



We Are Columbia

Columbia Waterworks Wins Award, Plans to Unveil Water Treatment Plant Upgrades

February 17, 2014

Columbia, SC - The City of Columbia is proud to announce the completion of its Raw Water and Finished Water Pump Station upgrades made at its Columbia Canal Water Treatment Plant in downtown Columbia.

The City and URS Corporation also received an Engineering Excellence Award for the Raw Water and High Service Pump Station portion of these improvements on Tuesday, February 5, 2014 from the American Council of Engineering Companies (ACEC) of South Carolina. This award goes to projects that exemplify cooperation, innovation, and excellence in engineering and construction.

"The ACEC award is a great honor, and it recognizes the significant commitment we've made to continually improving our infrastructure while keeping abreast of all drinking water regulations. These investments help us ensure our drinking water remains some of the best tasting in the state," says Bud Summers, Waterworks Superintendent for the City of Columbia. The City, which began these improvements in June of 2010, has held one of the top three spots each year since 2010 in a statewide taste test sponsored by the South Carolina Chapter of the American Water Works Association.

The City will unveil these improvements at a press conference to take place at 10 a.m. on Wednesday, February 19th at the downtown plant located at 300 Laurel St. Following the presentation there will be a tour of the plant for citizens to observe the recent upgrades. Anyone interested in attending the press conference or the tour will need to pre-register by e-mailing Victoria Kramer at vlkramer@columbiasc.net or calling (803) 545-3227.



A view of the City's new Raw Water Pump Station from Riverfront Park on the Columbia Canal.

Please contact the City of Columbia Department of Utilities and Engineering at 545-3400 or Victoria Kramer (vlkramer@columbiasc.net) at 545-3227 if you have questions. For more about the City of Columbia's Drinking Water program, visit www.columbiasc.net/drinking-water. For more about the City's Department of Utilities and Engineering, visit www.columbiasc.net/utilities-engineering.



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Facts About the Columbia Canal Water Treatment Plant's ACEC Engineering Excellence Award

Summary:

- Raw water pumps replaced to increase capacity from 71 MGD to 84 MGD.
- Finished water pumps replaced to increase reliable pumping capacity by 25 MGD and increase efficiency.
- Finished water piping replaced to provide capacity for future expansion.
- Electrical system upgraded to operate pumps more efficiently.
- Upgraded the raw water pump bypass pipe to prepare for future work.
- Repaired crumbling stormwater tunnel under the water treatment plant.

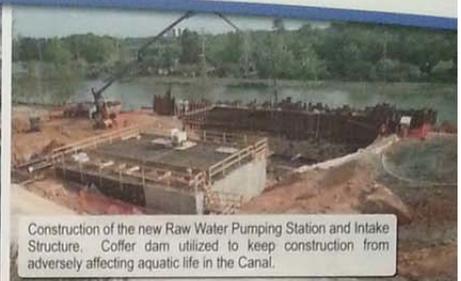
City of Columbia – Canal WTP Improvements



Demolition of High Service Pump Room No. 1 while maintaining the architectural and historical value of the structure.



Offsetting and bending 48-inch high service yard piping to avoid conflicts with existing utilities and major storm water tunnel.



Construction of the new Raw Water Pumping Station and Intake Structure. Cofferdam utilized to keep construction from adversely affecting aquatic life in the Canal.



New vertical turbine raw water pumps.

City of Columbia – Canal WTP Improvements

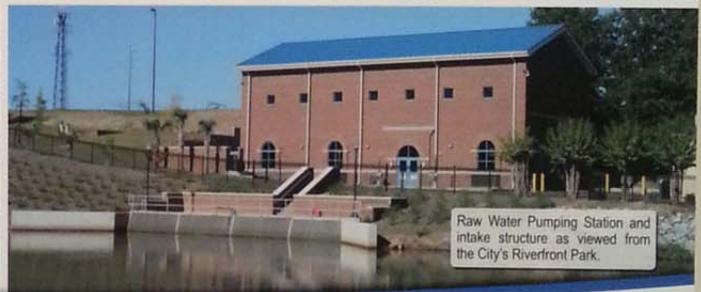
The City of Columbia Canal Water Treatment Plant (WTP) was originally constructed and placed in operation in 1906 with a treatment capacity of 6 million gallons per day (MGD). Through numerous upgrades and improvement projects the WTP is currently rated for a treatment capacity of 85 MGD and serves approximately 375,000 customers. Critical customers served by the WTP includes three (3) hospitals, Fort Jackson, McEntire Joint National Guard Base and Westinghouse Nuclear Station.

URS worked closely with the City of Columbia's Engineering Department and Water Treatment Plant staff to design the upgrades to the Canal WTP raw water and high service facilities. These upgrades provided increased raw and high service pumping capacity, replaced old and failing infrastructure at the plant and provided an overall improvement in the operational reliability and functionality of the plant.

The main challenge presented by this project was the design and construction of the improvements to the major pumping facilities and infrastructure while maintaining a minimum plant capacity of 50 MGD at all times. A detailed and complex sequence of construction documents were developed and incorporated into the construction package in order to achieve the requirement. Included in the sequencing documents were means to demolish three (3) existing raw water pumping facilities and replace with a single facility as well as replacing three (3) existing high service pumps and a majority of the high service yard piping and valves. Temporary high service and raw water pumping facilities were designed to supplement plant operations during the critical sequencing phases and provisions were made for temporary electrical services to facilitate construction. Through diligent collaboration between the City staff and URS, these challenges were successfully overcome in order to achieve project objectives.



New horizontal split case high service pumps with a production capacity of 50 MGD.



Raw Water Pumping Station and intake structure as viewed from the City's Riverfront Park.



We Are Columbia

ACEC

AMERICAN COUNCIL OF ENGINEERING COMPANIES

100 Years of Excellence

URS

Before & After

Raw Water Pump Area 2010



Raw Water Pump Area 2014



Finished Water Pump Area 2010



Finished Water Pump Area 2014



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