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Quality Water Matters

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Hello! A frequently asked question this month was about home water filtration devices. We already filter your water at the Ann Arbor Water Treatment Plant and continuously collect data to ensure the process is working and producing

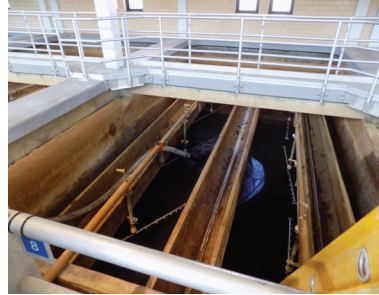
high-quality drinking water. By paying for Ann Arbor drinking water, you are already paying us to operate, maintain, and carefully monitor the water filtration process for you. Furthermore, filtration is only one of the many barriers to contamination that we have at the Ann Arbor Water Treatment Plant to keep the high-quality water flowing.

Filtering Ann Arbor Drinking Water

Just like many pitcher filters or filters that people consider installing on their sinks, our filters at the plant contain granular activated carbon (GAC) media. GAC filters remove contaminants by physically straining out particles, chemically absorbing contaminants, and biologically removing contamination. We actually encourage microorganisms to grow in our filters because they consume contaminants like food and break them down. We watch the water chemistry and microbiology carefully before and after filtration to ensure it is working properly, constantly collecting data for parameters such as turbidity (measurement of the cloudiness of the water), particles, PFAS, and bacteria to ensure everything is working properly. We also follow the filtration process with disinfection steps. Each filter is typically run for 72-96 hours before it is taken out of service and washed by flowing water through it in reverse. We have 26 filters and only need a fraction of them at any one time, leaving plenty of time for washing and maintenance.

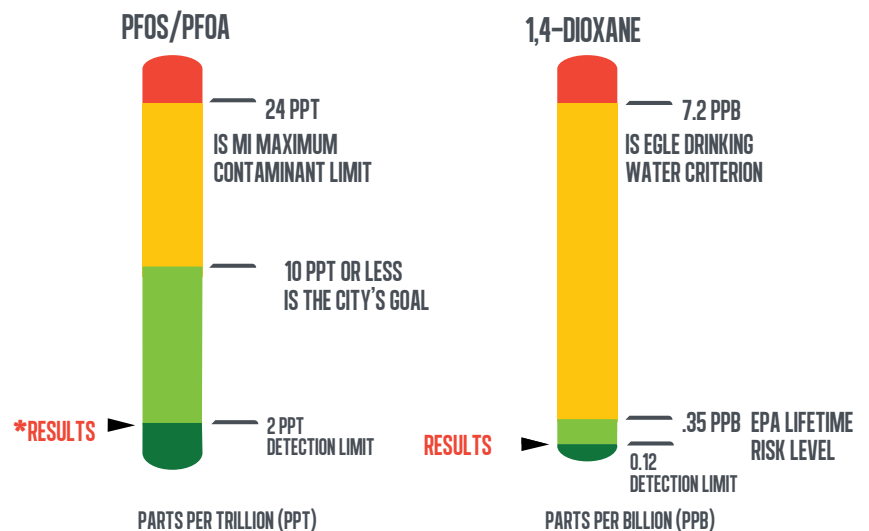
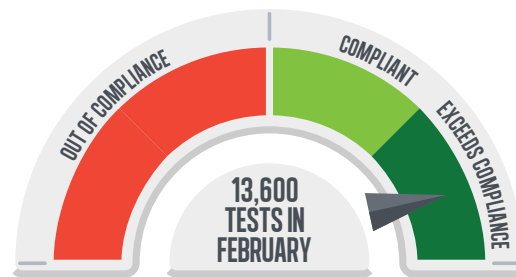
Regenerating the Filter Media

In March of every year, we remove the media from some of our filters and regenerate it.



Granular Activated Carbon (GAC) is removed from each of our 26 filters every three years and regenerated carbon is put back in the filter through a hose as shown here (see above).

MONTHLY WATER QUALITY DASHBOARD



*RESULTS

RESULTS

*PFAS RESULTS NOT YET AVAILABLE FOR FEBRUARY

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That means the media is taken offsite and baked at a high temperature to remove contaminants. The media is later returned to our filters to use again. We have done experiments to evaluate regenerated carbon against new carbon and have found that it performs very well for PFAS and turbidity removal while also being a more sustainable and lower cost option. As part of our strategy for removing PFAS to meet City of Ann Arbor PFAS goals and regulations from the State of Michigan, we regenerate or replace the media in our filters every three years.

Metrics for Success

Not only do we monitor water chemistry and microbiology before and after the filtration process, but we are also part of the Michigan Department of Environment, Great Lakes and Energy's (EGLE's) voluntary Area Wide Optimization Program (AWOP). This program encourages utilities to optimize their treatment process and strive for water quality that is better than regulations require. In 2021, the State of Michigan recognized Ann Arbor for turbidity levels that even exceeded the AWOP goals. We use turbidity,

measured in Nephelometric Turbidity Units (NTU), as a filter performance indicator because we can monitor it continuously with online instrumentation and higher turbidity immediately following filtration can indicate the presence of more microorganisms. The AWOP program sets a turbidity goal of 0.10 NTU or lower in 95% of water samples collected in a year. Ann Arbor was able to achieve this metric in 99.7% of water samples collected in 2021 or for a total of 4380 samples.

We also post water quality data on our website if you are interested in knowing the concentrations of any given contaminant after water treatment such as PFAS, turbidity, and others. For more information, visit www.qualitywatermatters.org.

Becky Lahr

Becky Lahr, PhD, City of Ann Arbor Drinking Water Quality Manager

WTP Rehabilitation Planning Efforts Take Step Forward

At its Feb. 22 meeting, City Council unanimously approved a contract with AECOM Great Lakes Inc. to create a facility plan to rehabilitate portions of the Water Treatment Plant (WTP), which are more than 80 years old and have exceeded their service life. Glen Wiczorek, senior WTP utilities engineer, noted in a memo to Council that while the plant meets current regulatory requirements for drinking water, aged and deteriorated infrastructure does not meet current design standards and results in many operational and maintenance issues. Council's 11-0 vote directed city staff to work on a replacement plan for outdated portions of the plant vs. receiving service from the Great Lakes Water Authority.

"The project includes a pilot plant which is a smaller-scale production system used to physically test and validate the proposed treatment changes before detailed design and construction," said Wiczorek. "The pilot plant will specifically demonstrate whether the proposed treatment changes will reliably meet the city's finished water quality goals."

The results from the pilot plant have the potential for significant construction cost savings through the validation of newer and more-efficient technologies, Wiczorek said. It also positions the city for federal funding for future improvements. City Council would need to approve reconstruction contract funding, which could take place within five years. Project updates will be provided on the city's [website](#).

March 2022 Water Champion

Congratulations to this month's Water Quality Champion, **Mark MacArthur**, City of Ann Arbor Water Utilities Technician. He leads operation and maintenance work at the dam and helps to ensure we meet FERC regulations. MacArthur's reliability and attention to detail are incredibly valuable for his work. Aspects of the role that MacArthur enjoys most are helping to keep debris out of the river to keep the river and dams clean, being outside to see the changing seasons on the river, and that every day is interesting and different. He also enjoys interacting with the public and talking about the history of the river and dams. MacArthur has spent many years as a Water Utilities Technician at the Water Treatment Plant, operating the filters and working on carbon changeout and filter maintenance projects. He also stepped up and filled in as a Water Utilities Supervisor to operate the water treatment plant when we were short staffed during the pandemic.



MacArthur asks that you please help to keep our river clean by not wearing flip flops when you go out on the river! He is constantly finding flip flops at the dam and has a running collection, sometimes even finding matching sets.

