

# Design Standards Letter

**Letter Number: G-1970-25**

**Letter Date: 05/21/1970**

**Effective Date: 05/21/1970**

**Section/Plan No.: None**

**Subject: Interchange Area Grading**

## Body

-----  
ALL DIVISION AND DISTRICT ENGINEERS

Site grading at interchanges has been reviewed, particularly diamond interchanges where the crossroads are over the freeway. This letter recommends changes and greater emphasis on site grading to reduce the need for guard rail, to aid in sign location and sign post design, and to generally increase aesthetic values.

On all future interchange designs we are asking that the designer give special attention to the site grading in the interchange area. Flatter slopes and smoother contour lines are desired. Particularly at the diamond interchange, with the crossroads over, ramp slopes on the freeway side should be carried from the freeway roadway ditch to the shoulder point of the ramp. This will cause a variable slope between the ramp gore and the crossroads. On the outside of ramps, a maximum slope of 3:1 should be used and carried back to its intersection with the main roadway safety zone.

The use of safety zones on the crossroads of diamond interchanges will be required at a minimum between the extreme outer roadway intersections or ramp intersections. Preferably, safety zones should be carried from approximately touch down to touch down point on the crossroads even if continuous safety zones may not be required on the crossroads.

With additional site grading and flatter slopes, it is the intention to use guard rail only to protect bridge ends within the interchange area. The grading and slopes will also aid in reducing sign post sizes and lengths and assist in location.

It will not be mandatory that you change plans to meet this slope criteria which are presently completed; however, if you so desire to make changes in completed plans, it will be satisfactory with this office.

Leland D. Fletcher  
Division Engineer  
Surveys and Plans