



IKENDALE FARMS LTD. Walkerton, Ontario

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DESIGN AND CONSTRUCTION TEAM

Owner:

Ikendale Farms Ltd.

Builder:

Frey Building Contractors Ltd.

Consulting Engineers:

Tacoma Engineers Inc.

Steel Cladding:

Agway Metals Inc.

322-Cow Free Stall Barn & Milking Parlour



Ikendale Farms of Walkerton, Ontario wanted a new barn and milking parlour able to accommodate 322 cows. They hired Frey Building Contractors Ltd. to do the job. Frey has over 35 years' experience and is an award-winning design-build specialist in agricultural facilities, commercial, industrial and residential construction.

The facility comprises a 52,740 sq.ft T-shaped building including a 104' x 390' free stall barn, a 90' x 72' holding and loose housing pen area with veterinary room, a 49'4" x 70' milking parlour, and a 70' x 30'8" utility office, milk room, locker room and washroom area. The eave height is 14 feet.

Begun in May 2005 the building was completed in December of '05. It is mostly a wood frame wall structure with wood roof trusses. Steel columns and beams were used to allow wider spans between columns and to reduce spans for the wood trusses. Steel was also used to support the roof structure where the two branches of the "T" connect. Wood

posts and wood lintels were used at the ventilation curtains. Natural ventilation is employed with curtain and panel-covered wall openings with chimneys. Metal roof ridge ventilators provide attic ventilation. The Fabrene curtains' opening and closing is thermostatically controlled.

A Frey spokesperson says that externally, 29 gauge prepainted galvanized steel was chosen for both the roof and wall cladding. The roof cladding in the Diamond Rib profile is coloured QC8307 Melchers Green, while the wall cladding in the Century Rib profile is coloured QC8273 Bone White. Prepainted galvanized steel was chosen for its good looks and the colour selection available, plus the fact that it's both cost effective and easy to work with.



Internally the most noteworthy features involve a circular, rotating state-of-the-art milking parlour with a basement for equipment, plus tunnel and circular stairs to provide access to its interior. The concrete work for the parlour was the most challenging part of the project requiring circular walls with very low tolerances and high strength requirements to support the rotating 30-cow platform. The exterior of the parlour is clad with 5 courses of split-faced block with the prepainted steel from there to the eaves. Large windows allow natural light to create a warm, comfortable environment.

The barn area accommodates four rows of stalls served by a scraper system that pulls manure to the centre and drops it into a 50' x 186' x 10' tank beneath the floor. The ceiling comprises a pre-engineered scissor truss covered by a white PVC liner under which is a 6 mil. polyethylene vapour barrier. The white ceiling contributes to the bright, airy feeling of the barn. Insulation throughout the building is provided by R-20 fiberglass batt insulation in the exterior walls and R-30 cellulose in the

ceilings with the 6 mil. vapour barrier over both.

A large foyer connects the milking parlour to the office, locker room and utility room which includes an 8,000 gallon milk tank.

Tacoma Engineers was responsible for the structural design and ensuring that the building met provincial and national building codes for that area of Ontario as they pertain to wind, snow and rain loads, and fire separation. The steel cladding was provided by Agway Metals Inc.



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