

DESIGN SPEED (MPH)	DESIGN TRAFFIC VOLUME				* SHY LINE (FT)	FLARE RATE		
	RUNOUT LENGTH (OVER 10000 ADT) Lr(FT)	RUNOUT LENGTH (5000 - 10000 ADT) Lr(FT)	RUNOUT LENGTH (1000 - 5000 ADT) Lr(FT)	RUNOUT LENGTH (UNDER 1000 ADT) Lr(FT)		BEYOND SHY LINE		INSIDE SHY LINE
						GR-2, 3 & 8 MB-3	MB-7D, 7E,7F,12A, 12B,&12C	ALL
80	470	430	380	330	12	NA	NA	NA
70	360	330	290	250	9	15:1	20:1	30:1
60	300	250	210	200	8	14:1	18:1	26:1
50	230	190	160	150	6.5	11:1	14:1	21:1
40	160	130	110	100	5	8:1	10:1	16:1
30	110	90	80	70	4	7:1	8:1	13:1

\*Shy line is measured from the adjacent edge of pavement and is a distance beyond which a roadside object will not be perceived as a threat by a driver. In other words, a driver will not react to an object beyond the shy line offset. If possible, the roadside barrier should be placed beyond the shy line offset.

Source: The 2011 *Roadside Design Guide* Tables 5.7, 5.9 & 5.10(b)

**TABLE I-3-3**  
**DESIGN PARAMETERS FOR ROADSIDE BARRIER LAYOUT**

## SLOPES FOR BARRIERS

As a general rule, a roadside barrier should not be placed on an embankment if the slope of the embankment is steeper than 10:1; however, in special cases, such as "barn roof" ("recoverable area") slopes, it is acceptable to place semi-rigid barrier on slopes as steep as 6:1. Low tension cable can be placed anywhere on a 6:1 or flatter slope. When semi-rigid barrier is used on 6:1 slopes, a 10-foot rounding should be included between the shoulder and slope. Where it is not feasible for the entire graded median in the area of the hazard to be on a 10:1 slope, an acceptable alternative is to provide the 10:1 slope between the edge of pavement and the approach barrier (See Fig. I-3-2). A clear run-out path should also be provided behind the terminal.

When recoverable areas are less than 14 feet in width and guardrail is required, the guardrail is to be placed using at least the minimum fill shoulder width specified in the Geometric Design Standard and the recoverable area is not to be provided. Although not encouraged, guardrail is permitted on 6:1 slopes if located within 2 feet or beyond 12 feet of the shoulder hinge point.