



Via Email: .

May 13, 2026

RE:

At your request, a visit was made to the referenced address on May 13, 2026, to inspect specific structural concerns noted in a recent home inspection report for the house that you are under contract to purchase. Public property records indicate this house was built in 1973. The following items were noted at the time of the inspection. All directions are in reference to a person facing the front of the house from the street.

1. The home inspection report indicated a missing roof brace forward of the main center chimney. The roof framing in this area consists of 2x6 rafters spaced at 16 inches on center spanning a horizontal projected distance of approximately 13 feet 6 inches. This span is acceptable under current building code requirements for roof rafters without the need for intermediate bracing. Accordingly, no additional intermediate roof bracing is considered necessary. While inspecting this area, however, it was noted that the ceiling joists forward of the chimney do not have adequate blocking to brace them against rotation. A 2x6 band should be installed to tie the joists together over the top of the wall plate, or alternatively, solid blocking should be installed between the joists at this location. See the photo below.



Add blocking between
joists

2. The ceiling framing over the garage consists of 2x6 ceiling joists framing into a center triple 2x8 girder. The girder plies have separated substantially, compromising the connection between the ceiling joists and the girder. As a result, the garage ceiling has cracked significantly. Measurements taken within the garage indicate that the front wall

is leaning outward approximately 1.25" to 1.5 inches, while the rear wall containing the garage doors remains plumb. Cracking observed in the front foundation wall suggests that the front footing has rotated outward rather than settled vertically. This condition has caused the top of the wall to pull outward, which in turn has contributed to the separation of the center garage girder and has been further exacerbated by the tension forces imposed by the roof framing. The existing connection at the center girder did not provide sufficient tensile capacity to restrain the top of the front wall against this movement.

This type of footing rotation is commonly associated with poor drainage conditions. Much of the front foundation wall was concealed by vegetation at the time of the inspection and should be cleared to expose the base of the wall. A qualified moisture mitigation specialist should evaluate drainage along the front side of the house and implement corrective measures to ensure that water is directed rapidly away from the foundation. Although the cracks in the front foundation wall are likely attributable to this footing movement, there is no indication that the underlying soils are soft or have inadequate bearing capacity. Accordingly, underpinning repairs are not recommended at this time. Improved drainage should help prevent further movement.

The ceiling framing over the garage is in a condition that presents a risk of collapse if not repaired. The existing girder should be removed and replaced with a wider multiply girder in accordance with the attached repair detail.



Girder ply separation

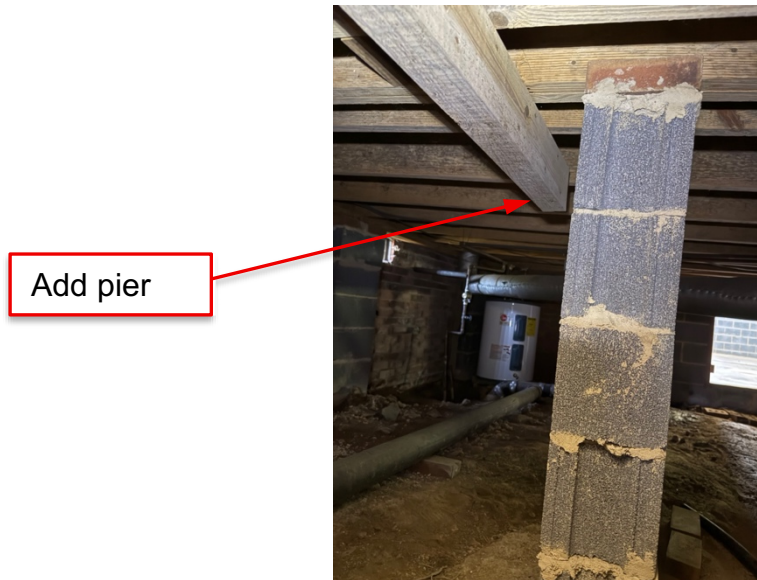


Resulting crack in ceiling

Crawlspace

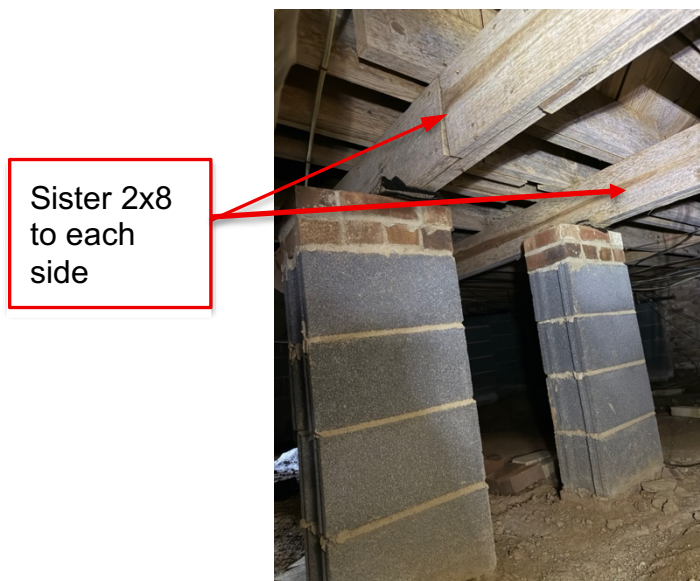
3. In the crawlspace, the intermediate dropped girder beneath the center of the front living room is not supported at either end. A masonry pier should be added at each end adjacent to the existing piers that were likely intended to support the girder. A similar condition exists at the intermediate dropped girder located to the right of the foyer. Each

end of this girder should also be supported with a masonry pier (4 piers total). Each pier should bear on 22"x22"x7" concrete footings. See the photo below.



Add pier

4. The two center dropped girders to the left of the chimney are spliced at locations beyond the supporting pier, creating a structural weakness. In addition, the spans to the left of the piers are approximately 11 feet, which is excessive for the tributary loads imposed on these members. To correct these deficiencies, sister a 2x8 member to each side of both spliced girders to the left of the chimney. In addition, construct a masonry pier at the midpoint of the 11-foot span of each girder, bearing on a 22-inch by 22-inch by 7-inch concrete footing. These new piers will reduce the effective span to approximately 5 feet 6 inches, which is more appropriate for the applied loads.



Sister 2x8
to each
side



Add piers
at midspan

5. The floor joists framing into the rear of the chimney do not have adequate bearing and are not properly connected to the band joist. Install two Simpson Strong-Tie A35 clips at each joist, one on each side, using No. 9 x 2 1/2-inch Simpson Strong-Tie SD Connector Screws. A similar condition exists at the joists located at the front of the

fireplace. Similar brackets may be used at these locations, or a Simpson Strong-Tie LUS28Z joist hanger may be installed instead.



6. The two middle girders to the right of the fireplace are spliced at locations that do not bear over masonry piers. Similar to item #4, sister a continuous 2x8 member from pier to pier along each side of both girders to restore structural continuity.
7. At the front entry, the header spanning left to right is inadequately supported at both ends. Construct a masonry pier beneath each end of this header to provide proper support.



8. The manner in which the floor joists are connected to the perimeter band joist is inadequate. The joists currently bear on the 2x6 sill plate rather than being properly connected to the band joist that is intended to support them. As a result, the sill plate has sagged between piers in some areas. Around the entire perimeter of the house, attach each floor joist to the band joist using a Simpson Strong-Tie A35 secured with No. 9 x 2.5-inch Simpson SD screws.
9. Microbial growth is present throughout the crawlspace and is more extensive on the right side, where clearance is limited. This condition is the result of elevated humidity caused by the absence of a proper vapor barrier. Retain a crawlspace moisture

mitigation contractor to clean all visible microbial growth from the framing and treat the affected surfaces with an appropriate fungicidal solution. After cleaning, install a fully sealed ground vapor barrier throughout the crawlspace. Full encapsulation with a dehumidification system is strongly recommended to maintain relative humidity at levels low enough to prevent recurrence. Certain fungi can cause significant structural deterioration if left untreated.

Wood framing was probed at accessible locations, and only minor deterioration was observed. Reinforcement was not considered necessary at the areas tested. However, access to portions of the right side of the crawlspace was restricted by limited clearance and ductwork obstructions. The crawlspace contractor should inspect all framing members after access is improved and reinforce any members exhibiting significant deterioration with comparably sized lumber.

Removal of the existing ductwork will be necessary to complete many of the structural repairs described above. Given the age of the duct system, this would be an appropriate time to consider replacing the existing ducts with new insulated flexible ductwork to improve energy efficiency and reduce moisture imbalances within the crawlspace. Duct replacement would also complement the recommended crawlspace encapsulation measures.

While we do our best to find all structurally significant defects, we cannot anticipate the subjective opinions of other inspectors and what others may consider to be significant. Because of limited visibility and maneuverability in crawlspaces and attics due to ductwork and insulation, we cannot guarantee that all defects were discovered.

The inspection covers only those systems and components expressly and specifically identified in this report. Any area of view concealed or inaccessible is excluded from this inspection. The inspection does not include any destructive testing or dismantling. It is agreed that the Inspection Report does not constitute a guarantee or warranty of adequacy, performance or condition of any structure, item, or system. The inspection and the Inspection Report are prepared for the sole, confidential and exclusive use of the Client. Should you have any questions regarding this report, please feel free to call.

Sincerely,



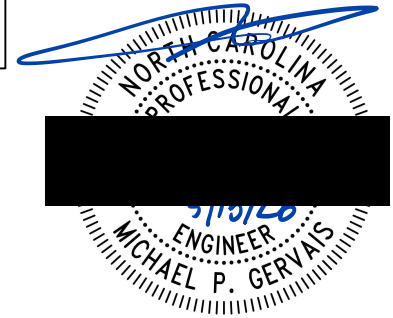
Michael P. Gervais, P.E.
NC License #27399
Corporate License #: C3118
Enclosure: Repair Detail 'S1' 8x11



For structural questions:
Mike Gervais, P.E.
(704) 999-3869

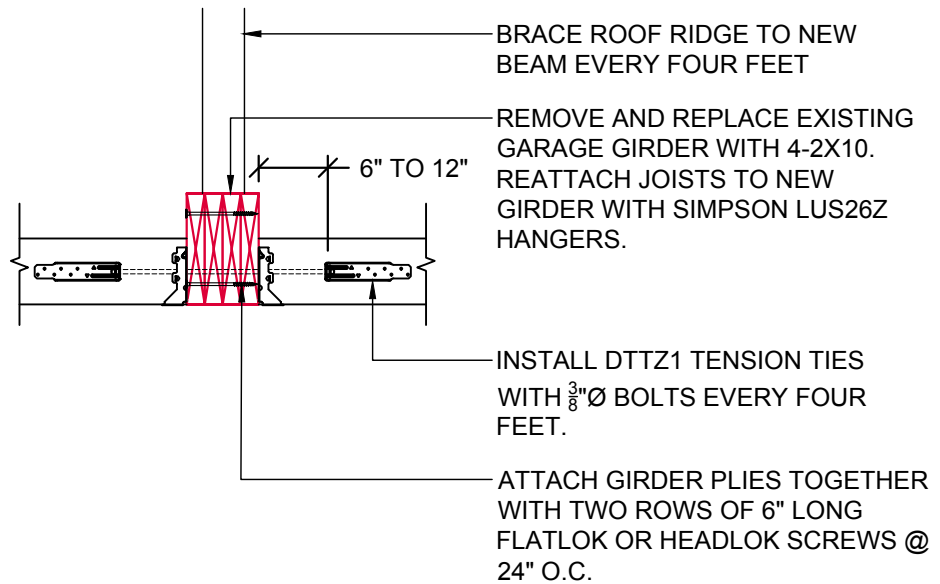
CLIENT:
PROJECT:

SHEET NUMBER: S1(OF 1)



SEAL FOR STRUCTURAL ONLY

NOTE:
CONTRACTOR TO PROVIDE TEMPORARY SHORING
OF STRUCTURE AS NEEDED WHILE PERFORMING
WORK. PROVIDE SHORING TO ROOF AS WELL.



1
S1

REPAIR DETAIL
SCALE: 3/4" = 1'-0"