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New freezer facility “pour” uses state-of-the-art process unique to Kawartha region

Same Day Concrete Pour Needs Military-style Precision, Phalanx of Trucks, Exquisite Timing

March 31, 2017-BOBCAYGEON, ON--In a construction process unique to the Kawartha area, nine concrete mixer trucks working continuously will pour the floor for a new freezer facility, bypassing the usual staged concrete-pouring practice and eliminating the need for any rebar reinforcement.

The process, dubbed “continuous pour” in the construction industry, saves days and dollars and produces one smooth slab floor without joins or cracks, a critically important feature for any large industrial freezer facility, says Dick Crawford, CEO Crawford Building Consultants, Lakefield, ON.

Crawford is the project manager for the new ice cream freezing and milk cooling facility for the rapidly expanding Kawartha Dairy, based in Bobcaygeon. (The new facility will eliminate the dairy’s need to use rental cold storage from outside areas such as Toronto, Oshawa and Peterborough).

Specialized equipment will blow small steel fibres into the mixing trucks on site, says Crawford. The steel fibres measure three to four inches and are blown into the mixers at the rate of 25 kg per cubic metre, Crawford adds. The floor slab measures 10 inches thick and 118 by 150 feet square, or about the size of one quarter of a Canadian football field.

In the event of any truck breakdowns, plans include an extra three trucks on standby. The steel fibre blower system is also protected to ensure an uninterrupted procedure by a back-up conveyor system for the blowers.

The steel fibres circumvent the need for rebar (reinforcing steel rods), allowing the contractor, Belmont Construction, to perform a continuous pour of the concrete and create a perfect floor slab, without cracks or joints. It also saves time and money, as rebar is much more expensive than steel fibres, Crawford notes.

“The contractor can finish the entire floor in one day, as opposed to the usual three days it would take using traditional methods and rebar.”

Crawford also managed the construction of Kawartha Dairy’s first small freezer facility in Bobcaygeon in 2000 and has 49 years of international experience as a project manager for construction of 180 pharmaceutical and food services plants and industrial buildings.

One concrete pumper will pump concrete into the building at the rate of 50 to 60 cubic metres per hour. The concrete mixing trucks feed the pumper on a rotating basis.

“Concrete sets quickly, so it’s necessary to keep pouring it until the slab is complete,” Crawford says.

Twelve people will be on site to finish the poured concrete, and another four people will work until midnight to complete the finishing, Crawford says. This entire part of the total project –about 30 percent of the 500 square metre building, or 1600 square metres, is itself a freezer.

After completion, it takes a full month to draw the temperature down from regular room temperature to minus 28 degrees Celsius.

The warehouse/storage facility opens in September 2017.

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