RB ENGINEERING
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Structural Engineering Firm
NC License No. C-2499

168 Quade Drive
Cary, North Carolina 27513
www.rbengineering.com

Phone: 919-677-9662 / Cell: 919-280-2695 / Fax: 919-677-9663 *E-mail: rbittler@rbengineering.com*

Tracey O'Connell
E-mail: traceyoconnell@hotmail.com

April 7, 2026

Subject: Residential Structural Evaluation
207 Oxfordshire Lane
Chapel Hill, North Carolina

Project No.: DM-26581

Dear Tracey:

RB Engineering Inc. is pleased to provide the following summary engineering letter concerning our site observations at the subject residence. We performed our site visit and were asked to inspect for potential structural issues, evaluate the general structural condition and provide any necessary repair recommendations. More specifically, we were asked to assess some termite damage that was identified at the rear of the home beneath the doorway that leads out onto the deck.

FINDINGS

For the purpose of this report, all directions are given from the perspective of an individual standing in front of and facing the residence. No material testing, soil testing or destructive inspection techniques were performed for the purpose of this report. During our site inspection, we observed the following relevant information:

- During our inspection of the home's interior, exterior and crawlspace area, we observed:

    a. Minor uneven flooring was observed in the first-floor framing. Using a rotary laser level, we recorded minor vertical flooring misalignments up to 7/8-inches within the floor framing system.

    b. Termite damage was observed on the floor framing beneath the angled wall at the rear of the home where the door goes out onto the rear open deck. There was minor surface damage probed at two of the floor system girder beams, and some short floor joists, in this location and moderate termite damage to the end of a longer floor joist that runs left-to-right and damage to blocking at the end of this joist. Where termite damage was observed at two of the floor system girders, we were only able to probe the exterior surfaces of the girder members and not in between the members.

    c. Minor hairline cracks were observed in the mortar lines at random locations of the perimeter foundation and brick veneer. These cracks were not worrisome and are due to minor, normal settlement and expansion and contraction of masonry materials.

EVALUATION

Differential settlement occurs when there is localized consolidation of the supporting soil under an applied load. This is not uncommon for residential construction, especially when the clay-based soils become exposed to extreme weather conditions (i.e. wetting and drying cycles). The subgrade soils expand and contract depending upon the soil moisture content and the soils bearing capacity can be reduced when exposed to extreme wetting or drying conditions, allowing for settlement to occur. Soils continue to settle indefinitely with a primary consolidation phase where the majority of the consolidation occurs and a secondary consolidation phase where there is a gradual consolidation process. In this home, the vertical floor misalignments measured 7/8-inch.

Structural Evaluation - The minor vertical floor misalignments we recorded and the minor cracks we observed in the brick foundation and veneer are due to long term, gradual differential settlement of the foundation and interior piers as well as natural deflection of the floor framing system. The minor settlement that the home has experienced, as well as the deflection of the floor framing system, does not currently reach a level where we feel a structural repair is needed. We recommend patching all of the minor foundation cracks with a masonry caulking and then monitoring the perimeter foundation annually for changes in condition.

Where termite damage was observed at the two sections of floor system girder beams at the rear of the crawl space, the outer surfaces that we were able to probe did not indicate damage to the girder that has adversely affected it structurally. Additionally, the short sections of floor joists that had minor damage were also not structurally affected. The longer joist that had damage at its end should be repaired. We recommend sistering a new full-length joist alongside the damaged joist. We also recommend removing and replacing the damaged block at the end of this joist. Once the block is removed, we recommend probing the rim band that is behind it to evaluate its condition as well and then performing any necessary spot repairs.

SUMMARY: Aside from the termite damaged floor framing components that need to be addressed, the foundation and remaining floor framing system are currently in overall, good structural condition and are properly transferring design loads in accordance with the NC residential building code.

LIMITATIONS OF INSPECTION

The opinions and comments contained in this report are based primarily on the observations of the apparent performance of the structure and the qualified knowledge and experience of this office. The conclusions reached in this report are based upon the conditions observed at the time of the evaluation. No guarantee or warranty as to future life or performance of any item evaluated is intended or implied.

Our services were provided in accordance with the standard of practice for structural engineering and within the limits imposed by scope, schedule, and budget. If you have any questions, or if I can be of further assistance to you on this project, please contact me at (919) 677-9662.

Respectfully submitted,

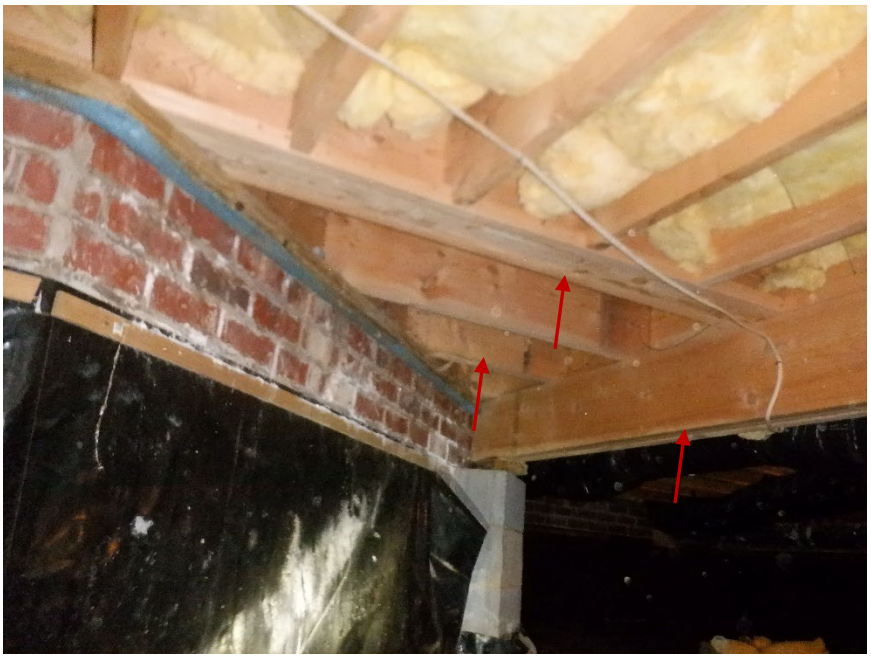
Ron Bittler, PE
President / Structural Engineer
RB Engineering, Inc.

DocuSigned by:
Ron Bittler
157097CCC9304AF...

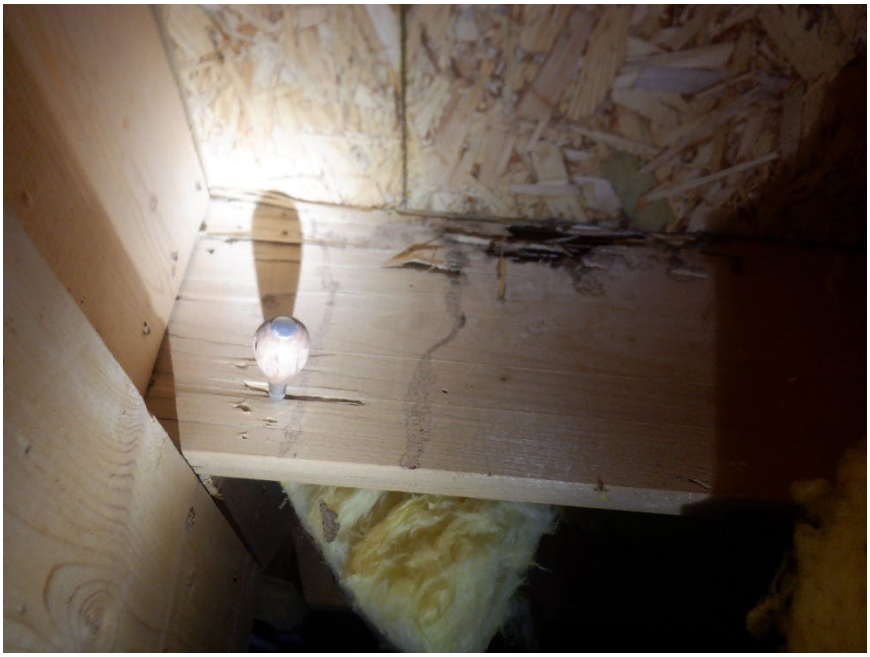
NORTH CAROLINA PROFESSIONAL SEAL 025611 ENGINEER RONALD P. BITTLER

4/7/2026

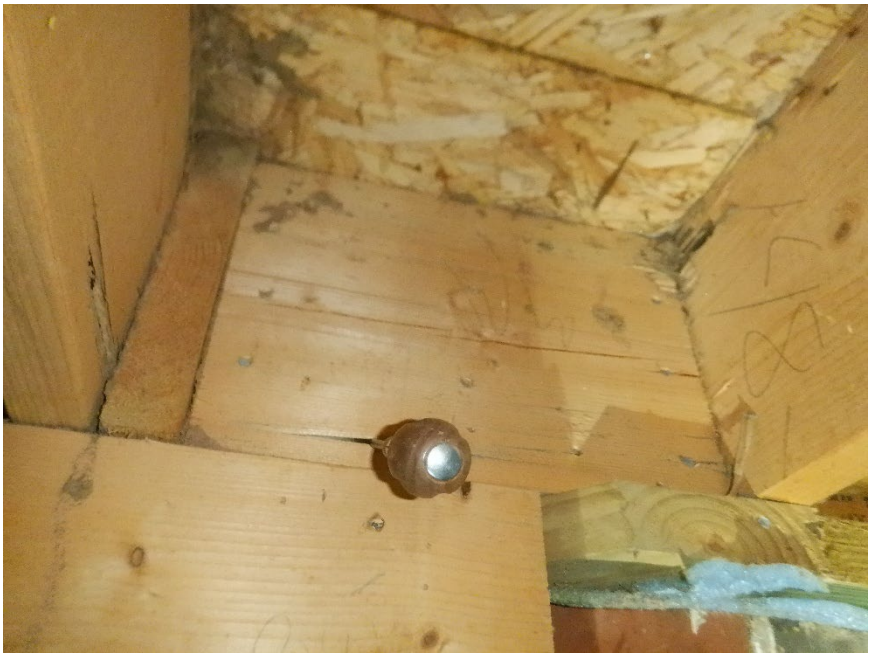
PHOTOGRAPHS



Photograph Number 1 - View of area of floor system where minor termite damage was observed.



Photograph Number 2 - View of termite damaged end of floor joist where a full length "sister" joist should be installed as a repair.



Photograph Number 3 - View of termite damaged block located at end of the joist that needs repair. Remove, probe framing behind it and repair as needed.