

June 8, 2022

Summit Homes  
 120 SE 30<sup>th</sup> St.  
 Lee's Summit, MO 64082

**RE: Field Issue of holes within 2" on floor joists for Lot #128 Manor at Stoney Creek -1905 SW Merryman Drive. Lee's Summit, MO 64082 - Permit # PRRES20213815**

**Findings:**

- Floor joist are located below W.I. closet and bath #1.
- Floor joist have holes bored withing 2" for pex and DWV lines.
- Floor joist span approximately 15' 9" and are doubled.
- Floor joist have standard loads of D=10 PSF and L=40 PSF

**Recommended modifications:**

- **No structural modifications are required.**

**Findings:**

- Floor joist are located below owners entry, pwdr room, and pantry.
- Floor joist have holes within 2" of the bottom edge.
- Floor joist span approximately 15' 4" with holes locates 8" from rear foundation wall.
- Floor joist have standard loads of D=15 PSF and L=40 PSF

**Recommended modifications**

- Fasten CS16 strap centered over the hole along the bottom of the floor joist. Install CS16 strap per manufacturers recommendations 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	I4, L3, FL
			(86) 10d	39"	(98) 10d	44"	9,215	
CMST14	52'6"	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	
			(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 3 1/8" long. 16d sinker = 0.148" dia. x 3 1/4" long.  
 10d = 0.148" dia. x 3" long. See pp. 26-27 for other nail sizes and information.



Sincerely,



Bradley Huxol, PE

