



Dann, NC  
 Design Wind Speed  
 $V_{ult} = 118 \text{ mph}$   
 $V_{des} = 93 \text{ mph}$   
 Allowable Soil Pressure -  $3000 \text{ psf}$   
 $g_z = 0.00256 K_1 K_2 K_3 K_4 Z$   
 $K_1 = 1.0, K_2 = 1.57, K_3 = 1, K_4 = 1$   
 $g_z = 0.00256 (1.0)(1.57)(1)(1) 7.94 = 0.011 \text{ ksf}$   
 $F = g_z G C F \quad G = 0.81$   
 $C_F = s/h = 1 \quad B/S = e/12 = 0.61$   
 $C_F = 1.52$

Soil

$$S = \frac{12M}{A^2 b} + \frac{6B}{Ab}$$

Tri,  $A = 5$   
 $b = 2$

$$S = \frac{12 \times 7.64}{5^2 \times 2} + \frac{6 \times 1.13}{5 \times 2}$$

$$= 2.77 \text{ ksf} < 3 \text{ OK}$$

$$F = 0.011 (1.52) 1.52 A = 0.04 A$$

$$F_1 = 0.04 \times 8.12 \times 8 = .91 \text{ k}$$

$$M_1 = .91 \times 7.94 = 7.22 \text{ k-ft}$$

$$F_2 = 0.04 \times 3.02 \times 4 = .22 \text{ k}$$

$$M = .22 \times 3.02 \times 1/2 = .42 \text{ k-ft}$$

$$F = 1.13 \text{ k}$$

$$M = 7.64 \text{ k-ft}$$

$$HSS 6 \times 6 \times 3/16 S = 7.42 \text{ in}^2$$

$$f = 7.64 \times 12 / 7.42 = 125 \text{ ksi}$$

