

County Signing Training

April 2025

Ryan Mayer

WisDOT State Signing Engineer



Agenda

Wood Posts

Installation Standards

Traffic Control

Delineators

Maintenance Responsibilities

Charging/Contracts

Recent Changes



Wood Posts

Must meet Standard Spec
634.2.1

Must be pressure treated
using Chromated Copper
Arsenate (CCA)

Posts purchased from state
contract meet these
requirements



Wood Posts



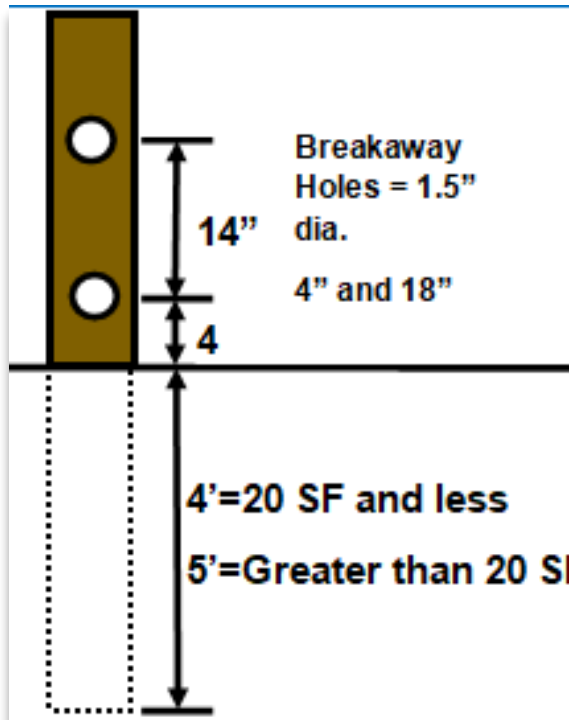
MASH (previously NCHRP 350) crash-worthiness requirements took effect January 1, 2020

- 4x4 wood posts were MASH crash tested and **did not pass**
- 4x4 posts should no longer be used
- No one is expected to immediately swap out all their 4x4 posts in the field
- Any work involving signs on 4x4 posts should include changing the posts to 4x6 posts

Manual for Assessing Safety Hardware



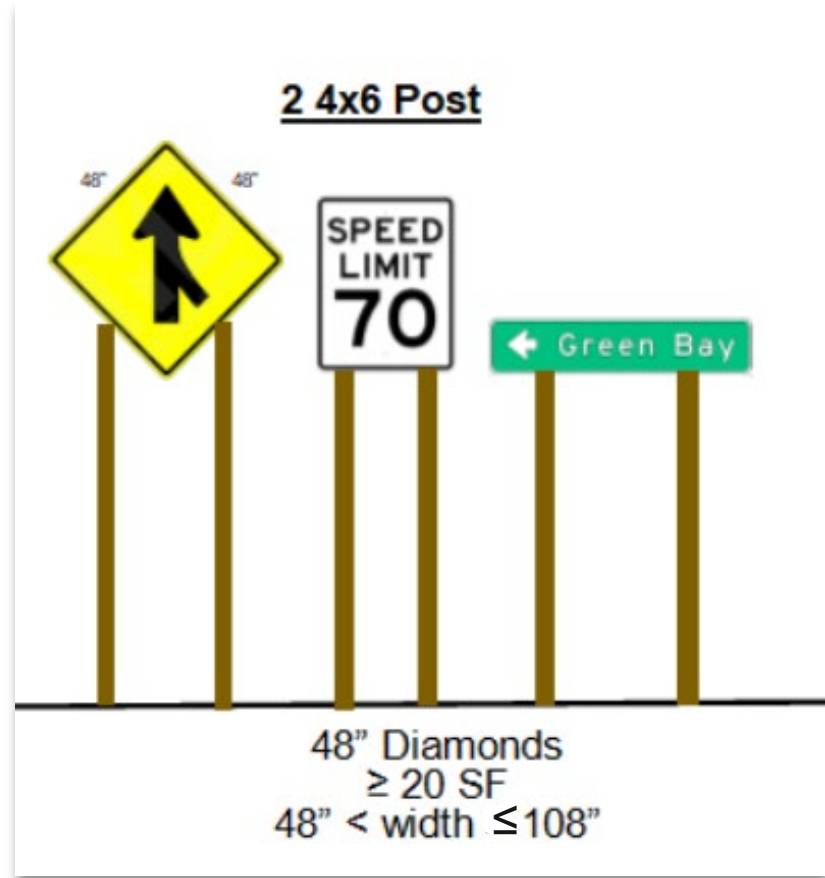
Wood Posts



- 4x6 posts must include breakaway holes perpendicular to the roadway (see sign plate A4-11)
- Posts must be dug 4' or 5' (see sign plate A4-3)
- Compact backfill in 6" layers
 - Soil/Gravel
 - $\frac{3}{4}$ " Base Course is Recommended (2021 letter)

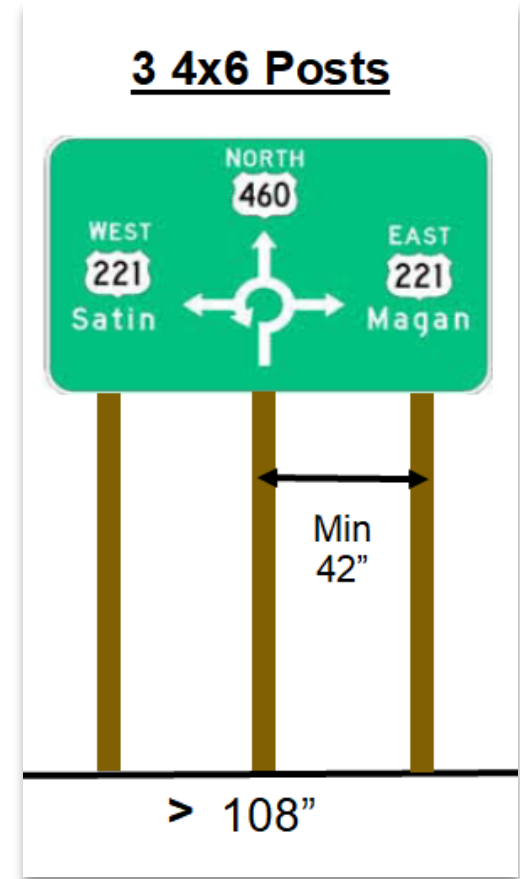
Installation Standards

- ▶ 2 Post Installations
 - Wider than 48" but less than or equal to 108"
 - 20 sf and larger
 - 48" Diamonds
- ▶ No minimum between posts
- ▶ See sign plate A4-4



Installation Standards

- ▶ Signs wider than 108" require 3 wood posts
 - Minimum of 42" between posts center to center
- ▶ See sign plate A4-4



Installation Standards

SIGN PLATE A4-18

72" Stringers: 78", 84" or 90" Signs

90" Stringers: 96", 102" or 108" Signs

108" Stringers: 114", 120" or 126" Signs

126" Stringers: 132", 138" or 144" Signs

■ Stringers

- Supplied by WisDOT
- Required on signs 78" and wider
- Two stringers per sign panel
 - 2 Additional Bolts per stringer for 78" and 90" stringers
 - 4 Additional Bolts per Stringer for 108" and 126" Stringers
 - Attach Stringers to Sign using 5/16" x 1-3/4" machine bolts

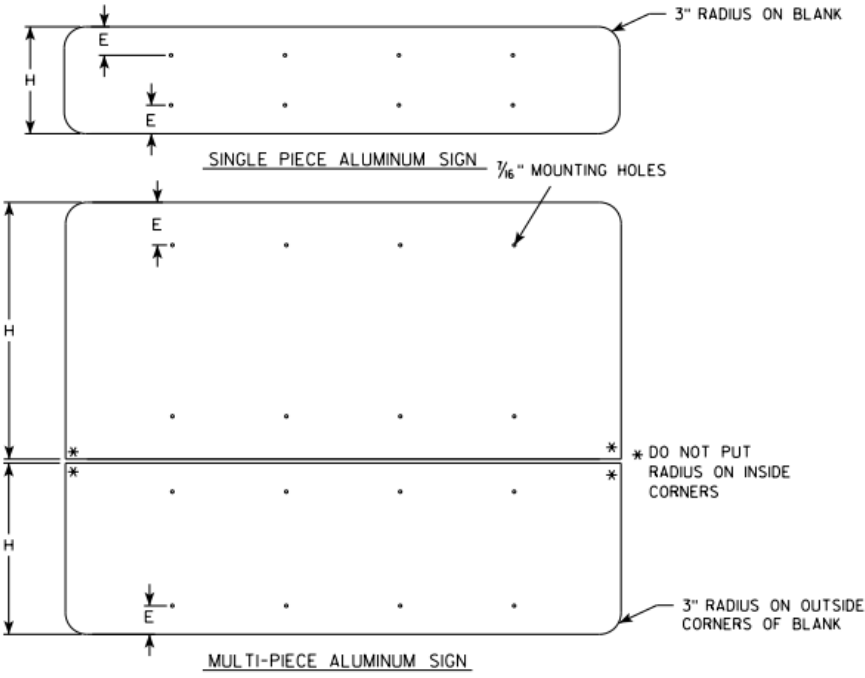
■ Missing stringers

- contact Jon Eldridge



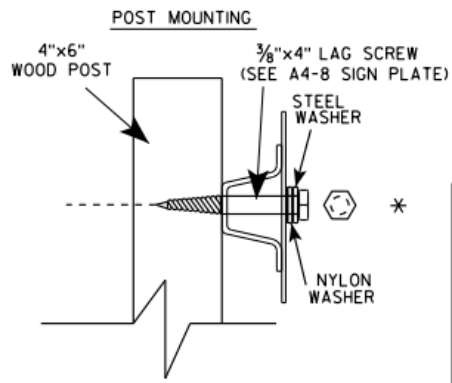
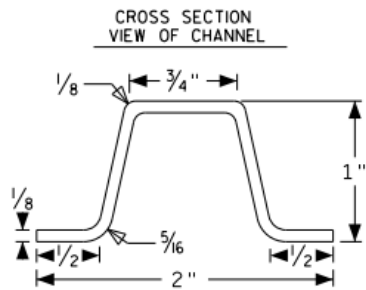
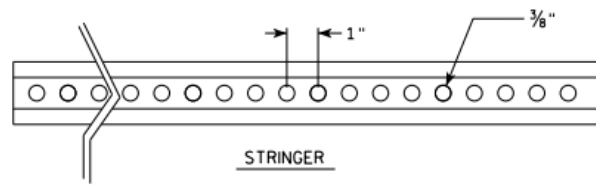
GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.



SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16 1/2" 33 1/2" 50 1/2" 67 1/2"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19 1/2" 38 1/2" 57 1/2" 76 1/2"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22 1/2" 43 1/2" 64 1/2" 85 1/2"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

7



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/26/16 PLATE NO. A4-18.1

PROJECT NO: _____ HWY: _____ COUNTY: _____ PLOT BY: mac/jh PLOT NAME: _____ PLOT SCALE: 41.805205:1.000000 SHEET NO: **E**

FILE NAME : C:\CAE\Lee\Projects\tr_sdp\late\A418.dgn

PLOT DATE : 27-APR-2016 13:56

PLOT BY : mac/jh

PLOT NAME :

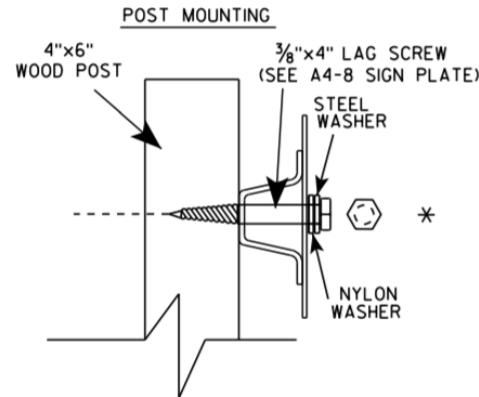
PLOT SCALE : 41.805205:1.000000

WISDOT/CADD SHEET 42



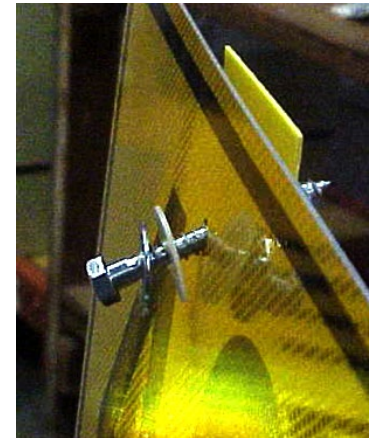
Installation Standards- Wood Posts

- Attach Stringers to Sign using $5/16"$ x $1-3/4"$ machine bolts
- All Lags and Bolts need Steel and Nylon Washers
 - Only Nylon Washers are provided by WisDOT. Contact Jon Eldridge if you run out.



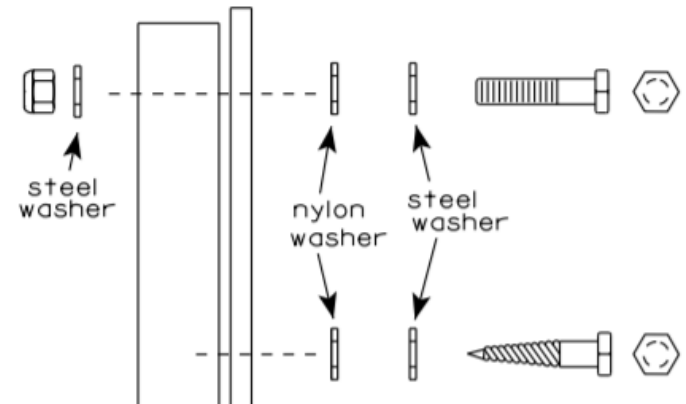
Attach Sign,
Stringer &
Posts using
 $3/8"$ x 4" Lag
Screws

Attach Sign to
Post using $3/8"$ x
3" Lag Screws



Installation Standards- Square Steel Posts

- Attach Stringers to Sign
 - 5/16" x 1-3/4" Machine Bolts
- Attach Sign, Stringer & Posts
 - 3/8" x 5" Machine Bolts
- Attached Sign to Post
 - 3/8" x 3-1/4" Machine Bolts
- All Bolts need Steel and Nylon Washers
 - Only Nylon Washers are provided by WisDOT. Contact Jon Eldridge if you run out.

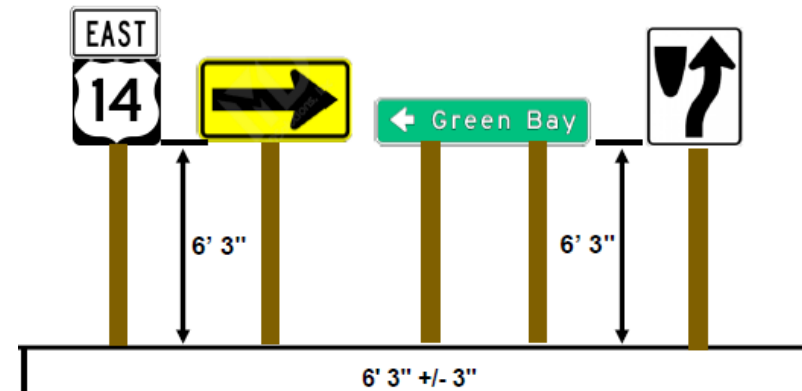
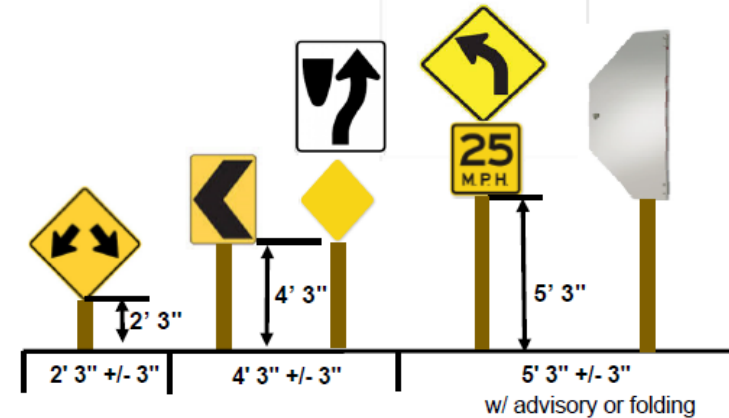


Rural Installation Standards

Mounting height per A4-3:

- **Typical 6' 3" +/- 3"**
 - Rural & Conventional Roadways
- If multiple signs are mounted together, overall mounting height may be reduced by 1'
- Refer to installation cheat sheet

Standard Installation for Rural Highways

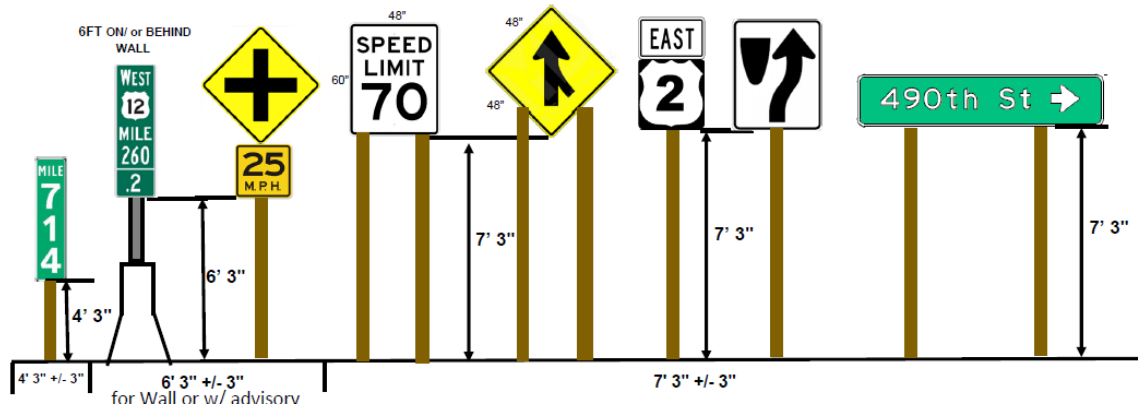


Urban/Freeway/Expressway Installation Standards

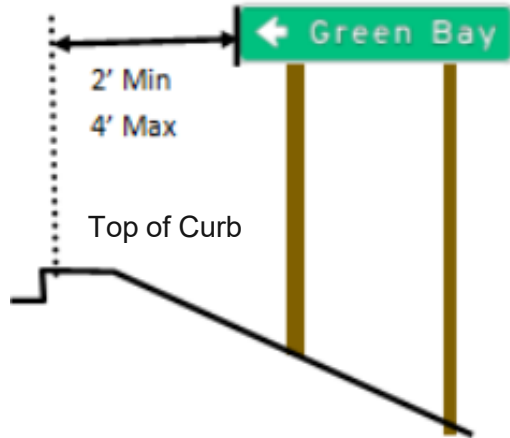
Mounting height per A4-3:

- 7' 3" +/- 3" – Urban Locations & Freeways and Expressways
- If multiple signs are mounted together, overall mounting height may be reduced by 1'
- Refer to installation cheat sheet

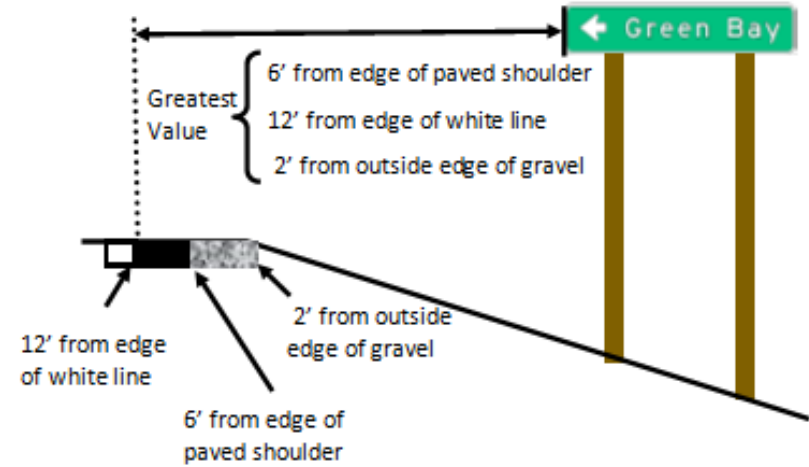
Standard Installation for Freeways, Expressways & Urban Highways



Urban Area



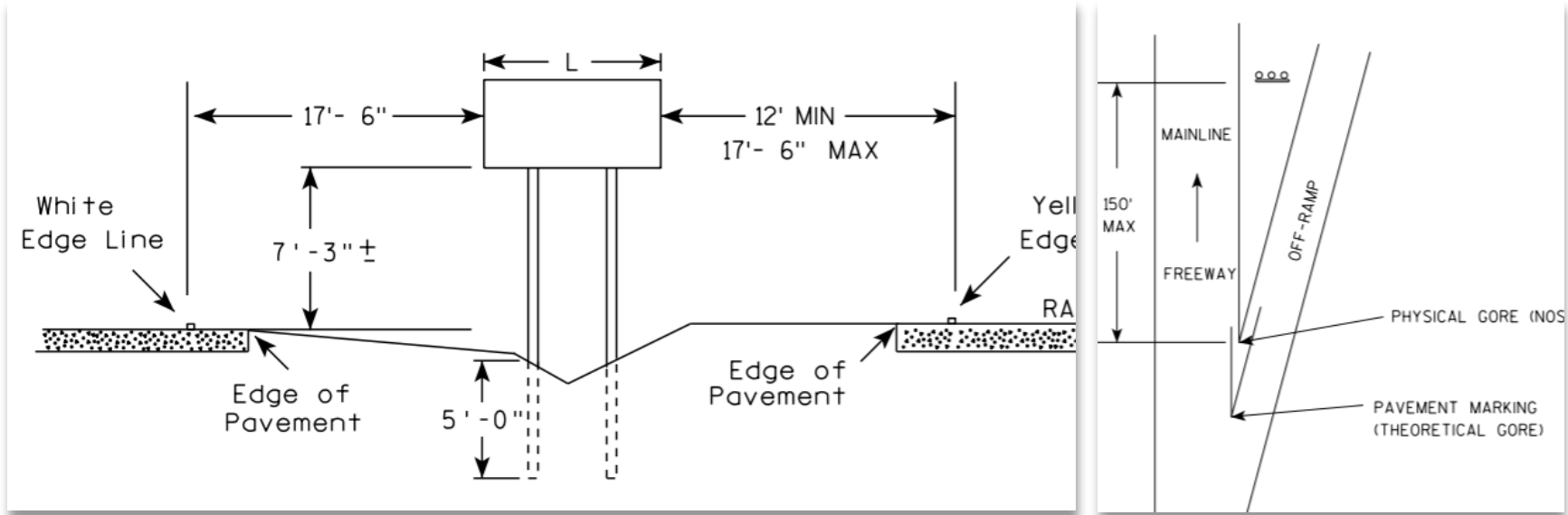
Rural Area



Installation Standards

Signs must be located per Sign Plate A4-4





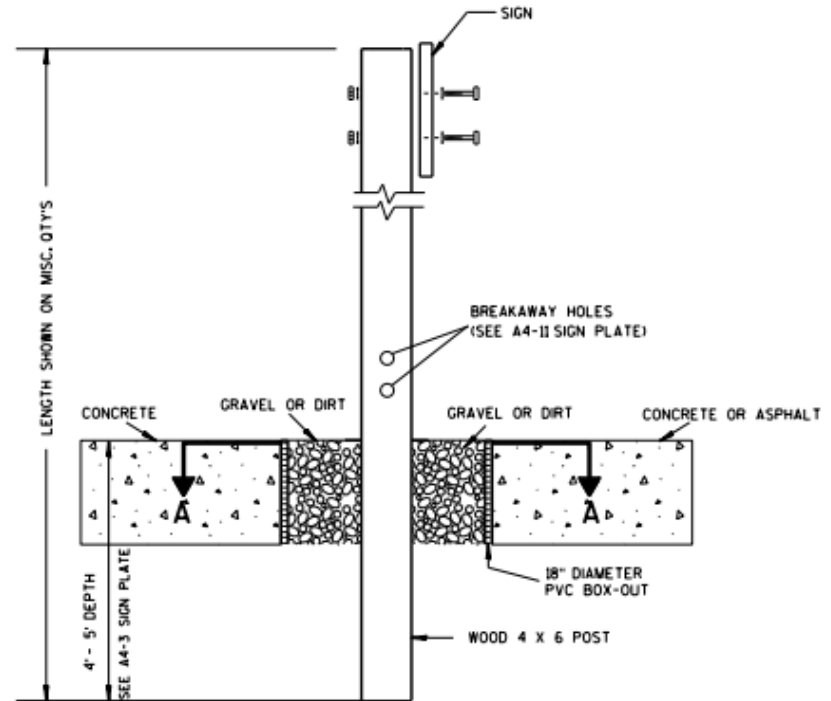
Installation Standards in Gore

Signs must be located per Sign Plate A4-2



Signs in Existing Pavement

- ▶ Existing asphalt
 - 2x2 PSST post can be punched through
 - 4x6 wood post requires 18" x 18" square box-out to be cut
- ▶ Existing concrete
 - 2x2 PSST post requires surface coupler
 - Surface coupler available on state steel post contract
 - 4x6 wood post requires 18" hole cored into concrete
- ▶ See Sign Plate A4-3B



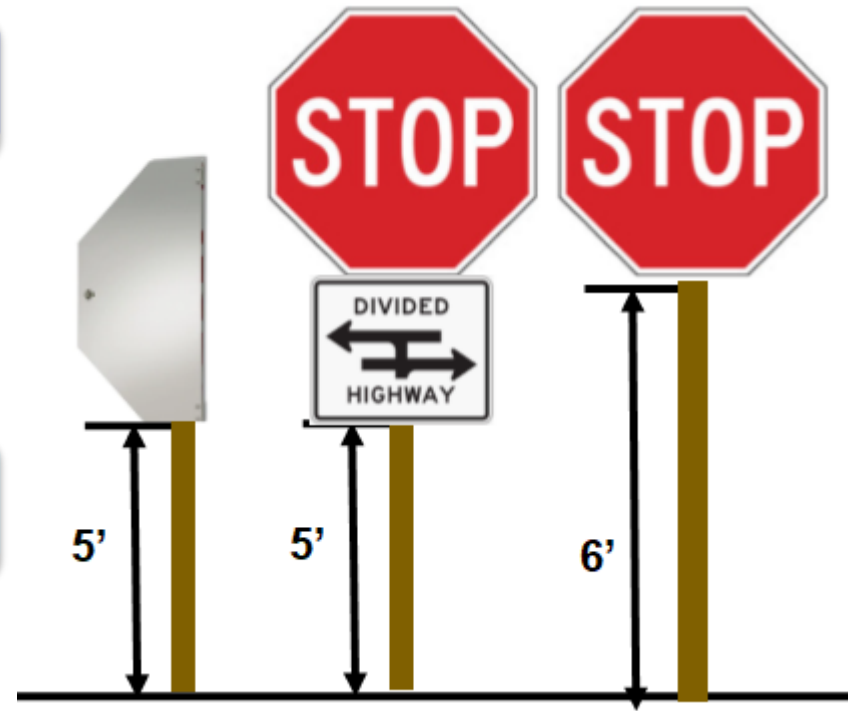
Stop Signs

Do not install street name signs on the same post as a stop sign (see 2022 letter)

Standard Stop Signs are 30" except for the following:

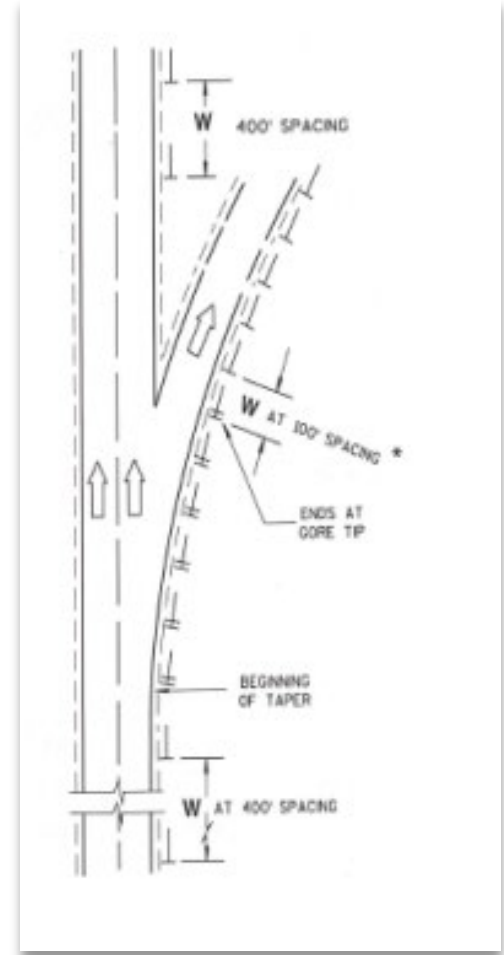
- State or USH Highway stops
- Intersecting a Multilane Roadway
- Safety Issues
- **Do not downsize without checking with your region coordinator**

All Way signs should be installed under every Stop Sign where every leg stops



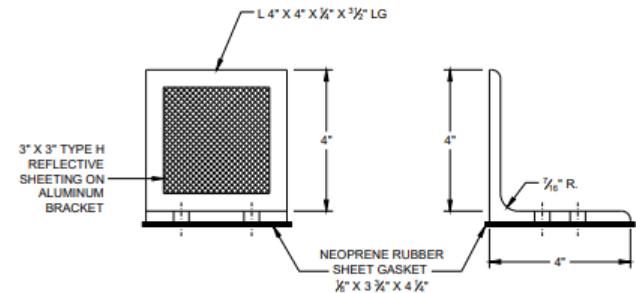
Post Mounted Delineators

- ▶ Yellow Delineators
 - Medians
 - left side of one-way roads and ramps
- ▶ All other delineators must be white
- ▶ Spacing
 - 400' on freeway or expressway mainline
 - 100' along ramps
 - See SDD 15A4
- ▶ 3"x6"
- ▶ WisDOT Supplied Delineators
- ▶ Posts are available on state steel post contract



Non-post Mounted Delineators

- ▶ **Beam Guard Delineators**
 - Attached to beam guard blockouts – see SDD 14B42
 - 100' Spacing, Min of 3
 - Available from state contract
- ▶ **Barrier Wall Delineators**
 - Must meet SDD 15A4
 - 100' spacing, Min of 3
 - Available from BTO



New Work Zone Field Manual

- ▶ Will be sent out for review soon
- ▶ Printing in July
- ▶ Face to Face training shortly after



Detour Signing

Less than 48 hours

- Detour sign on temporary sign support

More than 48 hours

- Installed on individual post



Maintenance Responsibility

Within Connecting Highway Limits

- Locally Maintained Streets with State Trunk Highway designation
- WisDOT only maintains route markers, Pop Signs and D-Series signs
- Maps are available from WisDOT's website

Rustic Roads

- WisDOT maintains all brown Rustic Road signs along designated Rustic Roads
- Maps are available from WisDOT's website



Corridors

Installation

- By the end of the calendar year

Checking in Signs

- 14 days per TMA contract
- Contact region signing coordinator if anything is missing or incorrect

Damaged Signs

- Send back to Madison Sign Shop
- Let signing coordinator know so we can get a replacement out

Returns

- Do not send signs back until everything is installed
- Small signs should be banded on a pallet and labeled for Madison Sign Shop
- If you have multiple routes label which routes the signs are coming back from



Knockdowns

Reimbursement

- Provide the Region
 - Motor Vehicle Crash Report
 - Incident Report
 - Damage Tag (contains doc #)
- Provide the DT1785 County Charges Worksheet or DT1692 Damage Tag for repairs to knockdowns to the Region.

DAMAGED PROPERTY TAG 322032 

Wisconsin Department of Transportation
DT1692 11/2008 (Replaces AS1090)

Accident Date <i>10-30-19</i>	Enforcement Agency Name <i>WSP Grant Co.</i>
Document Number <i>KRLCORFP55</i>	Incident Number <i>139-1456</i>
Driver Name and Address <i>ABIGAIL J. KRAMER</i>	
Property Damage - Description <i>Sign + Post (DIVIDED HWY)</i>	
Accident Location - Distance to or from RP or intersection <i>151 @ CLAY HOLLOW</i>	
<i>Town of Paris</i>	

Attach to Police Accident Report



Knockdowns - MASH

- ▶ STOP and YIELD
 - Temporarily reinstall immediately
 - ▶ All other Regulatory, School, & Warning
 - Temporarily reinstall ASAP
 - ▶ Guide and Recreational
 - Leave down
- Install permanent signs within 10 working days of receiving the sign.



Knockdowns

- ▶ SIS Signs
 - Call Wisconsin Logos and/or Region Coordinator
 - 608-579-1570 or 844-496-9163

- ▶ State Maintained Type I Signs
 - Call Region Coordinator
 - Do not prop up Signs

- ▶ Type II Sign
 - Stop or Yield Sign
 - Replace Sign Immediately
 - All other signs
 - Notify/Work with Region Coordinator



Tourist-Oriented Directional Signs (TODS)

- ▶ Counties should forward all TODS applications to WisDOT BTO for review (send to : casey.amans@dot.wi.gov).
- Any checks provided with the application for administrative fees should be held at the county's office pending review.
- WisDOT (BTO) will provide documentation to the county once a permit decision is made:
 - If approved, county will be provided a copy of the approved application and an approval letter. In addition, WisDOT will also provide sign details, a List of Qualified TODS Manufacturers, and installation details.
 - County is to contact the approved business/facility, who is responsible for providing signs made to state standard to the county for installation.
 - Business/facility must also provide a check to WisDOT for installation fees.
 - County retains the check for the administrative fees, which covers the first 5 years of the permit. After 5 years (from installation date), the county can contact the business/facility to renew their administrative fees.
 - If denied, county will be provided a copy of the denied application and a denial letter. The county contacts the business/facility and returns any checks provided with the application.



Tourist-Oriented Directional Signs (TODS)

- ▶ Repairing TODS:
 - If an existing TODS is in need of repair or replacement, the county should verify with WisDOT that it is permitted. If it is permitted, county contacts the business/facility for cost coverage. If they don't want to cover the installation fees, the sign(s) and posts can be removed.
- ▶ For more TODS information, visit:

<https://wisconsin.gov/Pages/doing-bus/real-estate/outdoor-adv/directional-info-tods.aspx>



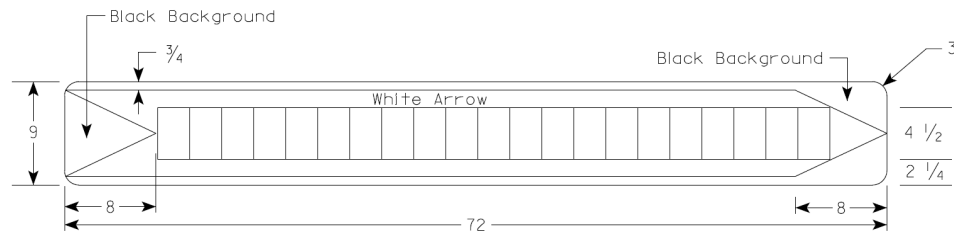
Trans 200 White Arrowboards (WAB)

- ▶ White Arrowboard applications go to the WisDOT Regional Sign Coordinators for review.
 - If approved, WisDOT will provide the business/facility with a copy of the approved application, along with a List of Qualified WAB Manufacturers for them to have the signs made to state standards. The county will also be notified of the pending installations.
 - The business/facility is to drop off the signs at the county for installation with a copy of the approved application.
 - County should work with their WisDOT Regional Sign Coordinator to determine install locations.
 - Along with the signs, they should also provide a check for the installation fees due to WisDOT.
 - Only install new White Arrowboards if the business/facility provides an approved application, and the signs are made to standard.
 - If any questions, contact your WisDOT Regional Sign Coordinator.



Trans 200 White Arrowboards (WAB)

- ▶ New sign standards (as of March 2021):
 - 72" x 9" rectangular sign with black block lettering inside a white arrow on a black background. Sheeting is non-reflective. Base material is aluminum, with rounded corners.
 - Sign Code: E10-83
 - Do not install any signs not to standard unless approved by WisDOT. No arrow cut-outs on aluminum are allowed.



NOTES

1. All Signs Type II - Non-Reflective
2. Color:
 - Background - Black
 - Arrow - White
 - Message - Black
3. Message Series - B 4 1/2 inch
4. Maximum of 21 letters on 6 foot sign and 9 letters on 40 inch sign
5. All sign panels shall have a 3/4 inch border
6. Corners shall be rounded as shown
7. Base material is aluminum (thickness is 0.125 inch)



Trans 200 White Arrowboards (WAB)

- ▶ Repairing White Arrowboards:
 - If an existing White Arrowboard is in need of repair or replacement, the county should work with their WisDOT Regional Sign Coordinators to determine course of action. The business/facility would need to be contacted for cost coverage. If they don't want to cover the installation/repair fees, the sign(s) and posts can be removed.
- ▶ For more White Arrowboard information, visit:
<https://wisconsindot.gov/Pages/doing-bus/real-estate/outdoor-adv/directional-info-arrow.aspx>



TODS & WAB Installation Fees

- ▶ The businesses/facilities are responsible for installation, replacement and repair costs for both TODS & WAB programs. Counties should not work on TODS or WAB unless the business/facility agrees to cover costs or if there is a safety issue due to damage.
- ▶ Fees Due to WisDOT (paid by the business/facility when providing signs):
 - \$250 per sign if new 4x6 posts are needed; \$100 per sign if replacing/installing on existing posts.
 - All checks for installation/repair fees can be sent to: Wisconsin Department of Transportation (Attn: Casey Amans), 3609 Pierstorff St, Madison, WI 53704
 - Counties should invoice WisDOT for their time and materials (Project IDs are not in MPM):
 - TODS: #0080-02-53
 - WAB: #0080-02-63



Charging

Sign Distribution

- 00xx-58-2x Only for Sign Delivery to/from Distribution County

TMA

- 00xx-48-2x Corridor Work Only

Damage Claims

- 0077-0x-00 Only for damaged signs WITH a break ticket

TODS signs

- 0080-02-53***

White Arrowboards

- 0080-02-63***

Rest Areas/Waysides

- Different IDs for all Rest Areas

RMA

- 00xx-01-61 all other sign work

***These IDs should only be charged if the business/facility agrees to cover the costs (installation/repair fees payable to WisDOT).



MPM

- ▶ Activity Code/Job ID must match exactly what is in MPM
- ▶ Please be detailed on your invoices

Name	Project Totals	
Budget	\$27,500.00	
Revised Budget		

Export to Excel

Activity Code & Description	
086 - Permanent Sign Replacement	▼
032 - Miscellaneous Traffic Control	▼

Export to Excel

Job Id	County in which work will be done	Highway Number	Asset ID	
321-08-20	14 - DODGE ▼	STH 16		

Project : **0014-48-24**



Procurement Contracts

Wood Posts

Pine River Group
28 Calendar Day Delivery

Steel Posts

Decker Supply, Inc
Tube Steel- 30 Calendar Day
Channel Steel – **140** Calendar Day

Traffic Control
Devices

Decker Supply, Inc
28 Calendar Day Delivery

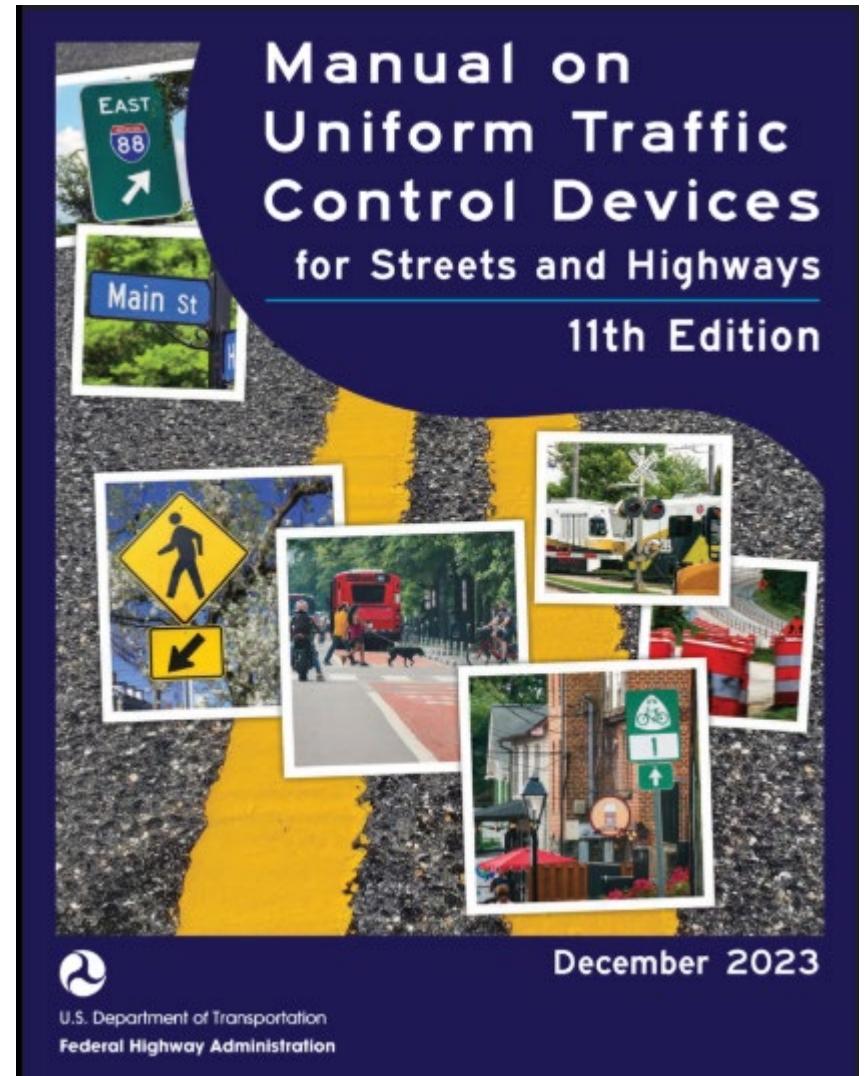
Guardrail Delineators

Decker Supply, Inc
21 Day Delivery



New **WMUTCD**

- ▶ Should be approved and take effect within the next few weeks



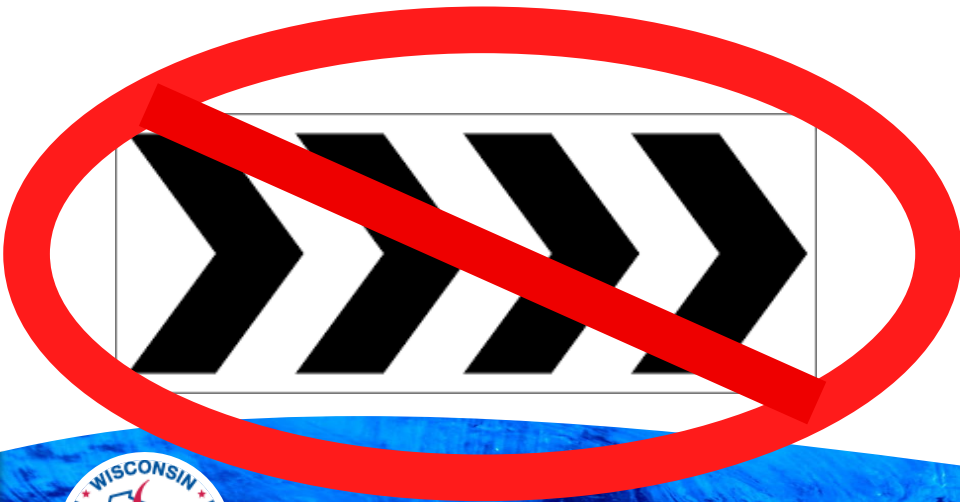
Always 48x18 (1 post)



Always 18x18

- 4' 3" +/- 3" mounting height to bottom of One Way with no object marker
- 4' 3" +/- 3" mounting height to bottom of object marker
- Object marker required on all approaches if the REGULATORY speed limit on any of the approaches is 45 MPH or greater

Roundabouts



- Chevron banks are no longer allowed
- When taking one down, take them all down



Dynamic Speed Display Signs

- Now have to be black on yellow
- Mount directly below a speed limit sign
- Replace existing dynamic speed limit signs at the end of their useful life
- Bring non-compliant signs as close to compliance as possible
 - **NO FLASHING** per WMUTCD
 - **NO ADDITIONAL MESSAGES** per WMUTCD

See WMUTCD 2C.13



Enhanced Reference Mile Markers

- Now have to be green (were blue)
- Replace with like color unless on a corridor basis



Adopt A Highway

- Now have to be white on blue
- Top and bottom need to match
- Replacing with new installs/sponsor switch and corridors



Alternate Route

- Will replace the blue "ALTERNATE" Plaques
- Replacing with new style as they get hit and with corridors



M4-11cP

No ATV Signs

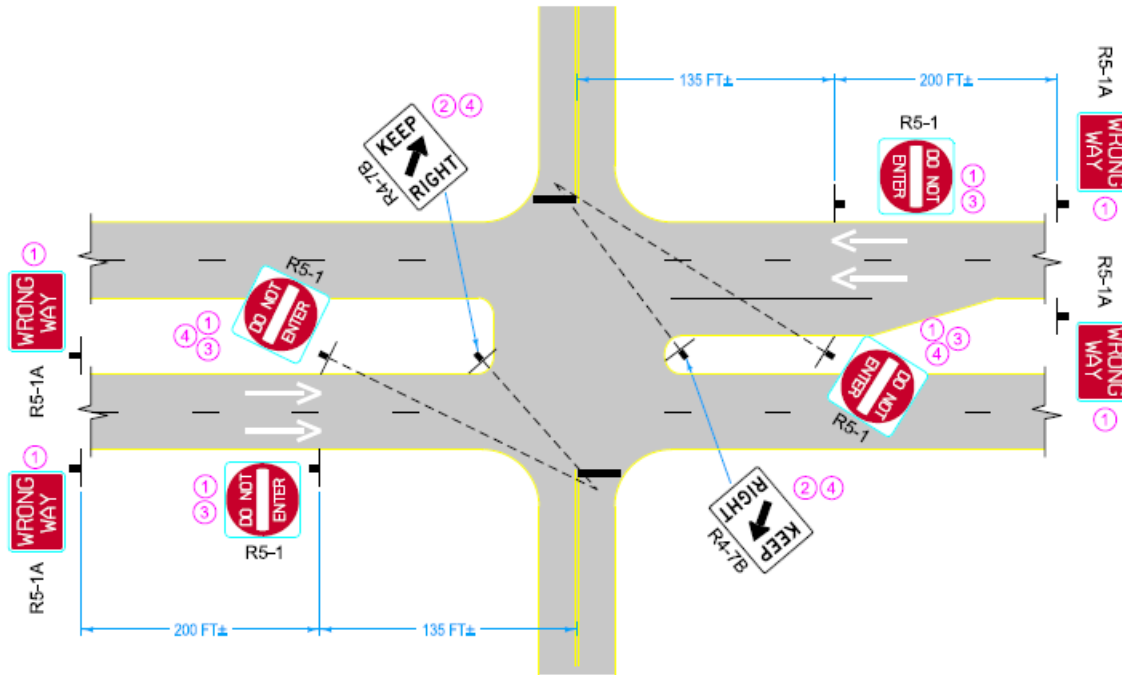
- Will become available for use with the adoption of the new WMUTCD



R9-16



Wrong Way Driving




SIGNS		
Sign Code	Sign Size	Number of Signs
R4-7B	36 x 48	2
R5-1	48 x 48	4
R5-1A	42 x 30	4
RS-R	2 x 72	8
RS-W	2 x 72	2

Pavement marking is shown for information only. Type 4 arrows could be utilized as an additional treatment if found necessary.

■ Mount sign(s) on a single post

- ① 2" red reflective strip on post (RS-R)
- ② 2" white reflective strip on post (RS-W)
- ③ Upsize Do Not Enter signs to 48" x 48"
- ④ Angle sign towards spot just before stop bar

 WisDOT	REVISION
	2-10-25
ENHANCED SIGNING FOR WRONG WAY DRIVING	
EXPRESSWAY INTERSECTIONS WITH A MAINLINE SPEED OF 55 MPH OR GREATER	



WisDOT Contacts

- ▶ Region Sign Coordinator
 - Questions on sign locations, knockdowns, installation, etc
 - Contacts are located in the signing field guide
- ▶ Distribution Counties
 - Pick up of scrap or red carts
 - Contacts are located in the signing field guide
- ▶ BTO
 - Sign Shipping Issues
 - Jon Eldridge – DOTBTOSignOrders@dot.wi.gov or 608-246-3270
 - SIS/TODS/WAB
 - Casey Amans – 608-245-5344
 - Installation Checks- 3609 Pierstorff St, Madison WI 53704
 - Other
 - Jeannie Silver – 608-246-5408
 - Ryan Mayer – 608-246-3810
 - ryan.mayer@dot.wi.gov



Handouts

- ▶ Packet of A-plates
- ▶ Introduction section of the Sign Code Manual
- ▶ Sign Install Cheat Sheet
- ▶ Quick References
- ▶ Current Procurement Contract information
- ▶ Sign Delivery Calendar
- ▶ TEOpS 2-25-1
- ▶ Expressway Enhanced Wrong Way Driving Signing
- ▶ Local Signs on WisDOT Posts Letter
- ▶ Gravel Backfill Letter



Questions?

