

NON-RECOVERABLE PARALLEL SLOPES

Foreslopes* from 3:1 up to 4:1 are considered traversable if they are smooth and free of fixed object hazards. However, since many vehicles on slopes this steep will continue on to the bottom, a clear run-out area beyond the toe of the slope is desirable. The extent of this clear run-out area could be determined by first finding the available distance between the edge of the through traveled way and the breakpoint of the recoverable foreslope to the non-recoverable foreslope. This distance is then subtracted from the total recommended clear zone distance based on the slope that is beyond the toe of the non-recoverable foreslope and should be at least 10' if practicable. The result is the desirable clear run-out area. The following example illustrates this procedure:

EXAMPLE

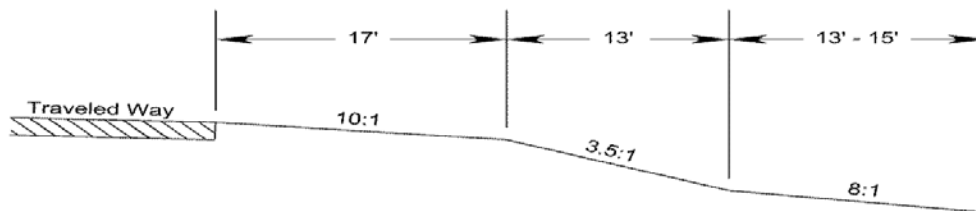
Design ADT: 7000

Design Speed: 60 mph

Recommended clear zone distance for the 8:1 slope: 30-32 feet (from
TABLE A-2-1)

Recovery distance before breakpoint of non-recoverable foreslope: 17 feet

Clear run-out area at toe of slope: 30-32 feet minus 17 feet or 13-15 feet



(For Example of Alternate Design to reduce CZ requirement, see below)

Discussion: Using the steepest recoverable foreslope before or after the non-recoverable foreslope, a clear zone distance is selected from Table A-2-1. In this example, the 8:1 slope beyond the base of the fill dictates a 30-32 foot clear zone area. Since 17 feet is available at the top, an additional 13-15 feet could be provided at the bottom. Since this is less than the 10' recovery area that should be provided at the toe of all the non-recoverable slopes, the 10' should be applied. All foreslope breaks may be rounded and no fixed objects would normally be built within the upper or lower portions of the clear zone or on the intervening foreslope.

The designer may find it safe and practical to provide less than the entire 13-15 feet at the toe of the slope. A smaller recovery area could be applicable based on the rounded slope breaks, the flatter slope at the top or past accident histories. A specific site investigation may be appropriate in determining an appropriate recovery area at the toe of the slope.

* Rev. 7/13