

The City of Madison Heights

2017 Annual Consumers Report on Water Quality



The City of Madison Heights wants you to know that your tap water is safe to drink and that it meets or surpasses all federal and state standards for quality and safety.

SAFE DRINKING WATER IS A SHARED RESPONSIBILITY Drinking water quality is important to our community and the region. The City of Madison Heights 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, GLWA consistently delivers safe drinking water to our community. The City of Madison Heights operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of GLWA and the City of Madison Heights water professionals in delivering some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.



ABOUT OUR SYSTEM The City of Madison Heights is proud of the fine drinking water it supplies and is honored to provide this report to you. The 2017 Annual Consumer Report on Water Quality shows the source of our water, lists the results of our tests and contains important information about water and health. The City of Madison Heights will notify you immediately if there is ever any reason for concern about our water. We are pleased to show you how we have surpassed water quality

standards as mandated by the Environmental Protection Agency (EPA) and the State of Michigan Department of Environmental Quality (MDEQ).

The City of Madison Heights and GLWA are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with any questions or concerns about your water.



The City of Madison Heights receives its water from two feeds that branch from the 54" water main that runs along Dequindre Road from the City of Detroit. This 54" main is fed by water from the Northeast Treatment Plant located on Eight Mile Road near Hoover.

Your source water comes from the Detroit River, situated within Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, in the U.S. and parts of the Thames River, Little River, Turkey Creek and Sydenham watersheds in Canada. MDEQ in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department (DWSD), and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is on a seven-tiered scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. Our Detroit River source water intakes were determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from the Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards.



HOW DO WE KNOW THE WATER IS SAFE TO DRINK?

GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in a National Pollutant Discharge Elimination System (NPDES) permit discharge program and has an emergency response management plan.

GLWA voluntarily developed and received approval in 2017 for a source water protection program (SWIPP) for the Detroit River intakes. The programs include seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment or SWIPP please, contact the City of Madison Heights Water Department at (248) 589-2294.



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

which must 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 contaminants does not necessarily indicate that the 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.

People with special health concerns: Some people may be more vulnerable to contaminants in drinking water than is 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, some elderly, and infants can be particularly at risk for 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 (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 dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Substances that may be found in source water:

- 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, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Bacteriological Sampling

Water samples are taken monthly from ten locations in Madison Heights by GLWA personnel. These samples are tested for coliform bacteria. Coliform bacteria are a group of bacteria found in the intestines of warm-blooded animals and human beings. The presence of these bacteria may indicate that a foreign, and possibly harmful, substance has been introduced to the water. All samples collected during 2017 were negative for coliform bacteria.



Water Meter Replacement Program:

The City of Madison Heights Department of Public Services is currently administering a program to replace all of the City's residential and commercial water meters and meter interface units (MIUs). MIUs are small, white transmitter devices that work with the water meter to transmit readings directly to the billing office.

The City's water meters have been in place for well over 20 years and have exceeded their lifespan as recommended by the American Water Works Association. This program aims to maintain continual accuracy in water bills and enhance meter reading efficiency.

The residential meter replacement phase is nearly complete, with only a few dozen homes remaining. The commercial meter replacement program is expected to commence in the fall of 2018. If you have any questions regarding the meter replacement program, please feel free to contact the Department of Public Services at (248) 589-2294.

Special Note

How to read your new meter:

Step 1. Open the cover

Step 2. Use a flashlight to illuminate the meters solar panel and hold it in place until the display turns on. Once the display turns on, the meter's serial number will appear on the screen first. After a few seconds, your read will be displayed. Then the display will cycle between your current read and the current flow rate (in gallons per minute).



For a detailed video demonstration visit: www.mynewmeter.com

2017 Regulated Detected Contaminants Tables

Northeast Water Treatment Plant

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap								
Fluoride	5/16/2017	ppm	4	4	0.66	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5/16/2017	ppm	10	10	0.44	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	5/16/2017	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products								
Total Trihalomethanes (TTHM)	2017	ppb	n/a	80	28.75	17-49	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2017	ppb	n/a	60	14.5	8-18	no	By-product of drinking water disinfection
Disinfection Residual - Monitoring in Distribution System								
Total Chlorine Residual	Jan-Dec 2017	ppm	MRDGL 4	MRDL 4	Highest RAA 0.78	0.66-0.82	no	Water additive used to control microbes

2017 Turbidity – Monitored every 4 hours at 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 yes/no	Major Sources in Drinking Water	
0.18 NTU	100%					no	Soil Runoff	
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.								

January - March 2017 Microbiological Contaminants – Monthly Monitoring in Distribution System								
Contaminant	MCLG	MCL	Highest Number Detected	Violation Yes/no	Major Sources in Drinking Water			
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	in one month 0	no	Naturally present in the environment.			
E. coli or Fecal Coliform Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E.coli positive.	entire year 0	no	Human waste and animal fecal waste			

These tables are based on tests conducted by the GLWA formerly known as Detroit Water and Sewerage Department and the City in 2017 or within the last 6 calendar years. Many tests are conducted each year, however, only tests that show the presence of a contaminant are shown here.

2017 Key to Detected Contaminants Tables		
Symbol	Abbreviation	Definition/Explanation
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
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.
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.
MRDL	Maximum Residual Disinfectant Level	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
ppb	Parts per billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
pCi/L	Picocuries Per Liter	A measure of radioactivity. Picocurie (pCi) means the quantity of radioactive material producing 2.22 nuclear transformations per minute.
ND	Not Detected	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.
n/a	not applicable	
>	Greater than	
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 analytical results for all samples during the previous four quarters.
µmhos	Micromhos	Measure of electrical conductance of water
°C	Celcius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met For Madison Heights

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During November 2017 we did not monitor for total trihalomethanes (TTHM) and haloacetic acids (HAA5) and therefore cannot be sure of the quality of our drinking water at that time. However, this violation **does not** pose a threat to your supply's water.

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

The table below lists the contaminants we did not properly test for, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we will collect follow-up samples.

Contaminant	Required sampling frequency	Samples taken this quarter	When all samples should have been taken	Date additional samples taken
TTHM	Quarterly	0	11/01/2017 to 11/30/2017	02/22/2018
HAA5	Quarterly	0	11/01/2017 to 11/30/2017	02/22/2018

What happened? What's being done? We inadvertently missed taking the samples within this required sampling period. We are making every effort to assure this does not happen again. The Follow-up samples were collected on February 22, 2018. The sample results meet the standards of the Safe Drinking Water Act, and the City of Madison Heights has returned to compliance.

For more information, please contact Mr. R. Corey Almas, P.E., Designated Operator in Charge, at (248) 589-2294.

Please share this information with all other people who drink this water, especially those who may not have received this notice directly (e.g., 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 or mail.

This notice is being sent to you by Madison Heights.

A Word About 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. The City of Madison Heights 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 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 at (800) 426-4791 or at <http://water.epa.gov/drink/info/lead>.

In our pledge to provide high quality drinking water to our customers, the City of Madison Heights is proud to announce the use of NSF 61 lead free material for our water main projects. The lead free brass fittings and valves meet the EPA's requirements that commenced on January 4, 2014 enacted by

Senate Bill 3874, Federal No Lead Law 11-380, Reduction of Lead in Drinking Water Act. Additional efforts the City makes to reduce the lead content in our drinking water are; the use of lead free water meters in our system and replacing lead services when we discover them on our water main project.

Since 1997, the City of Madison Heights has been testing homes with plumbing systems that may contribute lead to the household water supply. Our tests have not shown levels in excess of the action level for lead that could be harmful when ingested. If your home has a lead service line or piping that has lead soldered joints you can take the following precautions to minimize your exposure to lead:

- Run your water for 30 seconds to 2 minutes or until it feels cold. This practice should be followed anytime your water has not been used for more than 6 hours.
- Always use cold water for drinking, cooking or making baby formula.
- Use faucets and plumbing materials that are lead free.

2017 Lead and Copper Monitoring at Customer's Tap								
Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2017	ppb	0	15	8.0 ppb	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	0.2 ppm	0	No	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.

*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 was measured each month and because the level was low, there is no requirement for TOC removal.	Erosion of natural deposits

2017 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.85	Erosion of natural deposits

Collection and sampling result information and tables provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen.

Safe drinking water is a shared responsibility. The water that GLWA delivers to Madison Heights does not contain lead. Lead can leach into drinking water through home plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including your home or business. The City of Madison Heights performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to lead.

In the early 1940s, due to a nationwide copper shortage, many homes constructed in this time period had lead water service lines. Although the service line from the stop-box to the home has always been the homeowner's responsibility to maintain, the City of Madison Heights began a comprehensive lead service line replacement program in 2015. These lines are being replaced at no cost to the homeowner. If you believe your home has a lead water service and would like to have it inspected, please contact the Department of Public Services at (248) 589-2294.

We welcome your questions and comments regarding this report and any other concerns you may have. You may contact the Water and Sewer Department at (248) 589-2294 Monday through Friday between the hours of 8:00 a.m. and 3:30 p.m.