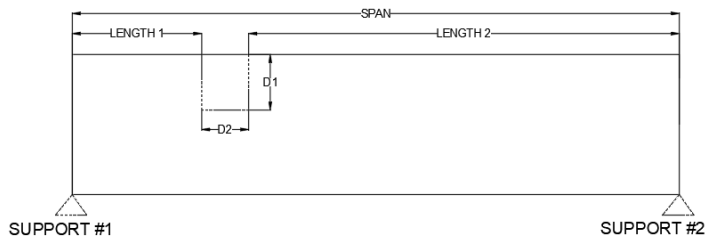


August 16, 2022

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

**RE: Field Issues for lot #1A Osage – 2108 SW Holdbrooks Dr,  
 Lee's Summit, MO 64082 – Permit # PRRES20215066**



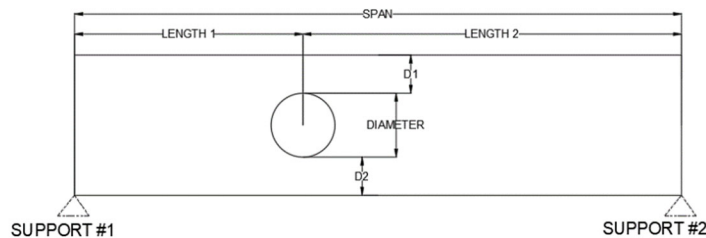
SIMPLE SPAN

## 1. Over notched rim board

- D1 – 4"
- D2 – 3.5"
- Length 1 – 4'-3"
- Length 2 – 11'-2"
- Span – 15'-8.5"
- Support #1 – Stud pack near HVAC
- Support #2 – Exterior loadbearing wall
- Location – Rear of garage

## Recommended modifications:

- Install 24" length of CS-16 on rim board and 2x4 bottom plate per manufacturer's spec's.



## 2. Field Issue of holes within 2" of each other in floor joists

- D1 – at least 2"
- D2 – at least 2"
- Diameter of hole – 1"
- Length 1 – 12"
- Length 2 – 9'-9"
- Span – 10'-9"
- Support #1 – Header at stairs
- Support #2 – Load bearing wall at front door

| Model No. | Total L | Ca. | DF/SP        |            | SPF/HF       |            | Allowable Tension Loads (160) | Code Ref. |
|-----------|---------|-----|--------------|------------|--------------|------------|-------------------------------|-----------|
|           |         |     | Fasteners    | End Length | Fasteners    | End Length |                               |           |
| CMST12    | 40'     | 12  | (74) 16d     | 33"        | (84) 16d     | 36"        | 9,215                         | H, L, FL  |
|           |         |     | (86) 10d     | 39"        | (98) 10d     | 44"        | 9,215                         |           |
| CMST14    | 52W     | 14  | (56) 16d     | 26"        | (66) 16d     | 30"        | 6,490                         |           |
|           |         |     | (66) 10d     | 30"        | (76) 10d     | 34"        | 6,490                         |           |
| CMSTC16   | 54'     | 16  | (50) 16d skt | 20"        | (50) 16d skt | 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:

Allowable Load = No. of Nails in Table × Table Load

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

Allowable Load = 40 Nails (Used) × 4,585 lb. = 3,668 lb.

50 Nails (Table)

4. Tension loads apply for uplift when installed vertically.

5. Nails: 16d = 0.165" dia. x 3 1/4" long, 16d skt = 0.148" dia. x 3 1/4" long.

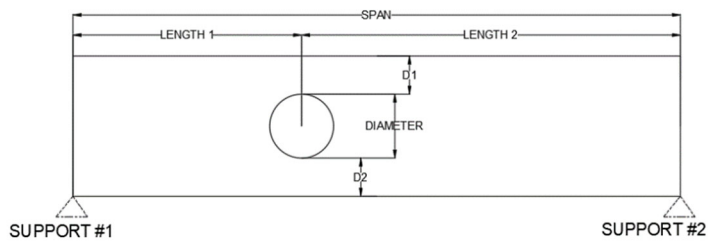
10d = 0.148" dia. x 3" long. See pp. 26-27 for other nail sizes and information.

- Location – front entry/foyer
- Loading -
  - Dead = 10 psf @ 16" oc
  - Live = 40 psf @ 16" oc

#### Recommended modifications:

- Install 24" length of CS-16 on bottom of floor joist centered under the holes per manufacturer's spec's.

#### Field Issues for unit B Osage –



### 3. Field Issue of holes within 2" of bottom of floor joists

- D1 – at least 2"
- D2 – 2"
- Diameter of hole – 1"
- Length 1 – 9"
- Length 2 – 13' 6"
- Span – 14'-3"
- Support #1 – LBW at rear of structure
- Support #2 – W8x13 steel beam
- Location – Rear of structure in basement
- Loading -
  - Dead = 10 psf @ 16" oc
  - Live = 40 psf @ 16" oc

#### Recommended modifications:

- Install 24" length of CS-16 under the holes per manufacturer's spec's.

### 4. Field Issue of holes within 2" of each other in floor joists

- D1 – at least 2"
- D2 – at least 2"
- Diameter of hole – 1"
- Length 1 – 12"
- Length 2 – 9'-9"
- Span – 10'-9"
- Support #1 – Header at stairs
- Support #2 – Load bearing wall at front door
- Location – front entry/foyer
- Loading -
  - Dead = 10 psf @ 16" oc
  - Live = 40 psf @ 16" oc

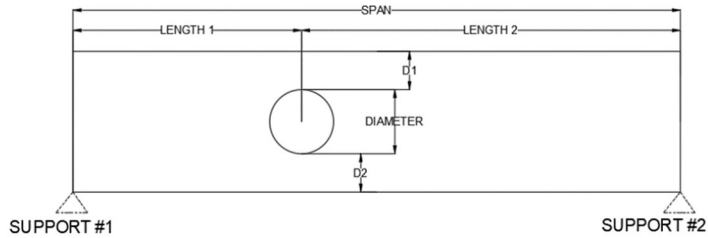
#### Recommended modifications:

- Install 24" length of CS-16 under the holes per manufacturer's spec's.

| 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                         | H, L3, FL |
|           |         |     | (86) 10d        | 39"        | (98) 10d        | 44"        | 9,215                         |           |
| CMST14    | 52W     | 14  | (56) 16d        | 26"        | (66) 16d        | 30"        | 6,490                         |           |
|           |         |     | (66) 10d        | 30"        | (76) 10d        | 34"        | 6,490                         |           |
| CMSTC16   | 54'     | 16  | (50) 16d shaker | 20"        | (50) 16d shaker | 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:  
 Allowable Load = No. of Nails Used x Table Load  
 Example: CMSTC16 in DF/SP with 40 nails total.  
 (Half of the nails in each member being connected)  
 Allowable Load = 40 Nails (Used) x 4,585 lb. = 3,668 lb.  
 50 Nails (Table)  
 4. Tension loads apply for uplift when installed vertically.  
 5. Nails: 16d = 0.162" dia. x 3 1/2" long, 10d shaker = 0.148" dia. x 3 1/2" long.  
 10d = 0.148" dia. x 3" long. See pp. 26-27 for other nail sizes and information.

## Field Issues for unit C Osage –



| Model No. | Total L | Ga. | DF/SP           |            | SPF/HF          |            | Allowable Tension Loads (160) | Code Ref. |
|-----------|---------|-----|-----------------|------------|-----------------|------------|-------------------------------|-----------|
|           |         |     | Fasteners       | End Length | Fasteners       | End Length |                               |           |
| CMS12     | 40'     | 12  | (74) 16d        | 33"        | (84) 16d        | 38"        | 9,215                         | H, L3, FL |
|           |         |     | (86) 10d        | 39"        | (98) 10d        | 44"        | 9,215                         |           |
| CMS14     | 52 1/2' | 14  | (66) 16d        | 26"        | (66) 16d        | 30"        | 6,490                         |           |
|           |         |     | (66) 10d        | 30"        | (76) 10d        | 34"        | 6,490                         |           |
| CMS16     | 54'     | 16  | (50) 16d sinker | 20"        | (50) 16d sinker | 25"        | 4,585                         |           |
| CS14      | 100'    | 14  | (26) 10d        | 15"        | (30) 10d        | 16"        | 2,490                         |           |
|           |         |     | (20) 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:

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

Example: CMS16 in DF/SP with 40 nails total.  
(half of the nails in each member being connected)

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 1/4" long. 10d 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.

### 5. Field Issue of holes within 2" of each other in floor joists

- D1 – at least 2"
- D2 – at least 2"
- Diameter of hole – 1"
- Length 1 – 12"
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- Span – 10'-9"
- Support #1 – Header at stairs
- Support #2 – Load bearing wall at front door
- Location – front entry/foyer
- Loading -
  - Dead = 10 psf @ 16" oc
  - Live = 40 psf @ 16" oc

### Recommended modifications:

- Install 24" length of CS-16 on bottom of floor joist centered under the holes per manufacturer's spec's.

Sincerely,

Bradley Huxol, PE

