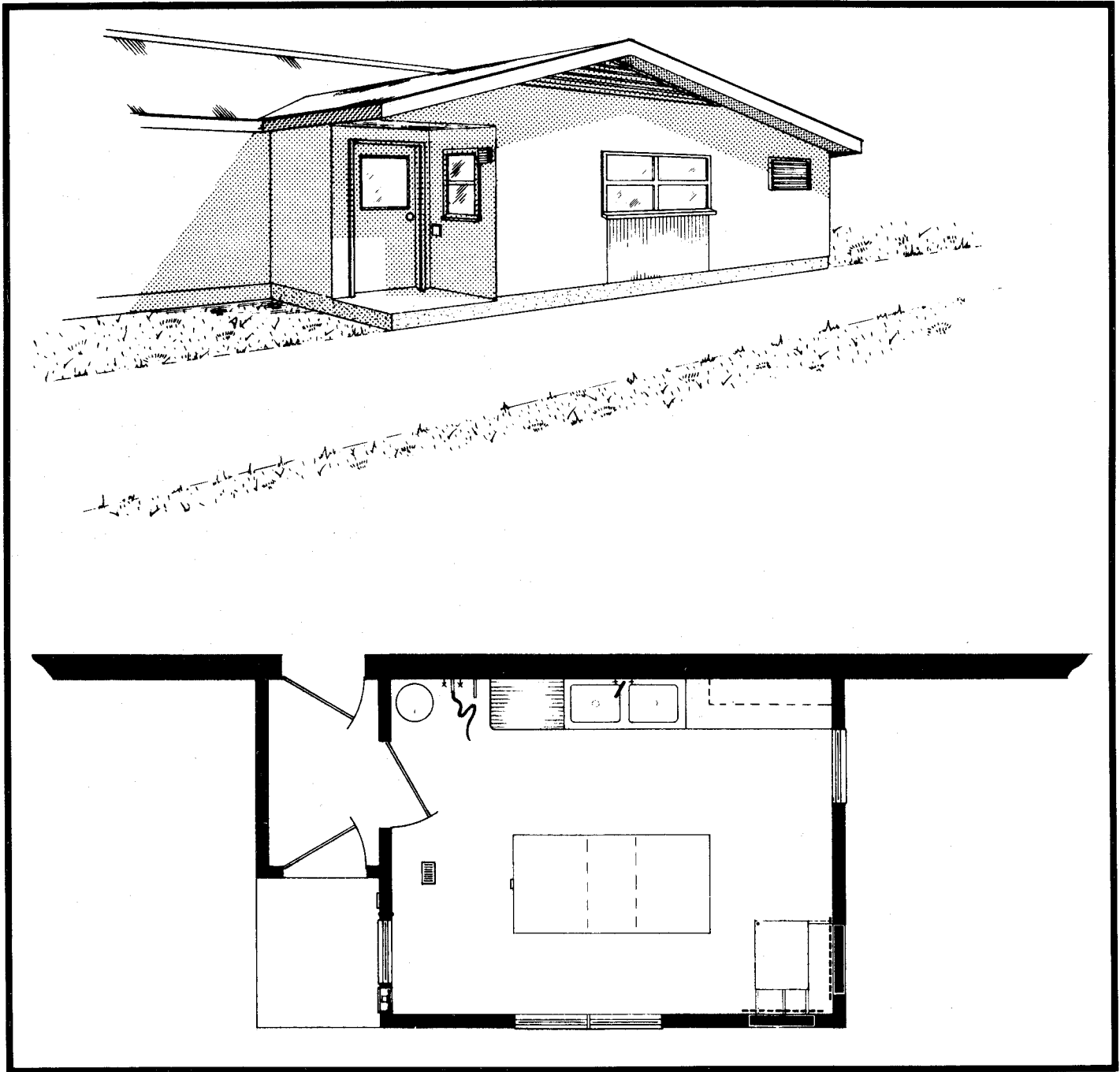




MILK HOUSE - OUTSIDE VESTIBULE



The Canada Plan Service prepares detailed plans showing how to construct modern farm buildings, livestock housing systems, storages and equipment for Canadian Agriculture. This leaflet gives management information and describes one of these detailed plans. To obtain a copy of the Canada Plan Service detailed plan, contact your local provincial agricultural engineer or extension advisor.

MILK HOUSE -OUTSIDE VESTIBULE

PLAN M-2512 (WAS 2124) NEW: 79:04

This plan is for a bulk milk house to be attached to a tie-stall dairy barn. The unique feature of this milk house is an outside vestibule with three doors, to the barn, to the milk room and to outdoors. This arrangement provides a sheltered entrance to both the barn and the milk room. Two self-closing doors separate the milk room from the barn to help keep flies, odors and dirt out of the milk room.

A hose port opens through the outside wall near the bulk tank outlet, for the convenience of the bulk milk trucker. Some trucks also require an outdoor 220-volt electrical outlet for the truck milk pump, with an inside switch. Check hose port and electrical requirements with your trucker.

In case the bulk tank may be installed or changed after construction, the plan shows a removable window combined with an insulated panel below. Secure the window and panel with screws or bolts instead of nailing, for easier removal and replacement.

Milk Room Size

The milk room should be sized to accommodate necessary equipment and provide adequate working space. The following table gives recommended milk room dimension in relation to herd size:

Size of Herd	Width (mm)	Length (mm)	Truss Span (mm)
Up to 26 Cows	4200	5100	6600
24 to 36 Cows	4200	5700	7200
34 to 40 Cows	4800	6300	7800
44 to 72 Cows	4800	6900	8400
66 Cows or Over	5400	8100	9600

Wall and Roof

Waste heat from the milk cooler together with some supplementary electric heat can easily maintain milk room temperature in cold weather, provided that the building is fully insulated. A wood frame makes fully insulated construction easier since it utilizes economical 100 mm and 150 mm batt insulation as used in modern houses.

The conventional stud wall construction used here includes an insulated concrete perimeter foundation extending below frost and a sill of pressure-treated wood at the base of the wall studs. Rigid polystyrene foam board at grade insulates the outside perimeter of the concrete foundation, and a layer of cement-asbestos board protects the insulation from damage and rodents.

The gable roof is framed with wood trusses to support the insulated ceiling and the roofing, and a modified truss extends out over the entrance pavement.

Interior wall and ceiling surfaces should be secured with dip-galvanized nails. Caulk all interior joints with a top-quality flexible caulking (or sealing tape) and finish inside with a smooth water-proof coating such as polyurethane or epoxy enamel.

Concrete

The milk room floor must be easy to keep clean, but not polished so smooth that it becomes slippery when wet. The floor supports the loaded bulk milk tank, so it should be laid on well-compacted granular fill and steel-reinforced to prevent unsanitary cracks. Concrete should be top quality (30 mPa min.), and be finished to a smooth non-skid surface such as a 'wood float' finish.

Milk Room Drainage

The entire floor should slope to an oversized floor drain complete with a slotted cover., sediment bucket and gas trap. Locate the floor drain adjacent to the outlet end of the bulk milk tank and at least 600 mm from the outlet valve.

Milk room wastes including floor washings and sink drainage may be drained to a sedimentation tank thence to a tile disposal bed, if the sub-soil is coarse and well-drained. This sediment tank must be pumped out regularly to dispose of solids, otherwise the tile will plug.

With a liquid manure system, a better way to dispose of milk room drainage is to pipe the waste to the liquid manure storage tank. This provides the necessary dilution for easier pumping of the manure.

Ventilation and Heating

This plan shows a separate cooling compressor suspended in one corner of the milk room; summer ventilation for this unit is through a pair of louvered and screened openings complete with insulated sliding panels to be closed in winter.

For winter, the plan shows a small intake fan to maintain ventilation with a slight positive pressure; this helps keep out barn odors. Run the fan after washing operations, to dry out the room.

A 4 to 5-kW electric heater with thermostat usually provides enough heat in winter to supplement waste heat from the cooling compressor.

Local

This plan meets the requirements for most authorities having control of farm milk handling. However, you should obtain approval for your plans from proper local authorities before construction is started.