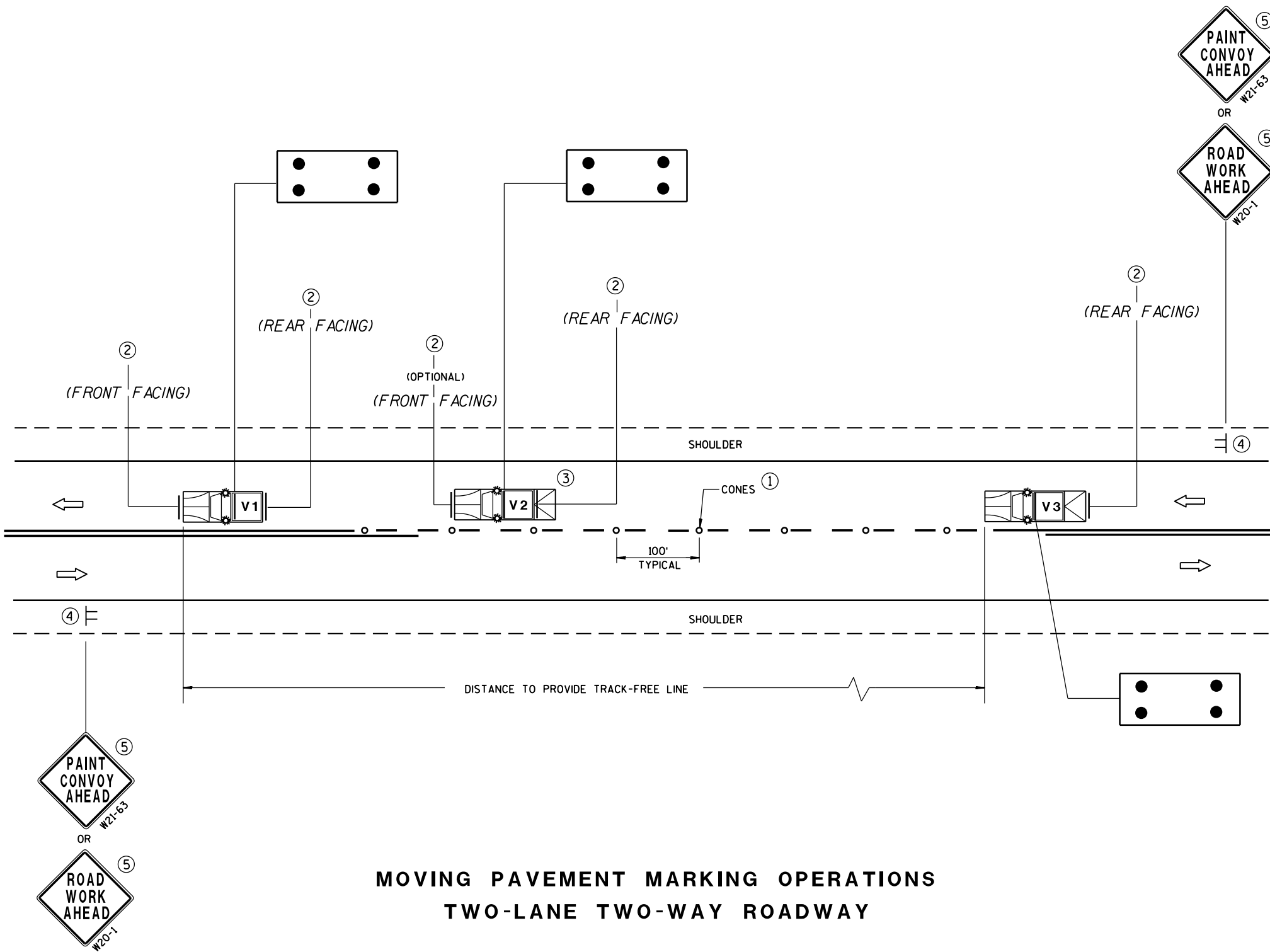


APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

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

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

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

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



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

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






THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

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

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
 OR 
W21-64 W21-64
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

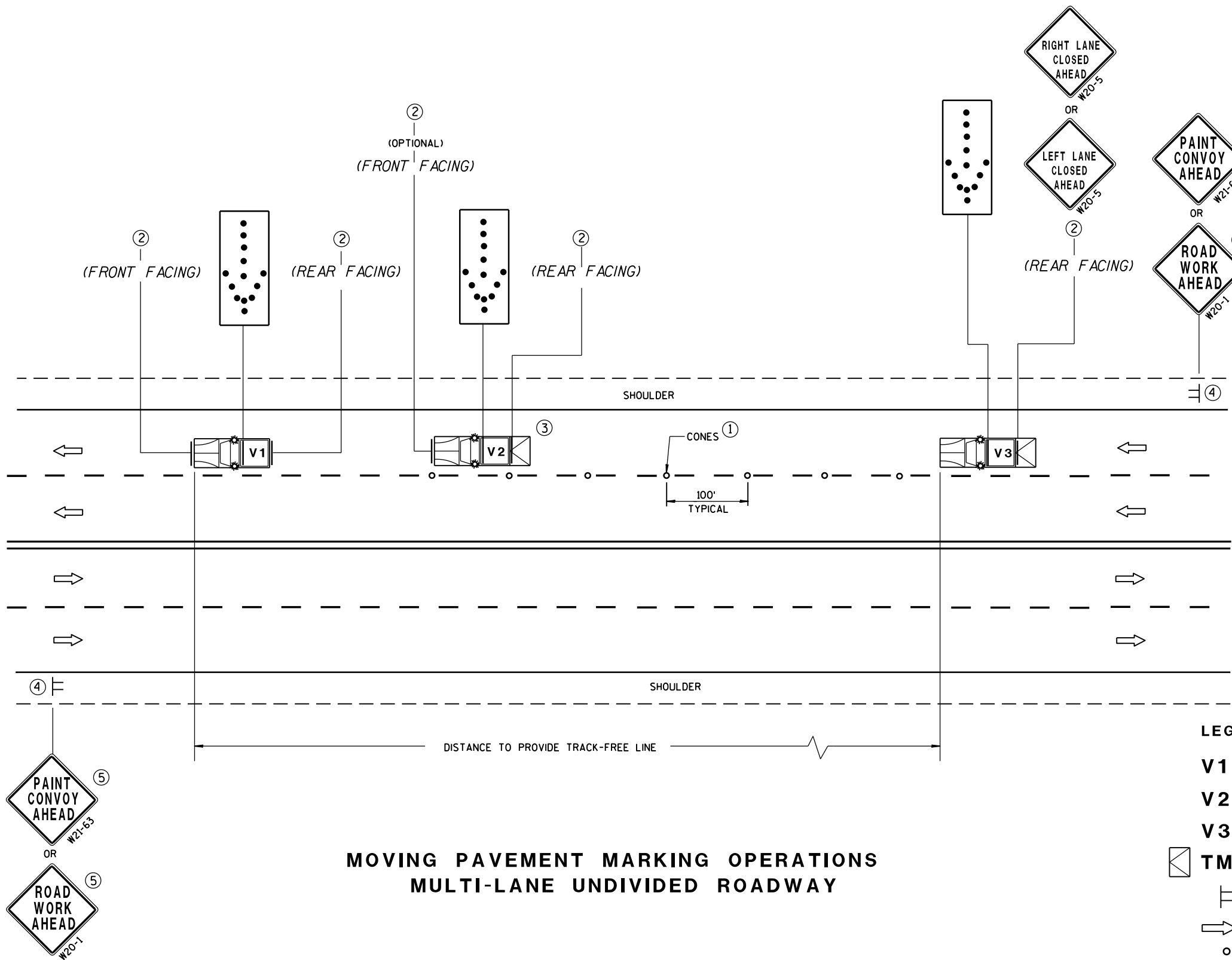
LEGEND

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

MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA

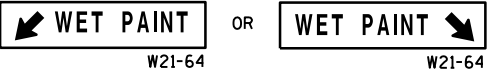


MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE UNDIVIDED ROADWAY

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.
- ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.
- WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.
- USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.
- FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.
- THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE OR LANELINE MARKING FOR MULTILANE UNDIVIDED ROADWAYS.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.



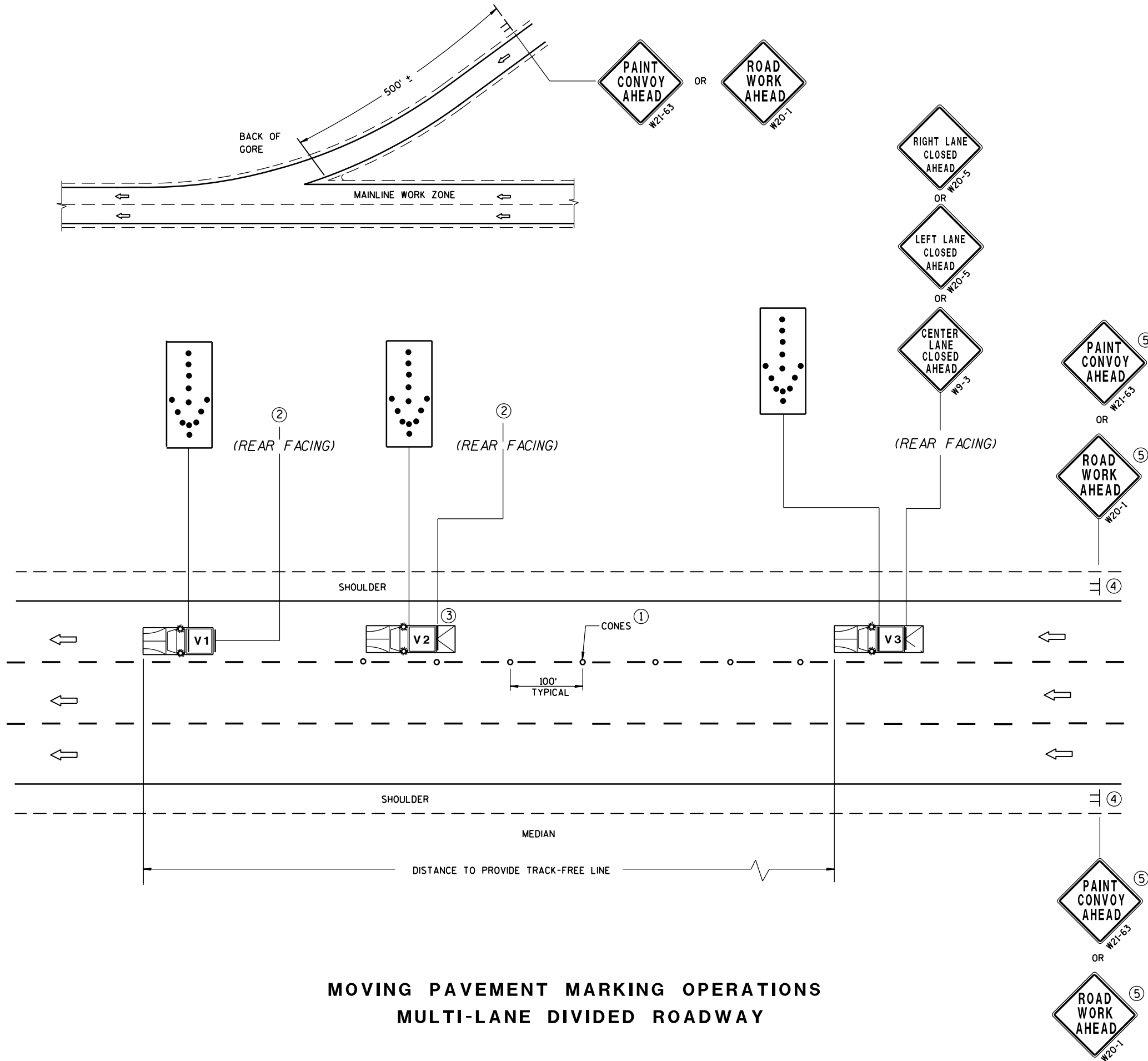
LEGEND

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

MOVING PAVEMENT MARKING
OPERATION
MULTI-LANE UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA



GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

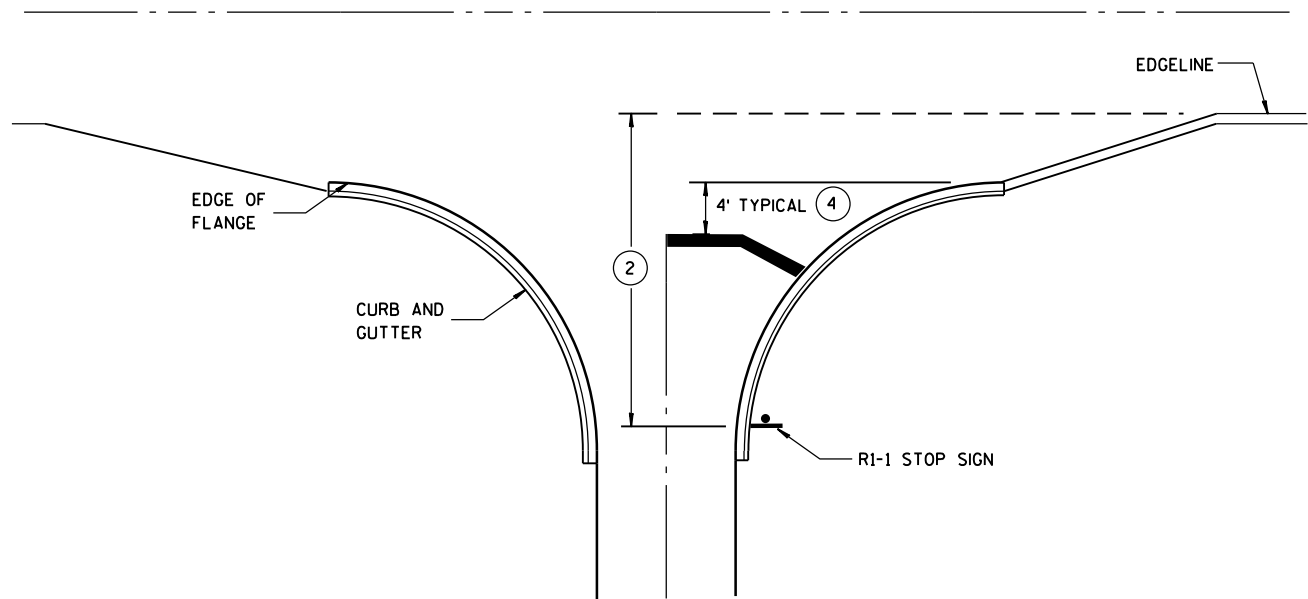
THIS DRAWING SHALL BE USED FOR EDGE LINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

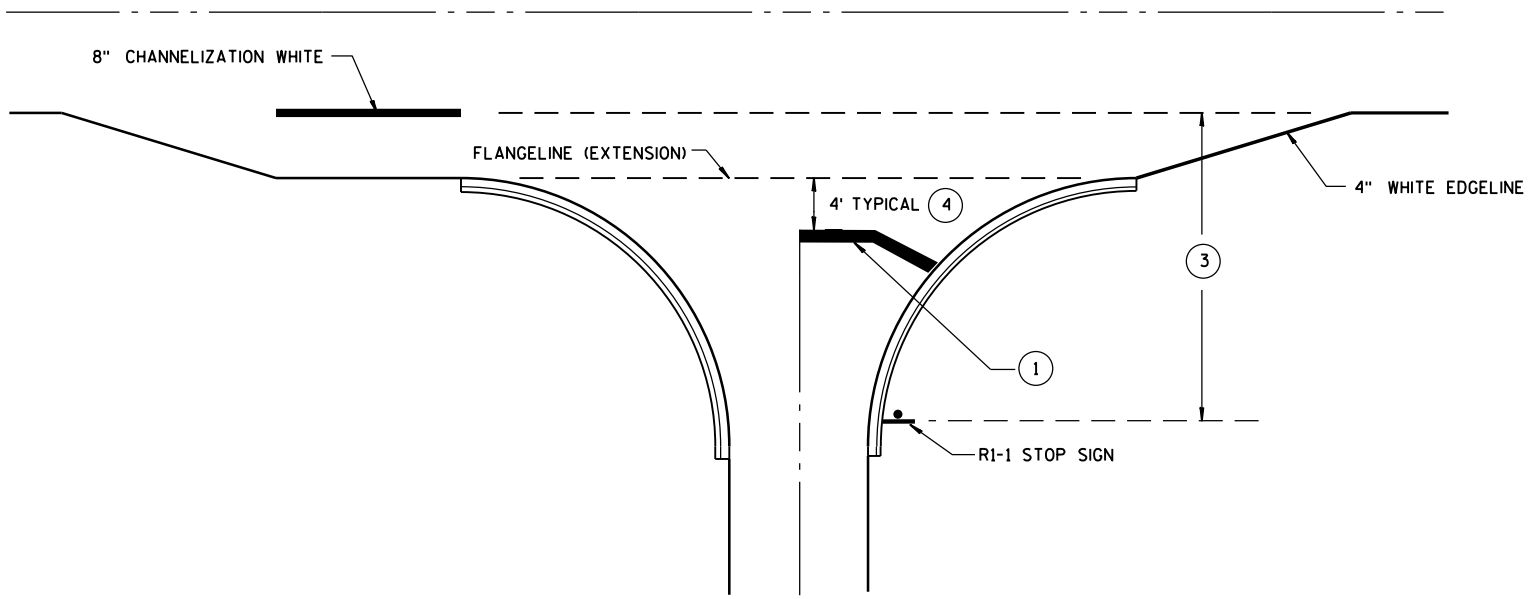
LEGEND

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

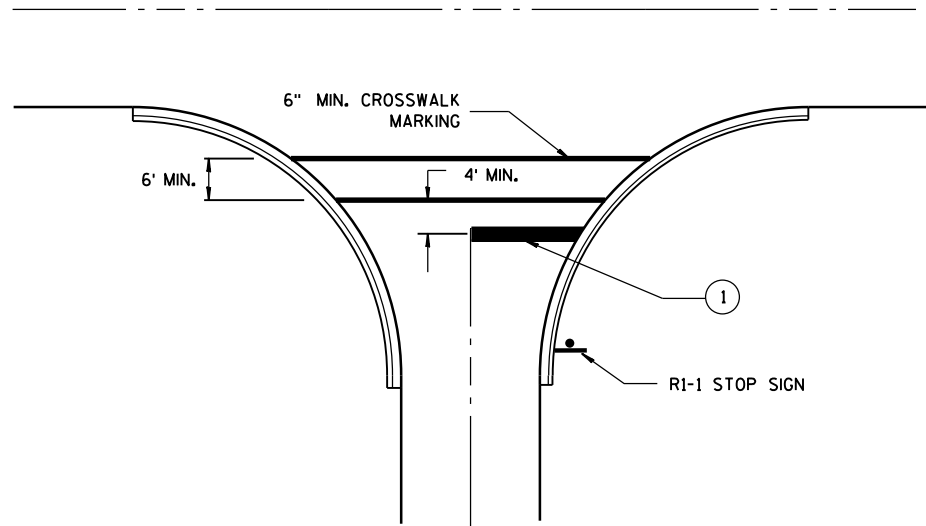
MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/3/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	



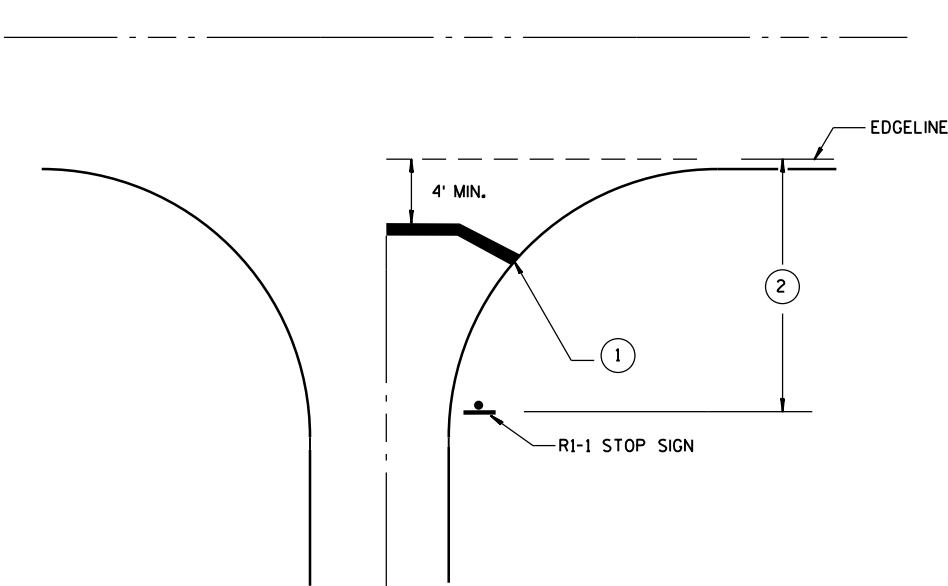
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

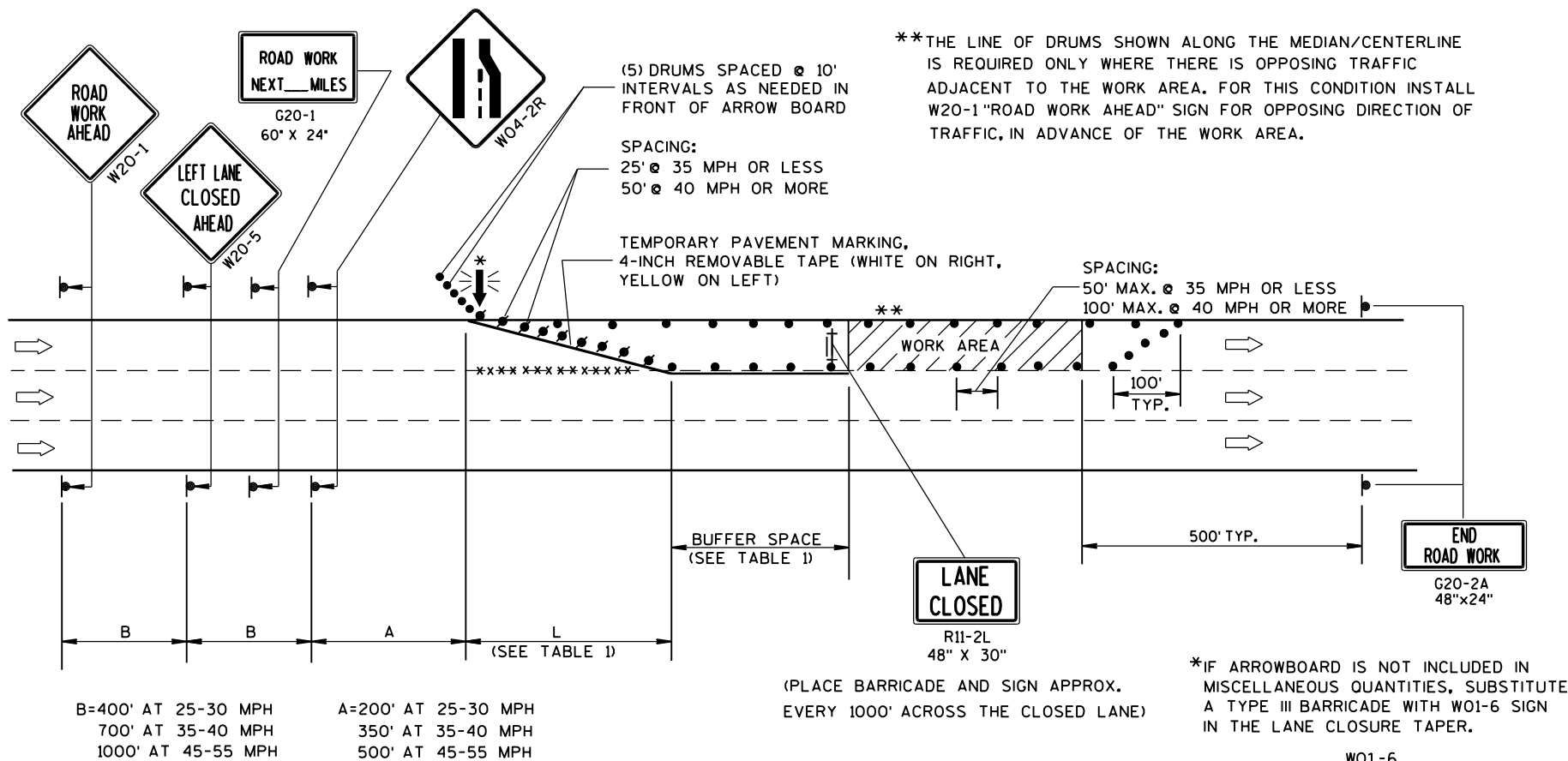
GENERAL NOTES

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

STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 DATE /S/ Travis Feltz
STATE TRAFFIC ENGINEER
FHWA



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

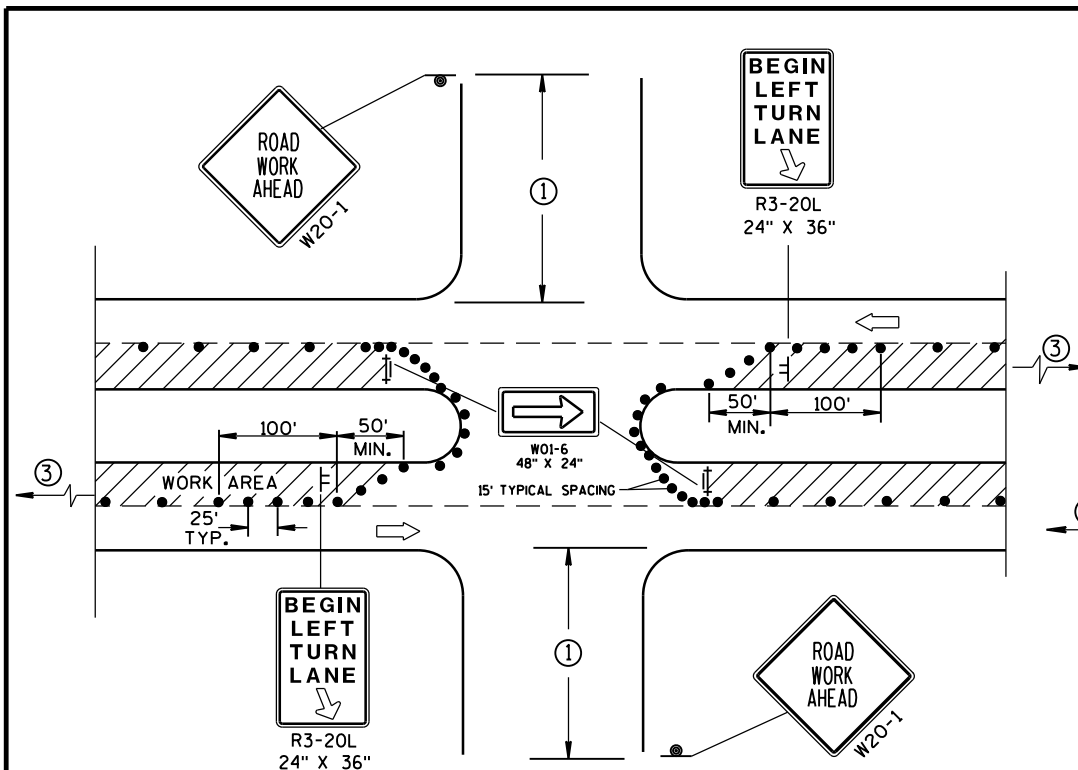
LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

TRAFFIC CONTROL,
SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY

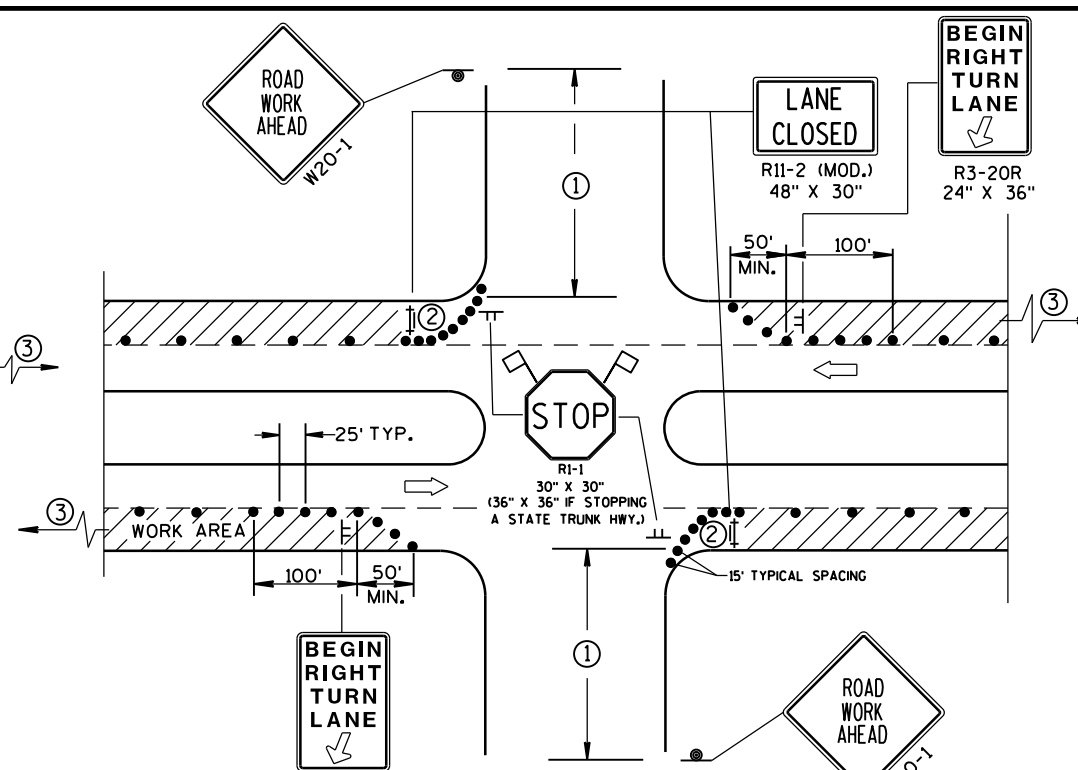
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

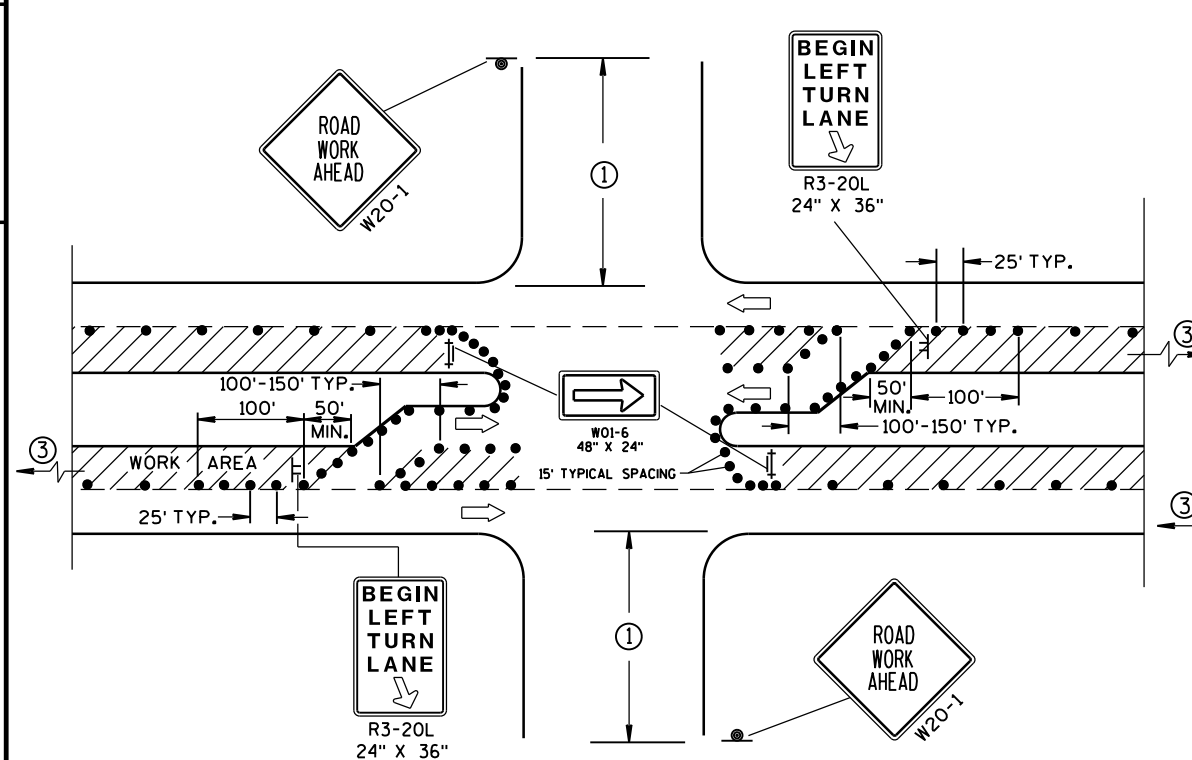


DETAIL A
FOR LEFT LANE CLOSURE AT
INTERSECTION OR MEDIAN OPENING

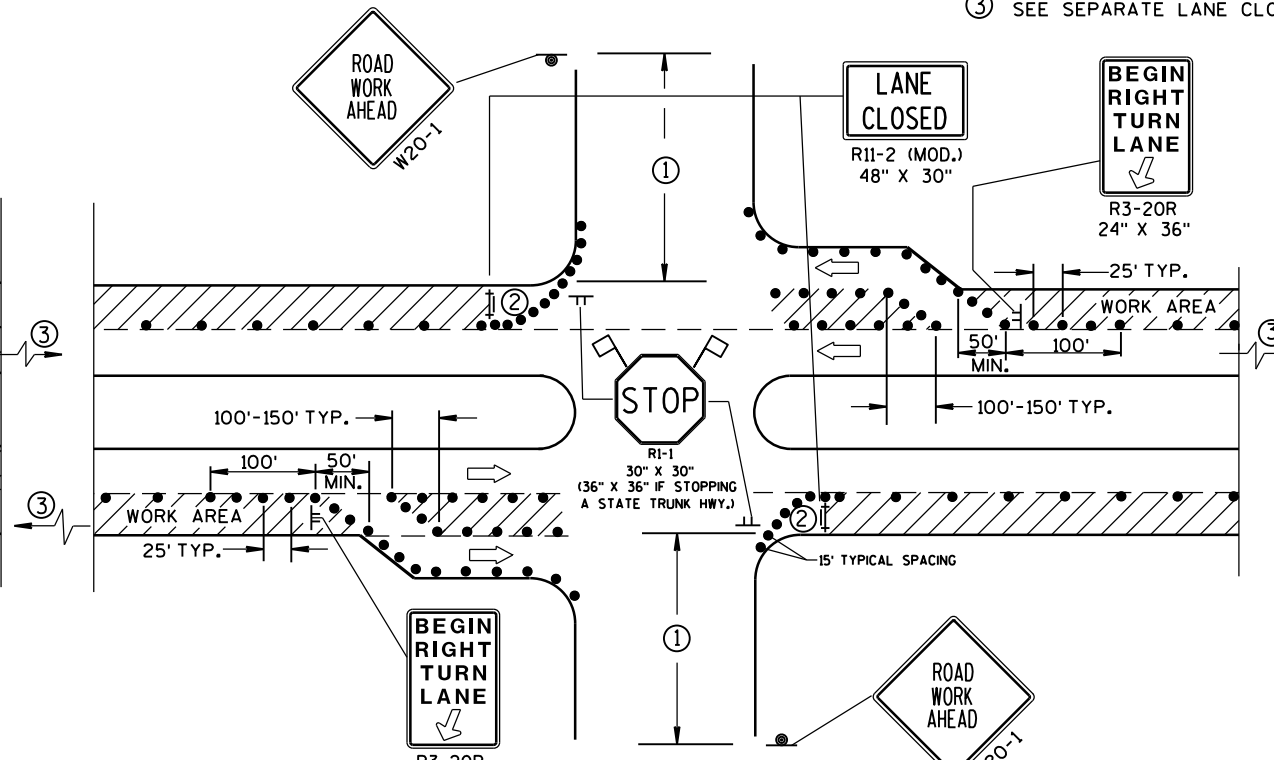
PROVIDE TURN LANES AT
INTERSECTIONS WHENEVER
STAGING OF WORK ALLOWS.
TAPER AND TURN LANE
LENGTHS BASED ON FIELD
CONDITIONS AS APPROVED
BY THE ENGINEER.



DETAIL B
FOR RIGHT LANE CLOSURE
AT INTERSECTION



DETAIL C
FOR LEFT LANE CLOSURE AT INTERSECTION OR
MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D
FOR RIGHT LANE CLOSURE AT INTERSECTION
(WITH RIGHT TURN BAY OPEN)

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊢ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⊢ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- 🚩 FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

s	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

L = $\frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

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

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

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OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

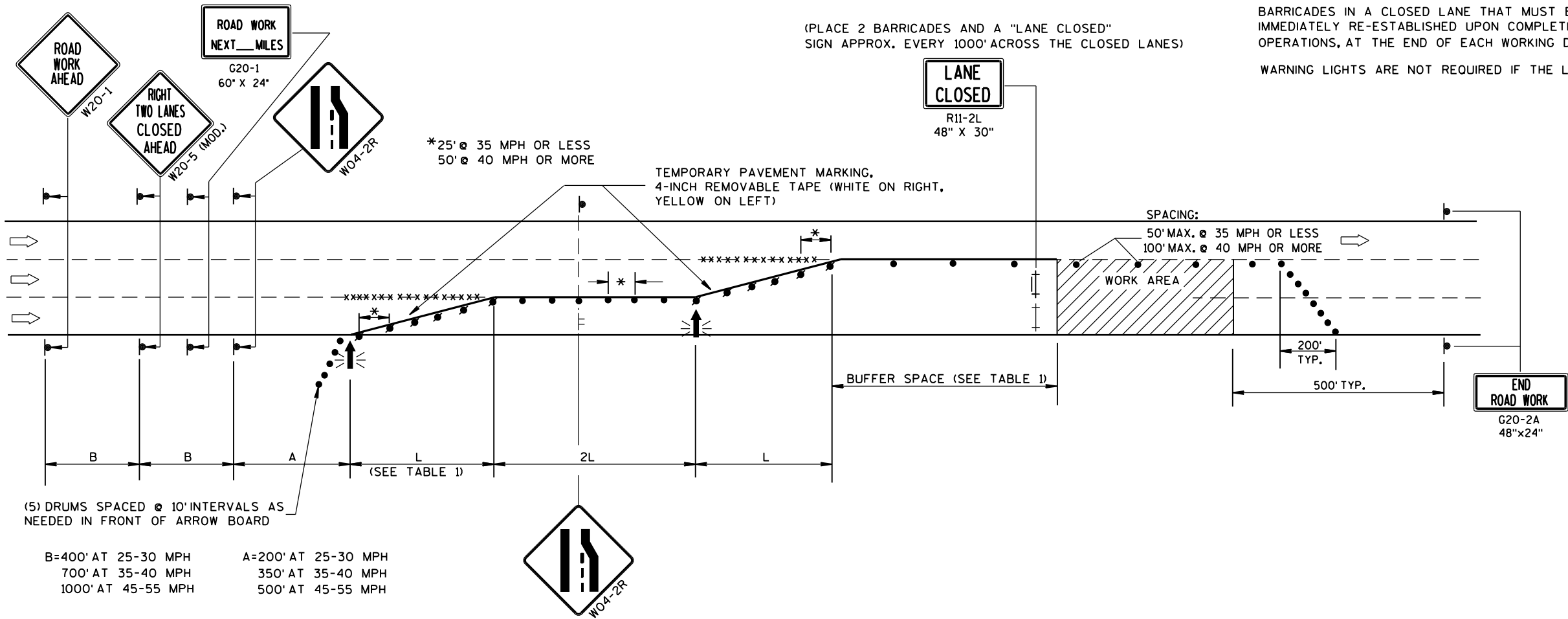
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD AS SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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



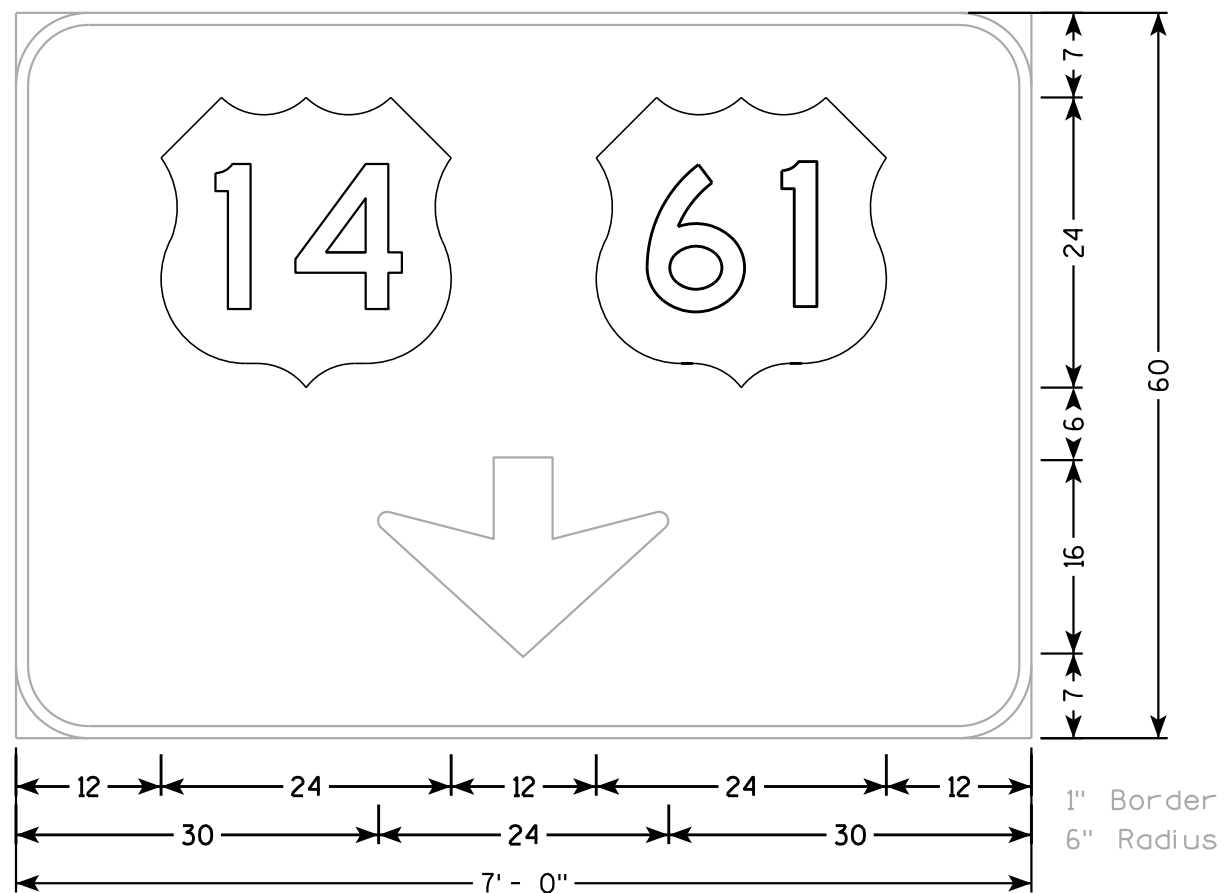
TRAFFIC CONTROL,
TWO LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

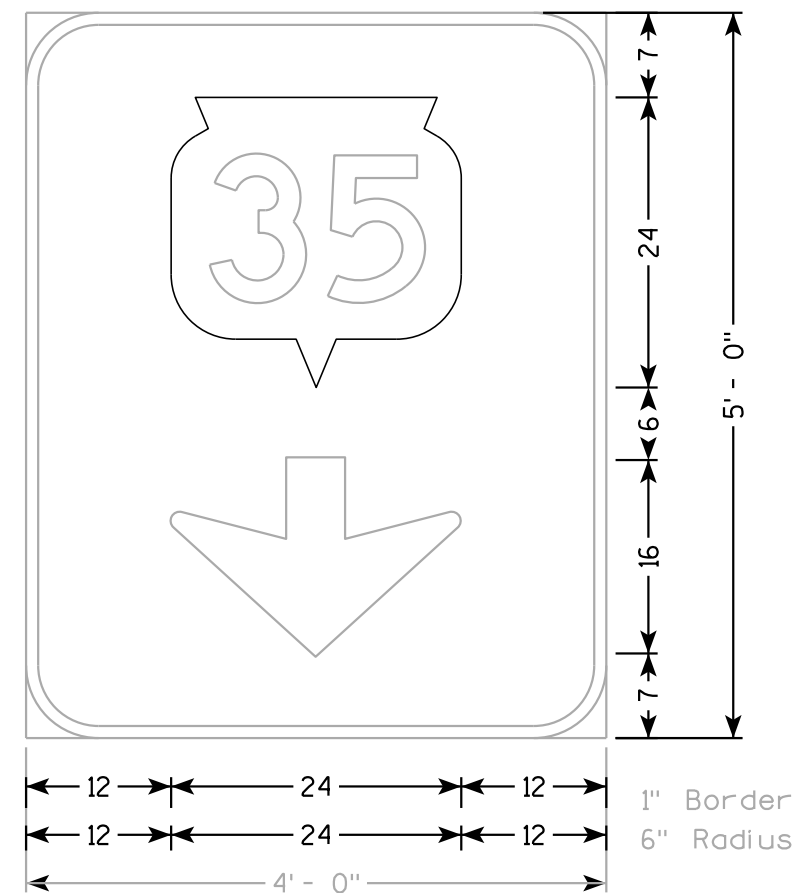
APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
Background - Green
Message - White



E6-51



E6-51

7

VERITCAL DIMENSION ⇄

HORIZONTAL DIMENSION ⇄

	2.5 ft.	3 ft.	3.5 ft.	4 ft.	4.5 ft.	5 ft.	5.5 ft.	6 ft.	6.5 ft.	7 ft.	7.5 ft.	8 ft.	8.5 ft.	9 ft.	9.5 ft.	10 ft.	10.5 ft.	11 ft.	11.5 ft.	12 ft.	12.5 ft.	13 ft.	13.5 ft.	14 ft.	14.5 ft.	15 ft.	15.5 ft.	16 ft.		
10 ft.	25 Sq. Ft	30 Sq. Ft	35 Sq. Ft	40 Sq. Ft	45 Sq. Ft	50 Sq. Ft	55 Sq. Ft	60 Sq. Ft	65 Sq. Ft	70 Sq. Ft	75 Sq. Ft	80 Sq. Ft	85 Sq. Ft	90 Sq. Ft	95 Sq. Ft	100 Sq. Ft	105 Sq. Ft	110 Sq. Ft	115 Sq. Ft	120 Sq. Ft	125 Sq. Ft	130 Sq. Ft	135 Sq. Ft	140 Sq. Ft	145 Sq. Ft	150 Sq. Ft	155 Sq. Ft	160 Sq. Ft		
11 ft.	27.5 Sq. Ft	33 Sq. Ft	38.5 Sq. Ft	44 Sq. Ft	49.5 Sq. Ft	55 Sq. Ft	60.5 Sq. Ft	66 Sq. Ft	71.5 Sq. Ft	77 Sq. Ft	82.5 Sq. Ft	88 Sq. Ft	93.5 Sq. Ft	99 Sq. Ft	104.5 Sq. Ft	110 Sq. Ft	115.5 Sq. Ft	121 Sq. Ft	126.5 Sq. Ft	132 Sq. Ft	137.5 Sq. Ft	143 Sq. Ft	148.5 Sq. Ft	154 Sq. Ft	159.5 Sq. Ft	165 Sq. Ft	170.5 Sq. Ft	176 Sq. Ft		
12 ft.	30 Sq. Ft	36 Sq. Ft	42 Sq. Ft	48 Sq. Ft	54 Sq. Ft	60 Sq. Ft	66 Sq. Ft	72 Sq. Ft	78 Sq. Ft	84 Sq. Ft	90 Sq. Ft	96 Sq. Ft	102 Sq. Ft	108 Sq. Ft	114 Sq. Ft	120 Sq. Ft	126 Sq. Ft	132 Sq. Ft	138 Sq. Ft	144 Sq. Ft	150 Sq. Ft	156 Sq. Ft	162 Sq. Ft	168 Sq. Ft	174 Sq. Ft	180 Sq. Ft	186 Sq. Ft	192 Sq. Ft		
13 ft.	32.5 Sq. Ft	39 Sq. Ft	45.5 Sq. Ft	52 Sq. Ft	58.5 Sq. Ft	65 Sq. Ft	71.5 Sq. Ft	78 Sq. Ft	84.5 Sq. Ft	91 Sq. Ft	97.5 Sq. Ft	104 Sq. Ft	110.5 Sq. Ft	117 Sq. Ft	123.5 Sq. Ft	130 Sq. Ft	136.5 Sq. Ft	143 Sq. Ft	149.5 Sq. Ft	156 Sq. Ft	162.5 Sq. Ft	169 Sq. Ft	175.5 Sq. Ft	182 Sq. Ft	188.5 Sq. Ft	195 Sq. Ft	201.5 Sq. Ft	208 Sq. Ft		
14 ft.	35 Sq. Ft	42 Sq. Ft	49 Sq. Ft	56 Sq. Ft	63 Sq. Ft	70 Sq. Ft	77 Sq. Ft	84 Sq. Ft	91 Sq. Ft	98 Sq. Ft	105 Sq. Ft	112 Sq. Ft	119 Sq. Ft	126 Sq. Ft	133 Sq. Ft	140 Sq. Ft	147 Sq. Ft	154 Sq. Ft	161 Sq. Ft	168 Sq. Ft	175 Sq. Ft	182 Sq. Ft	189 Sq. Ft	196 Sq. Ft	203 Sq. Ft	210 Sq. Ft	217 Sq. Ft	224 Sq. Ft		
15 ft.	37.5 Sq. Ft	45 Sq. Ft	52.5 Sq. Ft	60 Sq. Ft	67.5 Sq. Ft	75 Sq. Ft	82.5 Sq. Ft	90 Sq. Ft	97.5 Sq. Ft	105 Sq. Ft	112.5 Sq. Ft	120 Sq. Ft	127.5 Sq. Ft	135 Sq. Ft	142.5 Sq. Ft	150 Sq. Ft	157.5 Sq. Ft	165 Sq. Ft	172.5 Sq. Ft	180 Sq. Ft	187.5 Sq. Ft	195 Sq. Ft	202.5 Sq. Ft	210 Sq. Ft	217.5 Sq. Ft	225 Sq. Ft	232.5 Sq. Ft	240 Sq. Ft		
16 ft.	40 Sq. Ft	48 Sq. Ft	56 Sq. Ft	64 Sq. Ft	72 Sq. Ft	80 Sq. Ft	88 Sq. Ft	96 Sq. Ft	104 Sq. Ft	112 Sq. Ft	120 Sq. Ft	128 Sq. Ft	136 Sq. Ft	144 Sq. Ft	152 Sq. Ft	160 Sq. Ft	168 Sq. Ft	176 Sq. Ft	184 Sq. Ft	192 Sq. Ft	200 Sq. Ft	208 Sq. Ft	216 Sq. Ft	224 Sq. Ft	232 Sq. Ft	240 Sq. Ft	248 Sq. Ft	256 Sq. Ft		
17 ft.	42.5 Sq. Ft	51 Sq. Ft	59.5 Sq. Ft	68 Sq. Ft	76.5 Sq. Ft	85 Sq. Ft	93.5 Sq. Ft	102 Sq. Ft	110.5 Sq. Ft	119 Sq. Ft	127.5 Sq. Ft	136 Sq. Ft	144.5 Sq. Ft	153 Sq. Ft	161.5 Sq. Ft	170 Sq. Ft	178.5 Sq. Ft	187 Sq. Ft	195.5 Sq. Ft	204 Sq. Ft	212.5 Sq. Ft	221 Sq. Ft	229.5 Sq. Ft	238 Sq. Ft	246.5 Sq. Ft	255 Sq. Ft	263.5 Sq. Ft	272 Sq. Ft		
18 ft.	45 Sq. Ft	54 Sq. Ft	63 Sq. Ft	72 Sq. Ft	81 Sq. Ft	90 Sq. Ft	99 Sq. Ft	108 Sq. Ft	117 Sq. Ft	126 Sq. Ft	135 Sq. Ft	144 Sq. Ft	153 Sq. Ft	162 Sq. Ft	171 Sq. Ft	180 Sq. Ft	189 Sq. Ft	198 Sq. Ft	207 Sq. Ft	216 Sq. Ft	225 Sq. Ft	234 Sq. Ft	243 Sq. Ft	252 Sq. Ft	261 Sq. Ft	270 Sq. Ft	279 Sq. Ft	288 Sq. Ft		
19 ft.	47.5 Sq. Ft	57 Sq. Ft	66.5 Sq. Ft	76 Sq. Ft	85.5 Sq. Ft	95 Sq. Ft	104.5 Sq. Ft	114 Sq. Ft	123.5 Sq. Ft	133 Sq. Ft	142.5 Sq. Ft	152 Sq. Ft	161.5 Sq. Ft	171 Sq. Ft	180.5 Sq. Ft	190 Sq. Ft	199.5 Sq. Ft	209 Sq. Ft	218.5 Sq. Ft	228 Sq. Ft	237.5 Sq. Ft	247 Sq. Ft	256.5 Sq. Ft	266 Sq. Ft	275.5 Sq. Ft	285 Sq. Ft	294.5 Sq. Ft	304 Sq. Ft		
20 ft.	50 Sq. Ft	60 Sq. Ft	70 Sq. Ft	80 Sq. Ft	90 Sq. Ft	100 Sq. Ft	110 Sq. Ft	120 Sq. Ft	130 Sq. Ft	140 Sq. Ft	150 Sq. Ft	160 Sq. Ft	170 Sq. Ft	180 Sq. Ft	190 Sq. Ft	200 Sq. Ft	210 Sq. Ft	220 Sq. Ft	230 Sq. Ft	240 Sq. Ft	250 Sq. Ft	260 Sq. Ft	270 Sq. Ft	280 Sq. Ft	290 Sq. Ft	300 Sq. Ft	310 Sq. Ft	320 Sq. Ft		
21 ft.	52.5 Sq. Ft	63 Sq. Ft	73.5 Sq. Ft	84 Sq. Ft	94.5 Sq. Ft	105 Sq. Ft	115.5 Sq. Ft	126 Sq. Ft	136.5 Sq. Ft	147 Sq. Ft	157.5 Sq. Ft	168 Sq. Ft	178.5 Sq. Ft	189 Sq. Ft	199.5 Sq. Ft	210 Sq. Ft	220.5 Sq. Ft	231 Sq. Ft	241.5 Sq. Ft	252 Sq. Ft	262.5 Sq. Ft	273 Sq. Ft	283.5 Sq. Ft	294 Sq. Ft	304.5 Sq. Ft	315 Sq. Ft	325.5 Sq. Ft	336 Sq. Ft		
Type "A" (2 Posts) 1.2 CY Conc. 68 LBs Bar Steel					Type "B" (2 Posts) 1.6 CY Conc. 98 LBs Bar Steel										Type "C" (2 Posts) 1.8 CY Conc. 100 LBs Bar Steel					Type "D" (2 Posts) 1.8 CY Conc. 112 LBs Bar Steel					Type "C" (3 Posts) 2.7 CY Conc. 150 LBs Bar Steel					
STEEL POST SIZE "A" - W10" x 12" "B" - W12" x 16" "C" - W12" x 19" "D" - W12 x 22"																														

7

DETERMINATION OF HIGH STRENGTH
STRUCTURAL STEEL SIGN SUPPORT TYPE

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/03/10 PLATE NO. A3-2.2

PROJECT NO:

SHEET NO:

E

FILE NAME : C:\Users\PROJECTS\tr_std\plate\A32.DGN


PLOT DATE : 05-MAR-2010 10:10

PLOT BY : di+jph

WISDOT/CADDs SHEET 42

VERTICAL DIMENSION ⇄

HORIZONTAL DIMENSION ⇄

Type "A" (2 Posts) 1.2 CY Conc. 68 Lbs Bar Steel	Type "A" (2 Posts)																												
		2.5 ft.	3 ft.	3.5 ft.	4 ft.	4.5 ft.	5 ft.	5.5 ft.	6 ft.	6.5 ft.	7 ft.	7.5 ft.	8 ft.	8.5 ft.	9 ft.	9.5 ft.	10 ft.	10.5 ft.	11 ft.	11.5 ft.	12 ft.	12.5 ft.	13 ft.	13.5 ft.	14 ft.	14.5 ft.	15 ft.	15.5 ft.	16 ft.
	22 ft.	55 Sq. Ft	66 Sq. Ft	77 Sq. Ft	88 Sq. Ft	99 Sq. Ft	110 Sq. Ft	121 Sq. Ft	132 Sq. Ft	143 Sq. Ft	154 Sq. Ft	165 Sq. Ft	176 Sq. Ft	187 Sq. Ft	198 Sq. Ft	209 Sq. Ft	220 Sq. Ft	231 Sq. Ft	242 Sq. Ft	253 Sq. Ft	264 Sq. Ft	275 Sq. Ft	286 Sq. Ft	297 Sq. Ft	308 Sq. Ft	319 Sq. Ft	330 Sq. Ft	341 Sq. Ft	352 Sq. Ft
	23 ft.	57.5 Sq. Ft	69 Sq. Ft	80.5 Sq. Ft	92 Sq. Ft	103.5 Sq. Ft	115 Sq. Ft	126.5 Sq. Ft	138 Sq. Ft	149.5 Sq. Ft	161 Sq. Ft	172.5 Sq. Ft	184 Sq. Ft	195.5 Sq. Ft	207 Sq. Ft	218.5 Sq. Ft	230 Sq. Ft	241.5 Sq. Ft	253 Sq. Ft	264.5 Sq. Ft	276 Sq. Ft	287.5 Sq. Ft	299 Sq. Ft	310.5 Sq. Ft	322 Sq. Ft	333.5 Sq. Ft	345 Sq. Ft	356.5 Sq. Ft	368 Sq. Ft
	24 ft.	60 Sq. Ft	72 Sq. Ft	84 Sq. Ft	96 Sq. Ft	108 Sq. Ft	120 Sq. Ft	132 Sq. Ft	144 Sq. Ft	156 Sq. Ft	168 Sq. Ft	180 Sq. Ft	192 Sq. Ft	204 Sq. Ft	216 Sq. Ft	228 Sq. Ft	240 Sq. Ft	252 Sq. Ft	264 Sq. Ft	276 Sq. Ft	288 Sq. Ft	300 Sq. Ft	312 Sq. Ft	324 Sq. Ft	336 Sq. Ft	348 Sq. Ft	360 Sq. Ft	372 Sq. Ft	384 Sq. Ft
	25 ft.	62.5 Sq. Ft	75 Sq. Ft	87.5 Sq. Ft	100 Sq. Ft	112.5 Sq. Ft	125 Sq. Ft	137.5 Sq. Ft	150 Sq. Ft	162.5 Sq. Ft	175 Sq. Ft	187.5 Sq. Ft	200 Sq. Ft	212.5 Sq. Ft	225 Sq. Ft	237.5 Sq. Ft	250 Sq. Ft	262.5 Sq. Ft	275 Sq. Ft	287.5 Sq. Ft	300 Sq. Ft	312.5 Sq. Ft	325 Sq. Ft	337.5 Sq. Ft	350 Sq. Ft	362.5 Sq. Ft	375 Sq. Ft	387.5 Sq. Ft	400 Sq. Ft
	26 ft.	65 Sq. Ft	78 Sq. Ft	91 Sq. Ft	104 Sq. Ft	117 Sq. Ft	130 Sq. Ft	143 Sq. Ft	156 Sq. Ft	169 Sq. Ft	182 Sq. Ft	195 Sq. Ft	208 Sq. Ft	221 Sq. Ft	234 Sq. Ft	247 Sq. Ft	260 Sq. Ft	273 Sq. Ft	286 Sq. Ft	299 Sq. Ft	312 Sq. Ft	325 Sq. Ft	338 Sq. Ft	351 Sq. Ft	364 Sq. Ft	377 Sq. Ft	390 Sq. Ft	403 Sq. Ft	416 Sq. Ft
	27 ft.	67.5 Sq. Ft	81 Sq. Ft	94.5 Sq. Ft	108 Sq. Ft	121.5 Sq. Ft	135 Sq. Ft	148.5 Sq. Ft	162 Sq. Ft	175.5 Sq. Ft	189 Sq. Ft	202.5 Sq. Ft	216 Sq. Ft	229.5 Sq. Ft	243 Sq. Ft	256.5 Sq. Ft	270 Sq. Ft	283.5 Sq. Ft	297 Sq. Ft	310.5 Sq. Ft	324 Sq. Ft	337.5 Sq. Ft	351 Sq. Ft	364.5 Sq. Ft	378 Sq. Ft	391.5 Sq. Ft	405 Sq. Ft	418.5 Sq. Ft	432 Sq. Ft
	28 ft.	70 Sq. Ft	84 Sq. Ft	98 Sq. Ft	112 Sq. Ft	126 Sq. Ft	140 Sq. Ft	154 Sq. Ft	168 Sq. Ft	182 Sq. Ft	196 Sq. Ft	210 Sq. Ft	224 Sq. Ft	238 Sq. Ft	252 Sq. Ft	266 Sq. Ft	280 Sq. Ft	294 Sq. Ft	308 Sq. Ft	322 Sq. Ft	336 Sq. Ft	350 Sq. Ft	364 Sq. Ft	378 Sq. Ft	392 Sq. Ft	406 Sq. Ft	420 Sq. Ft	434 Sq. Ft	448 Sq. Ft
	29 ft.	72.5 Sq. Ft	87 Sq. Ft	101.5 Sq. Ft	116 Sq. Ft	130.5 Sq. Ft	145 Sq. Ft	159.5 Sq. Ft	174 Sq. Ft	188.5 Sq. Ft	203 Sq. Ft	217.5 Sq. Ft	232 Sq. Ft	246.5 Sq. Ft	261 Sq. Ft	275.5 Sq. Ft	290 Sq. Ft	304.5 Sq. Ft	319 Sq. Ft	333.5 Sq. Ft	348 Sq. Ft	362.5 Sq. Ft	377 Sq. Ft	391.5 Sq. Ft	406 Sq. Ft	420.5 Sq. Ft	435 Sq. Ft	449.5 Sq. Ft	464 Sq. Ft
30 ft.	75 Sq. Ft	90 Sq. Ft	105 Sq. Ft	120 Sq. Ft	135 Sq. Ft	150 Sq. Ft	165 Sq. Ft	180 Sq. Ft	195 Sq. Ft	210 Sq. Ft	225 Sq. Ft	240 Sq. Ft	255 Sq. Ft	270 Sq. Ft	285 Sq. Ft	300 Sq. Ft	315 Sq. Ft	330 Sq. Ft	345 Sq. Ft	360 Sq. Ft	375 Sq. Ft	390 Sq. Ft	405 Sq. Ft	420 Sq. Ft	435 Sq. Ft	450 Sq. Ft	465 Sq. Ft	480 Sq. Ft	
	31 ft.	77.5 Sq. Ft	93 Sq. Ft	108.5 Sq. Ft	124 Sq. Ft	139.5 Sq. Ft	155 Sq. Ft	170.5 Sq. Ft	186 Sq. Ft	201.5 Sq. Ft	217 Sq. Ft	232.5 Sq. Ft	248 Sq. Ft	263.5 Sq. Ft	279 Sq. Ft	294.5 Sq. Ft	310 Sq. Ft	325.5 Sq. Ft	341 Sq. Ft	356.5 Sq. Ft	372 Sq. Ft	387.5 Sq. Ft	403 Sq. Ft	418.5 Sq. Ft	434 Sq. Ft	449.5 Sq. Ft	465 Sq. Ft	480.5 Sq. Ft	496 Sq. Ft
	32 ft.	80 Sq. Ft	96 Sq. Ft	112 Sq. Ft	128 Sq. Ft	144 Sq. Ft	160 Sq. Ft	176 Sq. Ft	192 Sq. Ft	208 Sq. Ft	224 Sq. Ft	240 Sq. Ft	256 Sq. Ft	272 Sq. Ft	288 Sq. Ft	304 Sq. Ft	320 Sq. Ft	336 Sq. Ft	352 Sq. Ft	368 Sq. Ft	384 Sq. Ft	400 Sq. Ft	416 Sq. Ft	432 Sq. Ft	448 Sq. Ft	464 Sq. Ft	480 Sq. Ft	496 Sq. Ft	512 Sq. Ft
	33 ft.	82.5 Sq. Ft	99 Sq. Ft	115.5 Sq. Ft	132 Sq. Ft	148.5 Sq. Ft	165 Sq. Ft	181.5 Sq. Ft	198 Sq. Ft	214.5 Sq. Ft	231 Sq. Ft	247.5 Sq. Ft	264 Sq. Ft	280.5 Sq. Ft	297 Sq. Ft	313.5 Sq. Ft	330 Sq. Ft	346.5 Sq. Ft	363 Sq. Ft	379.5 Sq. Ft	396 Sq. Ft	412.5 Sq. Ft	429 Sq. Ft	445.5 Sq. Ft	462 Sq. Ft	478.5 Sq. Ft	495 Sq. Ft	511.5 Sq. Ft	528 Sq. Ft
	34 ft.	85 Sq. Ft	102 Sq. Ft	119 Sq. Ft	136 Sq. Ft	153 Sq. Ft	170 Sq. Ft	187 Sq. Ft	204 Sq. Ft	221 Sq. Ft	238 Sq. Ft	255 Sq. Ft	272 Sq. Ft	289 Sq. Ft	306 Sq. Ft	323 Sq. Ft	340 Sq. Ft	357 Sq. Ft	374 Sq. Ft	391 Sq. Ft	408 Sq. Ft	425 Sq. Ft	442 Sq. Ft	459 Sq. Ft	476 Sq. Ft	493 Sq. Ft	510 Sq. Ft	527 Sq. Ft	544 Sq. Ft
	35 ft.	87.5 Sq. Ft	105 Sq. Ft	122.5 Sq. Ft	140 Sq. Ft	157.5 Sq. Ft	175 Sq. Ft	192.5 Sq. Ft	210 Sq. Ft	227.5 Sq. Ft	245 Sq. Ft	262.5 Sq. Ft	280 Sq. Ft	297.5 Sq. Ft	315 Sq. Ft	332.5 Sq. Ft	350 Sq. Ft	367.5 Sq. Ft	385 Sq. Ft	402.5 Sq. Ft	420 Sq. Ft	437.5 Sq. Ft	455 Sq. Ft	472.5 Sq. Ft	490 Sq. Ft	507.5 Sq. Ft	525 Sq. Ft	542.5 Sq. Ft	560 Sq. Ft
	36 ft.	90 Sq. Ft	108 Sq. Ft	126 Sq. Ft	144 Sq. Ft	162 Sq. Ft	180 Sq. Ft	198 Sq. Ft	216 Sq. Ft	234 Sq. Ft	252 Sq. Ft	270 Sq. Ft	288 Sq. Ft	306 Sq. Ft	324 Sq. Ft	342 Sq. Ft	360 Sq. Ft	378 Sq. Ft	396 Sq. Ft	414 Sq. Ft	432 Sq. Ft	450 Sq. Ft	468 Sq. Ft	486 Sq. Ft	504 Sq. Ft	522 Sq. Ft	540 Sq. Ft	558 Sq. Ft	576 Sq. Ft
Type "B" (2 Posts) 1.6 CY Conc. 98 Lbs Bar Steel													Type "C" (2 Posts) 1.8 CY Conc. 100 Lbs Bar Steel				Type "D" (2 Posts) 1.8 CY Conc. 112 Lbs Bar Steel			Type "C" (3 Posts) 2.7 CY Conc. 150 Lbs Bar Steel			Type "D" (3 Posts) 2.7 CY Conc. 168 Lbs Bar Steel						

STEEL POST SIZE
"A" - W10" x 12"
"B" - W12" x 16"
"C" - W12" x 19"
"D" - W12 x 22"

DETERMINATION OF HIGH STRENGTH
STRUCTURAL STEEL SIGN SUPPORT TYPE

WISCONSIN DEPT OF TRANSPORTATION

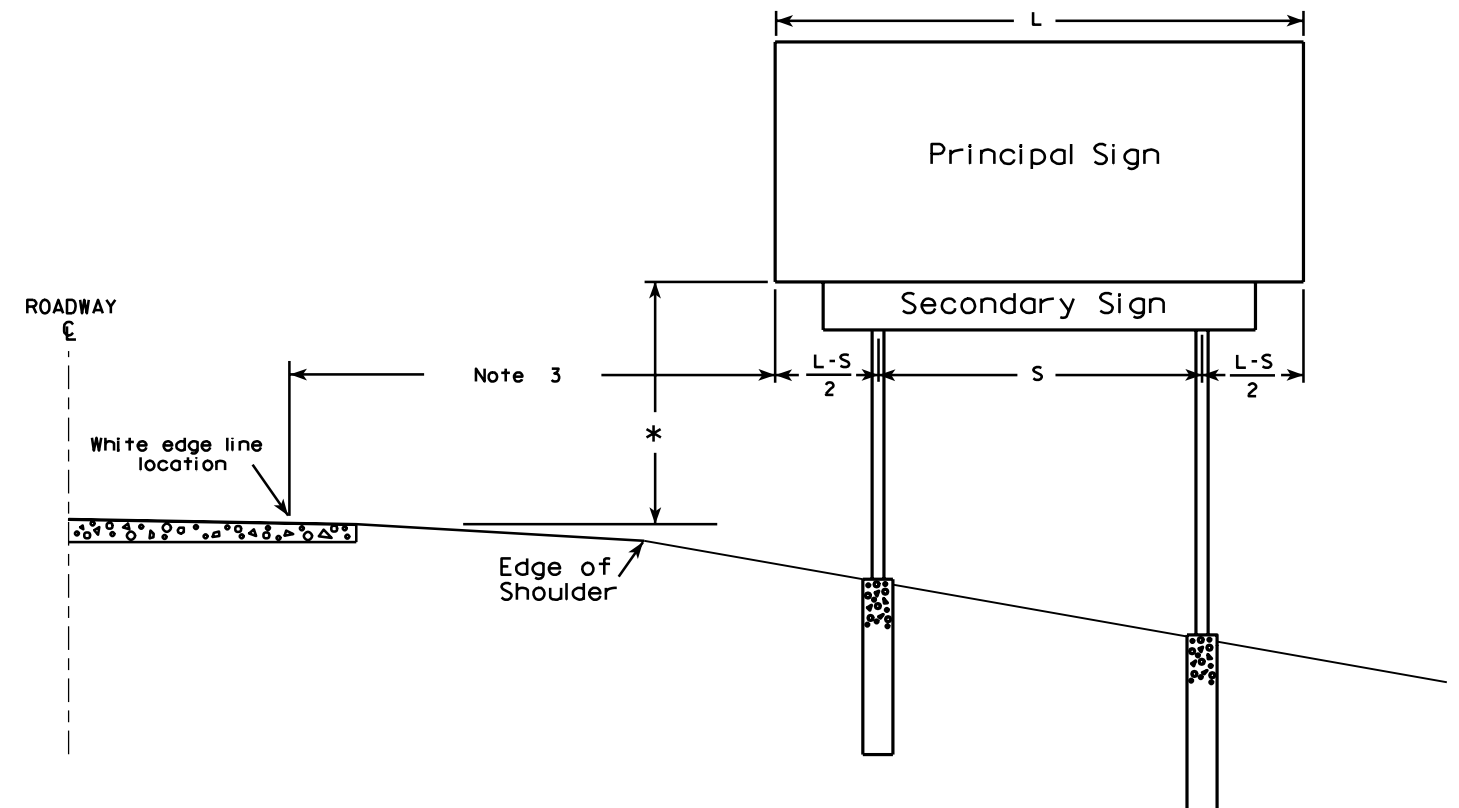
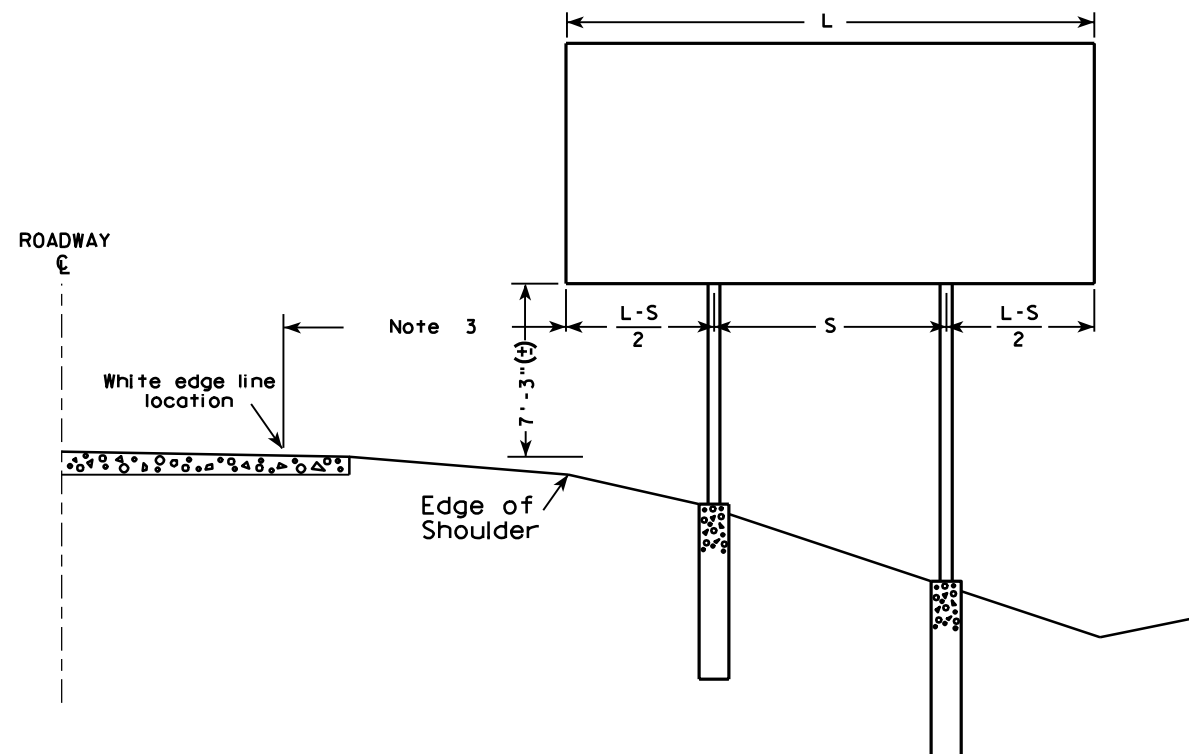
APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/5/10 PLATE NO. A3-3.2

PROJECT NO:

SHEET NO:

E



GENERAL NOTES

1. For a 2 post installation, S equals $3L/5$, but shall not be less than 9 ft.
2. For a 3 post installation, S equals $5L/7$, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3" (±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3" (±).

TYPICAL INSTALLATION OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

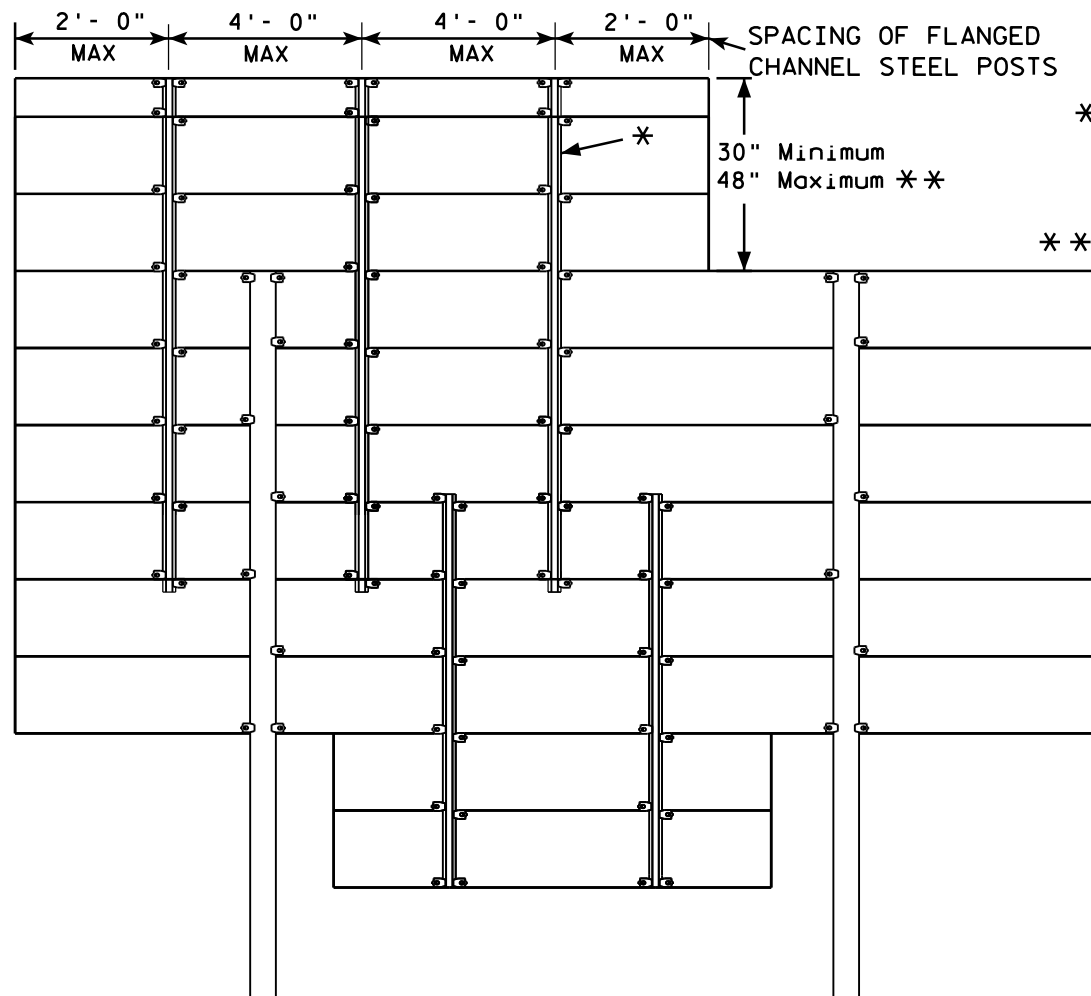
DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:

SHEET NO:

E

GROUND MOUNTED SIGN

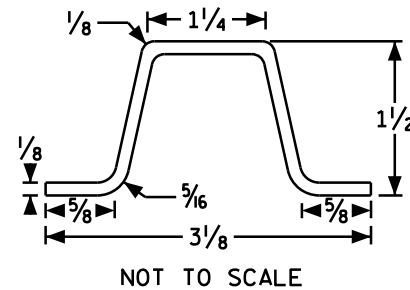


* = 2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

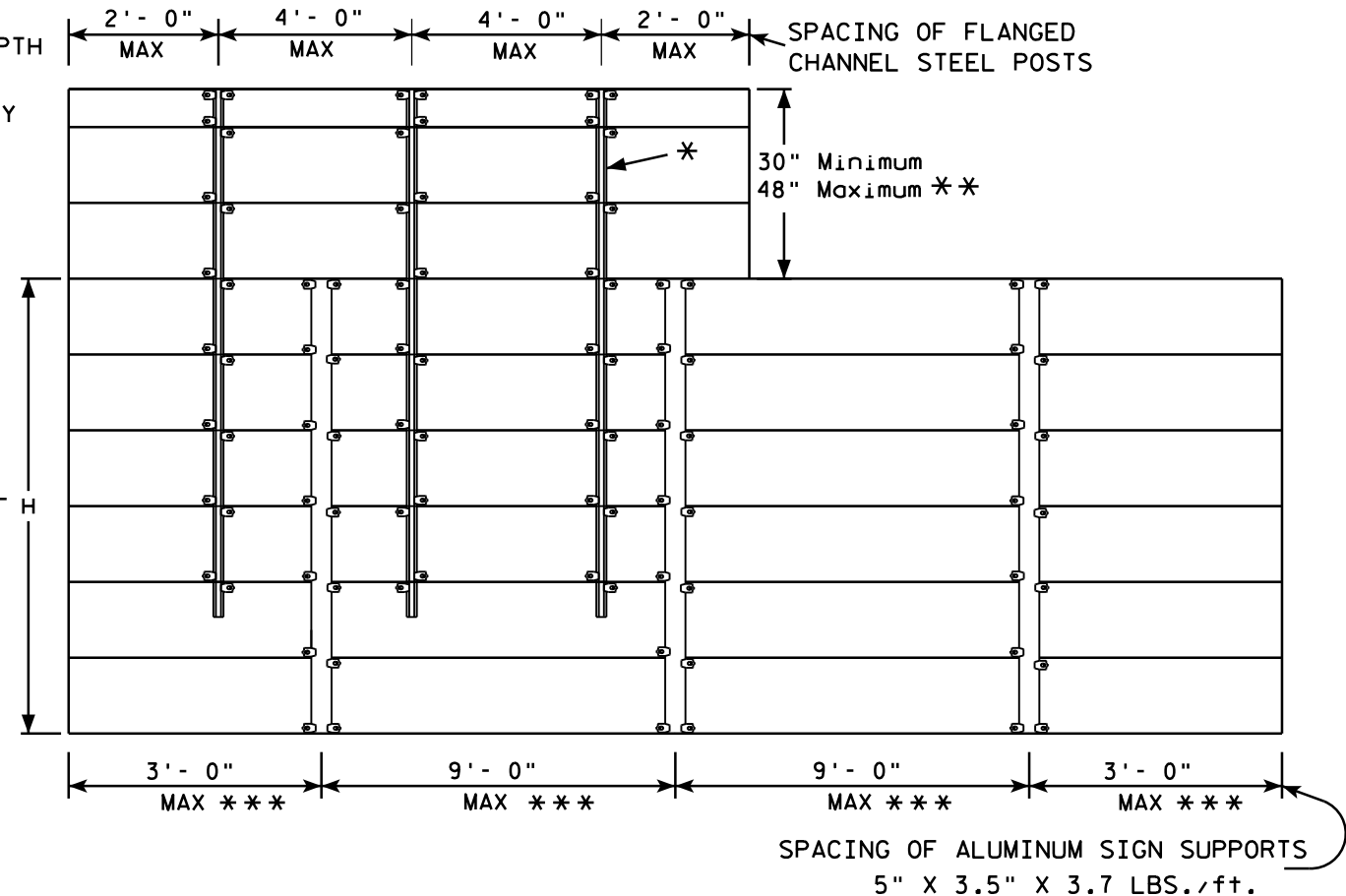
** = FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:
PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
PANEL LENGTH 9'-0" - 12'-0" = 3 CHANNELS
PANEL LENGTH 13'-0" OR MORE = 4 CHANNELS
If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

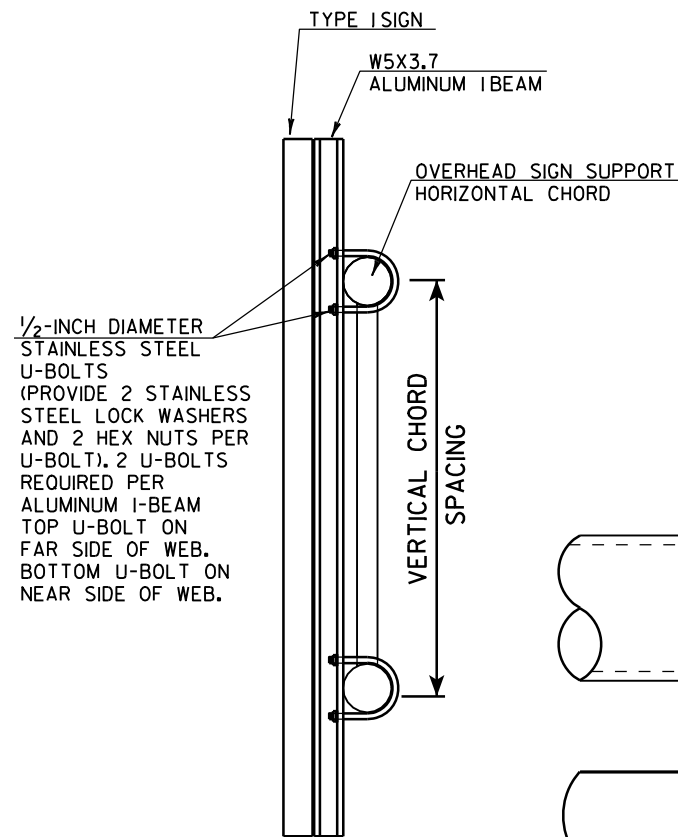
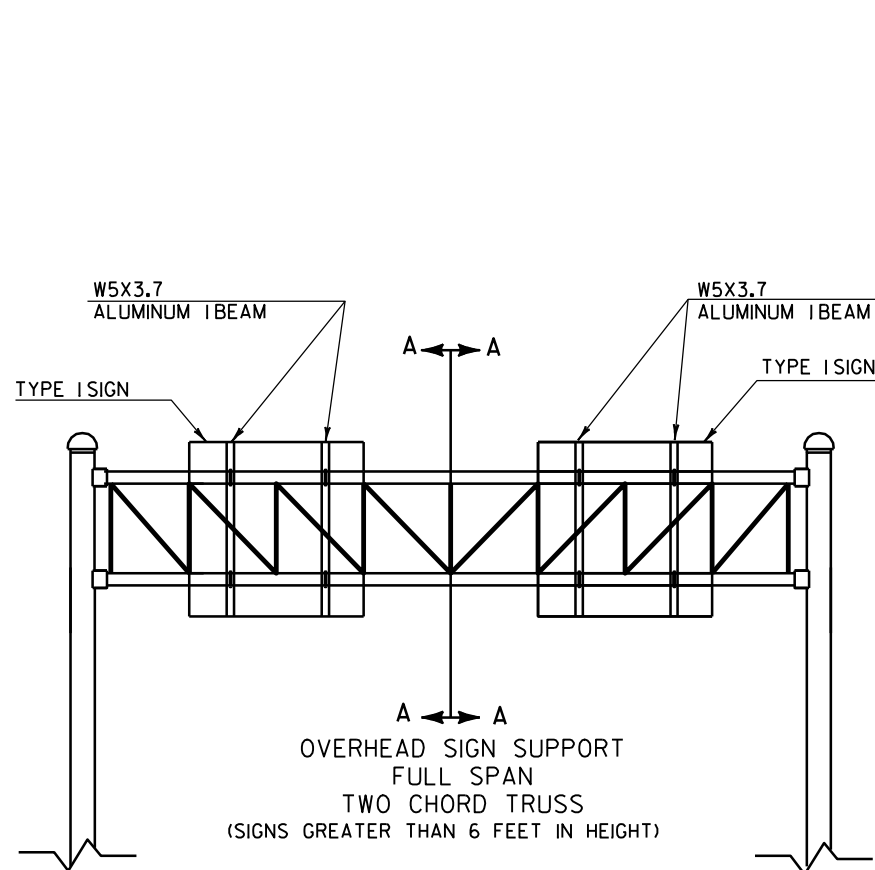
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

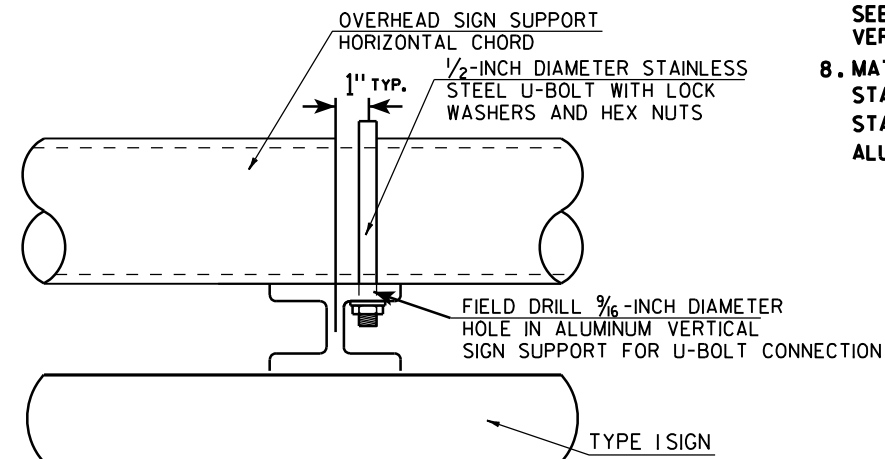
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

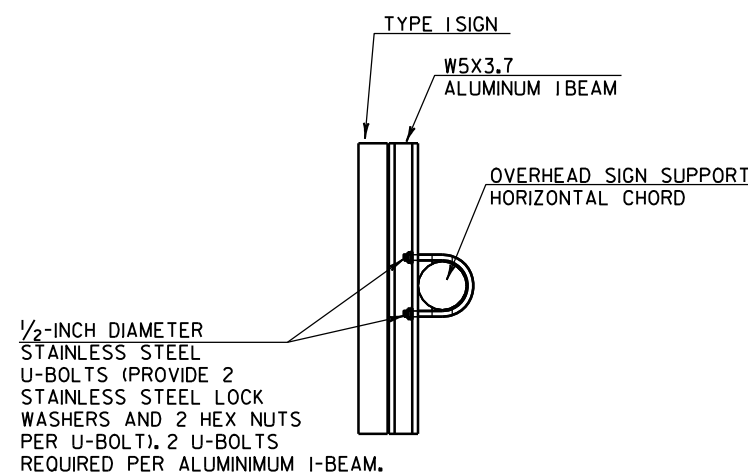
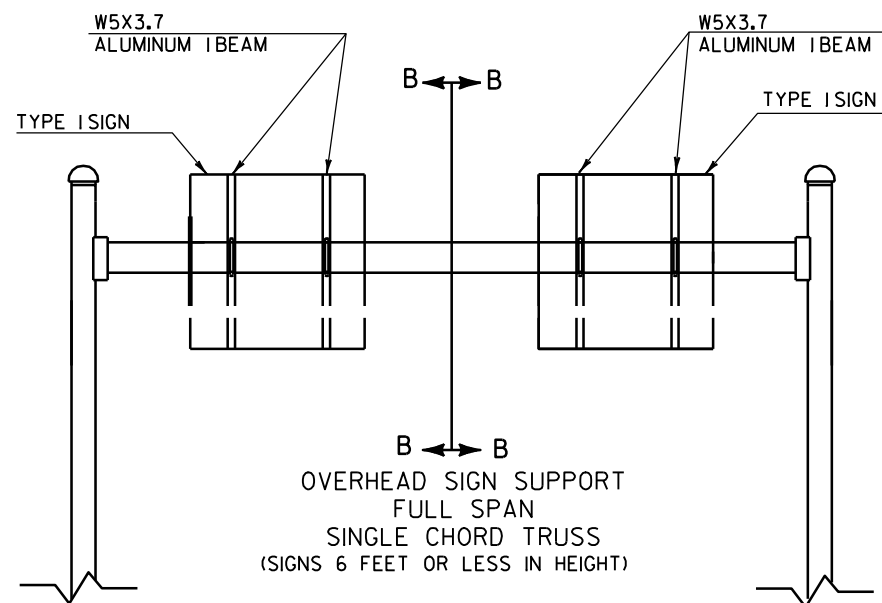
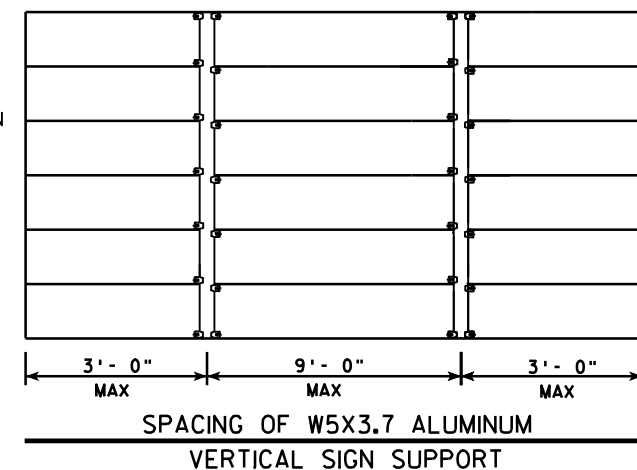
DATE 12/05/13 PLATE NO. A4-6.12



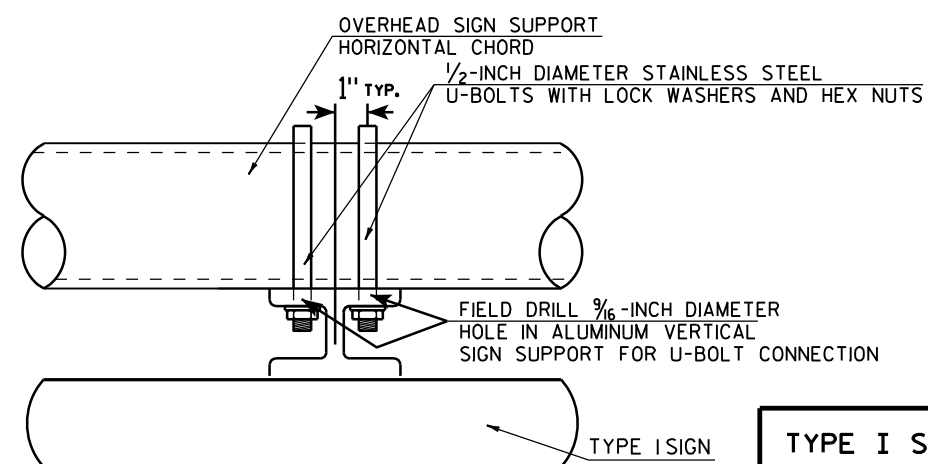
CUT SECTION A-A



TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

GENERAL NOTES

1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
STAINLESS STEEL HEX NUTS ASTM A276.
ALUMINUM I-BEAMS ARE 6061-T6.

TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

PROJECT NO:

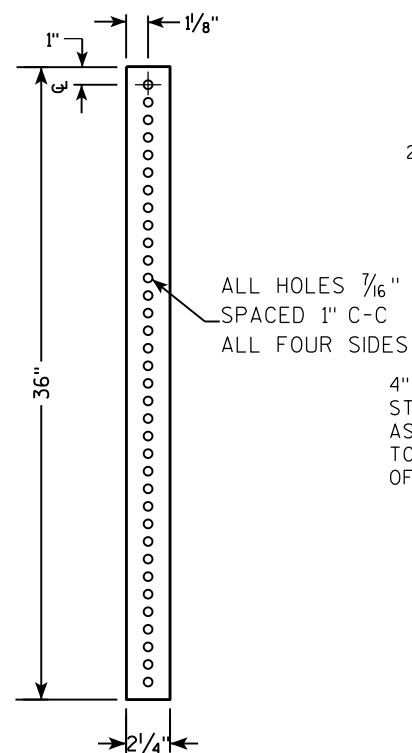
HWY:

COUNTY:

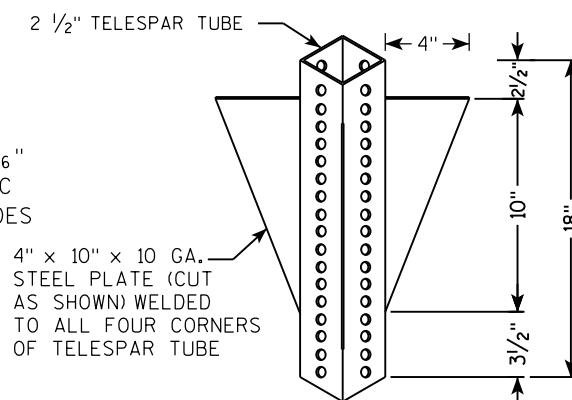
SHEET NO:

E

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



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

[illegible]

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View (Left):

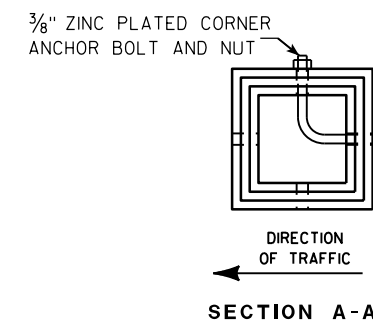
- Overall height dimension: LENGTH SHOWN ON MISC. Q'TYS
- Top section: 2" STEEL TUBULAR SQUARE UPPER SECTION
- Intermediate section: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Bottom section: 2 1/4" SQUARE X 36"
- Vertical dimensions from the top of the stabilizing sleeve:
 - 36"
 - 18"
 - 12"

End View (Right):

- Top: SIGN
- Sign mounting: SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- Upper section: 2" STEEL TUBULAR SQUARE UPPER SECTION
- Intermediate section: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Bottom section: 2 1/4" SQUARE X 36"
- Anchor bolts: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT (shown on all four sides)
- Anchor bolt spacing: 1" (center-to-center)
- Anchor bolt diameter: 3/8"
- Anchor bolt material: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- Anchor bolt spacing: 1" (center-to-center)
- Anchor bolt diameter: 3/8"
- Anchor bolt material: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- Anchor bolt spacing: 1" (center-to-center)
- Anchor bolt diameter: 3/8"
- Anchor bolt material: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT

General Notes:

- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
- TELESCOPE PIECES FLUSH AT TOP



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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

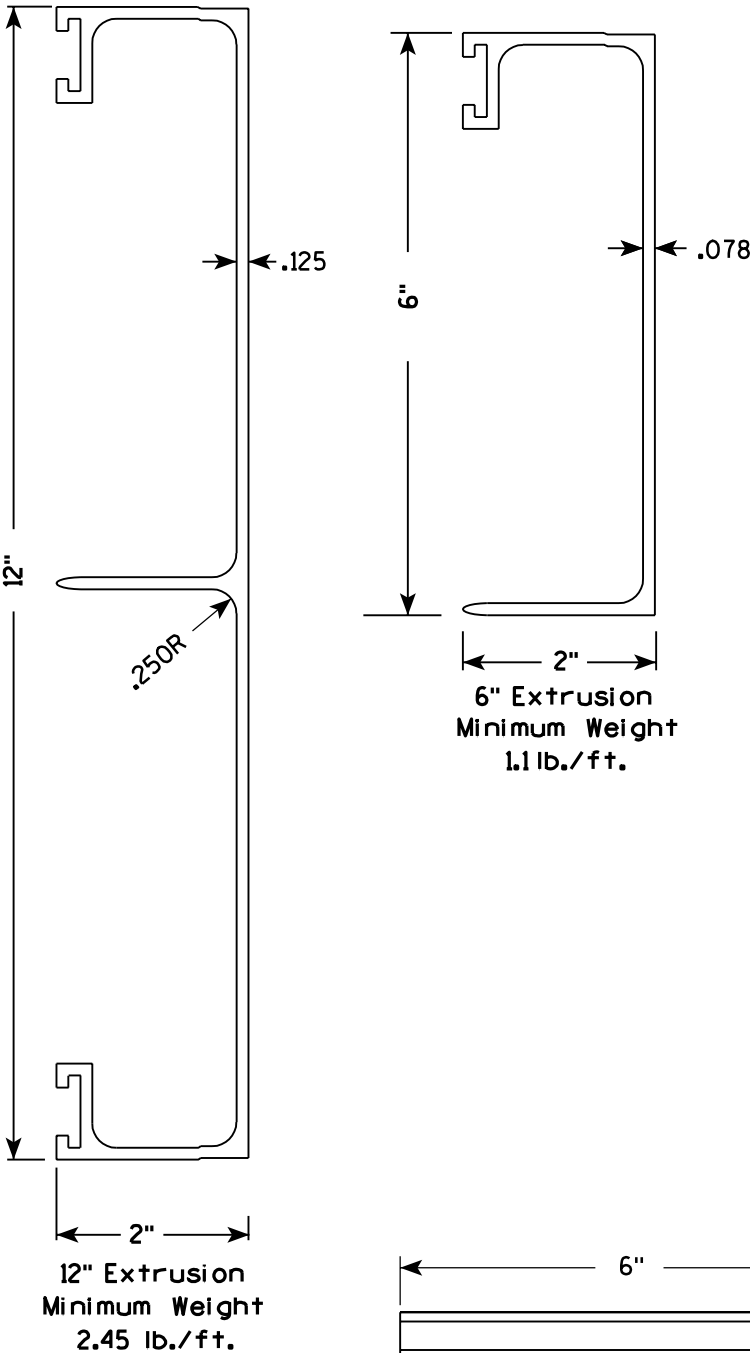
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
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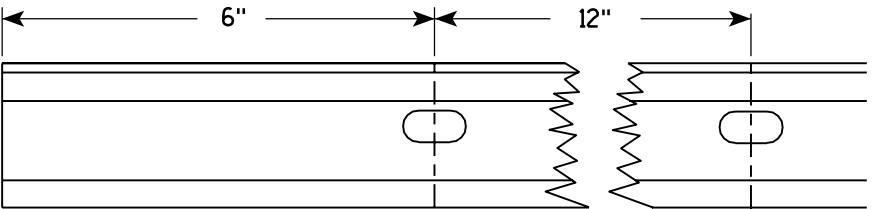
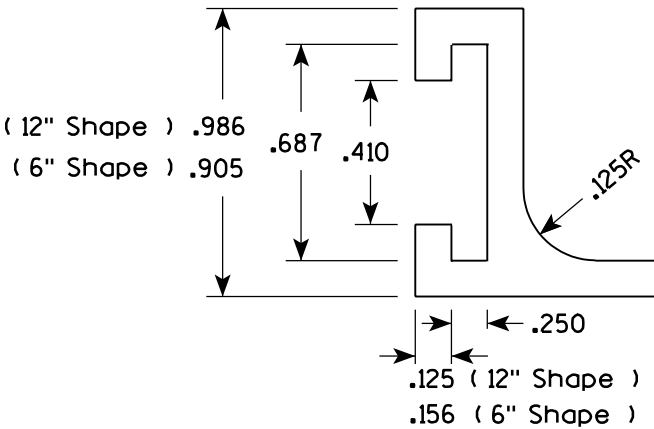
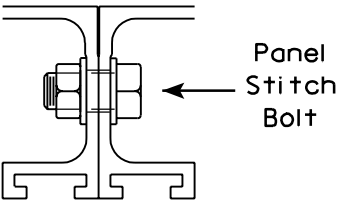
Extruded Shape

Hardware

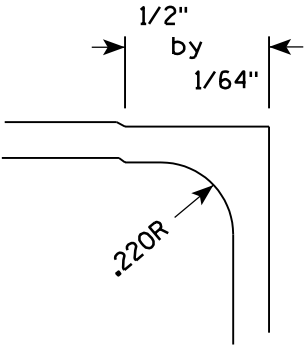


STITCH BOLT, WASHER & NUT

The hardware includes:
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy

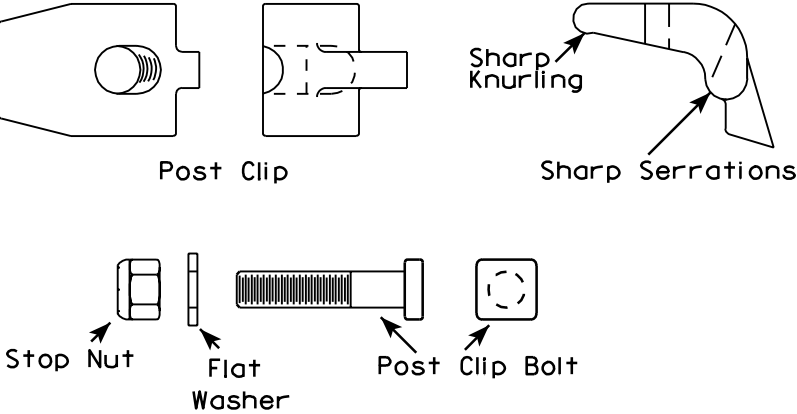


Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.



NOTES

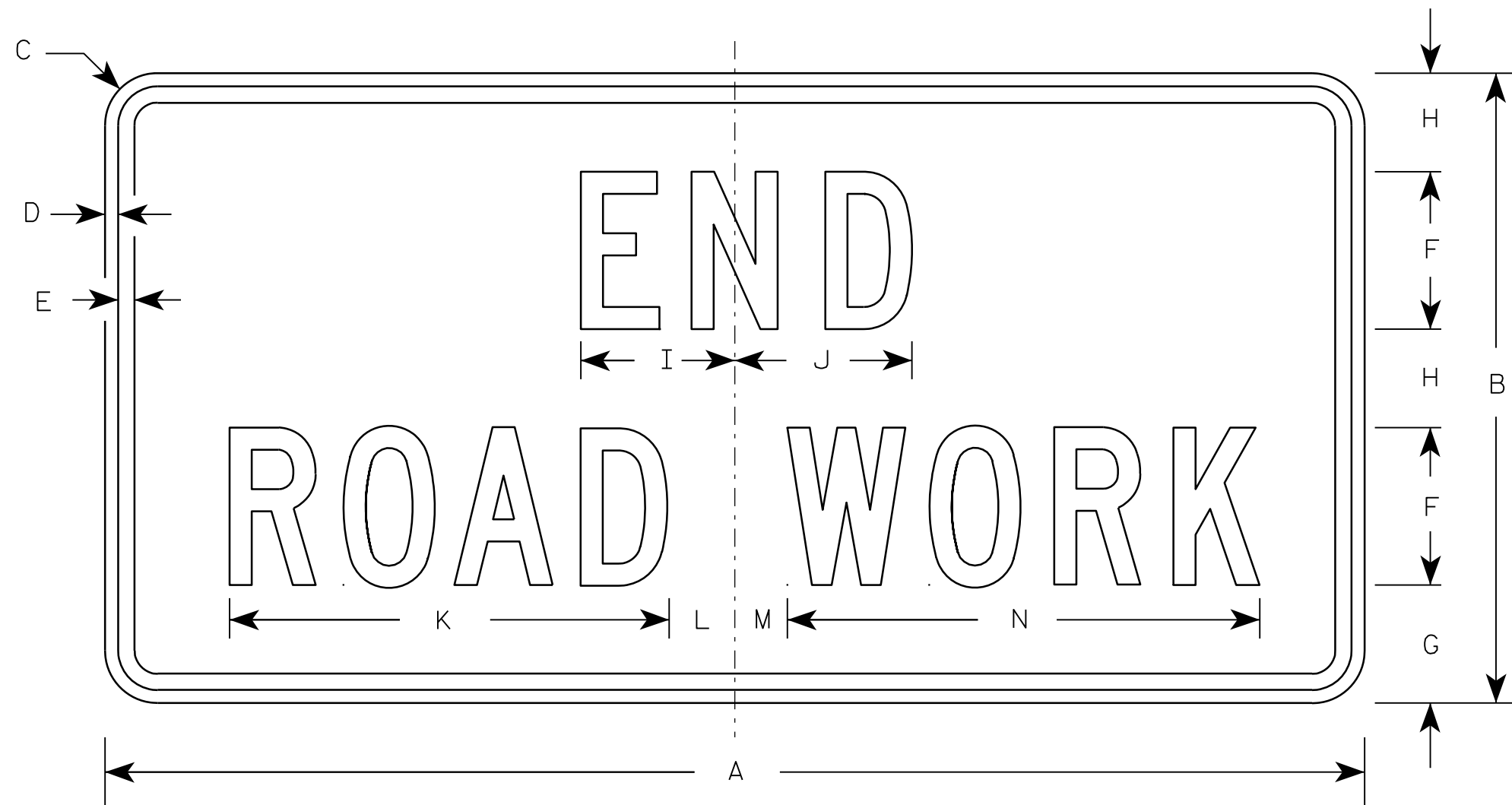
1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR
TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*
for State Traffic Engineer
DATE 11/18/99 PLATE NO. A5-2.9

7



G20-2A

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 ²
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

NOTES

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

7

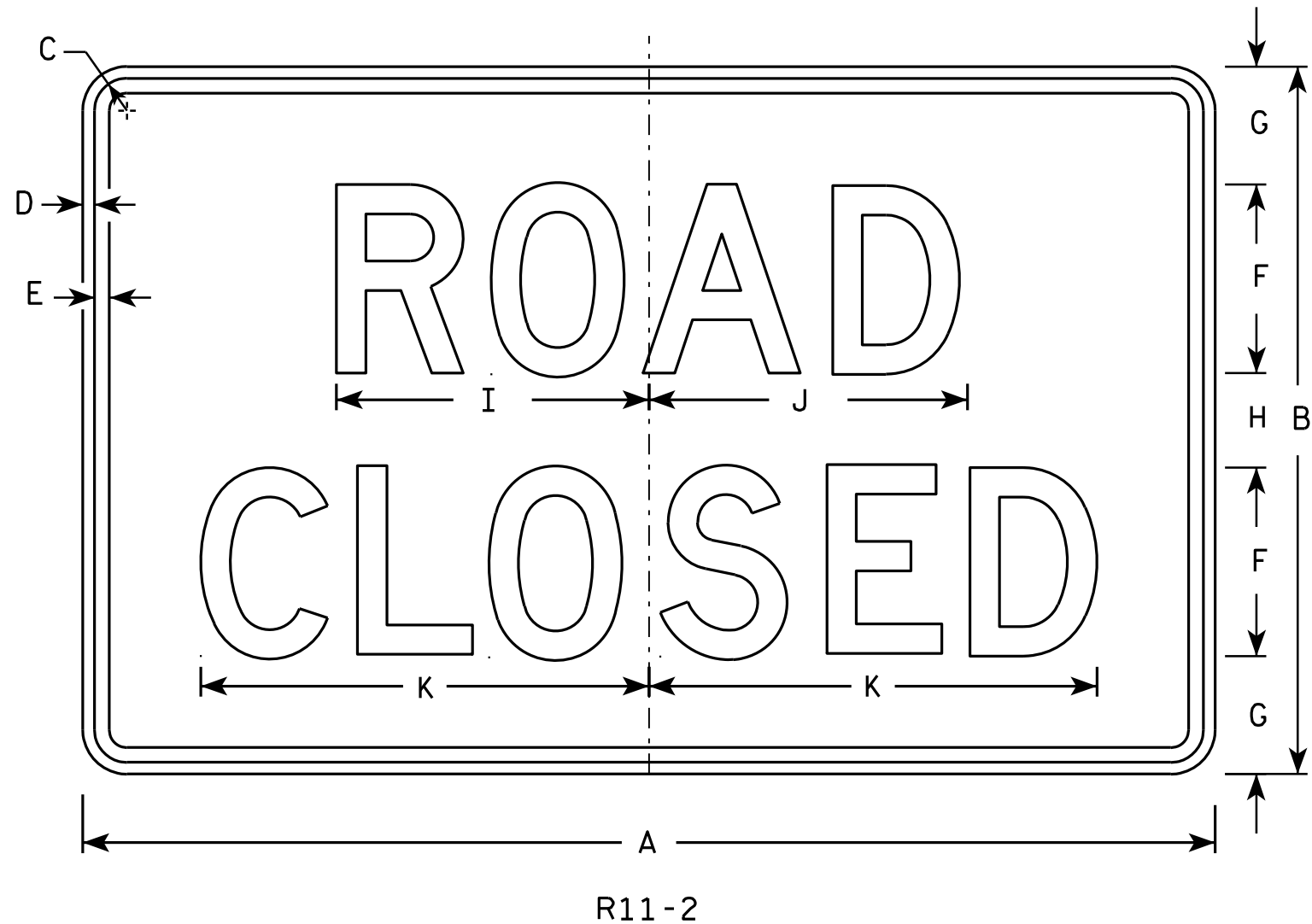
PROJECT NO:

HWY:

COUNTY:

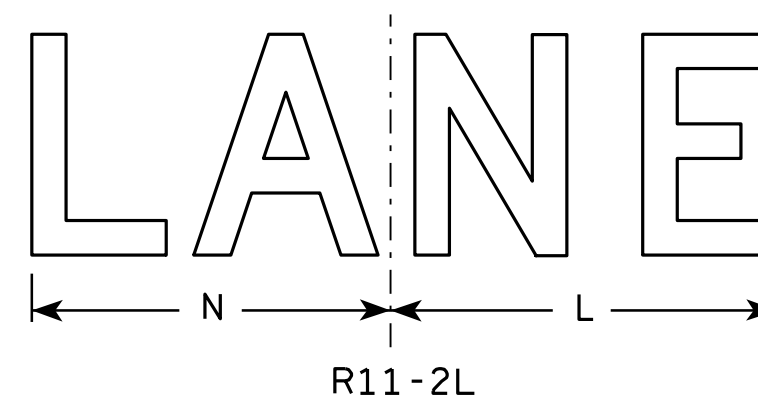
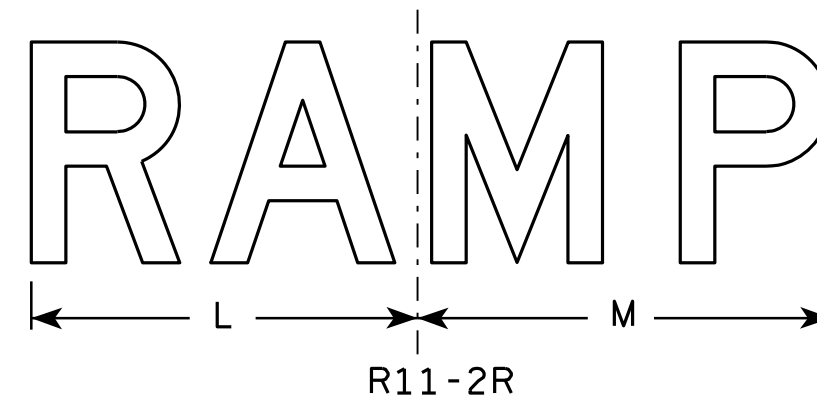
SHEET NO:

E



NOTES

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

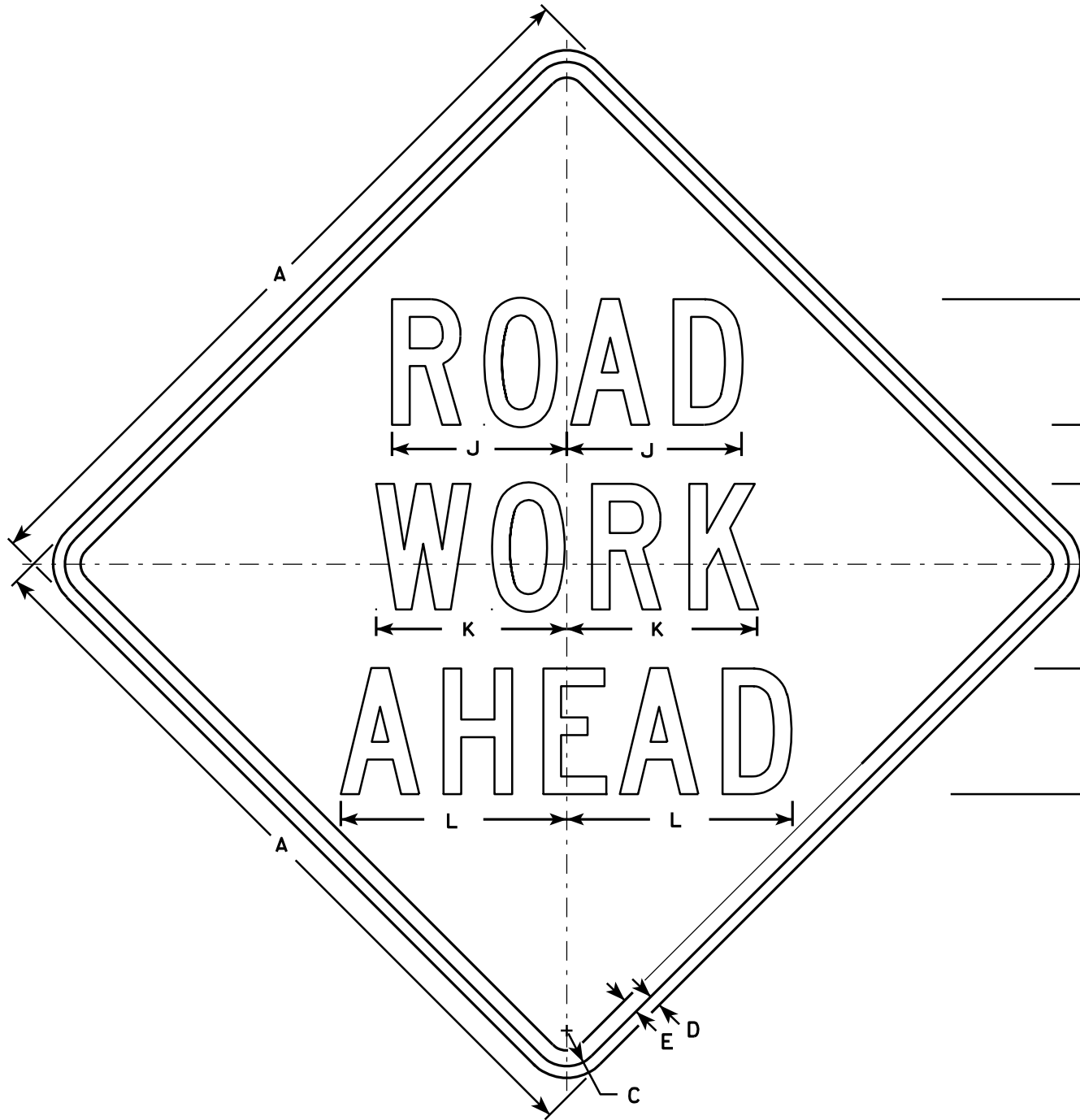


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

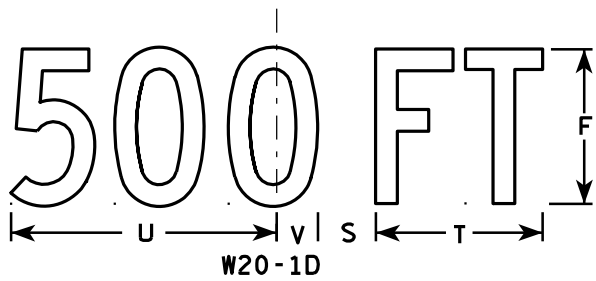
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-2.10

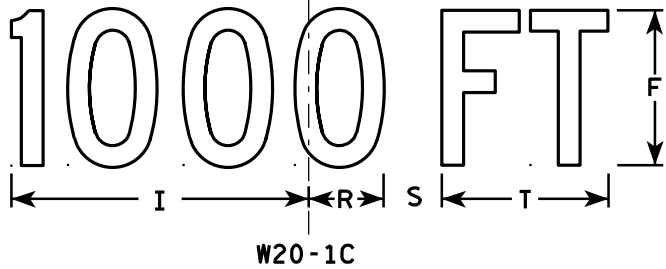
PROJECT NO: HWY: COUNTY: SHEET NO: E



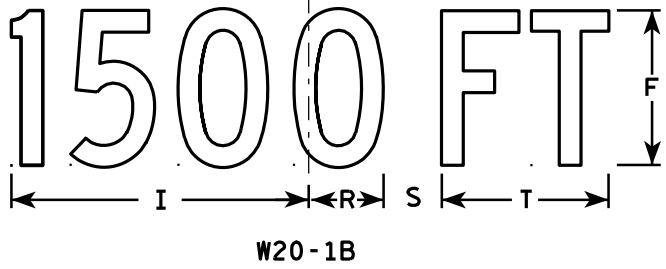
W20-1A



W20-1D



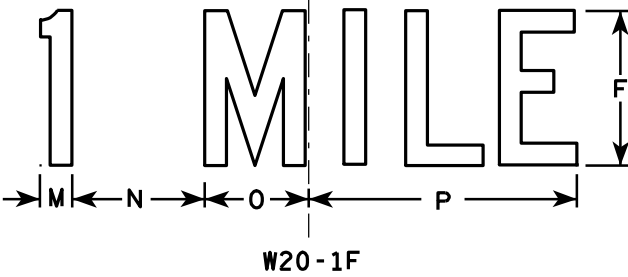
W20-1C



W20-1B



W20-1G



W20-1F

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 3/8	1/2	5/8	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		2 1/2	1 7/8	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		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		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		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		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		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

PROJECT NO:

SHEET NO:

E

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

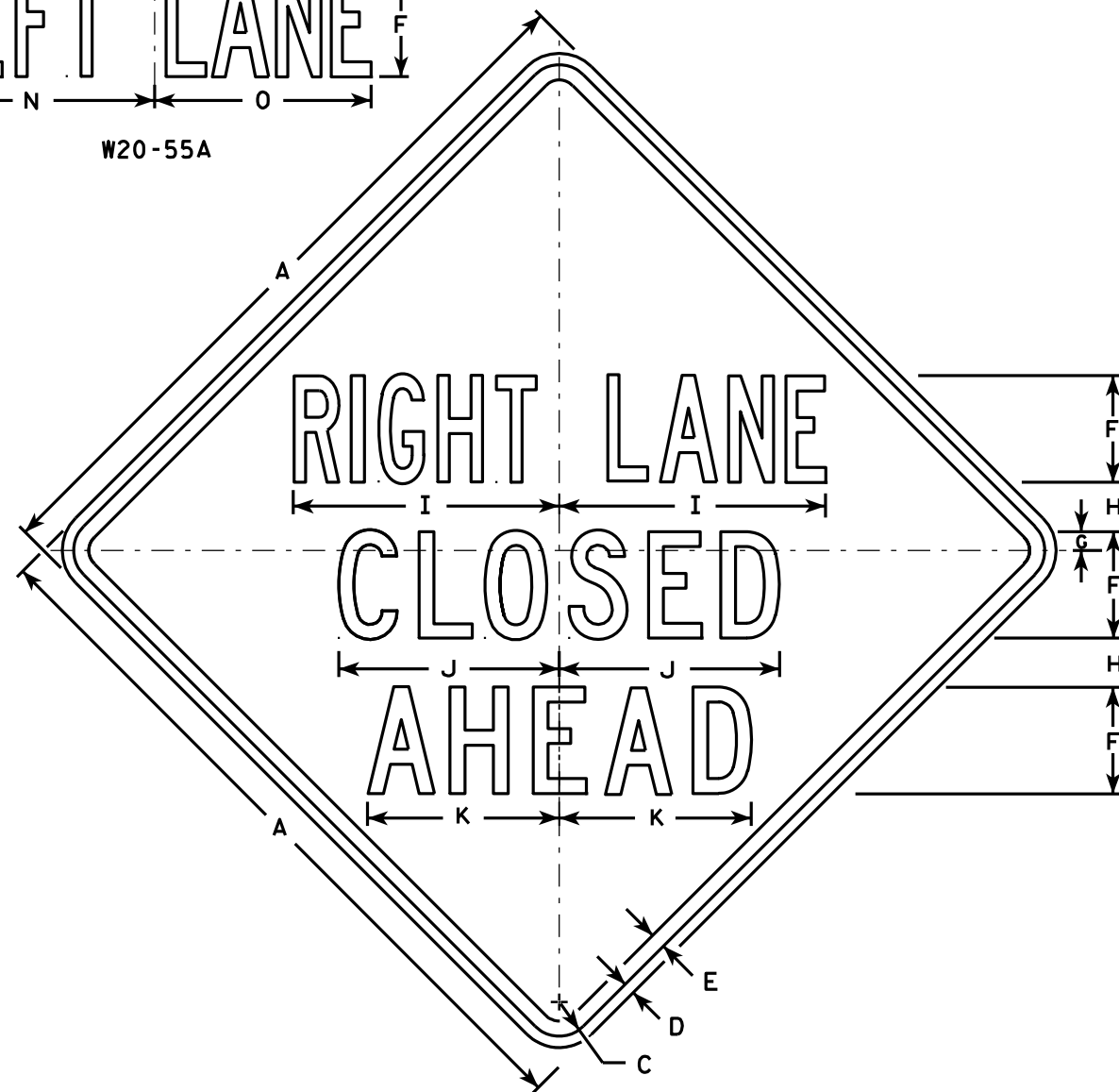
DATE 3/18/11
PLATE NO. W20-1.9

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

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 - 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. "-----LANE" is Series B.
All other copy is Series C.

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	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

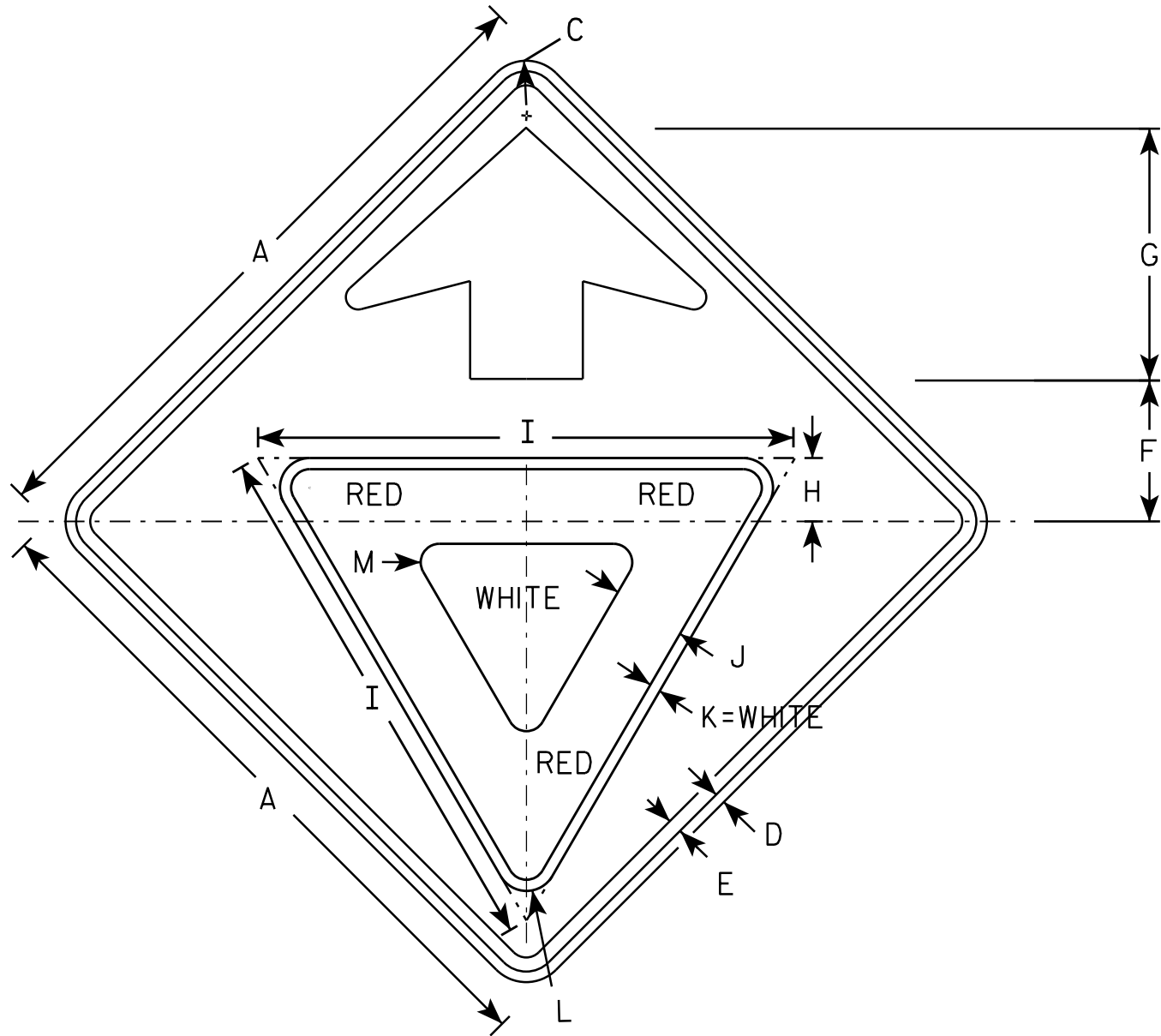
E

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

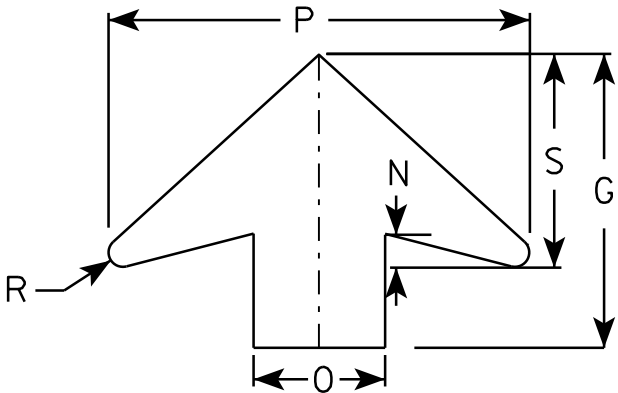
DATE 3/18/11 PLATE NO. W20-5.11



W03-2

NOTES

- 1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - ORANGE
 - Arrow & Border - BLACK
 - Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

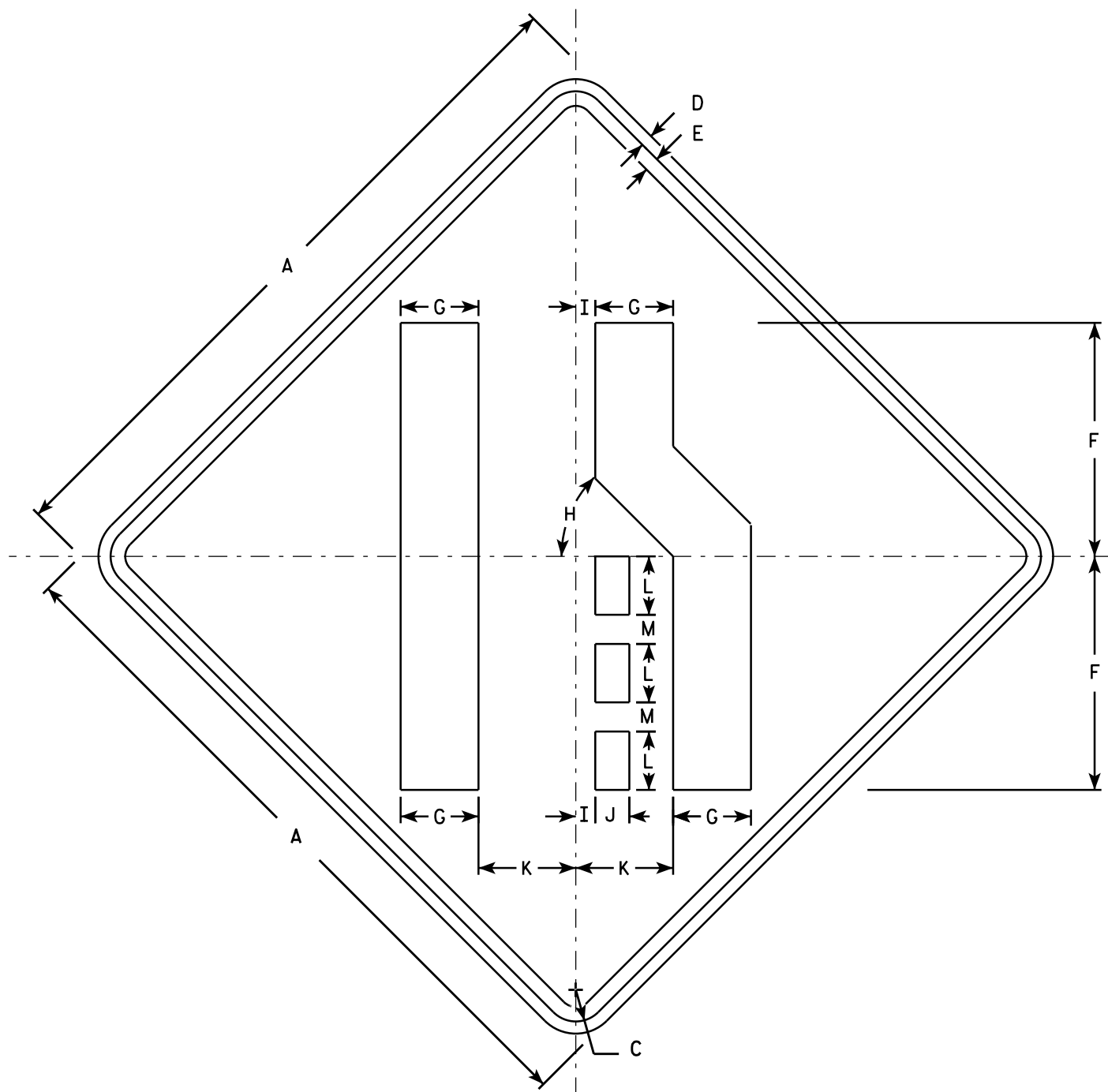
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W03-2.1



W04-2R

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.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN

W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

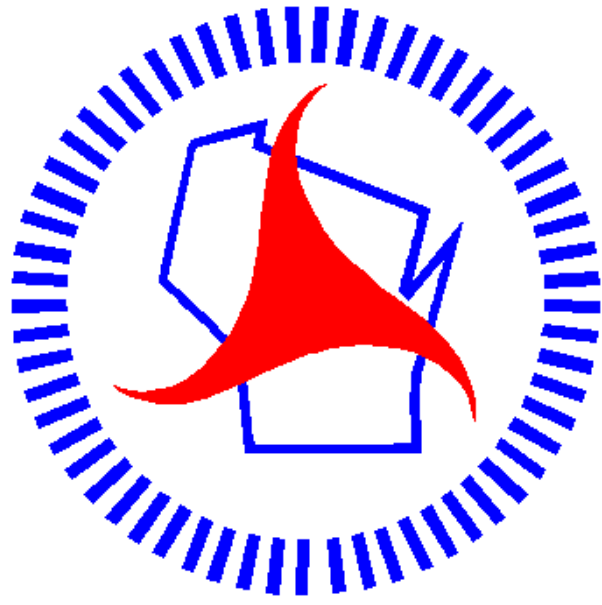
Matthew R. Rauch

For State Traffic Engineer

DATE 11/20/13

PLATE NO. W04-2.1

Notes



Wisconsin Department of Transportation

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