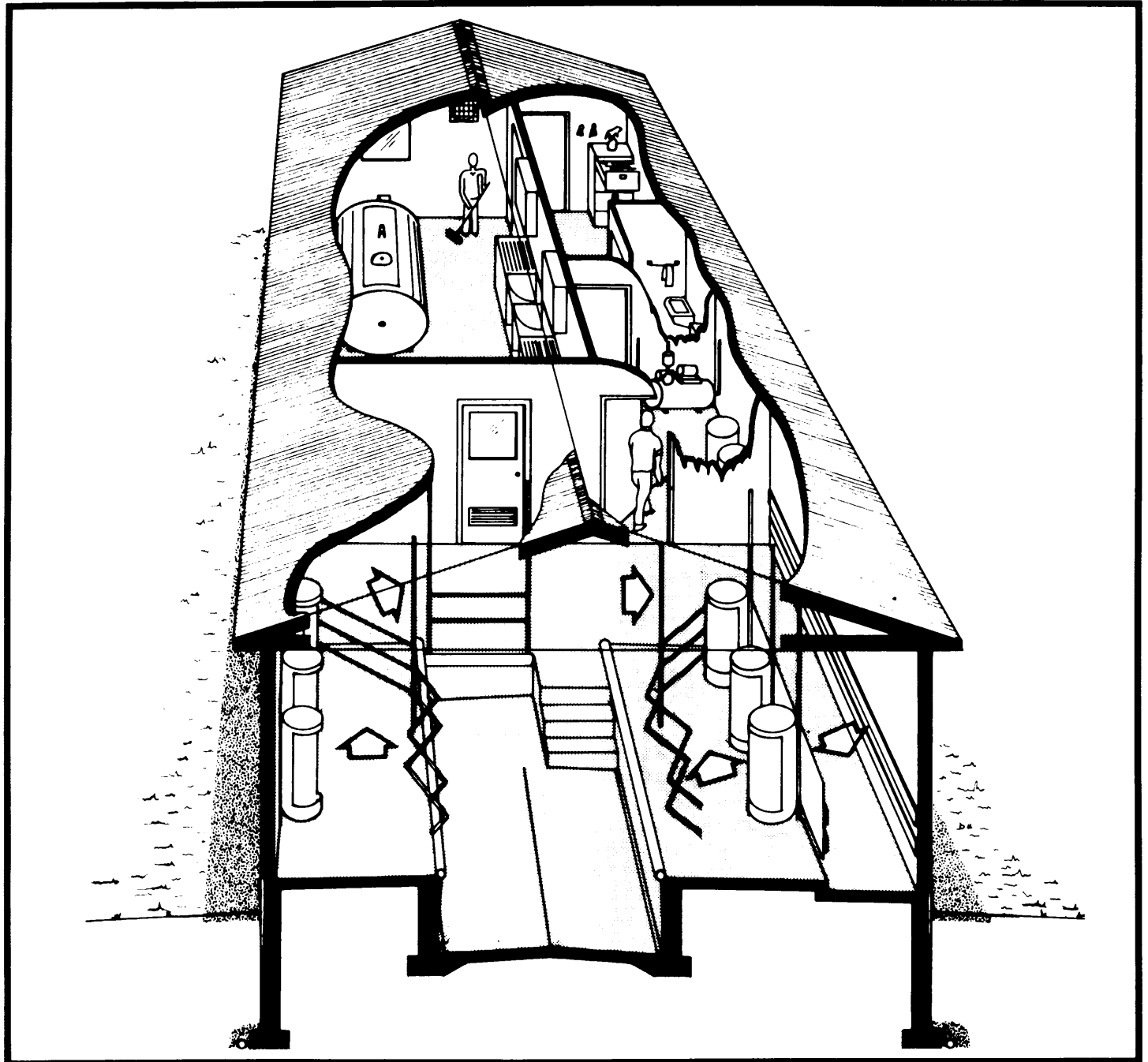


HERRINGBONE MILKING CENTER (SINGLE RETURN ALLEY)



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PLAN 2501 REVISED 12:77

This plan is for either a double-4 or double-8 stall herringbone milking parlor complete with milk room, office, mechanical equipment room and small washroom. It replaces Plan 2142.

The plan gives one arrangement of the parlor, milking room, office, washroom and equipment room. For the double-4 herringbone parlor, the building is 24 x 48 ft, and for the double-8 parlor, it is 24 x 60 ft. Dimensions of the parlor should be checked with the stall equipment supplier since there are no standard dimensions for milking systems.

Cows step up about 6 in. as they enter the milking parlor in groups of 4 or 8. The operator's pit floor is dropped about 30 in. below the cow platforms at both sides. This arrangement keeps the operator's pit to a minimum depth to save his steps, but it also eliminates the troublesome cattle ramps which were used in older parlors to raise the cows for easy milking. The floor of the operator's pit slopes to a sump pump at one end for drainage and is crowned slightly at the center to reduce operator fatigue.

The milk room is 15 ft by 20-24 ft, depending on herd and bulk tank size. The plan shows a handy working arrangement for storage, wash sinks and traffic areas. Entrance to the milk house is gained through a small office-vestibule which provides desk space and storage for records, medications and sanitation supplies.

A small washroom provide the toilet and wash-up facilities essential to the operation of a large dairy enterprise. A separate waste disposal system is required for this; contact your provincial Health Authority for requirements and approval.

A mechanical equipment room provides well-ventilated space for vacuum pumps, electrical service, refrigeration compressors, water heater, and other related equipment.

Wall and Roof Construction

Insulated frame construction is indicated for the outside walls and roof. With 6 in. (R-20) insulation in walls and ceiling, and a well-insulated foundation, the building can be kept warm with a minimum of supplementary heat. A pressure-treated wood sill prevents premature rotting at the base of the wood walls. Interior wall and ceiling surfaces should be fastened with dip-galvanized nails and finished with a smooth waterproof coating, such as polyurethane or epoxy enamel. The local dairy advisor may have more specific recommendations for other impervious-finish materials that have proven satisfactory.

Drainage

All floors should slope for drainage. Provide 4-in. floor drains with oversized slotted covers which can be easily lifted off for maintenance. Commercial floor drains of cast iron may be used, but the inexpensive ones are usually too small to be practical. A detail is shown using an inexpensive plastic dishpan to form a smooth, easily cleaned sump for collecting sediment. Use a 4-in. P-trap sewer pipe for a gas trap at each floor drain. It is suggested that all drains be led to a sump pump at the lower end of the milking parlor. Use a

high-capacity, float-operated electric sump pump; a 1/2 - hp motor and 1 1/2 -in. pipe size are suggested. Pump the wash water to the liquid manure storage or to a sediment tank and field tile disposal bed. Check with local authorities for details of the tank and disposal bed, and be prepared to pump the tank out regularly to prevent plugging the tile with solids.

In this plan, the cow platforms are sloped away from the operator's pit and are shown *without* a gutter and grate at the rear of the cows. Many stall manufacturers recommend the stall gutter and grate to minimize splash, but this prevents any possibility of separating the manure solids from the wash water. It is simpler to construct floors as shown in this plan. Also, a careful operator can reduce the load in the sediment tank and field tile system by shoveling manure solids into the manure system *before* hosing the floors.

Concrete Floors

Floors in the milking center should be smooth and easy to keep clean but *not steel troweled!* Floors in all cow traffic areas should be broom-finished perpendicular to the movement of cattle, and other floors should be 'wood-float' finished to give a texture, nonskid surface. Concrete should be top quality (specify at least **4000** psi if ordering ready-mix) and laid on well-compacted sand or gravel fill.

Ventilation and Heating

The compressor for the bulk tank may be attached to the tank as shown or may be remote. If it is attached, waste heat from the milk goes directly into the milk room, reducing winter heating requirements. If remote, locate the compressor in the mechanical equipment room adjacent - to a large screened opening in the outside wall, for summer ventilation. For winter, close the outside wall opening and circulate air from the equipment room to the milk room by a baffled fan through the interior wall, and return air back through a screened opening through the opposite corner of the same wall. Use a 3- to 5-kW, fan-forced, ceiling-hung electric heater with thermostat for supplementary heating in the milk room.

The plan shows a small intake fan for positive pressure ventilation of the milk room to keep out barn odors and flies. Consider also a larger exhaust fan (at least 3500 cfm) for hot weather ventilation to the milking parlor.

Local Regulations

This plan meets the requirements for most authorities having control of farm milk handling. However, approval of plans should be obtained from proper local authorities before construction of any milking center is started.