



July 8, 2026

Pragya Agarwal

Re: Limited Structural Inspection
205 Bethabara Lane
Cary, NC

Dear Ms. Agarwal,

At your request, a limited structural inspection of the above property was performed on July 7, 2026. The report that follows has been prepared based on that inspection. The inspection was performed by Collin Vaughan, EI of Giles Flythe Engineers.

The scope of this project was limited to inspection and evaluation of cracks in the foundation, missing girder blocking, and general structural concerns in the crawlspace framing/foundation. The report is intended to cover only those premises that may be examined visually without excavation, removing surface materials, and disassembling components.

No tests, measurements, or calculations have been made except as described in this report. We have not investigated for toxic materials or wastes, or examined public records regarding this property. The scope of the inspection does not assure that the property conforms to any regulations, restrictions, or building codes that may be in effect at its location.

DESCRIPTION

The 2-story, wood-framed home (with a crawlspace) is constructed on concrete masonry unit (CMU) perimeter foundation walls with CMU block piers supporting the floor girders. The house was built in 2005 according to Wake County property records. For purposes of this report, all directions (left, right, rear, etc.) are taken from the viewpoint of an observer standing outside and facing the front door of the home.

Upon our arrival, access to the interior was provided by the seller's agent. The items detailed above in the scope were subsequently inspected.

Note that the original builder was not interviewed and no plans for the construction of this home were provided. The information presented in this report is gathered from the conditions visible at the site, as they existed at the time of the inspection. A limited photo log is included with this report.

OBSERVATIONS

Interior:

1. No apparent signs of significant structural distress were noted in the drywall finish materials.

Exterior:

2. Cracks in the perimeter walls were noted in the following locations:
 - a. A crack (approximately 1/16" wide) was noted in the right perimeter wall located approximately 9'-0" from the rear perimeter wall.
 - b. A minor crack (less than 1/16" wide) was noted in the right perimeter wall located approximately 13'-9" from the rear perimeter wall.
 - c. A minor crack (less than 1/16" wide) was noted in the right perimeter wall located approximately 17'-6" from the rear perimeter wall.
 - d. Additional minor cracks (less than 1/16" wide) were noted in the perimeter walls of the home.
3. Gutters and downspouts (with and without drainage leaders) were noted installed on the home. Grade was noted with relatively neutral to positive slope along the perimeter walls of the home.

Crawlspace:

4. The floor framing generally consists of 14" TJI 230 I-joists, spanning front to rear, spaced at 24" on-center. The joists are supported by steel I-beam drop girders and perimeter foundation walls.
5. Cracks were noted in the perimeter foundation walls in the following locations:
 - a. A crack (approximately 1/8" wide) was noted at the front-left corner of the crawlspace.
 - b. Minor cracks (less than 1/16" wide) were noted in the corners of the bay window foundation walls at the front-left corner of the crawlspace.
 - c. A crack (approximately 1/8" wide) was noted in the right-most foundation wall located approximately 8'-0" from the rear foundation wall.
 - i. Note, this crack is approximately in the same location as Observation #2a.
 - d. A minor crack (less than 1/16" wide) was noted in the right-most foundation wall located approximately 14'-0" from the rear foundation wall.
 - i. Note, this crack is approximately in the same location as Observation #2b.
6. Inadequate girder bearing and missing blocking was noted at the pocket in the left foundation wall, approximately 15'-4" from the front foundation wall.
7. A vapor barrier was installed at the time of our inspection. Multiple moisture readings were taken during the inspection with a General MMD4E moisture meter and measured lumber moisture contents of up to 18.5%. Note, standing water was noted above the vapor barrier at the front-middle and far-right corners of the crawlspace.

DISCUSSION

The cracks in the foundation walls noted above (Observation #2 & #5) are likely due to limited differential foundation settlement. The clay soils in this area are considered "expansive" type soils and will typically expand and contract with fluctuations in the moisture content. This expansion and contraction of load-bearing soil materials can lead to soil consolidation and foundation cracking/movement. The condition of the foundation wall does not appear to be a structural deficiency and improving exterior drainage and monitoring cracks for additional propagation is an acceptable approach at this time.



Positive grade away from the foundation should be maintained, where possible, to help reduce moisture infiltration under the foundation. Soil consolidation and settlement can occur due to water infiltration into soils and subsequent drought conditions which dry out the soils below foundations. Creating positive stormwater drainage away from the perimeter foundation walls is vital to the long-term structural integrity of the foundation. If future conditions around the foundation are kept relatively dry, the likelihood of future significant settlement will be reduced, but we cannot predict the extent of future settlement.

The inadequate girder bearing noted above (Observation #6) is considered a structural concern. The girder is designed to be supported at the perimeter foundation wall. Due to the absent blocking, no support for the girder is present. If left in the existing condition, additional vertical displacement resulting in interior floor slope and interior finish material damages may occur. We have provided a recommendation below to address this issue.

The moisture content of the floor framing noted in the home at the time of the inspection is considered elevated (greater than 15%). Moisture levels of the framing can fluctuate based on weather conditions and seasonal changes in humidity. Prolonged elevated moisture content of the framing can lead to excessive deflection and structural damage. The current warm temperatures and high humidity are likely contributing to the elevated moisture levels. We have provided a recommendation below to help further dry out the crawlspace.

The recommendations presented in this report are based on our experience and understanding of the concerns to provide a reasonable solution based on the conditions that were visible and/or known to us on the date of inspection. As this report is based on the circumstances at one point in time, conditions may change which may result in additional repair recommendations. Further, the recommendations are the opinion of the Engineer to address significant structural-related concerns and may not rectify cosmetic issues.

RECOMMENDATIONS

If there are any questions or concerns regarding location or method of repair contact the engineer prior to construction.

1. We recommend installing new flat, pressure-treated wood blocking (min. 3/4"-thick) and/or flat metal shims to provide full-width uniform bearing of the girder onto the foundation wall (Observation #6).
 - a) Care should be taken to not excessively jack the floor framing should it be required during the re-shimming process. Attention should be given to the framing bearing conditions at the nearby piers; adjust as necessary to provide full-width, uniform bearing for the floor framing onto the piers. Damage to the interior finishes during the jacking process is likely.
2. Monitor the cracks in the foundation walls. If the cracks widen significantly (expand by an additional 1/8") or additional significant cracks (greater than 1/4" wide) propagate, then further evaluation by a structural engineer may be needed at that time.



3. We also recommend ensuring that stormwater drains positively away from the home to minimize the risk of future water infiltration. This can be accomplished by installing non-perforated drainage leaders on downspouts (where missing) and ensuring gutters, downspouts, and leaders remain clear of debris and properly functioning to direct the drainage away from the home. Leaders should discharge a minimum of 10-feet away from the foundation (where possible). Also, maintaining/creating a positive grade around the perimeter of the home, where possible, will aid in stormwater evacuation. Water infiltration can cause further consolidation of the soil and foundation settlement.
4. To help further reduce and regulate moisture levels in the crawlspace, we recommend maintaining the existing vapor barrier to cover all exposed soils in the crawlspace and closely monitoring the framing moisture levels through the next seasonal change. If future moisture levels remain elevated (greater than 15.0%), an appropriately sized dehumidification system may be required. Note, framing moisture levels between 9% to 14% are ideal.

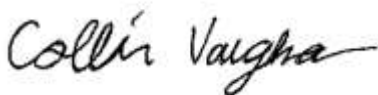
General Notes:

- All construction and workmanship shall adhere to the 2024 NC Residential Code.
- Install flat, pressure-treated blocking (min. 3/4"-thick) and/or metal shims to provide full uniform bearing of the above floor framing onto the new/existing foundation components. Wedge shims are not acceptable.
- Installation of the above recommended repairs may require temporary shoring of the in-place structural components. Shoring methods are the responsibility of the contractor.
- With any structural changes, finish material cracks and minor movements are typical and expected. These are associated with settlement and allowable deflection generally observed after construction of an addition, significant remodel, or repair.

CONCLUSION

We trust that this report provides the information you require. Please contact us at 919-465-3801 if you have any questions. Thank you for the opportunity to be of assistance to you.

Sincerely,



Collin Vaughan, EI
Project Engineer
Giles Flythe Engineers Inc.
NC Lic. No. C-2871



W. Harrison Welch, PE
Project Manager
Giles Flythe Engineers
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Enclosed: Limited Photo Log



Description General view of the front of the home (for reference).	
Photo No. 1	

Description Typical view of crack in perimeter wall from the exterior.	
Photo No. 2	

Description View of crack in the corner of foundation wall.	
Photo No. 3	

Description View of standing water in crawlspace.	
Photo No. 4	

Description Typical view of crack in foundation wall from crawlspace.	
Photo No. 5	

Description View of inadequate girder bearing in crawlspace.	
Photo No. 6	