

Project: 52 Pebble Beach Point

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Date: 03-01-23

By: K. MacPeck



### Design Loads 2018 IRC

$$\text{Roof} \cdot 20 \text{ LL} + 15 \text{ DL} = 35 \text{ psf}$$

$$10 \text{ LL} + 7 \text{ DL} = 17 \text{ psf (CJs only)}$$

### Roof Framing

#### Rafters

existing 2x8s, 2x10s @ 16"9c as indicated  
no work

#### Ceiling Joists

existing 2x6s, 2x8s, 2x10s @ 16"9c as indicated  
no work

#### Ceiling Beams

$$\text{CB-1} \quad w_{TL} = 11.85 \times 35 + 10 \times 8 + 15 = 510 \text{ plf}$$

$$L = 10.7 \text{ ft}$$

$$R = 2728 \text{ lbs}$$

$$M_{\text{max}} = 87585 \text{ in-lbs} \quad S_{x \text{ reqd}} = 31.3 \text{ in}^3$$

$$\Delta_{\text{max}} = 4360 = 0.36" \quad I_{x \text{ reqd}} = 209 \text{ in}^4$$

Use: (2) 1<sup>3</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>4</sub>" LVLs

$$\text{CB-2} \quad P = 2728 \text{ lbs}$$

$$w_{TL1} = \frac{16}{12} \times 17 + 35 = 58 \text{ plf}$$

$$w_{TL2} = \frac{8}{12} \times 17 + 10 \times 8 + 35 = 126 \text{ plf}$$

$$w_{TL3} = \frac{18}{12} \times 17 + 2.6 \times 8 + 35 = 67 \text{ plf}$$



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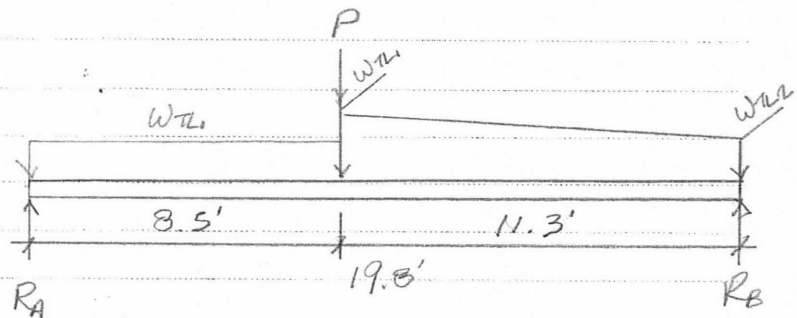
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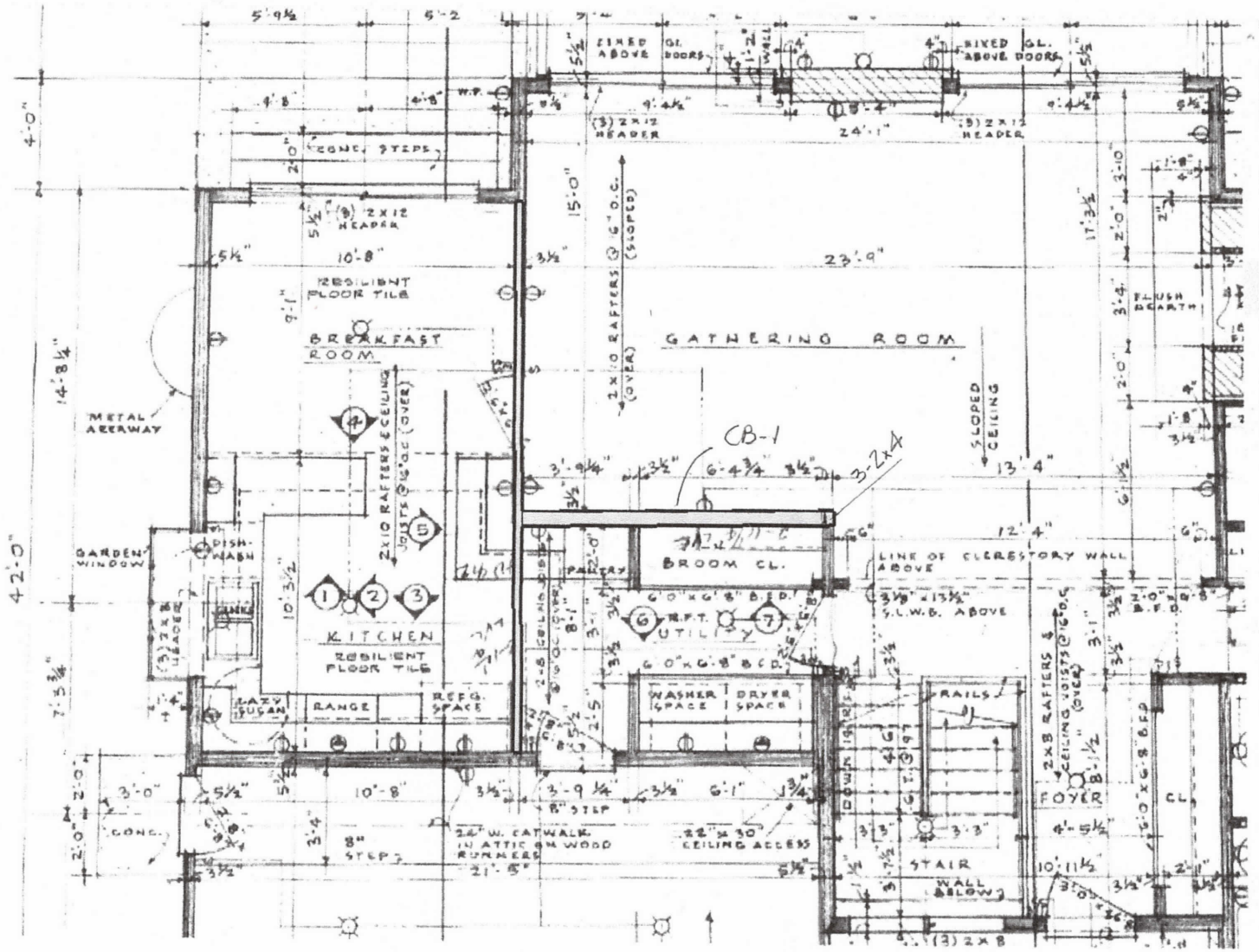
$R_A = 2287 \text{ lbs}$   
 $R_B = 2025 \text{ lbs}$   
 $M_{max}^+ = 208125 \text{ in-lbs}$   
 $S_{x_{reqd}} = 74.3 \text{ in}^3$   
 $\Delta_{max} = \frac{1}{640} = 0.37''$   
 $I_{x_{reqd}} = 1404 \text{ in}^4$   
Use: (3)  $1\frac{3}{4}'' \times 16''$  LYLs



1<sup>st</sup> Floor Framing

Note: Provide 3"  $\phi$  x 11Ga Adj. Pipe column in basement below 3-2x4 post above. Support the new pipe column with a 24" x 24" x 12" unreinforced concrete pad in floor.





Beam CB-1 (2) 1<sup>3</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>4</sub>" LVLs  
 Beam CB-2 (3) 1<sup>3</sup>/<sub>4</sub>" x 16" LVLs  
 Hanger: Simpson HU41Z

