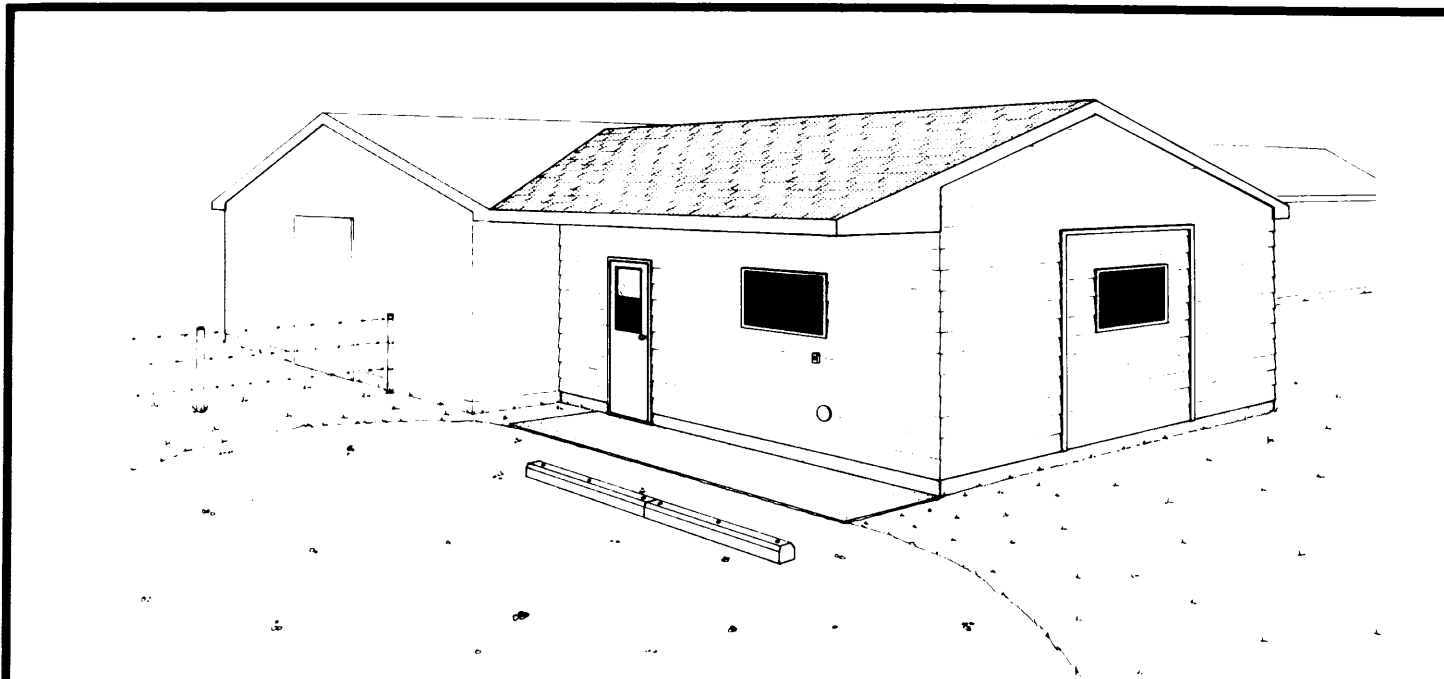
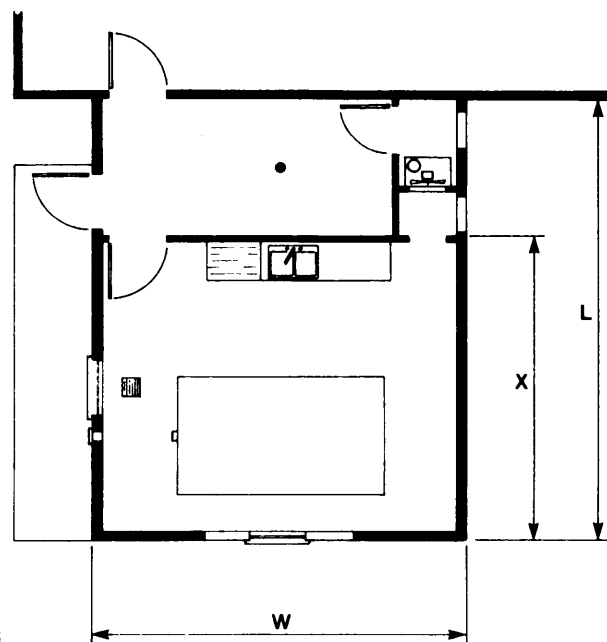


MILKHOUSE WITH EQUIPMENT ROOM



BULK MILK TANK AND MILKHOUSE SIZING

Number of Cows Milking	Daily Milk Production Per Cow (kg or L)	Days of Milk Storage Required	Bulk Tank Size (L)	Recommended Minimum Milkhouse Dimensions (feet)		
				W	L	X
20	20	3	1200	16	22	15½
30			1800			
40			2400			
50	20	3	3000	18	22	15½
60			3600			
70			4200			
80	20	3	4800	20	24	16½
90			5400			
100			6000			



1 U.S. gallon = 3.785 litres 1 Imp. gallon = 4.546 litres

MILKHOUSE WITH EQUIPMENT ROOM

PLAN Q-2514 NEW: 82:11

This plan describes a milkhouse to be attached to a tie-stall dairy barn. The unique feature of this milkhouse is a separate equipment room for water heater, vacuum pump, refrigeration, etc. This arrangement provides a sheltered entrance to both the barn and milkroom. Self-closing doors separate the milkroom from the barn to help keep flies, odors and dirt out of the milkroom.

A removable wall section in the milkroom provides for occasional removal or replacement of the bulk tank. A hose port is installed in the wall near the tank outlet for the convenience of the bulk milk trucker. Some trucks also require an outside 220 V electrical outlet, with an inside switch, for the truck's pump. A window lets the trucker watch and control the loading from inside the milkroom.

MILKROOM SIZE The milkroom should be sized to accommodate necessary equipment and provide adequate working space. Minimum recommended milkroom dimensions for different herd sizes are shown on the plan. Always check the dimensions required for the equipment you intend to use before beginning construction.

WALL AND ROOF CONSTRUCTION Waste heat from the milk cooler, together with some supplementary electric heat, can maintain adequate milkroom temperature in cold weather, provided that the building is fully insulated. A wood frame makes fully insulated construction easier, since it uses economical fiberglass batt insulation (RSI 3.5 in walls; RSI 4.5 in ceiling).

A conventional stud wall is used with an insulated shallow concrete perimeter foundation. Rigid extruded polystyrene foamboard is used to insulate the perimeter foundation. An additional horizontal strip of rigid insulation is recommended, just above the footing, for colder climates such as the Prairies, Northern Ontario and Quebec.

Frame the gable roof with wood trusses to support the insulated ceiling and the roofing. Trusses on 2'0" centers are shown. Trusses can be spaced at 4'0" centers provided that suitable ceiling and roof support is included.

Secure interior wall and ceiling surfaces with hot-dip galvanized nails, and finish with a smooth waterproof coating such as polyurethane or epoxy enamel.

CONCRETE FLOORS The milkroom floor must be easy to keep clean but not so smooth that it becomes slippery when wet. The floor supports the loaded bulk milk tank, so it should be laid on compacted gravel or coarse sand fill and must be steel-reinforced to prevent

unsanitary cracks. Increase the concrete slab thickness beneath the bulk tank to 6". Concrete should be top quality 30 MPa (minimum) air entrained, and finished to a smooth non-skid surface such as a "wood float" finish. A better finish can be obtained by application of a commercial combination sealer-hardener-curing compound immediately after the concrete has been placed and finished. This provides a long-wearing, non-skid, impermeable and acid-resistant surface.

MILKROOM DRAINAGE The entire floor should slope to a 4" floor drain complete with a slotted cover, sediment bucket and gas trap. The floor drain is adjacent to the outlet end of the bulk milk tank and at least 2' from the outlet valve.

Milkroom wastes including floor washings and sink drainage may be drained to a sediment tank. The overflow from this tank can be drained to a tile disposal bed if the subsoil is coarse and well-drained, or pumped out on the surface with a sewage jet. The sediment tank must be pumped out regularly to dispose of solids, otherwise the tile in the disposal field, or the sewage pump, will plug.

With a liquid manure system, a better way to dispose of milkroom drainage is to pipe the waste to the manure storage tank. This helps dilute the manure for easier pumping.

VENTILATION AND HEATING This plan shows a remote cooling compressor-condenser unit installed in a compressor compartment in the equipment room. Summer ventilation for the unit is through a pair of screened openings in the outside wall of the equipment room. This allows a direct flow of outside air through the condenser in warm weather, with the heat from the unit being exhausted outside. If desired, an insulated compressor shed could be built outside the milkhouse to provide additional space in the equipment room.

In winter, the openings to the outside are to be closed with insulated panels and air from the milkroom is drawn through the condenser unit. The heat given off returns to the equipment room and then through the dividing wall to the milkroom via screened openings. This supplements the total heating required in the milkhouse. A furnace inlet vent through the inlet side wall of the compressor shed can be used to let a controlled amount of outside air into the milkhouse in the winter; this helps maintain humidity at an acceptable level.

A 3 to 5 kW, GX-rated electrical heater with thermostat provides air circulation and the balance of the heat required in the milkroom.

LOCAL REGULATIONS This plan meets the requirements for most authorities having control of farm milk handling. However, **APPROVAL MUST BE OBTAINED FOR YOUR PARTICULAR PLANS FROM PROPER LOCAL AUTHORITIES BEFORE CONSTRUCTION IS STARTED.**