

WATER POWERS DETROIT'S DRIVE TO RETURN TO WORLD-CLASS



Detroit—America's eighth largest metropolitan area—has known good times and bad.

But now this area of four million people, which fans out in a sprawling half-circle from its focal point on the Detroit River, is moving toward global city status once again.

Clean water is playing a key role in the region's growth, and USFilter is helping by supplying treatment systems at several of the infrastructure rehabilitation projects the Detroit Water and Sewerage Department (DWSD) is undertaking.

At the massive new Water Works Park II treatment plant, USFilter has supplied screens, plate separators, and rectangular sludge collectors. The company's chlorination systems can be found at Detroit's other water treatment plants, as well as the Wastewater Treatment Plant. USFilter has provided additional technology at the city's new combined sewer overflow (CSO) facilities.

"Infrastructure is the major concern of all utilities in the 21st century—the ongoing necessity of replacing aging transmission lines and mains, and facilities that have reached the end of their service," says Victor Mercado, director, DWSD. "We're out front on this issue."



Detroit's Water Works Park II project, under construction.

The Park is A Benchmark

The Water Works Park II project is the centerpiece. When started up next summer, this fully automated 240-million-gallon-a-day (MGD) drinking water treatment facility along the Detroit River will replace a facility built

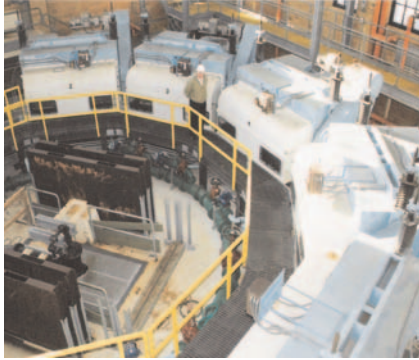
in 1924. It is being built on the same site, and the current plant has remained in operation throughout this complex construction project. The high-lift pumping station, erected in 1913, has been restored and will continue to function when Water Works Park II goes into operation.

A key to success has been a Design-Build-Maintain concept headed by the Detroit Water Team—a consortium of engineering and construction firms who have designed and built the project and will maintain it for seven years.

In fact, construction of this \$270 million complex will be completed in just four years.

Raw water from the Detroit River will pass through coarse wire mesh traveling screens provided by USFilter's Envirex Products. Nine Envirex water intake screens are located at the original

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Traveling water screens from USFilter remove large debris from raw water.

intake structure and four screens are at Water Works Park II.

Then the water will be clarified in USFilter parallel plate separators. The largest project of its kind ever undertaken by USFilter's Zimpro Products, the separator job was also on a fast track. The company produced 304 "plate packs" in only 26 weeks. The plate packs (304 stainless steel-framed clusters of separator plates installed in concrete basins) used 15,000 pounds of fasteners, 48 miles of fiberglass reinforced plastic (FRP) sheet, 240 miles of FRP channel, and 1.25 million pounds of stainless steel.

To manage the sludge removed from the raw water, USFilter's Envirex Products provided 24 rectangular sludge collectors equipped with non-metallic chain, and mounted beneath the separators.

Detroit operates four other water treatment plants, helping to supply clean drinking water to a total of four

million people, including 125 different communities in eight counties beyond Detroit city limits. The Northeast, Southwest and Lake Huron facilities all are equipped with disinfection systems supplied by USFilter's Wallace & Tiernan Products. Plans for the Lake Huron plant—currently undergoing a \$135 million upgrade—are to use USFilter plate separators and Envirex circular collectors/thickeners for filter backwash water treatment, and PolyBlend® liquid polymer blending systems from USFilter's Stranco Products.

Biggest of the Big

The Detroit Wastewater Treatment Plant has a capacity of 667 MGD and is the largest single-site wastewater treatment facility in the United States. It, too, is undergoing major upgrading—over \$500 million for facility and equipment rehabilitation and employee training. A brand new chlorination-dechlorination facility contains 16 high capacity V-2000 chlorinators and 14 high capacity V-2000 sulfonators from Wallace & Tiernan Products. The largest system of its kind in the country, the chlorination system automatically disinfects plant effluent to eliminate pathogens, while the dechlorination system conditions the effluent for safe discharge into the environment.

The third leg of the Detroit infrastructure program involves \$1 billion in construction of seven CSO treatment and disinfection facilities and 10 large retention basins, three owned by Detroit, and the rest by neighboring communities. The work is the result of the Rouge River National Wet Weather Demonstration project, designed to eliminate sources of pollution of the Rouge River and restore its watershed. Again, USFilter technology is involved, with the company providing Water Champ® chemical induction units from Stranco Products.



USFilter supplied the largest chlorination-dechlorination system in America.

USFilter

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