

**CHANGE TYPE:** Modification

**CHANGE SUMMARY:** The requirement for consideration of a keyway in the sliding analysis of retaining walls has been deleted from Section 1807.2.

**2018 CODE: 1807.2 Retaining walls.** Retaining walls shall be designed in accordance with Sections 1807.2.1 through 1807.2.3.

**1807.2.1 General.** Retaining walls shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. ~~Where a keyway is extended below the wall base with the intent to engage passive pressure and enhance sliding stability, lateral soil pressures on both sides of the keyway shall be considered in the sliding analysis.~~

**1807.2.2 Design lateral soil loads.** Retaining walls shall be designed for the lateral soil loads set forth in Section 1610. For structures assigned to Seismic Design Category D, E, or F, the design of retaining walls supporting more than 6 feet (1829 mm) of backfill height shall incorporate the additional seismic lateral earth pressure in accordance with the geotechnical investigation where required in Section 1803.2.

**CHANGE SIGNIFICANCE:** The application of soil pressure on both sides of a keyway is a recent addition to the model codes, and has caused concern and opposition from the geotechnical engineering community. The keyway concept is in conflict with accepted engineering practice and the principles of soil mechanics. 2015 IBC language was vague and ambiguous with respect to lateral soil pressures on the keyway.

The application of “lateral earth pressures on both sides of the keyway” is commonly interpreted to require a deepening of the active soil pressure to the bottom of the keyway. Active soil pressure requires movement of the key, which is contrary to the intent of the provision.

As there has been ongoing confusion over the intent of consideration of lateral earth pressure on both sides of the keyway and confusion about the purpose of the keyway, in the 2018 IBC the requirement for a keyway is deleted. A keyway may still be used when designed using the principles of soil mechanics and accepted engineering practice.

New text in Section 1807.2.2 adds a pointer for the structural design of retaining walls to resist lateral loads identified in the geotechnical report. The new requirement provides coordination with the requirements of Section 1803.5.12, geotechnical investigations in Seismic Design Categories D, E, and F, for lateral earth pressure on retaining walls.

## 1807.2

### Retaining Walls



iStock.com/Feverpitched

Retaining walls



This excerpt is taken from *Significant Changes to the International Building Code®*, 2018 Edition. Significant Changes publications take you directly to the most important changes that impact projects. Key changes are identified then followed by in-depth discussion of how the change affects real-world application. Photos, tables and illustrations are included to further clarify application. Available for the IBC, IRC, IFC and IPC/IMC/IFGC, the Significant Changes publications are very useful training and review tools for transitioning to a new code edition.