



By Charles Jessup & Ben Gould

Small Texas city feels positive impacts of reclaimed water project



The filter and collection system provides at least 200,000 gal of Type 1 reclaimed water per day.



The filtration system is located at the wastewater treatment plant, 3,700 ft away from the reuse location.

The desire for an idyllic environmental space had been expressed by the people of Meadows Place, Texas, for years. This formed the basis of turning a flat, hard-packed 4-acre piece of land into an inviting area that contained a water feature.

After receiving a Texas Parks and Wildlife Department grant, the city—contained within just 1 sq mile with a population of 4,660 people—had to deal with the fact that it was now part of the Fort Bend Subsidence District. This quickly expanded the scope of the project because there was now a cost associated with pumped water. The purpose then became to find a way to build a lake, fill it and use the water while reducing water costs to the citizens—and do it without using money from the General Fund, as budget cuts were taking place.

Building a Lake

Public Works Director Dan McGraw worked with HDR Inc. and Ashbrook Simon-Hartley to design and manufacture a specialized tertiary filter and collection system to provide a minimum of 200,000 gal per day of Type 1 reclaimed water from the wastewater treatment plant for the new lake.

The Iso-Disc filter went online in 2011 and has been producing Type 1 reclaimed water ever since. Each filter disc is individually isolatable and can be removed from service while the filter is in operation. The tertiary filter is user-friendly in that its operation and maintenance requirements are minimal. One reason for the minimal maintenance requirement is that the filter media is stationary and does not require the use of any rotating underwater seals. This allows the operator to go about routine duties and not spend additional time with the filtration process.

Iso-Disc is a gravity-driven disc filter, requiring only 1 ft of head to operate, thus the operating costs for electrical power are extremely small. The filter media always is fully submerged and the backflush mechanism cleans the entire surface area, rendering all of the filter area usable all the time. This minimized the footprint and allowed a small building to house the filter. The filter also continues operation during the backflush cycle. This has proven so successful that, to date, more than 60 cities, municipal utility districts and water companies from as far away as Kansas have visited to see how they can incorporate some of these ideas into their own communities. Meadows Place is proud to be

considered a leader in this area and a model for small cities across Texas.

Reaping the Benefits

With the parks and recreation department working closely with the public works department in a multi-jurisdictional effort, a plan was devised to create a new living eco-center that could be enjoyed by young and old alike from all over Fort Bend County. Fishing, birding, hiking trails, hills, wetlands and other aesthetic improvements were integrated into the design of this new lake, which now provides year-round outdoor activities for all to enjoy.

The 10- to 12-ft-deep, 3-million-gal reclaimed water lake now is the centerpiece of an 8-acre park complex. A ½-mile walking/jogging trail surrounds the lake and connects to an Americans With Disabilities Act-approved crushed granite walking trail that crosses the lake via a special bridge/fishing platform designed and built by Fort Bend County. New berms and hills surround the lake and provide the perfect environment for the outdoor pavilions, a flag football field and covered picnic sites. Strategically placed decorative lighting allows residents to use and enjoy their new lake for extended hours. A fish stocking program proved extremely successful as kids of all ages catch and release bluegill, bream and bass. The birds, including egrets and osprey, love it, too. This benefits the city monetarily, the parks environmentally and, as a bonus, gives the elementary school a new educational tool.

Currently school, church and scout groups use the reclaimed water lake area for both recreational and educational purposes. These efforts are enhanced by a series of informative signs, which contain multiple colorful photos to explain the project, reclaimed water, plants and all of the new wildlife.

In addition to the quality of life advantages the reclaimed lake now provides, residents also are enjoying increased property values. This project demonstrated that no city is too small to utilize reclaimed water and realize community benefits. **WWD**

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