
	Land Use Services Building and Safety Division Information Bulletin	Number: IB-0005
		Code References: 2019 CBC 2019 CRC
Building Official Signature: 	Jack Leonard, PE, CBO	Original Effective Date: July 3, 2018
Subject: Residential Foundation Design Requirements Without a Soils Report		Updated: January 17, 2020

1.0 PURPOSE

The purpose of this Information Bulletin is to clarify the foundation design requirements for residential dwellings located in Non-Geological Hazard Locations (such as liquefaction, landslide, Alquist Priolo zone, etc.) when NO soils report is provided. Residential dwellings include construction of single-family residences, duplexes, townhouses, accessory dwelling units, guest houses, and room additions. This procedure shall only apply to residential dwellings of no more than 2 stories.

This Information Bulletin replaces “Standard Operating Procedure BSN-00.04 – Alternate Geotechnical/Limited Soil Investigation Reports for Single Family Residential Projects.”

2.0 HISTORY

Original Effective Date: July 3, 2018; Updated: January 15, 2020

3.0 POLICY/PROCEDURE

Applicability

For residential dwellings of no more than 2 stories:

Either; a soils report is required for the construction of residential dwellings,

Or; in lieu of the required soils report, where the ground slope is less than 5:1, structural concrete foundations may be designed in accordance with the requirements set forth as follows:

General Requirements

- A. All exterior walls and interior bearing walls shall be supported on continuous footings.
- B. The minimum depth of footings below the natural and finish grade shall be 24 inches for the exterior and 18 inches for the interior footings.
- C. The minimum width of footings shall be 12 inches for supporting 1-story building or 15 inches for supporting 2-story building.
- D. Footings shall be reinforced with four continuous #4 reinforcing steel bars. Two bars shall be placed within 4 inches from the bottom of the footings and two bars placed within 4 inches from the top of the footings with a minimum concrete cover per ACI 318 Section 7.7.1.
- E. Drainage adjacent to footings shall be directed away from the structure by sloped finish grade at least 5 percent for a distance of 10 feet.

Exception: Where lot lines, walls, slopes or other physical barriers prohibit slope within 10 feet, drains or swales shall be constructed to ensure drainage away from the structure. Impervious surfaces within 10 feet of the building foundation shall be sloped not less than 2 percent away from the building.



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Slab-On-Grade Foundation

- F. Concrete slabs on grade shall have a thickness of at least 4 inches with #4 reinforcing steel bars placed at mid-slab and spaced at intervals not exceeding 16 inches each way. Slabs shall be placed on a 4-inch coarse aggregate or clean sand over a vapor barrier membrane of minimum 6-mil thickness.
- G. The soil below interior concrete slabs shall be pre-saturated to a depth of 18 inches prior to pouring the concrete.
- H. #4 dowels spaced at 16 inches, bent at 90 degrees, and extended 2 feet into the slab and 2 foot into the footing shall be provided.
Exception: Dowels may be omitted if slabs and footings are poured monolithically.

Raised Floor Foundation

- I. The stem wall shall be of concrete or masonry with a minimum thickness of 8 inches.

Additional Requirements

- J. The allowable load-bearing pressure in reference to the design of structural foundations shall not exceed 1,500 psf.
- K. Concrete shall be normal weight with minimum compressive strength of $f'c = 2,500$ psi at 28 days.
- L. The building inspector may require compaction testing or a soils report if questionable site conditions exist.