

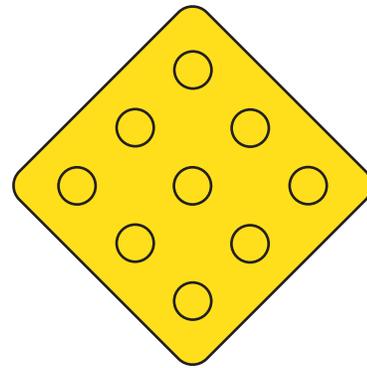
Object Markers

Chapter 3C of the *MUTCD* describes the use of object markers to warn of obstructions within or adjacent to the roadway. When used, these devices should consist of an arrangement of one or more of the following designs:

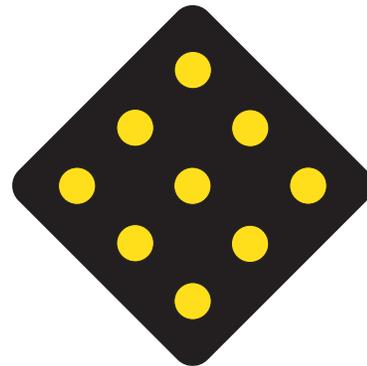
- **Type 1**—Either a marker consisting of nine yellow retroreflectors, each with a minimum dimension of 3 inches, mounted symmetrically on a yellow or black diamond panel 18 inches or more on each side, or a yellow retroreflective diamond panel of the same dimensions.
- **Type 2**—Either a marker consisting of three yellow retroreflectors, each with a minimum dimension of 3 inches, arranged either horizontally or vertically, or an all-yellow retroreflective panel at least 6 inches x 12 inches in dimension.
- **Type 3**—A striped marker, 12 inches x 36 inches, consisting of a vertical rectangle with alternating black and retroreflective yellow stripes sloping downward at an angle of 45 degrees to the side of the obstruction on which traffic is to pass. The minimum width of the yellow stripe is 3 inches. The appearance may be better if the black stripe is wider than the yellow.

The mounting height to the bottom of the markers should normally be 4 feet above the surface of the nearest traffic lane for marking obstructions 8 feet or less from the shoulder or curb, and 4 feet above ground surface for marking objects greater than 8 feet from the shoulder or curb.

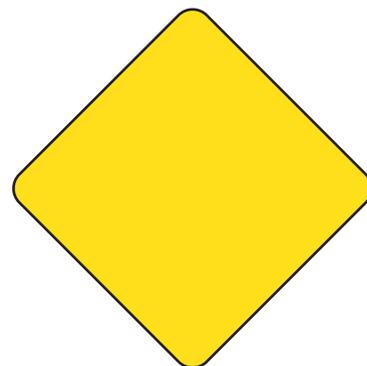
When object markers are used for a hazardous object that requires a lower or higher mounting, the vertical mounting height may vary according to need but should be documented.



18"x18"

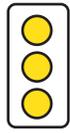


18"x18"



18"x18"

Typical Type 1 object markers



6" x 12"



6" x 12"



12" x 6"



12" x 6"

Typical Type 2 object markers

Obstructions located within the roadway shall be marked with either Type 1 or Type 3 markers. Additional emphasis can be provided on larger surfaces by painting the face of the obstruction with diagonal stripes in a design similar to Type 3 object markers. In lieu of object markers, appropriate signs, such as the Keep Right sign (R4-7) and the Double Arrow sign (W12-1) can be used, as described in Sections 2B.28 and 2C.18 of the *MUTCD*. Appropriate pavement markings, as described in Chapter 3B of the *MUTCD*, should be used to mark the approach to the obstruction.



OM-3L
12" x 36"



OM-3R
12" x 36"

Typical Type 3 object markers

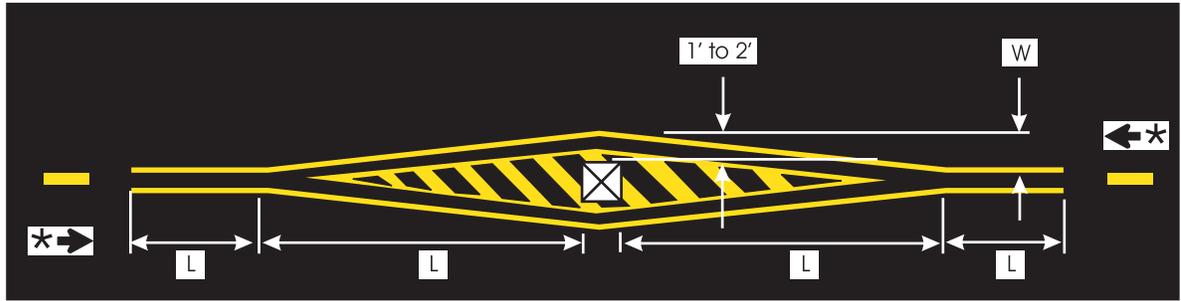


R4-7

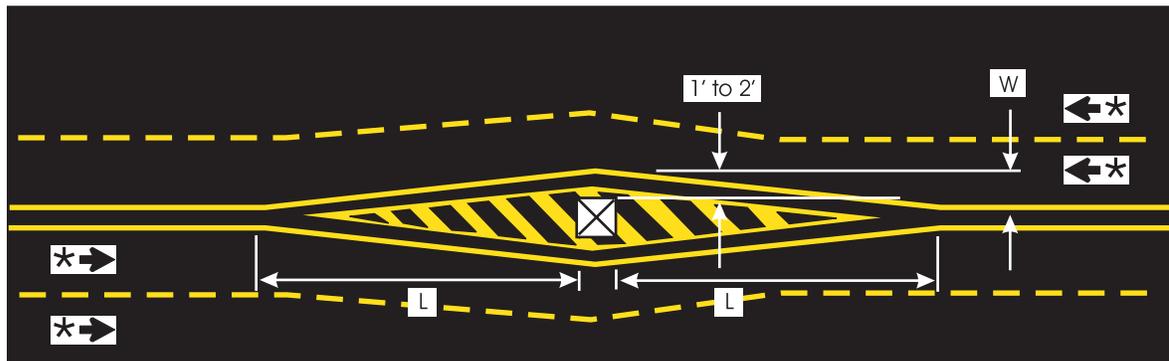


W12-1

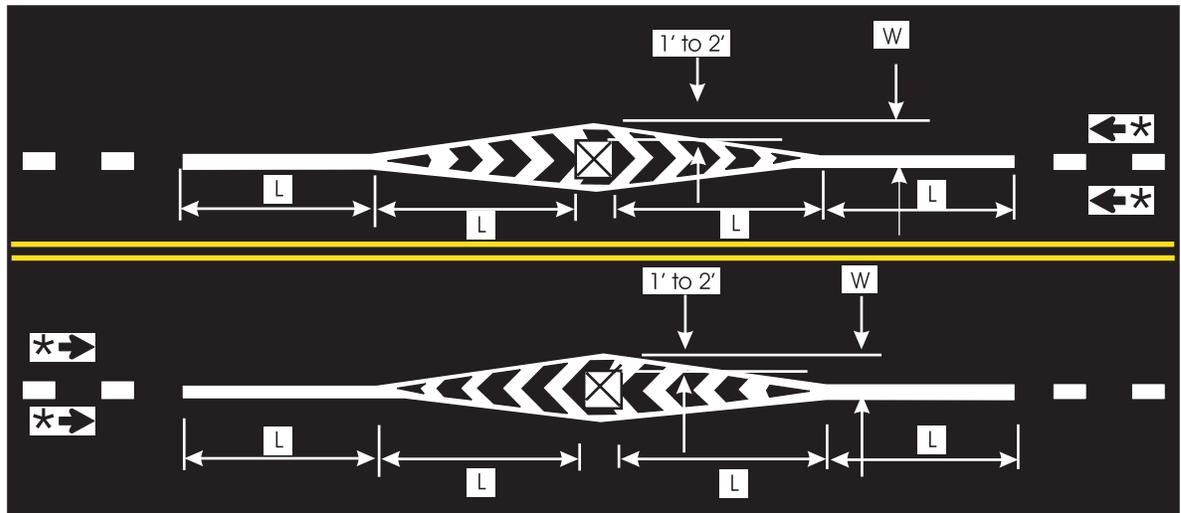
a. center of two-lane road



b. center of four-lane road



c. traffic passing both sides of obstruction



* Direction of travel.

Typical approach markings for obstructions in the roadway

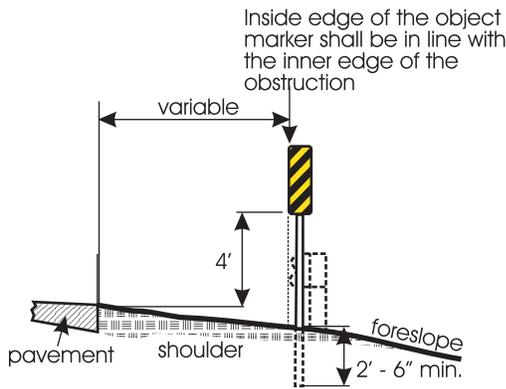
For speeds 45 or more, $L = S \times W$
 For speeds 40 or less, $L = WS^2/60$

Minimum length of $L = 100$ feet in urban areas
 $L = 200$ feet in rural areas

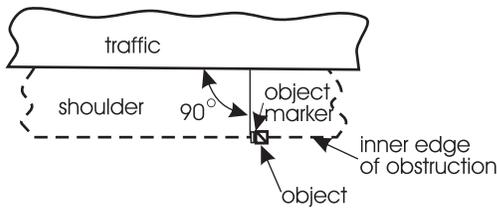
$S = 85$ th percentile speed in miles per hour
 $W =$ Offset distance in feet

Length "L" should be extended as required by sight distance conditions.

Objects not actually in the road, but close to the edge of the traveled way, may need to be marked. Such obstructions include overpass piers, bridge abutments, handrails, and culvert headwalls. Other physical conditions such as narrow shoulders, dropoffs, islands, gores, and abrupt changes in alignment are potentially hazardous to traffic that leaves the travelled way. Type 2 or 3 object markers can be used to mark these locations, with the inside edge of the marker in line with the inside edge of the obstruction (examples of these applications are presented in the article entitled “Narrow Bridges and Culverts” (C11) in this manual). Standard warning signs, as described in Chapter 2C of the *MUTCD*, also should be used where applicable.



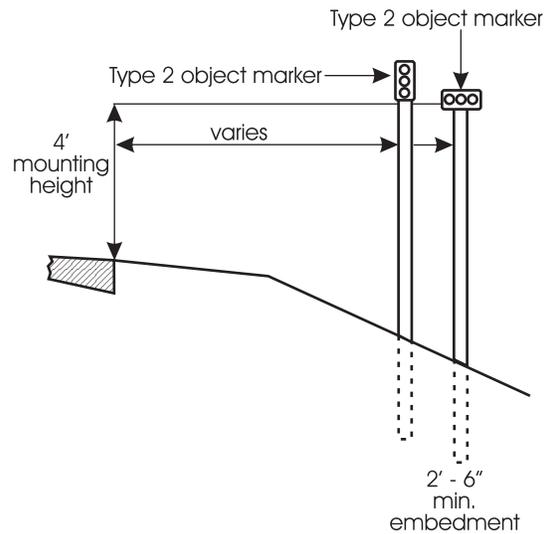
Typical installation of Type 3 object marker



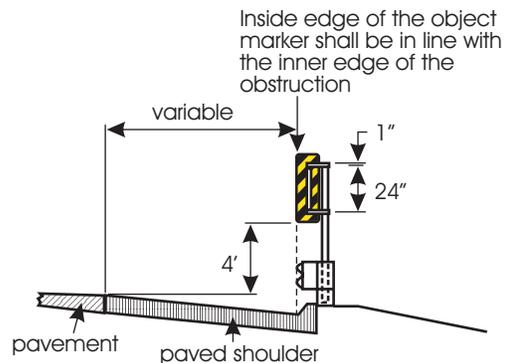
Object marker should be installed normal to direction of roadway traffic

Typical installation

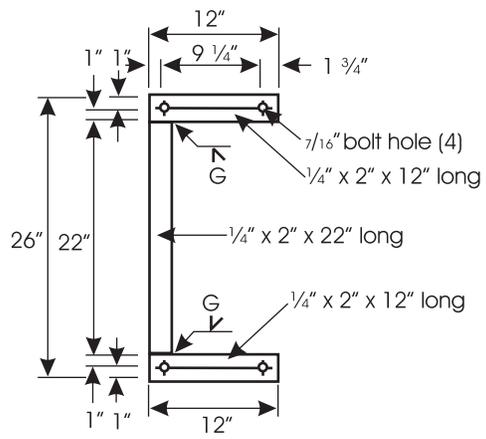
End-of-Roadway markers are intended to be used at the termination of a road or street where no alternate path for vehicles exists. These markers consist of nine red retroreflectors, each with a 3-inch minimum dimension mounted symmetrically on an 18-inch red or black diamond panel, or simply an 18-inch retroreflective diamond-shaped red panel. Be sure that the minimum mounting height of these markers is 4 feet. Proper advance warning signs should also be used. These devices are further discussed in the article “End of Road or Street” (G2) in this manual.



Installation details and mounting height of Type 2 object markers



Typical offset installation of Type 3 object marker



Typical offset bracket