



**APPENDIX C
CODE CHANGE PROPOSAL
NORTH CAROLINA
BUILDING CODE COUNCIL**

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Petition for Rule Making

Item Number _____

Granted by BCC _____

Adopted by BCC _____

Approved by RRC _____

Denied by BCC _____

Disapproved by BCC _____

Objection by RRC _____

PROPONENT David Smith PHONE (910)-681-0394
REPRESENTING Residential Ad Hoc Committee
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**North Carolina State Building Code, Volume 2018 NC Residential Building Code,
Section (R404.4)**

CHECK ONE: [X] Revise section to read as follows: [] Delete section and substitute the following.
 [] Add new section to read as follows: [] Delete section without substitution.

~~LINE THROUGH MATERIAL TO BE DELETED~~

UNDERLINE MATERIAL TO BE ADDED

Please type. Continue proposal or reason on plain paper attached to this form. See reverse side for instructions.
See attached for modification to the 2018 NCRBC section R404.4 retaining wall sections.

Will this proposal change the cost of construction? Decrease [X] Increase [] No []
Will this proposal increase the cost of a dwelling by \$80 or more? Yes [] No [x]
Will this proposal affect Local or State funds? Local [] State [] No [x]
Will this proposal cause a substantial economic impact (≥ \$1,000,000)? Yes [] No [x]

Non-Substantial - Provide an economic analysis including benefit/cost estimates.

Substantial - The economic analysis must also include 2-alternatives, time value of money and risk analysis.

REASON:

The intent of this modification is to align the residential code with the commercial code for retaining walls on a site not supporting a structure. Currently retaining walls exceeding 4' of unbalance fill are in the residential code while the commercial has them at 5'. Additionally, there is no language or figure to illustrate where to measure to when there is a steep grade behind the wall. This language changes the 4' to 5' and where to measure addressing the concerns of current retain wall failures causing significant cost or possible impact on adjacent properties which are with 5' or more of unbalanced fill. This will reduce the number of these walls (site landscaping) that need permits and inspections on residential one and two family site and not have a more stringent standard in the NCRBC than in the NCBC. The change in #3 is to address single walls with unbalanced fill while multiple walls are already addressed in item #4, the inclusion of the figures assist in understanding the application and how to measure the unbalanced fill supported.

Signature _____

DATE: _____

BCC CODE CHANGES

FORM 3/14/17

R404.4 Retaining walls. Retaining walls that meets 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, **or**
2. Retaining walls that support buildings and their accessory structures, **undercutting footings 10' or less per R403.1.9 and Figure 403.1.9, or**
3. **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. **Multiple** Retaining walls **systems** providing a cumulative vertical relief **of unbalanced backfill heights** greater than 5 Feet (1524 mm) **in height** within a horizontal **separation** distance of **50 feet (15M) 15 feet (4572 mm)** or less.

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

Additional supporting information

For illustration purposes item #3 would address these individual type walls with steep grades behind them:



Item #4 examples of multiple walls within the 15':



Illustrations below are to assist in understanding the problem associated with retaining walls not properly designed. Typically retaining wall system under 5' have not been an issue and under the proposed language would be exempt from permitting. However, walls over 5' of unbalance fill can have a significant impact and safety concern not just on the single-family site they are located but adjacent properties.

