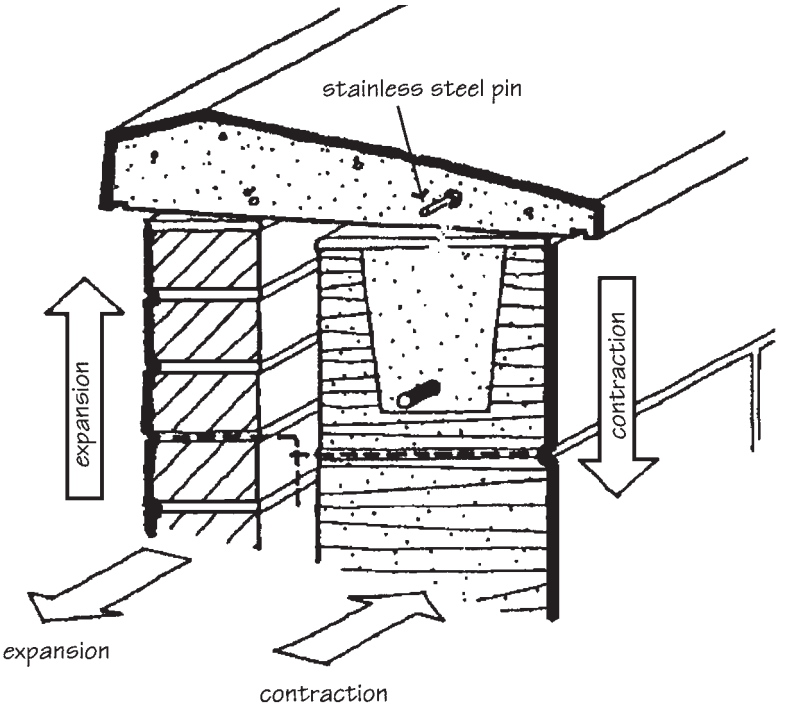

Brick, concrete masonry and precast concrete have different expansion and contraction characteristics which can cause cracking and separation of mortar joints in a masonry coping. The mortar joints between precast coping units should be raked out and filled with a sealant and bond breaker to provide better resistance to the penetration of rain or melting snow.

It is also difficult to mechanically anchor coping units without compromising the integrity of the flashing membrane. In high wind areas, coping units should be as large and heavy as practical to resist wind uplift. For additional wind resistance, adjacent units can also be linked together by inserting stainless steel pins into holes drilled into the head joints.

Figure 10-57 Differential movement in parapets which combine brick, concrete masonry, and precast concrete or cast stone.

later trimmed flush, with a sealant joint installed below. Rubber flashing and bituminous flashings that cannot be exposed to sunlight may also be installed with a separate metal drip. Flashing that is stopped short of the face permits moisture to flow around and underneath, where it can pool in the cores of the brick or block, or enter the cavity of the wall below.

Shelf angle joints can be quite wide, so special detailing is sometimes used to minimize their visual impact. Some manufacturers make special-shaped "lintel brick," with a lip designed to fit down over the end of the angle and reduce the joint width. Using the lipped unit on top of the shelf angle creates an offset that is difficult for the flashing membrane to conform to, so many architects prefer to use the lipped unit in the course below the angle so that flashing installation is easier (*see Fig. 10-64A*). Lipped units should be

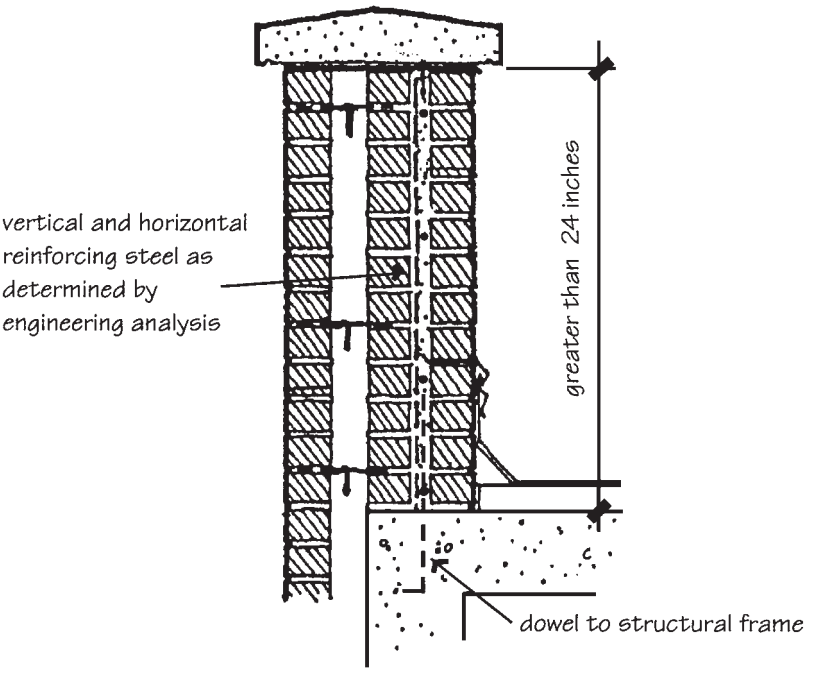

Figure 10-58 Parapets taller than 24 in. are required by code to be reinforced and anchored to the structure.

purchased as special-shaped bricks. They should not be field cut because of a tendency with time for the lip to shear off. Horizontal joints can also be articulated using special-shape units such as water table brick (*see Fig. 10-64B*). This creates a strong shadow line in which the joint and flashing are hidden. The appearance of horizontal movement joints can also be minimized by changing the unit pattern or the unit color for a few courses above or below the shelf angle to create a strong horizontal band. The visual impact of the decorative band distracts the eye from the soft joints, flashing, and weeps above the shelf angle (*see Fig. 10-65*). Shelf angles must provide continuous support at building corners (*see Fig. 10-66*) and should be bolted rather than welded in place to permit field adjustments (*see Figs. 10-67 and 10-68*).

For architects who strongly object to the appearance of horizontal soft joints in a brick masonry facade, the best alternative is to design the veneer as a curtain wall without any shelf angles at all. The veneer rests on the slab and is anchored to the backing wall in the usual way. Most building codes permit this type of construction up to a height of at least 100 ft. The compressive strength of the units is more than adequate to support the dead load of the masonry above. The parapet cap and any terminations at balconies or other protruding or recessed elements must be carefully detailed to allow for vertical expansion of the brick.