

In 1999, the Livingston Community Water Authority (LCWA) was officially formed by Brighton Charter, Green Oak and Hamburg townships. These townships are located along Route 23 in Livingston County, Mich., and each continues to experience high residential and commercial growth. On Jan. 24, 2003, they became a water provider to community residents with the purchase of a producing well field from a local developer.

Next Step

Over the next few years, the townships expanded their water-lines and built a 500,000-gal water tower. LCWA's next major step was to solve resident water quality issues. Many residents were complaining of rusty, foul-smelling water and demanded improvements to their drinking water. After discussions and bidding by several contractors and engineering firms, a contract was signed on Dec. 8, 2006, with Artesian of Pioneer, Inc. to construct a design-build water treatment plant for LCWA.

Artesian of Pioneer worked with the Michigan Department of Environmental Quality (DEQ) to design a water treatment

track so the water treatment plant could be in operation by early December 2007.

Ultimately, LCWA plans to treat up to 5 million gal per day (mgd). The Phase I and Phase II design of the iron removal water treatment plant is for 1,330,560 mgd, and completed Phase I construction will produce 665,280 gal per day (gpd). Phase II will require minor upgrades and additional vertical pressure filters to meet the higher water production level. All the other water plant components were constructed to meet the 1,330,560-mgd treatment level. Artesian also designed the plant so water

Company constructs design-build water treatment plant for water authority

By Dean W. Potratz



softening could be added if and when the water authority chooses to provide this benefit to its customers.

LCWA SOLVES growing drinking water needs

plant that could meet the needs of a growing water district and not be a burden to the Huron River watershed. Removing the iron and odor from the potable water supply was an easy problem to solve, but managing the waste that would be generated created more complex issues. Artesian's design team went to work and successfully received permitting from the DEQ on May 31, 2007. Designed and approved in less than six months, Artesian started construction and maintained on

Demanding Requirements

The new water treatment plant was constructed in an existing residential housing development that had demanding requirements for the design of the building so it would blend in with existing housing structures. The new stylish brick structure contains 3,432 sq ft, with the peak reaching a height just under 35 ft. Construction materials from the existing well house were also implemented into the overall design of the new water treatment plant to enhance the appearance of the housing subdivision.

The plant has four ASME-certified Artesian vertical pressure filters which are 7 ft in diameter by 10 ft in height. Each tank is rated at 115.5 gal per minute with 1-in. baffle plates, top and bottom entrance hatches and interior surfaces that are coated with NSF-approved Themec lining. Inside each tank,

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