

**1805.4.3 Masonry-unit footings.** The design, materials and construction of masonry-unit footings shall comply with Sections 1805.4.3.1 and 1805.4.3.2, and the provisions of Chapter 21.

**Exception:** Where a specific design is not provided, masonry-unit footings supporting walls of light-frame construction are permitted to be designed in accordance with Table 1805.4.2.

**1805.4.3.1 Dimensions.** Masonry-unit footings shall be laid in Type M or S mortar complying with Section 2103.8 and the depth shall not be less than twice the projection beyond the wall, pier or column. The width shall not be less than 8 inches (203 mm) wider than the wall supported thereon.

**1805.4.3.2 Offsets.** The maximum offset of each course in brick foundation walls stepped up from the footings shall be 1.5 inches (38 mm) where laid in single courses, and 3 inches (76 mm) where laid in double courses.

**1805.4.4 Steel grillage footings.** Grillage footings of structural steel shapes shall be separated with approved steel spacers and be entirely encased in concrete with at least 6 inches (152 mm) on the bottom and at least 4 inches (102 mm) at all other points. The spaces between the shapes shall be completely filled with concrete or cement grout.

**1805.4.5 Timber footings.** Timber footings are permitted for buildings of Type V construction and as otherwise approved by the building official. Such footings shall be

treated in accordance with AWWA U1 (Commodity Specification A, Use Category 4B). Treated timbers are not required where placed entirely below permanent water level or where used as capping for wood piles that project above the water level over submerged or marsh lands. The compressive stresses perpendicular to the grain in untreated timber footings supported upon treated piles shall not exceed 70 percent of the allowable stresses for the species and grade of timber as specified in the AF&PA NDS.

**1805.4.6 Wood foundations.** Wood foundation systems shall be designed and installed in accordance with AF&PA Technical Report No. 7 and as otherwise approved by the Superintendent of Building. Lumber and plywood shall be treated in accordance with AWWA U1 (Commodity Specification A, Use Category 4B and Section 5.2) and shall be identified in accordance with Section 2303.1.8.1 of this Code.

**Exception:** Accessory buildings not used for human occupancy and less than 120 square feet (11.1m<sup>2</sup>) in area may be supported on treated wood mud sills.

**1805.5 Foundation walls.** Concrete and masonry foundation walls shall be designed in accordance with Chapter 19 or 21, respectively. Foundation walls that are laterally supported at the top and bottom and within the parameters of Tables 1805.5(1) through 1805.5(5) are permitted to be designed and constructed in accordance with Sections 1805.5.1 through 1805.5.5.

**TABLE 1805.5(1)  
PLAIN MASONRY FOUNDATION WALLS<sup>a, b, c</sup>**

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT <sup>e</sup> (feet)	MINIMUM NOMINAL WALL THICKNESS (inches)		
		Soil classes and lateral soil load <sup>d</sup> (psf per foot below natural grade)		
		GW, GP, SW and SP soils 30	GM, GC, SM, SM-SC and ML soils 45	SC, ML-CL and Inorganic CL soils 60
7	4 (or less)	8	8	8
	5	8	10	10
	6	10	12	10 (solid <sup>c</sup> )
	7	12	10 (solid <sup>c</sup> )	10 (solid <sup>c</sup> )
8	4 (or less)	8	8	8
	5	8	10	12
	6	10	12	12 (solid <sup>c</sup> )
	7	12	12 (solid <sup>c</sup> )	Note d
9	8	10 (solid <sup>c</sup> )	12 (solid <sup>c</sup> )	Note d
	4 (or less)	8	8	8
	5	8	10	12
	6	12	12	12 (solid <sup>c</sup> )
9	7	12 (solid <sup>c</sup> )	12 (solid <sup>c</sup> )	Note d
	8	12 (solid <sup>c</sup> )	Note d	Note d
	8	Note d	Note d	Note d
	9	Note d	Note d	Note d

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.157kPa/m.

- a. For design lateral soil loads, see Section 1610. Soil classes are in accordance with the Unified Soil Classification System and design lateral soil loads are for moist soil conditions without hydrostatic pressure.
- b. Provisions for this table are based on construction requirements specified in Section 1805.5.2.2.
- c. Solid grouted hollow units or solid masonry units.
- d. A design in compliance with Chapter 21 or reinforcement in accordance with Table 1805.5(2) is required.
- e. For height of unbalanced backfill, see Section 1805.5.1.2.