2021
RESULTS

DETROIT WATER QUALITY REPORT

CITY OF DETROIT
Water & Sewerage Department

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NOTICE: This 2021 Water Quality Report contains important information about your drinking water. Please have someone translate this document for you if you are unable to read the report.

AVISO: Este Informe de calidad del agua de 2021 contiene información importante sobre su agua potable. Haga que alguien le traduzca este documento si no puede leer el informe.

إشعار : يحتوي تقرير جودة المياه لعام 2021
على معلومات مهمة حول مياه الشرب. يرجى
أن يقوم شخص ما بترجمة هذا المستند.
لك إذا كنت غير قادر على قرأة التقرير

The Detroit Water & Sewerage Department (DWSD) does not discriminate on the basis of race, color, national origin, sex, age or disability in any of our services, programs or activities.

24/7 HOW TO REPORT AN EMERGENCY

To report emergencies, such as water main breaks, street flooding, missing manhole covers, broken fire hydrants, and water in your basement, call DWSD at **313-267-8000**. Mobile users may download the **Improve Detroit app** for Apple and Android devices to take a photo and report the issue or submit online at **detroitmi.gov/DWSD**.

PUBLIC PARTICIPATION

The Board of Water Commissioners meets on the first Wednesday of each month at 1 p.m. for committees and the third Wednesday of each month at 2 p.m. for the regular meeting at the Water Board Building, located at 735 Randolph Street, unless otherwise noticed. All meetings are open to the public, which at the time of printing this report continue to offer a virtual option due to the COVID-19 pandemic. For more information, please contact the DWSD board secretary at **313-224-4704** or visit **detroitmi.gov/DWSD**

GARY A BROWN, DIRECTOR

Detroit Water and Sewerage Department

Dear Valued Customers,

The water supplied by the Detroit Water and Sewerage Department (DWSD) is clean and safe for drinking, and some of the best in the world.

The water leaving Detroit's water treatment plants, operated by the Great Lakes Water Authority (GLWA), does not contain lead, and most water mains are cast iron or ductile material. The primary sources of lead in water are lead service lines, lead solder, and/or fixtures containing lead in the home.

You can view the water quality results beginning on page 13 in this 2021 Detroit Water Quality Report.

Even before the State of Michigan enacted the most stringent Lead and Copper Rule in the nation, DWSD began replacing lead service lines at DWSD's cost with owner/occupant permission during water main replacement projects. Since the program began in 2018, we have 100% participation from residents and businesses. As a precaution during construction, we provide pitcher filters to those residents and businesses on the street of the project.

We are working with our federal and state partners to accelerate lead service line replacement through funding from the Bipartisan Infrastructure Act passed in late 2021. Expect to see an announcement during 2022 about our specific plans. For now, you can read more about the current program in this report.

Also in this 2021 Detroit Water Quality Report, you will find updates about our water assistance programs, construction projects and other services.

Together, let's be the difference.

A MESSAGE TO OUR CUSTOMERS

Drinking water quality is important to our community and the region. The Detroit Water and Sewerage Department (DWSD) and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards, including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. DWSD operates the system of water mains that carry this water in your neighborhood to your home or business's service line. This year's Water Quality Report highlights the performance of GLWA and DWSD water professionals in delivering some of the nation's best drinking water.

Together, we are committed to protecting public health and maintaining open communication with the community about our drinking water.

To stay informed, register for alerts via email, text message and landline at **detroitmi.gov/DWSD** or text **DetroitAlerts365** to **99411**.

Our water quality standards are mandated by the Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

How We Provide Water Services to You

The Great Lakes Water Authority (GLWA) treats drinking water and transports it to the City of Detroit's distribution system through transmission lines. The Detroit Water and Sewerage Department (DWSD) delivers the treated water to neighborhoods through more than 2,700 miles of water mains within the city to the service line of your home or business.

The system uses source water drawn from three intakes. Two source water intakes are located in the Detroit River: one to the north, near the inlet of Lake St. Clair, and one to the south, near Lake Erie. The third intake is located in Lake Huron.

Four of the plants treat source water drawn from the Detroit River intakes. The fifth water treatment plant, located in St. Clair County, uses source water drawn from Lake Huron. Detroit customers are provided service from four plants that treat source water drawn from the Detroit River.

Get to Know Your Source Water

Health and Your Source Water

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

Substances Found in Source Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants 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.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals and, in some cases, radioactive materials, and can pick up substances resulting from the presence of animals or from human activity.

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 stormwater 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 stormwater runoff and residential uses;
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, which also can come from gas stations, urban stormwater runoff and septic systems; and
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in the water provided by public water systems. The Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for human health.

Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. DWSD is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you have a service line that is lead, galvanized, previously connected to lead, or unknown but likely to be lead, it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. 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 EPA Safe Drinking Water Hotline, at www.epa.gov/safewater/lead and www.detroitmi.gov/leadsafe.

Infants and children who drink water containing lead could experience delays in their physical and 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.

Source Water Protection

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, watersheds in the U.S. and parts of the Thames River, Little River, Turkey Creek and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality (now EGLE) in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of GLWA's Detroit River source water for potential contamination. The susceptibility rating is based on a seven-tiered scale and ranges from very low to very high determined primarily using geologic sensitivity, water chemistry, and potential contaminant sources. The report described GLWA's Detroit River intakes as highly susceptible to potential contamination. GLWA's water treatment plants that service the city of Detroit and draw water from the Detroit River have historically provided satisfactory treatment and meet drinking water standards.

GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in the National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. In 2021, the Michigan Department of Environment, Great Lakes and Energy (EGLE) approved the GLWA's Updated Surface Water Intake Protection plan for the Belle Isle intake. The plan has seven elements that include: roles and duties of government units and water supply agencies, delineation of a source water protection areas, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new water sources, public participation, and public education activities. If you would like to know more information about the Source Water Assessment report, please, contact GLWA Water Quality at 313-926-8102.

Michigan's Revised Lead & Copper Rule and Detroit's Test Results

DWSD's efforts to get the lead out continue

Under Michigan's revised Lead and Copper Rule, DWSD lead and drinking water testing results have been 10 parts per billion (ppb) in 2019, 9 ppb in 2020 and 12 ppb in 2021, which are all under the state action level for lead remediation.

Detroit has an estimated 77,197 lead service lines based on a total of 311,000 water service lines. There are 28,922 service lines with unknown pipe material. Since 2018, DWSD has replaced 1,359 lead service lines while on the same street replacing the water main.

All communities with lead service lines must sample the tap water in homes with lead service lines as required by EGLE and the EPA. In summer 2021, DWSD collected water samples from 51 homes with lead service lines. The 90th percentile of samples was 12 ppb, which is under the action level of 15 ppb. DWSD's last report of 9 ppb in 2020 was with the same sampling methodology that was required by EGLE beginning in 2019. A water supply exceeds the action level if more than 10 percent of all samples is over the action level.

"The water supplied by DWSD is clean and safe for drinking, and some of the best in the world," said Gary Brown, DWSD director. "The water leaving Detroit's water treatment plants, operated by the Great Lakes Water Authority, does not contain lead. The primary sources of lead in water are lead service lines, lead solder, and/or fixtures containing lead in the home. Even before the State of Michigan enacted the most stringent Lead and Copper Rule in the nation, we began replacing lead service lines at DWSD's cost with owner/occupant permission during water main replacement projects and providing pitcher filters to those residents and businesses as a precautionary measure."

The Chief Public Health Officer for the City of Detroit Denise Fair Razo said, "This is welcome news for Detroiters, especially children, who are deserving of our very best efforts to ensure that everyone regardless of zip code, has access to clean water that is safe to drink. We know that the number one source of lead poisoning in children is decaying paint and dust in homes that were constructed prior to 1978. The Detroit Health Department can help, with education on how to reduce lead exposure in homes, and referrals to get children tested. If anyone has any concerns regarding lead exposure inside their home, I encourage you to request a lead test from your child's primary healthcare provider or contact the Detroit Health Department."

The Michigan Lead and Copper Rule Testing Method

The revised Michigan Lead and Copper Rule enacted in June 2018 – the most stringent in the nation – changed the way lead samples are collected at Detroit homes and all Michigan communities. In the past, DWSD collected only the first liter of water out of the tap. Under the new rule – used in testing in the past two years – both the first and fifth liter are collected. The first liter represents water from household plumbing and fixtures, and the fifth liter is more likely to represent water from the lead service line. The service line is the pipe which brings water from the water main in the street to inside the home or business. In Detroit, most service lines are either lead, copper or galvanized steel. Lead service lines are under two inches in diameter and are mostly at single-family or duplex homes and some small businesses. The new sampling technique more accurately represents the range of lead in the drinking water in Detroit homes.

Lead in Drinking Water

The water leaving Detroit water treatment plants, operated by GLWA, does not contain lead, but lead can be released into drinking water from lead service lines and home plumbing as the water moves from the water mains to your tap. Beginning in 1945, Detroit stopped allowing the installation of lead piping for water service lines. Homes before 1945 are most likely to have a lead pipe that connects the home to the water main, known as a lead service line. The lead in lead service lines, household plumbing and fixtures can dissolve or break off into water and end up in tap water. The water provided to DWSD customers contains a corrosion inhibitor to reduce leaching from lead service lines and other lead components, but lead can still be present in water at the tap.

Health Effects of Lead

Lead can cause serious health and development problems. The greatest risk of lead exposure is to infants, young children, and pregnant women. Older homes can have many sources of lead exposure including paint, dust and soil. If you have questions about other sources of lead exposure, please contact the Detroit Health Department at 313-876-0133.

Sources of Lead

Drinking water is only one source of lead exposure. Some of the most significant sources, especially for children six years old and under, include lead-based paint and lead contaminated dust and soil. Because lead can be carried on hands, clothing, and shoes, sources of exposure to lead can include the workplace and certain hobbies. Wash your children's hands and toys often as they can come in contact with dirt and dust containing lead. In addition, lead can be found in certain types of pottery, pewter, food and cosmetics. If you have questions about other sources of lead exposure, please contact the health department.

Most plumbing products such as service lines, pipes and fixtures contain lead. The infographic (shown here) demonstrates where sources of lead in drinking water could be in your home. Older homes may have more lead unless the service line and/or plumbing has been replaced. Lead-based solder and lead-based fittings and fixtures are still available in stores to use for non-drinking water applications. Be careful to select the appropriate products for repairing or replacing drinking water plumbing in your home. Even materials currently marked "lead free" have up to 0.25% lead by weight.

Galvanized plumbing can be a potential source of lead. Galvanized plumbing can absorb lead from upstream sources like a lead service line. Even after the lead service line has been removed, galvanized plumbing can continue to release lead into drinking water over time. Homes that are served by a lead service line should consider replacing galvanized plumbing inside the home.

Additional information regarding lead, including "Frequently Asked Questions about Lead in Drinking Water," can be found on the City of Detroit's website at www.detroitmi.gov/leadsafe, or visit EGLE's website at www.michigan.gov/MILeadSafe.

Lead Service Line Replacement Program

In 2018, prior to the revised Michigan Lead and Copper Rule, DWSD began replacing lead service lines as part of its asset management program when on the same street replacing the water main. Extensive outreach, including neighborhood meetings and information packets, to the owner/occupant is done prior to construction.

The city owns the portion of the service line from the water main to the stopbox (turn-on/off valve typically in the front yard). The property owner is responsible for the service line from the stopbox to inside the house. Therefore, DWSD gets owner/occupant permission to replace lead service lines when its crews encounter them after visually verifying service line material at each house by excavating around the stopbox during scheduled water main replacement. With owner/occupant permission, the lead service line is replaced with copper at DWSD's expense through its Capital Improvement Program. A white paper on DWSD's Lead Service Line Replacement Program was published in the October 2020 issue of the Journal of the American Water Works Association, titled "Detroit's Robust Full Lead Service Line Replacement Program," as a best practice for other water utilities in America.

DWSD Deputy Director and Chief Engineer Palencia Mobley, P.E., said, "Since the launch of our lead service line replacement program in 2018, we have replaced more than 2,000 lead service lines with copper pipe. The most effective and cost-efficient method for replacing lead service lines is when we already have crews on the street replacing a water main. Our program uses mapping technology to track service line material and indicate the date of replacement if in fact we confirmed the service line is lead through the exploratory digging. Due to DWSD's extensive community outreach on this program, done in advance of the project, we have a 100% resident response rate when we offer to replace their portion of a lead service line while replacing the water main on their block."

A DWSD contractor installs a new water main in Cornerstone Village, a neighborhood on Detroit's eastside.

Steps You Can Take
to Reduce Your Exposure to Lead in Your Water

Run your water to flush out lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Therefore, if your water has not been used for several hours, run the water before using it for drinking or cooking. This flushes lead-containing water from the pipes. If you do not have a lead service line, run the water for 30 seconds to two minutes, or until it becomes cold or reaches a steady temperature. If you do have a lead service line, run the water for at least five minutes to flush water from both the interior building plumbing and the lead service line.

Use only cold water for drinking and cooking. Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water.

Use only filtered water or bottled water for preparing baby formula.

Do not boil water to remove lead. Boiling water will not reduce lead levels. In the event DWSD issues a boil water advisory due to low water pressure (such as caused by a large water main break), water users in the designated advisory area will be advised to boil water before using it for cooking, drinking and brushing their teeth. Residents with lead service lines should **only boil filtered water** — not water directly from the tap.

Consider using a filter to reduce lead in drinking water. The Detroit Health Department recommends that any household with a child or pregnant woman use a certified lead filter to reduce lead from their drinking water. Look for filters that are tested and certified to **NSF/ANSI Standard 53 for lead reduction**. Some filter options include a pour-through pitcher or faucet-mount systems. If the label does not specifically mention lead reduction, check the Performance Data Sheet included with the device. Be sure to maintain and replace the filter device in accordance with the manufacturer's instructions to protect water quality.

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.

Get your child tested. Contact the Detroit Health Department at 313-876-0133 or your healthcare provider to find out how you can get your child tested for lead if you are concerned about exposure.

Identify older plumbing fixtures that likely contain lead. Older faucets, fittings, and valves sold before 2014 may contain higher levels of lead, even if marked "lead-free." Faucets, fittings, and valves sold after January 2014 are required to meet a more restrictive "lead-free" definition but may still contain up to 0.25 percent lead. When purchasing new plumbing materials, it is important to look for materials that are certified to meet NSF standard 61.

Clean your aerators. The aerator is the screen at the end of your faucet. It catches debris. This debris could include particulate lead. The aerator should be removed monthly to rinse out any debris.

Verify your lead service line. If you know you have a lead service line let us know by following the online instructions and submitting the form at www.detroitmi.gov/dwsd. This information helps DWSD plan for future lead service line replacements.

Test your water for lead. To request for your water to be tested, please visit www.detroitmi.gov/leadsafe and search "lead and copper sample request form." If you do not have Internet access, please call the Detroit Lead Safe Resource Line at 313-267-8000.

Additional information regarding lead, including "Frequently Asked Questions about Lead in Drinking Water," can be found on the City of Detroit's website at **www.detroitmi.gov/leadsafe** or visit EGLE's website at **www.michigan.gov/MILeadSafe**.

Key to the Detected Contaminants

AL	**Action Level** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.	**n/a**	**not applicable**
		ND	**Not Detected**
°C	**Celsius** A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.	**NTU**	**Nephelometric Turbidity Units** Measure of cloudiness of water.
>	**Greater Than**	**PCi/L**	**Picocuries Per Liter** Measure of radioactivity.
HAA5	**Haloacetic Acids** HAA5 is the total of bromoacetic, chloroacetic, di-bromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.	**ppb**	**Parts Per Billion** (one in a billion) The ppb is equivalent to micrograms per liter. A microgram = 1/1000 gram.
Level 1	**Level 1 Assessment** A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our system.	**ppm**	**Parts Per Million** (one in a million) The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
LRAA	**Locational Running Annual Average** The average of analytical results for samples at a particular monitoring location during the previous four quarters.	**RAA**	**Running Annual Average** The average of all analytical results for all samples during the previous four quarters.
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.	**SMCL**	**Secondary Maximum Contaminant Level**
MCLG	**Maximum Contaminant Level Goal** The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.	**TT**	**Treatment Technique** A required process intended to reduce the level of a contaminant in drinking water.
MRDL	**Maximum Residual Disinfectant Level** The highest level of disinfectant allowed in drinking water. There is convincing evidence that additional of a disinfectant is necessary for control of microbial contaminants.	**µmhos**	**Micromhos** Measure of electrical conductance of water

2021 City of Detroit
Regulated Contaminants Table

2021 Inorganic Chemicals - Monitoring at Plant Finished Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Fluoride	4/13/21	ppm	4	4	**0.58**	**0.44-0.58**	no	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	4/13/21	ppm	10	10	**0.37**	**0.33-0.37**	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	5/16/17	ppm	2	2	**0.01**	**na**	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

2021 Disinfection Residual - Monitoring in the Detroit Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Total Chlorine Residual	2021	ppm	4	4	**0.76**	**0.47-0.84**	no	Water additive used to control microbes

2021 Disinfection By-Products - Stage 2 Disinfection By-Products Monitoring in the Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level LRAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
(TTHM) Total Trihalomethanes	2021	ppb	n/a	80	**37.0**	**9.5-49.0**	no	By-product of drinking water chlorination
(HAA5) Haloacetic Acids	2021	ppb	n/a	60	**17.3**	**5.3-21.0**	no	By-product of drinking water chlorination

2021 Disinfectant By-Product - Monitoring at the Waterworks Park Plant Finished Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Bromate	2021	ppb	0	10	**ND**	**ND-ND**	no	By-product of drinking water ozonation

2021 Turbidity - Monitored Every 4 Hours at the Plant Finished Water Tap

Highest Single Measurement Cannot Exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation	Major Sources in Drinking Water
0.21 NTU	**100%**	**no**	Soil runoff

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

GLWA is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether our drinking water meets health standards. GLWA routinely monitors your water for turbidity (cloudiness). This indicates whether GLWA is effectively filtering the water supply. We did not produce a filter profile for EGLE review within 7 days of an August 1, 2021, **individual filter** exceedance at the GLWA Springwells Water Treatment Plant as required by law. A filter profile is a summary of the turbidity and flow through the filter and is used to identify any trends in filter performance.

*Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. * These symptoms are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice.

What should I do? There is nothing you need to do currently. This is not an emergency. You do not need to boil water or use an alternative source of water currently. Even though this is not an emergency, as GLWA water customers, you have a right to know what happened and what was done to correct the situation.

What happened? What is being done? The filter profile has since been produced and submitted to EGLE and additional response actions have been implemented at the plant. GLWA is making every effort to ensure this does not happen again.

For more information, please contact the GLWA Water Quality Manager at 313 926-8102.

2021 Special Monitoring

Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Source of Contaminant
Sodium	4/13/21	ppm	n/a	n/a	**4.52**	Erosion of natural deposits

Lead and Copper Monitoring at the Customer's Tap in 2021

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Sites Over AL	Range of Individual Samples	Violation	Major Sources in Drinking Water
Lead	2021	ppb	0	15	**12**	3	0-51	no	Lead services lines, corrosion of household plumbing including fittings and fixtures; erosion of natural deposits
Copper	2021	ppm	1.3	1.3	**0.1**	0	0.0-0.3	no	Corrosion of household plumbing system; erosion of natural deposits

* The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

Regulated Contaminant	Treatment Technique	Typical Source of Contaminant
Total Organic Carbon ppm	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC is measured each quarter and because the level is low, there is no requirement for TOC removal.	Erosion of natural deposits

Radionuclides - Monitored at the Plant Finished Tap in 2014

Regulated Contaminant	Test Date	Unit	MCLG	MCL	Level Detected	Violation	Major Sources in Drinking Water
Combined Radium Radium 226 and 228	5/13/14	pCi/L	0	5	**0.65 ± 0.54**	no	Erosion of natural deposits

GLWA conducts tests throughout the year. Tests that show the presence of a substance or require special monitoring are presented in these tables. 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 of the data is representative of the water quality, but some are more than one year old.

About Unregulated Contaminants Monitoring

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

2019 Unregulated Contaminants Monitored at the Plant Finished Taps

Unregulated Contaminant	Test Date	Unit	Highest Level Detected	SMCL	Range of Detection	Noticeable Effects Above the SMCL	Source of Contaminant
Manganese	2019	ppb	**0.48**	**50**	**0.0-0.48**	black to brown color; black staining; bitter metallic taste	Erosion of natural deposits and corrosion of iron pipes

2019 Unregulated Contaminants - Monitored in the Distribution System Haloacetic Acids

Unregulated Contaminant	Test Date	Unit	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Haloacetic Acid 9 (HAA9)	2019	ppb	**n/a**	**31.41**	**6.72-31.41**	**n/a**	By-product of drinking water chlorination
Haloacetic Acid 5 (HAA5)	2019	ppb	**60**	**22.5**	**4.5-22.5**	**no**	By-product of drinking water chlorination
Haloacetic Acid Brominated 6 (HAA6BR)	2019	ppb	**n/a**	**11.34**	**2.22-11.34**	**n/a**	By-product of drinking water chlorination

2021 City of Detroit
Tap Water Mineral Analysis

Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	1.90	0.03	**0.13**
Total Solids	ppm	178	90	**136**
Total Dissolved Solids	ppm	150	57	**122**
Aluminum	ppm	1.470	0.012	**0.077**
Iron	ppm	0.3	0.1	**0.2**
Copper	ppm	0.009	ND	**0.001**
Magnesium	ppm	8.3	5.9	**7.4**
Calcium	ppm	29.9	20.5	**25.4**
Sodium	ppm	8.4	4.1	**5.2**
Potassium	ppm	1.3	0.8	**1.0**
Manganese	ppm	0.005	ND	**0.000**
Lead	ppm	ND	ND	**0.000**
Zinc	ppm	0.002	ND	**0.000**
Silica	ppm	2.9	1.3	**2.2**
Sulfate	ppm	32.0	19.7	**24.5**

Parameter	Units	Max.	Min.	Avg.
Chloride	ppm	13.5	8.4	**10.4**
Phosphorus	ppm	0.67	0.30	**0.42**
Free Carbon Dioxide	ppm	12.1	0.7	**8.3**
Total Hardness	ppm	110	82	**100**
Total Alkalinity	ppm	80	64	**71**
Carbonate Alkalinity	ppm	0	0	**0**
Bi-Carbonate Alkalinity	ppm	80	64	**71**
Non-Carbonate Hardness	ppm	40	14	**28**
Chemical Oxygen Demand	ppm	5.8	ND	**1.9**
Dissolved Oxygen	ppm	16.4	7.9	**11.1**
Nitrate Nitrogen	ppm	ND	ND	**0.0**
Nitrate Nitrogen	ppm	0.55	0.21	**0.33**
Fluoride	ppm	0.84	0.17	**0.58**
pH		8.30	7.07	**7.10**
Specific Conductance @ 25 °C	µmhos	276	182	**223**
Temperature	°C	68.0	1.8	**16.4**

Did You Know?

Did you know about these water saving tips?

You can save money with these helpful tips!

- Clean faucet aerators monthly (the spin-off filter on your faucet). It will help reduce water usage and provide clean drinking water.
- Turn off the faucet while brushing your teeth.
- Try to limit your shower to five minutes or less.
- Wash your car using a bucket instead of a water hose.
- While waiting for water to heat up, collect water in a pitcher or bucket to use for your household plants.
- Try using one glass for drinking water per day. This will reduce the number of glasses to wash, helping save water.
- Monitor water usage closely as this can show new leaks or help you alter your habits to reduce water use. You can view your real-time water usage through the DWSD Customer Service Portal. Visit www.detroitmi.gov/paymywaterbill to log in or register.

Did you know the City of Detroit has an app to report water issues?

When you submit a water or sewer issue using the Improve Detroit App (available on the App Store and Google Play), you will receive an automated service request number to track your issue.

The Improve Detroit App allows Detroiters to report neighborhood problems directly to the City of Detroit. Multiple City departments utilize the Improve Detroit App, including DWSD. Currently there are 11 DWSD service requests you may submit, including investigating a water main break, missing manhole/catch basin covers, clogged basin and fire hydrant-related issues. To date, nearly 400,000 SeeClickFix requests have been resolved using the Improve Detroit app.

Water Assistance Programs

10/30/50 Plan

The 10/30/50 Plan is developed for Detroit water customers who experience difficulty in paying their past due bills. There are no income restrictions to qualify. Customers make a down payment of either 10%, 30% or 50% of the past due balance, dependent on the account status. The balance of the past due amount is equally spread over a set timeframe, which the customer pays in addition to the normal monthly bill. All payments must be made in full and on time to stay enrolled. You can enter a payment arrangement on the DWSD Customer Service Portal at detroitmi.gov/paymywaterbill or call 313-267-8000.

Water Residential Assistance Program (WRAP)

The Water Residential Assistance Program (WRAP) is a two-year program that provides funding to eligible low-income homeowners and renters to assist with water bills, water conservation and self-sufficiency initiatives through the Wayne Metropolitan Community Action Agency. WRAP offers many benefits including up to $1,000 annually in bill assistance and minor plumbing repairs averaging $2,000 for eligible households. You must be at or below 200% of the federal poverty level ($52,400 maximum annual income for a family of four). Since WRAP was launched in 2016, more than 21,000 households have been assisted in Detroit.

In addition to WRAP, these federal and state programs are available to low-income households as of May 2022:

- COVID Emergency Rental Assistance (CERA)* – $1,500 - $2,500 per tenant household based on number of people
- Low Income Household Water Assistance Program (LIHWAP)* – up to $650 per household
- State Emergency Relief Fund (SER) – up to $350 per household
- Michigan Homeowner Assistance Fund (MIHAF)* – up to $25,000 to homeowners for mortgage, land contract, past due taxes and utility bills (water assistance is a portion of the $25,000)

**These programs are only available for a limited time.*

To apply, call Wayne Metro at 313-386-9727 or at www.waynemetro.org for the universal application. To see updates on water assistance programs through DWSD's community partners, visit www.detroitmi.gov/DWSD.

DWSD Offers Safe, Convenient Ways to Access Accounts and Make Payments

We're working hard to deliver clean water to nearly 700,000 residents just like you. It's what we do in the community, every day! Here are easy ways to access your account and pay your water bill, including using convenient, self-service options.

All three DWSD Customer Service Centers closed during the COVID-19 pandemic to protect the safety of our employees and customers, and they have remained closed as DWSD has added more self-service, contactless options. Customers with water or sewer bill inquiries can email Customer Service at **mydwsd@detroitmi.gov** or call **313-267-8000**.

Access your account and pay online at www.detroitmi.gov/PayMyWaterBill, and set up auto-pay, enroll in a payment arrangement, if needed, turn-on/off service, and track your real-time usage.

Visit one of the more than 60 no-fee kiosks in and around Detroit and use cash, check or debit/credit card to pay your bill. Find your nearby kiosk at www.detroitmi.gov/DWSDkiosk.

Call our automated pay-by-phone system at 313-267-8000 and ask for the current balance and due date.

Send your payment by mail with check or money order payable to the "Board of Water Commissioners."

Mail to:
Board of Water Commissioners
Detroit Water and Sewerage Department
PO Box 554899
Detroit, MI 48255-4899

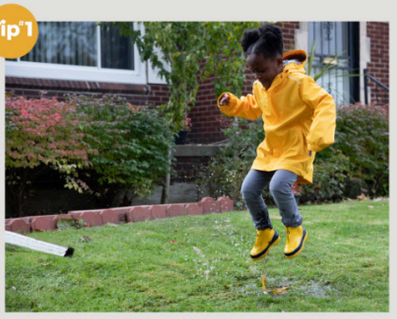
COMMUNICATIONS TO DETROIT RESIDENTS

The City of Detroit launched Detroit Alerts 365, a notification system that sends Detroit-specific emergency notifications via cell phone, landline, text, and/or email. This new, free system can reach people in seconds to notify them of critical situations such as severe weather warnings, flooding/natural disasters and boil water advisories. Alerts come in one of four languages: English, Spanish, Arabic and Bengali. To register, visit **detroitalerts365.org** or text **DetroitAlerts365** to **99411**.

3 ways to reduce basement backups

There's more to spring cleaning than mops, brooms and arranging furniture. When tidying up this season, pay close attention to three areas in or near your home which, with a few steps, can help reduce basement backups.

Tip 1



Move downspouts.

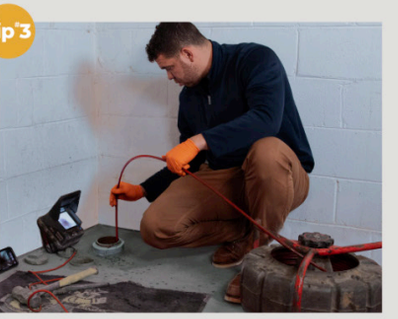
Disconnect downspouts from the sewer system and redirect the rainwater onto your lawn – never onto a paved surface. Only rain should go down the storm drain.

Tip 2

Dispose grease properly

Never pour fats, oils or grease down your drain – it can build up and create blockages and backups. Empty it into a container instead.

Tip 3



Snake your drains.

Hire a licensed plumber to clean your sewer line at least every two years. Do it once a year if you have large trees on your property.

CITY OF DETROIT Water & Sewerage Department

WORKING HARD FOR YOU.

Learn more about these and other spring tips at **detroitmi.gov/watertips**

STORMWATER AND GSI

Green Stormwater Infrastructure – Charles Wright Academy

Detroit's newest Green Stormwater Infrastructure (GSI) project is the two bioretentions installed near Charles Wright Academy located on Berg Road in District 1.

"By being on school property, we are working with the school to incorporate this learning environment into the STEM curriculum and teach the students more about GSI," said DWSD Field Services Director - Permits & Stormwater Management Lisa Wallick, P.E. The two bioretention installations at Charles Wright Academy are part of DWSD's ongoing Capital Improvement Program (CIP, which has invested $300 million since 2019).

With the addition of this project on a Detroit Public Schools Community District campus, DWSD GSI projects are now managing 122 acres and 65.7 million gallons of stormwater annually. Citywide through public and private collaborations, more than 240 GSI projects exist and are managing an estimated 442 million gallons of stormwater annually according to the Detroit Stormwater Hub at www.detroitstormwater.org.

DWSD constructed bioretention at the Charles Wright Academy on Detroit's westside to improve stormwater management.

Some highlights of the Charles Wright Academy stormwater project include:

- Redirects rainwater and snowmelt from rooftop and parking lots on the school campus into the two bioretention cells;
- Stormwater is infiltrated/filtered using the plantings and excess flow goes directly into the Rouge River;
- 150,000 gallons of storage volume for water quality treatment and infiltration;
- Reduces annual flows to the combined sewer system by up to 4 million gallons per year; and
- 5.5 acres of the hard, impervious surface area removed from the combined sewer system.

Since 2013, in accordance with the National Pollutant Discharge Elimination System (NPDES) permit, DWSD has been pursuing GSI projects to slow down peak stormwater flows and remove some of the stormwater from Detroit's combined sewer system. DWSD will invest $50 million into GSI projects by 2029.

Upgrading Detroit's Water and Sewer Systems

In 2019, DWSD announced its $500 million Capital Improvement Program (CIP) to begin to upgrade the city's aging infrastructure. Since then, DWSD has upgraded 86 miles of water main and 61 miles of sewer pipe.

In 2021, Detroit saw historical rainfall causing unfortunate flooding. Along with emergency maintenance and repairs, DWSD leverages its CIP to plan sewer upgrades and Green Stormwater Infrastructure projects to help manage combined sewer overflow. In 2021, two bioretention basins were completed to reduce annual rainwater flows to the combined sewer system by up to 4 million gallons (see Stormwater article on page 22). In 2022, DWSD will break ground on a massive stormwater project in Far West Detroit that will remove 99 million gallons of rain and snowmelt annually from the combined sewer system, increasing capacity in the system for rain events on that part of the westside.

DWSD continues to use condition assessments by neighborhood to plan future water and sewer upgrade projects. In 2021, 236 miles of water main and 5.75 miles of sewer were assessed across more than 39 neighborhoods in all 7 Council Districts. DWSD plans to assess an additional 43 miles of water main and 61 miles of sewer across 10 neighborhoods in 2022.

Full lead Service Line Replacement is included in all CIP water main upgrade projects. A service line is a pipe that takes water from the city's water main into the home or business.

Michigan's Lead and Copper Rule requires water utilities to remove full lead service lines at 5% per year unless an alternate schedule in an asset management plan is approved by EGLE. To assist with adhering to this rule, in October 2021 DWSD announced a partnership with BlueConduit, an Ann Arbor-based startup, to use predictive modeling to map probable lead service line locations for planning and regulatory reporting. Instead of digging up every service line in the city of Detroit to meet the reporting requirements, DWSD will excavate less than 400 service lines, saving an estimated $165 million. DWSD has replaced 1,359 lead service lines since 2018.

Funding from the 2021 Infrastructure Investment and Jobs Act will be used to add substantially more lead service line replacement to the already planned DWSD CIP projects. This effort will include individual lead service line replacement, outside water main replacement projects, and supporting Detroit-based and minority-owned contractors in creating the capacity to do this work.

The CIP's goal is to improve service delivery and quality of life in the neighborhoods by:

- Reducing water main breaks;
- Reducing street flooding and sewer system failures;
- Reducing future investment in new combined sewer overflow facilities (wet weather treatment);
- Increasing acres managed by green stormwater infrastructure;
- Coordinating with other public and private agencies to maximize dollars invested and minimize disruption from construction activity;
- Increasing job opportunities for Detroiters; and
- Upgrading and maintaining facilities, equipment and systems for effective operations.

How and why basements flood and steps you can take to protect your property:

Visit www.detroitmi.gov/basementprotection to download the City of Detroit Basement Backup & Flooding Handbook.

This report is available on the City of Detroit website at detroitmi.gov/2021waterqualityreport

We welcome your comments and opinions about this report. Please direct your comments or questions to the DWSD Public Affairs Group.

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CITY OF DETROIT Water & Sewerage Department

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