



North Carolina
Office of State Fire Marshal
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**2018 NC Residential Code
R404.4 Retaining walls. (200714 Item B-18)**

R404.4 Retaining walls. Retaining walls that are not laterally supported at the top and that retain in excess of 48 inches (1219 mm) of unbalanced fill, shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. In addition, any retaining wall that meets meet the following shall be designed by a registered design professional.

1. Any retaining wall systems on a residential site that cross over adjacent property lines regardless of vertical height, and
2. Retaining walls that support *buildings* and their *accessory structures*.,
3. Retaining walls exceeding 4 feet (1524 mm) of unbalanced backfill height, or
4. Retaining wall systems providing a cumulative vertical relief greater than 5 feet (1524 mm) in height within a horizontal distance of 50 feet (15 m) or less.

Retaining walls shall be designed for a safety factor of 1.5 against lateral sliding and overturning.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

**2018 NC Residential Code
R404.4 Retaining Walls (210914 Item B-1)**

R404.4 Retaining Walls. Retaining walls that meet the following shall be designed by a *registered design professional*.

1. Any retaining walls systems on a residential site that cross over adjacent property lines regardless of vertical height, or
2. Retaining walls that support buildings and their accessory structures, undercutting footings 10 feet or less per R403.1.9 and Figure 403.1.9, or
3. Retaining Individual retaining walls supporting unbalanced backfill exceeding 4 feet (1219mm) 5 feet (1524 mm) of unbalanced backfill in height within a horizontal distance of 15 feet (4572 mm) or less, or
4. Retaining Multiple retaining walls systems providing a cumulative vertical relief of unbalanced backfill heights greater than 5 feet (1524 mm) in height within a horizontal distance of 50 feet (15M) 15 feet (4572 mm) or less.

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Retaining walls shall be designed for a safety factor of 1.5 against lateral sliding and overturning.

The delayed effective date of this Rule is January 1, 2025.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

Here are the updates to NC Building Code Section 1807.2.5 and Section 1807.2.6. These updates will take effect with the **2024 Building Code**.

1807.2.5 Retaining systems adjacent to structures. Retaining systems less than 5 feet (1524 mm) in cumulative vertical relief and adjacent to a structure located closer than the vertical relief shall be designed under the responsible charge of a registered design professional.

1807.2.6 Retaining systems. Retaining systems providing a cumulative vertical relief greater than 5 feet (1524 mm) in height with a horizontal distance of 15 feet (4572 mm) or less between retaining walls or mechanically stabilized earth walls shall be designed under the responsible charge of a registered design professional. Retaining systems shall meet the requirements of Section 1610. Testing and inspection reports shall comply with Section 1704.2.4 and shall verify:

1. Foundation support system is adequate for the intended site conditions;
2. Measurement of the quality of construction materials for conformance with specifications;
3. Determination of similarity of actual soil conditions to those anticipated in design; and
4. Examination of backfill materials and any drainage systems for compliance with plans and specifications.

March 14, 2023

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