CIVE 3205
Example AC42
Built-Up Sections
(Double Angle Struts)
(Note on Handbook Design Example)

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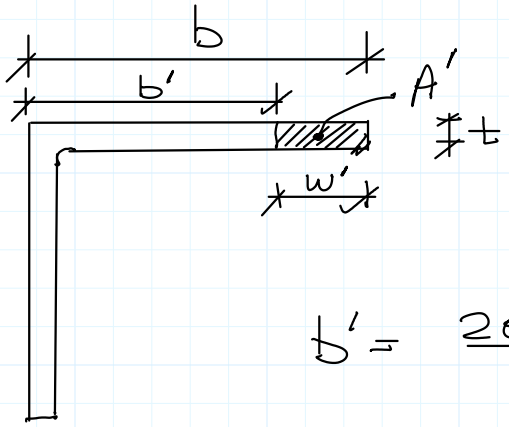
Revisions:

- Feb26/20: new posting.

Page 4-150 & 4-151 of the handbook contains an example much like example AC40. 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)