CHORD MEMBER #7 (CONTD.)

Applicable Moment = 4,275,000 in lbs. f_y = 36,000 psi

f_s = 22,000 psi

f_{sc} = ——— psi

D_t = 33.00 in.

B_{eff} = 64.00 in.

t = 4.00 in.

y_1 = 2.00 in. d_2 = 5.25 in.

y_2 = 4.44 in. d_3 = 22.76 in.

y_3 = 22.15 in. c_1 = 7.67 in.

d_1 = 7.69 in. c_2 = 23.31 in.

$$I_s = \sum [(\bar{I}_c + A_c d_1^2) + (I_{TCA} + A_{TCA} d_2^2) + I_{BCA} + A_{BCA} d_3]$$

$$\bar{y} = \frac{\sum (A_c y_1 + A_{TCA} y_2 + A_{BCA} y_3)}{\sum (A_c + A_{TCA} + A_{BCA})}$$

$\bar{y}$ = 9.69 in.

I_s = 4560 in.^{4} (2C32T3)

Resisting Moment = $f_s \times \frac{\bar{I}_s}{c_2}$ = 4,275,000 in lbs

Use 4 - 3" x 2" x 0.33" 4's Area = 6.62 sq. in.

Composite Design Top Chord Check

Total Load Design f_c = 3,000 psi

Applicable Moment = 4,275,000 in. lbs. f'_c = 1,350 psi

$$f'_{cc} = \frac{Mc_1}{15\bar{I}_s} = 605 \text{ psi}$$

CHORD MEMBER #8 Consists of 4 - 2" x 1½" x 0.25" Angles

Area = 3.60 sq. in.

(SAME AS MEMBER 6)