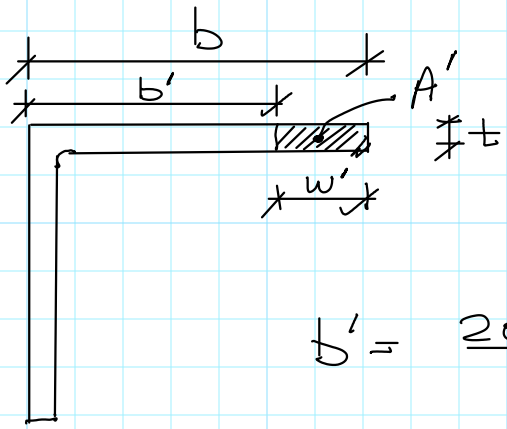
CIVE 3205

Example C4B

Built-Up Sections (Double Angle Struts)

March 2012, 2013

Page 4-142 & 4-143 of the handbook contains an example much like example C4. One difference is that it is subject to elastic local buckling. An effective area is calculated by the provisions of 13.3.5(a):



$$\frac{b}{t} > \frac{200}{\sqrt{F_y}}$$

$$b' = \frac{200t}{\sqrt{F_y}}$$

$$w' = b - b'$$

$$= b - \frac{200}{\sqrt{F_y}}t$$

$$= \left(\frac{b}{t} - \frac{200}{\sqrt{F_y}}\right)t$$

$$A' = w't$$

$$= \left(\frac{b}{t} - \frac{200}{\sqrt{F_y}}\right)t^2$$

$$A_e = A - A'$$

explanation of computation of A_e in part B

(remember, there are 2 angles and both legs of each exceed the limit)