

SPECIALTY CONCRETE CONSTRUCTION

DIETRICH COMMODITIES GRAIN SILO



PROJECT CREDITS

OWNER

Dietrich Commodities Inc.

ENGINEER OF RECORD

Stephen B Clarke & Associates Ltd.

GENERAL CONTRACTOR

MWI Silo Systems Inc.

MATERIAL SUPPLIERS

Dufferin Concrete, A division of CRH Canada Group Inc.

ADDITIONAL PARTICIPANTS

- Euclid Chemical
- Ironworkers Local 700

PROJECT FACTS

LOCATION

Lucan, Ontario

PROJECT SUMMARY

The new Dietrich family farm grain silo is an impressive 86 feet in interior diameter and 132 feet in height, the largest silo ever built by MWI. The silo walls are 10 inches thick and made of concrete.

Dufferin Concrete supplied concrete for 1,500 metres of wall, or the equivalent of 29 cubic metres per four-foot lift.





DUFFERIN CONCRETE HELPS BUILD GIANT SILO

Dufferin Concrete was asked by MWI Silo Systems Inc. to participate in the building of a large diameter grain silo for one of their customers, Dietrich Commodities, near Lucan, Ontario. MWI has been in the business of building concrete silos for a wide variety of products, as well as other types of specialty towers since the 1960s.

MWI uses a Weaver Silo jump form system to build silos that can vary from 20 feet to 100 feet in diameter. The new Dietrich family farm grain silo is an impressive 86 feet in interior diameter and 132 feet in height, the largest silo ever built by MWI. The silo walls are 10 inches thick and made of concrete, which is where Dufferin Concrete came in.



Dufferin Concrete supplied concrete for 1,500 metres of wall, or the equivalent of 29 cubic metres per four-foot lift. The time sensitive project occurred over a 3-month period, with work progressing at about four feet per day, reflecting the large amounts of concrete and reinforcement bar required (over 250 tonnes). Rebar was placed using a 30-tonne boom truck and all the wall concrete was placed with the help of two concrete hoists and distributor carts up top.

The result is an imposing silo with a concrete floor, concrete walls and concrete ceiling that can hold up to 14,000 tons of corn or dry grain. This is the equivalent of

600,000 bushels or the average yield of 3,000 acres of planted corn.

The grain, which has begun to be stored in the silo since October, is loaded into the silo via an elevator and belt conveyor that dumps it into three spots across the top of the roof. It will be sold throughout the year and shipped to ports or feed mills by truck. The silo has three exterior side draw truck load outs, capable of loading a tractor trailer in a matter of minutes.

Dufferin Concrete was a proud contributor to the completion of this unique agricultural project and in helping its customer MWI successfully build their biggest silo project ever.

CONSTRUCTION METHODS

MWI Silo systems Inc. have used the Weaver 4' smooth wall Jump Form Silo Construction System (WSBM) exclusively for the past 34 years.

This system consists of either fixed diameter or adjustable diameter form sets. Each ring of forms is 4 ft. tall. Three rings of forms are stacked on top of each other. The lowest outside forms are raised in groups of 5 or 6 and placed on top of the most recently poured ring of concrete. Rebar is then tied into place. Next, the inside forms are raised individually and placed on top; then the work platform is raised. At this point, the 4 ft. ring is ready to be filled with concrete. Concrete is hoisted by our own hoist and placed via the distributor cart. When the pour is complete, the cycle is repeated until a maximum of 12 ft. per day is constructed and/or the silo reaches its desired height.

Waterstop placed at each cold joint ensures a waterproof structure.

This system is capable of constructing diameters of 20' to 100' in standard 2' steps.

