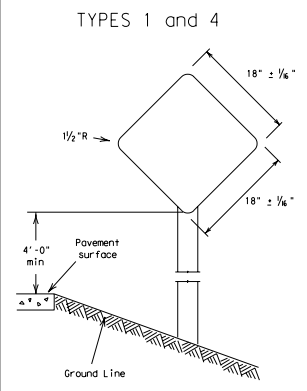


DISCLAIMER: This standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the Department of Transportation for the use of this standard to other formats or for incorrect results or damages resulting from its use.

LEVELS DISPLAYED
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

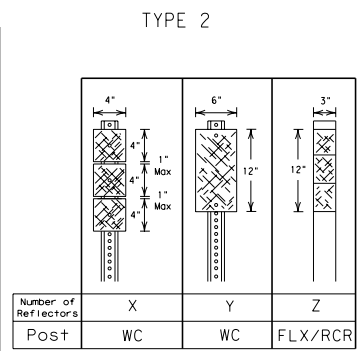
OBJECT MARKERS



TYPE 1
18" x 18"
Yellow Type E Sheeting

TYPE 4
18" x 18"
Red Type D Sheeting

Use Sign blank 0.080" thick sheet aluminum conforming to ASTM B-209 Alloy 6061-T6. Use reflective sheeting in accordance with DMS 8300.

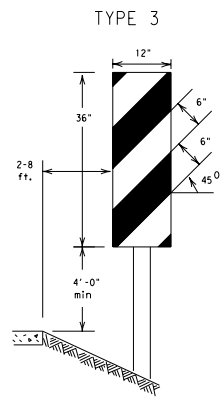


TYPE 2

ALL TYPE 2 OBJECT MARKERS ARE YELLOW WC-wing channel post (1.12 lbs/ft) per ASTM A 1011 SS Gr 50

FLX/RCR-flexible post (driveable and surface mount) or recycled rubber

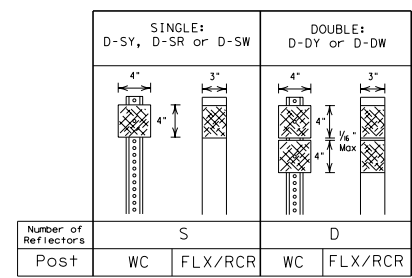
Typically used on bridge rail approach ends, some bridge abutments and at bridge rail exits on two-lane, two-way roadways



TYPE 3

Use Sign blank .080" thick sheet aluminum conforming to ASTM B-209 Alloy 6061-T6. Use reflective sheeting in accordance with DMS 8300, Type E. Use at bridges with no approach rails.

DELINEATORS

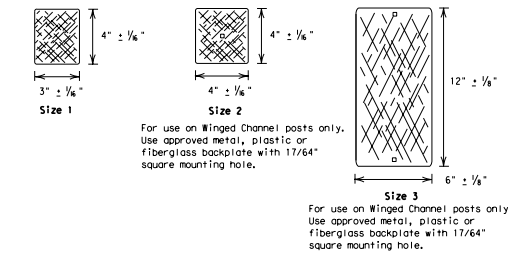


Length of post may vary to meet field conditions.

REFLECTOR UNITS: W-white, R-red or Y-yellow WC-wing channel post (1.12 lbs/ft) per ASTM A 1011 SS Gr 50

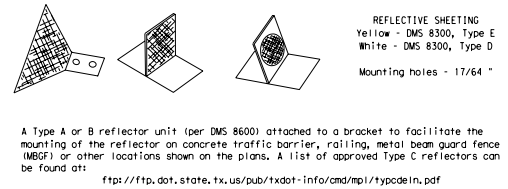
FLX/RCR-flexible post (driveable and surface mount) or recycled rubber.

REFLECTOR UNIT SIZES

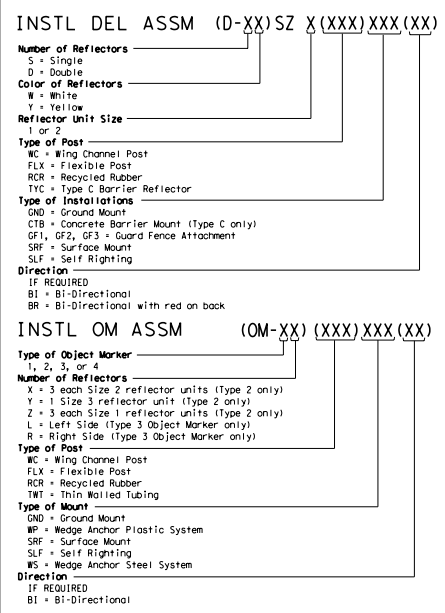


REFLECTIVE SHEETING
 Yellow - DMS 8300, Type E White - DMS 8300, Type D
 Red - DMS 8300, Type D

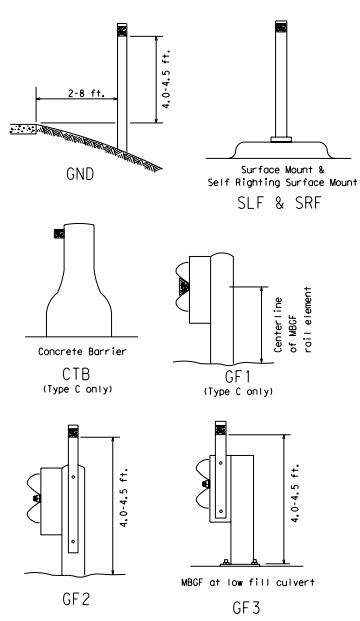
TYPE C BARRIER REFLECTORS



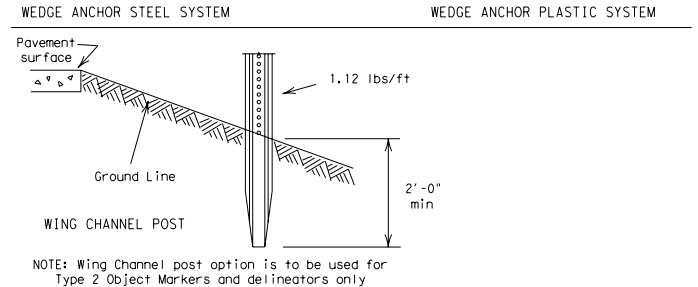
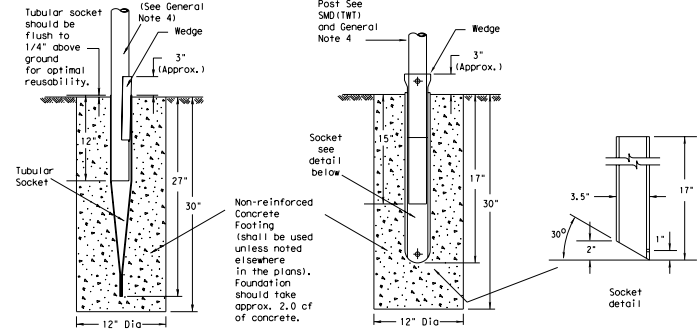
D & OM DESCRIPTIVE CODES



TYPES OF INSTALLATIONS



GROUND MOUNT DETAILS



GENERAL NOTES

- Place delineators on a section of roadway the same distance from the edge of pavement.
- Where a restriction prevents consistent placement from the pavement edge, place the affected object markers in line with the innermost edge of the obstruction.
- When object markers are more than 8 ft from the edge of the pavement, it may not be possible to maintain a height of 4.0-4.5 ft. If this is the case, place the object markers as close to the desired height as possible.
- Install all delineators, object markers and barrier reflectors in accordance with the manufacturer's recommendation.

DEPARTMENTAL MATERIAL SPECIFICATIONS
 FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (DRIVEABLE & SURFACE MOUNT TYPES) DMS-4400
 FLAT SURFACE REFLECTIVE SHEETING DMS-8300
 DELINEATORS AND OBJECT MARKERS DMS-8600

STANDARD PLANS
 Texas Department of Transportation
 Traffic Operations Division

DELINEATOR & OBJECT MARKER INSTALLATION AND MATERIAL DESCRIPTION

D & OM(1)-04

REVISED	DATE	BY	REASON	DATE	BY	REASON
1	08/04	6				

PROJECT	NO.	DATE	BY	DATE	BY
6					

COUNTY	SECTION	JOB	DATE

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LEVELS DISPLAYED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

USES OF DELINEATORS

Type of Road or Condition		Condition for use				Delineator Spacing
		Required (shall be used)	Recommended (should be used)	Optional (may be used)	Prohibited (cannot be used)	
Freeways or Expressways	Tangent	D-SW on right or raised pavement markers				200-530 ft
	Curve	D-SW on right				see Table
	Ramp	D-SW on one side See Note 1 *	On outside of interchange ramp curves			
Other Than Freeways or Expressways	Tangent			D-SW on right or left side	D-SY or D-DY on left side of two-way roads	200-530 ft
	Curve					see Table
Acceleration and Deceleration Lanes			D-DW or D-DY			100 ft spacing
Crossovers			D-DY on left side of through road on far side of crossover			
Wrong-way				D-SR for wrong-way traffic		
Pavement Narrowing (lane merge)				D-SW (right) or D-SY (left) adjacent to affected lane for full length of transition See Note 2 **		
Truck escape ramps			D-SR on both sides of ramp			50 ft spacing
With guard fence, bridge rail, or concrete barrier						100 ft use min. of 3

General Notes: Unless indicated otherwise, the color of a delineators must conform to the color of the pavement edge line on the side of the road where the delineators are placed. Barrier markers can be used to replace required delineators. D-SR can be mounted on the back side of existing delineator posts.

- * 1. Delineation required on one side either SY or SW.
- ** 2. Minimum of 3.

When degree of curve or radius is known

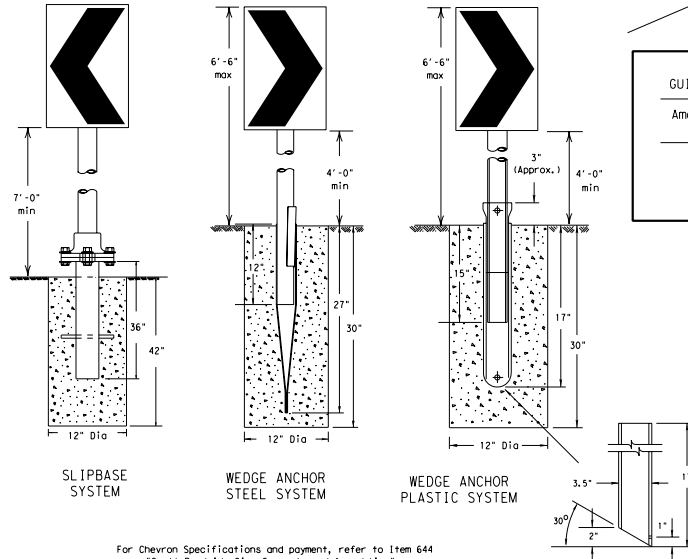
When degree of curve or radius is not known

Advisory Speed (MPH)	Spacing in Curve	Spacing in Straway	Chevron Spacing in Curve
	A	2xA	B
65	130	260	
60	110	220	
55	100	200	160
50	85	170	160
45	75	150	160
40	70	140	120
35	60	120	120
30	55	110	80
25	50	100	80
20	40	80	80
15	35	70	40

If the degree of curve is not known, delineator spacing may be determined based on the Advisory Speed of the curve. Use the delineator curve spacing for each Advisory Speed (MPH).

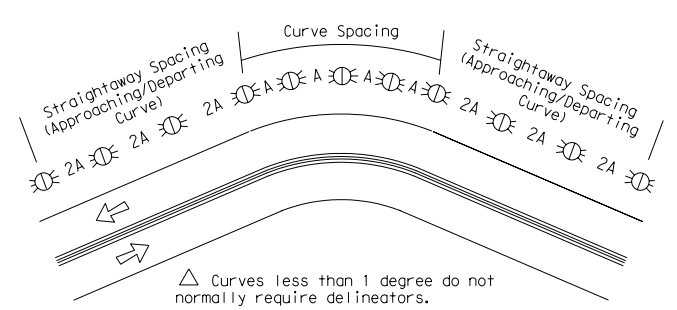
Degree of Curve	Feet			
	Radius of Curve	Spacing in Curve	Spacing in Straway	Chevron Spacing in Curve
		A	2A	B
1	5730	225	450	
2	2865	160	320	
3	1910	130	260	
4	1433	110	220	
5	1146	100	200	160
6	955	90	180	160
7	819	85	170	160
8	716	75	150	160
9	637	75	150	120
10	573	70	140	120
11	521	65	130	120
12	478	60	120	120
13	441	60	120	120
14	409	55	110	80
15	382	55	110	80
16	358	55	110	80
19	302	50	100	80
23	249	40	80	80
29	198	35	70	40
38	151	30	60	40
57	101	20	40	40

Curve delineator approach and departure spacing should include 3 delineators spaced at 2A. This spacing should be used during design preparation or when the degree of curve is known.



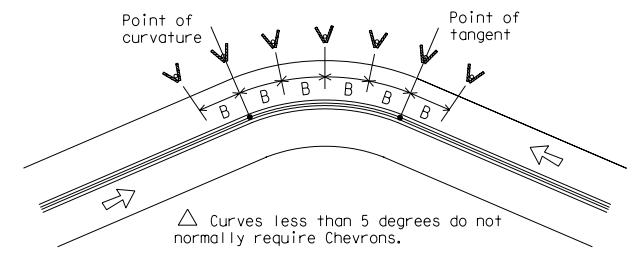
For Chevron Specifications and payment, refer to Item 644 "Small Roadside Sign Supports and Assemblies".

Suggested Spacing for Highway Delineators on Horizontal Curves



Suggested Spacing for Chevrons on Horizontal Curves

The Chevron may be used to provide additional emphasis and guidance for a change in horizontal alignment. A Chevron may be used as a supplement to delineation.



GUIDELINES FOR USE OF WARNING DEVICES AT CURVES WITH ADVISORY SPEED LIMITS	
Amount by which Advisory Speed Is less than Posted Speed	Warning Devices Needed
0 to 14 MPH	RPMS
15 to 24 MPH	RPMS and Delineators
25 MPH or greater	RPMS and Chevrons

STANDARD PLANS
 Texas Department of Transportation
 Traffic Operations Division

TYPICAL DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

D & OM(2)-04

REVISED	DATE	BY	CHK'D	APP'D	DATE
6	August 2004	DA5	GRB	FON	CAL
PROJECT		FEDERAL AID PROJECT		SHEET	
COUNT		CONTROL	SECTION	JOB	REVISION