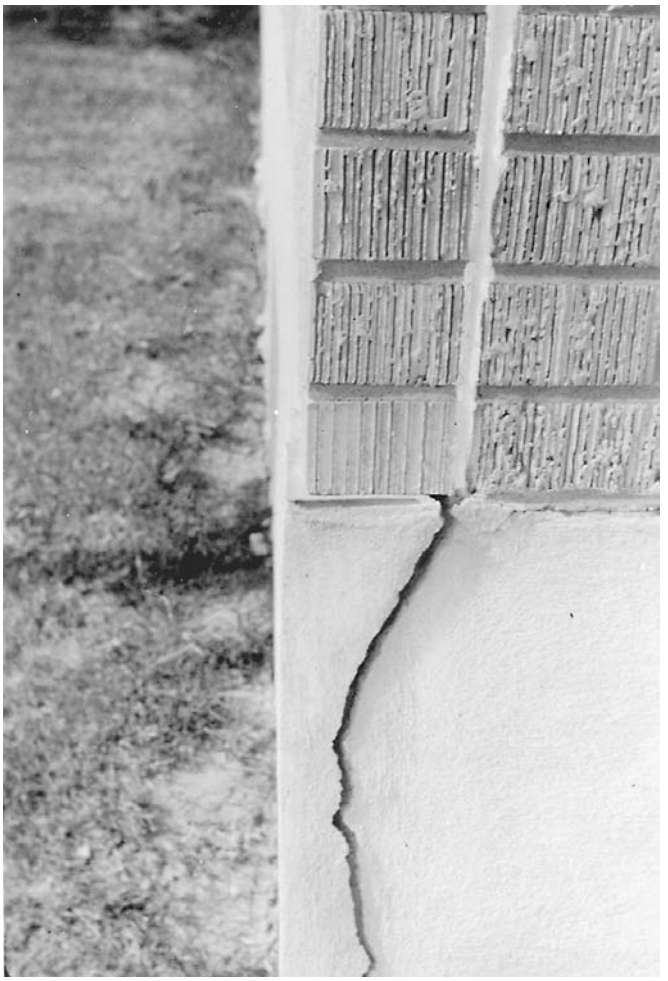

Figure 9-20 Brick expansion forces may exceed tensile strength of concrete. (*Photo courtesy BIA.*)

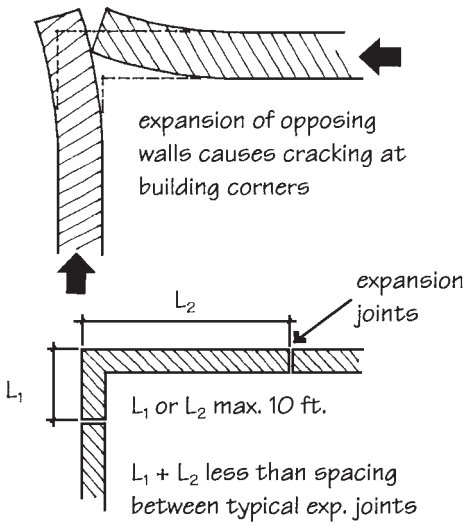

Figure 9-21 Locate expansion joints near corners in brick masonry construction to prevent cracking caused by expansion of opposing walls. (*From BIA* Technical Note 18A.)

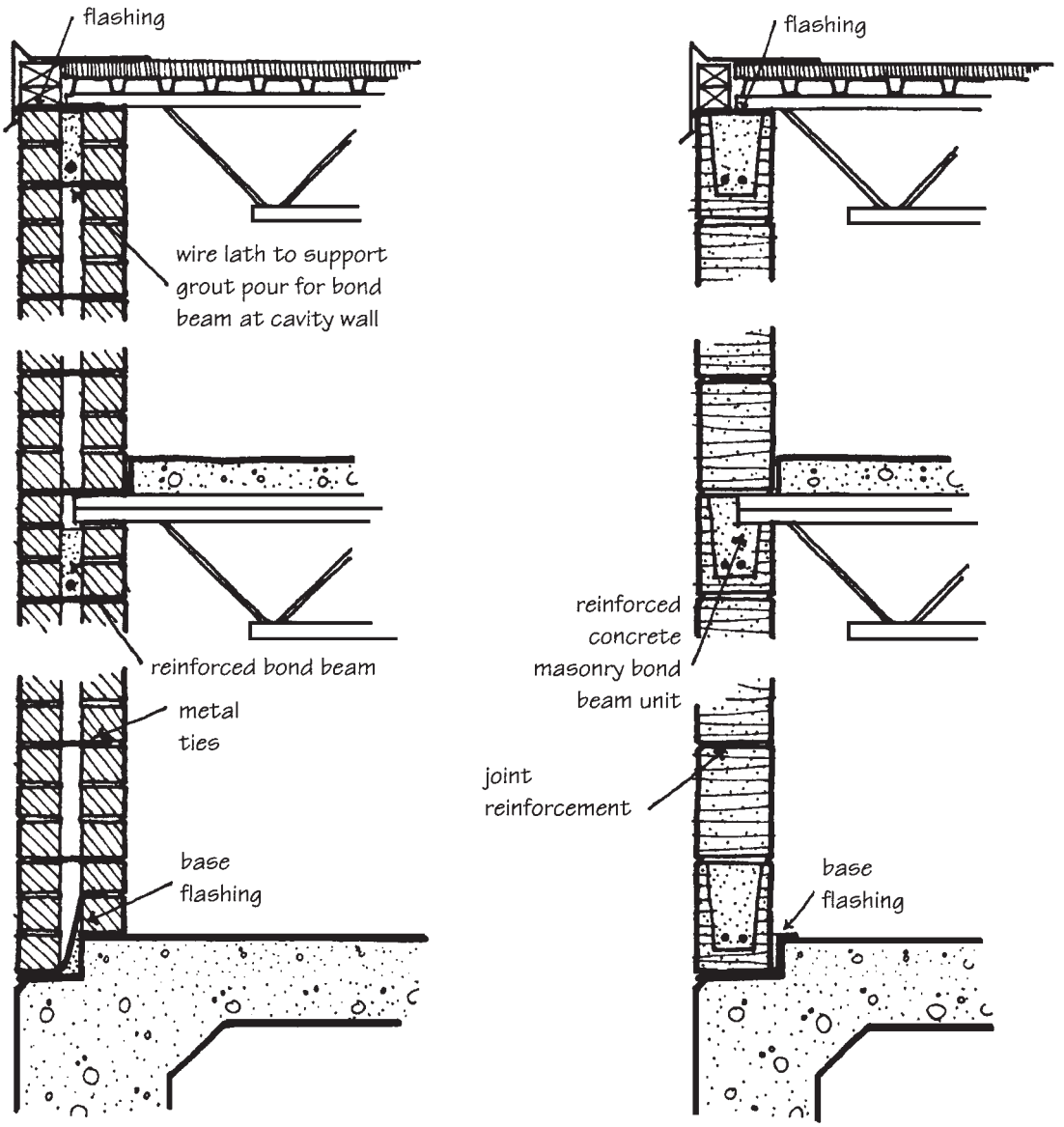

Figure 9-22 Reinforced bond beams help limit brick expansion and CMU shrinkage cracking.

the joints themselves. The objective of movement joint placement is dividing a wall into smaller panels of masonry that can expand and contract independently of one another. The smaller the panels, the lower the cumulative stress will be and the less likely it is that cracking will occur. Wall panels that are more square than rectangular also have less stress buildup. Movement joints will be less noticeable in the appearance of a building if the exterior elevations are designed with joint locations in mind instead of placing them as an afterthought in a completed design. Just as the joint pattern in a stucco facade is part of the overall design, so too should masonry joints be a design element in masonry buildings. Joints can even be articulated with special shape units to make their visual impact stronger. Alternatively, the joints can be hidden in the shadow of a protruding pilaster, while the series of pilasters articulates the panelized sections of the wall.