

Living with Wetlands

OHIO COOP BUILDS A SAFE AND CLEAN TERMINAL IN A SENSITIVE AREA

Heritage Cooperative

West Mansfield, OH • 937-355-0003

Founded: 2009

Storage capacity: 28 million bushels at 37 locations

Annual volume: 55-60 million bushels

Annual revenues: \$600 million

Number of members: 3,700

Number of employees: 250

Crops handled: Corn, soft red winter wheat, soybeans

Services: Grain handling and merchandising, feed, agronomy, energy

Key personnel:

- Eric Parthemore, president/CEO
- Travis Rowe, vice president/chief commercial officer
- Ed Nienaber, vice president, grain
- Terry House, vice president, agronomy
- Dave McIntosh, Marysville Ag Campus manager, grain operations
- Wes Bahan, grain buyer
- Jeff Covault, grain superintendent
- Jimmy Dulin, agronomy woperations manager
- Sue Redman, director, crop nutrients
- Melinda Ledley, director, grain origination, logistics, and risk compliance

Supplier List

Aeration fans/system.. AIRLANCO

Bearing sensors CMC Industrial Electronics

Bucket elevators..... InterSystems

Bulk weigh scales..... InterSystems

Bulk weigh scale controls..... CompuWeigh Corp.

Catwalks Warrior Mfg. LLC

Cleaner InterSystems

Contractor/millwright..... Hogenson Construction

Control system Kahler Automation

Conveyors InterSystems

Distributors InterSystems

Dust collection system.. AIRLANCO

Elevator buckets Tapco Inc.

Engineering ... Sunfield Engineering

Fall protection Hogenson Construction

Grain dryer.. Zimmerman Grain Dryers

Grain temp system .. Safe-Grain Inc.

Level indicators..... BinMaster Level Controls

Magnets .. Industrial Magnetics, Inc.

Manlift..... Sidney Mfg. Co.

Motion sensors CMC Industrial Electronics



New Heritage Cooperative 1.5-million-bushel rail terminal outside of Marysville, OH went on-line in January 2016. Aerial photo by Blue Skies HD Video and Film Productions, LLC.

“Maximum Practical Avoidance.” That’s the term used to describe the design and construction of Heritage Cooperative’s new 1.5-million-bushel, \$35 million rail terminal on a 277-acre Ag Campus outside of Marysville, OH (937-642-3841), much of it consisting of forested wetlands.

“We designed the facility around the wetlands,” says President and CEO Eric Parthemore, who joined Heritage in 2009 from Farmers Commission Co., when that coop consolidated with Champaign Landmark to form Heritage. “Our 12,000 feet of rail track including an 8,800-foot loop track,



for example, isn’t really a round loop, because we were avoiding removing any of the wetlands on the site.”

Not only does the site include the grain elevator and loop track, but Heritage also built a 30,000-ton dry fertilizer and 2-million-gallon liquid fertilizer facility on the site, as well as a research farm for the cooperative’s

From left: Dave McIntosh, Marysville Ag Campus manager; Eric Parthemore, president and CEO; and Travis Rowe, vice president and chief commercial officer. Ground-level photos by Ed Zdrojewski.



Roof system Kooiker Roofing & Insulation

Sampler..... InterSystems

Tower support system..... Warrior Mfg. LLC

Truck probe InterSystems

Truck scales..... Brechbuhler Scales Inc.



The terminal's 12,000-plus feet of rail track has been laid out to avoid disturbing wetlands such as the area visible at left on the 277-acre site.



New liquid and dry fertilizer plant is part of the Marysville Ag Campus, which also includes a research farm for Shur Grow Seeds.

proprietary brand of Shur Grow Seeds.

"Social responsibility is an important part of our corporate philosophy," Parthemore says. "Our mission is not only to provide ag products and services that add value to farming operations but also to improve the quality of life in our rural communities."

Not every grain handler would go through that much trouble, but the site had strong attractions. Notably, it was located along a CSX mainline and had easy access to a four-lane highway, as well as city utilities. Parthemore notes that the location is convenient to a lot of prime farmland that was underserved for rail shipping.

Project Construction

Heritage hired Hogenson Construction, West Fargo, ND (701-281-1742), as general contractor and millwright on the new facility. That's a long way from home, but Campus Manager Dave McIntosh, in his 16th year with the cooperative, says Hogenson has plenty of experience in Ohio. Heritage managers visited recently-completed Hogenson projects for CGB at Defiance and Kalmbach Feeds in Upper Sandusky, before awarding the contract. "We were very impressed with their work," he says.

In addition to Hogenson, Sunfield Engineering Inc., Cedar, MI (231-360-8608), performed engineering services

on the project, and Kahler Automation Corp., Fairmont, MN (507-235-6648), provided the facility's automation systems.

Groundbreaking took place in May 2014. The first load of grain was received on Jan. 18, 2016.

Slipform Construction

The terminal elevator includes eight 180,000-bushel slipform concrete tanks standing 45 feet in diameter and 140 feet tall, as well as an enclosed space housing the facility's 60,000-bph InterSystems bulk weigh loadout scale.

"We went with concrete for its longevity when constantly loading and unloading tanks for rail shipping," says McIntosh. "The slipform method allowed us to incorporate two 30,000-bushel and two 6,000-bushel interstices for blending. You can't do that with steel."

He notes, however, that the cooperative plans to add 1.7 million bushels of upright steel storage later in 2016. Elevator Services and Storage Inc., Beavertown, OH, will serve as the contractor on that project.

The big tanks are outfitted with a five-cable Safe Grain grain temperature monitoring system, while the two larger interstices have one cable each. Tanks also are outfitted with BinMaster level controls.

The big tanks also have AIRLANCO Airauger aeration unloading system with side sumps for both aeration and unloading powered by a single AIRLANCO 75-hp centrifugal fan per tank. The fans generate 1/10 cfm per bushel for aeration.

Grain Flow

Trucks delivering grain to the Marysville facility utilize a pair of 72-

foot pitless Brechbuhler inbound and outbound truck scales. Truck loads are sampled prior to the inbound scale with an InterSystems truck probe. Heritage does not employ a scale automation system for inbound grain, however.

"As a farmer-owned cooperative, there's a lot to be said for direct facetime with our customers," McIntosh says. "We like for them to interact with our employees, and that's worth the extra time and expense of manually entering gross and tare weights. We also employ a full-time person at our truck dump, whenever we're open for business, for that same reason."

Trucks proceed to one of two enclosed 1,100-bushel mechanical receiving pits. The pits are serviced by an AIRLANCO baghouse dust filter system, again part of the cooperative's commitment to environmental responsibility. The pits feed a pair of 18,000-bph InterSystems legs equipped with Tapco 20x8 CC-HD buckets mounted on 21.5-inch LEGG belts.

The legs deposit grain into a 14-duct InterSystems swing-type double distributor. This, in turn, sends grain via a pair of 18,000-bph InterSystems overhead drag conveyors to a pair of 5-duct InterSystems rotary distributors and into storage via gravity spouts.

Grain also can be sent to a 5,000-bph, natural gas-fired Zimmerman tower dryer, which in turn, deposits dry grain into a 10,000-bph InterSystems dry leg back to storage. McIntosh says the dryer has not been used yet, so he can't comment on its performance.

The storage tanks empty onto 40,000-bph, below-ground InterSystems enclosed belt conveyors running to a 40,000-bph InterSystems shipping leg. This utilizes three rows of Tapco 16x8 CC-HD buckets mounted on a 51-inch LEGG belt.

One of the two receiving legs also can be used for loadout bringing the total volume close to matching the capacity of the 60,000-bph InterSystems bulk weigh loadout scale. The scale is outfitted with CompuWeigh GMS 4000 scale control system. The operator has the option of running grain through a 40,000-bph InterSystems gravity screener prior to loadout.

Workers atop railcars during train loading are protected by a trolley-type



AIRLANCO Airauger aeration and unloading system at left is powered by 75-hp centrifugal fans. AIRLANCO baghouse filter at right services the facility's two truck receiving pits.

fall protection unit fabricated and installed by Hogenson.

The rail loading station also includes a 10,000-bph reclaim system for offloading off-grade grain from railcars.

According to McIntosh, it takes approximately seven to eight hours to load 90-car unit trains on the CSX.

Ed Zdrojewski, editor