



CHOOSE THE RIGHT PARTNER FOR WASTEWATER TREATMENT PLANT RETROFITS AND REHABS

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As the U.S. economy improves, attention is turning to restoring nationwide infrastructure that has long been neglected. This deterioration is not limited to roads and highways; it also includes the vast majority of municipal wastewater treatment plants (WWTPs) in the country, which are 20 years old or more. Aging equipment, more stringent permit requirements and community growth are forcing municipalities to squeeze more than ever from their existing facilities.

Over the next few years, city councils in municipalities large and small will be discussing what to do about these aging assets. Local politics, budget restraints, and the reluctance to raise rates for paying customers have municipal decision-makers searching for the most cost-effective way to meet wastewater goals for the future. For most municipalities, the answer is going to be a retrofit/rehab strategy.

Studies show the magnitude of the need

This scenario is widespread, according to the EPA's Clean Watersheds Needs Survey (CWNS), a nationwide assessment conducted every four years of capital investment needed for publicly-owned wastewater collection and treatment facilities. Overall, this report calculates \$271 billion in projected needs across nearly 12,000 public facilities — nearly half the plants in the country. (The data used in this paper is from the 2012 CWNS Report, which can be viewed at www.epa.gov/cwns.)

Much of this work is needed in small municipalities, with limited resources for major capital projects. Recent estimates from the EPA state treatment facilities with capacity from .101 to 1.000 MGD will need attention within the next several years. This work could range from a simple retrofit or replacement of existing equipment to total plant overhaul and rehab.

Regardless of the size of the need, municipalities will be looking for a way to get their repairs or upgrades with the least impact on local taxpayers. In evaluating options, the most likely way to achieve a cost-effective outcome is to find a company who can work as a partner and who can provide the municipality with a total, turnkey solution.

What to look for in a total solution partner

Why is this capability so important in a retrofit/rehab project? Because needs vary, and not all suppliers can fit all needs. Many wastewater treatment companies and contractors offer services that execute projects from point A to point B. But often they can't handle the inevitable detours that crop up along the way — detours that are outside the defined project scope.

When this happens, facility managers often have to step in to coordinate, negotiate, and mitigate the unforeseen. Costs rise. Delays happen. These outcomes can be avoided by choosing a partner with the bandwidth to handle unforeseen circumstances.

Can you afford a consulting engineer?

Often, a consulting engineer can fill the role of the total solution partner, managing the project and helping hire the contractors needed to do the work. In many cases, this is a good avenue to take. However, budget restraints and project scope might make it cost-prohibitive to involve a consulting engineer, in which case the municipality will need to partner directly with a company that has the skills and the depth to handle all disciplines of a given project. The desired skill set includes biological process expertise, engineering capabilities, project management capabilities, fabrication capabilities, construction capabilities, commissioning capabilities, and service capabilities.

Partnering direct with Evoqua for DAVCO™ products

One such company is Evoqua Water Technologies, a leading provider of water and wastewater treatment equipment and services. Evoqua's DAVCO brand products and services provide a full service solution with expertise, capabilities, and resources that delivers total turnkey solutions for municipal wastewater treatment plant retrofit/rehab needs. Located in Thomasville, Georgia, Evoqua's DAVCO line can provide the expertise needed to complete a project from start to finish and provide support, regardless of un-foreseen circumstances.

Case study: Utilities, Inc. of Florida

In one recent project, Utilities, Inc. of Longwood, Florida partnered with Evoqua's DAVCO product and service team to rehabilitate three existing biological wastewater treatment trains at the company's Wekiva Hunt Club Wastewater Facility. The three trains, with a combined permit treatment capacity of 2.9 million gallons per day (MGD), underwent equipment and structural improvements to restore operating efficiency, extend the plant's useful life and meet capacity and nutrient removal requirements.

Evoqua's DAVCO™ product line provided a thorough equipment evaluation of the facilities and recommended best options to improve performance as well as save capital and operator costs. The scope of the project included the replacement of the clarifier drive assemblies, aeration diffusers, waste and return activated sludge boxes with air lift pipe assemblies, catwalks, and process controls. In addition, tank structural improvements were made where needed along with field painting, commissioning, and operator training. The rehabilitation of this facility was managed and executed by Evoqua's DAVCO team and will be completed in stages with an estimated completion date of Spring 2018.



Utilities, Inc. of Longwood, FL partnered with Evoqua to rehabilitate three biological wastewater treatment trains to restore operating efficiency, extend the plant's useful life and meet capacity and nutrient removal requirements.

Utilities, Inc. is focused on the need to maintain the level of service that their customers expect and to consistently meet regulatory obligations. This project supports Utility, Inc.'s goal of maximizing the production of reclaimed water on a continuous basis and thus minimizing the nutrient load that would otherwise impact Sweetwater Creek. "The rehab project will be a boon to the Wekiva River ecosystem, classified as an Outstanding Water of the State" said Bryan Gongre, Regional Manager for Utilities, Inc. "The quality of service and workmanship provided by Evoqua's DAVCO field service team is unparalleled in the industry. We look forward to the application of Evoqua's expertise so that the Wekiva Hunt Club facility will perform better than its original design"

Conclusion

Utilities, Inc. was faced with challenges that many small municipalities face in restoring wastewater treatment infrastructure: unique requirements, unexpected changes, and a limited budget. Their best option turned out to be from Evoqua's DAVCO product line, to meet their requirements with a total turnkey solution. Key to the success of the project was Evoqua's ability to work as a partner with Utilities Inc. to meet overall goals and prepare for the future.

As manager of a WWTP retrofit/rehab project, remember that you have options. Don't choose a partner who may put you in the position of becoming the project coordinator, negotiator and perhaps a mitigator of unforeseen problems. As Utilities Inc.'s Bryan Gongre stated, "The quality of service and workmanship provided by Evoqua's DAVCO field service team is unparalleled in the industry. We look forward to the application of Evoqua's expertise so that the Wekiva Hunt Club facility will perform better than its original design."

Sources:

"Clean Watersheds Needs Survey." EPA. Environmental Protection Agency, 29 Dec. 2016. Web. 17 Mar. 2017.

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