CODE

COMMENTARY

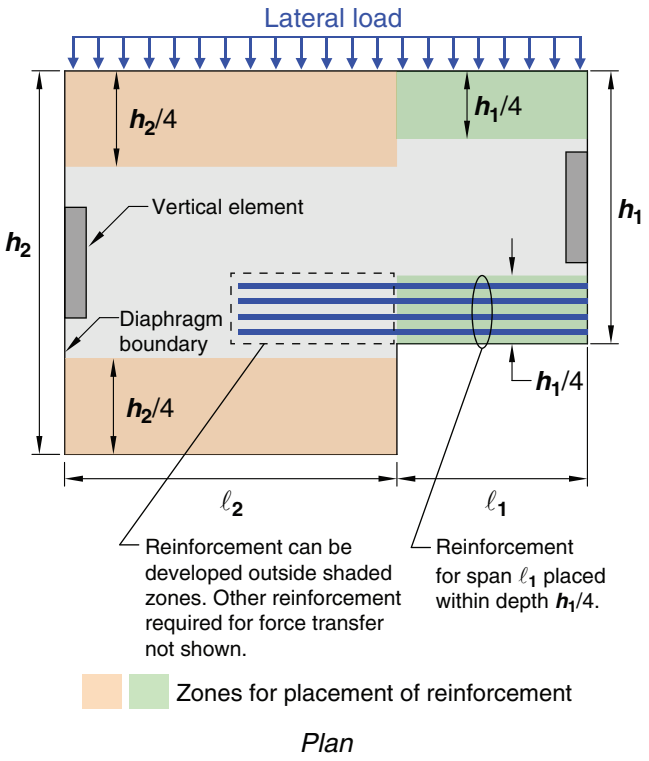

***Fig. R12.5.2.3**—Locations of nonprestressed reinforcement resisting tension due to moment and axial force according to 12.5.2.3.*

12.5.2.4 Mechanical connectors crossing joints between precast elements shall be designed to resist required tension under the anticipated joint opening.

R12.5.2.4 In an untopped precast diaphragm resisting in-plane forces and responding in the linear range, some joint opening (on the order of 2.5 mm or less) should be anticipated. A larger joint opening may occur under earthquake motions exceeding the design level. Mechanical connectors should be capable of maintaining design strength under the anticipated joint opening.

12.5.3 *Shear*

R12.5.3 *Shear*

12.5.3.1 This section shall apply to diaphragm in-plane shear strength.

R12.5.3.1 These provisions assume that diaphragm shear flow is approximately uniform over the diaphragm depth, as is the case where design is in accordance with 12.5.1.3(a). Where alternative approaches are used, local variations of in-plane shear through the diaphragm depth should be considered.

12.5.3.2 ϕ shall be 0.75, unless a lesser value is required by 21.2.4.

R12.5.3.2 A lower strength reduction factor may be required in Seismic Design Categories D, E, or F, or where special systems for earthquake resistance are used.

12.5.3.3 For a diaphragm that is entirely cast-in-place, V_n shall be calculated by Eq. (12.5.3.3).

$$V_n = A_{cv}(0.17\lambda\sqrt{f'_c} + \rho_t f_y) \qquad (12.5.3.3)$$

R12.5.3.3 This provision was adapted from the earthquake-resistant design provisions of 18.12.9. The term A_{cv} refers to the cross-sectional area of the effective deep beam that forms the diaphragm.