

BY THE NUMBERS

Treatment Capacity
12,000,000
gallons per day

Average Production
5,000,000
gallons per day

1,900 fire hydrants
223 miles of pipe

10.85 million gallons
of storage



Project Partners:



Illinois
Environmental
Protection Agency

Design Engineers: CDM Smith and Shive Hattery

General Contractor: Civil Constructors

The project is financed by an IEPA SRF Loan.

Original Construction Project Budget: \$25,000,000

Current Construction Cost with Changes: \$19,600,000



Rock Island Water System History

- 1871 ● A pumping station at 6th Street began distributing untreated Mississippi River water to customers
- 1882 ● The current pumping station at 24th Street was constructed and the water intake was moved to the north side of the Rock Island Arsenal
- 1891 ● Rock Island began treating Mississippi River water
- 1895 ● The first water mains were installed in the "Hill District"
- 1900 ● The Water Treatment Plant at 24th Street/16th Avenue was constructed
- Late 1920's ● Rock Island began drinking water disinfection
- 1938 ● The "Domes" were constructed
- 1959 ● The first water main was extended under the Rock River to serve southwest Rock Island
- 1999 ● Existing chemical treatment and sedimentation process systems replaced with Infilco-Degremont Super-Pulsator technology and pulse feed chemical treatment equipment
- 2017 ● Construction of a new state-of-the-art filtration facility began to replace the 109 year old filtration building
- 2020 ● Completion of Water Filtration Facility project



ROCK ISLAND
ILLINOIS

Public Works Department

ROCK ISLAND
Water Treatment Plant



Operator Room

Centralized location to manage the plant operations using supervisory control and data acquisition (SCADA). Operator has the ability to check each function to ensure its running properly in automatic modes and has the ability to operate manually should the reason arise while following established protocols.



Laboratory

Sample piping provides the lab with pre and post chemical filtered water. Here samples can cross check instrumentation equipment in the filter gallery and ensure quality is in check.



UV Disinfection (Pipe Gallery)

Total of eight 12-inch Ultraviolet (UV) Disinfection Sentinel reactors by Calgon Carbon after each filter basin provide additional defense to potable water supply by inactivation of Cryptosporidium and giardia, which may be resistant to chlorine.



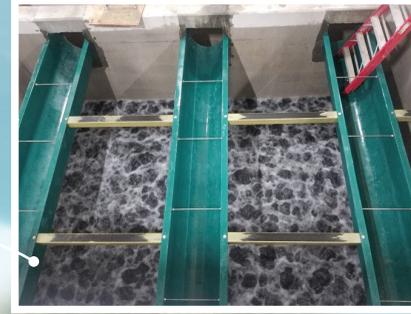
Filter Control Panel

Provides local, manual control along the side filter should a situation call for manual operation of a filter basin.



Multi-Media Filter Basin

Eight dual media filters basins contain 18" anthracite atop 12" sand. Each basin has the ability to filter approximately 1.7 MGD of water by gravity and be backwashed through a stainless steel air/water underdrain system.



Electrical Room

Centralized location for power into the building and distribution throughout the plant to the separate rooms and equipment.

Pump Room

Three vertical turbine pumps, finish water pumps, two duty and one standby pumps, send treated water from the clearwell to the Domed Storage Tanks across the street from the plant. Each finished water pump has the capacity of 4,200 gpm.

Two backwash water supply pumps, one duty and one standby, are used when a filter is in need of being cleaned by pumping water backwards through the filter media. Each backwash water supply pump has the capacity of 6,000 gpm.



Process Flow Diagram

