

# Office of Building Department

## Town of Southington, Connecticut

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### REQUIREMENTS FOR BUILDING PERMITS for RESIDENTIAL RETAINING WALLS

#### **Section R105 of the 2021 IRC portion of the 2022 Connecticut State Building Code:**

Retaining walls that are over 3' in height measured from finished grade at the bottom of the wall to finished grade at top of the wall or supporting a surcharge require a Building Permit.

Other than the above, the IRC does not directly regulate retaining walls. Requirements for retaining walls are found in the 2021 IBC portion of the 2022 Connecticut State Building Code.

**1807.2 Retaining walls.** Retaining walls shall be designed in accordance with Sections 1807.2.1 through 1807.2.4.

**1807.2.1 General.** Retaining walls shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift.

**1807.2.1.1 Guards.** Retaining walls with a difference in height between the finished grade at the top of the wall and the finished grade at the bottom of the wall that is greater than 4 feet (1219 mm) shall be provided with guards complying with Sections 1015.3, 1015.4 and 1607.8 when there is a walking surface, parking lot or driveway on the high side located closer than 2 feet (610 mm) to the nearest side of the retaining wall. For the purpose of this section, grass, planting beds or landscaped areas shall not be considered a walking surface.

**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.

**1807.2.3 Safety Factor.** Retaining walls shall be designed to resist the lateral action of soil to produce sliding and overturning with a minimum safety factor of 1.5 in each case. The load combinations of Section 1605 shall not apply to this requirement. Instead, design shall be based on 0.7 times nominal earthquake loads, 1.0 times other nominal loads, and investigation with one or more of the variable loads set to zero. The safety factor against lateral sliding shall be taken as the available soil resistance at the base of the retaining wall foundation divided by the net lateral force applied to the retaining wall.

**Exception:** Where earthquake loads are included, the minimum safety factor for retaining wall sliding and overturning shall be 1.1.

**1807.2.4 Segmental Retaining Walls.** Dry-cast concrete units used in the construction of segmental retaining walls shall comply with ASTM C1372.

**Section 2-19 Town of Southington Zoning Requirements:**

Walls 4'0' or greater in height located in a front yard or 7'0' or greater in height for side and rear yard require a Zoning Permit.

Rear lots with retaining walls 7'0" or greater in height require a zoning permit.

Construction drawings are required showing all Engineered details and calculations, sealed by a Professional Engineer licensed in the State of Connecticut. The engineer of record shall be responsible for inspecting the retaining wall and shall act as the Special Inspector.

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