

# Retaining Wall Requirements

A separate building permit application is required for **all** retaining walls. However if the retaining wall is four feet (4') in height or greater (measured from the bottom of the footing to the top of the wall) and any retaining wall supporting a surcharge or impounding Class I, II, or IIIA liquids whether site-built or modular must be designed by a Registered South Carolina Professional Engineer. Upon approval of a retaining wall plan, a Building Permit must be obtained by a Contractor licensed to accomplish the construction or installation. During construction or installation, a Licensed or Registered third party 'Special Inspector' shall inspect the work at prescribed stages and certify that the construction or installation complies with the approved plan and the requirements of the SC State Building Code. Certification must be received by the Building Inspector prior to the issuance of a Certificate of Occupancy for the associated project. Third party inspections are in addition to the normally required footing and formwork inspections prior to pouring concrete. For segmented walls a footing inspection is required prior to laying wall segments to determine wall location.

Please provide the following:

1. Six (6) copies of the proposed plan and specifications including six (6) copies of the approved Site Plan reflecting the location of each of the retaining walls for which a Permit is requested specifying the elevations at the top of each wall and the bottom of each footing.
2. Structural details for each footing and each wall including:
  - a. Materials;
  - b. Dimensions;
  - c. Reinforcement;
  - d. Concrete design strength;
  - e. Drainage methods for relief of hydrostatic pressure;
  - f. Backfill material specifications; and,
  - g. Slope of finished grades.
  - h. For modular retaining walls, details shall reflect the types, spacing, and embedment length of all geogrid reinforcement.
3. Soil parameters utilized in wall design including\*:
  - a. Soil bearing pressure;
  - b. Equivalent lateral fluid pressure (active and passive);
  - c. Surcharge load;
  - d. Internal angle of friction;
  - e. Coefficient of friction; and,
  - f. Soil density.
4. Concrete design compressive strength at 28 days.

5. Material specifications for all steel reinforcement.
  6. Minimum required concrete cover for reinforcement.
  7. Minimum lap splice lengths for steel reinforcement.
  8. Specified thickness of all structural concrete.
  9. Calculations signed and sealed by Registered South Carolina Professional Engineer(s) demonstrating the structural adequacy of each proposed wall to resist the applicable design loads within the specified allowable soil bearing pressure and to maintain a minimum factor of 1.5 of safety against overturning and sliding.
  10. Name, address, contact information and SCLLR License number of the licensed Third Party Inspector including inspection frequency established by the Engineer.
- Use of SCDOT standard wall designs does not relieve the Engineer of the responsibility to verify soil parameters; parameters must reflect field-verified conditions at the time of plan submission.