

Shifting Markets

COOPERATIVE ADDS RAIL TERMINAL TO TAKE ADVANTAGE OF BNSF RAIL LINE



Frenchman Valley Farmers Cooperative
Imperial, NE • 800-538-2667

Founded: 1912
Storage capacity: 38.1 million bushels at 22 locations
Annual volume: 72.6 million bushels
Annual revenues: \$695 million
Number of members: 1,628
Number of employees: 300
Crops handled: Corn, soybeans, red winter wheat, millet
Services: Grain handling and merchandising, feed, fertilizer, petroleum

Key personnel:

- Mark, Friehe, Culbertson and McCook location manager
- Ryan Schultz, grain manager

Supplier List

- Aeration fans**.....AIRLANCO
- Bearing sensors**..... KASA Controls
- Bin sweeps**The GSI Group
- Bucket elevators**..... The GSI Group
- Bulk weigh scale**C&A Scales
- Catwalks** LeMar Industries Corp.
- Cleaner** Triple S Dynamics, Inc.
- Concrete tank** .. McPherson Concrete Storage
- Contractor/millwright**Frisbie Construction Co. Inc.
- Control system**.....KASA Controls
- Conveyors**Hi-Roller Conveyors
- Conveyor belting** Goodyear Conveyor Belt Products
- Distributor**.....Schlagel, Inc.
- Dust collection system** AIRLANCO
- Elevator buckets** TAPCO Inc.
- Grain dryer** Zimmerman Grain Dryers
- Grain probe**Gamet Mfg. Co.
- Grain temperature system** KASA Controls
- Level indicators**..... BinMaster Level Controls
- Magnets**Bunting Magnetics Co.
- Manlift**.....Schumacher Elevator Co.



Frenchman Valley's new rail terminal in Culbertson, NE includes four McPherson Concrete silos holding 280,000 bushels each. Photo provided by Frisbie Construction Co. Inc.

When the Frenchman Valley Farmers Cooperative looked to expand beyond local truck markets, a new rail shuttle-loading terminal with an 8,800-foot loop track gave the 22-location cooperative that ability.

The terminal at Culbertson, NE, with 2.32 million bushels of storage, was constructed to give the coop access to a Burlington Northern Santa Fe (BNSF) main line, says Mark Friehe, location manager for both the new elevator and a coop elevator at McCook, NE.

“Having a rail terminal in Culbertson gives Frenchman Valley access to Gulf and coastal rail markets we haven’t had in the past,” Friehe says. “The advantages in pricing and rail rates will give our patrons the best opportunity to get a better premium for their grain.”

- Manlift**.....Schumacher Elevator Co.
- Motion sensors** KASA Controls
- Samplers** Gamet Mfg. Co.
- Steel storage**.....The GSI Group
- Tower support system**LeMar Industries Corp.
- Truck scale**.....C&A Scales
- Temporary storage system**..... ???????

Construction on the \$18 million facility (308-278-2410) was started in June 2012, and it was completed in time for fall harvest in August 2013. Frisbie Construction Co., Inc., Salina, KS (785-536-4288), served as the main contractor on the project.

“We chose Frisbie Construction because of their reputation for quality and the ability to take on project as large as Culbertson,” says Friehe, who has been with the coop for 18 years.



Mark Friehe, Frenchman Valley McCook and Culbertson location manager, and Ryan Schultz, Frenchman Valley grain manager. Photo courtesy of Frenchman Valley. Farmers Cooperative.



The shuttle terminal at Culbertson includes an 8,800-foot loop track. Photo provided by Frisbie Construction Co. Inc.

Besides the BNSF connection, the new shuttle site also is served by the Nebraska, Kansas, & Colorado Railway, which also connects with several other Frenchman Valley locations and will provide the ability to ship grain from these locations, Friehe adds.

“The facility at Culbertson isn’t built for long-term storage,” Friehe says. “We will try to turn the facility as much as possible and with improving yields, we will be able to turn the facility more frequently.”

Storage

The terminal’s 2.32 million bushels of storage includes four McPherson Concrete jumpform concrete tanks, a GSI corrugated steel tank, and a 1-million-bushel ground pile.

The four McPherson tanks are 60-feet in diameter and hold 280,000 bushels each. Each of these flat-bottom tanks stand 120 feet tall, with aeration being provided by two 50-hp AIRLANCO centrifugal fans and three 2-hp roof exhausters at 1/10 cfm per bushel on coarse grains. The tanks are equipped with 10,000-bph

GSI bin sweeps for cleanout.

The GSI corrugated steel wet tank is 59.7 feet in diameter and holds 200,000 bushels. The flat-bottom bottom tank stands 80 feet tall at the eave and 96 feet tall at the peak. The tank has outside stiffeners and is emptied into a below ground GSI 10,000-bph drag conveyor.

Neither the concrete nor steel storage tanks are equipped with temperature monitoring systems because of the expected quick turnover rate, Friehe says.

Storage also includes a 600-foot diameter, 1-million bushel temporary storage pile. The system has 8-foot perforated steel walls, a GSI 80-foot-tall support tower, and a clay-based floor. Currently, the temporary storage is emptied out by front-end loaders, but future plans call for a conveyor to be installed



A separate scalehouse is equipped with two C&A scales and Gamet probe. Photo by Alex Lord.

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under the pile.

Grain Movement

Incoming trucks are weighed on a 80-foot C&A pitless scale adjacent to the shuttle site's office building. A Gamet Apollo truck probe takes a sample for grading at the inbound scale. An adjacent C&A truck scale with a kiosk printer system is used for outgoing trucks.

The terminal has three receiving pits — two 800-bushel mechanical receiving pits for trucks and a rail receiving

pit. All three pits feed two 17,000-bph GSI receiving legs equipped with 20x8 TAPCO buckets on 21-inch belts.

The receiving legs deposit grain into a 12-duct Schlagel swingset electric distributor. From there, grain travels via GSI 20,000-bph enclosed belt conveyors to either concrete, steel, or temporary storage. Grain can also be run through a 20,000-bph Triple/S Texas Shaker grain cleaner prior to going to storage.

Wet grain can be sent via 10,000-bph wet leg to a continuous flow Zimmer-

man dryer, rated at 10,000-bph for taking three points of moisture off of corn. The dryer is fired by three propane storage tanks totaling 86,000 gallons that also serve as a terminal site for coop's customers.

The concrete and steel storage tanks empty onto 60,000-bph above-ground GSI belt conveyors running back to the receiving legs and a 60,000-bph GSI loadout leg equipped with three rows of 20x8 TAPCO buckets. The loadout leg feeds a 60,000-bph C&A bulk weigh scale with extended upper and lower garners (3,300 bushels each). The scale utilizes C&A software. Workers atop railcars are protected by a Fall Protection Systems' trolley unit that runs the length of 2-1/2 railcars.

According to Friche, the bulk weigh scale is set up to run 28,000-bushel batches and a railcar can be filled in under four minutes.

In addition to rail loadout, Frisbie built two 5,000-bushel steel square hopper bins located above the receiving pits for truck loadout.

Alex Lord, associate editor

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A C&A Scales bulk weigh scale with an extended upper gantry for rail loadout. Photo by Alex Lord.