CODE

18.6.2 *Dimensional limits*

18.6.2.1 Beams shall satisfy (a) through (c):

(a) Clear span ℓ_n shall be at least $4d$
(b) Width b_w shall be at least the lesser of $0.3h$ and 250 mm
(c) Projection of the beam width beyond the width of the supporting column on each side shall not exceed the lesser of c_2 and $0.75c_1$.

COMMENTARY

R18.6.2 *Dimensional limits*

Experimental evidence (Hirosawa 1977) indicates that, under reversals of displacement into the nonlinear range, behavior of continuous members having length-to-depth ratios of less than 4 is significantly different from the behavior of relatively slender members. Design rules derived from experience with relatively slender members do not apply directly to members with length-to-depth ratios less than 4, especially with respect to shear strength.

Geometric constraints indicated in 18.6.2.1(b) and (c) were derived from practice and research (ACI 352R) on reinforced concrete frames resisting earthquake-induced forces. The limits in 18.6.2.1(c) define the maximum beam width that can effectively transfer forces into the beam-column joint. An example of maximum effective beam width is shown in Fig. R18.6.2.

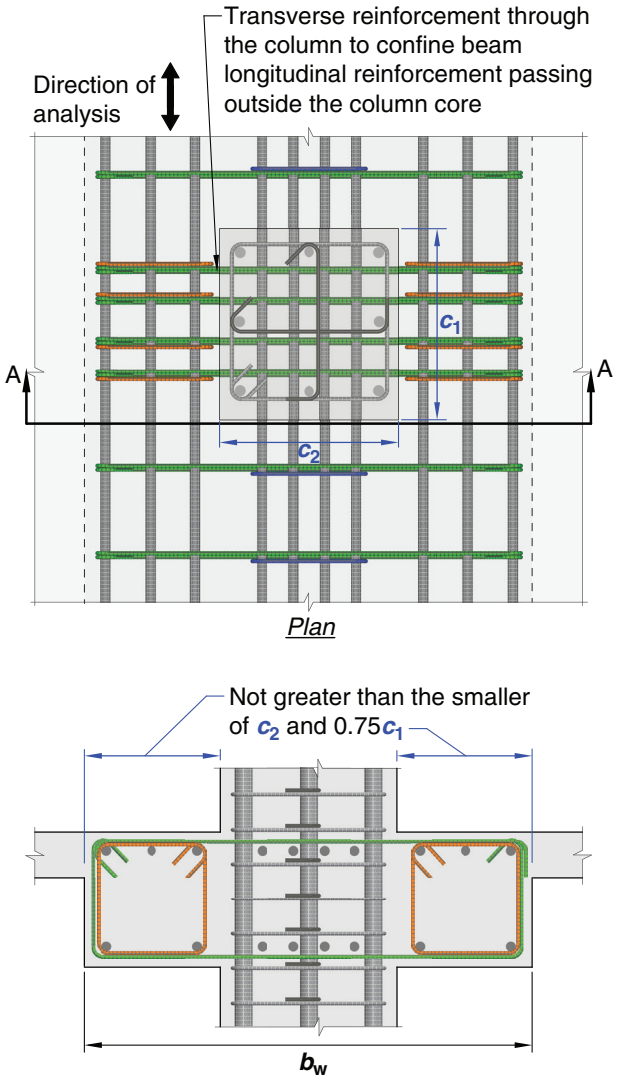

***Fig. R18.6.2**—Maximum effective width of wide beam and required transverse reinforcement.*