
	Land Use Services Building and Safety Division Information Bulletin	Number: IB-0001
		Code References: 2019 CBC 2019 CRC
Building Official Signature: 	Jack Leonard, PE, CBO	Original Effective Date: April 23, 2018
Subject: Retaining Wall Design Requirements Without a Soils Report		Updated: January 1, 2020

1.0 PURPOSE

The purpose of this Information Bulletin is to clarify retaining wall design requirements without a soils report, as described in the California Building Code (CBC) Sections 1610.1 and 1806.2. This procedure does not apply to retaining walls over 6 feet.

2.0 HISTORY

Original Effective Date: April 23, 2018; Updated: January 1, 2020

3.0 POLICY/PROCEDURE

General

- A. Basement and retaining walls shall be designed to resist lateral soil loads. Soil loads specified in the CBC Table 1610.1 shall be used as the minimum design lateral soil loads, unless specified otherwise in a soil investigation report.
- B. Basement and retaining walls extending not more than 6 feet below grade and laterally supported at the top by flexible diaphragms shall be permitted to be designed for active pressure.

Lateral Soil Load

- C. In the absence of a soils report, an architect or engineer of record may determine and specify a backfill material of the retaining wall and use the Design Lateral Soil Load from CBC Table 1610.1 accordingly.
- D. Where one or more passenger vehicles are located at the upper side, and within 45 degrees from the bottom of a retaining wall in a residential building, design the retaining wall with an additional 2 feet for the vehicle surcharge.
- E. For slope surcharge:

EQUIVALENT FLUID WEIGHT OF EARTH PRESSURE FOR RETAINING WALL DESIGN

SURFACE SLOPE OF RETAINED MATERIAL HORIZONTAL TO VERTICAL	EQUIVALENT FLUID WEIGHT Pounds per cubic foot			
	30°	40°	45°	60°
LEVEL	32	43	48	64
5 to 1	35	47	53	70
4 to 1	38	51	57	76
3 to 1	43	57	65	86

* Based on a backfill material from CBC Table 1610.1



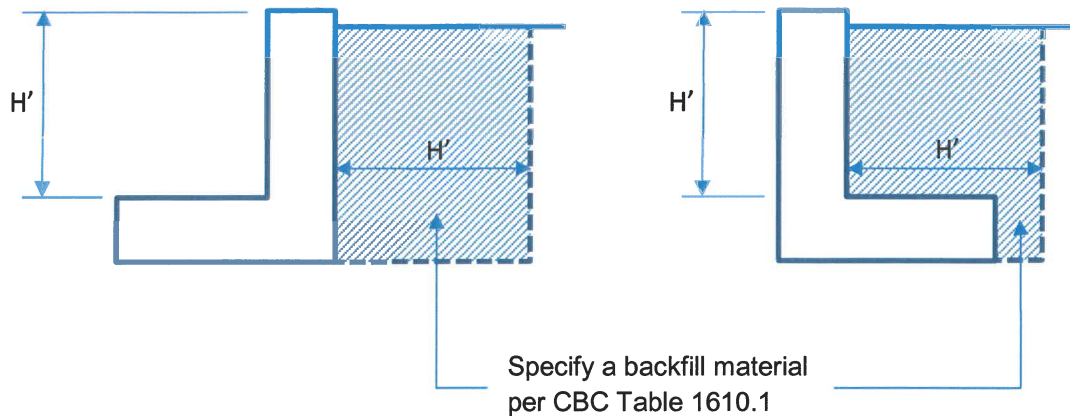
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Design

- F. Retaining wall details shall specify a backfill material minimum to the horizontal distance of the retaining wall height. See the diagram below.



- G. For retaining wall foundation the design shall be used per the following data:
- Allowable soil bearing: 1,500 PSF
 - Friction: 0.25
 - Passive Pressure: 150 PSF

Inspection

- H. An architect or engineer of record shall submit a letter that certifies the backfill material prior to the foundation inspection to a San Bernardino County (County) building inspector.
- I. The County building inspector has a right to ask for certification of the backfill material from a geotechnical engineer.