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May 11, 2025

???
48 Cedar Lane
Sanford, NC 27332

Re: Structural Investigation
Project #25142

Dear ???:

I made a site inspection of the house located at the above referenced address. The house is a two-story single-family house with a wood-framed superstructure.

For purposes of this report, all directions (left, right, rear, etc.) are taken from the viewpoint of an observer standing in front of the house and facing it.

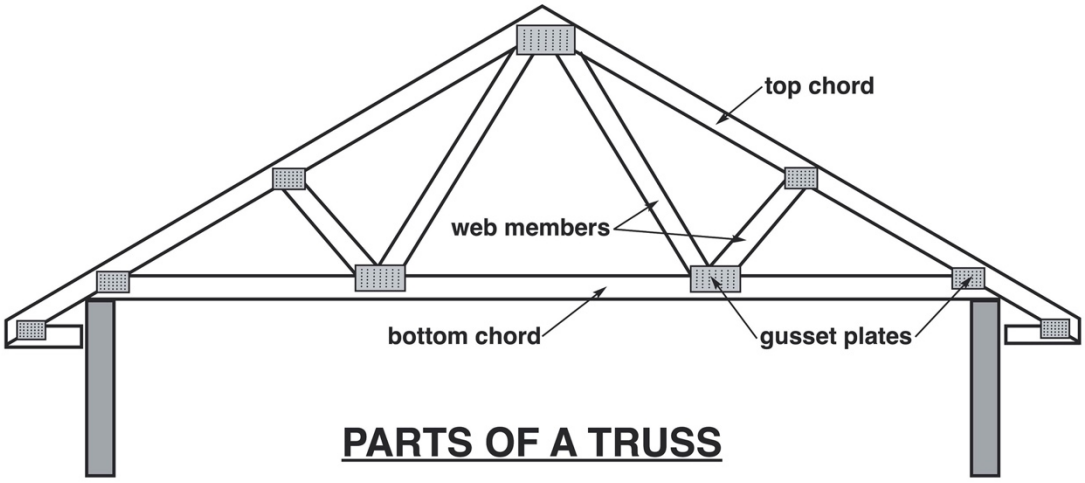
FIELD OBSERVATIONS:

Attic:

- There was an access door to a storage area within the attic trusses at the top of the stairs to the bonus room (photo 1).
- Several trusses were cut in this storage area to allow for access.
- Red lines have been added to the photos to indicate where the trusses were cut out to allow access within the attic (photos 2 to 8).
- Note that the original web members of the truss would not allow the new access door to open and limit access to the storage area.
- The cutting of the trusses has severely weakened the structurally integrity of the roof.

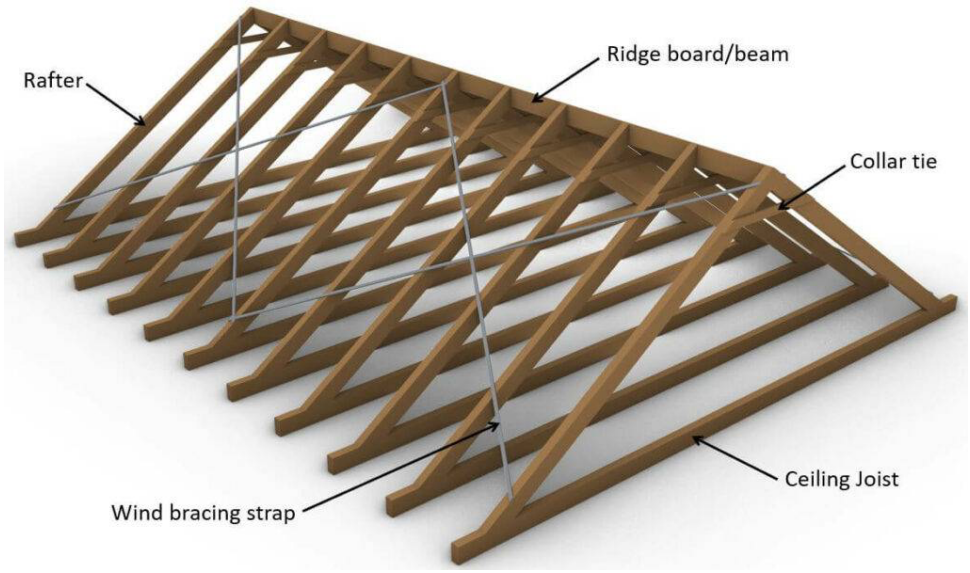
CONCLUSION:

There are generally two types of damage that occur to roof wood trusses: cracked or missing 2x4 web or chord members AND damaged or missing metal gusset plates.

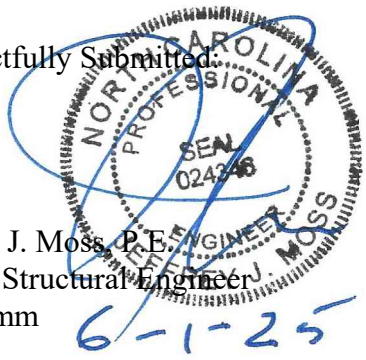


In this house, web members were removed, resulting in damage to five (5) roof trusses. These modifications were made to create clearance for the access door and to allow access to a renovated attic storage area. Unfortunately, altering the trusses in this manner has significantly compromised the integrity of the roof structure. While a common repair approach involves reconstructing the missing web members and reconnecting them to the original trusses, I do not believe this is the most appropriate solution in this case since it will block the door and limit the storage area.

Therefore, I recommend reframing this section of the roof using conventional “stick framing” methods. New 2x8 roof rafters should be installed and securely fastened to the existing 2x4 top chords of the trusses. This approach will effectively convert the roof structure from a pre-engineered truss system to a traditional rafter-framed system allowing for a more open structure. See below.



Respectfully Submitted,



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