

Chapter 1750. Appendix 5: Policy on Retaining Wall Design and Construction

Introduction

The 2009 North Carolina Building Code includes requirements for the design and construction of retaining walls. Specifically, Section 1806.2 states:

Retaining systems providing a cumulative vertical relief greater than 5 feet in height within a horizontal distance of 50 feet or less, including retaining walls or mechanically stabilized earth walls, shall be designed under the responsible charge of the registered design professional. Retaining systems shall meet the requirements of Section 1610. Testing and inspection reports shall comply with Section 1704.1.2 and shall verify:

1. Foundation support system is adequate for the intended site conditions;
2. Measurement of the quantity 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.

Scope of Requirements

These requirements will apply to all commercial construction, which include retaining walls and grades falling within the criteria described in Section 1806.2. In addition, the Town will apply the criteria to residential projects where retaining walls impact public use or access areas.

Design and submittal requirements:

Option 1:

Submit, as part of the site plan review drawing set, retaining wall drawings, fully designed and detailed, and sealed by a North Carolina Licensed Professional Engineer.

Option 2:

Site plan review drawing set to include location and design criteria (wall height and schematic wall cross section) for retaining walls only, along with the following statements:

- “Design of all retaining walls is to be per North Carolina Building Code Section 1806.”
- “Detailed retaining wall design drawings, sealed by a North Carolina Licensed Professional Engineer, will be submitted to the Town prior to construction.”
- “A North Carolina Licensed Professional Engineer must perform construction observation, verifying in a sealed letter to the Town that retaining walls are constructed per the engineered drawings.”

Construction Requirements

Construction of retaining walls may proceed only after detailed retaining wall design drawings, sealed by a North Carolina Licensed Professional Engineer, are submitted to the Town. The Owner's North Carolina Licensed Professional Engineer will perform construction observation.

Upon completion of retaining wall construction, the Engineer will submit 1) a sealed letter to the Town, verifying the retaining walls are constructed per the engineered drawings, in compliance with Section 1806 of the NC Building Code, and 2) a copy of all special inspections reports in accordance with Section 1704.1.3 of the NC Building Code.

Certificates of Occupancy will only be issued after receipt of the Engineer's sealed letter and copy of the special inspections reports.