City of
Maple Grove

Maple Grove Water Treatment Plant

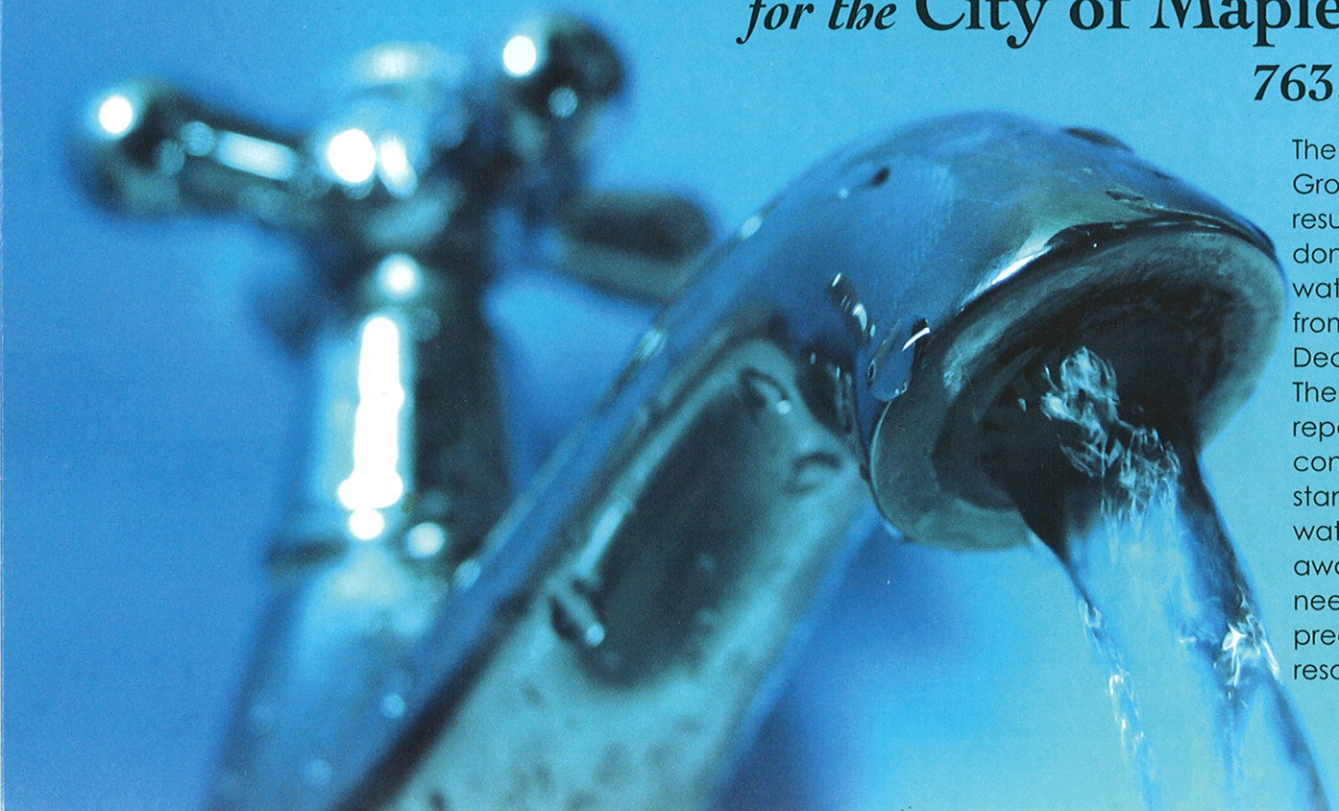
2009
Water Quality Report
for the City of Maple Grove

This report contains very important information. Translate or ask someone who understands it.
Información importante. Si no la entiende, haga que aguien se la traduzca ahora.
Nov yog ntaub ntawv tseem ceeb. Yog koy tsi to taub, nrhiav neeg pab txhais rau koh kom sai sai.

2009 Water Quality Report

for the City of Maple Grove

763.494.6370



The City of Maple Grove is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2009. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.

We are proud to present to you our new **Maple Grove Water Quality Report.** Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation and community education while continuing to serve the needs of all our water users.

IMPORTANT CONTACT INFORMATION

The **MAPLE GROVE WATER AND SEWER MAINTENANCE DEPARTMENT** is located at 9030 Forestview Lane North and can provide information or assistance for the following services:

- Leak at water meter or meter horn
- Water leak outside or at curb stop
- Hydrant maintenance or repairs
- Frozen meters or water lines
- Water quality/hardness
- Water treatment plant tours
- Watermain flushing
- Low water pressure
- Turn off at outside curb stop
- Sewer gas odor
- Sewer backup
- Water conservation kit

Office hours are Monday – Friday from 7:30 a.m. – 4:00 p.m. Please contact this office at **763-494-6370** during business hours or for after hour water and sewer emergencies.

The **MAPLE GROVE UTILITY BILLING DEPARTMENT** is located in the Finance Department at the Maple Grove Government Center at 12800 Arbor Lakes Parkway and can provide information or assistance for the following services:

- Utility rates and billing questions
- Change in owner/renter
- Mailing address changes
- Information on reading your water meter
- Winterizing your water system
- Auto payment options

Please contact this office at **763-494-6330** during business hours Monday – Friday from 8:00 a.m. – 4:30 p.m.

Maple Grove obtains raw water from a series of 10 wells extended into two underground aquifers. The primary well field is located in the east central part of Maple Grove near Zachary Lane and 89th Avenue. The water is drawn from a glacial aquifer which extends from the ground surface to a depth of approximately 230 feet. The city also has a well located in the southern area of Maple Grove which draws water from the Hinckley Formation and is approximately 680 feet in depth.
Total pumping capacity of the wells is 34,000 gallons per minute.

The raw water is pumped from the wells to the Maple Grove water treatment plant where it is treated to reduce iron and manganese content. Through treatment, manganese content is reduced from .6 parts per million to .03 parts per million and iron content is reduced from .05 parts per million to .02 parts per million. While these elements pose no health threat, they can cause water discoloration and staining. Chlorine and fluoride are added as required by the Minnesota State Health Department. The treated water is then pumped to two elevated water towers with a combined capacity of 3.5 million gallons where it is used to meet the needs of the citizens of our community and also provide fire protection.

The City of Maple Grove Utility Department employees are committed to respond to the needs of the citizens of our community in a timely and professional manner. Water and Sewer Department vehicles are blue in color and utility personnel carry Maple Grove photo identification cards. The city contracts with a private vendor for the reading of outside remote meters. These individuals will also have I.D. cards. This firm reads only outside remote meters and would therefore have no need to gain entrance to your home.

WATER FACTS... Did You Know?

- Water is the most common substance found on Earth.
- The only water we will ever have is what we have right now.
- Water is the only substance on earth naturally found in the three true element forms: solid, liquid and gas.
- 80% of the Earth's surface is water.
- 97% of the Earth's water is the oceans and seas.
- 66% of your body is water.
- Bones are 25% water.
- Human blood is 83% water.
- There are over 59,000 community public water systems in the U.S.
- The average household uses 107,000 gallons of water per year.
- It takes 1,851 gallons of water to refine one barrel of crude oil.
- It takes 1,500 gallons of water to process one barrel of beer.
- Each day the sun evaporates 1,000,000,000,000 (a trillion) tons of water.
- Community water systems process over 35 billion gallons of water daily.
- A single Birch tree will give off 70 gallons of water per day in evaporation.
- An acre of corn will give off 4,000 gallons of water per day in evaporation.
- A person can survive without food for more than 30 days, but less than a week without water.

Snapshots from Inside the Facility

Control Panel at Maple Grove Utility facility.

Water pumps providing Maple Grove's clean water.

Compliance with National Primary Drinking Water Regulations:

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.

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 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.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPS) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Enviornmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Source of Water:

The City of Maple Grove provides drinking water to its residents from a groundwater source: 10 wells ranging from 157 to 295 feet deep, that draw water from the Quaternary Water Table and Quaternary Buried Artesian aquifers.

The water provided to customers may meet drinking water standards, but the Minnesota Department of Health has also made a determination as to how vulnerable the source of water may be to future contamination incidents. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 1-800-818-9318 (and press 5) during normal business hours. Also, you can view it on line at www.health.state.mn.us/divs/eh/water/swp/swa.

Call if you have questions about the City of Maple Grove drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water.

RESULTS OF MONITORING CHART

Key to Abbreviations:

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.

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.

MRDL—Maximum Residual Disinfectant Level

MRDLG—Maximum Residual Disinfectant Level Goal

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

90th Percentile Level—This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. (*For example, in a situation in which 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.*) *Note:* In situations in which only 5 samples are taken, the average of the two with the highest levels is taken to determine the 90th percentile level.

pCi/l—PicoCuries per liter (*a measure of radioactivity*)

ppm—Parts per million, which can also be expressed as milligrams per liter (*mg/l*)

ppb—Parts per billion, which can also be expressed as micrograms per liter (*ug/l*)

nd—No Detection

N/A—Not Applicable (*does not apply*)

Results of Monitoring

No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table that follows shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2009. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.)

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range (2009)	Average/Result*	
Alpha Emitters (pCi/l) (10/09/2006)	0	15.4	N/A	15	Erosion of natural deposits.
Combined Radium (pCi/l) (10/09/2006)	0	5.4	N/A	10.4†	Erosion of natural deposits.
Fluoride (ppm)	4	4	.97–1.2	1.07	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAA5) (ppb)	0	60	N/A	1.4	By-product of drinking water disinfection.
Nitrate (as Nitrogen) (ppm)	10	10	nd–.06	.06	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHM (Total trihalomethanes) (ppb)	0	80	N/A	7.9	By-product of drinking water disinfection.
Tetrachloroethylene (ppb) (09/04/2007)	0	5	N/A	.3	Leaching from PVC pipes; Discharge from factories and dry cleaners.

*This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.

†The average results for combined radium that were over the MCL were collected from a well that is designated as an emergency back-up source used only in an emergency situation such as fire protection. Therefore, there was no violation for combined radium.

Contaminant (units)	MRDLG	MRDL	****	*****	Typical Source of Contaminant
Chlorine (ppm)	4	4	.3–.6	.46	Water additive used to control microbes.

****Highest and Lowest Monthly Average

*****Highest Quarterly Average

Contaminant (units)	MCLG	AL	90% Level	# sites over AL	Typical Source of Contaminant
Copper (ppm) (07/12/2007)	N/A	1.3	.91	2 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb) (07/12/2007)	N/A	15	5	0 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.

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. City of Maple Grove 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 or at http://www.epa.gov/safewater/lead.

Some contaminants do not have Maximum Contaminant Levels established for them. These unregulated contaminants are assessed using state standards known as health risk limits to determine if they pose a threat to human health. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL has been exceeded; the water system must inform its customers and take other corrective actions. In the table that follows are the unregulated contaminants that were detected:

Contaminant (units)	Level Found		Typical Source of Contaminant
	Range (2009)	Average/Result	
Sodium (ppm) (09/04/2007)	N/A	19	Erosion of natural deposits.
Sulfate (ppm) (09/04/2007)	N/A	43.1	Erosion of natural deposits.

Questions often asked...

about your water.

What is the hardness of the water?

The level is 19-22 grains or 370 parts per million hardness.

Does the water treatment plant soften the water?

No, only iron and manganese are removed.

Do we need to install a water softener in our home?

The hardness level of 19-22 grains is relatively high, therefore, the majority of homes and businesses in the community find it desirable to soften water through privately owned softeners or a softening service.

What chemicals are added to the water?

Chlorine is added to the water for purposes of disinfection. Maple Grove maintains a .05 parts per million chlorine concentration.
Fluoride (for healthy teeth) is added to municipal water systems as required by the Minnesota Department of Health. Daily tests are conducted to insure maintenance of a 1.0 - 1.2 parts per million concentration. Test results are then submitted to the State of Minnesota.
Polyphosfate (a food product) is added to the system at a ratio of 5 parts per million. Polyphosphates coat the inside diameter of water pipes, lowering the potential lead and copper concentrations.

Is the water safe to drink?

Yes, the water meets or exceeds the State requirement of the Safe Drinking Water Act. Eighty (80) sample tests are taken from various locations each month to insure safety. In addition, the Minnesota Health Department performs a complete system test every eighteen months. Per the requirement of the United States Environmental Agency particular to the city, random samplings are conducted of lead and copper levels in residential water supplies. To date, all test results comply with the recommended guidelines set by this agency.

What is causing the low pressure in my home?

Normally, low pressure is caused by a malfunctioning water softener. This can be confirmed by checking the pressure at an unsoftened inside or outside tap, or by putting the water softener on by pass (see your owners manual). If the pressure returns to normal, your softener may need repair. The average pressure in the city distribution system is approximately 75 pounds per square inch.

Why is there sand in the water?

The sudden onset of particles which resemble sand are most often the result of a water softener malfunction. These particles collect in faucet screens, washer intake hose screens, and toilet tanks. Please check your owners manual or maintenance company for assistance.

Where should my sump pump drain hose discharge?

Outside. Sump pumps to collect ground water are not allowed to discharge into the sanitary sewer system. Hoses must be routed to drain to the outside of the home and not into a laundry tub or floor drain.

Home Water Use – Know The Facts

When we scan our quarterly water bill and see the number of gallons we have used in the past ninety days, do we consider where in our household the water use occurred? A little insight into typical home water use can shed light on how we use water and how we can take steps to use it more efficiently.

According to the *Handbook of Water Use and Conservation* by Amy Vickers, daily indoor per capita water use in the typical single family home is 69.3 gallons.

As we can see from the figures below, showers, washing clothes, flushing the toilet, leaks, and use from faucets account for over 94% of indoor use. By installing more efficient water fixtures and regularly checking for leaks, households can reduce daily per capita water use by about 35% to about 45.2 gallons per day.

The most obvious place to start to reduce water use is the toilet. Older style toilets use up to six gallons per flush. Newer toilets use under two gallons. This savings can add up to 1,000 gallons per month. A leaking toilet can also waste hundreds of gallons. Check for water running over the overflow tube inside the tank or a leaking flapper. Place some food coloring in the tank and if it shows up in the bowl, replace the flapper.

Older showers and faucets can be retrofitted with a water saving disk placed in the shower head or spout. Newer faucets are manufactured to a water-saving standard.

Washing clothes accounts for 22% of in-home use and can be one of the more expensive items to tame. Older models can use 40 gallons per load. Efficient clothes washers use only 18-25 gallons per load and can be much more expensive making the payback time longer.

A dripping faucet can waste hundreds of gallons per month and is generally an easy fix.

You can also save water by taking some basic steps with everyday water use. When washing dishes by hand or when brushing your teeth, do not leave the water running. Fully load the dishwasher before running. Defrost frozen food in the refrigerator instead of running hot water over the food.

Controlling leaks and using water more efficiently can cut your water use by 35%. You save money on your bill and your water system saves investment in water treatment and delivery facilities.

WATER USE BREAKDOWN

Use	*Gallons Per Capita*
SHOWERS	11.6
CLOTHES WASHERS	15.0
DISHWASHERS	1.0
TOILETS	18.5
BATHS	1.2
LEAKS	9.5
FAUCETS	10.9
OTHER DOMESTIC USES	1.6

Reprinted from American Water Works Association