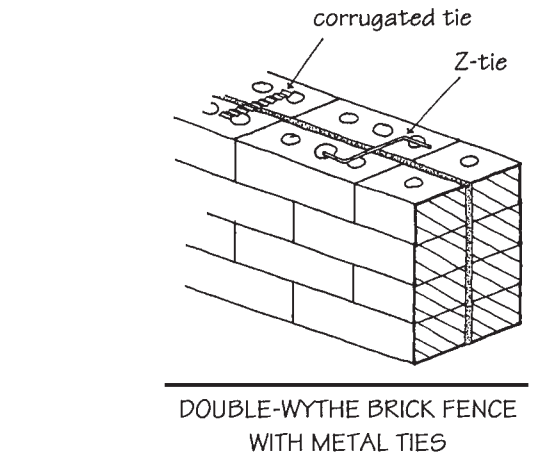


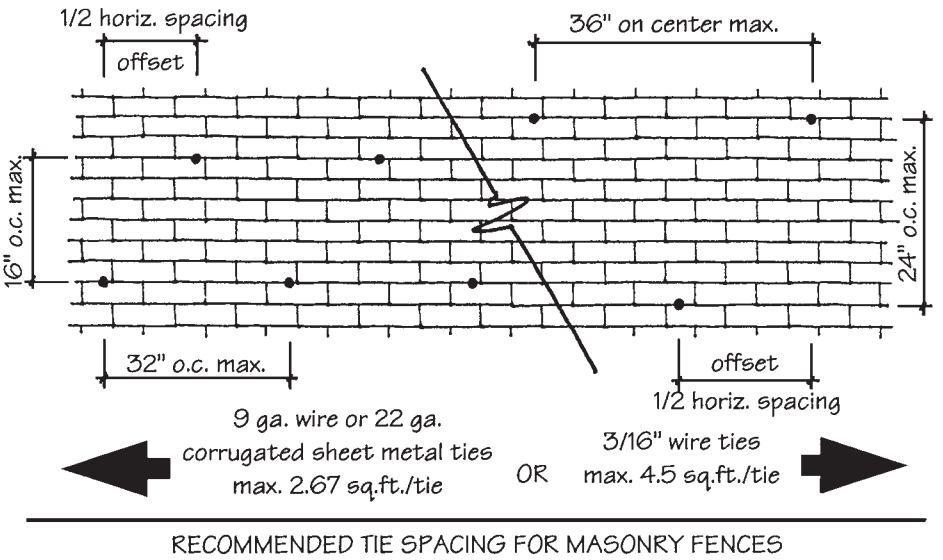
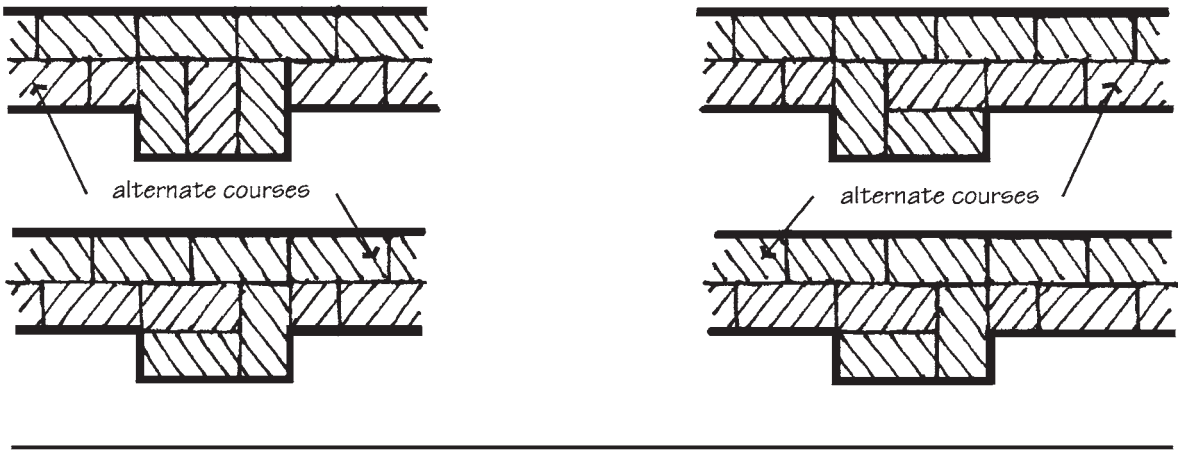


Figure 10-14 Multi-wythe masonry fences bonded with metal ties. (*Based on veneer anchor spacing from* International Residential Code for One- and Two-Family Dwellings, *2003.*)

units, cavities, and hollow sections also increases the durability and strength of the wall by eliminating voids where water can accumulate and cause freeze-thaw damage or efflorescence. The combined use of masonry piers and metal fence panels should allow for differential thermal expansion and contraction between the two materials (*see Fig. 10-22*).

Natural stone is used to build free-standing dry-stack and mortared walls. *Dry-stack walls* laid without mortar are generally 18 to 24 in. wide and depend only on gravity for their stability. Trenches are dug to below the frost line, and if the ground slopes, may take the form of a series of flat terraces. A concrete footing may be poured in the trench, but walls are often laid directly on undisturbed soil. Two rows of large stones laid with their top planes slightly canted toward the center will provide a firm base. All stones placed below grade should be well packed with soil in all the crevices. Stones should be well fitting, requiring a minimum number of shims. A bond stone equal to the full wall width should be placed every 3 or 4 ft in each course to



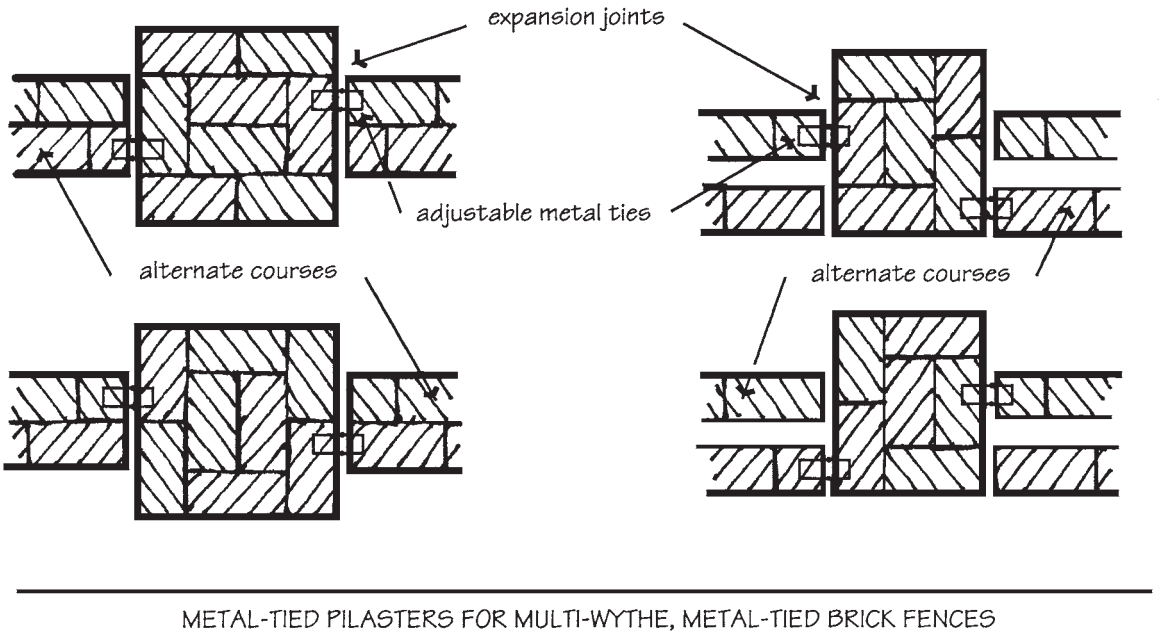


Figure 10-15 Masonry-bonded and metal-tied pilasters for brick masonry fences. (*Adapted from Harry C. Plummer,* Brick and Tile Engineering, *Brick Industry Association, Reston, VA, 1962.*)

tie the inner and outer wythes together. All of the stones should be slightly inclined toward the center of the wall so that the weight leans in on itself (*see Fig. 10-23*). Greater wall heights require more incline from base to cap. Wall ends and corners are subject to the highest stress and should be built with stones tightly interlocked for stability. Relatively flat slabs of roughly rectangular shape work best for cap stones. The top course should be as level as possible for the full length of the wall. Large stones make dramatic walls and may be combined with smaller stone shims for stability (*see Fig. 10-24*).