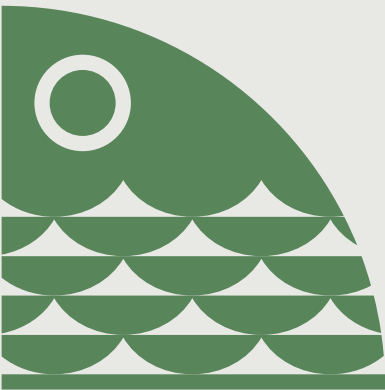




2024

Water Quality Report



WATER QUALITY EXCEEDS THE MARK

We are pleased to report that the water we treat, at the City of Muskegon Water Filtration Plant, has never had a violation of a contaminant level or of any other water quality standard.

Annual Drinking Quality Report

CITY OF MUSKEGON

WATER SUPPLY SERIAL NUMBER 04570

This report covers the drinking water quality for the City of Muskegon for the 2024 calendar year. It provides information about where our water comes from, what it contains, and how it compares to the standards set by the United States Environmental Protection Agency (USEPA) and the State of Michigan.

Your water is sourced from Lake Michigan and treated at the City of Muskegon Water Filtration Plant. The personnel at the Muskegon Water Filtration Plant are dedicated to providing a safe and reliable water supply. A team of state-certified waterworks operators works around the clock to oversee water treatment and distribution processes.

In 2024, more than 100,000 water samples were analyzed for various chemical, physical, and microbiological parameters. The State of Michigan and the USEPA require regular testing to ensure water safety, and we are pleased to report that we met all monitoring and reporting requirements for the year.

**Informed customers help ensure safe drinking water.
For more information, you can:**

Contact the Water Filtration Plant

231-724-4106 or visit mkgcity.com/water

Visit the U.S. EPA

epa.gov/safewater

Public Participation/Input

City of Muskegon Commission Meetings

2nd and 4th Tuesday | 5:30 p.m.

City Commission Chambers (Room 107 at 933 Terrace Street)



The Muskegon Water Filtration Plant treated over 3.5 billion gallons of water in 2024!



Source Water INFORMATION

Our water comes from surface water in Lake Michigan. In 2004, the State of Michigan assessed our source water to determine its susceptibility to contamination. This susceptibility is rated on a seven-tier scale, from very low to very high, based on factors like geologic sensitivity, water chemistry, and contaminant sources. The susceptibility of our source is rated as moderately high.

The assessment notes:

“Historically, the City of Muskegon Water Filtration Plant has effectively treated this source water to meet drinking water standards.”

The City of Muskegon’s Source Water Intake Protection Plan (SWIPP) was created in 2017 and updated in 2023. The SWIPP aims to protect the long-term viability of Muskegon’s drinking water supply by reducing the risk of surface and subsurface contamination in the source water protection area.

The SWIPP is available online at the Water Filtration Plant webpage. For more information about these reports, contact the Water Filtration Plant at 231-724-4106.

Drinking Water FACTS

TREATMENT PROCESS

The Water Filtration Plant uses conventional water treatment, a globally recognized method for producing drinking water. This five-step process includes disinfection, coagulation, flocculation, sedimentation, and filtration.

TREATMENT CAPACITY

The plant’s treatment capacity is 40 million gallons per day—equivalent to 27,778 gallons per minute or enough water to fill eight average-sized bathtubs every second! Seasonal Water Production The amount of water treated varies seasonally, averaging 11 million gallons per day. Over the last five years, daily production ranged from a low of 6 million gallons to a high of 23 million gallons.

WATER INTAKE

Water from Lake Michigan enters the plant through a 60-inch diameter pipeline that extends over 1 mile into the lake, pulling water from a depth of more than 30 feet.

FLOW PROCESS

Water flows continuously from the lake, through the treatment process, and into the City. Depending on the volume treated, the journey takes 8-30 hours. Regardless of time, the water meets all drinking water standards.

WATER TOWERS

Water towers provide storage and pressure. Each tower in the City holds 1 million gallons of water. With each foot of water height providing 0.43 psi, the City’s towers—standing over 125 feet high—can deliver around 54 psi of pressure without pumps.

WATER TEMPERATURE

Lake Michigan’s water temperature changes seasonally. At the plant, recorded temperatures have ranged from 35°F to 76°F over the past five years, and these changes can sometimes be noticeable in the water delivered to consumers.



The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from Lake Michigan. 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.

- Drinking water, including bottled water, may reasonably be expected to contain low levels of certain 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 and residential uses.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.
- 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 stormwater runoff, and septic systems.

In order to ensure that tap water is safe to drink, the USEPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Federal Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

The Water Filtration Plant operates 24 hours a day, seven days a week!

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, some elderly, and infants can be particularly at risk from infections. These people

should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control 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.



Treated Water QUALITY CHARTS

The tables below lists all the drinking water contaminants that we detected in 2024. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2024. 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 are more than one year old. Definitions for terms and abbreviations are available on the last page.

Regulated at The Treatment Plant

Substance	MCL	MCLG	Level Detected	Range	Year	Violation	Typical Source
Barium (ppm)	2	2	.02	N/A	2023	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Flouride (ppm)*	4.0	4.0	0.68	0.49-0.60	2024	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	0.64	0.20-0.64	2024	No	Runoff from fertilizer use; Leaking from septic tanks, sewage; Erosion of natural deposits.
PFOS (ppt)*	16	N/A	2.4	ND-2.6	2024	No	Firefighting foam; Discharge from electroplating facilities; Discharge and waste from industrial waste.
Turbidity (ntu)**	1 (TT)	N/A	0.05	N/A	2024	No	Soil runoff.

*The level detected for this substance is reported as the maximum running annual average (RAA) in 2024.
**Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Turbidity must also be ≤0.3 ntu for ≥95% of measurements each month. 100% of the samples were ≤0.3 ntu each month.

Regulated in the Distribution System

Substance	MRDL or MCL	MRDLG or MCLG	Level Detected*	Range	Year	Violation	Typical Source
Chlorine (ppm)	4.0	4.0	1.15	0.12-1.83	2024	No	Water additive used to control microbes.
Total Trihalomethanes (ppb)	80	N/A	37	21-54	2024	No	Byproduct of drinking water disinfection.
Haloacetic Acids (ppb)	60	N/A	27.1	13.0-41.0	2024	No	Byproduct of drinking water disinfection.

*The level detected for this substance is reported as the maximum running annual average (RAA).

There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney, or nervous system problems.

Regulated at the Customer's Tap

Substance	Lead (ppb)	Copper (ppm)
AL	15	1.3
MCLG	0	1.3
Level Detected*	5	0.0
Range	0-17	0.0-0.2
Year	2023	2023
Samples Above AL	1	0
Typical Source	Lead service lines, household plumbing corrosion, & natural deposit erosion.	Corrosion of household plumbing systems; Erosion of natural deposits.

*Our water supply has 10,279 lead service lines out of a total of 14,463 service lines. If you would like to know more about this report, please contact: Department of Public works 1350 E. Keating Ave. at 231-724-4100 or visit our webpage: <https://muskegon-mi.gov/city-services/public-works/water-sewer-services/lead-service-line-replacement/>

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. City of Muskegon is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes 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 and wish to have your water tested, contact Department of Public Works at 231-724-4100 for available resources.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Additional Monitoring

Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. Monitoring helps the U.S. EPA determine where certain contaminants occur and whether regulation of those contaminants is needed.

Substance	Level Detected*	Range	Year	Typical Source
Calcium (ppm)	36	34-40	2024	Naturally present in the environment.
Magnesium (ppm)	12	12-13	2024	Naturally present in the environment.
Hardness (ppm)	138	130-150	2024	Naturally present in the environment.
Sodium (ppm)	12	10-15	2024	Naturally present in the environment.
Sulfate (ppm)	31	27-39	2024	Naturally present in the environment.
Haloacetic Acids (HAA9) (ppb)	34	27-46	2020	Byproduct of drinking water disinfection.

Terms & ABBREVIATIONS

Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow.

Maximum Contaminant Level Goal (MCLG)

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.

Maximum Contaminant Level (MCL)

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.

Maximum Residual Disinfectant Level (MRDL)

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.

Maximum Residual Disinfectant Level Goal (MRDLG)

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.

ND

Not detectable at testing limit.

ppm

Parts per million or milligrams per liter.

ppb

Parts per billion or micrograms per liter.

ppt

Parts per trillion or nanograms per liter.

Treatment Technique (TT)

Required process intended to reduce the level of a contaminant in drinking water.

ntu

Nephelometric turbidity units.

Report Updates & AVAILABILITY

We will update this report annually and will keep you informed of any problems that may occur throughout the year as they happen. This report will not be sent to you.

Copies are available at Muskegon City Hall (933 Terrace St), the City of Muskegon Public Service Building (1350 East Keating Ave), and online at mkgcity.com/waterquality.

