

CITY OF ANN ARBOR: 2023 WATER QUALITY REPORT

With summary of your water data from Jan. 1-Dec. 31, 2023

In 2023, Ann Arbor continued to meet all drinking water regulations and water quality goals to produce water of better quality than regulations require. In this report you will find a summary of the 2023 water quality data demonstrating the high quality of the drinking water Ann Arbor delivers.

Photographs courtesy of Mark MacArthur



ANN ARBOR
WATER



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A message to customers

Protecting Safe Drinking Water: Keeping Our Customers Informed



Ann Arbor Water is proud to share this annual drinking water quality report which contains information about your water, from source to tap. The U.S. Environmental Protection Agency (EPA) and Michigan Department of the Environment, Great Lakes, and Energy (EGLE) require that all water suppliers produce an annual

report that informs customers about the quality of their drinking water. However, Ann Arbor Water makes routine communication about our water a priority. Did you know that more than 10,000 people subscribe to our monthly newsletter? The newsletter, along with our website, provide up to date data on local challenges, as well as news updates and tips for protecting our waterways. To sign up for our newsletter, visit www.annarborwater.org.

In 2023 Ann Arbor Water made strides in planning for our future through work on several significant projects. A Source Water Protection Plan was drafted after a year of focus groups and meetings with internal and external stakeholders. Completion of these source water protection documents marks the beginning of several new source water protection projects and demonstrates the importance Ann Arbor Water places on source water protection, which is also the theme of this year's annual water quality report.

In addition to this project, work on the Water Treatment Facility Plan continued. The purpose of the Facility Plan is to evaluate the operational, maintenance and regulatory needs of the plant now and into the future as Ann Arbor prepares for the rehabilitation of the oldest portions of the drinking water treatment plant, originally built in 1938. Two components of the plan, the Strategic Plan and construction of the pilot plant were completed in 2023.



A robust community engagement effort was performed to help shape the Strategic Plan, with direct participation from our largest users and input from diverse participants, including low-income, historically underrepresented, and age-diverse people. The Strategic Plan establishes guiding principles and aspirational goals (see graphic on page 3).

The city completed construction of a pilot plant in 2023. The pilot plant is a small-scale plant that can test treatment technologies before they are implemented at full-scale. We partnered with the University of Michigan to operate the pilot plant, with a shared vision to use the pilot to both evaluate new technology that we

ABOUT THIS REPORT

This report covers the drinking water quality for the City of Ann Arbor (Water Supply Serial Number 0220) for the 2023 calendar year. The State of Michigan and the United States Environmental Protection Agency (U.S. EPA) require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2023 and conducted additional monitoring to ensure we maintain better water quality than regulations require. The information provided is a snapshot of the quality of the water we provided to you in 2023. Included are details about where your water comes from, what it contains, and how it compares to U.S. EPA and State standards.

envision building at the water plant and research new technologies to advance our knowledge of climate related water quality changes and contaminants of concern.



The Strategic Plan, Source Water Protection Plan, and the Pilot Plant, will be used in the coming years to guide decisions and actions to better protect our source water and build a more sustainable and resilient water system. We appreciate the input we received from the community in preparing these plans and look forward to continuing those conversations. To read more about these projects visit our website www.a2gov.org/DrinkingWater.

The city also continues to invest in our infrastructure to ensure continuous, reliable and high-quality water delivery. Did you know that the Ann Arbor Water Treatment Plant treats and distributes water to more than 125,000 people through more than 500 miles of underground pipes? In 2023 we made progress on several capital projects to replace aging infrastructure and we replaced 9% of galvanized service lines that were once connected to lead.

The year also brought another award to Ann Arbor Water for our commitment to excellence. The Association of Metropolitan Water Agencies (AMWA) honored Ann Arbor Water with the Platinum Award for Utility Excellence, one of 11 drinking water systems in the country to receive this level of recognition.

We are committed to providing you with safe, high quality, reliable water. As you will see in this report, we routinely test for both regulated contaminants as well as contaminants that are not regulated but we believe are important to monitor. If you have questions about this report, or water quality in the City of Ann Arbor, please contact us at 734.794.6426, email us at water@a2gov.org, or visit www.annarborwater.org.

Molly Maciejewski,
Water Treatment Services Manager,
F-1 Licensed Operator

ANN ARBOR WATER'S STRATEGIC PLAN



Guiding principles and aspirational goals in Ann Arbor Water's Strategic Plan.

AMWA AWARD



Brian Steglitz (center) from the City of Ann Arbor accepts the Platinum Award for Utility Excellence from the Association of Metropolitan Water Agencies (AMWA) and poses with Yvonne Forest representing Houston Water and AMWA District President John Entsminger from Las Vegas Valley.

WE WANT TO HEAR FROM YOU!



How have you interacted with Ann Arbor Water recently? Did you attend our annual Open House? Did your child learn about Ann Arbor Water in school? Have you read our monthly water newsletter?

We'd also love to hear your stories and experiences about the importance of water in your life so we can share them in our future communications.

Please email your experiences to water@a2gov.org.

Also, we are happy to keep comments anonymous if preferred.



DO YOUR PART: PLEASE CLEAN UP AFTER YOUR DOG

Stroll along just about any citypark, sidewalk, or trail, and you're sure to see (or worse, step in) dog poop. Dog waste that isn't cleaned up isn't just stinky mess on the bottom of your shoes—it is also a cause of pollution in our creeks, rivers and lakes. When it rains, the dog poop is flushed into our stormwater drainage pipes, and ultimately into the Huron River. Dog poop contains high levels of nitrogen and phosphorus, which can deplete oxygen that fish and other water-based life need to survive, as well as encourage the growth of harmful algae. It is also considered a significant source of pathogens like fecal coliform, a disease-causing bacteria. As dog owners, we have the responsibility to help protect the Huron River from this pollution.

Please take a moment to "Scoop the Poop" – and be sure to carry a spare bag or two in your pocket for our canine friends.



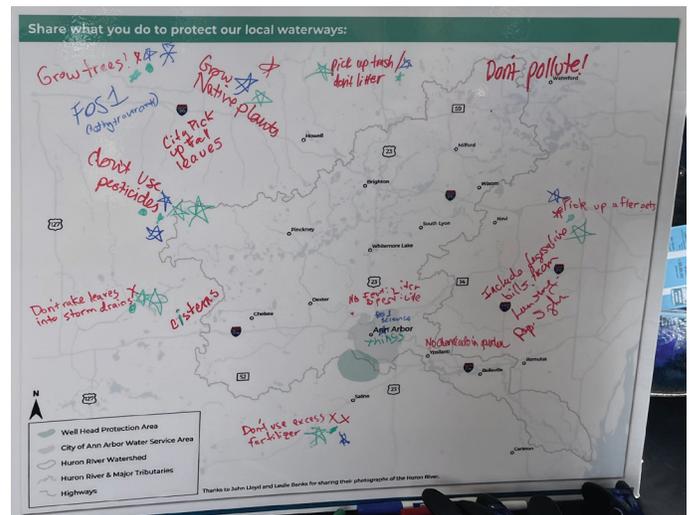
SOURCE WATER PROTECTION IS KEY TO THE HEALTH OF ANN ARBOR WATER AND OUR ECOSYSTEM

WHAT CAN YOU DO TO PROTECT THE SOURCE OF YOUR DRINKING WATER?

- Protect the Huron River
- Support infrastructure investments to ensure the future of our water resources quality, quantity, reliability
- Understand the value of your water (it takes all types - Huron River water, your drinking water, management of your stormwater and rain gardens, wastewater treatment, and all the infrastructure required to keep the water flowing)
- Get Involved! Sign up at www.AnnArborWater.org for our water newsletter to get information about upcoming events and local issues. Build a rain garden. Help keep the area around storm drains clear of debris. In the winter, reduce your use of salt on driveways and sidewalks. Plant a tree. Trees help absorb and filter water of pollutants. Clean up driveway spills as they happen and don't wash the material into the street. Don't flush personal care products or fats/oil/grease down the drain. Don't pour hazardous waste down the drain, on the ground, or into catch basins. Washtenaw County has a Household Toxics program that can help you dispose of these items. Limit the use of pesticides or fertilizers, and always follow the label directions. Dispose of medications properly. Residents should take advantage of Washtenaw County's pharmaceutical take-back collection program that accept prescription or over-the-counter drugs, as this program offers a safe and environmentally-conscious way to dispose of unwanted medicines. If you live near a stream or the river, grow a vegetative buffer between your mowed lawn and the water's edge.

WHAT IS ANN ARBOR WATER DOING TO PROTECT SOURCE WATER?

Source water protection is key to both the health of Ann Arbor drinking water and our ecosystem. As such, the City of Ann Arbor maintains a Wellhead Protection Plan (WHPP) and Surface Water Intake Protection Plan (SWIPP) within its Source Water Protection Plan. In 2023 Ann Arbor worked with a Technical Advisory Committee to update these plans, which are necessary to manage our drinking water resources. The goal is to maintain a resilient and reliable source of drinking water. The City of Ann Arbor has a "One Water" approach, which brings all the departments managing water together with external stakeholders to provide quality water services and ensure the public health of the greater Ann Arbor community. The new Source Water Protection Plan provides a roadmap for source water management strategies that will be implemented over the coming years in collaboration with organizations such as the Huron River Watershed Council and nearby communities.



2023 watershed public engagement activity.

What is a Surface Water Intake Protection Plan?

Approximately 85 percent of Ann Arbor's drinking water is supplied by surface water from the Huron River. Ann Arbor's Surface Water Intake Protection Plan evaluates the Huron River and its Source Water Protection Area to understand what could impact water quality in the river, and then establishes water management and treatment strategies to ensure that drinking water in Ann Arbor is safe and reliable. The Source Water Protection Area (SWPA) is the river, its tributaries, and all the land that drains to river, starting from where the city draws its water. A key component of the plan is continuing partnerships with other communities and organizations to collectively manage this important resource.

What is a Wellhead Protection Plan?

In Ann Arbor, about 15 percent of our drinking water comes from groundwater, which is the water beneath the surface stored in water-bearing gravel, sand, or clay deposits. The Wellhead Protection Plan maps the protection area, identifies potential sources of contamination within it, and develops methods to manage the area and minimize potential threats to the water supply. A wellhead protection area (WHPA) is the surface and subsurface area surrounding a water well that contributes groundwater to a water system. The City of Ann Arbor's Wellhead Protection Plan has been in place since 1996 and the new update captures changes to conditions in the area and refreshes the management of our water resources.

HOW DO WE KEEP YOUR DRINKING WATER SAFE?

Over the years, Ann Arbor has invested in infrastructure to provide multiple lines of defense against contamination to produce high quality drinking water. For example, we use ozone, ultraviolet light, and chloramines to protect against microbial contamination; a softening process that can remove inorganic contaminants, radioactive contaminants, and particles; and a filtration process with granular activated carbon that can remove organic contaminants, pesticides, herbicides, particles, and microorganisms. We also monitor water quality continuously before and after treatment to ensure our treatment processes are working successfully. These treatment steps prove to be reliable year after year because of the exceptional group of employees who ensure the equipment, treatment processes, and distribution system continues to run 24 hours a day, seven days a week.

BEFORE TREATMENT, WHERE DOES THE WATER COME FROM?

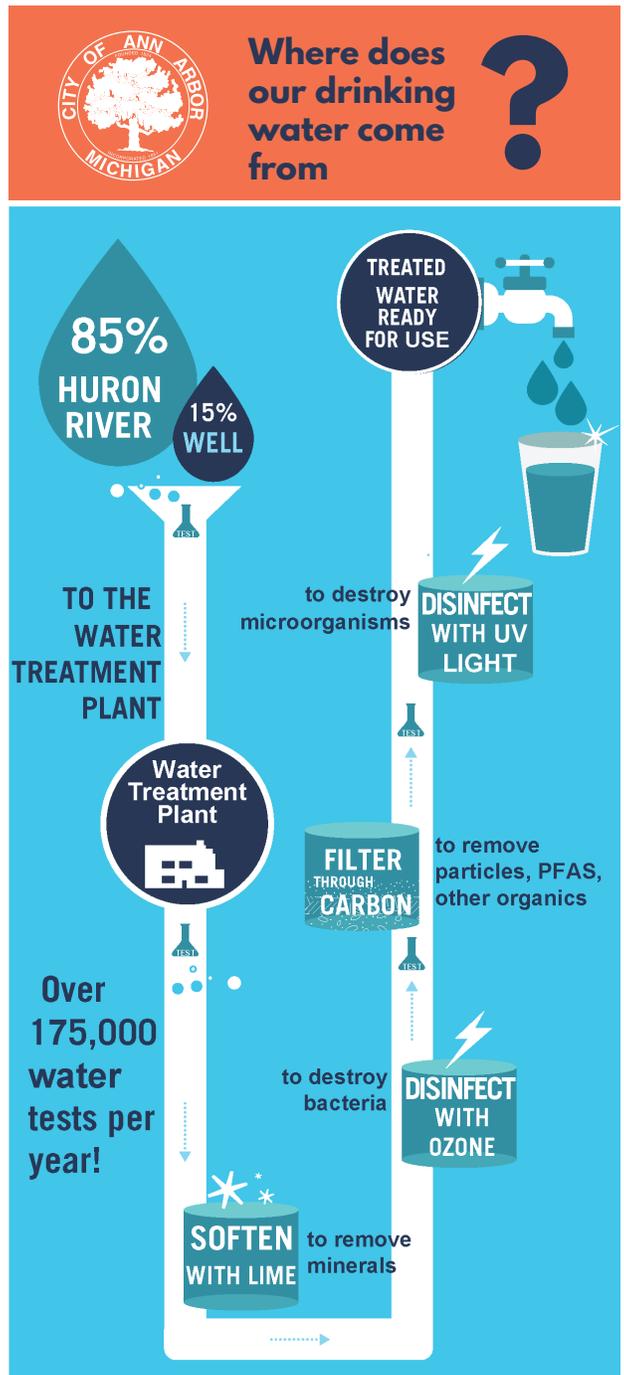
Sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells (for both tap and bottled water). As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and in some cases radioactive material or substances resulting from the presence of animals or from human activity. To ensure that tap water is safe to drink, U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants in water does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800.426.4791.

Contaminants that may be present in source water include:

- Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants which can be naturally occurring or be the result of oil and gas production and mining activities.

SOURCE WATER ASSESSMENT PROGRAM

Federal regulations require states to develop and implement Source Water Assessment Programs (SWAPs) to compile information about potential sources of contamination for their source water supplies. This information allows us to better protect our drinking water sources. In 2004, the State of Michigan performed a Source Water Assessment on the city's system. To request a copy of the assessment, call us at 734.794.6320. Implementation of this plan continues through our Source Water Protection Plan that was updated this year.



WATER QUALITY DATA

The City of Ann Arbor is committed to providing exceptional water quality. We routinely monitor for contaminants in your drinking water according to federal and state standards, and we conduct additional monitoring beyond that which is required. This report includes information on all regulated drinking water parameters detected during calendar year 2023. The presence of contaminants does not necessarily indicate the water poses a health risk. Many additional parameters were tested but not detected and are not included in this report. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data is representative of the water quality, but some may be more than one year old. Unless otherwise noted, the data presented in these tables is from testing done Jan. 1 through Dec. 31, 2023.

Regulated Contaminants Detected (abbreviations and definitions on page 9)

Parameter Detected	Your Water Results		Regulatory Requirements		Violation (Yes/No)	Typical Source of Contaminant
	Highest Level Detected	Results Range	EPA LIMIT MCL, TT, or MRDL	EPA GOAL MCLG or MRDLG		
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors						
Bromate (ppb)	4.2 ¹	1.8-7.7	10	0	No	Byproduct of ozone disinfection
Chloramines (ppm) ²	2.5 ¹	0.6 - 3.5	MRDL: 4	MRDLG: 4	No	Disinfectant added at Water Plant
Haloacetic Acids (HAA5, ppb) ^{2,3}	6 ³	ND - 11	60	N/A	No	Byproduct of drinking water disinfection
Total Organic Carbon (TOC)	58% removed ⁴	50 - 63% removed	TT: 25% minimum removal	N/A	No	Naturally present in the environment
Total Trihalomethanes (TTHM, ppb) ^{2,3}	5 ³	ND - 9.8	80	N/A	No	Byproduct of drinking water disinfection
Radiochemical Contaminants⁵						
Gross Alpha (pCi/L)	3.75 ± 2.21	N/A	15	0	No	Erosion of natural deposits
Radium 226 and 228 (pCi/L)	2.00 ± 0.85	N/A	5	0	No	Erosion of natural deposits
Inorganic Contaminants						
Barium (ppb)	<5.0	N/A	2000	2000	No	Erosion of natural deposits; discharge of drilling wastes; discharge of metal refineries
Fluoride (ppm)	1	0.53-1.0	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	1	0.2-1.0	10	1	No	Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite (ppm)	0.18	<0.10-0.180	1	1	No	Runoff from fertilizer use; leaching from septic tanks and sewage
Microbiological Contaminants						
Turbidity (NTU)	0.11	100% of samples ≤ 0.3 NTU	1 NTU and 95% of samples ≤ 0.3 NTU	N/A	No	Naturally present in the environment
Total Coliform ³	1 positive out of 113 tested in Sept.	0 - 0.9% positive	TT	N/A	No	Naturally present in the environment
Per- and polyfluoroalkyl substances (PFAS)⁶						
Perfluorohexanoic acid (PFHxA, ppt)	4.1 ¹	<2.0 - 4.1	400,000	N/A	No	Firefighting foam; discharge and waste from industrial facilities
Perfluorobutane sulfonic acid (PFBS, ppt)	<2.0 ¹	<2.0 - 2.2	420	N/A	No	Discharge and waste from industrial facilities; stain-resistant treatments
2023 Lead and Copper Results from Customer Faucets						
Parameter	Customer taps 90th percentile ⁷	Customer taps Range	Action level ⁸	MCLG	Violation (Yes/No)	Typical Source of Contaminant
Copper (ppb) ⁷	100	0.0 - 200 (0 out of 61 sites above Action Level)	1300	1300	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) ⁷	2	0 - 22 (1 out of 61 sites above Action Level)	15	0	No	Lead service lines; corrosion of household plumbing including fittings and fixtures; erosion of natural deposits

¹ Highest Running Annual Average

² Measured in the Distribution System

³ Highest Locational Running Annual Average

⁴ Average percent removal

⁵ Gross Alpha analyzed in 2023 and

⁶ PFAS MCLs established by EGLE not EPA. Data analyzed by EGLE approved method are included here. See www.a2gov.org/PFAS for more data.

⁷ 90% of samples taken from customer taps were less than or equal to this level

⁸ Lead and Copper are regulated by Action Levels. If 90th percentile at customer taps exceeds action level, water system must take additional action.

WATER QUALITY DATA

2023 Special Monitoring

Parameter Detected (Units)	Your Water Results		Typical Source of Contaminant
	Average Level Detected	Results Range	
1,4-Dioxane (ppb)	<0.07	<0.07	Groundwater contamination from manufacturing process and landfills
N-Nitrosodimethylamine (NDMA) (ppb)	<10	N/A	Byproduct of disinfection
Perchlorate (ppb)	<4.00	N/A	Nitrate fertilizer runoff; contamination from industrial manufacturing process
Sodium (ppm)	73	60-89	Erosion of natural deposits
Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonic Acid (PFOS), Perfluorohexane Sulfonic Acid (PFHxS), Hexafluoropropylene Oxide Dimer Acid (HFPO-DA), Perfluorononanoic acid (PFNA) (ppt)	<2.0	<2.0	Firefighting foam; discharge and waste from industrial facilities; discharge from electroplating facilities; stain-resistant treatments

Other Water Quality Parameters of Interest

Parameter Detected (Units)	Your Water Results	
	Average Level Detected	Results Range
Alkalinity, total (ppm as CaCO ₃)	58	36-86
Aluminum (ppm)	<0.050	N/A
Ammonia as N (ppm)	<0.10	<0.10 - 0.12
Arsenic (ppb)	<1.0	N/A
Calcium (ppm)	28	19-38
Chloride (ppm)	126	110-170
Chromium (total) (ppb)	<10.0	N/A
Conductivity (µmhos/cm)	652	593-790
Hardness (CaCO ₃) (ppm)	122	92-168
Hardness (CaCO ₃) (gpg)	7.1	5.4-9.8
Iron (ppm)	<0.20	N/A
Lead at Water Treatment Plant (ppb)	<1.0	N/A

Parameter Detected (Units)	Your Water Results	
	Average Level Detected	Results Range
Magnesium (ppm)	14	7-21
Manganese (ppm)	<0.020	<0.020
Mercury (ppb)	<0.20	N/A
Non-Carbonate Hardness (ppm)	64	38-102
pH (S.U.)	9.3	9.0 - 9.5
Phosphorus (total, ppm)	0.26	0.20-0.32
Potassium (ppm)	3.3	N/A
Sulfate (ppm)	49	37-66
Temperature (Degrees Celsius)	15.2	6.4-24.5
Total Solids (ppm)	380	352-426
Zinc (ppb)	<10	N/A
Nitrite in Distribution (ppm)	0.027	<0.10 - 0.390



DO I NEED TO TAKE ANY SPECIAL PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at: 800.426.4791.

CONTAMINANTS OF CONCERN

1,4-DIOXANE. Gelman Sciences (now Pall Corp., a division of Danaher Corp.) polluted groundwater in Washtenaw County, including parts of the city as well as Ann Arbor and Scio Townships, when it improperly disposed of industrial solvents containing 1,4-dioxane between 1966 and 1986. That pollution has since spread through the surrounding groundwater. While cleanup of the Gelman site has been managed by the Michigan Department of the Environment, Great Lakes, and Energy (EGLE) since the discovery of the contamination in 1985, local officials and stakeholders have advocated that the Gelman site be considered for listing on the Superfund National Priorities List (NPL) to bring more resources to bear on site monitoring and remediation. The EPA completed a Site Assessment Report in November 2023, concluding that the Gelman Site is eligible to move forward as a candidate for inclusion on the NPL for high levels of 1,4-dioxane. Governor Whitmer signed a letter of concurrence in December 2023 transferring cleanup management of the Gelman Site from EGLE to the EPA. The EPA has posted its proposal for inclusion on the NPL for a 60-day public comment period from March 7-May 6, 2024. Link to news release <https://www.a2gov.org/departments/water/pages/article.aspx?i=126>. If the Gelman site is formally listed on the NPL following public comment, further studies will ensue to determine the nature and extent of the contamination and to help identify potential treatment options. Additional and current information on the status of the cleanup can be found at <http://www.a2gov.org/departments/water-treatment/Pages/Gelman-1,4-Dioxane-Litigation.aspx>. Information also is available on the EPA's website at www.epa.gov/mi/gelman-sciences.

The City of Ann Arbor has been monitoring its water sources and the plume for more than 30 years to ensure the long-term safety of the city's drinking water. Analytical results for the city's source and drinking water can be found at www.a2gov.org/DrinkingWater.

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals that have been classified by the EPA as an emerging contaminant. PFAS have been around since the 1950s, but we didn't know much about their effects until the early 2000s, when scientists began releasing data on PFAS health impacts and their persistence in the environment. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating. They are still widely used today. PFAS have been found at low levels both in the environment and in blood samples of the general U.S. population. PFAS are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs.

Currently, granular activated carbon (GAC) filtration is the best available technology for removing PFAS in drinking water. Use of this technology has allowed the city to produce water with PFAS concentrations significantly below all Maximum Contaminant Levels (MCLs) adopted by the State of Michigan in 2020. On March 14, 2023 the U.S. Environmental Protection Agency (EPA) proposed drinking water regulations for PFAS and final regulations are expected in 2024. We continue to meet all established PFAS regulations and already meet EPA's proposed values in our finished drinking water and are watching closely for regulatory developments. Meanwhile, the city continues to monitor for PFAS compounds, including both regulated compounds and unregulated compounds in source water and drinking water, and remains committed to providing safe drinking water that is better quality than regulatory guidelines require. Samples collected by the city are analyzed by an independent lab each month and we post all data for source water and drinking water PFAS monitoring on our website. We also continue to lobby at the state and federal level to hold polluters accountable and stop PFAS at its source. Measures like these better protect our source and help to keep our water affordable. Additional information and PFAS results can be found online at www.a2gov.org/PFAS.

LEAD. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Ann Arbor is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. The City of Ann Arbor has no known homes with lead service lines, but some of our customers do have lead components to their internal plumbing. Homes with copper plumbing installed before 1988 are most likely to have lead solder. Faucets, fittings, or valves sold before 2014 may have a higher lead content than newer plumbing materials. Water that sits in contact with lead containing plumbing materials may contain higher amounts of lead as plumbing components leach into the water. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap until it runs cold before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800.426.4791) or at <http://www.epa.gov/safewater/lead>. The City of Ann Arbor also offers one free lead and copper test per household that you can sign up

CONTAMINANTS OF CONCERN

for by visiting www.a2gov.org/LCR.

CRYPTOSPORIDIUM. Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100% removal. Our monitoring indicates the presence of these organisms in our source water, but not in the finished water. Current test methods do not allow us to determine if the detected organisms in our source water are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. Immunocompromised people, infants and small children, and the elderly are at greater risk of developing severe illness. Immunocompromised people are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water. To address the occurrence of Cryptosporidium in the Huron River, the city added ultraviolet light (UV) disinfection to the water treatment process. UV disinfection is the best available technology to inactivate Cryptosporidium.

ABBREVIATIONS/DEFINITIONS & MORE

ABBREVIATIONS & DEFINITIONS:

AL-Action Level: The concentration of a contaminant, which if exceeded, triggers treatment or other requirements a water system must follow.

CaCO₃: Calcium carbonate.

GPG-Grains per Gallon: A unit of water hardness defined as 1 grain (64.8 milligrams) of calcium carbonated dissolved in one gallon of water.

MCL-Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG-Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL-Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG-Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below

which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A: Not applicable. When listed under the range column, N/A indicates that only a single sample was analyzed for the year.

NTU-Nephelometric Turbidity Units: A measure of cloudiness in the water.

pCi/L: picocuries per liter (a measure of radioactivity).

ppm: parts per million or milligrams per liter.

ppb: parts per billion or micrograms per liter.

ppt: parts per trillion or nanograms per liter.

S.U.: Standard Units.

TT-Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

µmhos/cm: Microohms per centimeter (a measure of electrical conductivity).



There are many ways to stay informed about your drinking water.

- Sign up for Ann Arbor Water email notifications and our monthly newsletter, Ann Arbor Water.
- [Request a Water Treatment Plant tour.](#)
- Email water@a2gov.org or call 734.794.6426 with your water questions.

Please share this report with all people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand and mail.

To receive a printed copy of this report please call 734.794.6320, email water@a2gov.org, or visit www.a2gov.org/DrinkingWater.

Water Meter and Galvanized Line Replacement Updates

The city has replaced over 94% of its water meters. This project was being done in conjunction with the city's service line materials inventory. The city is required by Michigan's Lead and Copper rule to inspect all water service lines to determine material type and eligibility for replacement.

Galvanized iron water service lines that were previously connected to the water system via a lead gooseneck can release lead into drinking water when disturbed, such as when utility or road work is performed. The city has historic data on the publicly owned portion and is now in the process of gathering data on the privately owned portion of the service lines. More than 2000 service lines must still be inventoried, and less than 1500 meters must still be replaced. If you are one of these homes, you will soon receive another letter to schedule the inspection and meter replacement. These meters are reaching the end of their useful life and must be replaced before they fail. Failure to respond to the letter and schedule the replacement will result in a monthly surcharge of \$50.00 on your water bill, as authorized by city code Chapter 27 Section 2:38.

Tips to Reduce Potential Lead Exposure

It's important to note that even if your service line is copper or plastic, there could be other sources of lead in your household plumbing. The City of Ann Arbor offers one free lead test per household. If you are interested, please visit www.a2gov.org/leadsample or contact the Water Treatment Plant at 734.994.2840 to arrange pickup of a testing kit. Other useful information resources include:

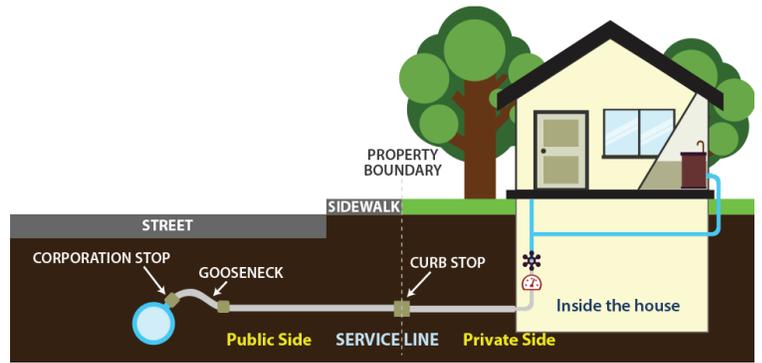
- Michigan Department of Environment, Great Lakes and Energy (EGLE) www.michigan.gov/MILeadSafe
- [Reducing Potential Lead Exposure from Drinking Water Fact Sheet \(PDF\)](#)

Service line Inventory and replacements

The inventory is nearly 90% complete. We need your help to finish the work. The city has created a dashboard and map for the public to view information about their water service line material. The inventory map shows service lines that have been replaced, service lines that are eligible for replacement and service lines that still require in-home verification. Please follow the steps below to see if your home or business has been inspected.

1. [Open the dashboard that includes a map](#)
2. Use the search function on the map to find your address and zoom into your address located within the map.
3. If the circle isn't completely filled in, your line has not been inspected.

If you have not had your line inspected, please send an email to leadandcopper@a2gov.org with your address and contact information and staff will reach out to you. Or call 734-794-6350 ext. 43324 to schedule an appointment for staff to inspect the service line. You can also take pictures of the service line where it enters the building and attaches to the water meter (picture should include threads or solder at the connection point) and submit them to leadandcopper@a2gov.org. Once received, the images will be reviewed, and staff will notify you of their findings.



If you're eligible for a free service line replacement, the city will send you a letter. If you don't get a letter, your service line has never been connected to lead piping and is not eligible for replacement (that is good news for you). 403 water service lines have been replaced via the program as of Dec. 31, 2023. These replacements are coordinated with water main and road projects to minimize disruptions of water and road services. For more information, visit www.a2gov.org/lcr.

SERVICE LINE INVENTORY STATUS UPDATE



# OF LEAD SERVICE LINES		UNKNOWN MATERIAL SERVICE LINES		TOTAL SERVICE LINES	
2019	1 known	2019	5,214	2019	25,864
2020	0 known	2020	4,760	2020	25,864
2021	0 known	2021	1,337	2021	25,864
2022	0 known	2022	1,053	2022	25,914
2023	0 known	2023	263	2023	25,947

Help us complete our Service Line Inventory by scheduling your water meter upgrade if you have not already done so. To schedule an appointment, please contact Customer Service by phone at 734.794.6320 or by email at customerservice@a2gov.org. Visit <http://www.a2gov.org/meterupgrade> for more information.

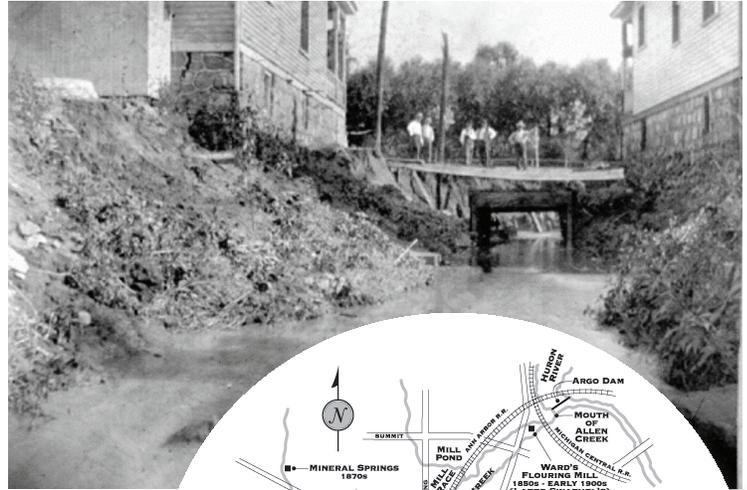
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HISTORIC ALLEN CREEK

In 1824, an idyllic picturesque creek provided habitat and resources for not only the Potawatomie Indian tribe, but the first settlers of what was to become the City of Ann Arbor. That same creek still flows today, 200 years later, underneath much of downtown Ann Arbor, and parts of the Old West side neighborhood. Allen creek, a tributary of the Huron River, is now almost entirely underground in concrete pipes.

The main branch of Allen Creek runs north, parallel to the Ann Arbor Railroad tracks, starting at Pioneer High School and spilling into the Huron River just south of Argo Dam. Three tributaries flow east into it from the Old West Side. Eberwhite starts on Lutz, crosses Seventh Street, and flows into the primary stream at William; Murray-Washington rises at Virginia Park, crosses Slauson Middle School playground, and joins the creek near West Park; and West Park-Miller drains the area between Miller and Huron.

This summer, the Ann Arbor community will be able to visualize and celebrate the “Ghost Creek” that is Allen Creek, just beneath our feet. Keep an eye out for sidewalk signs, and blue flags in the landscape that will signify where the historic Allen Creek still flows under our paved roads and sidewalks. This installation will be available late spring, through the fall. Take a walk and try to envision what the landscape of Ann Arbor looked like 200 years ago, with this beautiful creek flowing through the new settlement of Ann Arbor.



CROSS CONNECTIONS

The City of Ann Arbor routinely inspects commercial and residential properties for potential cross connections to ensure drinking water remains safe. Property owners are required by plumbing code to have backflow prevention devices installed, inspected and maintained by licensed plumbers.

What is a cross connection? Any piping arrangement which allows a potable (drinking) water system to be connected to a non-potable system. For example, a home's water connection to a pool or in a business to a fire sprinkler system.

What does backflow mean? The undesirable reversal of the flow of water or other substances into the potable water distribution supply. It can be caused by backpressure, backsiphonage or a combination of both.

DID YOU KNOW.....

- Hose bibs are the most common type of backflow source at residential properties. How do you protect yourself from backflow situations?
- Keep all hoses and faucets away from direct contact with possible contaminants.
- Never submerge hoses in buckets, pools, tubs, or sinks.
- In the event of loss of water pressure, you need an air gap otherwise the hose will act like a straw and suck the liquid backwards.
- Protect yourself by installing inexpensive backflow protection devices on all hoses and threaded faucets in your home. These devices are available at hardware and home improvement stores for about \$4-10 each. Backflow vacuum breakers provide safety valves that prevent liquids from flowing backwards into a hose or faucet.

See images: Unprotected Hose Bib (top); Properly Protected (center); and Hose Bib Vacuum Breaker (bottom).



Special thanks to our water champions that keep the water flowing!



Jerry Hancock, City of Ann Arbor stormwater and floodplain coordinator, was awarded the 2023 Eunice L. Burns Environmental Awareness Award for the Allen Creek Berm stormwater management and flood mitigation project.



Chris Chadwick, City of Ann Arbor public works field technician responsible for fixing water main breaks, servicing sewer backups and responding to flood requests.



Susan Gotts, City of Ann Arbor Water Treatment Plant administrative assistant, who was instrumental in the completion of the WTP mural.



Siri Pattipati, Yaseen Metwally, Vivek Nukala and Ilakiya Rajaguru (pictured left to right), University of Michigan business majors and members of the MEG Consulting club, which provided business strategy consulting marketing recommendations to Ann Arbor Water.



Kris Olsson, Huron River Watershed ecologist and a member of the city's Technical Advisory Committee on the Surface Water Intake Protection Plan and Wellhead Protection Plan project.



Eileen Canfield, City of Ann Arbor public works administrative assistant responsible for utilities, wastewater, and public services administration as well as serving as Huron the Water Drop mascot at special events.



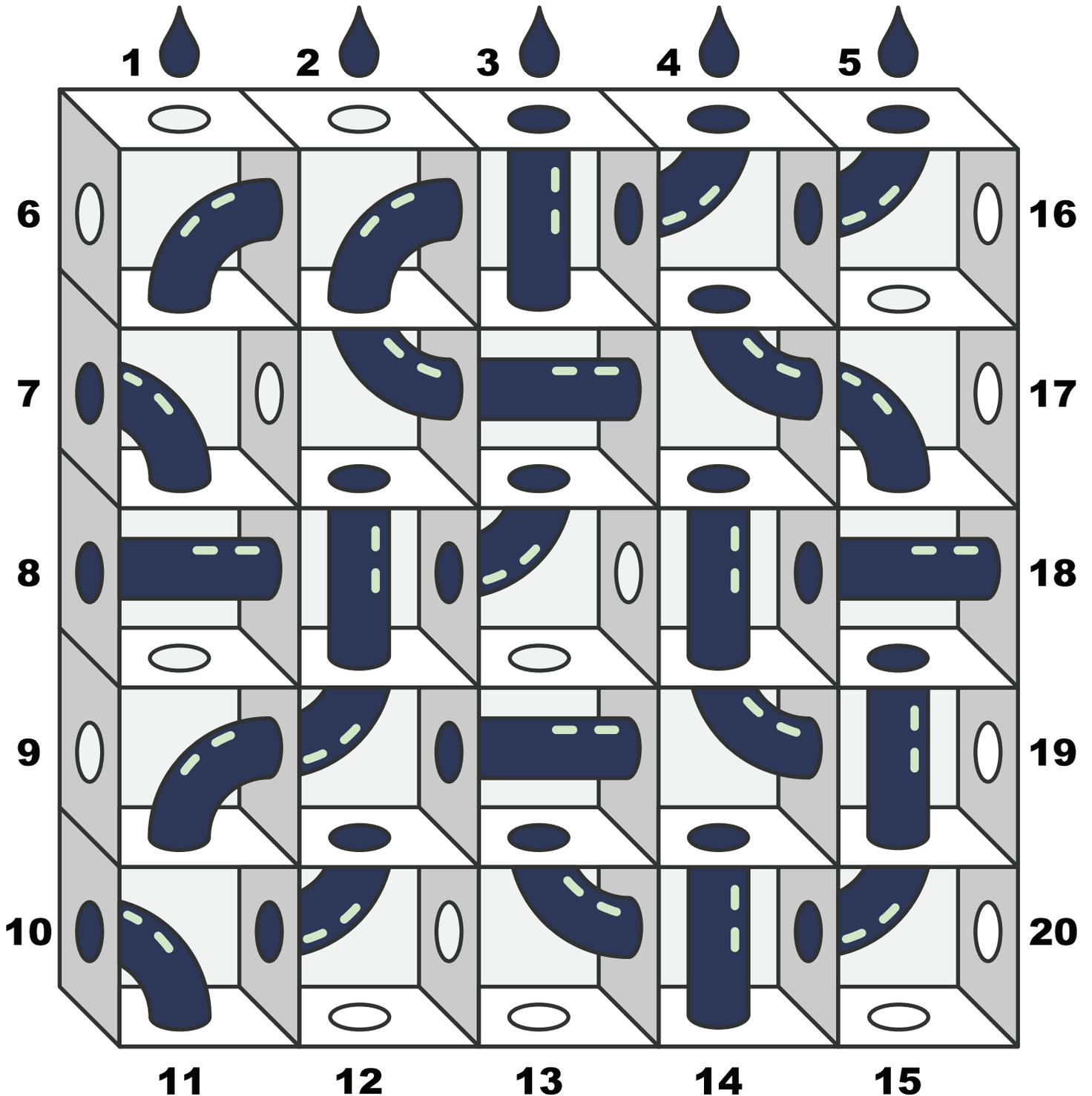
Peter Stephens, City of Ann Arbor's land development coordinator who has worked to improve the quality of the Huron River by assisting residents in solving drainage issues.



Paul Matthews, Ann Arbor public works manager, ensures city compliance with the updated Lead and Copper Rule, focusing on water service line verification and galvanized line replacements.

KIDS' ACTIVITIES

The front side of this whimsical tank is solid and transparent.
Where will the liquid pour out if it is poured through hole 1?
Hole 2? Hole 3? Hole 4? Hole 5?



ANSWER: 1-6, 2-14, 3-8, 4-19, 5-18.