



# Traffic Engineering, Operations & Safety Manual

Chapter 8 Railroad Grade Crossings

Section 2 Signs and Markings

## 8-2-2 Grade Crossing Sign Installation

February 2018

### PURPOSE

Railroad corporations have unique legal abilities and responsibilities. Due to this fact, some signage responsibility for highway traffic falls to the railroad. These requirements are listed in various sections of the Wisconsin State Statutes. This policy will clarify installation and maintenance responsibilities for traffic signs at at-grade crossings.

### DEFINITIONS

Passive Grade Crossings are defined as at-grade highway-railroad crossings without automatic gates or flashing-light signals.

Maintaining Authority is defined as the unit of government with the responsibility for roadway maintenance at a given crossing.

### POLICY AND GUIDELINES

The following table summarizes the installation and maintenance responsibilities of various sign installed in conjunction with at-grade railroad crossings. See the text following the table for further details.

SIGN	INSTALLED BY	MAINTAINED BY
R15-1	Railroad	Railroad
R15-2P	Railroad	Railroad
R1-2	Railroad	Railroad
R1-1	Maintaining Authority	Maintaining Authority
R15-3P	Maintaining Authority	Railroad
R8-9	Railroad	Railroad
W10-1	*	Maintaining Authority
W10-1A	Maintaining Authority	Maintaining Authority
Other W10 series signs	Maintaining Authority	Maintaining Authority
I-13	Railroad	Railroad

### REGULATORY SIGNS

R15-1 (Crossbuck) signs: These signs **shall** be installed and maintained by the Railroad at all at-grade crossings, per [State Statute 192.29\(5\)\(a\)](#). The railroad **shall** also install and maintain an R15-2P (Number of Tracks) sign below the R15-1 at all non-gated grade crossings with multiple tracks.

R1-2 (Yield) signs: These signs **shall** be installed and maintained by the Railroad at all non-stop controlled passive grade crossings, per [State Statute 192.29\(5\)\(b\)](#).

R1-1 (Stop) signs: These signs *may* be installed at at-grade crossings when deemed necessary for the public safety. If installed, these signs **shall** be installed and maintained by the maintaining authority, per [State Statute 349.085](#).

R15-3P (Exempt): These signs **shall** be installed underneath the R15-1 sign (or R15-2P sign, if present) at crossings declared Exempt by the Office of the Commissioner of Railroads. The initial furnishing and installation of these signs **shall** be the responsibility of the maintaining authority, but **shall** be maintained by the Railroad. See [State Statutes 195.285](#) and [346.45\(3\)\(d\)](#).

R8-9 (Tracks Out of Service) signs: These signs should be used in place of crossbucks when railroad tracks have been taken out of service as described in the [2009 Wisconsin MUTCD](#) Section 8B.10. These signs **shall** be installed and maintained by the Railroad.

### WARNING SIGNS

\*W10-1 (Grade Crossing Advance Warning) sign: These signs **shall** be installed at all at-grade highway crossings, unless specifically not required in the [2009 Wisconsin MUTCD](#) Section 8B.06. When used, these signs (and any needed replacements) **shall** be furnished, upon request, by the Railroad for at-grade crossings of county or township maintained roadways, and by the maintaining authority for at-grade crossings of state, city, or village maintained roadways. These signs **shall** be installed by the maintaining authority. See [State Statute 195.286\(1\)](#).

W10-1A (Exempt) sign: These signs **shall** be installed underneath the W10-1 sign at crossings declared Exempt by the Office of the Commissioner of Railroads. These signs **shall** be installed and maintained by the maintaining authority. See [State Statutes 195.285](#) and [346.45\(3\)\(d\)](#).

All other W10 series signs – If used, these signs **shall** be installed and maintained by the maintaining authority.

#### OTHER SIGNS

I-13 (Emergency Notification Sign): These signs **shall** be installed and maintained by the Railroad at all at-grade highway crossings. These signs **shall** also be installed by the Railroad at all private at-grade crossings, by request of the landowner, per [State Statute 192.29\(6\)](#).

### **8-2-29 Dynamic Envelope Markings**

**November 2015**

#### **PURPOSE**

The MUTCD Section [8B.29](#) defines dynamic envelope pavement markings as a 4-inch solid white line, placed parallel to and 6 feet away from the nearest rail of an at-grade crossing. The MUTCD further defines a supplemental marking consisting of 12-inch solid white lines, placed at a 45-degree angle and 5 foot spacing between the 4-inch solid lines. This policy will define when a dynamic envelope pavement marking installation *may* be desirable.

#### **POLICY AND GUIDELINES**

Between the 4-inch parallel lines, dynamic envelope markings fully cover 20 percent of the driving surface. This broad coverage area presents a potential safety hazard to bicycles and motorcyclists, as pavement marking material offers significantly less surface friction than unmarked pavement. In addition, this large amount of marking creates a maintenance issue for the department. For these reasons, the following policies **shall** apply to dynamic envelope marking installations on state maintained roadways:

1. Dynamic envelope pavement markings **shall not** be permanently installed on state maintained roadways. They **shall** only be used at at-grade crossings along detours of State, US, or Interstate highways on non-state maintained roadways.
2. Dynamic envelope pavement markings **shall not** be installed without prior approval from DTIM Rails and Harbors Section.
3. If used, dynamic envelope markings **shall** conform to the attached details (Figures 1-7).
4. Dynamic envelope markings **shall** be supplemented by appropriate signs, such as R8-8 DO NOT STOP ON TRACKS or W10-11-A Storage Space sign.
5. If installed along a detour route, the markings **shall** be either temporary paint or temporary epoxy. After construction, the department will not remove the markings. The maintaining authority of the roadway *may* remove the markings, maintain the markings, or allow the markings to fade away.

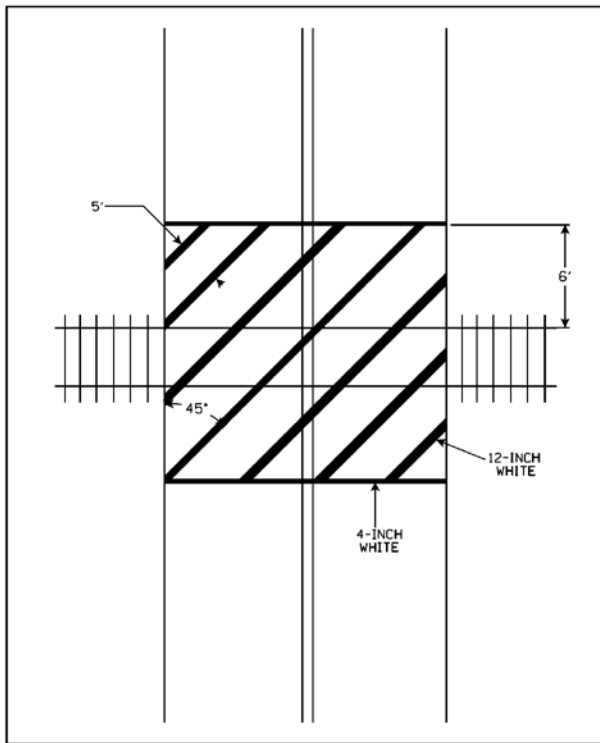


FIG. 1 90° CROSSING  
DYNAMIC ENVELOPE MARKING

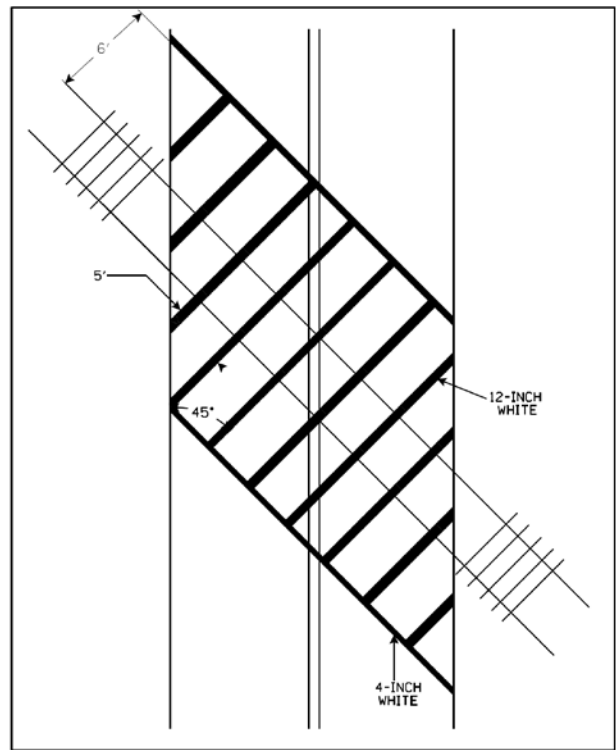


FIG. 2 LHF SKEW  
DYNAMIC ENVELOPE MARKING

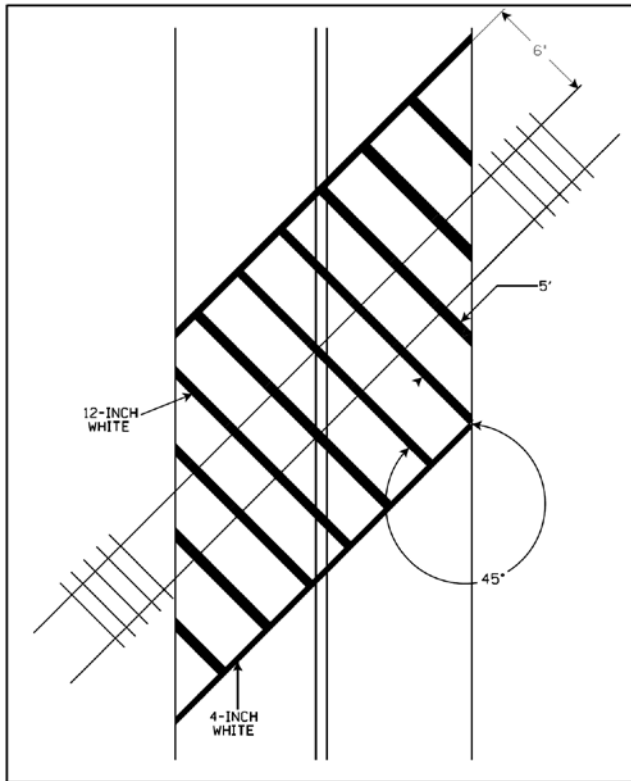


FIG. 3 RHF SKEW  
DYNAMIC ENVELOPE MARKING

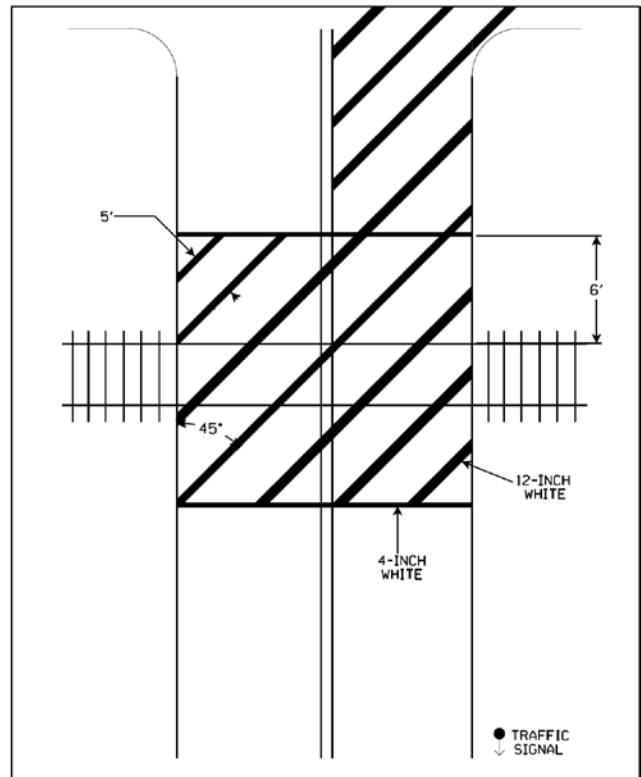


FIG. 4 90° CROSSING  
SUPPLEMENTAL DYNAMIC ENVELOPE MARKING

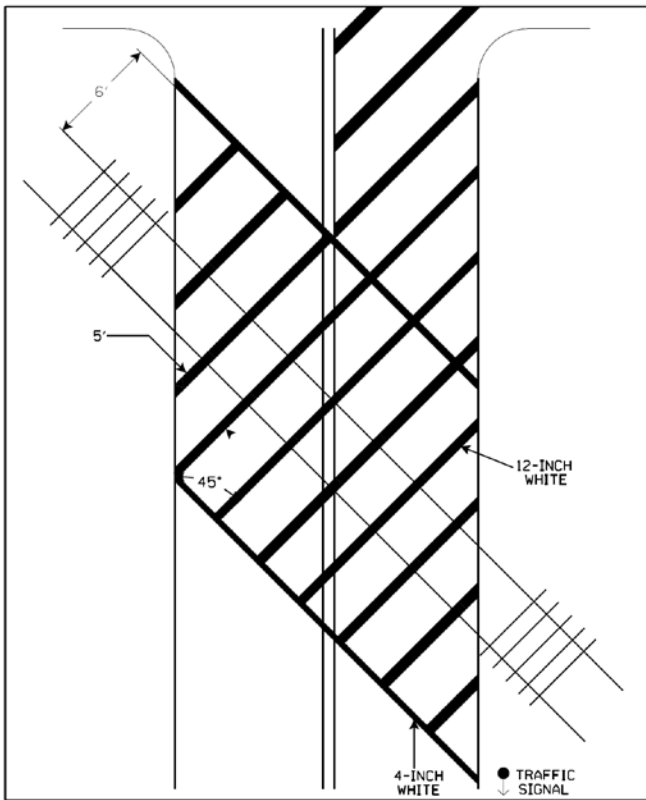


FIG. 5 LHF SKEW

SUPPLEMENTAL DYNAMIC ENVELOPE MARKING

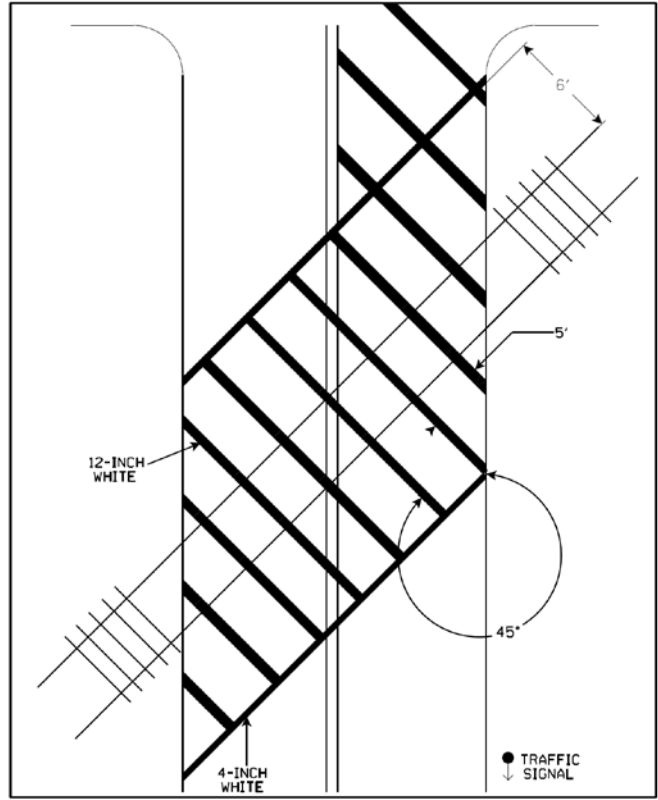


FIG. 6 RHF SKEW

SUPPLEMENTAL DYNAMIC ENVELOPE MARKING

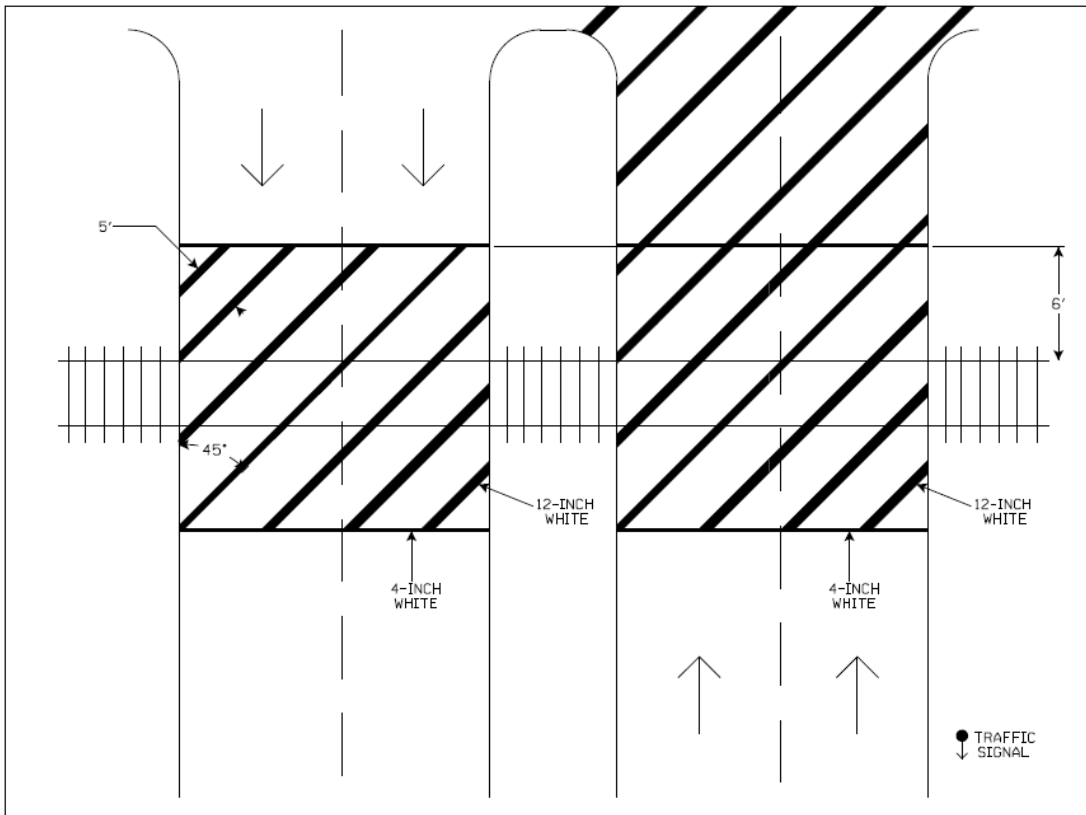


FIG. 7 4 LANE DIVIDED

SUPPLEMENTAL DYNAMIC ENVELOPE MARKING