

An Unexpected Project

GRAINCO ADDS TWO TANKS, THEN TURNS TO FIXING STORM DAMAGE



GRAINCO FS Inc.
Ottawa, IL • 815-434-0131

Founded: 1928
Storage capacity: 14.3 million bushels at seven locations
Annual volume: 28 million bushels
Annual revenues: \$355 million
Number of members: 3,000
Number of employees: 130
Crops handled: Corn, soybeans, soft red winter wheat
Services: Grain handling and merchandising, agronomy, liquid fuels, LP gas, turf, tires, convenience store

Key personnel:

- Mike Builta, general manager
- Todd Tesdal, grain division manager
- Dave Muffler, merchandiser
- Pat Mino, Mazon elevator manager
- Mark Hansen, Kentland elevator manager

Supplier List

Aeration fans.....Decatur Aeration
Bin sweep.....The GSI Group
Bucket elevator.....The GSI Group
Catwalks.... LeMar Industries Corp.
Contractor..... Grain Flo, Inc.
Control system..... KDJ Sales & Service Inc.
Conveyors.....The GSI Group
Elevator buckets..... Maxi-Lift Inc.
Engineering.....SKS Engineers, Inc.
Insurance.....Nationwide
Leg belting..... Goodyear Conveyor Belting
Millwright..... Grain Flo Inc.,
Motors..... Siemens Industry, Inc.
Speed reducers..... Dodge
Steel storage.....The GSI Group
Steel tank erection..... Wieber Steel Construction
Tower support system.....LeMar Industries Corp.



GRAINCO FS elevator in unincorporated Kentland, IL after a storm damaged it severely in August 2012. Completed construction so far includes a 105-foot-diameter GSI tank at left and the farthest right bucket elevator. Completed construction photos by Ed Zdrojewski.

On Aug. 3, 2012, the construction firm of Grain Flo Inc., Heyworth, IL (800-842-4875), was nearing completion of two large new corrugated steel tanks at a GRAINCO FS Inc. grain elevator west of Mazon, IL (630-553-0204).

On Saturday, Aug. 4, the job got a whole lot bigger.

At 9 a.m., a huge windstorm blew through

another GRAINCO elevator at Kentland, IL (630-553-0205), in an unincorporated area about 30 miles to the north, causing tremendous damage. It officially wasn't a tornado, but a nearby weather station recorded straight-line winds of 101 mph.

"Fortunately, no one was working at the elevator at the time, and no one was injured," says Todd Tesdal, grain division manager for



GRAINCO elevator at Mazon, IL, with new 135-foot-diameter GSI tank at far right and 90-foot-diameter GSI tank at far left.



New GSI 15,000-bph receiving leg is the first of four legs to be replaced at Kentland.

the cooperative who has been based at Mazon since 2001 and with GROW-MARK's FS system since 1990.

"Reportedly, there was one motorist who pulled onto the property to try to find shelter from the storm, but as soon as metal started flying, he left," Tesdal says. "Our operations manager there lives right across the road, and he heard a lot of noise. After the storm had passed, he saw the damage and called me."

The wind completely destroyed four of the six legs at the elevator, including both receiving legs, as well as a 3,000-bph Meyer Morton grain dryer. It also

badly damaged a 710,000-bushel, 105-foot-diameter steel tank, which was empty at the time, causing one side to buckle. Also damaged were two 18,000-bushel concrete tanks and a variety of conveyors and other grain-handling equipment. Fortunately, the elevator was insured for acts of nature.

That same day, Grain Flo personnel, along with the demolition and salvage company Lee Farms Excavating Inc., Onarga, IL (217-387-2407), were on-site surveying the damage and determining what needs to be done.

"They did an excellent job of being 'johnny-on-the-spot,'" says Tesdal.

Project at Mazon

Grain Flo originally was in the area beginning in the fall of 2011, after submitting the winning bid to build approximately 1.6 million bushels of new storage at the Mazon elevator.

Like several facilities in northeast Illinois, the Mazon elevator specializes in loading 20-foot containers utilizing three loading augers. GRAINCO ships these containers via truck to a Burlington Northern Santa Fe railyard at Elwood, IL, where they are shipped the West Coast enroute to overseas customers.

"We were severely short on usable space for loading containers," Tesdal says. "We had a 2-million-bushel ground



Todd Tesdal

pile, but once it's there, the space can't be re-utilized for containers. We also had an old facility in downtown Mazon that provided 460,000 bushels of storage for soybeans, but then, we had to haul it back to the main elevator, in order to ship it out."

The cooperative decided to add two new tanks at the main Mazon location, a 1.1-million-bushel tank for corn and a 500,000-bushel tank for soybeans.

In addition to Grain Flo, major contributors to this project included SKS Engineers LLC, Decatur, IL (217-877-2100), for engineering services; KDJ Sales & Service Inc., Mackinaw, IL (309-359-3611), for the electrical control system; and Wieber Steel ►



Damaged 15,000-bph leg hangs down from an overhead catwalk following the Aug. 4 storm.



Damaged 105-foot-diameter tank at left following an Aug. 4 windstorm at the Kentland elevator. At right, the tank is being pulled down by three Caterpillar track hoes pulling steel cable. Storm damage photos courtesy of Grain Flo Inc.

Construction, Altamont, SD (605-874-8247), which erected the GSI tanks.

The 1.1-million-bushel corn tank stands 135 feet in diameter, 80 feet tall at the eave, and 116 feet tall at the peak.

The tank is equipped with outside stiffeners, a roof that can handle a peak load of 50,000 lbs., and 16-inch GSI Series II zero-entry sweep auger. GRAINCO did not include a temperature monitoring system, since the tank is designed for frequent turnarounds, but it did include four 50-hp New York Blower centrifugal fans capable of delivering 1/9.6 cfm per bushel of aeration.

The tank is filled by an overhead GSI 20,000-bph enclosed belt conveyor, and it empties onto a GSI 10,000-bph enclosed belt in an at-grade tunnel.

The 500,000-bushel GSI soybean tank stands 90 feet in diameter, 85-1/2 feet tall at the eave, and 110-1/2 feet tall at the peak. It is outfitted similarly to the corn tank, with a 20,000-lb.-peak-load roof, 12-inch GSI bin sweep, and two 40-hp New York Blower centrifugal fans supplying 1/9 cfm per bushel of air.

Grain-handling equipment serving the soybean tank includes a 13,000-bph overhead GSI enclosed belt conveyor for fill and an above-ground 10,000-bph GSI drag conveyor for reclaim.

Tesdal comments that the addition of the two tanks allowed the coop to reduce the size of the ground pile to 600,000 bushels.

Rebuilding Project

The grain division manager notes that following the Aug. 4 storm, Grain Flo and Lee Farms Excavating faced a short deadline to get the Kentland elevator usable for harvest. Spring weather had encouraged early planting, and severe heat and drought already was causing crops in the area to begin to dry down.

The only good thing about the drought, Tesdal comments, was that it meant area producers had only half a crop, so fewer bushels had to find a home. GRAINCO sent some of those bushels to another branch elevator at Lisbon Center, IL, about three miles south of Kentland, and to other GRAINCO FS facilities.

However, Grain Flo and Lee Farms Excavating were able to have the Kentland elevator operational by about Oct. 1.

The first step was removing all of the damaged grain-handling equipment, the dryer, and the two concrete tanks. They also had to pull down the 105-foot-diameter tank, which was damaged to the point of being hazardous, using three Caterpillar track-hoes attached to the tank by cables.

Grain Flo immediately replaced that tank with a GSI tank standing 105 feet in diameter, 88 feet tall at the eave, and 117 feet tall at the peak. The existing 16-inch GSI sweep auger and four New York Blower 40-hp centrifugal fans capable of providing about 1/10 cfm per bushel were all undamaged and reused. Again,

no temperature monitoring cables were included.

Grain Flo was able to utilize the existing fill conveyor but added new conveyor, truss, and tower components. The existing 6,500-bph GSI above-ground drag conveyor for reclaim was undamaged.

The contractor also was able to replace one of the two receiving legs in time to handle some of the harvest, a 15,000-bph GSI leg equipped with a single row of Maxi-Lift 18x8 CC-MAX buckets mounted on a 19-1/2-inch rubber belt from Goodyear.

Total cost of construction at the two sites so far has been \$4.3 million, but GRAINCO plans further rebuilding and improvements at Kentland in 2013. These include:

- Installation of a second 15,000-bph receiving leg.
- Addition of a 4,000-bph Zimmerman grain dryer, with upgrade of wet and dry legs to handle the higher volume.
- Replacement of the rest of the damaged conveyors.
- Addition of a two-auger container loading system.

Ed Zdrojewski, editor