64. $F_a = (1450\ \text{N/m}^2)(70\ \text{m})(200\ \text{m}) = 2.00\times10^7\ \text{N}$.

Calculate torque about the potential pivot point, the lower rear edge of the building.

$\tau_a = (2.00\times10^7\ \text{N})(100\ \text{m}) = 2.00\times10^9\ \text{Nm}$, $\tau_w = (1.8\times10^8\text{N})(20\ \text{m}) = 3.6\times10^9\ \text{Nm}$.

So it will $\boxed{\text{not tip over}}$. But it is very close. A safety factor of two or more would be better.

65. $\theta = \tan^{-1}\left(\frac{3.4\ \text{m}}{24\ \text{m}}\right) = 8.06°$, $T_1 = T_2 = T$,

$\Sigma F_y = T\sin\theta + T\sin\theta - mg = 0$, $\Rightarrow$ $T = \frac{mg}{2\sin\theta} = \frac{(60\ \text{kg})(9.80\ \text{m/s}^2)}{2\sin8.06°} = \boxed{2.1\times10^3\ \text{N}}$.

$\boxed{\text{No}}$. There will always be some sag.

67. Just before tipping over, the CG must be within the base.

$\tan\theta = \frac{1.2\ \text{m}}{2.2\ \text{m}} = 0.545$, $\Rightarrow$ $\theta = \boxed{29°}$.

71. (a) When the beam tips, it rotates about B and $F_A = 0$.

Calculate torque about B.

$\Sigma\tau_B = (600\ \text{N})(5.0\ \text{m}) - w(5.0\ \text{m}) = 0$, $\Rightarrow$ $w = \boxed{600\ \text{N}}$.

(b) $F_A = \boxed{0}$, $F_B = 600\ \text{N} + w = \boxed{1200\ \text{N}}$.

(c) Calculate torque about B again.

$\Sigma\tau_B = (600\ \text{N})(5.0\ \text{m}) - F_A(12.0\ \text{m}) - (600\ \text{N})(2.0\ \text{m}) = 0$, $\Rightarrow$ $F_A = \boxed{150\ \text{N}}$,

$F_B = 600\ \text{N} + w - F_A = \boxed{1050\ \text{N}}$.

(d) Calculate torque about B again.

$\Sigma\tau_B = (600\ \text{N})(5.0\ \text{m}) - F_A(12.0\ \text{m}) + (600\ \text{N})(10.0\ \text{m}) = 0$, $\Rightarrow$ $F_A = \boxed{750\ \text{N}}$,

$F_B = 600\ \text{N} + 600\ \text{N} - 750\ \text{N} = \boxed{450\ \text{N}}$.