Structural Calculations

Project Title: Charters Residence

Address: Lot 63 Jug Mountain Ranch

Location: McCall (150), Idaho

Job #: 2022-4218





Prepared in accordance with 2018 IBC. Calculations expire by: 11/4/2023



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

SITE SPECIFIC DESIGN CRITERIA:

Snow Criteria:

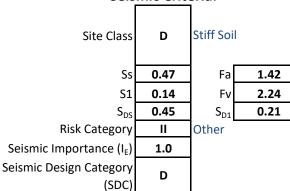
| Roof Load (P _f) | 150 psf | |
|-----------------------------------|---------|-----------|
| Ground Load (Pg) | 150 psf | |
| Exposure Factor (C _e) | 1.0 | Partially |
| Thermal Factor (C _t) | 1.0 | Typical |

Importance (I_s)

Wind Criteria:

| | | _ |
|-----------------------------------|---------|--------------|
| Wind Speed (V ₃) | 115 mph | |
| Wind Exposure | C | Open Terrair |
| Wind Importance (I _w) | 1.0 | |
| Building Category | II | |
| • | | - |

Seismic Criteria:



Seismic Criteria (continued):

| Wall | Design | Response |
|----------|------------|-----------|
| Material | Base Shear | Coeff., R |

| OSB | .08Wp | 6.5 | Тур @ |
|----------|-------|-----|-------|
| GYP | .27Wp | 2 | Тур @ |
| CANT COL | .36Wp | 1.5 | |

Soil Criteria:

Brg. Strength 1500 psf

STRUCTURE SPECIFIC DESIGN CRITERIA:

Live Loads:

| - | IVC LOUG |
|-----------------|----------|
| Typ Residential | |
| Garage (P.V.) | 50 psf |
| Sleeping Area's | 30 psf |

Floor Dead Loads:

| TOTAL | 17 psf |
|----------|--------|
| Misc | 3.0 |
| Flooring | 2.5 |
| Ceiling | 2.0 |
| Joist | 7.0 |
| Deck | 2.5 |
| | |

Roof <u>Dead Lo</u>ads:

| TOTAL | 17 psf |
|------------|--------|
| Misc | 4.5 |
| Ceiling | 3.0 |
| Joist | 2.5 |
| Roofing | 3.0 |
| Insulation | 2.0 |
| Deck | 1.5 |
| i | |

Interior Wall Dead Loads:

| TOTAL | 8 psf |
|------------|-------|
| Misc | 3.0 |
| Gyp. Board | 2.5 |
| Studs | 2.0 |
| | |

Exterior Wall Dead Loads:

| Studs | 2.0 |
|------------|--------|
| Siding | 2.5 |
| Insulation | 0.5 |
| Gyp. Board | 2.5 |
| Sheating | 1.5 |
| Misc | 3.0 |
| TOTAL | 12 psf |

Deck Dead Load

| TOTAL | 10 psf |
|---------|--------|
| Misc | 3.0 |
| | 0.0 |
| Joist | 2.0 |
| Decking | 4.4 |
| | |

Ext

Int

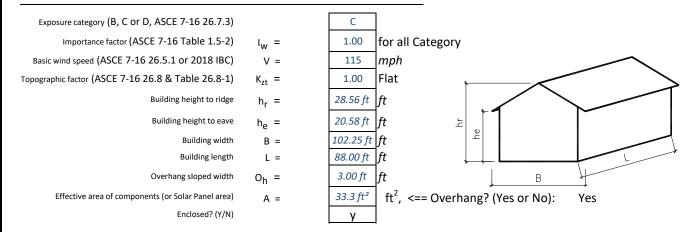


Completed by: JDJ Review/Check: ARA

Project Name: Charters Residence **SRE Project** #: 2022-4218 City and State: McCall, Idaho

WIND ANALYSIS: Low-rise Building - Based on IBC / ASCE 7

INPUT DATA



ANALYSIS

Velocity pressure

 $q_h = 0.00256 K_z K_{zt} K_d \frac{K_e}{V} V^2$ 27.10 psf

q_h = velocity pressure at mean roof height, h. (Eq. 26.10-1 page 268) where:

> K_7 = velocity pressure exposure coefficient evaluated at height, h, (Tab. 26.10-1, pg 2 0.94 K_d = wind directionality factor. (Tab. 26.6-1, for building, page 266) 0.85

h = mean roof height **24.57** ft

K_e = ground elevation factor. (1.0 per Sec. 26.9, page 268) < 60 ft, [Satisfactory] (ASCE 7-16 26.2.1) < Min (L, B), [Satisfactory] (ASCE 7-16 26.2.2)

Design pressures for MWFRS

 $p = q_h [(G C_{pf})-(G C_{pi})]$

psf (ASCE 7-16 28.3.4) where: p = pressure in appropriate zone. (Eq. 28.3-1, page 311). $p_{min} =$ 16

G C_{pf} = product of gust effect factor and external pressure coefficient, see table below. (Fig. 28.3-1, page 312 & 313)

G C_{pi} = product of gust effect factor and internal pressure coefficient.(Tab. 26.13-1, Enclosed Building, page 271)

a = width of edge strips, Fig 28.3-1, page 312, MAX[MIN(0.1B, 0.1L, 0.4h), MIN(0.04B, 0.04L), 3] =

Net Pressures (psf), Basic Load Cases

| receires (psi), basic coda cases | | | | | | |
|----------------------------------|----------------------|----------------------|----------------------|--------------------|----------------------|----------------------|
| | Roof angle q = 36.87 | | | Roof ar | ngle q = | 36.87 |
| Surface | | Net Press. W/ | | C C | Net Press. W/ | |
| | G C _{p f} | (+GC _{pi}) | (-GC _{pi}) | G C _{p f} | (+GC _{pi}) | (-GC _{pi}) |
| 1 | 0.56 | 10.30 | 20.06 | -0.45 | -17.08 | -7.32 |
| 2 | 0.21 | 0.81 | 10.57 | -0.69 | -23.58 | -13.82 |
| 3 | -0.43 | -16.53 | -6.78 | -0.37 | -14.91 | -5.15 |
| 4 | -0.37 | -14.91 | -5.15 | -0.45 | -17.08 | -7.32 |
| 5 | | | | 0.40 | 5.96 | 15.72 |
| 6 | | | | -0.29 | -12.74 | -2.98 |
| 1E | 0.69 | 13.82 | 23.58 | -0.48 | -17.89 | -8.13 |
| 2E | 0.27 | 2.44 | 12.20 | -1.07 | -33.88 | -24.12 |
| 3E | -0.53 | -19.24 | -9.49 | -0.53 | -19.24 | -9.49 |
| 4E | -0.48 | -17.89 | -8.13 | -0.48 | -17.89 | -8.13 |
| 5E | | | | 0.61 | 11.65 | 21.41 |
| 6E | | | | -0.43 | -16.53 | -6.78 |

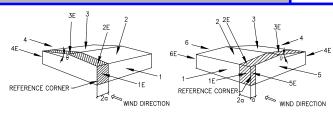
Net Pressures (psf), Torsional Load Cases

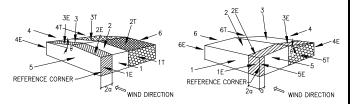
| recent cosumes (por/) Tororonan zou | | | | |
|-------------------------------------|----------------------|----------------------|----------------------|--|
| | Roof angle q = 36.87 | | | |
| Surface | | Net Press. W/ | | |
| | G C _{p f} | (+GC _{pi}) | (-GC _{pi}) | |
| 1T | 0.56 | 2.57 | 5.01 | |
| 2T | 0.21 | 0.20 | 2.64 | |
| 3T | -0.43 | -4.13 | -1.69 | |
| 4T | 0.00 | -3.73 | -1.29 | |
| | Roof angle q = 0.00 | | | |
| Surface | | Net Pre | ess. W/ | |
| G C _{p f} | | (+GC _{pi}) | (-GC _{pi}) | |
| 5T | 0.40 | 1.49 | 3.93 | |
| 6T | -0.29 | -3.18 | -0.75 | |

+ / - Wind Pressure 59% 8.80 ft



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Load Case A (Transverse) Load Case B (Longitudinal)

<u>Basic Load Cases</u>

Load Case A (Transverse) Load Case B (Longitudinal)

<u>Torsional Load Cases</u>

Design pressures for components and cladding

$p = q_h[(G C_p) - (G C_{pi})]$

where: p = pressure on component. (Eq. 30.3-1, pg 33-

p_{min} = 16.00 psf (ASCE 7-16 30.2.2)

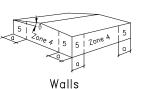
G C_p = 1.00 external pressure coefficie

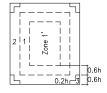
see table below. (ASCE 7-16 30.3.2)

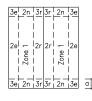
q = 36.87 °

 $p_{overhang} = -93.51 psf$

(ASCE 7-16 28.3.3)







Roof 0≤7°

Roof 0>7°

| | Effective | Zor | ne 1 | Zon | e 1' | Zor | ne 2 | Zon | e 2e | Zon | e <mark>2</mark> n | Zon | e 2r |
|------------------|-------------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|--------------------|--------|-------------------|
| Comp & | Area (ft ²) | GC_P | - GC _P | GC_P | - GC _P |
| Comp. & Cladding | 3485 | 0.30 | -0.80 | 0.30 | -0.80 | 0.30 | -1.80 | 0.30 | -0.80 | 0.30 | -1.00 | 0.30 | -1.00 |
| Coeffs. | Effective | Zor | ne <mark>3</mark> | Zon | e 3e | Zon | e 3r | Zor | ne 4 | Zor | ne <mark>5</mark> | | |
| Coens. | Area (ft²) | GC_P | - GC _P | | |
| | 33 | 0.30 | -1.80 | 0.30 | -1.80 | 0.30 | -1.80 | 0.99 | -1.09 | 0.99 | -1.37 | | |

| | Zoı | ne 1 | Zor | ne 1 ' | Zoı | 1e <mark>2</mark> | Zone <mark>2e</mark> | | Zone 2n | | Zone 2r | |
|------------------|----------|-------------------|----------|---------------|----------|---------------------|----------------------|-------------|----------|-------------------|----------|----------|
| | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative |
| Comp. & Cladding | 3.25 | -16.80 | 3.25 | -16.80 | 3.25 | -43.91 | 3.25 | -16.80 | 3.25 | -22.22 | 3.25 | -22.22 |
| Pressures | Zoı | 1e <mark>3</mark> | Zon | e 3e | Zon | ie <mark>3</mark> r | Zor | ne 4 | Zor | ne <mark>5</mark> | | |
| | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative | (Max F | Pressure |
| | 3.25 | -43.91 | 3.25 | -43.91 | 3.25 | -43.91 | 21.84 | -24.55 | 21.84 | -32.29 | 43.91 | psf) |

| OADS | LOAD CASE 'A' FACTORED L |
|----------|--|
| 10.4 psf | $0.6*W_r = (Z_2 + Z_3) * 0.6 =$ |
| 13.0 psf | $0.6*W_{rE} = (Z_{2E} + Z_{3E}) * 0.6 =$ |
| 15.1 psf | $0.6*W_w = (Z_1 + Z_4) * 0.6 =$ |
| 19.0 psf | $0.6*W_{wE} = (Z_{1E} + Z4E) * 0.6 =$ |

| LOAD CASE 'B' FACTORE | D LOADS |
|--|----------|
| $0.6*W_r = (Z_2 + Z_3) * 0.6 =$ | 5.2 psf |
| $0.6*W_{rE} = (Z_{2E} + Z_{3E}) * 0.6 =$ | 8.8 psf |
| $0.6*W_w = (Z_5 + Z_6) * 0.6 =$ | 11.2 psf |
| $0.6*W_{wE} = (Z_{5E} + Z_{6E}) * 0.6 =$ | 16.9 psf |

| ROOF COMPONENTS | FACTORED LOAD |
|------------------------------|---------------|
| 0.6*Z _{r,c&c} = | 13.3 psf |

| WALL COMPONENT | TS FACTORED LOAD |
|------------------------------|------------------|
| 0.6*Z _{w,c&c} = | 14.7 psf |

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kips, total

OSB SEISMIC LOADING ANALYSIS

IBC / ASCE 7: Equivalent Lateral Force (ELF) Procedure:

INPUT DATA

DESIGN SUMMARY

| Typical floor height: | h = | 10 | ft | $C_s = 1.2 * S_{DS} / (R / I_e) =$ | 0.0825 | | <= Applicable |
|------------------------------------|-------------------|-------|------|------------------------------------|--------|------------------------|-------------------|
| Typical floor weight: | $w_x =$ | 153.0 | kips | Period Parameter, $x =$ | 0.75 | , ASCE Tab 12.8-2 | |
| Number of floors: | n = | 2 | | Period: $T_a = C_t (h_n)^x =$ | 0.25 | sec, ASCE 12.8.2.1 | |
| Importance factor (ASCE 11.5.1): | I _e = | 1.00 | | $C_s < S_{D1} / [(R / I_e) T_a] =$ | 0.1309 | , ASCE Tab 12.8.1.1 | <= Not Applicable |
| Design spectral response: | S _{DS} = | 0.45 | g | $C_s > 0.044 S_{DS} I_e =$ | 0.0197 | , ASCE Tab 12.8.1.1 | <= Not Applicable |
| | $S_{D1} =$ | 0.21 | g | $C_s > 0.5 S_1 / (R / I_e) =$ | 0.0108 | , ASCE Tab 12.8.1.1 | <= Not Applicable |
| Mapped spectral resp.: | S ₁ = | 0.14 | g | k = | 1.88 | , (ASCE 12.8.3, page 9 | 91) |
| Period Parameter, C _t : | | | | | | | |
| (ASCE Tab 12.8-2): | C _t = | 0.020 | | $V = C_s W =$ | 0.0825 | W | |
| Resp. coefficient: (ASCE | | | | <u>.</u> | | | |
| Tab. 12.2.1): | R = | 6.5 | | 0.7 * V = | 0.0577 | W | |
| Seismic design category: | SDC = | D | | | | | |

SEISMIC COMPONENT & ANCHORING ANALYSIS

Out-of-plane seismic force for wall design (ASCE 7, Sec.12.11.1)

$$W_{1,seismic} = MAX \left(0.4 I_{SDS} W_p , 0.1 W_p \right)$$
 = **0.2** W_p = **0.2** psf <= **USE FOR DIAPHRAGMS**

Where : W_p = 1.0 psf , I_e = 1.00 (CBC / IBC Tab. 1604.5 & ASCE 7 Tab. 1.5-2)

h_n = 28.6 ft

Out-of-plane seismic force for anchorage design For seismic design category A & B, any diaphragm (ASCE 7 Sec. 12.11.2)

$$F_{anch,seismic} = MAX \left[0.4 S_{DS} I W_p \frac{\left(h + h_p\right)^2}{2h} , 0.1 W_p \frac{\left(h + h_p\right)^2}{2h} , 400 S_{DS} I , F_{min} \right] =$$
Where: $F_{min} = 0.17$ plf, 1.75 $W_p = 179$ plf (Horizontal) <= Not Applicable

(ASCE 7 Sec. 12.11.2 & 11.7.3)

For seismic design category C and above, flexible diaphragm (ASCE 7 Sec. 12.11.2.1)

$$F_{anch,seismic} = MAX \left[0.8 S_{DS} I W_{p} \frac{\left(h + h_{p}\right)^{2}}{2h} , 0.1 W_{p} \frac{\left(h + h_{p}\right)^{2}}{2h} , 400 S_{DS} I , F_{min} \right] =$$
= **3.50** W_p = **179** plf (Horizontal) <= **Applicable**

For connections (ASCE 7 Sec. 12.11.2.1)

 $F_{conn,seismic} = MAX [0.133 S_{DS} w_p, 0.5 w_p] =$ **0.5** W_p = **0.5** plf (Horizontal)

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Project Name: Charters Residence **SRE Project** #: 2022-4218 City and State: McCall, Idaho

kips, total

GYP SEISMIC LOADING ANALYSIS

IBC / ASCE 7: Equivalent Lateral Force (ELF) Procedure:

INPUT DATA

DESIGN SUMMARY

| Typical floor height: | h = | 10 | ft | $C_s = 1.2 * S_{DS} / (R / I_e) =$ | 0.2681 | | <= Applicable |
|------------------------------------|------------------|-------|------|------------------------------------|--------|----------------------|-------------------|
| Typical floor weight: | w _x = | 153.0 | kips | Period Parameter, x = | 0.75 | , ASCE Tab 12.8-2 | |
| Number of floors: | n = | 2 | | Period: $T_a = C_t (h_n)^x =$ | 0.25 | sec, ASCE 12.8.2.1 | |
| Importance factor (ASCE 11.5.1): | $I_e =$ | 1.00 | | $C_s < S_{D1} / [(R / I_e) T_a] =$ | 0.4253 | , ASCE Tab 12.8.1.1 | <= Not Applicable |
| Design spectral response: | $S_{DS} =$ | 0.45 | g | $C_s > 0.044 S_{DS} I_e =$ | 0.0197 | , ASCE Tab 12.8.1.1 | <= Not Applicable |
| | $S_{D1} =$ | 0.21 | g | $C_s > 0.5 S_1 / (R / I_e) =$ | 0.0353 | , ASCE Tab 12.8.1.1 | <= Not Applicable |
| Mapped spectral resp.: | S ₁ = | 0.14 | g | k = | 1.88 | , (ASCE 12.8.3, page | 91) |
| Period Parameter, C _t : | | | | | | | |
| (ASCE Tab 12.8-2): | C _t = | 0.020 | | $V = C_s W =$ | 0.2681 | W | |
| Resp. coefficient: (ASCE | | | | | | | |
| Tab. 12.2.1): | R = | 2 | | 0.7 * V = | 0.1877 | W | |
| Seismic design category: | SDC = | D | | | | | |

SEISMIC COMPONENT & ANCHORING ANALYSIS

Out-of-plane seismic force for wall design (ASCE 7, Sec.12.11.1)

$$W_{1.seismic} = MAX (0.4 I S_{DS} W_p, 0.1 W_p)$$
 = **0.2** W_p = **0.2** psf <= **USE FOR DIAPHRAGMS**

= **1.0** psf , $I_e = 1.00$ (CBC / IBC Tab. 1604.5 & ASCE 7 Tab. 1.5-2)

 $h_n = 28.6 ft$

Out-of-plane seismic force for anchorage design

For seismic design category A & B, any diaphragm (ASCE 7 Sec. 12.11.2)

$$F_{anch,seismic} = MAX \left[0.4 S_{DS} I W_p \frac{\left(h + h_p\right)^2}{2h} , 0.1 W_p \frac{\left(h + h_p\right)^2}{2h} , 400 S_{DS} I , F_{min} \right] =$$

(ASCE 7 Sec. 12.11.2 & 11.7.3)

 F_{min} = **0.17** plf, **1.75** W_p = **179** plf (Horizontal) <= **Not Applicable**

For seismic design category C and above, flexible diaphragm (ASCE 7 Sec. 12.11.2.1)

$$F_{anch,seismic} = MAX \left[0.8 S_{DS} IW_{p} \frac{\left(h + h_{p}\right)^{2}}{2h} , 0.1 W_{p} \frac{\left(h + h_{p}\right)^{2}}{2h} , 400 S_{DS} I , F_{min} \right] =$$
= **3.50** W_p = **179** plf (Horizontal) <= **Applicable**

For connections (ASCE 7 Sec. 12.11.2.1)

 $F_{conn,seismic} = MAX [0.133 S_{DS} W_{p}, 0.5 W_{p}] =$ **0.5** $W_{p} =$ 0.5 plf (Horizontal)

Where:



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WIND / SEISMIC SHEAR FORCE CALCULATIONS:

From ASCE 7-16 Wind & Seismic Loading Analysis

| | | Ro | of / Flo | or | | | | Wall | | | Load | above | | | | Loadin | g |
|-----------|---------------------|------------------|---------------------------|--------------|--------------|---------------------|---------------|--------------|------------------------|--------------------------|--------------|--------------|----------------------|----|----------------------|-------------------------|--------------------|
| Wall Line | Wind Force (psf) | Diaph. Weight | Wr, We truss trib (ft) | Area W (ft) | Area L (ft) | Wind Force (psf) | Wall DL (psf) | Wall ht (ft) | wall line dist (ft) | Upr. Flr Wall ht (ft) | Wind (#) | Seismic (#) | *C _s (Wp) | П | Wind Force (kips) | Seismic Force (kips) | Lateral Control |
| X1-2 | 11.4 | 55 | 8.0 | 46.5 | 13.0 | 16.6 | 12.0 | 9.0 | 46.5 | | | | 0.06 | = | 3.85 | 1.24 | Wind |
| X2-2 | 11.4 | 55 | 8.0 | 46.5 | 13.0 | 16.6 | 12.0 | 9.0 | 46.5 | | | | 0.06 | II | 3.85 | 1.24 | Wind |
| X3-2 | 11.7 | 55 | 7.0 | 35.0 | 24.0 | 17.1 | 12.0 | 8.0 | 35.0 | | | | 0.06 | Ш | 2.63 | 1.52 | Wind |
| X4-2 | 11.7 | 55 | 7.0 | 35.0 | 24.0 | 17.1 | 8.0 | 8.0 | 35.0 | | | | 0.19 | = | 2.63 | 4.72 | Seismic |
| Y1-2 | 13.5 | 55 | 8.0 | 15.0 | 46.5 | 19.0 | 12.0 | 9.0 | 15.0 | | | | 0.06 | = | 1.45 | 1.19 | Wind |
| Y2-2 | 13.5 | 55 | 8.0 | 15.0 | 46.5 | 19.0 | 12.0 | 9.0 | 15.0 | | | | 0.06 | II | 1.45 | 1.19 | Wind |
| Y3-2 | 12.0 | 55 | 9.6 | 28.5 | 35.0 | 17.5 | 12.0 | 5.5 | 28.5 | | | | 0.06 | = | 2.33 | 1.68 | Wind |
| Y4-2 | 12.0 | 55 | 9.6 | 28.5 | 35.0 | 17.5 | 12.0 | 5.5 | 28.5 | | | | 0.06 | = | 2.33 | 1.68 | Wind |
| X1-1 | 0.0 | 26 | 0.0 | 19.5 | 25.0 | 18.6 | 12.0 | 10.0 | 19.5 | 5.5 | 3.85 | 1.24 | 0.06 | = | 5.76 | 1.74 | Wind |
| X2-1 | 0.0 0.0 | 18 18 | 0.0 0.0 | 19.5 28.5 | 25.0 54.0 | 18.6 17.5 | 12.0 12.0 | 10.0 10.0 | 19.5 28.5 | 5.5 5.5 | 1.25 1.25 | 0.38 0.38 | 0.06 0.06 | | 7.03 | 2.15 | Wind |
| X3-1 | 0.0 | 26 | 0.0 | 28.5 | 54.0 | 17.5 | 12.0 | 10.0 | 28.5 | 5.5 | 3.85 | 1.24 | 0.06 | = | 6.47 | 2.57 | Wind |
| X4-1 | 12.4 0.0 | 55 26 | 8.0 0.0 | 23.0 28.0 | 15.5 28.0 | 18.1 17.6 | 12.0 12.0 | 10.0 10.0 | 23.0 28.0 | 0.0 5.5 | 0 2.63 | 0 1.52 | 0.06 0.06 | | 7.39 | 3.01 | Wind |
| X5-1 | 0.0 13.7 | 26 55 | 0.0 6.1 | 28.0 14.0 | 28.0 36.0 | 17.6 19.0 | 12.0 12.0 | 10.0 12.0 | 28.0 14.0 | 5.5 0.0 | 2.63 | 4.72 0 | 0.06 0.06 | | 6.60 | 6.40 | Wind |
| X6-1 | 13.7 | 55 | 6.1 | 14.0 | 36.0 | 19.0 | 12.0 | 12.0 | 14.0 | 0.0 | 0 | 0 | 0.06 | = | 1.38 | 0.91 | Wind |



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| Y1-1 | 14.1 | 55 | 8.0 | 12.5 | 32.0 | 19.0 | 12.0 | 10.0 | 12.5 | 0 | 0 | 0 | 0.06 | = | 1.29 | 0.71 | Wind |
|------|------|----|-----|------|------|------|------|------|------|-----|------|------|------|---|------|------|-----------|
| Y2-1 | 14.1 | 55 | 8.0 | 12.5 | 32.0 | 19.0 | 8.0 | 10.0 | 12.5 | 0 | 0 | 0 | 0.19 | = | 3.99 | 4.79 | Seismic |
| 12-1 | 0.0 | 26 | 0.0 | 12.5 | 39.5 | 19.0 | 8.0 | 10.0 | 12.5 | 5.5 | 1.45 | 1.19 | 0.19 | = | 3.33 | 4.79 | Seisiffic |
| Y3-1 | 0.0 | 26 | 0.0 | 12.5 | 49.5 | 19.0 | 12.0 | 10.0 | 12.5 | 5.5 | 0.72 | 0.60 | 0.06 | = | 5.36 | 2.51 | Wind |
| 13-1 | 0.0 | 26 | 0.0 | 29.0 | 27.0 | 17.5 | 12.0 | 10.0 | 29.0 | 5.5 | 0.72 | 0.60 | 0.06 | = | 5.50 | 2.51 | vviiid |
| Y4-1 | 0.0 | 26 | 0.0 | 29.0 | 27.0 | 17.5 | 12.0 | 10.0 | 29.0 | 5.5 | 2.67 | 1.20 | 0.06 | = | 5.33 | 1.98 | Wind |
| 14-1 | | | | | | | | | | | | | | | 5.55 | 1.56 | willa |
| Y5-1 | | | | | | | | | | | | | | | 5.85 | 3.09 | Wind |
| 13 1 | 0.0 | 26 | 0.0 | 36.0 | 42.0 | 17.0 | 12.0 | 12.0 | 36.0 | 5.5 | 2.33 | 1.68 | 0.06 | = | 3.03 | 3.03 | vviiia |
| Y6-1 | 0.0 | 26 | 0.0 | 36.0 | 42.0 | 17.0 | 12.0 | 12.0 | 36.0 | 5.5 | 2.33 | 1.68 | 0.06 | = | 5.85 | 3.09 | Wind |
| 10 1 | | | | | | | | | | | | | | | 5.05 | 3.03 | willa |



Completed by: JDJ Review/Check: ARA

| ЭП | | <u>L CALCUL</u> | | | | 1 |
|---|---------------|-----------------|------------|------------|------------|-----------|
| | X1-2 | X2-2 | X3-2 | X4-2 | Y1-2 | Y2-2 |
| | | r Wall Forces | | | | |
| Total length of wall | 13.00 ft | 42.00 ft | 24.00 ft | 24.00 ft | 37.88 ft | 46.50 |
| Total length of shear wall L = | 5.75 ft | 12.54 ft | 24.00 ft | 24.00 ft | 37.88 ft | 8.711 |
| Total length of full ht seg. $L_w =$ | 5.75 ft | 12.54 ft | 13.04 ft | 23.92 ft | 15.08 ft | 8.71 1 |
| height of shear wall $H =$ | 9.00 ft | 9.00 ft | 8.00 ft | 8.00 ft | 9.00 ft | 9.00 f |
| Maximum opening height $H' =$ | 0.00 ft | 0.00 ft | 8.00 ft | 8.00 ft | 9.00 ft | 0.001 |
| Total force at top of wall $V_1 =$ | 3851 lbs | 3851 lbs | 2631 lbs | 4716 lbs | 1448 lbs | 1448 l |
| Self weight $W_{DL self} =$ | 108 plf | 108 plf | 96 plf | 96 plf | 108 plf | 108 p |
| Applied dead load $W_{DL above} =$ | 68 plf | 190 plf | 68 plf | 68 plf | 68 plf | 165 p |
| Prefered OSB thickness in | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 |
| Prefered Gyp thickness in | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Wall Connected to Concrete y/n = | N | N | N | N | N | N |
| | Shear \ | Wall Segment | ٠ς | | | |
| | 5.75 | 12.54 | 7.50 | 7.50 | 3.08 | 8.71 |
| | 3.73 | 12.54 | 5.54 | 16.42 | 4.00 | 0.71 |
| | | | 3.34 | 10.42 | 4.00 | |
| | | | | | 4.00 | |
| <u> </u> | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | Shear Tra | nsfer to Conc | rete | | | |
| T = | 5723 lbs | 1642 lbs | 365 lbs | 348 lbs | Not Req'd | 783 lk |
| | | | | | | |
| Provide: | | | | | | |
| Min # of 1/2 Anchor Bolts | | | | | | |
| Load From Above | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Holdown | S4 | S2 | Perp. Wall | Perp. Wall | | S1 |
| | Shear R | esisting Syste | m | | | |
| Force Calculated | 669.66 | 307.06 | 386.08 | 198.47 | 211.57 | 166.2 |
| Ţ. | OSB | OSB | OSB | OSB | OSB | OSB |
| Min Shear Wall Segment: | 2.57 ft | 2.57 ft | 2.29 ft | 2.29 ft | 2.57 ft | 2.571 |
| Provide: Va= | SW3 | SW1 | SW2 | SW1 | SW1 | SW1 |
| , , o , , d , , , , , , , , , , , , , , | 33 | 3112 | J | 32 | 32 | J.1.1 |
| Min Shear Wall Segment: | | | | | | |
| Provide: Va= | | | | | | |
| - | rking / Naili | ng Framing At | tachment | | | |
| Blocking Unit Shear | 296 plf | 92 plf | 110 plf | 197 plf | 38 plf | 31 pl |
| Blocking | B1 | NONE | NONE | B1 | NONE | NON |
| Nailing | T1 | See SCHED | See SCHED | T1 | See SCHED | See SCI |
| | Unit | Base Shear | | | | |
| % of full height segments $\%$ fh = L_w/L = | 1.000 | 1.000 | 0.543 | 0.997 | 0.398 | 1.000 |
| % of maximum opening height %oh = H'/H = | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 |
| Shear cap adj factor SCAF = | 1.00 | 1.00 | 0.52 | 0.99 | 0.45 | 1.00 |
| Unit base shear vbase $V_1/L_w =$ | 670 plf | 307 plf | 202 plf | 197 plf | 96 plf | 166 p |
| Effective unit base shear vreq=v _{base} /SCAF= | 670 plf | 307 plf | 386 plf | 198 plf | 212 plf | 166 p |
| Ovrtrn. mo. of shrt. pnl OTM = | 34.7 k-ft | 34.7 k-ft | 40.3 k-ft | 38.0 k-ft | 28.7 k-ft | 13.0 k- |
| | Shear wall | adjustment f | actor | | | |
| Resist moment of shrt panel RM = | 2.9 k-ft | 23.4 k-ft | 47.2 k-ft | 47.2 k-ft | 126.2 k-ft | 10.3 k- |
| r= | 1.0000 | 1.0000 | 0.5433 | 0.9967 | 0.3982 | 1.000 |
| C _O = | 1.0000 | 1.0000 | 0.5226 | 0.9934 | 0.4538 | 1.000 |



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| SHE | | L CALCUL | | | | • |
|---|---------------|-------------------------|----------------|------------|-----------|---------|
| | Y3-2 | Y4-2 | X1-1 | X2-1 | X3-1 | X3-1 |
| <u> </u> | Shea | r Wall Forces | | | | |
| Total length of wall | 12.00 ft | 28.46 ft | 25.00 ft | 48.67 ft | 41.46 ft | 41.46 |
| Total length of shear wall L = | 12.00 ft | 28.46 ft | 17.79 ft | 38.33 ft | 12.00 ft | 2.33 f |
| Total length of full ht seg. $L_w =$ | 6.00 ft | 8.00 ft | 15.75 ft | 23.00 ft | 5.75 ft | 2.33 f |
| height of shear wall $H = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{bmatrix}$ | 8.00 ft | 5.50 ft | 10.00 ft | 10.00 ft | 10.00 ft | 10.00 |
| Maximum opening height $H' = $ | 3.50 ft | 0.00 ft | 10.00 ft | 10.00 ft | 4.33 ft | 0.00 f |
| Total force at top of wall $V_1 =$ | 2328 lbs | 2328 lbs | 5759 lbs | 7026 lbs | 2708 lbs | 1883 ll |
| Self weight $W_{DL self} =$ | 96 plf | 66 plf | 120 plf | 120 plf | 120 plf | 120 p |
| Applied dead load $W_{DL above} =$ | 68 plf | 68 plf | 196 plf | 68 plf | 255 plf | 68 pl |
| Prefered OSB thickness in | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 |
| Prefered Gyp thickness in | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Wall Connected to Concrete y/n = | N | N | Υ | Υ | Υ | Υ |
| | Shear \ | Wall Segment | S | | | |
| | 3.00 | 4.00 | 5.83 | 3.00 | 2.83 | 2.33 |
| | 3.00 | 4.00 | 4.58 | 8.50 | 2.92 | |
| ļ | | | 5.33 | 8.50 | | |
| ļ | | | | 3.00 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | Shear Tra | nsfer to Conci | rete | | | |
| T = | 2408 lbs | Not Reg'd | 2595 lbs | 1896 lbs | 4333 lbs | 3500 II |
| <u> </u> | | | 36 " O.C. | 72 " O.C. | 72 " O.C. | |
| Provide: | | | A3 | Code Min. | Code Min. | |
| Min # of 1/2 Anchor Bolts | | | (6) Min | (7) Min | (3) Min | |
| Load From Above | 0.00 | 0.00 | 0.00 | 0.00 | 1706.00 | 0.00 |
| Holdown | S2 | | HD2 | HD1 | HD3 | HD3 |
| | Shear R | esisting Syste | m | | | |
| Force Calculated | 448.60 | 290.98 | 449.69 | 549.90 | 544.42 | 806.8 |
| . 0.00 00.00.00 | OSB | OSB | OSB | OSB | OSB | P.F. |
| Min Shear Wall Segment: | 2.29 ft | 1.57 ft | 2.86 ft | 2.86 ft | 2.86 ft | 1.33 f |
| Provide: Va= | SW2 | SW1 | SW2 | SW2 | SW2 | 1925 |
| va- | J112 | 3111 | 3112 | 3112 | 3112 | 1923 |
| Min Shear Wall Segment: | | | | | | |
| Provide: Va= | | | | | | |
| - | okina / Naili | | 40.0h.us = : 4 | | | |
| Blocking Unit Shear | 194 plf | ng Framing At 82 plf | 230 plf | 144 plf | 65 plf | 91 pl |
| Blocking | B1 | NONE | B1 | NONE | NONE | NONI |
| Nailing | T1 | See SCHED | T1 | See SCHED | See SCHED | See SCH |
| | | | - | , | | 223031 |
| % of full height segments $\%$ fh = L_w/L = | 0.500 | Base Shear 0.281 | 0.885 | 0.600 | 0.479 | 1.000 |
| % of maximum opening height %oh = H'/H = | 0.300 | 0.281 | 1.000 | 1.000 | 0.479 | 0.000 |
| Shear cap adj factor SCAF = | 0.438 | 1.00 | 0.81 | 0.56 | 0.433 | 1.00 |
| Unit base shear vbase $V_1/L_w =$ | 388 plf | 291 plf | 366 plf | 305 plf | 471 plf | 807 p |
| Effective unit base shear vreq=v _{base} /SCAF= | 449 plf | 291 plf | 450 plf | 550 plf | 544 plf | 807 p |
| Ovrtrn. mo. Ttl. length of wall OTM = | 21.5 k-ft | 12.8 k-ft | 70.8 k-ft | 126.5 k-ft | 31.3 k-ft | 18.8 k- |
| | Shear wall | adjustment fa | actor | | | |
| Resist moment total L. of wall RM = | 11.8 k-ft | 54.3 k-ft | 49.9 k-ft | 138.1 k-ft | 27.0 k-ft | 0.5 k-f |
| Resist IIIOIIIeiit total L. Oi waii 100 - 100 - 1 | | | | | | |
| r= | 0.6957 | 0.9995 | 0.8852 | 0.6000 | 0.6798 | 1.000 |



Completed by: JDJ Review/Check: ARA

| SHI | EAR WAL | L CALCUL | ATIONS : | | | |
|---|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|
| | X4-1 | X5-1 | X6-1 | Y1-1 | Y2-1 | Y3-1 |
| | Shear | Wall Forces | | | | |
| Total length of wall | 28.00 ft | 36.00 ft | 36.00 ft | 32.00 ft | 39.46 ft | 46.50 ft |
| Total length of shear wall L = | 28.00 ft | 36.00 ft | 36.00 ft | 26.42 ft | 11.17 ft | 14.71 ft |
| Total length of full ht seg. $L_w =$ | 18.58 ft | 8.00 ft | 8.00 ft | 11.42 ft | 11.17 ft | 7.92 ft |
| height of shear wall H = | 10.00 ft | 13.00 ft | 13.00 ft | 10.00 ft | 10.00 ft | 10.00 ft |
| Maximum opening height $H' =$ | 10.00 ft | 10.00 ft | 5.00 ft | 10.00 ft | 0.00 ft | 7.50 ft |
| Total force at top of wall $V_1 =$ | 7394 lbs | 3298 lbs | 1381 lbs | 1293 lbs | 2395 lbs | 2587 lbs |
| Self weight $W_{DL self} =$ | 120 plf | 156 plf | 156 plf | 120 plf | 120 plf | 120 plf |
| Applied dead load W _{DL above} = | 68 plf | 68 plf | 68 plf | 68 plf | 68 plf | 68 plf |
| Prefered OSB thickness in | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 |
| Prefered Gyp thickness in | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Wall Connected to Concrete y/n = | Υ | Υ | Υ | Υ | Υ | Υ |
| | Shear \ | Wall Segment | ts | | | |
| | 7.50 | 4.00 | 4.00 | 4.00 | 11.17 | 3.00 |
| | 5.00 | 4.00 | 4.00 | 4.00 | | 4.92 |
| | 6.08 | | | 3.42 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | Shear Trai | nsfer to Conc | rete | | | |
| T = | 5191 lbs | 5091 lbs | Not Reg'd | Not Req'd | 1515 lbs | 4438 lbs |
| 1/2 Anchor Bolts @ | 48 " O.C. | 36 " O.C. | 72 " O.C. | 72 " O.C. | 60 " O.C. | 72 " O.C. |
| Provide: | A4 | A3 | Code Min. | Code Min. | A5 | Code Min. |
| Min # of 1/2 Anchor Bolts | (8) Min | (4) Min | (2) Min | (2) Min | (3) Min | (3) Min |
| Load From Above | 913.00 | 0.00 | 0.00 | 0.00 | 0.00 | 828.00 |
| Holdown | HD3 | HD3 | | | HD1 | HD3 |
| | Shoor B | esisting Syste | | | | |
| Force Calculated | 665.74 | 831.59 | 193.32 | 241.75 | 214.50 | 515.12 |
| i orce carculateu | OSB | OSB | OSB | OSB | Gyp. | OSB |
| Min Shear Wall Segment: | 2.86 ft | 3.71 ft | 3.71 ft | 2.86 ft | 5.00 ft | 2.86 ft |
| Provide: Va= | SW3 | SW4 | SW1 | SW1 | SWD | SW2 |
| riovide. va- | 3003 | 3004 | 3001 | 3001 | 3000 | 3002 |
| Min Shear Wall Segment: | | | | | | |
| Provide: Va= | | | | | | |
| | 1: / 51 :1: | | | | | |
| | cking / Nailir | | | 40 plf | 121 nlf | E6 plf |
| Blocking Unit Shear | 264 plf | 183 plf | 38 plf | 40 plf | 121 plf | 56 plf |
| Blocking | B1 | B1 | NONE | NONE | NONE | NONE |
| Nailing | T1 | T1 | See SCHED | See SCHED | See SCHED | See SCHED |
| | | Base Shear | | | | |
| % of full height segments $\%$ fh = L_w/L = | 0.664 | 0.222 | 0.222 | 0.432 | 1.000 | 0.538 |
| % of maximum opening height %oh = H'/H = | 1.000 | 0.769 | 0.385 | 1.000 | 0.000 | 0.750 |
| Shear cap adj factor SCAF = Unit base shear vbase $V_1/L_w =$ | 0.60 | 0.50 | 0.89 | 0.47 | 1.00 | 0.63 |
| Unit base shear vbase $V_1/L_w =$ Effective unit base shear vreq= $v_{base}/SCAF=$ | 398 plf 666 plf | 412 plf 832 plf | 173 plf 193 plf | 113 plf | 214 plf 214 plf | 327 plf 515 plf |
| Ovrtrn. mo. of shrt. pnl OTM = | 123.7 k-ft | 21.4 k-ft | 20.1 k-ft | 242 plf 27.6 k-ft | 214 pii 24.0 k-ft | 515 plf 40.8 k-ft |
| ονιαπ. πο. οι 3πτ. μπ | | | • | ∠7.0 K-IL | 27.0 K-IL | +0.0 K-11 |
| | | adjustment f | | | | |
| Resist moment of shrt panel RM = | 73.7 k-ft | 1.8 k-ft | 145.2 k-ft | 65.6 k-ft | 11.7 k-ft | 20.3 k-ft |
| r= C-= | 0.6636 | 0.2708 | 0.4262 | 0.4322 | 1.0000 | 0.6086 |
| C _O = | 0.5978 | 0.4958 | 0.8931 | 0.4683 | 1.0000 | 0.6341 |



Completed by: JDJ Review/Check: ARA

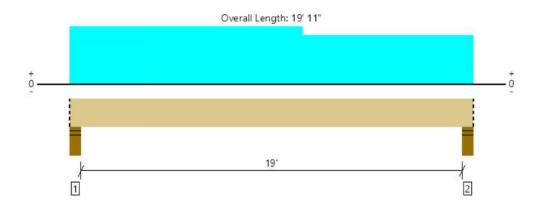
| SHEAR WALL CALCULATIONS: | | | | | | | | |
|---|--|--|---|---|---|---|--|--|
| | Y3-1 | Y4-1 | Y4-1 | Y4-1 | Y5-1 | Y5-1 | | |
| | Shear | Wall Forces | | | | | | |
| Total length of wall | 46.50 ft | 21.70 ft | 21.70 ft | 21.70 ft | 42.00 ft | 42.00 ft | | |
| Total length of shear wall L = | 8.50 ft | 2.00 ft | 3.50 ft | 2.20 ft | 14.00 ft | 23.17 ft | | |
| Total length of full ht seg. $L_w =$ | 8.50 ft | 2.00 ft | 3.50 ft | 2.20 ft | 11.50 ft | 15.09 ft | | |
| height of shear wall $H =$ | 17.96 ft | 10.00 ft | 10.00 ft | 10.00 ft | 13.00 ft | 10.00 ft | | |
| Maximum opening height $H' =$ | 0.00 ft | 0.00 ft | 0.00 ft | 0.00 ft | 2.50 ft | 8.00 ft | | |
| Total force at top of wall $V_1 =$ | 2777 lbs | 1546 lbs | 2073 lbs | 1706 lbs | 2532 lbs | 3321 lbs | | |
| Self weight $W_{DL self} =$ | 216 plf | 120 plf | 120 plf | 120 plf | 156 plf | 120 plf | | |
| Applied dead load $W_{DL above} =$ | 68 plf | 68 plf | 68 plf | 68 plf | 68 plf | 94 plf | | |
| Prefered OSB thickness in | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 | 7/16 | | |
| Prefered Gyp thickness in | -/- | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | | |
| Wall Connected to Concrete $y/n =$ | Υ | Υ | Υ | Υ | Υ | Υ | | |
| | Shear \ | Vall Segment | :S | | | | | |
| | 8.50 | 2.00 | 3.50 | 2.20 | 5.75 | 3.38 | | |
| | | | | | 5.75 | 3.71 | | |
| | | | | | | 4.00 | | |
| | | | | | | 4.00 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | Shear Trai | nsfer to Conc | rete | | | | | |
| T = | | 3500 lbs | 5725 lbs | 3500 lbs | 1716 lbs | 998 lbs | | |
| 1/2 Anchor Bolts @ | 48 " O.C. | | 72 " O.C. | | 72 '' O.C. | 72 " O.C | | |
| Provide: | A4 | | Code Min. | | Code Min. | Code Mir | | |
| Min # of 1/2 Anchor Bolts | (3) Min | | (2) Min | | (3) Min | (4) Min | | |
| Load From Above | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Holdown | HD3 | HD3 | HD4 | HD3 | HD1 | HD1 | | |
| | Shear R | esisting Syste | m | | | | | |
| Force Calculated | 326.65 | 772.83 | 592.21 | 775.26 | 220.14 | 327.71 | | |
| . Groc calculated | OSB | P.F. | OSB | P.F. | OSB | OSB | | |
| Min Shear Wall Segment: | | 1.33 ft | 2.86 ft | 1.33 ft | 3.71 ft | 2.86 ft | | |
| Provide: Va= | SW1 | 1575 | SW3 | 1750 | SW1 | SW1 | | |
| Trovide. | 3441 | 1373 | 3413 | 1730 | 3111 | 3441 | | |
| Min Shear Wall Segment: | | | | | | | | |
| Provide: Va= | | | | | | | | |
| | akina / Nailir | ~ Framina A | + | | | | | |
| Blocking / Nailing Framing Attachment | | | | | | | | |
| | | | | 70 nlf | 60 nlf | | | |
| Blocking Unit Shear | 60 plf | 71 plf | 96 plf | 79 plf | 60 plf | 79 plf | | |
| Blocking Unit Shear Blocking | 60 plf NONE | 71 plf NONE | 96 plf NONE | NONE | NONE | NONE | | |
| Blocking Unit Shear | 60 plf NONE See SCHED | 71 plf NONE See SCHED | 96 plf | | | NONE | | |
| Blocking Unit Shear Blocking Nailing | 60 plf NONE See SCHED Unit | 71 plf NONE See SCHED Base Shear | 96 plf NONE See SCHED | NONE See SCHED | NONE See SCHED | NONE See SCHE | | |
| Blocking Unit Shear Blocking Nailing % of full height segments %fh = L _w /L = | 60 plf NONE See SCHED Unit | 71 plf NONE See SCHED Base Shear 1.000 | 96 plf NONE See SCHED | NONE See SCHED | NONE See SCHED | NONE See SCHE 0.651 | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height % oh = H'/H = | 60 plf NONE See SCHED Unit 1.000 0.000 | 71 plf NONE See SCHED Base Shear 1.000 0.000 | 96 plf NONE See SCHED 1.000 0.000 | NONE See SCHED 1.000 0.000 | NONE See SCHED 0.821 0.192 | 0.651 0.800 | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor SCAF = | 60 plf NONE See SCHED Unit 1.000 0.000 1.00 | 71 plf NONE See SCHED Base Shear 1.000 0.000 1.00 | 96 plf NONE See SCHED 1.000 0.000 1.00 | 1.000 0.000 1.00 | 0.821 0.192 1.00 | 0.651 0.800 0.67 | | |
| Blocking Unit Shear Blocking Nailing % of full height segments %fh = L _w /L = % of maximum opening height %oh = H'/H = | 60 plf NONE See SCHED Unit 1.000 0.000 1.00 327 plf | 71 plf NONE See SCHED Base Shear 1.000 0.000 1.00 773 plf | 96 plf NONE See SCHED 1.000 0.000 1.00 592 plf | 1.000 0.000 1.00 775 plf | 0.821 0.192 1.00 220 plf | 0.651 0.800 0.67 220 plf | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Unit base shear $SCAF = V_1/L_w $ | 60 plf NONE See SCHED Unit 1.000 0.000 1.00 | 71 plf NONE See SCHED Base Shear 1.000 0.000 1.00 | 96 plf NONE See SCHED 1.000 0.000 1.00 | 1.000 0.000 1.00 | 0.821 0.192 1.00 | 0.651 0.800 0.67 220 plf 328 plf | | |
| Blocking Unit Shear Blocking Nailing % of full height segments %fh = L_w/L = %of maximum opening height Shear cap adj factor Unit base shear V1/ L_w = Effective unit base shear vreq= $v_{base}/SCAF$ = | 60 plf NONE See SCHED 1.000 0.000 1.00 327 plf 327 plf 49.9 k-ft | 71 plf NONE See SCHED Base Shear 1.000 0.000 1.00 773 plf 773 plf 15.5 k-ft | 96 plf NONE See SCHED 1.000 0.000 1.00 592 plf 592 plf 20.7 k-ft | 1.000 0.000 1.00 775 plf 775 plf | 0.821 0.192 1.00 220 plf 220 plf | 0.651 0.800 0.67 220 plf 328 plf | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Unit base shear Effective unit base shear Ovrtrn. mo. Ttl. length of wall Blocking Unit Shear %fh = L _w /L = %0h = H'/H = %0h = H'/H = %VASE Volate Volat | 60 plf NONE See SCHED 1.000 0.000 1.00 327 plf 327 plf 49.9 k-ft Shear wall | 71 plf NONE See SCHED Base Shear 1.000 0.000 1.00 773 plf 773 plf 15.5 k-ft adjustment f | 96 plf NONE See SCHED 1.000 0.000 1.00 592 plf 592 plf 20.7 k-ft | 1.000 0.000 1.00 775 plf 775 plf 17.1 k-ft | 0.821 0.192 1.00 220 plf 220 plf 32.9 k-ft | 0.651 0.800 0.67 220 plf 328 plf 49.4 k-ft | | |
| Blocking Unit Shear Blocking Nailing % of full height segments %fh = L_w/L = %of maximum opening height Shear cap adj factor Unit base shear V1/ L_w = Effective unit base shear vreq= $v_{base}/SCAF$ = | 60 plf NONE See SCHED Unit 1.000 0.000 1.00 327 plf 327 plf 49.9 k-ft Shear wall 10.2 k-ft | 71 plf NONE See SCHED Base Shear 1.000 0.000 1.00 773 plf 773 plf 15.5 k-ft | 96 plf NONE See SCHED 1.000 0.000 1.00 592 plf 592 plf 20.7 k-ft | 1.000 0.000 1.00 775 plf 775 plf | 0.821 0.192 1.00 220 plf 220 plf | NONE See SCHE 0.651 0.800 | | |



Completed by: JDJ Review/Check: ARA

| SHI | EAR WAL | L CALCUL | ATIONS: | | | |
|--|---|---|----------|--------------|---|----|
| | Y6-1 | Y6-1 | | | | |
| | | Wall Forces | | 1 | | 1 |
| Total length of wall | 42.00 ft | 42.00 ft | | | | |
| Total length of shear wall L = | 28.00 ft | 14.00 ft | | | | |
| Total length of full ht seg. $L_w =$ | 2.67 ft | 4.00 ft | | | | |
| height of shear wall $H =$ | 10.00 ft | 13.00 ft | | | | |
| Maximum opening height $H' = $ | 9.00 ft | 12.00 ft | | | | |
| Total force at top of wall $V_1 =$ | 1932 lbs | 3922 lbs | | | | |
| Self weight $W_{DL \text{ self}} =$ | 120 plf | 156 plf | | | | |
| Applied dead load $W_{DL above} =$ | 68 plf | 68 plf | | | | |
| Prefered OSB thickness in | 7/16 | 7/16 | | | | |
| Prefered Gyp thickness in | 1/2 | 1/2 | | | | |
| Wall Connected to Concrete y/n = | Υ | Υ | | | | |
| | Shear \ | Wall Segment | :S | | | |
| | 2.67 | 2.00 | | | | |
| ľ | | 2.00 | | | | |
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| | Choos Tro | asfau ta Cana | *** | • | • | • |
| т=1 | 3500 lbs | nsfer to Conc 3500 lbs | rete | I | Т | ı |
| '- | 3500 105 | 3500 105 | | | + | |
| Provide: | | | | | 1 | |
| Min # of 1/2 Anchor Bolts | | | | | | |
| Load From Above | 0.00 | 0.00 | | | | |
| Holdown | HD3 | HD3 | | | | |
| | | | | | | ļ. |
| Francisco de Latra | | esisting Syste | m | 1 | 1 | |
| Force Calculated | 723.46 | 980.45 | | | | |
| NO. 61 NA. 11.6 | P.F. | <u>B.F.</u> | | | | |
| Min Shear Wall Segment: | 1.33 ft | 1.33 ft | | | | |
| Provide: Va= | 2625 | 4400 | | | | |
| MAin Chann Marill Comme | | | | | 1 | |
| Min Shear Wall Segment: | | | | | 1 | 1 |
| Duran dalah | | | | | | |
| Provide: Va= | | | | | | |
| Blo | | ng Framing At | tachment | | | |
| Blocking Unit Shear | 46 plf | 93 plf | tachment | | | |
| Blocking Unit Shear Blocking | 46 plf NONE | 93 plf NONE | tachment | | | |
| Blocking Unit Shear | 46 plf | 93 plf | tachment | | | |
| Blocking Unit Shear Blocking | 46 plf NONE See SCHED | 93 plf NONE | tachment | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments ### Blocking Nailing #### Blocking Nailing | 46 plf NONE See SCHED | 93 plf NONE See SCHED | tachment | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments %fh = L _w /L = % of maximum opening height %oh = H'/H = | 46 plf NONE See SCHED Unit 0.095 0.900 | 93 plf NONE See SCHED Base Shear 0.286 0.923 | tachment | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Blocking Nailing %fh = L _w /L = %oh = H'/H = SCAF = | 46 plf NONE See SCHED Unit 0.095 0.900 0.39 | 93 plf NONE See SCHED Base Shear 0.286 0.923 0.44 | tachment | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Unit base shear Blocking %fh = L _w /L = %oh = H'/H = SCAF = Vbase V ₁ /L _w = | 46 plf NONE See SCHED Unit 0.095 0.900 0.39 723 plf | 93 plf NONE See SCHED Base Shear 0.286 0.923 0.44 980 plf | tachment | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Unit base shear Unit base shear Vreq=v _{base} /SCAF= | 46 plf NONE See SCHED Unit 0.095 0.900 0.39 723 plf 1836 plf | 93 plf NONE See SCHED Base Shear 0.286 0.923 0.44 980 plf 2219 plf | tachment | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Unit base shear Blocking %fh = L _w /L = %oh = H'/H = SCAF = Vbase V ₁ /L _w = | 46 plf NONE See SCHED Unit 0.095 0.900 0.39 723 plf | 93 plf NONE See SCHED Base Shear 0.286 0.923 0.44 980 plf | tachment | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Unit base shear Vbase V1/Lw = Effective unit base shear Vreq=Vbase/SCAF= Ovrtrn. mo. of shrt. pnl | 46 plf NONE See SCHED Unit 0.095 0.900 0.39 723 plf 1836 plf 19.3 k-ft | 93 plf NONE See SCHED Base Shear 0.286 0.923 0.44 980 plf 2219 plf | | | | |
| Blocking Unit Shear Blocking Nailing % of full height segments % of maximum opening height Shear cap adj factor Unit base shear Unit base shear Vreq=v _{base} /SCAF= | 46 plf NONE See SCHED Unit 0.095 0.900 0.39 723 plf 1836 plf 19.3 k-ft | 93 plf NONE See SCHED Base Shear 0.286 0.923 0.44 980 plf 2219 plf 25.5 k-ft | | | | |

1 piece(s) 8 3/4" x 21" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|----------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 23114 @ 4" | 30078 (5.50") | Passed (77%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 17852 @ 2' 2 1/2" | 37332 | Passed (48%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 104539 @ 9' 8 7/16" | 133742 | Passed (78%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.503 @ 9' 10 3/4" | 0.962 | Passed (L/459) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.571 @ 9' 10 13/16" | 1.283 | Passed (L/404) | | 1.0 D + 1.0 S (All Spans) |

System : Roof Member Type : Drop Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- \bullet Critical positive moment adjusted by a volume factor of 0.90 that was calculated using length L = 19' 3".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|--------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 5.50" | 5.50" | 4.23" | 2752 | 20361 | 23114 | Blocking |
| 2 - Stud wall - DF | 5.50" | 5.50" | 3.89" | 2568 | 18730 | 21298 | Blocking |

[·] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 19' 11" o/c | |
| Bottom Edge (Lu) | 19' 11" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|---------------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 19' 11" | N/A | 44.7 | | |
| 1 - Uniform (PSF) | 0 to 11' 6" (Back) | 14' | 17.0 | 150.0 | Default Load |
| 2 - Uniform (PSF) | 11' 6" to 19' 11" (Front) | 11' 10" | 17.0 | 150.0 | Default Load |

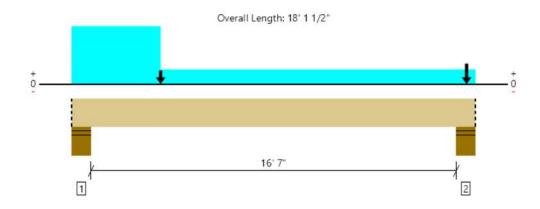
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1 piece(s) 5 1/8" x 15" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 28956 @ 17' 5 3/4" | 29629 (9.25") | Passed (98%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 13424 @ 2' 1/4" | 15618 | Passed (86%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 43655 @ 4' | 44194 | Passed (99%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.660 @ 8' 3 15/16" | 0.842 | Passed (L/306) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.752 @ 8' 4 1/16" | 1.122 | Passed (L/269) | | 1.0 D + 1.0 S (All Spans) |

System : Roof Member Type : Drop Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- \bullet Allowed moment does not reflect the adjustment for the beam stability factor.
- \bullet Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 16' 10".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|--------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 9.25" | 9.25" | 5.05" | 1879 | 14283 | 16162 | Blocking |
| 2 - Stud wall - DF | 9.25" | 9.25" | 9.04" | 3519 | 25437 | 28956 | Blocking |

[·] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 5' 10" o/c | |
| Bottom Edge (Lu) | 18' 2" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Snow | |
|-----------------------|--------------------------|-----------------|--------|--------|----------------------------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 18' 1 1/2" | N/A | 18.7 | | |
| 1 - Uniform (PSF) | 0 to 4' (Back) | 8' | 17.0 | 150.0 | Default Load |
| 2 - Uniform (PSF) | 4' to 18' 1 1/2" (Front) | 2' | 17.0 | 150.0 | Default Load |
| 3 - Point (lb) | 4' (Top) | N/A | 1283 | 10322 | Linked from: Girder 1, Support 2 |
| 4 - Point (lb) | 17' 8 3/4" (Top) | N/A | 2752 | 20361 | Linked from: B01, Support 1 |

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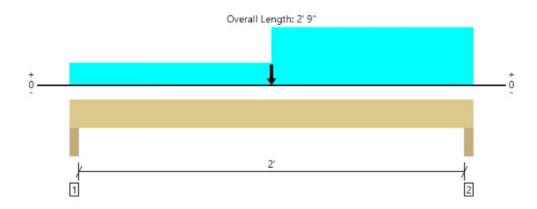
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| ForteWEB Software Operator | Job Notes |
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Roof, HDR @ GRD 1

3 piece(s) 1 3/4" x 9 1/2" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 10696 @ 2' 6" | 17719 (4.50") | Passed (60%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 9017 @ 1' 2" | 10898 | Passed (83%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | 10417 @ 1' 4 1/2" | 20312 | Passed (51%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.030 @ 1' 4 1/2" | 0.075 | Passed (L/886) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.034 @ 1' 4 1/2" | 0.112 | Passed (L/786) | | 1.0 D + 1.0 S (All Spans) |

System: Wall
Member Type: Header
Building Use: Residential
Building Code: IBC 2018
Design Methodology: ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

| | Bearing Length | | | Loads | to Supports | | |
|------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Trimmer - DF | 4.50" | 4.50" | 2.49" | 1115 | 8699 | 9814 | None |
| 2 - Trimmer - DF | 4.50" | 4.50" | 2.72" | 1204 | 9491 | 10696 | None |

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 2' 9" o/c | |
| Bottom Edge (Lu) | 2' 9" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Snow | |
|-----------------------|--------------------|-----------------|--------|--------|----------------------------------|
| Vertical Loads | Location | Tributary Width | (0.90) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 2' 9" | N/A | 14.5 | | |
| 1 - Uniform (PSF) | 0 to 1' 4 1/2" | 4' | 17.0 | 150.0 | Default Load |
| 2 - Uniform (PSF) | 1' 4 1/2" to 2' 9" | 10' 6" | 17.0 | 150.0 | Default Load |
| 3 - Point (lb) | 1' 4 1/2" | N/A | 1940 | 15200 | Linked from: Girder 1, Support 1 |

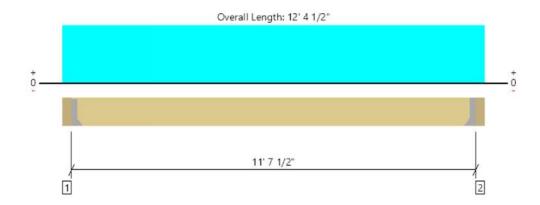
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| Job Notes | |
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| | Job Notes |



2 piece(s) 1 3/4" x 7 1/4" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 1499 @ 4 1/2" | 3938 (1.50") | Passed (38%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 1343 @ 11 3/4" | 5544 | Passed (24%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-Ibs) | 4357 @ 6' 2 1/4" | 8182 | Passed (53%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.433 @ 6' 2 1/4" | 0.581 | Passed (L/322) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.497 @ 6' 2 1/4" | 0.775 | Passed (L/281) | | 1.0 D + 1.0 S (All Spans) |

System: Roof Member Type : Flush Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.

| | Bearing Length | | | Loads | to Supports | | |
|------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Hanger on 7 1/4" DF beam | 4.50" | Hanger ¹ | 1.50" | 201 | 1392 | 1593 | See note ¹ |
| 2 - Hanger on 7 1/4" DF beam | 4.50" | Hanger ¹ | 1.50" | 201 | 1392 | 1593 | See note ¹ |

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 11' 8" o/c | |
| Bottom Edge (Lu) | 11' 8" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | |
|-------------------------------|-------|-------------|---------------|----------------|------------------|-------------|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories |
| 1 - Face Mount Hanger | HUS48 | 2.00" | N/A | 6-10d | 6-10d | |
| 2 - Face Mount Hanger | HUS48 | 2.00" | N/A | 6-10d | 6-10d | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|-------------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 4 1/2" to 12' | N/A | 7.4 | | |
| 1 - Uniform (PSF) | 0 to 12' 4 1/2" (Front) | 1' 6" | 17.0 | 150.0 | Default Load |

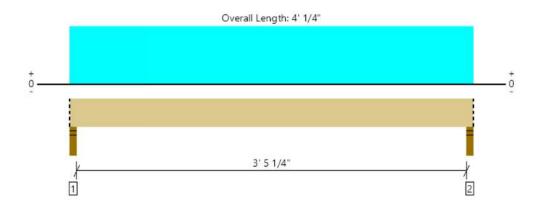
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| Job Notes | |
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| | Job Notes |



1 piece(s) 6 x 8 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|---------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 3630 @ 2" | 12031 (3.50") | Passed (30%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 1975 @ 11" | 5376 | Passed (37%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | 3069 @ 2' 1/8" | 3706 | Passed (83%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.027 @ 2' 1/8" | 0.184 | Passed (L/999+) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.030 @ 2' 1/8" | 0.246 | Passed (L/999+) | | 1.0 D + 1.0 S (All Spans) |

System: Roof Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|--------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 388 | 3242 | 3630 | Blocking |
| 2 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 388 | 3242 | 3630 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 4' o/c | |
| Bottom Edge (Lu) | 4' o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|----------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 4' 1/4" | N/A | 10.4 | - | |
| 1 - Uniform (PSF) | 0 to 4' 1/4" (Top) | 8' 6" | 17.0 | 150.0 | Default Load |
| 2 - Uniform (PSF) | 0 to 4' 1/4" (Front) | 2' 3" | 17.0 | 150.0 | Default Load |

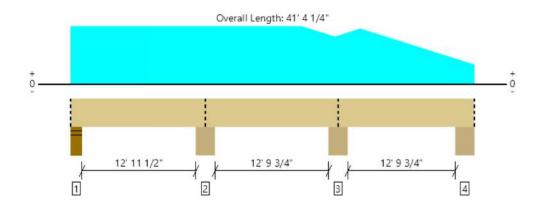
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1 piece(s) 6 3/4" x 13 1/2" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 23857 @ 13' 9 5/8" | 40584 (9.25") | Passed (59%) | | 1.0 D + 1.0 S (Adj Spans) |
| Shear (lbs) | 10232 @ 12' 3 1/2" | 18514 | Passed (55%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Pos Moment (Ft-lbs) | 24104 @ 5' 11 7/16" | 47157 | Passed (51%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Neg Moment (Ft-lbs) | -30509 @ 13' 9 5/8" | 36350 | Passed (84%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Live Load Defl. (in) | 0.250 @ 6' 6 11/16" | 0.673 | Passed (L/647) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.276 @ 6' 6 3/8" | 0.898 | Passed (L/585) | | 1.0 D + 1.0 S (Alt Spans) |

System: Roof Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 11' 2 15/16".
- Critical negative moment adjusted by a volume factor of 1.00 that was calculated using length L = 6' 6 1/8".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- · Applicable calculations are based on NDS.

| | Bearing Length | | | Loads to Supports (lbs) | | | |
|--------------------|----------------|-----------|----------|-------------------------|-------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 5.50" | 5.50" | 2.15" | 991 | 8092 | 9083 | Blocking |
| 2 - Column - DF | 9.25" | 9.25" | 5.44" | 2659 | 21198 | 23857 | Blocking |
| 3 - Column - DF | 9.25" | 9.25" | 4.60" | 2257 | 17928 | 20185 | Blocking |
| 4 - Column - DF | 9.25" | 9.25" | 1.50" | 611 | 4694 | 5306 | Blocking |

[·] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 41' 4" o/c | |
| Bottom Edge (Lu) | 41' 4" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Snow | |
|-----------------------|----------------------------|---------------------------|--------|--------|--------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 41' 4 1/4" | N/A | 22.1 | | |
| 1 - Uniform (PSF) | 0 to 23' 8" (Top) | 9' | 17.0 | 150.0 | Default Load |
| 2 - Tapered (PSF) | 23' 8" to 27' 1" (Top) | 9' to 7' 4 1/2" | 17.0 | 150.0 | Default Load |
| 3 - Tapered (PSF) | 27' 1" to 29' 8" (Top) | 7' 4 1/2" to 8' 7 1/2" | 17.0 | 150.0 | Default Load |
| 4 - Tapered (PSF) | 29' 8" to 41' 4 1/4" (Top) | 8' 7 1/2" to 3' | 17.0 | 150.0 | Default Load |

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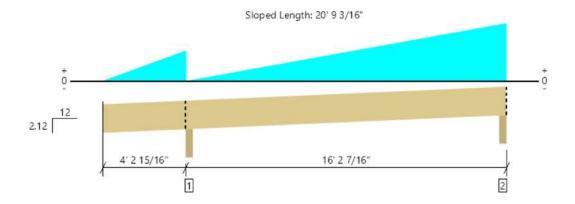
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes |
|--|-----------|
| Jed Jones 11/4/22 Snake River Engineering | |
| (208) 453-6512 jed@snakeriverengineering.com | |



File Name: 2022-4218 Charters Residence

1 piece(s) 5 1/8" x 12" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 7353 @ 20' 3 3/8" | 7623 (3.50") | Passed (96%) | | 1.0 D + 1.0 S (Alt Spans) |
| Shear (lbs) | 5681 @ 19' 2 1/16" | 12495 | Passed (45%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Pos Moment (Ft-lbs) | 21645 @ 13' 7 5/8" | 28290 | Passed (77%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Neg Moment (Ft-lbs) | -2498 @ 4' 4 11/16" | 21807 | Passed (11%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.655 @ 12' 8" | 0.807 | Passed (L/296) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.738 @ 12' 8 1/16" | 1.076 | Passed (L/262) | | 1.0 D + 1.0 S (Alt Spans) |

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Upward deflection on left cantilever exceeds overhang deflection criteria.
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 15' 9".
- Critical negative moment adjusted by a volume factor of 1.00 that was calculated using length L = 5' 1 3/8".
- Upward deflection on left cantilever exceeds 0.4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- · Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|-------------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Beveled Plate - SPF | 3.50" | 3.50" | 2.46" | 723 | 4727 | 5450 | Blocking |
| 2 - Beveled Plate - SPF | 3.50" | 3.50" | 3.38" | 817 | 6536 | 7353 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 20' 9" o/c | |
| Bottom Edge (Lu) | 20' 9" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|---------------------------|-----------------|----------------|----------------|---------------------------------|
| 0 - Self Weight (PLF) | 0 to 20' 5 3/8" | N/A | 14.9 | | |
| 1 - Tapered (PLF) | 0 to 4' 2 15/16" | N/A | 0.0 to 73.2 | 0.0 to 636.4 | Generated from Roof Geometry |
| 2 - Tapered (PLF) | 4' 2 15/16" to 20' 5 3/8" | N/A | 0.0 to 130.2 | 0.0 to 1215.3 | Generated from Roof Geometry |

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes | |
|--|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 | | |
| jed@snakeriverengineering.com | | |



Member Length: 20' 11 5/16"

Member Type : Flush Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 2.12/12

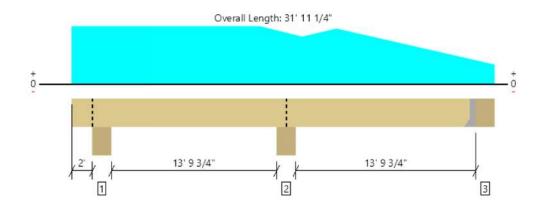
System: Roof

File Name: 2022-4218 Charters Residence



MEMBER REPORT

Roof, B10 1 piece(s) 6 3/4" x 13 1/2" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|----------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 5135 @ 31' 2" | 6581 (1.50") | Passed (78%) | | 1.0 D + 1.0 S (Alt Spans) |
| Shear (lbs) | 11013 @ 15' 5 1/2" | 18514 | Passed (59%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Pos Moment (Ft-lbs) | 26266 @ 8' 6 1/4" | 47157 | Passed (56%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Neg Moment (Ft-lbs) | -34513 @ 16' 11 5/8" | 36350 | Passed (95%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Live Load Defl. (in) | 0.313 @ 9' 1 3/16" | 0.729 | Passed (L/558) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.344 @ 9' 7/8" | 0.972 | Passed (L/508) | | 1.0 D + 1.0 S (Alt Spans) |

System: Roof Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 11' 8 7/8".
- Critical negative moment adjusted by a volume factor of 1.00 that was calculated using length $L = 7' \ 1 \ 15/16"$.
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- · Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|-------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Column - DF | 9.25" | 9.25" | 3.00" | 1456 | 11701 | 13157 | Blocking |
| 2 - Column - DF | 9.25" | 9.25" | 5.57" | 2820 | 21619 | 24439 | Blocking |
| 3 - Hanger on 13 1/2" DF beam | 9.25" | Hanger ¹ | 1.50" | 611 | 4985 | 5596 | See note ¹ |

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 31' 2" o/c | |
| Bottom Edge (Lu) | 31' 2" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | |
|-------------------------------|-------------|-------------|---------------|----------------|------------------|-------------|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories |
| 3 - Face Mount Hanger | HGUS6.88/10 | 4.00" | N/A | 46-10d | 16-10d | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| | | | Dead | Snow | |
|-----------------------|-----------------------------|---------------------------|--------|--------|--------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 31' 2" | N/A | 22.1 | | |
| 1 - Uniform (PSF) | 0 to 14' 10 3/4" (Top) | 9' | 17.0 | 150.0 | Default Load |
| 2 - Tapered (PSF) | 14' 10 3/4" to 18' 2" (Top) | 9' to 7' 4 1/2" | 17.0 | 150.0 | Default Load |
| 3 - Tapered (PSF) | 18' 2" to 20' 9" (Top) | 7' 4 1/2" to 8' 7 1/2" | 17.0 | 150.0 | Default Load |
| 4 - Tapered (PSF) | 20' 9" to 31' 11 1/4" (Top) | 8' 7 1/2" to 3' | 17.0 | 150.0 | Default Load |

| ForteWEB Software Operator | Job Notes |
|---|-----------|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 jed@snakeriverengineering.com | |



10/27/2022 9:06:13 PM UTC Page 21 of 88 ForteWEB v3.4, Engine: V8.2.2.122, Data: V8.1.3.0 File Name: 2022-4218 Charters Residence

1 piece(s) 6 x 12 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|---------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 5763 @ 10' 11 3/8" | 31797 (9.25") | Passed (18%) | | 1.0 D + 1.0 S (Adj Spans) |
| Shear (lbs) | 2957 @ 4' 3/4" | 8244 | Passed (36%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Moment (Ft-lbs) | 7331 @ 6' 10 3/16" | 10166 | Passed (72%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Live Load Defl. (in) | 0.086 @ 6' 10 1/16" | 0.411 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.095 @ 6' 10 1/16" | 0.549 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |

System: Roof
Member Type: Drop Beam
Building Use: Residential
Building Code: IBC 2018
Design Methodology: ASD
Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

| | В | Bearing Length | | | to Supports | | |
|-----------------|-------|----------------|----------|------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Column - DF | 9.25" | 9.25" | 1.64" | 664 | 4985 | 5649 | Blocking |
| 2 - Column - DF | 9.25" | 9.25" | 1.68" | 667 | 5096 | 5763 | Blocking |

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 13' 4" o/c | |
| Bottom Edge (Lu) | 13' 4" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Snow | |
|-----------------------|---------------------------|-----------------|--------|--------|--------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 13' 4" | N/A | 16.0 | | |
| 1 - Uniform (PSF) | 0 to 3' 5 1/2" (Top) | 3' 6" | 17.0 | 150.0 | Default Load |
| 2 - Uniform (PSF) | 3' 5 1/2" to 10' 3" (Top) | 6' | 17.0 | 150.0 | Default Load |
| 3 - Uniform (PSF) | 10' 3" to 13' 4" (Top) | 4' 2" | 17.0 | 150.0 | Default Load |

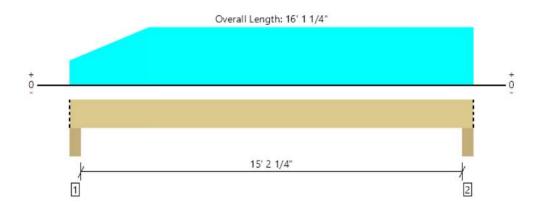
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| ForteWEB Software Operator | Job Notes |
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1 piece(s) 5 1/8" x 12" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 6472 @ 15' 9 1/4" | 18322 (5.50") | Passed (35%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 5293 @ 14' 7 3/4" | 12495 | Passed (42%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 23802 @ 8' 1 1/8" | 28290 | Passed (84%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.676 @ 8' 3/4" | 0.772 | Passed (L/274) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.767 @ 8' 3/4" | 1.029 | Passed (L/242) | | 1.0 D + 1.0 S (All Spans) |

System: Roof Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 0/12

PASSED

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 15' 5 1/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- · Applicable calculations are based on NDS.

| | В | earing Lengt | th | Loads | to Supports | (lbs) | |
|-----------------|-------|--------------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Column - DF | 5.50" | 5.50" | 1.75" | 700 | 5116 | 5816 | Blocking |
| 2 - Column - DF | 5.50" | 5.50" | 1.94" | 767 | 5705 | 6472 | Blocking |

[·] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 16' 1" o/c | |
| Bottom Edge (Lu) | 16' 1" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|---------------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 16' 1 1/4" | N/A | 14.9 | | |
| 1 - Tapered (PSF) | 0 to 3' 2" (Top) | 2' to 4' 9" | 17.0 | 150.0 | Default Load |
| 2 - Uniform (PSF) | 3' 2" to 16' 1 1/4" (Top) | 4' 9" | 17.0 | 150.0 | Default Load |

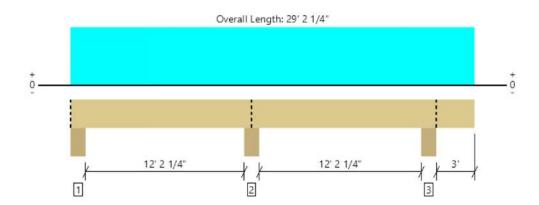
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| ForteWEB Software Operator | Job Notes |
|--|-----------|
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1 piece(s) 5 1/8" x 12" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 14488 @ 13' 1 1/8" | 24152 (7.25") | Passed (60%) | | 1.0 D + 1.0 S (Adj Spans) |
| | | ` | · ` ′ | | ` ' ' ' |
| Shear (lbs) | 6108 @ 11' 9 1/2" | 12495 | Passed (49%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Pos Moment (Ft-lbs) | 12512 @ 5' 7 7/8" | 28290 | Passed (44%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Neg Moment (Ft-lbs) | -18116 @ 13' 1 1/8" | 21807 | Passed (83%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Live Load Defl. (in) | 0.210 @ 6' 3 3/16" | 0.631 | Passed (L/720) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.231 @ 6' 2 3/4" | 0.841 | Passed (L/656) | | 1.0 D + 1.0 S (Alt Spans) |

System: Roof Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 10' 4 1/4".
- Critical negative moment adjusted by a volume factor of 1.00 that was calculated using length $L = 6' \ 3 \ 1/4"$.
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- · Applicable calculations are based on NDS.

| | В | earing Lengt | th | Loads | to Supports | (lbs) | |
|-----------------|-------|--------------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Column - DF | 7.25" | 7.25" | 1.59" | 574 | 4706 | 5280 | Blocking |
| 2 - Column - DF | 7.25" | 7.25" | 4.35" | 1652 | 12836 | 14488 | Blocking |
| 3 - Column - DF | 7.25" | 7.25" | 2.52" | 939 | 7458 | 8397 | Blocking |

[·] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 29' 2" o/c | |
| Bottom Edge (Lu) | 29' 2" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Snow | |
|-----------------------|-----------------------|-----------------|--------|--------|--------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 29' 2 1/4" | N/A | 14.9 | | |
| 1 - Uniform (PSF) | 0 to 29' 2 1/4" (Top) | 5' 6" | 17.0 | 150.0 | Default Load |

Weyerhaeuser Notes

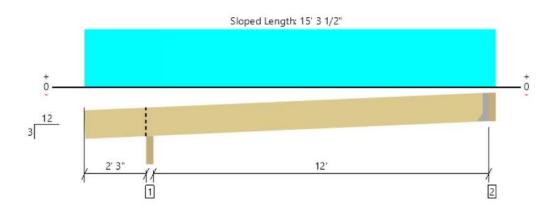
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| ForteWEB Software Operator | Job Notes | |
|--|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering | | |
| (208) 453-6512 jed@snakeriverengineering.com | | |



Roof, Deck Rafters

1 piece(s) 2 x 12 DF No.2 @ 12" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 995 @ 14' 6 1/2" | 1406 (1.50") | Passed (71%) | | 1.0 D + 1.0 S (Alt Spans) |
| Shear (lbs) | 880 @ 3' 5 7/16" | 2329 | Passed (38%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | 2958 @ 8' 7 3/16" | 3138 | Passed (94%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Live Load Defl. (in) | 0.261 @ 8' 6 1/16" | 0.626 | Passed (L/575) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.290 @ 8' 6 1/8" | 0.835 | Passed (L/518) | | 1.0 D + 1.0 S (Alt Spans) |

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|--|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Beveled Plate - DF | 3.50" | 3.50" | 1.51" | 153 | 1306 | 1458 | Blocking |
| 2 - Hanger on 11 1/4" DF ledgerOnMasonry | 3.50" | Hanger ¹ | 1.50" | 107 | 937 | 1044 | See note ¹ |

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- 1 See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 2' 9" o/c | |
| Bottom Edge (Lu) | 15' o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-1 | īie | | | | | |
|-----------------------------|--------|-------------|---------------|----------------|------------------|-------------|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories |
| 2 - Face Mount Hanger | LRU28Z | 1.94" | N/A | 6-10d | 5-10d | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Load | Location (Side) | Spacing | Dead (0.90) | Snow (1.15) | Comments |
|-------------------|-----------------|---------|----------------|----------------|--------------|
| 1 - Uniform (PSF) | 0 to 14' 10" | 12" | 17.0 | 150.0 | Default Load |

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes | |
|--|-----------|--|
| Jed Jones 11/4/22 | | |
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| jed@snakeriverengineering.com | | |



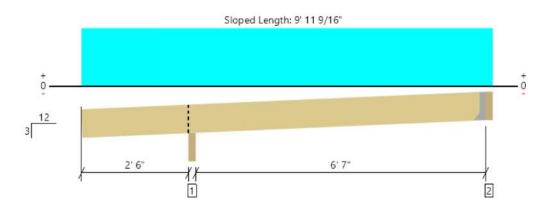
Member Length: 15' 2 11/16"

System: Roof Member Type : Joist Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 3/12

File Name: 2022-4218 Charters Residence

Roof, Entry Deck Rafters

1 piece(s) 2 x 8 DF No.2 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 687 @ 9' 4 1/2" | 1406 (1.50") | Passed (49%) | | 1.0 D + 1.0 S (Alt Spans) |
| Shear (lbs) | 704 @ 3' 4 9/16" | 1501 | Passed (47%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | 1058 @ 6' 3 9/16" | 1564 | Passed (68%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Live Load Defl. (in) | 0.105 @ 6' 1 7/16" | 0.347 | Passed (L/794) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.114 @ 6' 1 9/16" | 0.462 | Passed (L/728) | | 1.0 D + 1.0 S (Alt Spans) |

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|---|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Beveled Plate - DF | 3.50" | 3.50" | 1.51" | 153 | 1306 | 1459 | Blocking |
| 2 - Hanger on 7 1/4" DF ledgerOnMasonry | 3.50" | Hanger ¹ | 1.50" | 73 | 679 | 752 | See note ¹ |

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- 1 See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 9' 2" o/c | |
| Bottom Edge (Lu) | 9' 8" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-1 | īie | | | | | |
|-----------------------------|--------|-------------|---------------|----------------|------------------|-------------|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories |
| 2 - Face Mount Hanger | LRU26Z | 1.94" | N/A | 4-10dx1.5 | 5-10d | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Load | Location (Side) | Spacing | Dead (0.90) | Snow (1.15) | Comments |
|-------------------|-----------------|---------|----------------|----------------|--------------|
| 1 - Uniform (PSF) | 0 to 9' 8" | 16" | 17.0 | 150.0 | Default Load |

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes | |
|---|-----------|---|
| Jed Jones 11/4/22 Snake River Engineering | | |
| (208) 453-6512 jed@snakeriverengineering.com | | V |



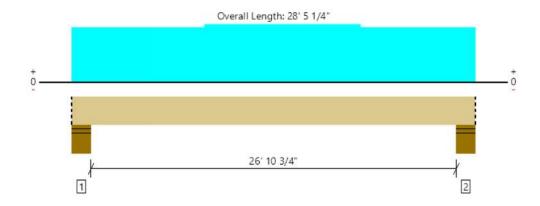
Member Length: 9' 9 3/4"

System: Roof Member Type : Joist Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 3/12

File Name: 2022-4218 Charters Residence

Upper Floor, B04

1 piece(s) 8 3/4" x 33" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-----------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 44632 @ 27' 9 1/2" | 50586 (9.25") | Passed (88%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 33661 @ 24' 11" | 58664 | Passed (57%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 290385 @ 14' 2 11/16" | 305000 | Passed (95%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.661 @ 14' 2 5/8" | 0.679 | Passed (L/493) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.816 @ 14' 2 5/8" | 1.357 | Passed (L/399) | | 1.0 D + 1.0 S (All Spans) |

System: Floor Member Type : Flush Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 0.84 that was calculated using length L = 27' 1 3/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | В | earing Lengt | th | Loads to Supports (lbs) | | | | |
|--------------------|-------|--------------|----------|-------------------------|------------|-------|----------|-------------|
| Supports | Total | Available | Required | Dead | Floor Live | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 9.25" | 9.25" | 8.16" | 8345 | 5344 | 36258 | 44603 | Blocking |
| 2 - Stud wall - DF | 9.25" | 9.25" | 8.16" | 8374 | 5412 | 36258 | 44632 | Blocking |

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 20' 9" o/c | |
| Bottom Edge (Lu) | 28' 5" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Floor Live | Snow | |
|-----------------------|------------------------------------|-----------------|--------|------------|--------|--------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.00) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 28' 5 1/4" | N/A | 70.2 | | | |
| 1 - Uniform (PSF) | 0 to 9' 4 1/4" (Back) | 8' 2" | 17.0 | 40.0 | - | Default Load |
| 2 - Uniform (PSF) | 9' 4 1/4" to 20' 4 1/4" (Back) | 11' 6" | 17.0 | 40.0 | - | Default Load |
| 3 - Uniform (PSF) | 20' 4 1/4" to 28' 5 1/4" (Back) | 8' 2" | 17.0 | 40.0 | - | Default Load |
| 4 - Uniform (PSF) | 0 to 28' 5 1/4" (Top) | 15' | 17.0 | - | 150.0 | Snow |
| 5 - Uniform (PSF) | 0 to 28' 5 1/4" (Front) | 2' | 17.0 | - | 150.0 | Snow |
| 6 - Uniform (PSF) | 0 to 28' 5 1/4" (Top) | 5' 8" | 12.0 | - | - | wall |

Weyerhaeuser Notes

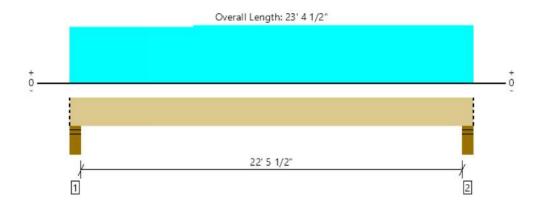
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| ForteWEB Software Operator | Job Notes |
|--|-----------|
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Upper Floor, B05

1 piece(s) 6 3/4" x 27" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|---------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 23291 @ 23' 1/2" | 23203 (5.50") | Passed (100%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 17890 @ 20' 8" | 37027 | Passed (48%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 128351 @ 11' 8 3/8" | 167893 | Passed (76%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.495 @ 11' 8 1/4" | 0.568 | Passed (L/550) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.598 @ 11' 8 1/4" | 1.135 | Passed (L/456) | | 1.0 D + 1.0 S (All Spans) |

System: Floor Member Type : Flush Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 0.89 that was calculated using length L = 22' 8 1/2".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | В | earing Lengt | th | Loads to Supports (lbs) | | | | |
|--------------------|-------|--------------|----------|-------------------------|------------|-------|----------|-------------|
| Supports | Total | Available | Required | Dead | Floor Live | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 5.50" | 5.50" | 5.50" | 3920 | 222 | 19284 | 23204 | Blocking |
| 2 - Stud wall - DF | 5.50" | 5.50" | 5.52" | 4006 | 426 | 19284 | 23291 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing Bracing Intervals | | Comments |
|-----------------------------------|------------|----------|
| Top Edge (Lu) | 23' 5" o/c | |
| Bottom Edge (Lu) | 23' 5" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Floor Live | Snow | |
|-----------------------|----------------------------|-----------------|--------|------------|--------|--------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.00) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 23' 4 1/2" | N/A | 44.3 | | | |
| 1 - Uniform (PSF) | 7' 2" to 23' 4 1/2" (Back) | 1' | 17.0 | 40.0 | - | Default Load |
| 2 - Uniform (PSF) | 0 to 23' 4 1/2" (Top) | 4' | 17.0 | - | 150.0 | Snow |
| 3 - Uniform (PSF) | 0 to 23' 4 1/2" (Front) | 7' | 17.0 | - | 150.0 | Snow |
| 4 - Uniform (PSF) | 0 to 23' 4 1/2" (Top) | 8' | 12.0 | - | ı | wall |

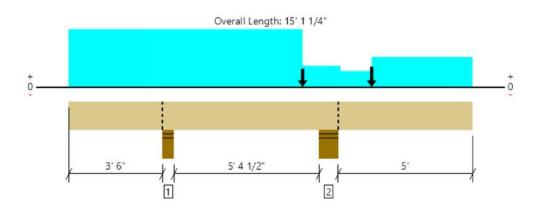
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| ForteWEB Software Operator | Job Notes | |
|---|-----------|--|
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1 piece(s) 6 3/4" x 15" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|---------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 36412 @ 9' 8 5/8" | 39023 (9.25") | Passed (93%) | | 1.0 D + 1.0 S (Adj Spans) |
| Shear (lbs) | 15775 @ 11' 4 1/4" | 20571 | Passed (77%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 436 @ 6' 7 3/8" | 58219 | Passed (1%) | 1.15 | 1.0 D + 1.0 S (Alt Spans) |
| Neg Moment (Ft-lbs) | -36755 @ 9' 8 5/8" | 44125 | Passed (83%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.256 @ 15' 1 1/4" | 0.269 | Passed (2L/504) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.300 @ 15' 1 1/4" | 0.539 | Passed (2L/430) | | 1.0 D + 1.0 S (Alt Spans) |

System : Floor Member Type : Flush Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD

PASSED

- Deflection criteria: LL (L/480) and TL (L/240).
- Overhang deflection criteria: LL (2L/480) and TL (2L/240).
- Left cantilever length exceeds 1/3 member length or 1/2 back span length. Additional bracing should be considered.
- Right cantilever length exceeds 1/3 member length or 1/2 back span length. Additional bracing should be considered.
- Allowed moment does not reflect the adjustment for the beam stability factor.
- \bullet Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 1' 1 5/8".
- Critical negative moment adjusted by a volume factor of 0.98 that was calculated using length L = 15' 1 1/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads to Supports (lbs) | | | | |
|--------------------|----------------|-----------|----------|-------------------------|------------|-------|----------|-------------|
| Supports | Total | Available | Required | Dead | Floor Live | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 5.50" | 5.50" | 4.57" | 2420 | 315 | 16843 | 19263 | Blocking |
| 2 - Stud wall - DF | 9.25" | 9.25" | 8.63" | 5110 | 432 | 31302 | 36412 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 15' 1" o/c | |
| Bottom Edge (Lu) | 15' 1" o/c | |

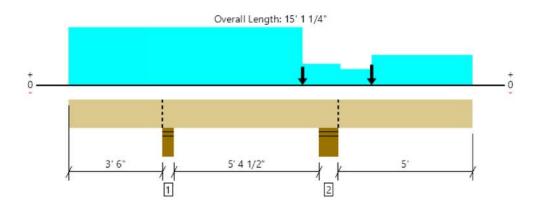
[•]Maximum allowable bracing intervals based on applied load.

| | | | Dead | Floor Live | Snow | |
|-----------------------|------------------------------|-----------------|--------|------------|--------|---|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.00) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 15' 1 1/4" | N/A | 24.6 | | | |
| 1 - Uniform (PSF) | 0 to 15' 1 1/4" (Back) | 1' | 17.0 | 40.0 | - | Default Load |
| 2 - Uniform (PSF) | 0 to 8' 9" (Top) | 10' 4" | 17.0 | - | 150.0 | Snow |
| 3 - Uniform (PSF) | 0 to 10' 2" (Front) | 5' | 17.0 | - | 150.0 | Snow |
| 4 - Uniform (PSF) | 0 to 15' 1 1/4" (Top) | 9' | 12.0 | - | - | wall |
| 5 - Uniform (PSF) | 11' 4" to 15' 1 1/4" (Top) | 4' | 17.0 | - | 150.0 | Snow |
| 6 - Uniform (PSF) | 10' 2" to 15' 1 1/4" (Front) | 3' 6" | 17.0 | - | 150.0 | Snow |
| 7 - Point (lb) | 8' 9" (Top) | N/A | 1115 | - | 8699 | Linked from: HDR @ GRD 1, Support 1 |
| 8 - Point (lb) | 11' 4" (Top) | N/A | 1204 | - | 9491 | Linked from: HDR @ GRD 1, Support 2 |

| ForteWEB Software Operator | Job Notes |
|---|-----------|
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4 piece(s) 1 3/4" x 16" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|---------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 36489 @ 9' 8 5/8" | 40469 (9.25") | Passed (90%) | | 1.0 D + 1.0 S (Adj Spans) |
| Shear (lbs) | 15030 @ 11' 5 1/4" | 24472 | Passed (61%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | -36872 @ 9' 8 5/8" | 71562 | Passed (52%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.215 @ 15' 1 1/4" | 0.269 | Passed (2L/600) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.254 @ 15' 1 1/4" | 0.539 | Passed (2L/510) | | 1.0 D + 1.0 S (Alt Spans) |

System : Floor Member Type : Flush Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD

PASSED

- Deflection criteria: LL (L/480) and TL (L/240).
- Overhang deflection criteria: LL (2L/480) and TL (2L/240).
- $\bullet \ \ \text{Left cantilever length exceeds 1/3 member length or 1/2 back span length. Additional bracing should be considered.}$
- $\bullet \ \ \text{Right cantilever length exceeds 1/3 member length or 1/2 back span length. Additional bracing should be considered.}\\$
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Member should be side-loaded from both sides of the member or braced to prevent rotation.

| | Bearing Length | | | Loads to Supports (lbs) | | | | |
|--------------------|----------------|-----------|----------|-------------------------|------------|-------|----------|-------------|
| Supports | Total | Available | Required | Dead | Floor Live | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 5.50" | 5.50" | 4.41" | 2464 | 315 | 16843 | 19308 | Blocking |
| 2 - Stud wall - DF | 9.25" | 9.25" | 8.34" | 5187 | 432 | 31302 | 36489 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 15' 1" o/c | |
| Bottom Edge (Lu) | 15' 1" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

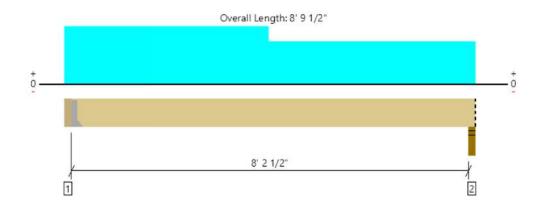
| | | | Dead | Floor Live | Snow | |
|-----------------------|------------------------------|-----------------|--------|------------|--------|---|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.00) | (1.15) | Comments |
| 0 - Self Weight (PLF) | 0 to 15' 1 1/4" | N/A | 32.7 | | | |
| 1 - Uniform (PSF) | 0 to 15' 1 1/4" (Back) | 1' | 17.0 | 40.0 | - | Default Load |
| 2 - Uniform (PSF) | 0 to 8' 9" (Top) | 10' 4" | 17.0 | - | 150.0 | Snow |
| 3 - Uniform (PSF) | 0 to 10' 2" (Front) | 5' | 17.0 | - | 150.0 | Snow |
| 4 - Uniform (PSF) | 0 to 15' 1 1/4" (Top) | 9' | 12.0 | - | - | wall |
| 5 - Uniform (PSF) | 11' 4" to 15' 1 1/4" (Top) | 4' | 17.0 | - | 150.0 | Snow |
| 6 - Uniform (PSF) | 10' 2" to 15' 1 1/4" (Front) | 3' 6" | 17.0 | - | 150.0 | Snow |
| 7 - Point (lb) | 8' 9" (Top) | N/A | 1115 | - | 8699 | Linked from: HDR @ GRD 1, Support 1 |
| 8 - Point (lb) | 11' 4" (Top) | N/A | 1204 | - | 9491 | Linked from: HDR @ GRD 1, Support 2 |

| ForteWEB Software Operator | Job Notes |
|---|-----------|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 jed@snakeriverengineering.com | |



Upper Floor, B13

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|--------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 2596 @ 3 1/2" | 3938 (1.50") | Passed (66%) | | 1.0 D + 1.0 L (All Spans) |
| Shear (lbs) | 1933 @ 1' 3 3/8" | 7897 | Passed (24%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Moment (Ft-lbs) | 5030 @ 4' 2" | 17848 | Passed (28%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Live Load Defl. (in) | 0.054 @ 4' 4 7/8" | 0.208 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |
| Total Load Defl. (in) | 0.078 @ 4' 4 15/16" | 0.417 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |

System : Floor Member Type : Flush Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

| | Bearing Length | | | Loads | to Supports | | |
|-------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Floor Live | Factored | Accessories |
| 1 - Hanger on 11 7/8" DF beam | 3.50" | Hanger ¹ | 1.50" | 828 | 1960 | 2788 | See note ¹ |
| 2 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 717 | 1601 | 2318 | Blocking |

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- $\bullet\,\,^{\rm 1}$ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 8' 6" o/c | |
| Bottom Edge (Lu) | 8' 6" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | | |
|-------------------------------|--------|-------------|---------------|----------------|------------------|-------------|--|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | | |
| 1 - Face Mount Hanger | HHUS48 | 3.00" | N/A | 22-10d | 8-10d | | | | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| | | | Dead | Floor Live | |
|-----------------------|------------------------|-----------------|--------|------------|--------------|
| Vertical Loads | Location (Side) | Tributary Width | (0.90) | (1.00) | Comments |
| 0 - Self Weight (PLF) | 3 1/2" to 8' 9 1/2" | N/A | 12.1 | | |
| 1 - Uniform (PSF) | 0 to 8' 9 1/2" (Front) | 8' 6" | 17.0 | 40.0 | Default Load |
| 2 - Uniform (PSF) | 0 to 4' 3 1/2" (Back) | 3' 4" | 12.0 | 40.0 | Default Load |

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| ForteWEB Software Operator | Job Notes | |
|--|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 | | |
| jed@snakeriverengineering.com | | |



Upper Floor, B14

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|--------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 1272 @ 2" | 7656 (3.50") | Passed (17%) | | 1.0 D + 1.0 L (All Spans) |
| Shear (lbs) | 902 @ 1' 3 3/8" | 7897 | Passed (11%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Moment (Ft-lbs) | 2589 @ 4' 4 3/4" | 17848 | Passed (15%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Live Load Defl. (in) | 0.030 @ 4' 4 3/4" | 0.211 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |
| Total Load Defl. (in) | 0.041 @ 4' 4 3/4" | 0.423 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |

System: Floor Member Type : Flush Beam Building Use: Residential Building Code: IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

| | Bearing Length | | | Loads | to Supports | | |
|--------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Floor Live | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 335 | 938 | 1272 | Blocking |
| 2 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 335 | 938 | 1272 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 8' 10" o/c | |
| Bottom Edge (Lu) | 8' 10" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Floor Live (1.00) | Comments |
|-----------------------|------------------------|-----------------|----------------|----------------------|--------------|
| 0 - Self Weight (PLF) | 0 to 8' 9 1/2" | N/A | 12.1 | | |
| 1 - Uniform (PSF) | 0 to 8' 9 1/2" (Front) | 2' | 12.0 | 40.0 | Default Load |
| 2 - Uniform (PSF) | 0 to 8' 9 1/2" (Back) | 3' 4" | 12.0 | 40.0 | Default Load |

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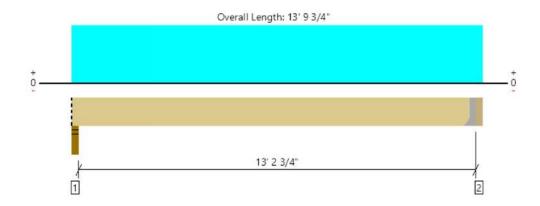
| ForteWEB Software Operator | Job Notes | |
|-------------------------------|-----------|--|
| Jed Jones 11/4/22 | | |
| Snake River Engineering | | |
| (208) 453-6512 | | |
| jed@snakeriverengineering.com | | |



PASSED

Main Floor, B15

1 piece(s) 5 1/8" x 10 1/2" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 3826 @ 13' 6 1/4" | 4997 (1.50") | Passed (77%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 3325 @ 12' 7 3/4" | 10933 | Passed (30%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-Ibs) | 12775 @ 6' 10 1/8" | 21660 | Passed (59%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.422 @ 6' 10 1/8" | 0.445 | Passed (L/380) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.461 @ 6' 10 1/8" | 0.668 | Passed (L/348) | | 1.0 D + 1.0 S (All Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 13' 4 1/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|-------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 329 | 3593 | 3922 | Blocking |
| 2 - Hanger on 10 1/2" DF beam | 3.50" | Hanger ¹ | 1.50" | 331 | 3659 | 3990 | See note ¹ |

- · Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 13' 6" o/c | |
| Bottom Edge (Lu) | 13' 6" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | |
|-------------------------------|-------------|-------------|---------------|----------------|------------------|-------------|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | |
| 2 - Face Mount Hanger | HGUS5.25/10 | 4.00" | N/A | 46-10d | 16-10d | | | |

[·] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|-------------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 13' 6 1/4" | N/A | 13.1 | | |
| 1 - Uniform (PSF) | 0 to 13' 9 3/4" (Front) | 3' 6" | 10.0 | 150.0 | Default Load |

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes | |
|---|-----------|---|
| Jed Jones 11/4/22 Snake River Engineering | | 2 |
| (208) 453-6512 jed@snakeriverengineering.com | | V |

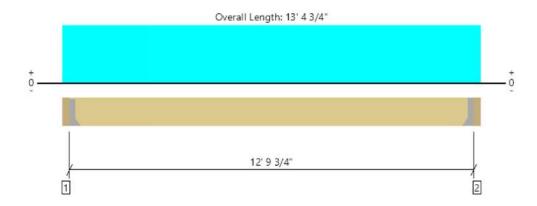


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File Name: 2022-4218 Charters Residence

Main Floor, B16

1 piece(s) 5 1/8" x 10 1/2" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 3671 @ 3 1/2" | 4997 (1.50") | Passed (73%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 3170 @ 1' 2" | 10933 | Passed (29%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 11760 @ 6' 8 3/8" | 21660 | Passed (54%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.358 @ 6' 8 3/8" | 0.427 | Passed (L/430) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.390 @ 6' 8 3/8" | 0.641 | Passed (L/394) | | 1.0 D + 1.0 S (All Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 12' 9 3/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|-------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Hanger on 10 1/2" DF beam | 3.50" | Hanger ¹ | 1.50" | 318 | 3516 | 3835 | See note ¹ |
| 2 - Hanger on 10 1/2" DF beam | 3.50" | Hanger ¹ | 1.50" | 318 | 3516 | 3835 | See note ¹ |

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 12' 10" o/c | |
| Bottom Edge (Lu) | 12' 10" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | | |
|-------------------------------|---------------------|-------------|---------------|----------------|------------------|-------------|--|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | | |
| 1 - Face Mount Hanger | Connector not found | N/A | N/A | N/A | N/A | | | | |
| 2 - Face Mount Hanger | Connector not found | N/A | N/A | N/A | N/A | | | | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|-------------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 3 1/2" to 13' 1 1/4" | N/A | 13.1 | | |
| 1 - Uniform (PSF) | 0 to 13' 4 3/4" (Front) | 3' 6" | 10.0 | 150.0 | Default Load |

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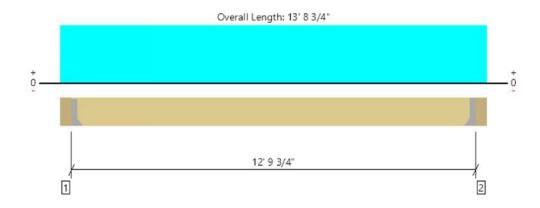
| ForteWEB Software Operator | Job Notes | |
|--|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering | | |
| (208) 453-6512 jed@snakeriverengineering.com | | |





Main Floor, B17

1 piece(s) 5 1/8" x 10 1/2" 24F-V4 DF Glulam



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 3671 @ 5 1/2" | 4997 (1.50") | Passed (73%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 3170 @ 1' 4" | 10933 | Passed (29%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Pos Moment (Ft-lbs) | 11760 @ 6' 10 3/8" | 21660 | Passed (54%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.358 @ 6' 10 3/8" | 0.427 | Passed (L/430) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.390 @ 6' 10 3/8" | 0.641 | Passed (L/394) | | 1.0 D + 1.0 S (All Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 12' 9 3/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|-------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Hanger on 10 1/2" DF beam | 5.50" | Hanger ¹ | 1.50" | 324 | 3604 | 3928 | See note ¹ |
| 2 - Hanger on 10 1/2" DF beam | 5.50" | Hanger ¹ | 1.50" | 324 | 3604 | 3928 | See note ¹ |

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 12' 10" o/c | |
| Bottom Edge (Lu) | 12' 10" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | | |
|-------------------------------|----------------|-------------|---------------|----------------|------------------|-------------|--|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | | |
| 1 - Face Mount Hanger | HUCQ5.25/9-SDS | 3.00" | N/A | 12-SDS25212 | 6-SDS25212 | | | | |
| 2 - Face Mount Hanger | HUCQ5.25/9-SDS | 3.00" | N/A | 12-SDS25212 | 6-SDS25212 | | | | |

[·] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|-------------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 5 1/2" to 13' 3 1/4" | N/A | 13.1 | | |
| 1 - Uniform (PSF) | 0 to 13' 8 3/4" (Front) | 3' 6" | 10.0 | 150.0 | Default Load |

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

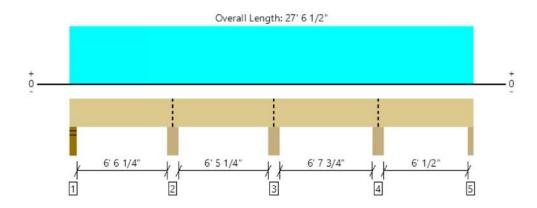
| ForteWEB Software Operator | Job Notes | |
|---|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering | | |
| (208) 453-6512 jed@snakeriverengineering.com | | |



10/27/2022 9:06:13 PM UTC Page 35 of 88 ForteWEB v3.4, Engine: V8.2.2.122, Data: V8.1.3.0 File Name: 2022-4218 Charters Residence

Main Floor, B18

1 piece(s) 6 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|---------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 7861 @ 7' 1/2" | 18906 (5.50") | Passed (42%) | | 1.0 D + 1.0 S (Adj Spans) |
| Shear (lbs) | 3105 @ 6' 1/4" | 6810 | Passed (46%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Moment (Ft-lbs) | -5174 @ 7' 1/2" | 6937 | Passed (75%) | 1.15 | 1.0 D + 1.0 S (Adj Spans) |
| Live Load Defl. (in) | 0.055 @ 3' 4 1/16" | 0.229 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.059 @ 3' 3 15/16" | 0.344 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |

System : Floor Member Type : Drop Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- \bullet Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads to Supports (lbs) | | | |
|--------------------|----------------|-----------|----------|-------------------------|------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 211 | 2754 | 2965 | None |
| 2 - Column - DF | 5.50" | 5.50" | 2.29" | 572 | 7289 | 7861 | Blocking |
| 3 - Column - DF | 5.50" | 5.50" | 2.06" | 487 | 6585 | 7072 | Blocking |
| 4 - Column - DF | 5.50" | 5.50" | 2.24" | 560 | 7132 | 7693 | Blocking |
| 5 - Column - DF | 2.75" | 2.75" | 1.50" | 187 | 2499 | 2686 | None |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 27' 7" o/c | |
| Bottom Edge (Lu) | 27' 7" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|-------------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 27' 6 1/2" | N/A | 13.2 | | |
| 1 - Uniform (PSF) | 0 to 27' 6 1/2" (Front) | 6' | 10.0 | 150.0 | Default Load |

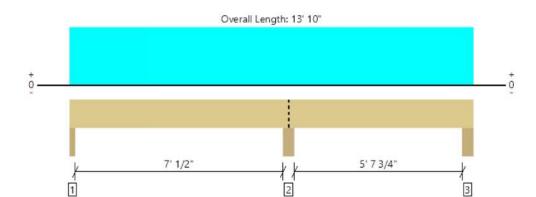
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| Job Notes | |
|-----------|-----------|
| | |
| | |
| | |
| | |
| | Job Notes |



1 piece(s) 6 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|---------------------|---------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 9684 @ 7' 6" | 18906 (5.50") | Passed (51%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 3967 @ 6' 5 3/4" | 6810 | Passed (58%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | -6639 @ 7' 6" | 6937 | Passed (96%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.082 @ 3' 6 1/16" | 0.247 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.088 @ 3' 5 15/16" | 0.370 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- · Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|-----------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Column - DF | 2.75" | 2.75" | 1.50" | 254 | 3353 | 3606 | None |
| 2 - Column - DF | 5.50" | 5.50" | 2.82" | 710 | 8974 | 9684 | Blocking |
| 3 - Column - DF | 5.50" | 5.50" | 1.50" | 199 | 2851 | 3050 | None |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 13' 10" o/c | |
| Bottom Edge (Lu) | 13' 10" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|--------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 13' 10" | N/A | 13.2 | | |
| 1 - Uniform (PSF) | 0 to 13' 10" (Top) | 7' 1" | 10.0 | 150.0 | Default Load |

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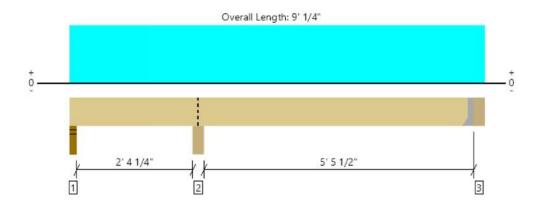
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes |
|---|-----------|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 jed@snakeriverengineering.com | |



File Name: 2022-4218 Charters Residence

1 piece(s) 6 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|--------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 2785 @ 8' 6 3/4" | 5156 (1.50") | Passed (54%) | | 1.0 D + 1.0 S (Alt Spans) |
| Shear (lbs) | 2812 @ 3' 10 3/4" | 6810 | Passed (41%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | -3621 @ 2' 10 1/2" | 6937 | Passed (52%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.029 @ 5' 11 3/4" | 0.190 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.032 @ 5' 11 3/4" | 0.284 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- -303 lbs uplift at support located at 2". Strapping or other restraint may be required.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|------------------------------|----------------|---------------------|----------|-------|-------------|-----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 35 | 1002/-338 | 1037/-303 | None |
| 2 - Column - DF | 5.50" | 5.50" | 2.03" | 509 | 6474 | 6983 | Blocking |
| 3 - Hanger on 9 1/2" DF beam | 5.50" | Hanger ¹ | 1.50" | 235 | 3091 | 3326 | See note ¹ |

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 8' 7" o/c | |
| Bottom Edge (Lu) | 8' 7" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | |
|-------------------------------|---------------------|-------------|---------------|----------------|------------------|-------------|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | |
| 3 - Face Mount Hanger | Connector not found | N/A | N/A | N/A | N/A | | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|--------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 8' 6 3/4" | N/A | 13.2 | | |
| 1 - Uniform (PSF) | 0 to 9' 1/4" (Top) | 7' 4 1/2" | 10.0 | 150.0 | Default Load |

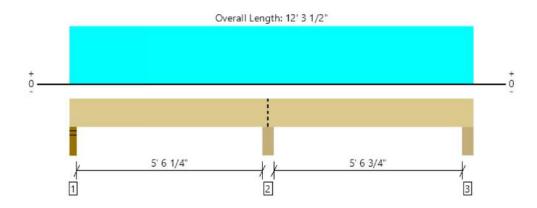
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| ForteWEB Software Operator | Job Notes |
|---|-----------|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 jed@snakeriverengineering.com | |



1 piece(s) 6 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|---------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 8352 @ 6' 1/2" | 18906 (5.50") | Passed (44%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 3028 @ 7' 3/4" | 6810 | Passed (44%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | -4924 @ 6' 1/2" | 6937 | Passed (71%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.032 @ 9' 3 1/2" | 0.197 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.034 @ 9' 3 5/8" | 0.296 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |

System : Floor Member Type : Drop Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- \bullet Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- · Applicable calculations are based on NDS.

| | В | Bearing Length | | | to Supports | | |
|--------------------|-------|----------------|----------|------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 197 | 2679 | 2876 | None |
| 2 - Column - DF | 5.50" | 5.50" | 2.43" | 613 | 7738 | 8352 | Blocking |
| 3 - Column - DF | 5.50" | 5.50" | 1.50" | 213 | 2876 | 3089 | None |

Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 12' 4" o/c | |
| Bottom Edge (Lu) | 12' 4" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|-----------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 12' 3 1/2" | N/A | 13.2 | | |
| 1 - Uniform (PSF) | 0 to 12' 3 1/2" (Top) | 7' | 10.0 | 150.0 | Default Load |

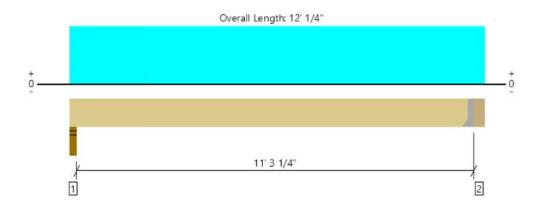
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| ForteWEB Software Operator | Job Notes |
|---|-----------|
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1 piece(s) 6 x 12 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 3282 @ 11' 6 3/4" | 5156 (1.50") | Passed (64%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 2730 @ 10' 7 1/4" | 8244 | Passed (33%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | 9351 @ 5' 10 3/8" | 10166 | Passed (92%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.220 @ 5' 10 3/8" | 0.380 | Passed (L/622) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.241 @ 5' 10 3/8" | 0.570 | Passed (L/567) | | 1.0 D + 1.0 S (All Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|-------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 299 | 3079 | 3378 | None |
| 2 - Hanger on 11 1/2" DF beam | 5.50" | Hanger ¹ | 1.50" | 307 | 3232 | 3539 | See note ¹ |

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- $\bullet\,\,^{\rm 1}$ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 11' 7" o/c | |
| Bottom Edge (Lu) | 11' 7" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | | |
|-------------------------------|-------------|-------------|---------------|----------------|------------------|-------------|--|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | | |
| 2 - Face Mount Hanger | HUCQ610-SDS | 3.00" | N/A | 12-SDS25212 | 6-SDS25212 | | | | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|---------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 11' 6 3/4" | N/A | 16.0 | | |
| 1 - Uniform (PSF) | 0 to 12' 1/4" (Top) | 3' 6" | 10.0 | 150.0 | Default Load |

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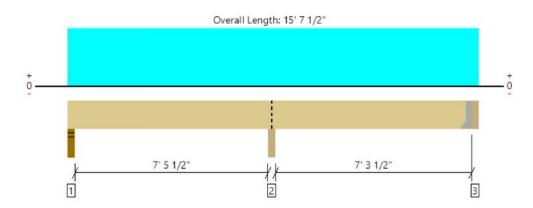
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes | |
|--|-----------|--|
| Jed Jones 11/4/22 | | |
| Snake River Engineering (208) 453-6512 | | |
| jed@snakeriverengineering.com | | |



File Name: 2022-4218 Charters Residence

1 piece(s) 4 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|--------------------|--------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 4250 @ 7' 10 3/4" | 7656 (3.50") | Passed (56%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 1739 @ 6' 11 3/4" | 4468 | Passed (39%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | -3225 @ 7' 10 3/4" | 5166 | Passed (62%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.051 @ 3' 8 5/16" | 0.258 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |
| Total Load Defl. (in) | 0.054 @ 3' 8 3/16" | 0.386 | Passed (L/999+) | | 1.0 D + 1.0 S (Alt Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- · Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Stud wall - DF | 3.50" | 3.50" | 1.50" | 111 | 1369 | 1480 | None |
| 2 - Column - DF | 3.50" | 3.50" | 1.94" | 339 | 3911 | 4250 | Blocking |
| 3 - Hanger on 9 1/4" DF beam | 3.50" | Hanger ¹ | 1.50" | 106 | 1361 | 1467 | See note ¹ |

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 15' 4" o/c | |
| Bottom Edge (Lu) | 15' 4" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-1 | Гіе | | | | | |
|-----------------------------|-------|-------------|---------------|----------------|------------------|-------------|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories |
| 3 - Face Mount Hanger | HUC48 | 2.50" | N/A | 14-10dx1.5 | 6-10d | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|-----------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 0 to 15' 4" | N/A | 8.2 | | |
| 1 - Uniform (PSF) | 0 to 15' 7 1/2" (Top) | 2' 9" | 10.0 | 150.0 | Default Load |

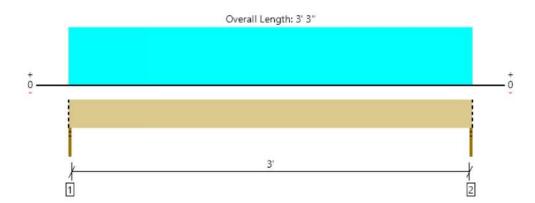
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| ForteWEB Software Operator | Job Notes | |
|---|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 jed@snakeriverengineering.com | | |



1 piece(s) 4 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|--------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 943 @ 0 | 3281 (1.50") | Passed (29%) | | 1.0 D + 1.0 L (All Spans) |
| Shear (lbs) | 423 @ 10 3/4" | 3885 | Passed (11%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Moment (Ft-lbs) | 766 @ 1' 7 1/2" | 4492 | Passed (17%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Live Load Defl. (in) | 0.003 @ 1' 7 1/2" | 0.081 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |
| Total Load Defl. (in) | 0.004 @ 1' 7 1/2" | 0.162 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |

System : Floor Member Type : Flush Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- \bullet Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|--------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Floor Live | Factored | Accessories |
| 1 - Stud wall - DF | 1.50" | 1.50" | 1.50" | 228 | 715 | 943 | Blocking |
| 2 - Stud wall - DF | 1.50" | 1.50" | 1.50" | 228 | 715 | 943 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 3' 3" o/c | |
| Bottom Edge (Lu) | 3' 3" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Floor Live (1.00) | Comments |
|-----------------------|--------------------|-----------------|----------------|----------------------|--------------|
| 0 - Self Weight (PLF) | 0 to 3' 3" | N/A | 8.2 | | |
| 1 - Uniform (PSF) | 0 to 3' 3" (Front) | 11' | 12.0 | 40.0 | Default Load |

Weyerhaeuser Notes

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| ForteWEB Software Operator | Job Notes | |
|-------------------------------|-----------|--|
| Jed Jones 11/4/22 | | |
| Snake River Engineering | | |
| (208) 453-6512 | | |
| jed@snakeriverengineering.com | | |



1 piece(s) 4 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|--------------|-----------------|------|-----------------------------|
| Member Reaction (lbs) | 2764 @ 1 1/2" | 6563 (3.00") | Passed (42%) | | 1.0 D + 1.0 L (All Spans) |
| Shear (lbs) | 1152 @ 1' 1/4" | 3885 | Passed (30%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Moment (Ft-lbs) | 2085 @ 1' 9" | 4492 | Passed (46%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Live Load Defl. (in) | 0.008 @ 1' 9" | 0.081 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |
| Total Load Defl. (in) | 0.011 @ 1' 9" | 0.162 | Passed (L/999+) | | 1.0 D + 1.0 L (All Spans) |

System : Floor Member Type : Flush Beam Building Use : Residential Building Code : IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads | to Supports | | |
|--------------------|----------------|-----------|----------|-------|-------------|----------|-------------|
| Supports | Total | Available | Required | Dead | Floor Live | Factored | Accessories |
| 1 - Stud wall - DF | 3.00" | 3.00" | 1.50" | 773 | 1991 | 2764 | Blocking |
| 2 - Stud wall - DF | 3.00" | 3.00" | 1.50" | 773 | 1991 | 2764 | Blocking |

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 3' 6" o/c | |
| Bottom Edge (Lu) | 3' 6" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Floor Live (1.00) | Comments |
|-----------------------|--------------------|-----------------|----------------|----------------------|--------------|
| 0 - Self Weight (PLF) | 0 to 3' 6" | N/A | 8.2 | | |
| 1 - Uniform (PSF) | 0 to 3' 6" (Front) | 9' 11 1/4" | 12.0 | 40.0 | Default Load |
| 2 - Uniform (PSF) | 0 to 3' 6" (Top) | 18' 6" | 17.0 | 40.0 | Default Load |

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| ForteWEB Software Operator | Job Notes | |
|-------------------------------|-----------|--|
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1 piece(s) 4 x 10 DF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 2119 @ 5 1/2" | 3281 (1.50") | Passed (65%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 1681 @ 1' 2 3/4" | 4468 | Passed (38%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | 3951 @ 4' 2 1/4" | 5166 | Passed (76%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.099 @ 4' 2 1/4" | 0.249 | Passed (L/904) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.107 @ 4' 2 1/4" | 0.373 | Passed (L/836) | | 1.0 D + 1.0 S (All Spans) |

System: Floor Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

| | Bearing Length | | | Loads to Supports (lbs) | | | |
|------------------------------|----------------|---------------------|----------|-------------------------|------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Hanger on 9 1/4" DF beam | 5.50" | Hanger ¹ | 1.50" | 177 | 2198 | 2376 | See note ¹ |
| 2 - Hanger on 9 1/4" DF beam | 5.50" | Hanger ¹ | 1.50" | 177 | 2198 | 2376 | See note ¹ |

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- 1 See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 7' 6" o/c | |
| Bottom Edge (Lu) | 7' 6" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | |
|-------------------------------|--------|-------------|---------------|----------------|------------------|-------------|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | |
| 1 - Face Mount Hanger | HUC410 | 2.50" | N/A | 14-16d | 6-10d | | | |
| 2 - Face Mount Hanger | HUC410 | 2.50" | N/A | 14-16d | 6-10d | | | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Loads | Location (Side) | Tributary Width | Dead (0.90) | Snow (1.15) | Comments |
|-----------------------|----------------------|-----------------|----------------|----------------|--------------|
| 0 - Self Weight (PLF) | 5 1/2" to 7' 11" | N/A | 8.2 | | |
| 1 - Uniform (PSF) | 0 to 8' 4 1/2" (Top) | 3' 6" | 10.0 | 150.0 | Default Load |

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| ForteWEB Software Operator | Job Notes | |
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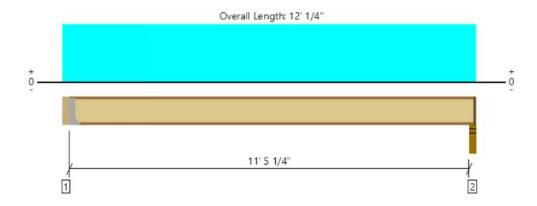




MEMBER REPORT

Main Floor, Floor: Joist

1 piece(s) 9 1/2" TJI® 110 @ 24" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|-------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 599 @ 3 1/2" | 910 (1.75") | Passed (66%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Shear (lbs) | 599 @ 3 1/2" | 1220 | Passed (49%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Moment (Ft-lbs) | 1725 @ 6' 5/8" | 2500 | Passed (69%) | 1.00 | 1.0 D + 1.0 L (All Spans) |
| Live Load Defl. (in) | 0.179 @ 6' 5/8" | 0.288 | Passed (L/774) | | 1.0 D + 1.0 L (All Spans) |
| Total Load Defl. (in) | 0.232 @ 6' 5/8" | 0.576 | Passed (L/595) | | 1.0 D + 1.0 L (All Spans) |
| TJ-Pro™ Rating | 37 | 35 | Passed | | |

System: Floor Member Type : Joist Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- · Allowed moment does not reflect the adjustment for the beam stability factor.
- A structural analysis of the deck has not been performed.
- Deflection analysis is based on composite action with a single layer of 23/32" Weyerhaeuser Edge™ Panel (24" Span Rating) that is glued and nailed down.
- Additional considerations for the TJ-Pro™ Rating include: None.

| | Bearing Length | | | Loads | to Supports | | |
|------------------------------|----------------|---------------------|-------------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Floor Live | Factored | Accessories |
| 1 - Hanger on 9 1/2" DF beam | 3.50" | Hanger ¹ | 1.75" / - 2 | 145 | 484 | 629 | See note ¹ |
| 2 - Stud wall - DF | 3.50" | 2.25" | 1.75" | 143 | 477 | 621 | 1 1/4" Rim Board |

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- 1 See Connector grid below for additional information and/or requirements.
- ² Required Bearing Length / Required Bearing Length with Web Stiffeners

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 3' 9" o/c | |
| Bottom Edge (Lu) | 11' 8" o/c | |

- •TJI joists are only analyzed using Maximum Allowable bracing solutions.
- •Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | |
|-------------------------------|-------------|-------------|---------------|----------------|------------------|-------------|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | |
| 1 - Face Mount Hanger | IUS1.81/9.5 | 2.00" | N/A | 8-10dx1.5 | 2-Strong-Grip | | | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| | | | Dead | Floor Live | |
|-------------------|---------------|---------|--------|------------|--------------|
| Vertical Load | Location | Spacing | (0.90) | (1.00) | Comments |
| 1 - Uniform (PSF) | 0 to 12' 1/4" | 24" | 12.0 | 40.0 | Default Load |

Weyerhaeuser Notes

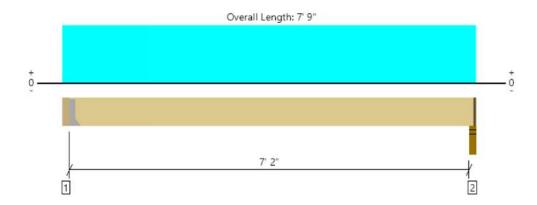
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| ForteWEB Software Operator | Job Notes | |
|---|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 jed@snakeriverengineering.com | | |



Main Floor, Deck Joist

1 piece(s) 2 x 8 DF No.2 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

| Design Results | Actual @ Location | Allowed | Result | LDF | Load: Combination (Pattern) |
|-----------------------|-------------------|--------------|----------------|------|-----------------------------|
| Member Reaction (lbs) | 773 @ 3 1/2" | 1406 (1.50") | Passed (55%) | | 1.0 D + 1.0 S (All Spans) |
| Shear (lbs) | 644 @ 10 3/4" | 1501 | Passed (43%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Moment (Ft-lbs) | 1402 @ 3' 11" | 1564 | Passed (90%) | 1.15 | 1.0 D + 1.0 S (All Spans) |
| Live Load Defl. (in) | 0.163 @ 3' 11" | 0.181 | Passed (L/533) | | 1.0 D + 1.0 S (All Spans) |
| Total Load Defl. (in) | 0.174 @ 3' 11" | 0.363 | Passed (L/500) | | 1.0 D + 1.0 S (All Spans) |
| TJ-Pro™ Rating | N/A | N/A | N/A | | N/A |

System: Floor Member Type : Joist Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- · Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- · Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

| | Bearing Length | | | Loads | to Supports | | |
|------------------------------|----------------|---------------------|----------|-------|-------------|----------|-----------------------|
| Supports | Total | Available | Required | Dead | Snow | Factored | Accessories |
| 1 - Hanger on 7 1/4" DF beam | 3.50" | Hanger ¹ | 1.50" | 52 | 783 | 836 | See note ¹ |
| 2 - Stud wall - DF | 3.50" | 2.25" | 1.50" | 51 | 767 | 818 | 1 1/4" Rim Board |

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- 1 See Connector grid below for additional information and/or requirements.

| Lateral Bracing | Bracing Intervals | Comments |
|------------------|-------------------|----------|
| Top Edge (Lu) | 4' 11" o/c | |
| Bottom Edge (Lu) | 7' 4" o/c | |

[•]Maximum allowable bracing intervals based on applied load.

| Connector: Simpson Strong-Tie | | | | | | | | | |
|-------------------------------|-------|-------------|---------------|----------------|------------------|-------------|--|--|--|
| Support | Model | Seat Length | Top Fasteners | Face Fasteners | Member Fasteners | Accessories | | | |
| 1 - Face Mount Hanger | LUS28 | 1.75" | N/A | 6-10dx1.5 | 3-10d | | | | |

[•] Refer to manufacturer notes and instructions for proper installation and use of all connectors.

| Vertical Load | Location (Side) | Spacing | Dead (0.90) | Snow (1.15) | Comments |
|-------------------|-----------------|---------|----------------|----------------|--------------|
| 1 - Uniform (PSF) | 0 to 7' 9" | 16" | 10.0 | 150.0 | Default Load |

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

| ForteWEB Software Operator | Job Notes | |
|--|-----------|--|
| Jed Jones 11/4/22 Snake River Engineering (208) 453-6512 | | |
| jed@snakeriverengineering.com | | |



File Name: 2022-4218 Charters Residence



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 Beam Calculations

| | | | | | | • | | |
|---|---|--------|----------|------|------|-------------|-------|--------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
| - -1 | | | | | | | Total | road |
| Trib | 0.0 | 15.167 | 0 | 0 | 3.33 | | 1 | |
| Dead Load | - | 257.8 | 0.0 | 0.0 | 40.0 | 297.8 plf | 2,572 | .8 plf |
| Live / Snow Load | 0 | 2275.1 | 0.0 | 0.0 | - | 2,275.1 plf | | |
| • | | | | | | | | |
| | | | 1 | 1 | 1 | 1 | T | |
| Description: | 6.0 ft Opening | | | | | | | |
| | | | | | | | 1 | |
| | (3)9-1/2" | | | | | | | |
| Header Callout | LVL 2.0E | | | | | | | |
| | (2) 2x6 | | | | | | | |
| Trimmers | DF-L No. 2 | | | | | | | |
| L | | | | | | | | |
| Wood Design | | | | | | | | |
| Species | LVL | | | | | | | |
| Grade | 2.0E | | | | | | | |
| Width | 5.25 in | | | | | | | |
| Depth | 9.50 in | | | | | | | |
| Pagetian | | | | | | | | |
| Reaction Dead Load | 893 lbs | | I | | | I | | |
| Live Load | 6,825 lbs | | | - | | | - | |
| Live Loau | U,023 IDS | 1 | <u> </u> | 1 | 1 | <u> </u> | I | |
| Lond | | | | | | | | |
| Load lu | 6.0 ft | | I | | | I | | |
| <u> </u> | | | | | | | | |
| le | 12.2 ft | | | | | | | |
| | | | | | | | | |
| Adjustment Factors Cd | 1.15 | | ı | | | ı | 1 | |
| - | 1.15 | | | | | | | |
| CF | 1.1 | | | | | | | |
| Material Properties | | | | | | | | |
| | 2.000! | | | | | | | |
| Fbl | | | | | | | | |
| Fb Ev | 2,900 psi 285 psi | | | | | | | |
| Fv | 285 psi | | | | | | | |
| Fv E | 285 psi 2,000,000 psi | | | | | | | |
| Fv | 285 psi | | | | | | | |
| Fv E Emin | 285 psi 2,000,000 psi | | | | | | | |
| Fv E Emin Calculated Prop. | 285 psi 2,000,000 psi 1,016,535 psi | | | | | | | |
| Fv E Emin | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 | | | | | | | |
| Fv E Emin Calculated Prop. | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 | | | | | | | |
| Fy E Emin Calculated Prop. A I S | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 | | | | | | | |
| Fv E Emin Calculated Prop. | 285 psi 2,000,000 psi 1,016,535 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' | 285 psi 2,000,000 psi 1,016,535 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I I S S RB Emin' FbE | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I I S S RB Emin' FbE | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 285 psi 2,000,000 psi 1,016,535 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 285 psi 2,000,000 psi 1,016,535 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V | 285 psi 2,000,000 psi 1,016,535 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress | 285 psi 2,000,000 psi 1,016,535 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 285 psi 2,000,000 psi 1,016,535 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs | | | | | | | |
| Fy E Emin Calculated Prop. A I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' Fb' | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs | | | | | | | |
| Fv E Emin Calculated Prop. A | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 | | | | | | | |
| Fv E Emin Colculated Prop. A I I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fb/Fb' fb/Fb' fv | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0,48 232 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb/Fb' fb/Fb' Fv' | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi 0.71 | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb/Fb' fb/Fb' Fv' | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi 0.71 0.71 | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi 0.71 | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi 0.71 0.71 | | | | | | | |
| Fy E Emin Calculated Prop. A I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fy Fy' fy/Fy' Max Ratio Deflection | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0,48 232 psi 328 psi 0,71 0,71 Pass | | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi 0.71 0.71 Pass | | | | | | | |
| Fv E Emin Calculated Prop. A | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi 0.71 0.71 Pass | | | | | | | |
| Fy E Emin Calculated Prop. A I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fy Fy' fy/Fy' Max Ratio Deflection | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0,48 232 psi 328 psi 0,71 0,71 Pass 0.10 in L/720 0,09 in | | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection | 285 psi 2,000,000 psi 1,016,535 psi 49.88 in^2 375.10 in^4 78.97 in^3 7.09 1,016,535 psi 24,264 psi 3,669 psi 1 138,934 lb-in 7,719 lbs 1,759 psi 3,636 psi 0.48 232 psi 328 psi 0.71 0.71 Pass | | | | | | | |



Completed by: JDJ Review/Check: ARA

| H1 | (2) | Beam | Cal | lcu | lati | ions |
|----|-----|------|-----|-----|------|------|
|----|-----|------|-----|-----|------|------|

| | ulations | | | | | | | |
|--|---|--|-------|------|------|-------------|-------|---------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
| Trib | 0.0 | 11.75 | 0 | 0 | 3.33 | | lota | l Load |
| 1110 | 0.0 | 11./3 | U | 0 | 3.33 | | 1 | |
| Dead Load | - | 199.8 | 0.0 | 0.0 | 40.0 | 239.7 plf | 2,002 | 2.2 plf |
| Live / Snow Load | 0 | 1762.5 | 0.0 | 0.0 | - | 1,762.5 plf | | |
| | | | | | | | | |
| | 2.5.ft On antino | 0.5.6.0 | | | | | | |
| Description: | 2.5 ft Opening | 9.5 ft Opening | | | | | | |
| | | | | | | | | |
| Header Callout | (2)2x8 | (3)11-7/8" | | | | | | |
| | DF-L No. 2 | LVL 2.0E | | | | | | |
| Trimmers | (1) 2x6 | (2) 2x6 | | | | | | |
| | DF-L No. 2 | DF-L No. 2 | | | | | | |
| Wood Design | | | | | | | | |
| Species | DF-L | LVL | | | | 1 | | l |
| Grade | No. 2 | 2.0E | | | | | | |
| Width | 3.00 in | 5.25 in | | | | | | |
| Depth | 7.25 in | 11.88 in | | | | | | |
| Donation | | | | | | | | |
| Reaction | 300 lbs | 1 120 lbc | | 1 | | | | I |
| Dead Load Live Load | 2,203 lbs | 1,139 lbs 8,372 lbs | | - | | | + | |
| Live Load | ۵,۷۷۵ ال | 0,372 IDS | l | 1 | I . | I. | I | 1 |
| Load | | | | | | | | |
| lu | 2.5 ft | 9.5 ft | | | | | | |
| le | 5.2 ft | 18.5 ft | | | | | | |
| ۳۱ | 3.2 j | 20.0) (| | | | II. | I | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | 1.15 | | | | | | |
| CF | 1.2 | 1 | | | | | | |
| | | | | | | | | |
| Material Properties | | Г | | 1 | ı | 1 | T | ı |
| Fb | 900 psi | 2,900 psi | | | | | | |
| Fv | 180 psi | 285 psi | | | | | | |
| E | 1,600,000 psi | 2,000,000 psi | | | | | | |
| Emin | 580,000 psi | 1,016,535 psi | | | | | | |
| 0.1.1.10 | | | | | | | | |
| Calculated Prop. | 21.75 := 42 | 62.24 in A2 | | 1 | | ı | | I |
| A | 21.75 in^2 | 62.34 in^2 | | | | | | |
| ıſ | | 732 62 in \/ 1 | | | | | | |
| | 95.27 in^4 | 732.62 in^4 | | | | | | |
| I S RB | 95.27 in^4 26.28 in^3 | 123.39 in^3 | | | | | | |
| RB | 95.27 in^4 26.28 in^3 7.06 | 123.39 in^3 9.77 | | | | | | |
| | 95.27 in^4 26.28 in^3 7.06 580,000 psi | 123.39 in^3 9.77 1,016,535 psi | | | | | | |
| RB Emin' | 95.27 in^4 26.28 in^3 7.06 | 123.39 in^3 9.77 | | | | | | |
| RB Emin' FbE | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi | 123.39 in^3 9.77 1,016,535 psi 12,786 psi | | | | | | |
| RB Emin' FbE Fb* CL | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' | 95.27 in^4 26.28 in/3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi | | | | | | |
| RB Emin' FbE Fb* CL | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' | 95.27 in^4 26.28 in/3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 0.83 | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 0.70 | | | | | | |
| RB Emin' FbE Fb* CL | 95.27 in^4 26.28 in^3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/ Fv' Max Ratio Deflection | 95.27 in^4 26.28 in/3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 0.83 Pass | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 0.70 Pass | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' fv/Fv' Max Ratio | 95.27 in^4 26.28 in/3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 0.83 Pass | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 0.70 Pass | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δπ. | 95.27 in^4 26.28 in/3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 0.83 Pass | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 0.70 Pass | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/ Fv' Max Ratio Deflection | 95.27 in^4 26.28 in/3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 Pass 0.83 Pass | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 0.70 Pass 0.25 in L/455 0.22 in | | | | | | |
| RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δπ. | 95.27 in^4 26.28 in/3 7.06 580,000 psi 13,981 psi 1,242 psi 1 18,771 lb-in 2,503 lbs 714 psi 1,236 psi 0.58 173 psi 207 psi 0.83 0.83 Pass | 123.39 in^3 9.77 1,016,535 psi 12,786 psi 3,335 psi 1 271,049 lb-in 9,510 lbs 2,197 psi 3,278 psi 0.67 229 psi 328 psi 0.70 0.70 Pass | | | | | | |



Completed by: JDJ Review/Check: ARA

| H1 (| 3) | Beam | Cald | culati | ons |
|------|----|-------------|------|--------|-----|
|------|----|-------------|------|--------|-----|

| Additional Drift | Roof | Floor | Deck | Wall | Total Load | Tota | Llood |
|--|---|---|---|---|---|---|---|
| | | | | | 1 | iota | LUdu |
| 0.0 | ŭ | | , , , , , , , , , , , , , , , , , , , | 3.33 | | 1.04 | 2.0 -16 |
| - | 102.0 | 0.0 | 0.0 | 40.0 | 142.0 plf | 1,042 | 2.U pij |
| 0 | 900.0 | 0.0 | 0.0 | - | 900.0 plf | | |
| | | | | | | | |
| 1 0 ft Opening | 3 Oft Opening | | | | | | |
| 1.0 jt opening | 3.0 je opening | | | | | | |
| (2)2v6 | /2\2v6 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 51 2110.2 | D. 1.10.1 | | | | | | |
| | | | | | | | |
| DF-L | DF-L | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 5.50 In | 5.50 in | | | | | | |
| | | | | | | | |
| 71 lbs | 213 lbs | | | | | | |
| 450 lbs | 1,350 lbs | | | | | | |
| | | | | | | | |
| | T | Ī | 1 | . | 1 | , | 1 |
| 1.0 ft | 3.0 ft | | | | | | |
| 2.1 ft | 6.2 ft | | | | | | |
| | | | | | | | |
| | 1 | 1 | | | 1 | 1 | |
| | | | | | | | |
| 1.3 | 1.3 | | | | | | |
| | | | | | | | |
| 900 psi | 900 psi | | | | | | |
| 180 psi | 180 psi | | | | | | |
| 1,600,000 psi | 1,600,000 psi | | | | | | |
| 580,000 psi | 580,000 psi | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 16.50 in^2 | 16.50 in^2 | | | | | | |
| 41.59 in^4 | 41.59 in^4 | | | | | | |
| 41.59 in^4 15.13 in^3 | 41.59 in^4 15.13 in^3 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 | 41.59 in^4 15.13 in^3 6.73 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 207 psi | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi 0.23 | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 207 psi 0.69 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi 0.23 0.23 | 41.59 in^4 15.13 in/3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 0.69 0.69 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi 0.23 | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 207 psi 0.69 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi 0.23 0.23 | 41.59 in^4 15.13 in/3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 0.69 0.69 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi 0.23 0.23 | 41.59 in^4 15.13 in/3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 0.69 0.69 | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,002 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 0.08 47 psi 0.23 0.23 Pass | 41.59 in^4 15.13 in/3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 207 psi 0.69 0.69 Pass | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi 0.23 0.23 Pass 0.00 in L/34,064 0.00 in | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 207 psi 0.69 Pass 0.03 in L/1,262 0.02 in | | | | | | |
| 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 1,563 lb-in 521 lbs 103 psi 1,343 psi 0.08 47 psi 207 psi 0.23 Pass | 41.59 in^4 15.13 in/3 6.73 580,000 psi 15,357 psi 1,346 psi 1 1 14,066 lb-in 1,563 lbs 930 psi 1,339 psi 0.69 142 psi 207 psi 0.69 0.69 Pass | | | | | | |
| | 0 1.0 ft Opening (2)2x6 DF-L No. 2 (1) 2x6 DF-L No. 2 3.00 in 5.50 in 71 lbs 450 lbs 1.0 ft 2.1 ft 1.15 1.3 900 psi 180 psi 1,600,000 psi | 0.0 6 - 102.0 0 900.0 1.0 ft Opening 3.0 ft Opening (2)2x6 (2)2x6 DF-L No. 2 DF-L No. 2 (1) 2x6 DF-L No. 2 DF-L No. 2 - 10 2x6 DF-L No. 2 DF-L No. 2 DF-L No. 2 No. 2 3.00 in 3.00 in 5.50 in 71 lbs 213 lbs 450 lbs 1,350 lbs 1.0 ft 3.0 ft 2.1 ft 6.2 ft 1.15 1.3 1.3 900 psi 900 psi 180 psi 1,600,000 psi 1,600,000 psi 1,600,000 psi | 0.0 6 0 - 102.0 0.0 0 900.0 0.0 1.0 ft Opening 3.0 ft Opening (2)2x6 | 0.0 6 0 0 - 102.0 0.0 0.0 0 900.0 0.0 0.0 1.0 ft Opening 3.0 ft Opening (2)2x6 (2)2x6 DF-L No. 2 DF-L No. 2 (1) 2x6 DF-L No. 2 DF-L No. 2 - 10 2x6 DF-L | 0.0 6 0 0 3.33 - 102.0 0.0 0.0 40.0 0 900.0 0.0 0.0 - 1.0 ft Opening 3.0 ft Opening (2)2x6 | 0.0 6 0 0 3.33 - 102.0 0.0 0.0 40.0 142.0 plf 0 900.0 0.0 0.0 - 900.0 plf 1.0 ft Opening 3.0 ft Opening | 0.0 6 0 0 3.333 1,04 - 102.0 0.0 0.0 40.0 142.0 pff 1,04. 0 900.0 0.0 0.0 - 900.0 pff 1,04. 1.0ft Opening 3.0 ft Opening |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (4) Beam Calculations

| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
|--|--|--|-------|------|------|-------------|-------|---------|
| Trib | 0.0 | 10.5 | 0 | 0 | 3.33 | | Tota | l Load |
| 1110 | 0.0 | 10.5 | 0 | 0 | 3.33 | | 1 | |
| Dead Load | - | 178.5 | 0.0 | 0.0 | 40.0 | 218.5 plf | 1,793 | 3.5 plf |
| Live / Snow Load | 0 | 1575.0 | 0.0 | 0.0 | - | 1,575.0 plf | | |
| | | | | | | | | |
| - · ·· | 2.0 ft 0 t | 2.0.6.0 | | | | | | |
| Description: | 2.0 ft Opening | 3.0 ft Opening | | | | | | |
| | | | | | | | | |
| Header Callout | (2)2x6 | (2)2x8 | | | | | | |
| | DF-L No. 2 | DF-L No. 2 | | | | | | |
| Trimmers | (1) 2x6 | (1) 2x6 | | | | | | |
| | DF-L No. 2 | DF-L No. 2 | | | | | | |
| Wood Design | | | | | | | | |
| Species | DF-L | DF-L | | | 1 | | | l |
| Grade | No. 2 | No. 2 | | | | | | |
| Width | 3.00 in | 3.00 in | | | | | | |
| Depth | 5.50 in | 7.25 in | | | | | | |
| Donation | | | | | | | | |
| Reaction Dead Load | 218 lbs | 328 lbs | | 1 | | | | I |
| Dead Load Live Load | 1,575 lbs | 2,363 lbs | | 1 | 1 | <u> </u> | 1 | |
| | 1,575 103 | 2,303 103 | | 1 | I | | I | |
| Load | | | | | | | | |
| lu | 2.0 ft | 3.0 ft | | | | | | |
| le | 4.1 ft | 6.2 ft | | | | | | |
| Į. | | | | 1 | 1 | · L | L | I |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | 1.15 | | | | | | |
| CF | 1.3 | 1.2 | | | | | | |
| - | | | | | | | | |
| Material Properties | | | | 1 | 1 | | 1 | 1 |
| Fb - | 900 psi | 900 psi | | | | | | |
| Fv | 180 psi | 180 psi | | | | | | |
| E | 1,600,000 psi | 1,600,000 psi | | | | | | |
| Emin | 580,000 psi | 580,000 psi | | | | | | |
| Calculated Prop. | | | | | | | | |
| culculated Frop. | | 21 7F in A2 | | 1 | | | | ı |
| Λ. | 16 EO in 12 | | | | | | | |
| A I | 16.50 in^2 | 21.75 in^2 95 27 in^4 | | | | | | |
| 1 | 41.59 in^4 | 95.27 in^4 | | | | | | |
| I S | 41.59 in^4 15.13 in^3 | 95.27 in^4 26.28 in^3 | | | | | | |
| 1 | 41.59 in^4 15.13 in^3 5.50 | 95.27 in^4 | | | | | | |
| I S RB | 41.59 in^4 15.13 in^3 | 95.27 in^4 26.28 in^3 7.73 | | | | | | |
| I S RB Emin' | 41.59 in^4 15.13 in^3 5.50 580,000 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi | | | | | | |
| I S RB Emin' FbE | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi | | | | | | |
| S RB Emin' Fbe Fb* CL | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | | | | | | |
| S RB Emin' Fbe Fb* CL | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 | | | | | | |
| S RB Emin' Fbe Fb* CL | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment M V | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs | | | | | | |
| Shear and Moment Shear and Moment M V Stress | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs | | | | | | |
| Shear and Moment Stress I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs | | | | | | |
| S S R R R R R R R R | 41.59 in^4 15.13 in/3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 | 95.27 in^4 26.28 in/3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb Fb' fb/Fb' fv | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb/Fb' fv/Fv' | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi | | | | | | |
| S S RB Emin' FbE Fb* CL | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi 0.79 | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi 0.90 | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb/Fb' fv/Fv' | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' fv/Fv' Max Ratio | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi 0.79 0.79 | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi 0.90 0.90 | | | | | | |
| Shear and Moment Shear and Moment Stress fb Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fv' Fv' Max Ratio | 41.59 in^4 15.13 in/3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi 0.79 0.79 Pass | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi 0.90 0.90 Pass | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 41.59 in^4 15.13 in/3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi 0.79 0.79 Pass | 95.27 in^4 26.28 in/3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi 0.90 0.90 Pass | | | | | | |
| Shear and Moment Shear and Moment Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δπ. | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi 0.79 Pass | 95.27 in^4 26.28 in/3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi 0.90 0.90 Pass | | | | | | |
| Shear and Moment Shear and Moment Stress fb Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fv' Fv' Max Ratio | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi 0.79 0.79 Pass | 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi 0.90 Pass 0.02 in L/1,679 0.02 in | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δπ. | 41.59 in^4 15.13 in^3 5.50 580,000 psi 23,036 psi 1,346 psi 1 10,761 lb-in 1,793 lbs 711 psi 1,341 psi 0.53 163 psi 207 psi 0.79 Pass | 95.27 in^4 26.28 in/3 7.73 580,000 psi 11,650 psi 1,242 psi 1 24,212 lb-in 2,690 lbs 921 psi 1,235 psi 0.75 186 psi 207 psi 0.90 0.90 Pass | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (5) Beam Calculations

| H1 (5) Beam Calc | ulations | | | | | | | |
|------------------------|--------------------------|---------------------------|----------|------|----------|-------------|-------|----------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
| Trib | 0.0 | 9.5 | 0 | 0 | 3.33 | | Tota | Load |
| 1110 | 0.0 | 9.3 | 0 | 0 | 3.33 | | 1 | |
| Dead Load | - | 161.5 | 0.0 | 0.0 | 40.0 | 201.5 plf | 1,620 | 5.5 plf |
| Live / Snow Load | 0 | 1425.0 | 0.0 | 0.0 | - | 1,425.0 plf | | |
| | | | | | | | | |
| - · ·· | 2060 | C.E.M. Outstand | | | | | | |
| Description: | 2.0 ft Opening | 6.5 ft Opening | | | | | | |
| | | | | | | | | |
| Header Callout | (2)2x6 | (2)9-1/2" | | | | | | |
| | DF-L No. 2 | LVL 2.0E | | | | | | |
| Trimmers | (1) 2x6 | (2) 2x6 | | | | | | |
| | DF-L No. 2 | DF-L No. 2 | | | | | | |
| Mand Design | | | | | | | | |
| Wood Design Species | DF-L | LVL | | | T | 1 | | |
| Grade | No. 2 | 2.0E | | | | | | |
| Width | 3.00 in | 3.50 in | | | | | | |
| Depth | 5.50 in | 9.50 in | | | | | | |
| | | | | | | | | |
| Reaction | 201 11- | CEE II | | 1 | 1 | 1 | 1 | |
| Dead Load Live Load | 201 lbs 1,425 lbs | 655 lbs 4,631 lbs | | + | | | | |
| Live Loau | 1,423 IUS | 4,031 105 | <u>l</u> | _1 | 1 | 1 | 1 | <u>l</u> |
| Load | | | | | | | | |
| lu | 2.0 ft | 6.5 ft | | | | | | |
| le | 4.1 ft | 13.0 ft | | + | | | | |
| 151 | 4.1 Jt | 15.0 jt | l . | | _ | | | I . |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | 1.15 | | | | | | |
| CF | 1.3 | 1.1 | | | | | | |
| · 1 | | l. | I . | | <u> </u> | 1 | 1 | I |
| Material Properties | | | | | | | | |
| Fb | 900 psi | 2,900 psi | | | | | | |
| Fv | 180 psi | 285 psi | | | | | | |
| E | 1,600,000 psi | 2,000,000 psi | | | | | | |
| Emin | 580,000 psi | 1,016,535 psi | | | | | | |
| | | | | | | | | |
| Calculated Prop. | | | ı | _ | 1 | 1 | 1 | ı |
| A | 16.50 in^2 | 33.25 in^2 | | | | | | |
| , , | 41.59 in^4 15.13 in^3 | 250.07 in^4 52.65 in^3 | | | | | | |
| S RB | | | | | 1 | | | |
| Emin' | 5.50 580,000 psi | 10.99 1,016,535 psi | | | 1 | | | |
| FbE | 23,036 psi | 10,106 psi | | | | | | |
| Fb* | 1,346 psi | 3,669 psi | | | | | | |
| CL | 1 | 1 | | | | | | |
| ı | | | I. | | - U | | 1 | I. |
| Shear and Moment | | | | | | | | |
| М | 9,759 lb-in | 103,077 lb-in | | | | | | |
| V | 1,626 lbs | 5,286 lbs | | 1 | | | | |
| Character | | | | | | | | |
| Stress fb | 645 psi | 1,958 psi | | 1 | 1 | | | |
| Fb' | 1,341 psi | 3,571 psi | | + | + | 1 | 1 | |
| fb/Fb' | 0.48 | 0.55 | | | | | | |
| fv | 148 psi | 238 psi | | | | | | |
| Fv' | 207 psi | 328 psi | | | | | | |
| fv/Fv' | 0.71 | 0.73 | | | | | | |
| Max Ratio | 0.71 | 0.73 | | 1 | | | | |
| ļ | Pass | Pass | | | | | | |
| Deflection | | | | | | | | |
| Δτι | 0.01 in | 0.13 in | | | | | | |
| ļ | L/2,728 | L/597 | | | | | | |
| Διι | 0.01 in | 0.11 in | | | | | | |
| | L/3,113 | L/682 | | | | | | |
| [| Pass | Pass | | | | | | |
| | | | | | | | | |



Completed by: JDJ Review/Check: ARA

| H1 (| 6) B | eam | Cal | lcul | lat | ions |
|------|------|-----|-----|------|-----|------|
|------|------|-----|-----|------|-----|------|

| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | Total Load |
|---|---|---|---|--|--|------------|------------|
| Trib | 0.0 | 4 | 0 | 0 | 3.33 | | Total Load |
| | 0.0 | · | | Ů | 5.55 | | 700.0 -15 |
| Dead Load | - | 68.0 | 0.0 | 0.0 | 40.0 | 108.0 plf | 708.0 plf |
| Live / Snow Load | 0 | 600.0 | 0.0 | 0.0 | - | 600.0 plf | |
| | | | | | | | |
| escription: | 2.5 ft Opening | 3.0 ft Opening | 4.0 ft Opening | 6.3 ft Opening | 10.0 ft Opening | | |
| description. | 2.5 Jt Opening | 3.0 Jt Opening | 4.0 Jt Opening | 0.3 Jt Opening | 10.0 Jt Opening | | |
| ſ | (2)2.6 | (2)2 6 | (2)2 6 | (2)2.40 | (2)0.4 (2)1 | | |
| Header Callout | (2)2x6 | (2)2x6 | (2)2x6 | (2)2x10 | (2)9-1/2" | | |
| . | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | LVL 2.0E | | |
| Trimmers | (1) 2x6 | (1) 2x6 | (1) 2x6 | (1) 2x6 | (2) 2x6 | | |
| L | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | | |
| Wood Design | | | | | | | |
| Species | DF-L | DF-L | DF-L | DF-L | LVL | | |
| Grade | No. 2 | No. 2 | No. 2 | No. 2 | 2.0E | | |
| Width | 3.00 in | 3.00 in | 3.00 in | 3.00 in | 3.50 in | | |
| Depth | 5.50 in | 5.50 in | 5.50 in | 9.25 in | 9.50 in | | |
| <u> </u> | | | | | | | |
| Reaction | 105." | 100 " | T 245" | 245.11 | 545 " | 1 | |
| Dead Load | 135 lbs | 162 lbs | 216 lbs | 342 lbs | 540 lbs | | |
| Live Load | 750 lbs | 900 lbs | 1,200 lbs | 1,900 lbs | 3,000 lbs | | l |
| | | | | | | | |
| Load lu | 256 | 206 | 405 | 636 | 10.0 6 | T | T |
| - | 2.5 ft | 3.0 ft | 4.0 ft | 6.3 ft | 10.0 ft | | |
| le | 5.2 ft | 6.2 ft | 7.9 ft | 12.6 ft | 18.7 ft | | |
| | | | | | | | |
| Adjustment Factors Cd | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | | |
| CF CF | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | | |
| CF | 1.5 | 1.5 | 1.5 | 1.1 | 1.1 | | |
| Material Properties | | | | | | | |
| Fb | 900 psi | 900 psi | 900 psi | 900 psi | 2,900 psi | | |
| | | | | | | | |
| Fv | 180 psi | 180 psi | 180 psi | 180 psi | 285 psi | | |
| Fv E | 180 psi 1,600,000 psi | | | | | | |
| Fv E Emin | | 180 psi | 180 psi | 180 psi | 285 psi | | |
| E | 1,600,000 psi | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | 285 psi 2,000,000 psi | | |
| E Emin | 1,600,000 psi | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | 285 psi 2,000,000 psi | | |
| E Emin | 1,600,000 psi | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | 285 psi 2,000,000 psi | | |
| E Emin Calculated Prop. | 1,600,000 psi 580,000 psi | 180 psi 1,600,000 psi 580,000 psi | 180 psi 1,600,000 psi 580,000 psi | 180 psi 1,600,000 psi 580,000 psi | 285 psi 2,000,000 psi 1,016,535 psi | | |
| E Emin Calculated Prop. | 1,600,000 psi 580,000 psi 16.50 in^2 | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 | | |
| E Emin Calculated Prop. A | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 | | |
| E Emin Calculated Prop. A I S RB Emin' | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi | | |
| E Emin Calculated Prop. A I S RB Emin' FbE | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi | | |
| E Emin Calculated Prop. A I S RB Emin' FbE | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Sihear and Moment M | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 | | |
| E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 16,991 lb-in 1,416 lbs | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs | | |
| E Emin Calculated Prop. A I S RB Emin' FbE' CL Chear and Moment M V Citress fb Fb' fb/Fb' | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 16,991 lb-in 1,416 lbs | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Chear and Moment M V Ctress fb Fb' fb/Fb' fv | 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0.47 97 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16,50 in^2 41,59 in^4 15,13 in^3 7,61 580,000 psi 12,021 psi 1,346 psi 1 1,416 lbs 1,416 lbs 1,123 psi 1,337 psi 0,84 129 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Chear and Moment M V Ctress fb Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fv' Fv' | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0.47 97 psi 207 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi 328 psi | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Chear and Moment M V A I I S S RB Emin' FbE Fb' Fb' Fb' Fb' Fb' Fv' Fv' Fv'Fv' | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0.47 97 psi 207 psi 0.47 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi 328 psi 0.49 | | |
| alculated Prop. A I S RB Emin' FbE Fb* CL hear and Moment M V tress fb fb' fb' fb' fv' Fv' | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0.47 97 psi 207 psi 0.47 0.47 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 0.84 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 0.89 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi 328 psi 0.49 0.58 | | |
| alculated Prop. A I S RB Emin' FbE Fb* CL hear and Moment M V tress fb Fb' fb/Fb' fv/Fv' | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0.47 97 psi 207 psi 0.47 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi 328 psi 0.49 | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Chear and Moment M V Citress fb Fb' Fb' Fb' Fb' Fv' Fv' Fv'Fv' Max Ratio | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0.47 97 psi 207 psi 0.47 0.47 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 0.84 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 0.89 | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi 328 psi 0.49 0.58 | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fv' Fv' fv/Fv' Max Ratio | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 0.39 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0,47 97 psi 207 psi 0.47 0.47 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 0.84 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 0.89 Pass | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0,58 160 psi 328 psi 0.49 0.58 Pass | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb'* CL Shear and Moment M V Stress fb Fb' fv' Fv' fv/Fv' Max Ratio Deflection | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 0.39 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0.47 97 psi 207 psi 0.47 0.47 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 0.84 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 0.89 Pass | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi 328 psi 0.49 0.58 Pass | | |
| Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fv/Fb' fv/Fv' Max Ratio | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 0.39 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 0,47 97 psi 207 psi 0.47 0.47 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 0.84 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 0.89 Pass | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0,58 160 psi 328 psi 0.49 0.58 Pass | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress f b Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δτι | 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.15 580,000 psi 18,429 psi 1,346 psi 1 6,637 lb-in 885 lbs 439 psi 1,340 psi 0.33 80 psi 207 psi 0.39 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 6.73 580,000 psi 1,346 psi 1 9,557 lb-in 1,062 lbs 632 psi 1,339 psi 207 psi 207 psi 0.47 0.47 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 7.61 580,000 psi 12,021 psi 1,346 psi 1 16,991 lb-in 1,416 lbs 1,123 psi 1,337 psi 0.84 129 psi 207 psi 0.62 0.84 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 12.48 580,000 psi 4,466 psi 1,139 psi 1 1 42,605 lb-in 2,242 lbs 996 psi 1,120 psi 0.89 121 psi 207 psi 0.59 0.89 Pass | 285 psi 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 13.18 1,016,535 psi 7,019 psi 3,669 psi 1 106,194 lb-in 3,540 lbs 2,017 psi 3,495 psi 0.58 160 psi 328 psi 0.49 0.58 Pass | | |



Completed by: JDJ Review/Check: ARA

| H1 (| 7) | Beam | Calc | ulations |
|------|----|-------------|------|----------|
|------|----|-------------|------|----------|

| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
|--|--|--------|-------|------|----------|-------------|----------|---------|
| Trib | 0.0 | 8.5 | 0 | 0 | 3.33 | | Tota | l Load |
| 1110 | 0.0 | 6.3 | 0 | 0 | 3.33 | | | 15 |
| Dead Load | - | 144.5 | 0.0 | 0.0 | 40.0 | 184.5 plf | 1,459 | 9.5 plf |
| Live / Snow Load | 0 | 1275.0 | 0.0 | 0.0 | - | 1,275.0 plf | | |
| | | | | | | | | |
| Description: | 3.0 ft Opening | | | | | | | |
| Description: | 3.0 Jt Opening | | | | | | | |
| | (2)26 | | | | | | | |
| Header Callout | (2)2x6 DF-L No. 2 | | | | | | | |
| | | | | | | | | |
| Trimmers | (1) 2x6 DF-L No. 2 | | | | | | | |
| | DI -L 140. 2 | | | | | | | |
| Wood Design | | | | | | | | |
| Species | DF-L | | | | | | | |
| Grade | No. 2 | | | | | | | |
| Width | 3.00 in | | | | | | | |
| Depth | 5.50 in | | | 1 | <u> </u> | | L | |
| Reaction | | | | | | | | |
| Dead Load | 277 lbs | | | | | | | |
| Live Load | 1,913 lbs | | | | | | | |
| | | | | | | | | |
| Load | | | 1 | 1 | Т | T | T | T |
| lu | 3.0 ft | | - | - | | | | |
| le | 6.2 ft | | | | | | | |
| F | | | | | | | | |
| Adjustment Factors Cd | 1.15 | | 1 | 1 | 1 | 1 | | 1 |
| CF | 1.13 | | | | | | | |
| G-[| 1.5 | | | 1 | 1 | | <u> </u> | |
| Material Properties | | | | | | | | |
| Fb | 900 psi | | | | | | | |
| Fv | 180 psi | | | | | | | |
| E | 1,600,000 psi | | | | | | | |
| Emin | 580,000 psi | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Calculated Prop. | | | | | | | | |
| Calculated Prop. | 16.50 in^2 | | | | | | | |
| A I | 41.59 in^4 | | | | | | | |
| A I S | 41.59 in^4 15.13 in^3 | | | | | | | |
| A I S RB | 41.59 in^4 15.13 in^3 6.73 | | | | | | | |
| A I S RB Emin' | 41.59 in^4 15.13 in^3 6.73 580,000 psi | | | | | | | |
| A I S RB Emin' FbE | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi | | | | | | | |
| A I S RB Emin' | 41.59 in^4 15.13 in^3 6.73 580,000 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | | | | | | | |
| A I S RB Emin' Fbb' Fb* CL | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 | | | | | | | |
| A I S RB Emin' FbE Fb* CL | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 | | | | | | | |
| A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 | | | | | | | |
| A I S S S S S S S S S | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi | | | | | | | |
| A I S S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,339 psi 1,339 psi 0.97 | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,339 psi 1,339 psi 0.97 199 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 1,339 psi 1,970 psi 207 psi | | | | | | | |
| A I | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 0.97 199 psi 207 psi 0.96 | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 0.97 199 psi 207 psi 0.96 0.97 | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fv/Fb' fv/Fv' Max Ratio | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 0.97 199 psi 207 psi 0.96 | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fb/Fb' fv/ Fv' Max Ratio Deflection | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 0.97 199 psi 207 psi 0.96 0.97 Pass | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' fv/Fv' Max Ratio | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 0.97 199 psi 207 psi 0.96 0.97 Pass | | | | | | | |
| A I S S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δτι | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 0.97 199 psi 207 psi 0.96 0.97 Pass | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fb/Fb' fv/ Fv' Max Ratio | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,339 psi 1,339 psi 0.97 199 psi 207 psi 0.96 0.97 Pass 0.04 in L/901 0.03 in | | | | | | | |
| A I S S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δτι | 41.59 in^4 15.13 in^3 6.73 580,000 psi 15,357 psi 1,346 psi 1 19,703 lb-in 2,189 lbs 1,303 psi 1,339 psi 0.97 199 psi 207 psi 0.96 0.97 Pass | | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (8) Beam Calculations

| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
|---|---|---|-------|------|------|-------------|-------|---------|
| Tuils | | | | | | | Total | Load |
| Trib | 0.0 | 17.667 | 11.5 | 0 | 3.33 | | 1 | |
| Dead Load | - | 300.3 | 195.5 | 0.0 | 40.0 | 535.8 plf | 3,645 | 5.8 plf |
| Live / Snow Load | 0 | 2650.1 | 460.0 | 0.0 | - | 3,110.1 plf | | |
| • | | | | | | | | |
| | | 1 | | Т | | | | ı |
| Description: | 2.5 ft Opening | 3.0 ft Opening | | | | | | |
| <u> </u> | | | | I . | | I | I | I |
| | (3)2x10 | (3)2x10 | | | | | | |
| Header Callout | DF-L No. 2 | DF-L No. 2 | | | | | | |
| l l | (2) 2x6 | (2) 2x6 | | | | | | |
| Trimmers | DF-L No. 2 | DF-L No. 2 | | | | | | |
| <u> </u> | | | | | | | | |
| Wood Design | | | | | | | | |
| Species | DF-L | DF-L | | | | | | |
| Grade | No. 2 | No. 2 | | | | | | |
| Width | 4.50 in | 4.50 in | | | | | | |
| Depth | 9.25 in | 9.25 in | | | | | | |
| Pagetion | | | | | | | | |
| Reaction Dead Load | 670 lbs | 804 lbs | | | | | | |
| Live Load | 3,888 lbs | 4,665 lbs | | + | + | + | + | |
| 2.70 2000 | 3,000 103 | 7,000 103 | | ı | L | L | L | I. |
| Load | | | | | | | | |
| lu | 2.5 ft | 3.0 ft | | | | | | |
| le | | | | | | | | |
| le | 5.2 ft | 6.2 ft | | | | | | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | 1.15 | | 1 | | | | I |
| CF | 1.13 | 1.13 | | | | | | |
| CF | 1.1 | 1.1 | | | | | | |
| Material Properties | | | | | | | | |
| | | | | | | | | |
| Fb | 900 psi | 900 psi | | | | | | |
| Fb Fv | 900 psi 180 psi | 900 psi 180 psi | | | | | | |
| Fv | 180 psi | 180 psi | | | | | | |
| Fv E | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | | | | | | |
| Fv | 180 psi | 180 psi | | | | | | |
| Fv E Emin | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | | | | | | |
| Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi | 180 psi 1,600,000 psi 580,000 psi | | | | | | |
| Fv E Emin | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 | | | | | | |
| Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 | | | | | | |
| Fv E Emin Calculated Prop. A I S | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 | | | | | | |
| Fv E Emin Calculated Prop. A | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 | | | | | | |
| Fy E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 | | | | | | |
| Fy E Emin Calculated Prop. A I S RB Emin' FbE | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs | | | | | | |
| Fv E Emin Calculated Prop. A I S S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb | 180 psi 1,600,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 | | | | | | |
| Fv E Emin Calculated Prop. A I S S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb/Fb' fb/Fb' fv Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fb/Fb' fv fv Fb/Fb' fv | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi 0.79 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi 0.95 | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi 0.79 0.79 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi 0.95 | | | | | | |
| Fv E Emin Calculated Prop. A | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi 0.79 0.79 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi 0.95 0.95 Pass | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi 0.79 0.79 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi 0.95 0.95 Pass | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi 0.79 Pass 0.01 in L/4,446 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi 0.95 0.95 Pass | | | | | | |
| Fv E Emin Calculated Prop. A | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi 0.79 0.79 Pass 0.01 in 1/4,4446 0.01 in | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi 0.95 Pass | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.31 580,000 psi 24,655 psi 1,139 psi 1 34,180 lb-in 4,557 lbs 533 psi 1,136 psi 0.47 164 psi 207 psi 0.79 Pass 0.01 in L/4,446 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 5.82 580,000 psi 20,546 psi 1,139 psi 1 49,219 lb-in 5,469 lbs 767 psi 1,135 psi 0.68 197 psi 207 psi 0.95 0.95 Pass | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (9) Beam Calculations

| | ulations | | | | | | | |
|---|--|-------|-------|------|------|------------|------|--------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
| Trib | 0.0 | 5 | 0 | 0 | 3.33 | | lota | l Load |
| 1110 | 0.0 | | 0 | 0 | 3.33 | | | - 15 |
| Dead Load | - | 85.0 | 0.0 | 0.0 | 40.0 | 125.0 plf | 8/5. | 0 plf |
| Live / Snow Load | 0 | 750.0 | 0.0 | 0.0 | - | 750.0 plf | | |
| | | | | | | | | |
| Description: | 10.0 ft Opening | | | | | | | |
| Description: | 10.0 Jt Opening | | | | | | | |
| | (2)44.7/011 | | | | | | | |
| Header Callout | (2)11-7/8" LVL 2.0E | | | | | | | |
| | | | | | | | | |
| Trimmers | (2) 2x6 DF-L No. 2 | | | | | | | |
| | 5. 2.10. 2 | | | | | | | |
| Wood Design | | | | | | | | |
| Species | LVL | | | | | | | |
| Grade | 2.0E | | | | | | | |
| Width Depth | 3.50 in 11.88 in | | | | | | | |
| Бериі | 11.00 111 | | | | | 1 | | |
| Reaction | | | | | | | | |
| Dead Load | 625 lbs | | | | | | | |
| Live Load | 3,750 lbs | | | l | | <u> </u> | | |
| t and | | | | | | | | |
| Load lu | 10.0 ft | | | | | 1 | | I |
| le | 19.3 ft | | | | | | | |
| ie | 13.3 Ji | | | | | | | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | | | | | | | |
| CF | 1 | | | | | | | |
| | | | | | | | | |
| Material Properties Fb | 2 000 msi | | T | T | | 1 | | I |
| Fv | 2,900 psi 285 psi | | | | | | | |
| E | 2,000,000 psi | | | | | | | |
| Emin | 1,016,535 psi | | | | | | | |
| בווווון | 1,010,555 psi | | | | | 1 | | |
| Calculated Prop. | | | | | | | | |
| | | | | | | | | |
| А | 41.56 in^2 | | | | | | | |
| A I | 41.56 in^2 488.41 in^4 | | | | | | | |
| A I S | | | | | | | | |
| I S RB | 488.41 in^4 82.26 in^3 14.97 | | | | | | | |
| I S RB Emin' | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi | | | | | | | |
| I S RB Emin' FbE | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi | | | | | | | |
| I S RB Emin' FbE Fb* | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi | | | | | | | |
| I S RB Emin' FbE | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi | | | | | | | |
| I S RB Emin' FbE Fb* | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi | | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in | | | | | | | |
| S RB Emin' FbE Fb* CL | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi | | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment M | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in | | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment M V | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs | | | | | | | |
| Shear and Moment Shear and Moment M V Stress | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs | | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment M V | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 | | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb Fb' fb/Fb' fb/Fb' | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi | | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb/Fb' fv/Fv' | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi | | | | | | | |
| S S Rs Emin' FbE Fb* CL | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 | | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb/Fb' fv/Fv' | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 0.51 | | | | | | | |
| S S Rs Emin' FbE Fb* CL | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 | | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' Max Ratio Deflection | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 0.51 Pass | | | | | | | |
| Shear and Moment Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 0.51 Pass | | | | | | | |
| S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δτι | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 0.51 Pass | | | | | | | |
| S Rab Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' Max Ratio Deflection | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 0.51 Pass 0.20 in 1,/595 0.17 in | | | | | | | |
| S RB RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 488.41 in^4 82.26 in^3 14.97 1,016,535 psi 5,442 psi 3,335 psi 1 131,244 lb-in 4,375 lbs 1,595 psi 3,124 psi 0.51 158 psi 328 psi 0.48 0.51 Pass | | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (10) Beam Calculations

| ni (10) beam cai | calations | | | • | | | | - |
|-----------------------|-----------------------|--------|-------|--|------|-------------|------------|---------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | - . | |
| Teils | 0.0 | | 0 | | | | Tota | Load |
| Trib | 0.0 | 16.417 | U | 0 | 3.33 | | • | |
| Dead Load | - | 279.1 | 0.0 | 0.0 | 40.0 | 319.0 plf | 2,78 | 1.6 plf |
| Live / Snow Load | 0 | 2462.6 | 0.0 | 0.0 | - | 2,462.6 plf | | |
| · · | | | | | | | | |
| | 1 | • | | • | • | • | | , |
| Description: | 5.0 ft Opening | | | | | | | |
| | | l . | I. | | l . | l . | 1 | |
| | /2\0.1/2" | | | | | | | |
| Header Callout | (2)9-1/2" LVL 2.0E | | | | | | | |
| | | | | | | | | |
| Trimmers | (3) 2x6 | | | | | | | |
| | DF-L No. 2 | | | | | | | |
| | | | | | | | | 1 |
| Wood Design | 11/1 | Г | Т | | Г | Г | 1 | 1 |
| Species Grade | LVL 2.0E | | | | | | | |
| Width | | | | | | | | |
| Depth | | | | | | | | |
| Бериі | 3.30 III | | | | | | | |
| Reaction | | | | | | | | |
| Dead Load | 798 lbs | | | | | | | |
| Live Load | | | | | | | 1 | |
| ' | , | l . | I. | | I. | I. | | l . |
| Load | | | | | | | | |
| lu | 5.0 ft | | | | | | 1 | |
| le | | | | | | | | |
| ie | 10.3 ft | | | | | | | |
| - | | | | | | | | 1 |
| Adjustment Factors | | 1 | 1 | | 1 | 1 | 1 | ı |
| Cd | | | | | | | | |
| CF | 1.1 | | | | | | | |
| Material Properties | | | | | | | | |
| Fb | 2 000 msi | | | | | | | |
| | | | | | | | | |
| Fv | 285 psi | | | | | | | |
| E | | | | | | | | |
| Emin | 1,016,535 psi | | | | | | | |
| | | | | | | | | |
| Calculated Prop. | | | | | | | | |
| A | 33.25 in^2 | | | | | | | |
| I | 250.07 in^4 | | | | | | | |
| S | 52.65 in^3 | | | | | | | |
| RB | 9.79 | | | | | | | |
| Emin' | 1,016,535 psi | | | | | | | |
| FbE | 12,726 psi | | | | | | | |
| Fb* | 3,669 psi | | | | | | | |
| CL | 1 | | | | | | | |
| | | | | | | | | |
| Shear and Moment | | | | | | | | |
| M | | | | | | | | |
| V | 6,954 lbs | | | | | | | |
| | | | | | | | | |
| Stress | | | | | | | | |
| fb | | | | | | | | |
| Fb' | 3,598 psi | | | | | | | |
| fb/Fb' | 0.55 | | | | | | | |
| fv | 314 psi | | | ļ | | | ļ | |
| Fv' | 328 psi | | | | | | | |
| fv/Fv' | 0.96 | | | ļ | | | ļ | |
| Max Ratio | | | | | | | | |
| | Pass | | | | | | | |
| Deflection | | | | | | | | |
| Deflection Δτι | 0.00:- | | | | | | 1 | |
| ΔΤΙ | 0.08 in | | | | | | - | |
| | L/767 | | | 1 | | | 1 | |
| Διι | 0.07 in | | | | | | 1 | |
| | L/867 | | | | | | | |
| | Pass | | | | | | | |
| | | | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (11) Beam Calculations

| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
|---|---|--------|-------|------|------|-------------|-------|---------|
| Trib | 0.0 | 7.667 | 0 | 0 | 3.33 | | Tota | Load |
| 1110 | 0.0 | 7.007 | 0 | 0 | 3.33 | | 1 | |
| Dead Load | - | 130.3 | 0.0 | 0.0 | 40.0 | 170.3 plf | 1,320 | 0.3 plf |
| Live / Snow Load | 0 | 1150.1 | 0.0 | 0.0 | - | 1,150.1 plf | | |
| | | | | | | | | |
| Description: | 5.0 ft Opening | | | | | | | |
| Description: | 3.0 Jt Opening | | | | | | | |
| ſ | (2)2-40 | | | | | | | |
| Header Callout | (3)2x10 DF-L No. 2 | | | | | | | |
| • | | | | | | | | |
| Trimmers | (1) 2x6 DF-L No. 2 | | | | | | | |
| L | 5. 2.110.2 | | | | | | | |
| Wood Design | | | | | | | | |
| Species | DF-L | | | | | | | |
| Grade | No. 2 | | | | | | | |
| Width Depth | 4.50 in | | | | | | | |
| Бериі | 9.25 in | | | 1 | | | | |
| Reaction | | | | | | | | |
| Dead Load | 426 lbs | | | | | | | |
| Live Load | 2,875 lbs | | | | | | | |
| | | | | | | | | |
| Load | | ı | 1 | T | T | 1 | T | T |
| lu | 5.0 ft | | | | | | | |
| le | 10.3 ft | | | | | | | |
| | | | | | | | | |
| Adjustment Factors Cd | 1.15 | I | T | T | 1 | T | I | ı |
| CF | 1.13 | | | | | | | |
| Ci L | 1.1 | | | 1 | I | | | |
| Material Properties | | | | | | | | |
| Fb | 900 psi | | | | | | | |
| Fv | 180 psi | | | | | | 1 | |
| | | | | | | | | |
| E | 1,600,000 psi | | | | | | | |
| | 1,600,000 psi 580,000 psi | | | | | | | |
| E Emin | | | | | | | | |
| E Emin | 580,000 psi | | | | | | | |
| E Emin | 580,000 psi 41.63 in^2 | | | | | | | |
| E Emin Calculated Prop. | 580,000 psi 41.63 in^2 296.79 in^4 | | | | | | | |
| E Emin Calculated Prop. A I S | 580,000 psi 41.63 in^2 296.79 in^4 64.17 in^3 | | | | | | | |
| E Emin Calculated Prop. A I S RB | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 | | | | | | | |
| E Emin Calculated Prop. A I S RB Emin' | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi | | | | | | | |
| E Emin Calculated Prop. A I S RB | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi | | | | | | | |
| E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 | | | | | | | |
| Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 | | | | | | | |
| E Emin Calculated Prop. A I I S S S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs | | | | | | | |
| Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment Stress fb Fb' fb/Fb' | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE CL Shear and Moment M V Stress fb Fb' fb/Fb' fb/Fb' fv | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb /Fb' fb/Fb' fv Fv' | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb /Fb' fb/Fb' fv Fv' | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fb' fv/Fv' Max Ratio | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fv' Max Ratio Deflection | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 0.68 Pass | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 0.68 Pass | | | | | | | |
| E Emin Calculated Prop. A I I S S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δτι | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 0.68 Pass | | | | | | | |
| E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fv' Max Ratio Deflection | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 0.68 Pass | | | | | | | |
| E Emin Calculated Prop. A I I S S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection Δτι | 41.63 in^2 296.79 in^4 64.17 in^3 7.51 580,000 psi 12,327 psi 1,139 psi 1 49,513 lb-in 3,301 lbs 772 psi 1,133 psi 0.68 119 psi 207 psi 0.57 0.68 Pass | | | | | | | |



Completed by: JDJ Review/Check: ARA

| H1 | (12 | Beam | Calcu | lations |
|----|-----|-------------|-------|---------|
|----|-----|-------------|-------|---------|

| | culations | | | | | | | |
|--|---|--|-------|------|------|-------------|----------|---------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | T-4- | 11 |
| Trib | 0.0 | 9.5 | 0 | 0 | 3.33 | 1 | iota | l Load |
| - | 0.0 | 5.5 | | | 3.33 | | 1.63 | C F 16 |
| Dead Load | - | 161.5 | 0.0 | 0.0 | 40.0 | 201.5 plf | 1,620 | 6.5 plf |
| Live / Snow Load | 0 | 1425.0 | 0.0 | 0.0 | - | 1,425.0 plf | | |
| | | | | | | | | |
| Description: | 1.0 ft Opening | 3.0 ft Opening | | | | | | |
| Description. | 1.0 jt Opening | 3.0 jt Opening | | | | | | |
| Ī | (2)2,46 | (2)2,40 | | | | | | |
| Header Callout | (2)2x6 DF-L No. 2 | (2)2x8 DF-L No. 2 | | | | | | |
| ŀ | | | | | | | | |
| Trimmers | (1) 2x6 DF-L No. 2 | (1) 2x6 DF-L No. 2 | | | | | | |
| L | DI-LIVO. Z | DI -L NO. Z | | | | | | |
| Wood Design | | | | | | | | |
| Species | DF-L | DF-L | | | | | | |
| Grade | No. 2 | No. 2 | | | | | | |
| Width | 3.00 in | 3.00 in | | | | | | |
| Depth | 5.50 in | 7.25 in | | | | | | |
| Reaction | | | | | | | | |
| Dead Load | 101 lbs | 302 lbs | | | | | | |
| Live Load | 713 lbs | 2,138 lbs | | | | | <u> </u> | |
| | | | | | | | | |
| Load | | | | | | | | |
| lu | 1.0 ft | 3.0 ft | | | | | | |
| le | 2.1 ft | 6.2 ft | | | | | | |
| | | | | | | | | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | 1.15 | | | | | | |
| CF | 1.3 | 1.2 | | | | | | |
| Material Properties | | | | | | | | |
| Fb | 900 psi | 900 psi | | | | 1 | | |
| | | | | | | | | |
| | | | | | | | | |
| Fv E | 180 psi | 180 psi | | | | | | |
| Fv | | | | | | | | |
| Fv E | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | | | | | | |
| Fv E | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | | | | | | |
| Fv E Emin | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | | | | | | |
| Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi | 180 psi 1,600,000 psi 580,000 psi | | | | | | |
| Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 | | | | | | |
| Fy E Emin Calculated Prop. A I S RB | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 | | | | | | |
| Fy E Emin Calculated Prop. A I S RB Emin' | 180 psi 1,600,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi | 180 psi 1,600,000 psi 580,000 psi 521.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi | | | | | | |
| Fy E Emin Calculated Prop. A I S R B Emin' FbE | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb' Fb' fv' Fv' Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 0.36 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 0.81 | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' Fb' Fb/Fb' Fv' Fv/Fv' Max Ratio | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 0.36 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 0.81 | | | | | | |
| Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 0.36 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 0.81 Pass | | | | | | |
| FV E E Emin Calculated Prop. A I S RB Emin' FbE Fb'* CL Shear and Moment M V Stress fb Fb' fv Fv' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 0.36 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 0.81 | | | | | | |
| FV E E Emin Calculated Prop. A I S RB Emin' FbE Fb'* CL Shear and Moment M V Stress fb Fb' fv Fv' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 0.36 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 Pass | | | | | | |
| Fv E Emin Calculated Prop. A I I S RB Emin' FbE Fb' CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 16.50 in^2 41.59 in^4 15.13 in^3 3.89 580,000 psi 46,072 psi 1,346 psi 1 2,440 lb-in 813 lbs 161 psi 1,343 psi 0.12 74 psi 207 psi 0.36 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 21,957 lb-in 2,440 lbs 835 psi 1,235 psi 0.68 168 psi 207 psi 0.81 0.81 Pass | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (13) Beam Calculations

| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
|---|---|---|-------|------|------|-------------|-------|---------|
| Trib | 0.0 | 10.167 | 0 | 0 | 3.33 | | lota | Load |
| IIID | 0.0 | 10.167 | U | U | 3.33 | | - | |
| Dead Load | - | 172.8 | 0.0 | 0.0 | 40.0 | 212.8 plf | 1,737 | 7.8 plf |
| Live / Snow Load | 0 | 1525.1 | 0.0 | 0.0 | - | 1,525.1 plf | | |
| | | | | | | | | |
| T | 2252 : | 2560 . | | | l | | 1 | |
| Description: | 3.0 ft Opening | 3.5 ft Opening | | | | | | |
| | | | 1 | | | | | |
| Header Callout | (2)2x8 | (2)2x10 | | | | | | |
| neader canoac | DF-L No. 2 | DF-L No. 2 | | | | | | |
| Trimmers | (1) 2x6 | (2) 2x6 | | | | | | |
| THIRING'S | DF-L No. 2 | DF-L No. 2 | | | | | | |
| | | | | | | | | |
| Wood Design | 85.1 | D | | 1 | ı | | 1 | |
| Species Grade | DF-L No. 2 | DF-L No. 2 | | | | | | |
| Width | 3.00 in | 3.00 in | | | | | | |
| Depth | 7.25 in | 9.25 in | | | | | | |
| | | | | | | | 1 | |
| Reaction | | | | | | | _ | |
| Dead Load | 319 lbs | 372 lbs | | | | | | |
| Live Load | 2,288 lbs | 2,669 lbs | | | | | | |
| | | | | | | | | |
| Load | | 1 | | 1 | 1 | Т | Т | |
| lu | 3.0 ft | 3.5 ft | | | | | | |
| le | 6.2 ft | 7.2 ft | | | | | | |
| r | | | | | | | | |
| Adjustment Factors | 4.45 | 4.45 | | 1 | 1 | 1 | Т | 1 |
| Cd | 1.15 | 1.15 | | | | | | |
| CF | 1.2 | 1.1 | | | | | | |
| | | | | | | | | |
| Material Properties | | | | | | | | |
| Material Properties Fb | 900 psi | 900 psi | | | | | | |
| Fb | 900 psi 180 psi | 900 psi 180 psi | | | | | | |
| Fb_ Fv_ | 180 psi | 180 psi | | | | | | |
| Fb Fv E | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | | | | | | |
| Fb_ Fv_ | 180 psi | 180 psi | | | | | | |
| Fb Fv E Emin | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi | | | | | | |
| Fb Fv E | 180 psi 1,600,000 psi 580,000 psi | 180 psi 1,600,000 psi 580,000 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 | | | | | | |
| Fb Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 | 180 psi 1,600,000 psi 580,000 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 | | | | | | |
| Fb Fv E Emin Calculated Prop. | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S Emin' FbE Fb* CL Shear and Moment | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S R R R R R R R R R R R R R R R R R R | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 | 180 psi 1,600,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment Stress fb Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb' Fb | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fb/Fb' | 180 psi 1,600,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 | | | | | | |
| Fb | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi | | | | | | |
| Fb Fv E Emin Calculated Prop. Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' Fb' Fb' Fv' Fv' Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi | | | | | | |
| Fb Fv E Emin | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 | | | | | | |
| Fb Fv E Emin Calculated Prop. Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' Fb' Fb' Fv' Fv' Fv' | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 0.79 | | | | | | |
| Fb Fv E Emin | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 | | | | | | |
| Fb Fv E Emin | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 0.79 | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' fv/Fv' Max Ratio | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 0.79 | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 0.87 Pass | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 0.79 Pass | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fv/Fv' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 0.87 Pass 0.02 in L/1,733 0.02 in | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 0.79 Pass | | | | | | |
| Fb Fv E Emin Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' fv/Fv' Max Ratio Deflection | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 21.75 in^2 95.27 in^4 26.28 in^3 7.73 580,000 psi 11,650 psi 1,242 psi 1 23,461 lb-in 2,607 lbs 893 psi 1,235 psi 0.72 180 psi 207 psi 0.87 Pass 0.02 in L/1,733 | 180 psi 1,600,000 psi 580,000 psi 580,000 psi 27.75 in^2 197.86 in^4 42.78 in^3 9.43 580,000 psi 7,827 psi 1,139 psi 1 31,933 lb-in 3,041 lbs 746 psi 1,129 psi 0.66 164 psi 207 psi 0.79 0.79 0.79 Pass | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (14) Beam Calculations

| Γ | culations | | | | | | | |
|---|--|--------|-------|----------|----------|-------------|--------|--------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | Takal | 1 |
| Trib | 0.0 | 17.75 | 0 | 0 | 3.33 | | Total | Load |
| 1115 | 0.0 | 17.73 | Ů | ŭ | 3.33 | | 3.004 | 2 -16 |
| Dead Load | - | 301.8 | 0.0 | 0.0 | 40.0 | 341.7 plf | 3,004. | .2 pij |
| Live / Snow Load | 0 | 2662.5 | 0.0 | 0.0 | - | 2,662.5 plf | | |
| | | | | | | | | |
| Description: | 9.5 ft Opening | | | | | | | |
| 2 CSC / Paroni | sio je opeimig | | | | | | | |
| | (3)14" | | | | | | | |
| Header Callout | LVL 2.0E | | | | | | | |
| | (3) 2x6 | | | | | | | |
| Trimmers | DF-L No. 2 | | | | | | | |
| | | | • | | | | - | |
| Wood Design | | | | | | | | |
| Species | LVL | | | | | | | |
| Grade | 2.0E | | | | | | | |
| Width Depth | 5.25 in 14.00 in | | | | | | | |
| 5cp[| 14.00 111 | | 1 | l | | I | l | |
| Reaction | | | | | | | | |
| Dead Load | 1,623 lbs | | | | | | | |
| Live Load | 12,647 lbs | | 1 | <u> </u> | | | | |
| land | | | | | | | | |
| Load lu | 0.5.4 | | 1 | I | <u> </u> | <u> </u> | Т | |
| le | 9.5 ft | | | | | | | |
| ie | 19.0 ft | | | | | | | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | | | l | | | | |
| CF | 1 | | | | | | | |
| | U | | 1 | | I | l I | L | |
| Material Properties | | | | 1 | 1 | , , | | |
| Fb | 2,900 psi | | | | | | | |
| Fv | 285 psi | | | | | | | |
| E | 2,000,000 psi | | | | | | | |
| Emin | 1,016,535 psi | | | | | | | |
| | | | | | | | | |
| 0 1 1 1 10 | | | | | | | | |
| Calculated Prop. | 72.50:-42 | | 1 | I | l | | | |
| Calculated Prop. | 73.50 in^2 | | | | | | | |
| A I | 1,200.50 in^4 | | | | | | | |
| A I S | 1,200.50 in^4 171.50 in^3 | | | | | | | |
| A I | 1,200.50 in^4 171.50 in^3 10.76 | | | | | | | |
| A I S RB | 1,200.50 in^4 171.50 in^3 | | | | | | | |
| A I S RB Emin' FbE Fb* | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi | | | | | | | |
| A I S RB Emin' FbE | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs | | | | | | | |
| A 1 | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 | | | | | | | |
| A I S RB Emin' FbE Fb* CL | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi | | | | | | | |
| A I | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi | | | | | | | |
| A I S RB Emin' FbE Fb* CL | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi | | | | | | | |
| A 1 | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi 0.89 | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/ Fv' fv/Fv' Max Ratio | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi 0.89 0.89 | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi 0.89 0.89 Pass | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/ Fv' fv/Fv' Max Ratio | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi 0.89 0.89 Pass | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' Max Ratio Deflection Δτι | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi 0.89 0.89 Pass | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio Deflection | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi 0.89 Pass 0.89 Pass | | | | | | | |
| A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv Fv' Max Ratio Deflection Δτι | 1,200.50 in^4 171.50 in^3 10.76 1,016,535 psi 10,541 psi 3,335 psi 1 406,695 lb-in 14,270 lbs 2,371 psi 3,262 psi 0.73 291 psi 328 psi 0.89 0.89 Pass | | | | | | | |



Completed by: JDJ Review/Check: ARA

| H1 (| (15) | Beam | Cal | Icula | tions |
|------|------|------|-----|-------|-------|
|------|------|------|-----|-------|-------|

| Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
|--|--|---|--|--|--|--|---|
| | | | | | 10101 2000 | Tota | Load |
| 0.0 | 17.75 | 8.29 | 0 | 3.33 | | | |
| | 201.8 | 1/0.0 | 0.0 | 40.0 | 182 6 nlf | 3,476 | i.7 plf |
| | | | | - | | 1 | |
| | | | | | | | |
| | | | | | | | |
| 9.5 ft Opening | I | | | | | | |
| , , , | | | | | | | |
| (2)16" | | | | | | | |
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| DF-L NO. Z | | | | | | | |
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| 2,293 lbs | | | | | | | |
| 14,222 lbs | | <u> </u> | | | | | |
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| 9.5 ft | | | | | | | |
| 19.5 ft | <u> </u> | | | | | | |
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| 1.15 | | | | | | | |
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| 285 psi | | | | | | | |
| 2,000,000 psi | l | | | | | | |
| 1,016,535 psi | l | | | | | | |
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| 84.00 in^2 | | | | | | | |
| 84.00 in^2 1,792.00 in^4 | | | | | | | |
| | | | | | | | |
| 1,792.00 in^4 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 0.90 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 3.90 0.90 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 0.90 | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 0.90 0.90 Pass | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 0.90 0.90 Pass | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 0.90 0.90 Pass | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 0.90 0.90 Pass 0.18 in 1/641 0.15 in | | | | | | | |
| 1,792.00 in^4 224.00 in^3 11.65 1,016,535 psi 8,987 psi 3,335 psi 1 470,664 lb-in 16,515 lbs 2,101 psi 3,243 psi 0.65 295 psi 328 psi 0.90 0.90 Pass | | | | | | | |
| | - 0 9.5 ft Opening (3)16" LVL 2.0E (4) 2x6 DF-L No. 2 LVL 2.0E 5.25 in 16.00 in 2,293 lbs 14,222 lbs 9.5 ft 19.5 ft 1.15 1 2,900 psi 285 psi 2,000,000 psi | - 301.8 0 2662.5 9.5 ft Opening (3)16" LVL 2.0E (4) 2x6 DF-L No. 2 LVL 2.0E 5.25 in 16.00 in 2,293 lbs 14,222 lbs | - 301.8 140.9 0 2662.5 331.6 9.5 ft Opening (3)16" LVL 2.0E (4) 2x6 DF-L No. 2 LVL 2.0E 5.25 in 16.00 in 2,293 lbs 14,222 lbs 1.15 1 2,900 psi 285 psi 2,000,000 psi 285 psi 2,000,000 psi | - 301.8 140.9 0.0 0 2662.5 331.6 0.0 9.5 ft Opening (3)16" LVL 2.0E (4) 2x6 DF-L No. 2 LVL 2.0E 5.25 in 16.00 in 2,293 lbs 14,222 lbs 1.15 1 2,900 psi 285 psi 2,000,000 psi 285 psi 2,000,000 psi | - 301.8 140.9 0.0 40.0 0 2662.5 331.6 0.0 - 9.5 ft Opening (3)16" LVL 2.0E (4) 2x6 DF-L No. 2 LVL 2.0E 5.25 in 16.00 in 2,293 lbs 14,222 lbs 1.15 1 2,900 psi 285 psi 2,000,000 psi 285 psi 2,000,000 psi | - 301.8 140.9 0.0 40.0 482.6 plf 0 2662.5 331.6 0.0 - 2,994.1 plf 9.5 ft Opening (3)16" LVL 2.0E (4) 2x6 DF-L No. 2 LVL 2.0E 5.25 in 16.00 in 2,293 lbs 14,222 lbs 1.15 1 1.15 1 2,900 psi 285 psi 2,000,000 psi | - 301.8 140.9 0.0 40.0 482.6 plf 0 2662.5 331.6 0.0 - 2,994.1 plf 9.5 ft Opening (3)16" (IVI 2.0E (4) 2x6 DF-I. No. 2 |



Completed by: JDJ Review/Check: ARA

| H1 (| (16 |) Beam | Calcu | lations |
|------|-----|--------|-------|---------|
|------|-----|--------|-------|---------|

| Trib | | | | | | | | |
|--------------------------------------|-------------------------------|---------------------------|-------|------|--|-------------|-------|---------|
| Trib | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
| 1110 | 0.0 | 9.5 | 1 | 0 | 3.33 | | lotai | Load |
| | 0.0 | 9.5 | 1 | U | 3.33 | | | |
| Dead Load | - | 161.5 | 17.0 | 0.0 | 40.0 | 218.5 plf | 1,683 | 1.5 plf |
| Live / Snow Load | 0 | 1425.0 | 40.0 | 0.0 | - | 1,465.0 plf | | |
| | | | | | | | | |
| | | | | | | | | |
| Description: | 2.0 ft Opening | 6.3 ft Opening | | | | | | |
| | | | | | | | | |
| Header Callout | (2)2x6 | (2)9-1/2" | | | | | | |
| ricuder cuilout | DF-L No. 2 | LVL 2.0E | | | | | | |
| Trimmers | (1) 2x6 | (2) 2x6 | | | | | | |
| mininers | DF-L No. 2 | DF-L No. 2 | | | | | | |
| | | | | | | | | |
| Wood Design | | T | | 1 | | | | |
| Species Grade | DF-L No. 2 | LVL 2.0E | | | | | | |
| Width | 3.00 in | 3.50 in | | | | | | |
| Depth | 5.50 in | 9.50 in | | | | | | |
| | 3.30 | 3.30 | | 1 | 1 | | | |
| Reaction | | | | | | | | |
| Dead Load | 218 lbs | 683 lbs | | | | | | |
| Live Load | 1,465 lbs | 4,578 lbs | | | | | | |
| _ | | | | | | | | |
| Load | | 1 | | T | | 1 | | |
| lu | 2.0 ft | 6.3 ft | | | | ļ | | |
| le | 4.1 ft | 12.6 ft | | | | | | |
| | | | | | | | | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | 1.15 | | | | | | |
| CF | 1.3 | 1.1 | | | | | | |
| Material Properties | | | | | | | | |
| Fb | 900 psi | 2,900 psi | | | | | | |
| Fv | 180 psi | 285 psi | | | | | | |
| E | 1,600,000 psi | 2,000,000 psi | | | | | | |
| Emin | 580,000 psi | 1,016,535 psi | | | | | | |
| | | -,, p-: | | ı | 1 | II. | | |
| Calculated Prop. | | | | | | | | |
| A | 16.50 in^2 | 33.25 in^2 | | | | | | |
| il- | 41.59 in^4 | 250.07 in^4 | | | | | | |
| S | 15.13 in^3 | 52.65 in^3 | | | | | | |
| RB | 5.50 | 10.81 | | | | | | |
| Emin' | 580,000 psi | 1,016,535 psi | | | | | | |
| FbE | 23,036 psi | 10,434 psi | | | | | | |
| Fb* | 1,346 psi | 3,669 psi | | | | | | |
| CL | 1 | 1 | | | | | | |
| | | | | · | | · | | |
| Shear and Moment | 10.106 " : | 00.545 | | 1 | 1 | 1 | | |
| M | 10,101 lb-in | 98,640 lb-in | | | | | | |
| V | 1,683 lbs | 5,261 lbs | | 1 | L | | | |
| Stress | | | | | | | | |
| fb | 668 psi | 1,874 psi | | | | | | |
| Fb' | 1,341 psi | 3,575 psi | | | | | | |
| fb/Fb' | 0.50 | 0.52 | | | | | | |
| fv | 153 psi | 237 psi | | | | | | |
| Fv' | 207 psi | 328 psi | | | | ļ | | |
| | 0.74 | 0.72 | | | | - | | |
| fv/Fv' | 0.74 | 0.72 | | | | | | |
| | Pass | Pass | | | | | | |
| fv/Fv' | | | | | | | | |
| fv/Fv' | | | | | | | | |
| fv/Fv' Max Ratio | 0.01 in | 0.12 in | | | | | | |
| fv/Fv' Max Ratio | 0.01 in L/2,635 | 0.12 in L/649 | | | | | | |
| fv/Fv' Max Ratio | L/2,635 0.01 in | L/649 0.10 in | | | | | | |
| fv/Fv' Max Ratio Deflection Δπ | L/2,635 0.01 in L/3,028 | L/649 0.10 in L/746 | | | | | | |
| fv/Fv' Max Ratio Deflection Δπ | L/2,635 0.01 in | L/649 0.10 in | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

H1 (17) Beam Calculations

| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
|--|---|-------|--------------|--------------|------|------------|-------|---------|
| - | | | | | | | Total | Load |
| Trib | 0.0 | 4 | 7.5 | 0 | 3.33 | | - | |
| Dead Load | - | 68.0 | 127.5 | 0.0 | 40.0 | 235.5 plf | 1,135 | 5.5 plf |
| Live / Snow Load | 0 | 600.0 | 300.0 | 0.0 | - | 900.0 plf | | |
| | | | | | | | | |
| | , | | 1 | 1 | 1 | 1 | 1 | |
| Description: | 6.3 ft Opening | | | | | | | |
| | | | 1 | 1 | I . | 1 | 1 | |
| | (2)9-1/2" | | | | | | | |
| Header Callout | LVL 2.0E | | | | | | | |
| <u> </u> | (2) 2x6 | | | | | | | |
| Trimmers | DF-L No. 2 | | | | | | | |
| | | | | | | | | |
| Wood Design | | | | | | | | |
| Species | LVL | | | | | | | |
| Grade | 2.0E | | | | | | | |
| Width | 3.50 in | | | | | | | |
| Depth | 9.50 in | | | | | | | |
| Reaction | | | | | | | | |
| Dead Load | 736 lbs | | | | | | | |
| Live Load | 2,813 lbs | | | | | | | |
| <u> </u> | | - | • | • | • | • | • | - |
| Load | | | | | | | | |
| lu | 6.3 ft | | | | | | | |
| le | 12.6 ft | | | | | | | |
| <u>L</u> | | | 1 | 1 | | III | 1 | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | | | | | | | |
| CF | 1.1 | | | | | | | |
| | | | | | | | | |
| Material Properties | | | 1 | 1 | ı | 1 | | |
| Fb | 2,900 psi | | | | | | | |
| | | | | | | | | |
| Fv | 285 psi | | | | | | | |
| E | 2,000,000 psi | | | | | | | |
| - | | | | | | | | |
| E Emin | 2,000,000 psi | | | | | | | |
| E Emin Calculated Prop. | 2,000,000 psi 1,016,535 psi | | | | | | | |
| E Emin | 2,000,000 psi 1,016,535 psi 33.25 in^2 | | | | | | | |
| E Emin Calculated Prop. | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 | | | | | | | |
| Calculated Prop. A I S | 2,000,000 psi 1,016,535 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 | | | | | | | |
| E Emin Calculated Prop. A I S S RB | 2,000,000 psi 1,016,535 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 | | | | | | | |
| E Emin S RB Emin' | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi | | | | | | | |
| E Emin Calculated Prop. A I I S S RB Emin' FbE | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi | | | | | | | |
| E Emin Calculated Prop. A I S S RB Emin' FbE Fb* | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi | | | | | | | |
| E Emin Calculated Prop. A I I S S RB Emin' FbE | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi | | | | | | | |
| E Emin Calculated Prop. A I S S RB Emin' FbE Fb* | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi | | | | | | | |
| Calculated Prop. A I S RB Emin' FbE Fb* CL | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi | | | | | | | |
| Calculated Prop. A I S RB Emin' Fbb Fb* CL | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi | | | | | | | |
| E Emin Calculated Prop. A | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 | | | | | | | |
| Calculated Prop. A | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 | | | | | | | |
| Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment Stress fb | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 | | | | | | | |
| Calculated Prop. A I I S RB Emin' FbE Fb* CL Shear and Moment Stress fb Fb' Fb' | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs | | | | | | | |
| E Emin Calculated Prop. A | 2,000,000 psi 1,016,535 psi 1,016,535 psi 33.25 in^2 250,07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs | | | | | | | |
| Calculated Prop. A II S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fy | 2,000,000 psi 1,016,535 psi 33.25 in^2 250,07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 | | | | | | | |
| Calculated Prop. A | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0.35 160 psi 328 psi | | | | | | | |
| Calculated Prop. A | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0.35 160 psi 328 psi 0.49 | | | | | | | |
| Calculated Prop. A | 2,000,000 psi 1,016,535 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0.35 160 psi 328 psi 0.49 | | | | | | | |
| Calculated Prop. A I S RB Emin' FDE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0.35 160 psi 328 psi 0.49 | | | | | | | |
| Calculated Prop. A | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0.35 160 psi 328 psi 0.49 0.49 Pass | | | | | | | |
| Calculated Prop. A I I S RB Emin' FIDE Fb* CL Shear and Moment Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 2,000,000 psi 1,016,535 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0.35 160 psi 328 psi 0.49 0.49 Pass | | | | | | | |
| E Emin Calculated Prop. A | 2,000,000 psi 1,016,535 psi 1,016,535 psi 33.25 in^2 250,07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0,35 160 psi 328 psi 0,49 Pass 0.08 in L/962 | | | | | | | |
| Calculated Prop. A I S RB Emin' FbE Fb* CL Shear and Moment M V Stress fb Fb' fb/Fb' fv/Fv' Max Ratio | 2,000,000 psi 1,016,535 psi 33.25 in^2 250.07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0.35 160 psi 328 psi 0.49 0.49 Pass | | | | | | | |
| E Emin Calculated Prop. A | 2,000,000 psi 1,016,535 psi 1,016,535 psi 33.25 in^2 250,07 in^4 52.65 in^3 10.81 1,016,535 psi 10,434 psi 3,669 psi 1 66,531 lb-in 3,548 lbs 1,264 psi 3,575 psi 0,35 160 psi 328 psi 0,49 Pass 0.08 in L/962 | | | | | | | |



Completed by: JDJ Review/Check: ARA

| H1 (18) E | Beam Ca | lculations | 5 |
|-----------|---------|------------|---|
|-----------|---------|------------|---|

| H1 (18) Beam Caid | culations | | | | | | | |
|-----------------------------------|----------------------|------|--|------|------|------------|--|---------|
| | Additional Drift | Roof | Floor | Deck | Wall | Total Load | | |
| - n | | | | | | | Total | Load |
| Trib | 0.0 | 0 | 18.5 | 0 | 3.33 | | 4 | |
| Dead Load | - | 0.0 | 314.5 | 0.0 | 40.0 | 354.5 plf | 1,094 | 1.5 plf |
| Live / Snow Load | 0 | 0.0 | 740.0 | 0.0 | - | 740.0 plf | 1 | |
| | | | | | | | | |
| | | | | 1 | 1 | 1 | | |
| Description: | 3.0 ft Opening | | | | | | | |
| | | | | | | | ,1 | |
| | (2)2x6 | | | | | | | |
| Header Callout | DF-L No. 2 | | | | | | | |
| I | (1) 2x6 | | | | | | | |
| Trimmers | DF-L No. 2 | | | | | | | |
| L | | | | | | | | |
| Wood Design | | | | | | | | |
| Species | DF-L | | | | | | | |
| Grade | No. 2 | | | | | | | |
| Width | 3.00 in | | | | | | | |
| Depth | 5.50 in | | | | | | | |
| Reaction | | | | | | | | |
| Dead Load | 532 lbs | | I | | | | | |
| Live Load | 1,110 lbs | | | | | | 1 | |
| - | | | • | • | • | | • | - |
| Load | | | | | | | | |
| lu | 3.0 ft | | | | | | | |
| le | 6.2 ft | | | | | | | |
| L | | | | l . | l . | l . | .1 | |
| Adjustment Factors | | | | | | | | |
| Cd | 1.15 | | | | | | | |
| CF | 1.3 | | | | | | | |
| | | | | • | • | • | | |
| Material Properties | | | 1 | 1 | 1 | 1 | | 1 |
| Fb | 900 psi | | | | | | | |
| Fv | 180 psi | | | | | | | |
| E | 1,600,000 psi | | | | | | | |
| Emin | 580,000 psi | | | | | | | |
| | | | | | | | | |
| Calculated Prop. | | | | ı | I . | ı | т | |
| Ą | 16.50 in^2 | | | | | | | |
| <u>'</u> - | 41.59 in^4 | | | | | | | |
| S | 15.13 in^3 | | | | | | | |
| RB | 6.73 | | | | | | | |
| Emin' | 580,000 psi | | | | | | | |
| FbE | 15,357 psi | | | | | | | |
| Fb* | 1,346 psi | | | | | | | |
| CL | 1 | | I. | I . | I . | I . | <u> </u> | 1 |
| Shear and Moment | | | | | | | | |
| M | 14,775 lb-in | | | | | | | |
| v | 1,642 lbs | | | | | | | |
| | | _ | _ | - | - | | | - |
| Stress | | | | 1 | 1 | 1 | | |
| fb | 977 psi | | | | | | <u> </u> | |
| Fb' | 1,339 psi | | | | | | | |
| fb/Fb' | 0.73 | | | | | | | |
| fv Fv' | 149 psi 207 psi | | | | | | | |
| | | | | | | | + | |
| | | | | | | | + | |
| IVIAX NATIO | | | | | | | | |
| | . 2.33 | | • | | | | | |
| | | | · · · · · · · · · · · · · · · · · · · | | | | | |
| Δτι | 0.03 in | | ļ | | | | <u> </u> | |
| Ļ | | | ļ | | | | | |
| Διι | | | - | | | | | |
| Ļ | | | | | | | | |
| L | Pass | | | | | | | |
| fv/Fv' Max Ratio Deflection | 0.72 0.73 Pass | | | | | | | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

TALL WALL CALCULATIONS:

This spreadsheet is used for designing a stud wall according to the NDS.

| escription: | 12' Tall Wall | King Stud (3' Max Opening) | 12' Trimmer | 10' Tall Wall | King Stud (3' Max Opening) | 10' Trimmer |
|--------------------------------------|--------------------|-------------------------------|--------------------|--------------------|-------------------------------|--------------------|
| j | 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4' |
| Type: | | | | | | • |
| Species: | DF-L | DF-L | DF-L | DF-L | DF-L | DF-L |
| Grade: | No. 2 | No. 2 | No. 2 | No. 2 | No. 2 | No. 2 |
| Nominal width, t = | (1) 2 | (1) 2 | (1) 2 | (1) 2 | (1) 2 | (1) 2 |
| Actual width = | 1.50 in | 1.50 in | 1.50 in | 1.50 in | 1.50 in | 1.50 in |
| Nominal depth, d = | 6 | 6 | 6 | 6 | 6 | 6 |
| Actual depth = | 5.50 in | 5.50 in | 5.50 in | 5.50 in | 5.50 in | 5.50 in |
| Span, L = | 12.000 ft | 12.000 ft | 12.000 ft | 10.000 ft | 10.000 ft | 10.000 ft |
| w/o Plates | 11.750 ft | 11.750 ft | 11.750 ft | 9.750 ft | 9.750 ft | 9.750 ft |
| Stud spacing, s = | 16 in | 28 in | 16 in | 16 in | 28 in | 16 in |
| Lat. Pressure, w _{wind} = | 14.73 psf | 14.73 psf | 5.00 psf | 14.73 psf | 14.73 psf | 5.00 psf |
| Axial load, P = Eccentricity, e = | 2227 lbs 0 in | 50 lbs 0 in | 2505 lbs 0 in | 3898 lbs 0 in | 50 lbs 0 in | 4385 lbs 0 in |
| K _{cE} = | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| C = | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| w = | 19.6 plf | 34.7 plf | 6.7 plf | 19.6 plf | 34.7 plf | 6.7 plf |
| ı | | · · · | | | | ı ı |
| Fb | 900 psi | 900 psi | 900 psi | 900 psi | 900 psi | 900 psi |
| Fv | 180 psi | 180 psi | 180 psi | 180 psi | 180 psi | 180 psi |
| Fc-prll | 1,350 psi | 1,350 psi | 1,350 psi | 1,350 psi | 1,350 psi | 1,350 psi |
| Fc-perp | 625 psi | 625 psi | 625 psi | 625 psi | 625 psi | 625 psi |
| C _d | 1.60 | 1.60 | 1.15 | 1.60 | 1.60 | 1.15 |
| $C_{F,Fb}$ | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| C _{F,FcprII} | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 |
| C_r | 1.15 | 1.00 | 1.00 | 1.15 | 1.00 | 1.00 |
| C_p | 0.28 | 0.28 | 0.38 | 0.39 | 0.39 | 0.51 |
| С _н | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 6.00 |
| C _b | 1.07 | 1.07 | 1.07 | 1.07 | 1.07 | 1.07 |
| E | 1,600,000 psi | 1,600,000 psi | 1,600,000 psi | 1,600,000 psi | 1,600,000 psi | 1,600,000 psi |
| Emin | 580,000 psi | 580,000 psi | 580,000 psi | 580,000 psi | 580,000 psi | 580,000 psi |
| Allowable Stress: | | | | | | |
| $F'_b = F_b C_d C_F C_r =$ | 2153 psi | 1872 psi | 1346 psi | 2153 psi | 1872 psi | 1346 psi |
| $F'_v = F'_v C_d C_H =$ | 288 psi | 288 psi | 207 psi | 288 psi | 288 psi | 1242 psi |
| $F_c^* = F_c C_d C_F =$ | 2376 psi | 2376 psi | 1708 psi | 2376 psi | 2376 psi | 1708 psi |
| $F_{cE} = (K_{cE} E')/(I_e/d)2 =$ | 730 psi | 730 psi | 730 psi | 1061 psi | 1061 psi | 1061 psi |
| $F'_c = F_c C_d C_F C_p =$ | 676 psi | 676 psi | 650 psi | 938 psi | 938 psi | 876 psi |
| $F'_{cperp} = F_{cperp} Cb =$ | 668 psi | 668 psi | 668 psi | 668 psi | 668 psi | 668 psi |
| E' = E = | 1600000 psi | 1600000 psi | 1600000 psi | 1600000 psi | 1600000 psi | 1600000 psi |
| F _{bE} = | 2019 psi | 2019 psi | 2019 psi | 2434 psi | 2434 psi | 2434 psi |
| Slenderness Ratio: | < 50 OK | < 50 OK | < 50 OK | < 50 OK | < 50 OK | < 50 OK |
| R _B = | 19 | 19 | 19 | 17 | 17 | 17 |
| Bending: | < F'b OK | < F'b OK | < F'b OK | < F'b OK | < F'b OK | < F'b OK |
| $M = w L^2/8 + P e/12 =$ | 339 ft-lbs | 598 ft-lbs | 115 ft-lbs | 233 ft-lbs | 412 ft-lbs | 79 ft-lbs |
| $f_b = M/S =$ | 538 psi | 950 psi | 183 psi | 370 psi | 654 psi | 126 psi |
| S = | 8 in³ | 8 in ³ | 8 in ³ | 8 in ³ | 8 in ³ | 8 in ³ |
| Shear: | < F'v OK | < F'v OK | < F'v OK | < F'v OK | < F'v OK | < F'v OK |
| V = w L/2 = | 115 lbs | 204 lbs | 39 lbs | 96 lbs | 169 lbs | 24 lbs |
| f _v = 1.5 V/A = | 21 psi | 37 psi | 7 psi | 17 psi | 31 psi | 4 psi |
| A = | 8 in ² | 8 in² | 8 in ² | 8 in ² | 8 in ² | 8 in ² |
| Compression: | <u>< F'c OK</u> | <u>< F'c OK</u> | <u>< F'c OK</u> | <u>< F'c OK</u> | <u>< F'c OK</u> | <u>< F'c OK</u> |
| f _c = P/A = | 270 psi | 6 psi | 304 psi | 472 psi | 6 psi | 532 psi |
| Compression (perp.): | < F'c OK | < F'c OK | < F'c OK | < F'c OK | < F'c OK | < F'c OK |
| f _{c perp} = P/A = | 270 psi | 6 psi | 304 psi | 472 psi | 6 psi | 532 psi |
| Combined: | < 1.0 OK | | | < 1.0 OK | | |
| (fc/Fc)2 + {fb/[Fb(1-(fc/FcE)]} = | 0.56 | | | 0.56 | | |
| Deflection: | <u>> 180 OK</u> | <u>> 180 OK</u> | <u>> 180 OK</u> | <u>> 180 OK</u> | <u>> 180 OK</u> | <u>> 180 OK</u> |
| D = 22.5 w L ⁴ /E' I = | 0.25 in | 0.45 in | 0.09 in | 0.12 in | 0.21 in | 0.04 in |
| D = 22.5 W L /E I = | <u> </u> | | | | | |
| D = 22.5 W L /E I = | 21 in^4 | 21 in^4 | 21 in^4 | 21 in^4 | 21 in^4 | 21 in^4 |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

TALL WALL CALCULATIONS:

This spreadsheet is used for designing a stud wall according to the NDS.

| escription: | 12' Tall Wall | King Stud (6.25' Max Opening) | 12' Trimmer | 12.25' Tall Wall | King Stud (9.5' Max Opening) | 12.25' Trimmer |
|---|------------------------------|----------------------------------|-----------------------------------|------------------------------|---------------------------------|------------------------------|
| [| 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4") | 2x Lumber (2"-4' |
| Type: | | 1 | 1 1 | | | |
| Species: Grade: | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 | DF-L No. 2 |
| Grade. | NO. 2 | 140. 2 | 140. 2 | 140. 2 | 140. 2 | 140. 2 |
| Nominal width, t = | (1) 2 | (2) 2 | (1) 2 | (1) 2 | (2) 2 | (1) 2 |
| Actual width = | 1.50 in | 3.00 in | 1.50 in | 1.50 in | 3.00 in | 1.50 in |
| Nominal depth, d = | 6 5.50 in | 6 5.50 in | 6 5.50 in | 6 | 6 | 6 5.50 in |
| Actual depth = Span, L = | 12.000 ft | 12.000 ft | 12.000 ft | 5.50 in 12.250 ft | 5.50 in 12.250 ft | 12.250 ft |
| w/o Plates | 11.750 ft | 11.750 ft | 11.750 ft | 12.000 ft | 12.000 ft | 12.000 ft |
| Stud spacing, s = | 16 in | 48 in | 16 in | 12 in | 65 in | 12 in |
| Lat. Pressure, w _{wind} = | 14.73 psf | 14.73 psf | 5.00 psf | 14.73 psf | 14.73 psf | 5.00 psf |
| Axial load, P = | 1893 lbs | 50 lbs | 4436 lbs | 2950 lbs | 50 lbs | 4426 lbs |
| Eccentricity, e = | 0 in | 0 in | 0 in | 0 in | 0 in | 0 in |
| K _{cE} = | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| c = w = | 0.8 19.6 plf | 0.8 58.6 plf | 0.8 6.7 plf | 0.8 14.7 plf | 0.8 80.1 plf | 0.8 5.0 plf |
| w -[| 13.0 pii | 36.0 pii | 0.7 pii | 14.7 pii | 80.1 pii | 3.0 pii |
| Fb | 900 psi | 900 psi | 900 psi | 900 psi | 900 psi | 900 psi |
| Fv | 180 psi | 180 psi | 180 psi | 180 psi | 180 psi | 180 psi |
| Fc-prll | 1,350 psi | 1,350 psi | 1,350 psi | 1,350 psi | 1,350 psi | 1,350 psi |
| Fc-perp | 625 psi | 625 psi | 625 psi | 625 psi | 625 psi | 625 psi |
| C _d | 1.60 | 1.60 | 1.15 | 1.60 | 1.60 | 1.15 |
| $C_{F,Fb}$ | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| C _{F,FcprII} | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 |
| C_r | 1.15 | 1.00 | 1.00 | 1.15 | 1.00 | 1.00 |
| C p | 0.28 | 0.28 | 0.38 | 0.27 | 0.27 | 0.37 |
| C _H | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 6.00 |
| C _b | 1.07 | 1.07 | 1.07 | 1.07 | 1.07 | 1.07 |
| E Emin | 1,600,000 psi 580,000 psi | 1,600,000 psi 580,000 psi | 1,600,000 psi 580,000 psi | 1,600,000 psi 580,000 psi | 1,600,000 psi 580,000 psi | 1,600,000 psi 580,000 psi |
| Allowable Stress: | 300,000 psi | 300,000 psi | 300,000 psi | 300,000 psi | 300,000 psi | 300,000 psi |
| $F'_b = F_b C_d C_F C_r =$ | 2153 psi | 1872 psi | 1346 psi | 2153 psi | 1872 psi | 1346 psi |
| F' _v = F' _v C _d C _H = | 288 psi | 288 psi | 207 psi | 288 psi | 288 psi | 1242 psi |
| F* _c = F _c C _d C _F = | 2376 psi | 2376 psi | 1708 psi | 2376 psi | 2376 psi | 1708 psi |
| $F_{cE} = (K_{cE} E')/(I_e/d)2 =$ | 730 psi | 730 psi | 730 psi | 700 psi | 700 psi | 700 psi |
| $F'_c = F_c C_d C_F C_p =$ | 676 psi | 676 psi | 650 psi | 651 psi | 651 psi | 627 psi |
| · · | 668 psi | 668 psi | 668 psi | 668 psi | 668 psi | 668 psi |
| F' _{c perp} = F _{c perp} Cb = E' = E = | 1600000 psi | 1600000 psi | 1600000 psi | 1600000 psi | 1600000 psi | 1600000 psi |
| F _{bE} = | 2019 psi | 8077 psi | 2019 psi | 1977 psi | 7909 psi | 1977 psi |
| Slenderness Ratio: | < 50 OK | < 50 OK | < 50 OK | < 50 OK | < 50 OK | < 50 OK |
| R _B = | 19 | 9 | 19 | 19 | 9 | 19 |
| Bending: | < F'b OK | < F'b OK | < F'b OK | < F'b OK | < F'b OK | < F'b OK |
| $M = w L^2/8 + P e/12 =$ | 339 ft-lbs | 1011 ft-lbs | 115 ft-lbs | 265 ft-lbs | 1442 ft-lbs | 90 ft-lbs |
| $f_b = M/S =$ | 538 psi | 802 psi | 183 psi | 421 psi | 1144 psi | 143 psi |
| S = | 8 in ³ | 15 in ³ | 8 in ³ | 8 in ³ | 15 in ³ | 8 in ³ |
| Shear: | < F'v OK | < F'v OK | < F'v OK | < F'v OK | < F'v OK | < F'v OK |
| V = w L/2 = | 115 lbs 21 psi | 344 lbs 31 psi | 39 lbs 7 psi | 88 lbs 16 psi | 481 lbs 44 psi | 30 lbs 5 psi |
| f _v = 1.5 V/A = A = | 8 in ² | 17 in ² | 7 psi 8 in ² | 8 in ² | 44 psi 17 in² | 8 in ² |
| Compression: | < F'c OK | ≤ F'c OK | < F'c OK | < F'c OK | ≤ F'c OK | < F'c OK |
| f _c = P/A = | 229 psi | 3 psi | 538 psi | 358 psi | 3 psi | 536 psi |
| Compression (perp.): | < F'c OK | < F'c OK | < F'c OK | < F'c OK | < F'c OK | < F'c OK |
| f _{c perp} = P/A = | 229 psi | 3 psi | 538 psi | 358 psi | 3 psi | 536 psi |
| Combined: | < 1.0 OK | | | < 1.0 OK | | |
| (fc/Fc)2 + {fb/[Fb(1-(fc/FcE)]} = | 0.48 | | | 0.70 | | |
| Deflection: | > 180 OK | <u>> 180 OK</u> | <u>> 180 OK</u> | > 180 OK | <u>> 180 OK</u> | > 180 OK |
| D = 22.5 w L ⁴ /E' I = | 0.25 in | 0.38 in | 0.09 in | 0.21 in | 0.56 in | 0.07 in |
| | | | | 21 in^4 | 42 in^4 | 21 in^4 |
| I = | 21 in^4 | 42 in^4 | 21 in^4 | 21 11174 | 42 11114 | 21 111: 4 |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| Roof | | | | |
|-----------|------------|------------|---|---------|
| Roof Dead | (17psf) | (18.0ft) | = | 306plf |
| Snow Live | (150psf) | (18.0ft) | = | 2700plf |

| Upper Floor | | | | |
|-------------|-----------|-----------|---|--------|
| Floor Dead | (17psf) | (8.5ft) | = | 145plf |
| Floor Live | (40psf) | (8.5ft) | = | 340plf |

| Main Floor | | | | |
|------------|-----------|-----------|---|--------|
| Floor Dead | (17psf) | (4.1ft) | = | 69plf |
| Floor Live | (40psf) | (4.1ft) | = | 163plf |

| Deck Floor | | | | |
|------------|------------|-----------|---|--------|
| Floor Dead | (17psf) | (2.5ft) | = | 43plf |
| Snow Live | (150psf) | (2.5ft) | = | 375plf |

| Misc | | | | |
|------------|------------|---------------|---|--------|
| Wall Load: | (12psf) | (20.6ft) | = | 247plf |
| Conc Stem: | (145pcf) | (2 x .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) (.0ft) | = | plf |

| Use Footing Width: | 36 | Х | 10 | in |
|--------------------|----|-----|----|-------|
| W/ | | (3) | #4 | Cont. |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| 7ps | sf) | (| 11.1 | ft) | | = | 189բ | əlf |
|------|-----------------|----------|--------|-------|------|---|------------------|-----|
| 50p. | sf) | (| 11.1 | ft) | | = | 1669 | pl |
| | | | | | | | | |
| 7ps | <u></u> sf) | (| 11.0 | ft) | | = | 187p | olf |
| 0ps | s <i>f)</i> | (| 11.0 | ft) | | = | 440 _F | olf |
| | | | | | | | | |
| 7ps | sf) | | 4.1f | t) | | = | 69pl | f |
| 0ps | s <i>f)</i> | | ′ 4.1f | t) | | = | 163 _p | olf |
| | | | | | | | | |
| 7ps | sf) | | 2.7f | t) | | = | 45pl | f |
| 50p. | sf) | | 2.7f | t) | | = | 401 _p | olf |
| | | | | | | | | |
| 7ps | <u></u> sf) | | 2.3f | t) | | = | 38pl | f |
| 50p. | sf) | | ' 2.3f | t) | | = | 338p | olf |
| | | | | | | | | |
| 2ps | sf) | (| 20.6 | ft) | | = | 247բ | olf |
| 45p | cf) | (| 2 x . | 7ft) | | = | 193ր | olf |
| .0ft | -) | (.0ft) | | (.0; | ft) | = | plf | |

| Use Footing Width: | 30 | Х | 10 | in |
|--------------------|----|-----|----|-------|
| W/ | | (3) | #4 | Cont. |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| Roof | | | | | |
|-------------|---------------|----------|------------|----|---------|
| Roof Dead | (17psf) | (9. | 5ft) | = | 162plf |
| Snow Live | (150psf) | | 5ft) | = | 1425plf |
| | | | | | |
| Upper Floor | | | | | |
| Floor Dead | (17psf) | (1. | Oft) | = | 17plf |
| Floor Live | (40psf) | (1. | 0ft) | = | 40plf |
| Main Floor | | | | | |
| Floor Dead | (17psf) | (1. | Oft) | = | 17plf |
| Floor Live | (40psf) | | Oft) | = | 40plf |
| Deck Cover | T | | | | |
| | (17mof) | / | - - | | Oralf |
| Roof Dead | (17psf) | | 5ft) | = | 9plf |
| Snow Live | (150psf) | (| 5ft) | = | 75plf |
| Deck Floor | | | | | |
| Floor Dead | (17psf) | (| 5ft) | = | 9plf |
| Snow Live | (150psf) | (| 5ft) | = | 75plf |
| Misc | | | | | |
| Wall Load: | (12psf) | (20 | .6ft) | = | 247plf |
| Conc Stem: | (145pcf) | | .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) | (.0ft) | = | plf |
| | | | | | |
| | | | | | 1894plf |
| Use F | ooting Width: | 18 | Х | 8 | in |
| | W/ | | (2) | #4 | Cont. |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| Roof | | | | |
|-----------|------------|------------|---|---------|
| Roof Dead | (17psf) | (15.0ft) | = | 255plf |
| Snow Live | (150psf) | (15.0ft) | = | 2250plf |

| Upper Floor | | | | |
|-------------|-----------|-----------|---|-------|
| Floor Dead | (17psf) | (1.0ft) | = | 17plf |
| Floor Live | (40psf) | (1.0ft) | = | 40plf |

| Main Floor | | | | |
|------------|-----------|-----------|---|-------|
| Floor Dead | (17psf) | (1.0ft) | = | 17plf |
| Floor Live | (40psf) | (1.0ft) | = | 40plf |

| Misc | | | | | |
|------------|------------|----------|----------|---|--------|
| Wall Load: | (12psf) | (20.0 | 6ft) | = | 247plf |
| Conc Stem: | (145pcf) | (2 x | .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) | (.0ft) | = | plf |

| Use Footing Width: | 24 | x | 8 | in |
|--------------------|----|-----|----|-------|
| W/ | | (2) | #4 | Cont. |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| Roof | | | | |
|-----------|------------|------------|---|---------|
| Roof Dead | (17psf) | (10.3ft) | = | 176plf |
| Snow Live | (150psf) | (10.3ft) | = | 1551plf |

| Main Floor | | | | |
|------------|-----------|-----------|---|-------|
| Floor Dead | (17psf) | (1.0ft) | = | 17plf |
| Floor Live | (40psf) | (1.0ft) | = | 40plf |

| Deck Cover | | |
|--------------------|----------|-------|
| Roof Dead (17psf) | (.0ft) | = plf |
| Snow Live (150psf) | (.0ft) | = plf |

| Deck Floor | | | | |
|------------|------------|----------|---|-------|
| Floor Dead | (17psf) | (.5ft) | = | 9plf |
| Snow Live | (150psf) | (.5ft) | = | 75plf |

| Misc | | | | | |
|------------|------------|----------|----------|---|--------|
| Wall Load: | (12psf) | (18. | .0ft) | = | 216plf |
| Conc Stem: | (145pcf) | (2 x | .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) | (.0ft) | = | plf |

| Use Footing Width: | 18 | Х | 8 | in | |
|--------------------|----|-----|----|-------|--|
| W/ | | (2) | #4 | Cont. | |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| Roof | | | | |
|-----------|------------|------------|---|---------|
| Roof Dead | (17psf) | (17.0ft) | = | 289plf |
| Snow Live | (150psf) | (17.0ft) | = | 2550plf |

| Up | per Floor | | | | |
|----|------------|-----------|------------|---|--------|
| F | loor Dead | (17psf) | (14.0ft) | = | 238plf |
| | Floor Live | (40psf) | (14.0ft) | = | 560plf |

| Deck Cover | | | |
|--------------------|-----------|---|--------|
| Roof Dead (17psf) | (2.5ft) | = | 43plf |
| Snow Live (150psf) | (2.5ft) | = | 375plf |

| Misc | | | | |
|------------|------------|---------------|---|--------|
| Wall Load: | (12psf) | (18.0ft) | = | 216plf |
| Conc Stem: | (145pcf) | (2 x .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) (.0ft) | = | plf |

| Use Footing Width: | 36 | x | 10 | in |
|--------------------|----|-----|----|-------|
| W/ | | (3) | #4 | Cont. |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| Roof | | | | |
|-----------|------------|------------|---|---------|
| Roof Dead | (17psf) | (10.0ft) | = | 170plf |
| Snow Live | (150psf) | (10.0ft) | = | 1500plf |

| Misc | | | | |
|------------|------------|---------------|---|--------|
| Wall Load: | (12psf) | (13.0ft) | = | 156plf |
| Conc Stem: | (145pcf) | (2 x .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) (.0ft) | = | plf |

1644plf

| Use Footing Width: | 16 | Х | 8 | in |
|--------------------|----|-----|----|-------|
| W/ | | (2) | #4 | Cont. |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| Upper Floor | | | | |
|-------------|-----------|------------|---|--------|
| Floor Dead | (17psf) | (18.5ft) | = | 315plf |
| Floor Live | (40psf) | (18.5ft) | = | 740plf |
| | | | | |

| Main Floor | | | | |
|------------|-----------|-----------|---|--------|
| Floor Dead | (17psf) | (9.8ft) | = | 167plf |
| Floor Live | (40psf) | (9.8ft) | = | 393plf |

| Misc | | | | |
|------------|------------|---------------|---|--------|
| Wall Load: | (12psf) | (13.0ft) | = | 156plf |
| Conc Stem: | (145pcf) | (2 x .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) (.0ft) | = | plf |

1964plf

| Use Footing Width: | 18 | Х | 8 | in |
|--------------------|----|-----|----|-------|
| W/ | | (2) | #4 | Cont. |



Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Individual Footing Design

Program: Continuous Footing

Soil Bearing Pressure: 1500psf

| | Roof | | | |
|-----|-----------------|------------|---|---------|
| Roo | f Dead (17psf) | (11.8ft) | = | 200plf |
| Sno | w Live (150psf) | (11.8ft) | = | 1763plf |

| Main Floor | | | | |
|------------|-----------|-----------|---|--------|
| Floor Dead | (17psf) | (8.5ft) | = | 145plf |
| Floor Live | (40psf) | (8.5ft) | = | 342plf |

| Misc | | | | |
|------------|------------|------------|----------------|--------|
| Wall Load: | (12psf) | (13.0ft) | = | 156plf |
| Conc Stem: | (145pcf) | (2 x .7ft) | = | 193plf |
| Misc Load: | (.0ft) | (.0ft) (. | <i>Oft)</i> = | plf |

2272plf

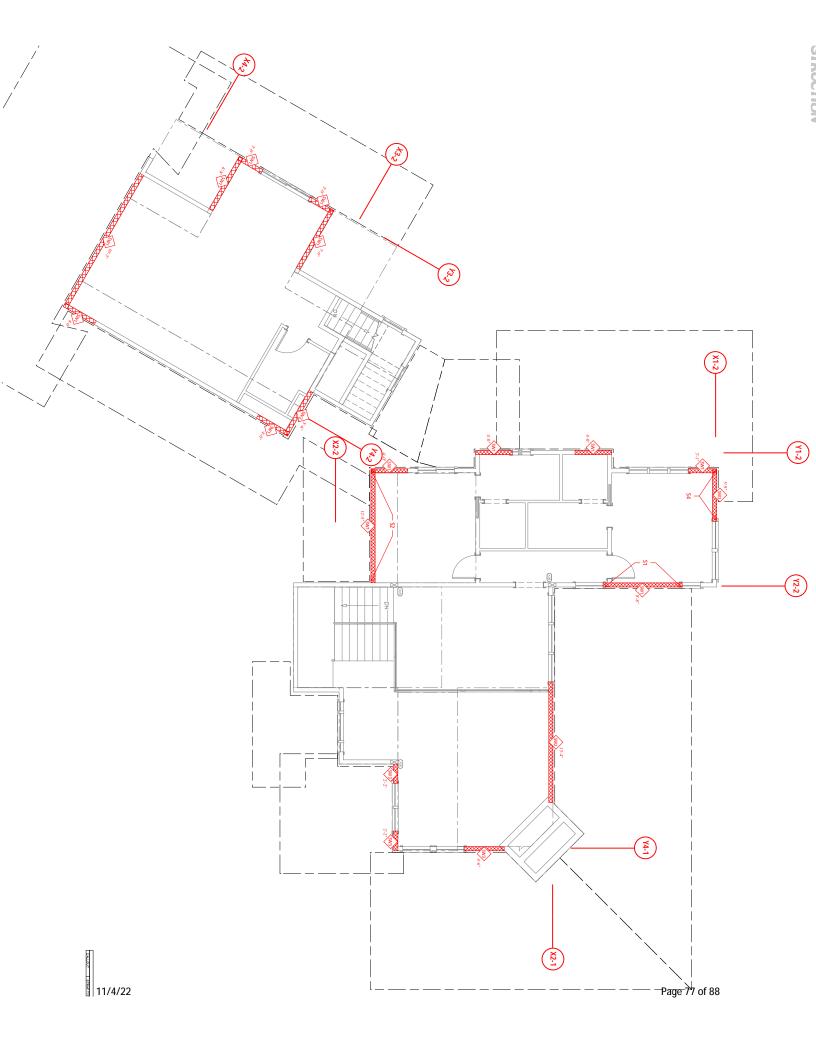
| Use Footing Width: | 24 | Х | 8 | in |
|--------------------|----|-----|----|-------|
| W/ | | (2) | #4 | Cont. |

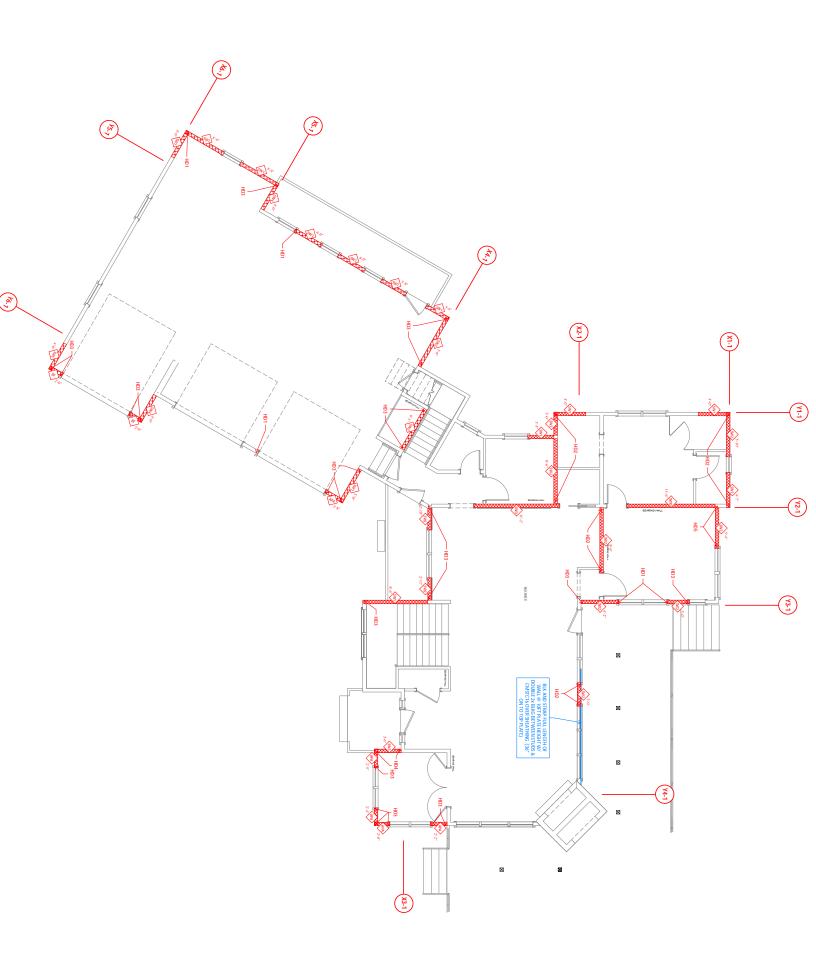
Completed by: JDJ Review/Check: ARA Project Name: Charters Residence SRE Project #: 2022-4218 City and State: McCall, Idaho

Pad Footing Design Capacities

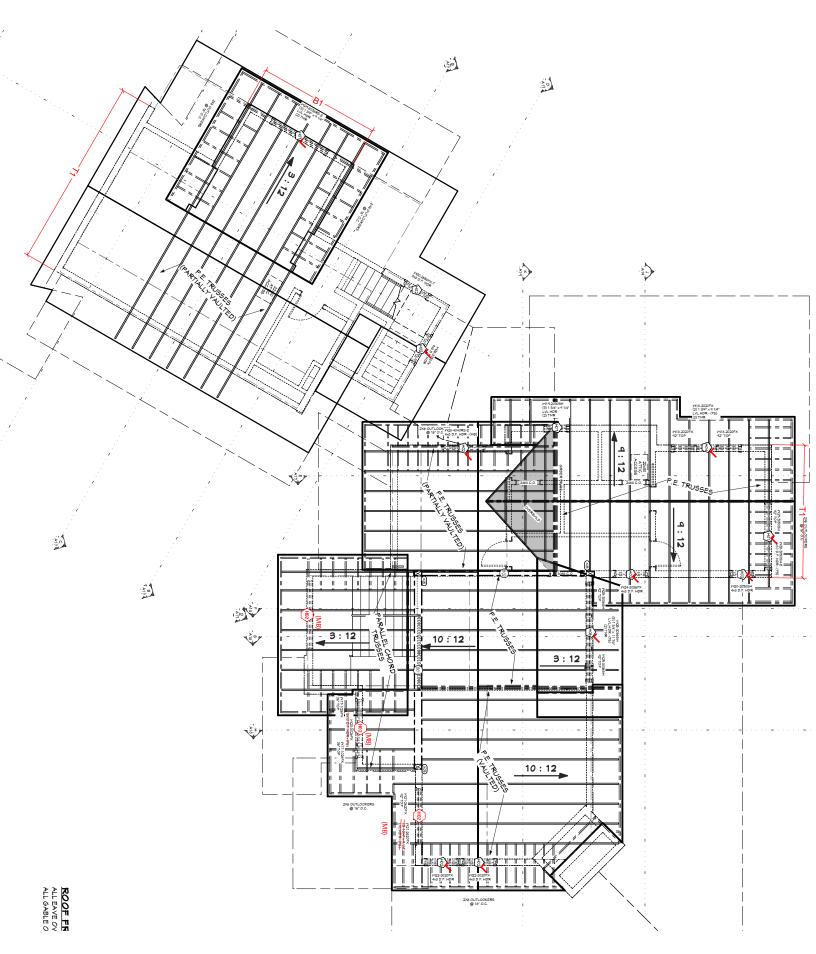
| Soil Bearing (1 | Soil Bearing (1500 psf) | | | | | |
|---------------------|-------------------------|-----------|---------|--|--|--|
| Dimensions (Inches) | Capacity | # of Bars | Size | | | |
| 84 x 84 x 14 | 64,300 lbs | 10 | 8. sq. | | | |
| 72 x 72 x 12 | 47,500 lbs | 8 | 3.5 sq. | | | |
| 66 x 66 x 12 | 39,750 lbs | 8 | 3.5 sq. | | | |
| 60 x 60 x 10 | 33,450 lbs | 6 | 3.5 sq. | | | |
| 54 x 54 x 10 | 27,000 lbs | 5 | 3.5 sq. | | | |
| 48 x 48 x 8 | 21,500 lbs | 4 | 3.5 sq. | | | |
| 42 x 42 x 8 | 16,500 lbs | 4 | 3.5 sq. | | | |
| 36 x 36 x 8 | 12,000 lbs | 4 | 3.5 sq. | | | |
| 30 x 30 x 8 | 8,350 lbs | 3 | 3.5 sq. | | | |
| 24 x 24 x 8 | 5,300 lbs | 2 | 3.5 sq. | | | |
| 18 x 18 x 8 | 2,900 lbs | 2 | 3.5 sq. | | | |

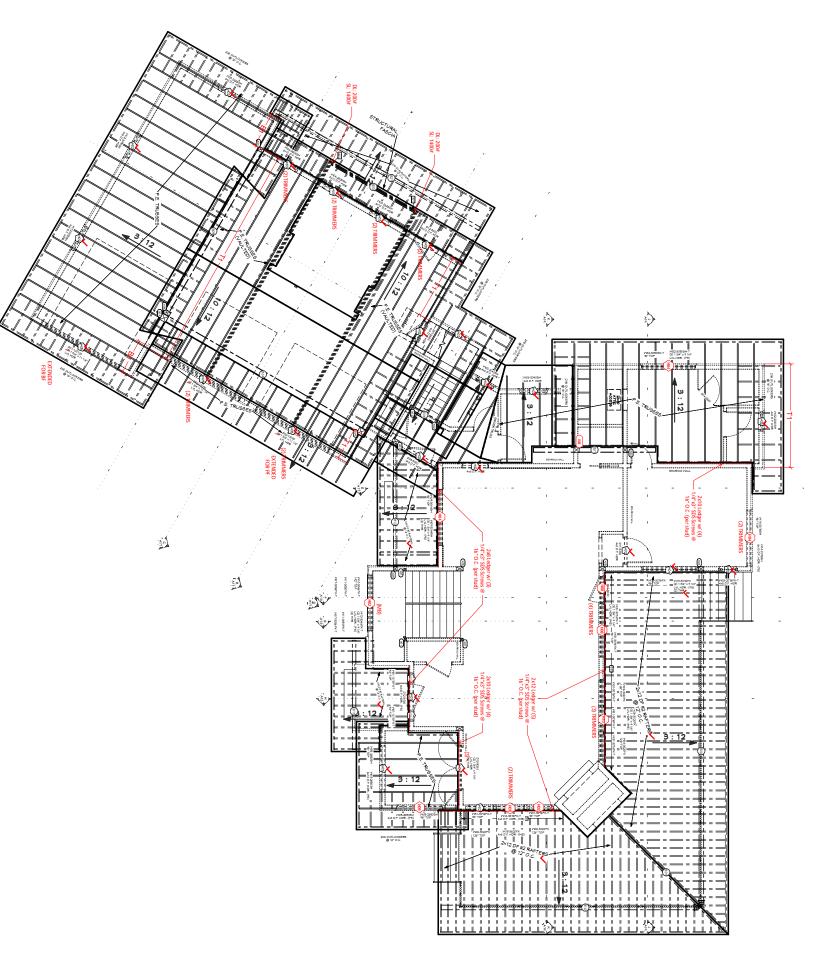
Bars to be 3 1/2" from bottom of pad. Evenly space in both directions.





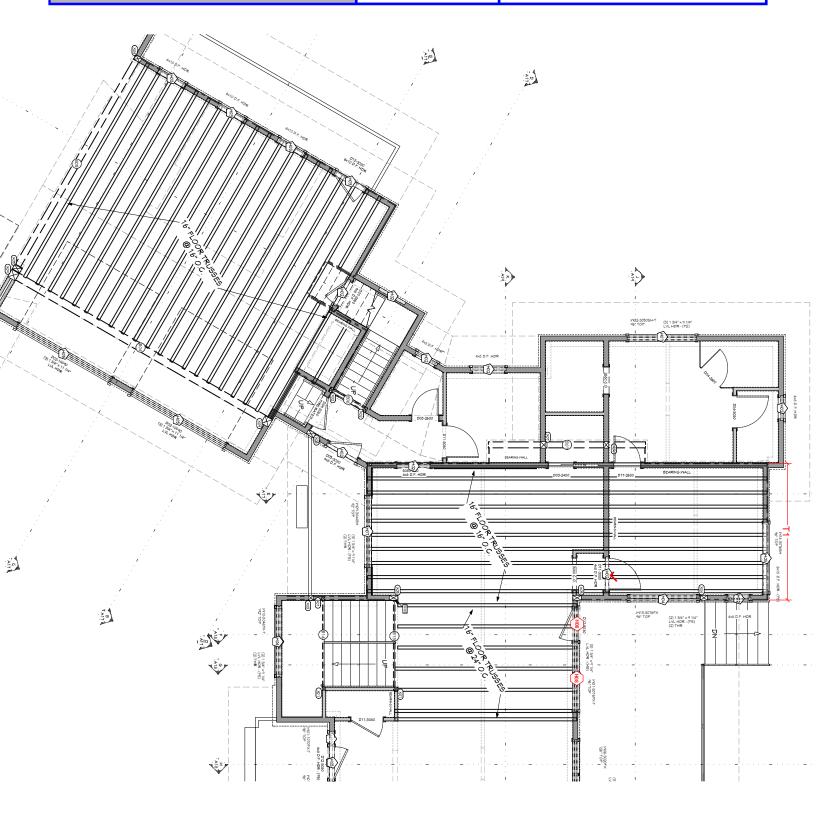
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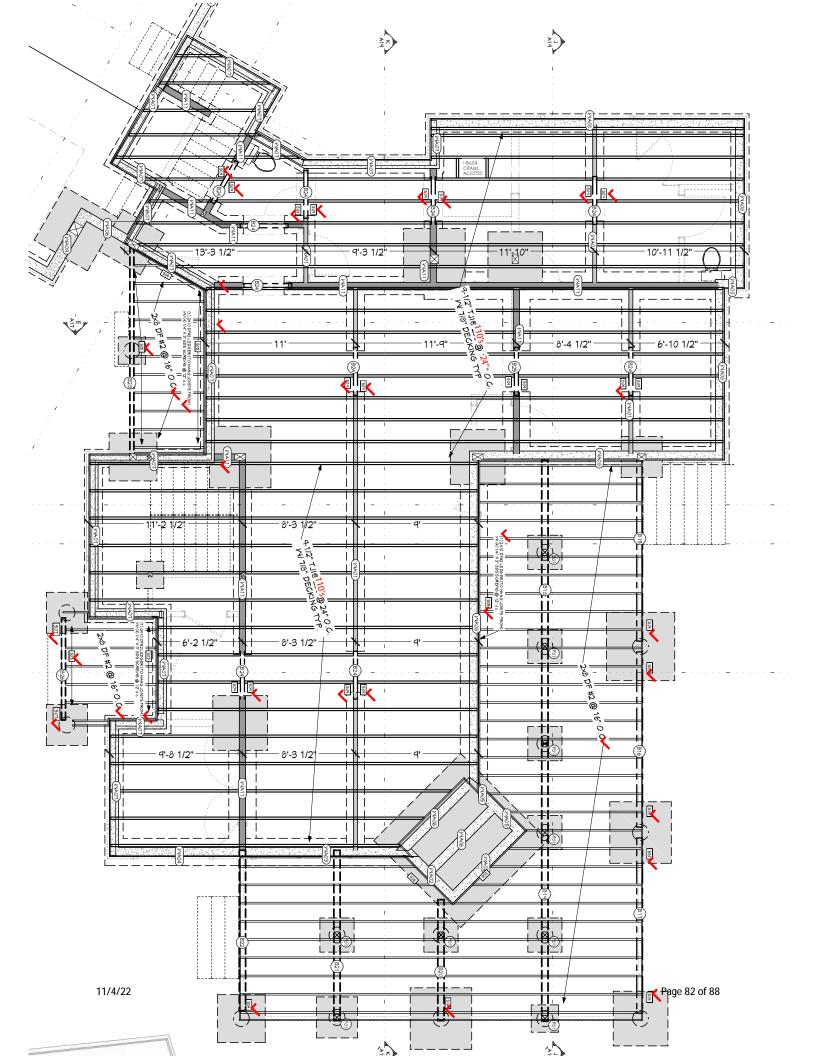


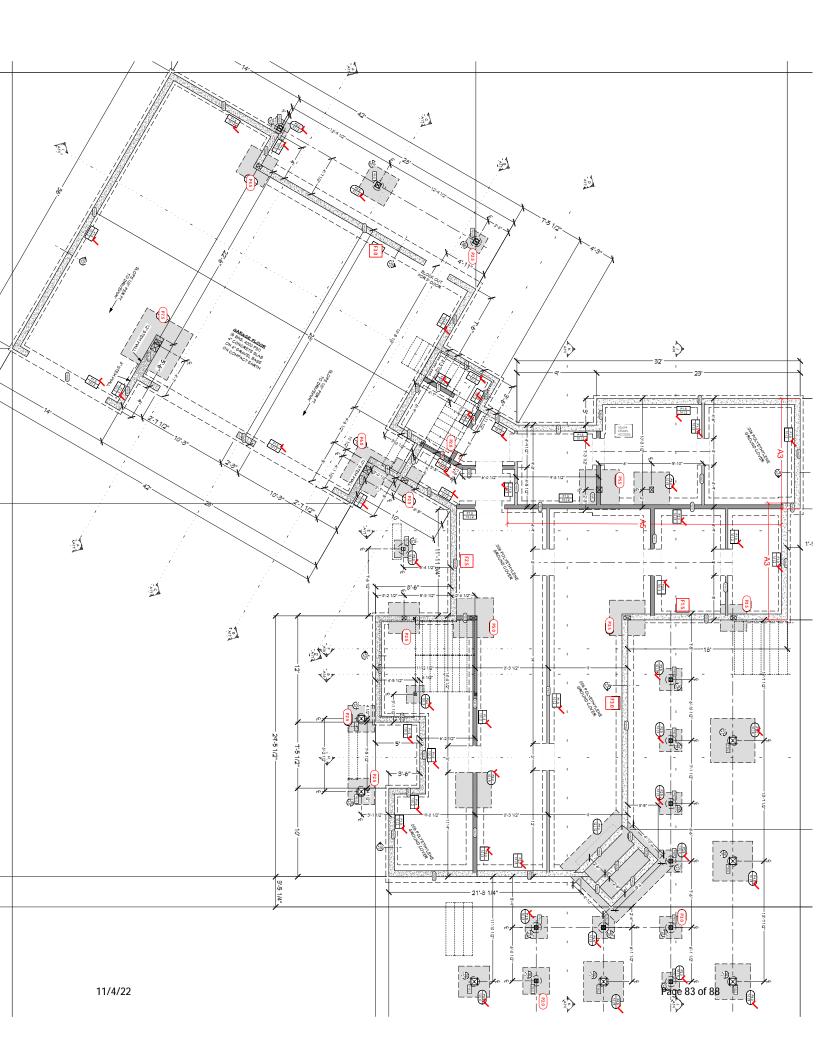




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| | | | BEAM SCHEDULE | | | | | |
|-----|------|--------|--|-------------|---------|---------------------------|---------------------|-------|
| NO. | FLR. | PLY(S) | NOTES | CTR. LG +/- | MIN BRG | T.O. BEAM | B.O. BEAM | CALC# |
| B01 | 2 | 1 | (B-01) 8 3/4 × 21 GLULAM OR BOX GIRDER✓ | 19'-11" | 5 1/2" | 22'-4 1/8" | 20'-7 1/8" | 1 |
| B02 | 2 | 1 | (B-02) 5 1/8 X 15 GLULAM OR BOX GIRDER | 18'-2" | 9 1/2" | 20'-3" | 18'-3" | 2 |
| B03 | 1 | 2 | (B-03) 1 3/4 X 7 1/4 MICROLLAM LYL | 11'-7 3/8" | | 11'-4 5/8" | 10'-9 3/8" | 3 |
| B04 | 1 | 1 | (B-04) 8 3/4 X 36 GLULAM 33 Min. | 28'-4 7/8" | 9 1/2" | 13'-1 1/8" | 10'-1 1/8" | 4 |
| B05 | 1 | 1 | (B-05) 6 3/4 X 27 GLULAM | 23'-5 1/2" | 5 1/2" | 12'-4 1/8" | 10'-1 1/8" | 5 |
| B06 | 1 | 1 | (B-06) 6×10 D.F. #2 6x8 Min. | 4' | 9 1/2" | 10'-10 5/8" | 10'-1 1/8" | 6 |
| B07 | 1 | 1 | (B-07) 6 3/4 × 16 1/2 GLULAM 13 1/2 Min. or (4) 16" LVL | 14'-10 1/2" | | 11'-5 5/8" | 10'-1 1/8" | 7 |
| B08 | 1 | 1 | (B-08) 6 3/4 X 15 GLULAM 13 1/2 Min. | 40'-10 1/2" | 5 1/2" | 9'-5 1/8" | 8'-2 1/8" | 8 |
| B09 | 1 | 1 | (B-08) 6 3/4 X 15 GLULAM 13 1/2 Min. (B-09) 5 1/8 X 13 1/2 GLULAM 12 Min. | 19'-10 1/2" | | 13'-1 3/8" | 11'-11 7/8" | 9 |
| B10 | 1 | 1 | (B-10) 6 3/4 X 15 GLULAM 13 1/2 Min. | 31'-0 3/4" | 5 1/2" | 9'-5 1/8" | 8'-2 1/8" | 10 |
| B11 | 1 | 1 | (B-11) 5 1/8 X 13 1/2 GLULAM 6x12 Min. | 13'-3 3/8" | 5 1/2" | 9'-1 1/8" | 7'-11 5/8" | 11 |
| B12 | 1 | 1 | (B-12) 5 1/8 × 15 1/2 GLULAM 12 Min. | 15'-11 1/8" | 5 1/2" | 9'-11 1/8" | 8'-7 5/8" | 12 |
| B13 | 1 | 2 | (B-13) 1 3/4 X 11 7/8 MICROLLAM LVL | 8'-6 1/2" | | 11'-1" | 10'-1 1/8" | 13 |
| B14 | 1 | 22 | (B-14) 1 3/4 X 11 7/8 MICROLLAM LVL | 8'-9" | | 5 '-9 7 /8" | 4'-10" | 14 |
| B15 | 0 | 1 | (B-15) 5 1/8 X 10 1/2 GLULAM | 13'-2 7/8" | | -0'-11 3/8" | -1'-9 7 /8" | 15 |
| B16 | 0 | 1 | (B-16) 5 1/8 X 10 1/2 GLULAM V | 12'-9 7/8" | | -0'-11 3/8" | -1'-9 7 /8" | 16 |
| B17 | 0 | 1 | (B-17) 5 1/8 X 10 1/2 GLULAM 🗸 | 12'-9 7/8" | | -0'-11 3/8" | -1'-9 7 /8" | 17 |
| B18 | 0 | 1 | (B-18) 6×10 D.F. #2 | 20'-8 7/8" | | -0'-11 3/8" | -1'-8 7 /8" | 18 |
| B19 | 0 | 1 | (B-19) 6×10 D.F. #2 | 20'-3 1/8" | | -0'-11 3/8" | -1'-8 7 /8" | 19 |
| B20 | 0 | 1 | (B-20) 6×10 D.F. #2 | 8'-10 1/8" | | -0'-11 3/8" | -1'-8 7 /8" | 20 |
| B21 | 0 | 1 | (B-21) 6×10 D.F. #2 | 12'-5 1/2" | | -0'-11 3/8" | -1'-8 7 /8" | 21 |
| B22 | 0 | 1 | (B-22) 6X12 D.F. #2 | 11'-8 7/8" | | -0'-11 3/8" | -1'-10 7 /8" | 22 |
| B23 | 0 | 1 | (B-23) 4X10 D.F. #2 | 15'-4 7/8" | | -0'-4 1/8" | -1'-1 3/8" | 23 |
| B24 | 0 | 10 | (B-24CS) 4X10 D.F. #2 (CRAWL SPACE HDRS) (1 PLY) | | | -0'-0 3/4" | -0'-10" | 2405 |
| B25 | 0 | 1 | (B-25) 4X10 D.F. #2 🗸 | 3'-6" | | -0'-0 3/4" | -0'-10" | 25 |
| B26 | 0 | 1 | (B-26) 4X10 D.F. #2 | 7'-5 5/8" | | -0'-4 1/8" | -1'-1 3/8" | 26 |
| B27 | 1 | 1 | (B-27) 5 1/8 X 13 1/2 GLULAM 12 Min. | 28'-10 7/8" | 5 1/2" | 8'-5 1/8" | 7'-3 5/8" | 27 |

| H | HEADER SCHEDULE | | | | |
|-----|------------------------|--|--|--|--|
| NO. | TYPE | | | | |
| H01 | (1) 4×10 D.F. | | | | |
| H02 | (1) 4×8 D.F. | | | | |
| H03 | (1) 6×10 D.F. | | | | |
| H04 | (2) 1 3/4 × 9 1/2 LVL | | | | |
| H05 | (2)1 3/4 x 11 7/8 LVL | | | | |
| H06 | (3) 1 3/4 × 11 7/8 LVL | | | | |
| H07 | (3) 1 3/4 X 9 1/2 LVL | | | | |

H08 (3) 1 3/4 x 16 LVL H09 (2) 2x12 DF #2 H10 (3) 1 3/4 x 14 LVL

| | HANGER SCHEDULE | | | | | | |
|---------|-----------------|-----------|-------------|--------------------|---------------------|--|--|
| CALLOUT | MODEL | TOP NAILS | SEAT LG. | MEMBER NAILS | FACE NAILS | | |
| 501 | HU548 | N/A | 2.50" | (6) 0.162 × 3.5 | (6) 0.162 × 3.5 | | |
| 502 | HUCQ1.81/11-5D5 | N/A | 3.00" | (4) 1/4 × 1.75 SDS | (10) 1/4 × 1.75 SDS | | |
| 503 | FAB HGR 2 | N/A | 3.875" | 2 - 3/4 X THRU | 12 - 1/2" X 3" LAG | | |
| 504 | HUCQ5.25/11-SDS | N/A | 2.50" | (6) 1/4 × 2.5 SDS | (14) 1/4 × 2.5 SDS | | |
| 505 | LUS28 | N/A | 1.75" | 3-10D | 6-10DX1.5 | | |
| 506 | SUL26 | N/A | 2.50" | (6) 0.162 × 3.5 | (6) 0.162 × 3.5 | | |
| 507 | HUC410 | N/A | 2.50" | (6) 0.148 × 3 | (14) 0.162 × 3.5 | | |
| 508 | U210 | N/A | 2" | (6) 0.148 × 3 | (10) 0.162 × 3.5 | | |
| 509 | IUS1.81/9.5 | N/A | 2.00" | (6) 0.148 × 1.5 | (14) 0.148 × 3.5 | | |

| | POST SCHEDULE | | | | | | |
|-----|---------------|------|---------------|--|--|--|--|
| NO. | QTY | FLR. | NOTES | | | | |
| P01 | 11 | 0 | 6X6 D.F. #2 | | | | |
| P02 | 7 | 1 | 10X10 D.F. #2 | | | | |
| P03 | 3 | 1 | 8X8 D.F. #2 | | | | |

| | BEARING SCHEDULE | | | | | |
|---|------------------|-------------------------|--|--|--|--|
| | NO. | BEARING AREA (X) | | | | |
| | X01 | 3 1/2" × 3 1/2" | | | | |
| | X02 | 5 1/2" × 3" | | | | |
| | X03 | 5 1/2" × 5 1/2" | | | | |
| | X04 | 5 1/2" × 7 1/2" | | | | |
| | X05 | 5 <u>1</u> /2" × 9 1/2" | | | | |
| 1 | X07 | 7 1/2" × 7 1/2" | | | | |
| | X08 | 9 1/2" × 5 1/2" | | | | |
| | X09 | 9 1/2" X 9 1/2" | | | | |

All Bearing to have solid bearing to foundation

Completed by: JDJ Review/Check: ARA

Project Name: Charters Residence **SRE Project** #: 2022-4218 City and State: McCall, Idaho

| | PAD FOOTING SCH | 1EDULE | |
|-----------------|--------------------|--------------------|-----|
| CALLOUT | FOOTING SIZE | REINFORCEMENT | QTY |
| P2.0 10 3 | 24" X 24" X IO" | (3) #4 REBAR E.W. | 4 |
| P2.5 10 3 | 30" X 30" X 10" | (3) #4 REBAR E.W. | 7 |
| P3.0 10 4 | 36" X 36" X 10" | (4) #4 REBAR E.W. | 3 |
| P3.5 10 4 | 42" X 42" X 10" | (4) #4 REBAR E.W. | 5 |
| P4.0 10 5 | 48" X 48" X 10" | (5) #4 REBAR E.W. | 4 |
| P4.5 10 5 | 54" X 54" X IO" | (5) #4 REBAR E.W. | 5 |
| P5.0 10 6 | 60" X 60" X 10" | (6) #4 REBAR E.W. | 1 |
| P6.0 12 8 | 72" X 72" X I 2" | (8) #4 REBAR E.W. | 1 |
| P9.0 12 12 | 108" X 108" X 12" | (12) #4 REBAR E.W. | 1 |
| P7.5 | 90" x 90" x 14" (1 | 4) #4 REBAR E.W. | |

CONTINUOUS FOOTING SCHEDULE (ALL FOOTINGS "F1.3" UNO)

(3) #4 CONT. REBAR

CALLOUT FOOTING SIZE REINFORCEMENT

30" X 10"

F1.3 16" X 10" (2) #4 CONT. REBAR

F2.0 10 | 3 24" X I O" (3) #4 CONT. REBAR F2.5 10 | 3

36" x 10" (3) #4 CONT. REBAR F3.0



Completed by: JDJ Review/Check: ARA

| | | | OSB SHEAR | WALL | SCHEDULE: | | |
|-----------|--------------------|------------------|------------------------------------|------|-------------------------------------|------|---|
| MARK | SHEATHING | SIDES OF WALL | SHEET NAILING PERIMETER / FIELD | | SHEET STAPLING PERIMETER / FIELD | BLKG | NAILING (UNO) BOTTOM PLATE INTO RIM |
| SW1 | 7/16" APA RATED | 1 | 8d @ 6 / 12 | OR | 16ga x 1-1/2" @ 3 / 12 | YES | (2) 16d NAILS PER 16" BAY |
| SW2 | 7/16" APA RATED | 1 | 8d @ 4 / 12 | OR | 16ga x 1-1/2" @ 2 / 12 | YES | (3) 16d NAILS PER 16" BAY |
| SW3 | 7/16" APA RATED | 1 | 8d @ 3 / 12 | | | YES | (4) 16d NAILS PER 16" BAY |
| SW4 | 7/16" APA RATED | 1 | 8d @ 2 / 12 | , | UDS @ SHEATHING PERIMETER) | YES | (4) SDS SCREWS PER 16" BAY |
| APA | 7/16" APA RATED | 1 | 8d @ 3 / 12 | | TESTED PORTAL AME ASSEMBLY | YES | (SEE ATTACHED DETAIL) |
| BF | 7/16" APA RATED | 2 | 8d @ 3 / 3 | | GINEERED BRACE AME ASSEMBLY | YES | (SEE ATTACHED DETAIL) |
| | | | GYP. SHEAR | WALL | SCHEDULE: | | |
| SWD | 1/2" GYP. BOARD | 2 | 5d COOLER @ 6 / 6 | | | NO | (2) 16d NAILS PER 16" BAY |
| TYP. NOTI | | | | | | | |

- 1 ALL SHEATHING PANEL EDGES SHALL BE BLOCKED UNO
- 2 PROVIDE SAME NAILING PATTERN ABOVE AND BELOW OPENINGS AS ADJACENT SHEAR PANEL.
- 3 ALL EXTERIOR WALLS SHALL BE SHEARWALL "SW1" WITHOUT BLKG UNO
- 4 FASTEN GABLE/RIM TO SHEAR WALLS BELOW W/ 10d TOENAILS @ 12" O.C. UNO
- 5 FASTEN TRUSS HEELS TO SHEAR WALLS W/ H2.5A AND (2) 10d TOENAILS @ EACH
- 6 GYP BOARD SHEAR WALLS MAY BE SUBSTITUTED WITH AN SW1 SHEAR WALL @ CONTRACTOR'S OPTION
- 7 WALL SHEATHING CAN BE APPLIED TO EITHER SIDE OF THE WALL. (UNLESS NOTED OTHERWISE)



Completed by: JDJ Review/Check: ARA

| | HOLDOWN SCHEDULE: | | | | | | | |
|------|------------------------------|---------------------|---------------|----|--|---------------|-------------------------|--|
| MARK | STRAP TYPE | STRAP FASTENERS | # OF STUDS | | ANCHOR BOLT | # OF STUDS | FASTENERS | |
| HD1 | LSTHD8 OR LSTHD8RJ W/ RIM | (20) 16d SINKERS | 2 | OR | DTT2Z W/1/2 Ø x10" | 2 | (8) 1/4"x1-1/2" SDS | |
| HD2 | STHD10 OR STHD10RJ W/ RIM | (24) 16d SINKERS | 2 | OR | HDU2- SDS2.5 W/ SB5/8x24 OR PAB5 @ INT. PONY WALLS | 2 | (6) 1/4"x2-1/2" SDS | |
| HD3 | STHD14 OR STHD14RJ W/ RIM | (30) 16d SINKERS | 2 | OR | HDU5-SDS2.5 W/ SB5/8x24 OR PAB5 @ INT. PONY WALLS | 2 | (14) 1/4"x2-1/2" SDS | |
| HD4 | - | | | | HDU8-SDS2.5 W/ SB7/8x24 OR PAB7 @ INT. PONY WALLS | 3 | (20) 1/4"x2-1/2" SDS | |
| HD5 | - | | | | HDU11-SDS2.5 W/ SB1x30 OR PAB8 @ INT. PONY WALLS | 4 | (30) 1/4"x2-1/2" SDS | |

| | STRAP SCHEDULE: (STRAP / ALL THREAD TO CLEAR SPAN ACROSS RIM TO WALL BELOW) | | | | | | |
|-----------|---|---------------------|---|----|--|---|-------------------------|
| S1 | MSTC28 | (16) 16d SINKERS | 2 | OR | DTT2Z W/ 1/2" Ø ALL THREAD | 2 | (8) 1/4"x1-1/2" SDS |
| S2 | MSTC40 | (32) 16d SINKERS | 2 | OR | HDU2-SDS2.5 W/ 5/8" Ø ALL THREAD | 2 | (6) 1/4"x2-1/2" SDS |
| S4 | MSTC66 | (68) 16d SINKERS | 2 | OR | HDU8-SDS2.5 W/ 7/8" Ø ALL THREAD | 3 | (20) 1/4"x2-1/2" SDS |

| | ANCHOR BOLT KEY NOTES: | | | | | |
|----|------------------------|-------------------------------|--|--|--|--|
| А3 | - | 1/2"Ø ANCHOR BOLTS @ 36" O.C. | | | | |
| Α4 | - | 1/2"Ø ANCHOR BOLTS @ 48" O.C. | | | | |
| A5 | - | 1/2"Ø ANCHOR BOLTS @ 60" O.C. | | | | |



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| | BLOCKING KEY NOTES: | | | | | |
|---------|---|---|-----------------------|------|--|--|
| MARK | | | DESCRIPTION | | | |
| B1 | - | FULL HEIGHT BLOCKING BETW W/ (6)10d TOENAILS FROM B NAIL ROOF SHEATHING TO BL | LOCKING TO TOP PLATE, | BAYS | | |
| TYP. NO | TES: | • | | | | |
| | 1 FASTEN GABLE/RIM TO SHEAR WALLS BELOW W/ 10d TOENAILS @ 12" O.C. UNO 2 FASTEN TRUSS HEELS TO SHEAR WALLS W/ H2.5A AND (2) 10d TOENAILS @ EACH | | | | | |

| | GABLE / DRAG TRUSS OR RIM KEY NOTES: |
|----|---|
| T1 | ATTACH GABLE / DRAG TRUSS OR RIM TO TOP PLATE W/ 10d TOENAILS @ 6" O.C., EDGE NAIL SHEATHING ABOVE TO TRUSS OR RIM |