

1805A.2.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected by one or more of the following methods:

1. Extending below the frost line of the locality;
2. Constructing in accordance with ASCE 32; or
3. Erecting on solid rock.

Exception: Free-standing buildings meeting all of the following conditions shall not be required to be protected:

1. Classified in Occupancy Category I, in accordance with Section 1604A.5;
2. Area of 600 square feet (56 m²) or less for light-frame construction or 400 square feet (37 m²) or less for other than light-frame construction; and
3. Eave height of 10 feet (3048 mm) or less.

Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

1805A.2.2 Isolated footings. Footings on granular soil shall be so located that the line drawn between the lower edges of adjoining footings shall not have a slope steeper than 30 degrees (0.52 rad) with the horizontal, unless the material supporting the higher footing is braced or retained or otherwise laterally supported in an approved manner or a greater slope has been properly established by engineering analysis.

1805A.2.3 Shifting or moving soils. Where it is known that the shallow subsoils are of a shifting or moving character, footings shall be carried to a sufficient depth to ensure stability.

1805A.3 Footings on or adjacent to slopes. The placement of buildings and structures on or adjacent to slopes steeper than one unit vertical in three units horizontal (33.3-percent slope) shall conform to Sections 1805A.3.1 through 1805A.3.5.

1805A.3.1 Building clearance from ascending slopes. In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion and shallow failures. Except as provided for in

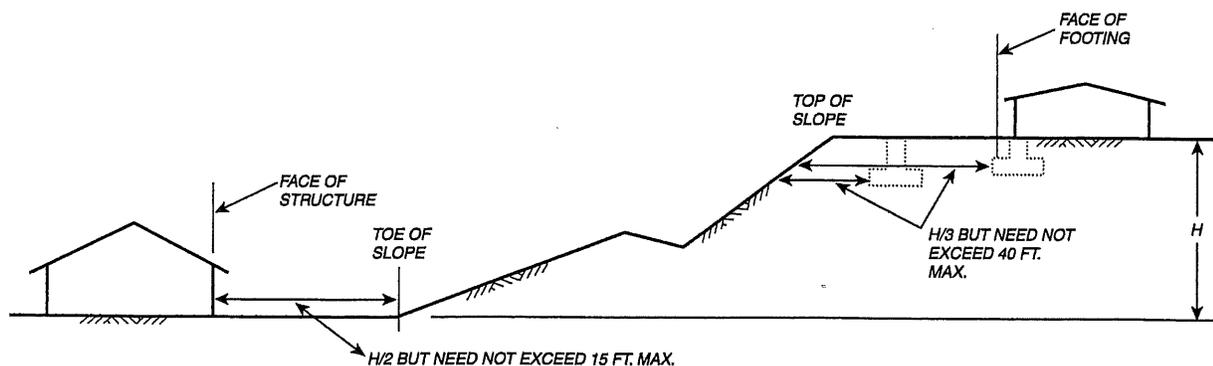
Section 1805A.3.5 and Figure 1805A.3.1, the following criteria will be assumed to provide this protection. Where the existing slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees (0.79 rad) to the horizontal. Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.

1805A.3.2 Footing setback from descending slope surface. Footings on or adjacent to slope surfaces shall be founded in firm material with an embedment and set back from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. Except as provided for in Section 1805A.3.5 and Figure 1805A.3.1, the following setback is deemed adequate to meet the criteria. Where the slope is steeper than 1 unit vertical in 1 unit horizontal (100-percent slope), the required setback shall be measured from an imaginary plane 45 degrees (0.79 rad) to the horizontal, projected upward from the toe of the slope.

1805A.3.3 Pools. The setback between pools regulated by this code and slopes shall be equal to one-half the building footing setback distance required by this section. That portion of the pool wall within a horizontal distance of 7 feet (2134 mm) from the top of the slope shall be capable of supporting the water in the pool without soil support.

1805A.3.4 Foundation elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12 inches (305 mm) plus 2 percent. Alternate elevations are permitted subject to the approval of the building official, provided it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

1805A.3.5 Alternate setback and clearance. Alternate setbacks and clearances are permitted, subject to the approval of the building official. The building official is permitted to require an investigation and recommendation of a



For SI: 1 foot = 304.8 mm.

FIGURE 1805A.3.1
FOUNDATION CLEARANCES FROM SLOPES

1806.5.5. Foundation elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of twelve (12) inches (305mm), plus two (2) percent of the distance from the foundation to the gutter or drainage device.

1806.5.6. Alternate setback and clearance. The building official may approve alternate setbacks and clearances when the intent of this section is demonstrated by an investigation and recommendations of a soil engineer, and/or an engineering geologist. Such an investigation shall include consideration of type of material, height of slope, slope-gradient, load intensity, and erosion characteristics of slope material.

1806.5.7. Alternative foundation elevation. The building official may approve alternate elevations providing it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

(v) *Additional requirements in Seismic Zones 3 and 4.* Notwithstanding the provisions of section 8100, Section 1806.6.1 of the building code is amended to read:

1806.6.1. Additional requirements in Seismic Zones 3 and 4. The following additional requirements shall apply in Seismic Zones 3 and 4.

1. Sill bolt diameter and spacing for three-story raised wood floor buildings shall be specifically designed.
2. Steel plate washers of minimum size and thickness as specified in Table 23-II-L shall be used on each bolt.

(w) *Basic combinations.* Notwithstanding the provisions of section 8100, Section 1928.1.2.3 of the building code is amended to read:

1928.1.2.3. Basic combinations. When permitted by Section 1928.1, structures, components and foundations shall be designed so that their design strength exceeds the effects of the factored loads in the following combinations:

1. $1.4D$
2. $1.2D + 1.6L + 0.5(L_r \text{ or } S \text{ or } R)$
3. $1.2D + 1.6(L_r \text{ or } S \text{ or } R) + (0.5L \text{ or } 0.8W)$
4. $1.2D + 1.3W + 0.5L + 0.5(L_r \text{ or } S \text{ or } R)$
5. $1.2D + 1.0\rho E + (0.5L \text{ or } 0.2S)$
6. $0.9D - (1.3W \text{ or } 1.0 \rho E)$

(u) *Footings on or adjacent to slopes.* Notwithstanding the provisions of section 8100, the building code is amended by deleting Section 1806.4 and amending Section 1806.5 to read:

1806.5. Foundations on or adjacent to slopes.

1806.5.1. Scope. The placement of buildings and structures on or adjacent to slopes steeper than three (3) horizontal to one (1) vertical shall be in accordance with this section. Notwithstanding the foregoing, in no event shall any buildings or structures be placed on a slope steeper than two (2) horizontal to one (1) vertical unless such placement is specifically authorized by a conditional use permit granted pursuant to Agoura Hills Municipal Code Section 9673. The provisions of this section are intended to provide protection for the building from water from natural sources, mud flow, loose slope debris, shallow slope failures, and foundation movement.

1806.5.2. Building clearance from ascending slopes. In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion, and shallow failures. Except as provided for in this section, the following criteria shall be presumed to provide this protection. Buildings shall be set back from the toe of slopes a distance equal to one-half (1/2) the vertical height of the slope above the top of the foundation with a minimum clearance of five (5) feet (1,524mm) for slopes greater than six (6) feet (1,829mm), and less than eighty (80) feet (24,384mm). The minimum setback from the toe of a slope eighty (80) feet (24,384mm) in height and taller shall be forty (40) feet (12,192mm). A detached one-story accessory building not used for living purposes which does not exceed six hundred (600) square feet (55.7m²) in area may extend to within three (3) feet (914mm) of the toe of a slope.

1806.5.3. Footing setback from descending slope surface. Footing on or adjacent to slope surfaces shall be founded in firm material with an embedment and setback from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. Except as provided for in this section, the following setback is deemed adequate to meet the criteria. Footings shall be placed into firm material and located a distance of one-half (1/2) the vertical height of the slope with a minimum of five (5) feet (1,524mm) for slopes greater than six (6) feet (1,829mm), and less than eighty (80) feet (24,384mm) in height measured horizontally from the slope surface to the lower edge of the footing. The minimum setback from the top of a slope eighty (80) feet (24,384mm) in height and taller shall be forty (40) feet (12,192mm).

1806.5.4. Pools. The setback between pools regulated by this code and slopes shall be equal to one-half (1/2) of the building footing setback distance required by this section. That portion of the pool wall within a horizontal distance of seven (7) feet (2,134mm) from the top of the slope shall be capable of supporting the water in the pool without soil support.