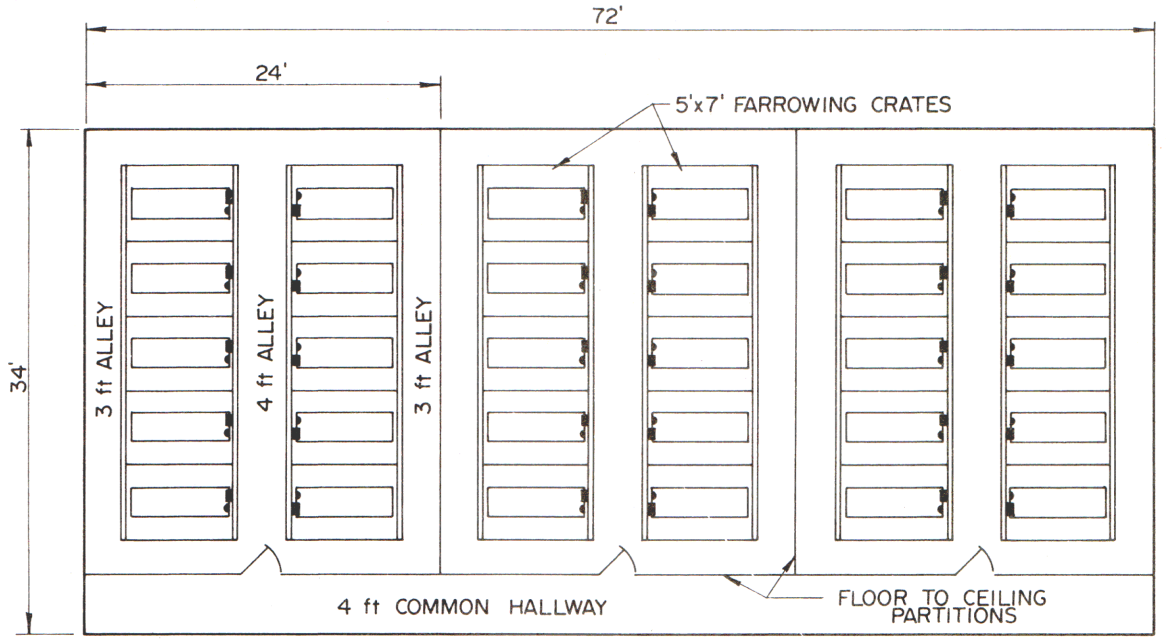

Figure 4. Arrangement of a large building into separate farrowing rooms with access to a common hallway.

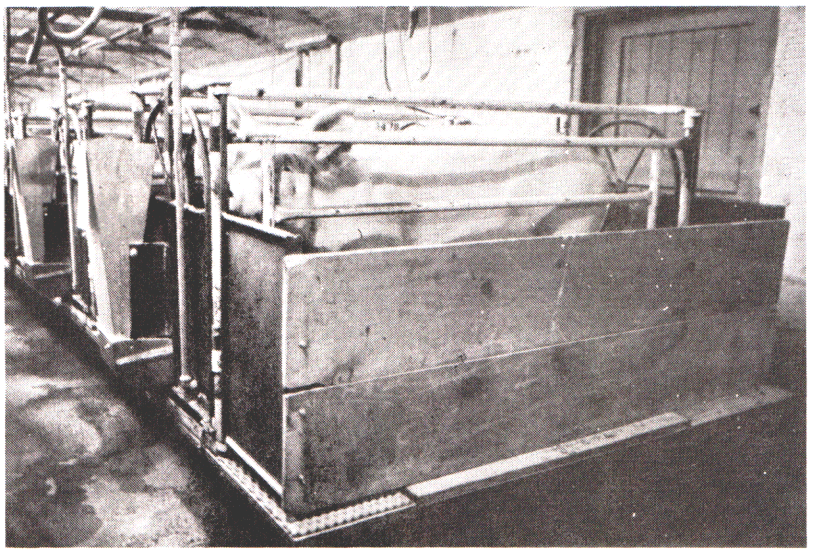

Figure 5. Raised farrowing crates are quite adaptable in a remodeled facility.

Since a relatively small amount of manure is generated in the farrowing barn, it may be removed by hand scraping. A requirement of this method is to have sloped floors so that separation of solids and liquids occurs. As the lowest investment, highest labor system, it puts very few constraints on crate or pen location, so space efficiency of the remodeled unit is high. Some solid manure systems use gutters and barn cleaners (Figure 6). Often the existing equipment in an old dairy barn can be used directly. Labor is significantly reduced compared to hand scraping, but daily or frequent hauling is still required.

Liquid manure systems are high-investment and low-labor. Deep pits are used frequently in new construction, but are not recommended for remodeling because of the time, labor, and expense involved in digging a pit inside of an existing building. An easily adapted liquid system in a remodeled facility is the gravity drain system. This technique drains manure to an outside storage unit without the aid of a flush tank. A storage unit is built outside of the building and at an elevation which is below its gradeline; otherwise, a sump and pump are needed. The gravity-drain gutters can be Y-shaped or rectangular shaped (Figure 7). The width of a flat-bottom gutter should be 2 feet or less so that channels are not formed when the manure is emptied. If wider gutters are necessary, flow straighteners like that shown in Figure 7 should be used. The bottoms of the gutters need a slight slope (1"/25') to one end where a 6 in. diameter drain is located (Figure 8). Manure is removed by periodically "pulling the plug" and letting the manure drain into the storage pit. A vent should be placed on the storage unit so that "back pressure" does not restrict the draining action. After cleanout, water should be added until the bottom of the gutter is covered. This additional water avoids the problem of manure drying or "sticking" to the bottom. It is generally recommended that the manure be removed at least once a week.

Insulation

The walls and ceilings of the facility should be insulated to prevent the formation of condensation on the interior