



TERTIARY FILTER REHABILITATION

Muncie, Indiana

“Our recent filter renovation may be the most significant improvement that our plant has undergone. Our effluent throughput has increased with fewer filters online, the new backwashes are far more complete and simple and the amount of recycle water has decreased markedly. All this has been accomplished without any reduction in removal efficiencies. Wessler Engineering provided very positive results, which we will benefit from for many years to come.”--John Barlow, Superintendent

Wessler helped the Muncie Sanitary District improve their final effluent, treat higher wet-weather flows to reduce combined sewer overflows, save energy, reduce labor and maintenance, and reduce power costs, all while staying below the project budget.



The Advanced Waste Treatment (AWT) filters at the 24 MGD Water Pollution Control Facility were originally constructed in 1977 with improvements made in 1990 and had become the limiting

process for treating flows through the entire plant. The existing multi-media filters and media scour backwash systems were in poor condition, leading to short filter runs, excessive backwashing, and significant recycle streams back to the plant influent. Backwashing would at times need to be halted due to the Backwash Surge Tank being full. The goals of the improvements were to increase filter capacity, improve filter performance, and decrease backwashing cycle times and volumes – all of which would reduce energy consumption, costs, and labor. Our services also included an evaluation of the filter structure to correct structural deficiencies. The Preliminary Engineering Report (PER) was completed in 2004 with an estimated construction cost of \$3,000,000.

Construction was completed in 2007 and included:

- Replacement of the filter media with a new coarse mono-media
- New combined air/water simultaneous backwash system with new centrifugal blowers
- New filter backwash pumps with VFDs
- Replacement of filter valves and electric actuators
- New PLC filter controls
- New effluent flow metering
- Structural rehabilitation

The improvements resulted in all goals of the project being achieved. The project was funded through the State Revolving Fund (SRF) Loan program. Construction Cost: \$2,700,000.



MERIT AWARD WINNER