



January 17, 2022

Trumark Homes  
1241 NE Goshen Dr.  
Lees Summit, MO 64064

**RE: Structural Inspection**

On January 14, 2022 a structural inspection was performed by Everstead at the above referenced property. The purpose was to inspect framing concerns noted during the City's framing inspection. Below are the findings and recommendations.

**City Comment: Garage PFH wall LVL header not going from corner to corner; wall taller than 12 ft shall be 2x6**

- Everstead observed a 2x4 stud wall at double car garage bay with an LVL header that stopped at the inside corner of the adjacent perpendicular walls. Everstead recommends the following:
  - Add 2x4 knee braces, installed at a maximum 45 degrees from the horizontal, from each wall stud to ceiling joist. Install braces 2' below ceiling joists or such that the unbraced vertical distance from the garage floor to the kicker is less than 12 ft, which ever provides the shortest vertical wall span.
  - Install 3/8 OSB panels to the interior side of the 2x4 walls, like the exterior of the PFH, on each side of the garage door opening from floor to min 4' above LVL header. Fasten OSB to stud wall every 3" with 8D common nails.
  - Install 3/4" structural wall panel to adjacent perpendicular walls to provide a 3/4" vertical cleat panel the full height of the wall. Cleat panel must span a minimum of two wall studs and fastened every 4" on center with 8d common nails.

**City Comment: Over notched 2x10 rafters at exterior wall bearing \*\* Code requires max 25% notch at bearing ends of rafters.**

- Everstead observed 2x10 vault rafters installed in the great room and dining room. A horizontal span of approximately 10' was observed from the structural ridge to the load bearing wall / beam. The 2x10 rafters were notched by approximately 3" (more than the 25% max code allows). Although the notching is more than what the code allows, the members appear to be oversized for the horizontal span and assumed design loads.

Table R802.4.1(2) of the 2018 IRC allows for 2x6 rafters to be used up to a horizontal span of 12'-7" for a 20 psf dead load with 20 psf roof live load.

Although over notched, the observed 2x10 rafters, as installed appear to have adequate member depth and bearing for what is required by the 2018 IRC for a 10' horizontal span, and therefore acceptable.

We would like to thank you for the opportunity to consult you on your home. Please feel free to contact us if you have any questions regarding this report or need any further consultation.

Sincerely,

Chris Davis, PE

