May 18, 2022

Clover & Hive
120 SE 30th St.
Lee's Summit, MO 64082

RE: Field Issues of holes overbored and closer than 2" together, truss connections to framing at stacked top plates, beam connection at front porch for Lot # 141 Cobey Creek– 3545 SE Corbin Dr. Lee's Summit, MO 64082 – Permit # PRRES20220518

City of Lee's Summit Comment:

1. **Address joists with holes bored closer than 2" at garage by mechanical room wall, in mechanical room, bath, by stairs, and throughout**
2. **Address header joist over bored and with holes closer than 2" at basement bath**
3. **Have engineer address truss connections to framing at stacked (4) top plates with plywood**
4. **Address beam connections at front porch with improper hanger installation at house**

Comment 1 & 2 : Holes bored closer than 2" and overbored:
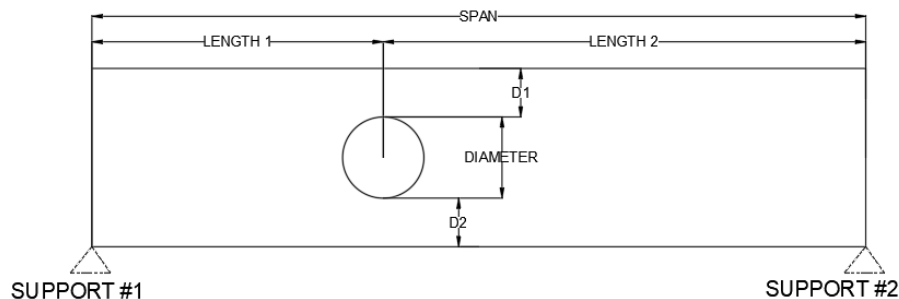
- D1 – more than 2"
- D2 – more than 2"
- Diameter of hole – 1"-3.5"
- Holes are closer than 2" to another hole
- Location – at garage by mechanical room, in mechanical room, bath, by stairs, and throughout
- Loading -
  - Dead = 10 psf @ 16" oc
  - Live = 40 psf @ 16" oc

Recommendations:

- **Install a 24" - CS16 strap centered under the hole along the bottom of the floor joist. Install CS16 strap per manufacturer's spec's shown below.**

Model No.	Total L	Ga.	DF/SP		SPF/HF		Allowable Tension Loads (160)	Code Ref.
			Fasteners	End Length	Fasteners	End Length		
CMST12	40'	12	(74) 16d	33"	(84) 16d	38"	9,215	
			(86) 10d	39"	(98) 10d	44"	9,215	
CMST14	52½'	14	(56) 16d	26"	(66) 16d	30"	6,490	
			(66) 10d	30"	(76) 10d	34"	6,490	
CMSTC16	54'	16	(50) 16d sinker	20"	(58) 16d sinker	25"	4,585	
CS14	100'	14	(26) 10d	15"	(30) 10d	16"	2,490	I4, L3, FL
			(30) 8d	16"	(36) 8d	19"	2,490	
CS16	150'	16	(20) 10d	11"	(22) 10d	13"	1,705	
			(22) 8d	13"	(26) 8d	14"	1,705	
CS18	200'	18	(16) 10d	9"	(18) 10d	11"	1,370	
			(18) 8d	11"	(22) 8d	12"	1,370	
CS20	250'	20	(12) 10d	6"	(14) 10d	9"	1,030	
			(14) 8d	9"	(16) 8d	9"	1,030	
CS22	300'	22	(10) 10d	7"	(12) 10d	7"	845	
			(12) 8d	7"	(14) 8d	8"	845	

1. Fastener quantities and end lengths are calculated using an increase for wind or seismic loading.
2. Use half of the required nails in each member being connected to achieve the listed loads.
3. Calculate the connector value for a reduced number of nails as follows:

$$\text{Allowable Load} = \frac{\text{No. of Nails Used}}{\text{No. of Nails in Table}} \times \text{Table Load}$$

Example: CMSTC16 in DF/SP with 40 nails total.
(Half of the nails in each member being connected)

$$\text{Allowable Load} = \frac{40 \text{ Nails (Used)}}{50 \text{ Nails (Table)}} \times 4,585 \text{ lb.} = 3,668 \text{ lb.}$$

4. Tension loads apply for uplift when installed vertically.
5. **Nails:** 16d = 0.162" dia. x 3½" long, 16d sinker = 0.148" dia. x 3¼" long, 10d = 0.148" dia. x 3" long. See pp. 26–27 for other nail sizes and information.

Comment #3: Truss connections to framing at stacked (4) top plates with plywood:

Clarification:

- **Install OSB to shim to plate as needed.**

Comment #4: Address beam connections at front porch with improper hanger installation at house

- **Remove portion of siding so sistered beam is flush with existing beam.**
- **Sister Douglas Fir Larch #2 2x10 to existing (2) #2 2x10 header for front porch.**
- **Glue sistered beam to existing and install with 4 fasteners per linear ft in a "W" pattern.**
- **Install Simpson LUC210Z hanger to attach sistered beam to exterior wall per manufacturer's spec's.**

Sincerely,

Bradley Huxol, PE