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# **EXCAVATING, GRADING, AND RETAINING WALLS**

## **EXCAVATING AND GRADING**

The International Building Code contains sections pertaining to excavation and grading. This section is intended to safeguard life and property by establishing minimum requirements for excavation, cutting and grading projects. The reason is simple: poorly constructed cuts and fills and grading activities can result in serious erosion, flooding and unsafe settlement.

The slope of all cuts or fills shall be no steeper than is safe for the intended use and shall be no steeper than 2 units horizontal to 1 unit vertical (26.5 degrees) unless a soils engineering report showing that a steeper slope will be stable and will not create a hazard to public or private property.

Fill slopes are allowed on natural slopes steeper than 2 units horizontal to 1 unit vertical. The ground surface shall be prepared to receive fill by removing vegetation and other unsuitable materials. The ground should be scraped and scarred to provide a bond with the new fill. Organic materials and rocks greater than 12 inches shall not be permitted in fills. All fills shall be compacted to 90 percent of maximum density.

## **EROSION CONTROL**

The face of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting or other approved means. This protection shall be installed as soon as practicable. Where necessary, check dams, cribbing or other methods shall be employed to control erosion and provide safety.

## **RETAINING WALLS**

When it is not possible to meet the slope requirements for fill or cut slopes, a retaining wall may be necessary. A change in grade of 4 feet or less may be accomplished without any special engineering requirements as long as the natural ground is level above and below the wall for a distance of at least 4 feet and the wall is not retaining any surcharge other than soils. Any retaining wall in excess of 4 feet high must have an engineer's analysis. Please note that a permit is required for construction of retaining walls in excess of 4 feet high measured from the bottom of the footing to the top of the wall.

Rock retaining walls may be placed at change in grade of 4 feet or less provided the rock size is at least 18 inches, the slope is no steeper than ½ horizontal to 1 vertical and the natural ground is level both above and below the wall for a distance of at least 4 feet.