

## Water Division Hydrant Flushing

To prevent mineral buildup in the City's water mains, the water department employees open and flush fire hydrants by letting water run until the water runs clear at each hydrant. When the hydrant is initially opened, the water may appear brown or orange due to iron build up in the the hydrant and water main.

During flushing, the hydrants are also inspected and repairs are made, if necessary.

Flushing creates a disturbance in water mains resulting in water discoloration. While the water is acceptable for drinking, there is a possibility clothes may be stained during washing.

Anyone who experiences water discoloration lasting longer than two days should call the City of Fridley Public Works Department at 572-3566 during regular business hours. (M-F 7:00 A.M. - 3:30 P.M.)

Fire hydrant flushing is done Monday through Friday in the spring of each year and is an effective tool for keeping the water fresh year round. Only "dead end mains" are flushed in the fall.

As crews flush water mains, we would also like to suggest that residents flush their water heaters to remove sediment build-up in the bottom of your water heater. The flushing procedure is very simple and can be accomplished within two hours. Here's how it's done.

1. Turn the water off at the water meter.
2. Turn gas heaters down to "pilot" or electric heaters to the "off" position.
3. Hook up a water hose to the tank drain outlet at the bottom of the water heater and place the other end of the hose by the floor drain.
4. Open a hot water tap at the laundry tub to allow air into the hot water pipes.
5. Open the hot water heater faucet and allow the tank to drain completely.
6. Once the tank has drained, turn the water back on by the meter. Let the tank fill until the water begins flowing out of the hose at the drain.
7. Allow the water to flow through the tank from 2-3 minutes; then shut the water off at the meter and allow the tank to drain out completely once again.
8. Repeat steps 6 and 7 until water flows clean at the drain.
9. Once the water flows clean again, shut the drain faucet off at the bottom of the hot water tank and remove the hose.
10. Turn the gas or electric heater controls back to the "normal" or "on" positions. Also be sure to turn the water back on at the meter to allow refilling of the tank and proper operation of your water system throughout your residence.
11. Open all hot water taps throughout the residence to flush out any sedimentation that may have become agitated throughout the hot water pipes during the tank flushing. Close all taps as the water flow clears.

By following these steps, not only will the hot water tank be cleaned out, but also the heater will run more efficiently and help conserve energy. Questions or concerns regarding this or other water projects may be directed to the water department, at the City of Fridley 572-3561.



## Fridley Water Supply Sources

All water supplied by the City of Fridley is groundwater. The City operates 13 wells ranging in depth from 199 to 870 feet that draw water from the Quaternary Buried Artesian aquifer, the Jordan-Mt. Simon aquifer, the Prairie Du Chien group, the Mt. Simon aquifer, and the Prairie Du Chien-Jordan aquifer. The Jordan and Mt. Simon formations are deep, bedrock aquifers. Water in these units is located in the spaces between the rock grains (such as sand grains) or in the fractures within the more solid rock. Buried artesian aquifers are shallower aquifers composed of glacial sand and gravel, over which a confining layer of clay or clay till was deposited.

Some of Fridley's water is supplied to the system through an interconnection with the City of New Brighton. This water is also ground water from the Mt. Simon, Jordan, and Prairie Du Chien formations.

The interconnection between the two cities provides a back-up supply in case of a natural disaster that interrupts water service in one of the two communities. 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 humans.

While Fridley's drinking water meets all EPA limits for particular contaminants, the State Department of Health has determined that one or more sources of our drinking water is potentially susceptible to contamination. If you wish to obtain the entire source water assessment regarding our drinking water please call 651-201-4670 during normal business hours. You can also view it online at [www.health.state.mn.us/water/swp/swa](http://www.health.state.mn.us/water/swp/swa).

Before a water source is used for a drinking water supply, it is tested for contaminants. These test results for Fridley water are in the Laboratory Results table in this report.

## Explanation of this Report

In the past concerns, have been raised as to the language in this report. We would like you to know that the EPA and Minnesota Department of Health mandate specific language that must be included in the report.

As we present this report, we would like to take a moment to explain that before the City of Fridley can deliver water to your home, it must first be analyzed in certified laboratories that can detect trace amounts of contaminants. The Fridley test results for 2006 are shown in the table on the next page.

This year's report again delivers good news: **No contaminants were detected that exceeded EPA limits in drinking water in the Fridley systems testing.** Levels of contamination above EPA limits for radionuclides, however, were also detected in water that is occasionally supplied from the City of New Brighton. New Brighton is currently investigating a similar change to their chemical feed operation to remedy this problem. Since the City of Fridley supplements its own supply with water from the City of New Brighton, New Brighton results are also listed in the table.

**The Safe Drinking Water Act (SDWA)**, promulgated by Congress in 1974, amended in 1986 and 1996, establishes a Federal program to monitor and increase the safety of the nation's drinking water supply. The SDWA authorizes the U.S. Environmental Protection Agency (EPA) to set and implement health-based standards to protect against both naturally occurring and man-made contaminants in drinking water. The EPA is also responsible for assessing and protecting drinking water sources; protecting wells and collection systems; making sure water is treated by qualified operators; ensuring the integrity of distribution systems; and making information available to the public on the quality of their drinking water.

**Are Contaminants in Drinking Water a Concern for Me?** Some people may be more vulnerable to contaminants found 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/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

## Upgrade Report

Since our last water quality report, the City has completed three upgrades to the Commons Park Filtration Plant. By far the largest of these improvements was the replacement of filter media in two of the seven filters. Although the City has always met the Environmental Protection Agency's Safe Drinking Water Standards, these improvements will help us reduce the amount of iron and manganese in Fridley's drinking water. This, in turn, will help improve the taste and odor of the water as well as help to eliminate staining of fixtures and laundry in Fridley homes.

In addition to changing out the filter media, we also replaced the chemical feed equipment at the Commons Park Treatment Plant. This helps us reduce levels of radionuclides (a naturally occurring mineral in the ground) as well as provide more dependable application of chlorine, fluoride and ammonia.

The third change to the Commons Park Treatment plant was the upgrading of the electrical system and the SCADA control system. The later system is a monitoring and alarm system that helps us maintain control of water levels in our water storage tanks as well the operability of wells, water booster stations and other essential elements of our water system.



## Bottled Water

Food and Drug Administration regulations establish limits for bottled water that must provide the same protection for public health as public water suppliers. Studies repeatedly show that bottled water is no safer than conventional tap water.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The table at the bottom of the next page enables the reader to view levels of contamination in Fridley drinking water and to compare these levels with standards set by the Safe Drinking Water Act. The results listed in the table were gathered between January 1 and December 31, 2006.

If you have questions about Fridley drinking water, or if you would like information on opportunities to participate in public meetings where decisions regarding water quality are made, please contact Kory Jorgensen at 763-572-3546.

# EPA Drinking Water Regulations

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 (800-426-4791).

EPA regulates about 90 substances that are potentially harmful to human health and have at least a reasonable possibility of being found in either water sources or finished drinking water. Our water is monitored for these regulated contaminants throughout the year. Tested substances fall into one of five different categories:

**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 occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

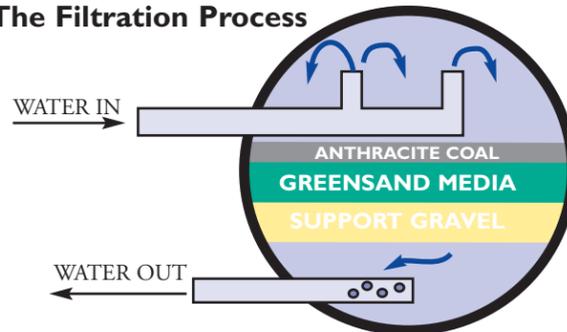
**Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

**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 occur naturally or be the result of oil and gas production and mining activities.

**Radon**  
**\*\*\*Radon** is a radioactive gas which is naturally occurring in some groundwater. It poses a lung cancer risk when this gas is released from water into air (as occurs during showering, bathing, or washing dishes or clothes) and a stomach cancer risk when it is ingested. Because radon in indoor air poses a much greater health risk than radon in drinking water, an Alternative Maximum Contaminant Level (AMCL) of 4000 pCi/L may apply in states that have adopted an Indoor Air Program, which compels citizens, homeowners, schools and communities to reduce the radon threat from indoor air. For states without such a program, the MCL of 300 pCi/L may apply. Minnesota plans to adopt an Indoor Air Program once it's Radon Rule is finalized.

## The Filtration Process



## How to Interpret the Lab Data

Regulated substances have **Maximum Contaminant Levels (MCLs)** set by the EPA. This is the highest level of the substance allowed in drinking water. Some contaminants also have **MCL goals (MCLGs)**. This is the level of a substance where there is no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as feasible using the best available water treatment processes.

**Unregulated substances** do not have MCLs. They are assessed by comparing the detected amount to state standards known as health risk limits. If an unacceptable amount of any substance is ever found in the water, the City of Fridley will notify residents immediately of the problem.

While most contaminants are assigned a specific MCL, lead and copper are treated differently. Their MCL is called an **Action Level (AL)**. This is the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. Ninety percent of all samples tested must be below the action level. City of Fridley water has been found to be in compliance for both lead and copper.

## Units of Measurement

- pCi/L: picoCuries per liter, a measure of radioactivity.
- ppm: parts per million (milligrams per liter).
- ppb: parts per billion (micrograms per liter).
- nd: Not Detected
- MRDL: Maximum Residual Contaminant Level
- MRDLG: Maximum Residual Contaminant Level Goal

| Detected Substance (units) year tested-MCL (highest level allowed in water by EPA)-MCLG (level where there is no known health risk) | Results for Fridley Tap Water |                                   | Results of New Brighton Tap Water |                                   | Meets Federal and State Regulations | Typical Source of Substance in Drinking Water   |
|---|-------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|---|
|   | Level Found                   | Range of Detections               | Level Found                       | Range of Detections               |                                     |   |
| Total Trihalomethanes (ppb) 2006<br>MCL:80 MCLG: 0  | 0.9                           | NA                                | 0.8                               | NA                                | Yes                                 | By-product of drinking water disinfection.  |
| Xylenes (ppm) 2006<br>MCL: 10 MCLG: 10  | —                             | —                                 | 0.001                             | nd-0.0007                         | Yes                                 | Discharge from petroleum factories; Discharge from chemical factories.                                    |
| Barium (ppm) 2006<br>MCL: 2 MCLG: 2   | 0.07                          | NA                                | 0.1 (2003)                        | NA                                | Yes                                 | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.               |
| Nitrate as Nitrogen (ppm) 2006<br>MCL: 10 MCLG: 10  | —                             | —                                 | 0.11                              | nd-0.11                           | Yes                                 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.              |
| Fluoride (ppm) 2006<br>MCL: 4 MCLG: 4   | 1.29                          | 0.95-1.7                          | 1.04                              | 0.91-1.1                          | Yes                                 | State-required additive; erosion of natural deposits; fertilizer and aluminum factory discharge.          |
| cis-1,2- Dichloroethylene (ppb) 2006<br>MCL: 70 MCLG: 70  | 0.9                           | nd-0.9                            | —                                 | —                                 | Yes                                 | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland. |
| Lead (ppb) 2004<br>AL: 15 (90% of samples tested must be <15 ppb)   | 90% of samples were <4.0      | 0 out of 30 homes tested >15 ppb  | 90% of samples were <0.35         | 0 out of 30 homes tested 15 ppb   | Yes                                 | Corrosion of household plumbing systems; erosion of natural deposits.                                     |
| Copper (ppm) 2004<br>AL: 1.3 (90% of samples tested must be <1.3 ppm)   | 90% of samples were <1.1      | 2 out of 30 homes tested >1.3 ppm | 90% of samples were <0.35         | 0 out of 30 homes tested >1.3 ppm | Yes                                 | Corrosion of household plumbing systems; erosion of natural deposits.                                     |
| Sulfate (ppm) 2006<br>No established MCL or MCLG  | 18.6                          | 7.41-18.6                         | 22                                | nd-22                             | Yes                                 | Erosion of natural deposits.  |
| Sodium (ppm) 2006<br>No established MCL or MCLG   | 11                            | 5.2-11                            | 15                                | 8.8-15                            | Yes                                 | Erosion of natural deposits.  |
| Alpha Emitters (pCi/L) 2006<br>MCL: 15.4 MCLG: 0  | 10                            | nd-10                             | 13.6 (2005)                       | 12.2-17.6                         | Yes                                 | Erosion of natural deposits.  |
| Combined Radium (pCi/L) 2006<br>MCL: 5 MCLG: 0  | 5.3                           | nd-5.3                            | 6.1                               | NA                                | No****                              | Erosion of natural deposits.  |
| Total Coliform Bacteria (samples) 2006<br>MCL: >1 present<br>MCLG: found in no samples  | 1 Present*                    | —                                 | —                                 | —                                 | Yes                                 | Naturally present in the environment.<br>*Follow up sampling showed no bacteria present                   |
| Trichloroethylene (ppb) 2006<br>MCL: 5 MCLG:0   | 0.5                           | nd-0.5                            | —                                 | —                                 | Yes                                 | Discharge from metal degreasing sites and other factories.  |
| ***Radon (pCi/l) 2002   | 4320                          | —                                 | 4320                              | —                                 | Yes                                 | Erosion of natural deposits.  |
| Chlorine (ppm) 2006<br>MRDL: 4 MRDLG: 4   | 1.38                          | 1.1-1.8                           | 0.33                              | 0.2-0.5                           | Yes                                 | Water additive used to control microbes.  |
| trans-1,2-Dichloroethylene (ppb)<br>MCL: 100 MCLG:100   | 0.1                           | nd-0.1                            | —                                 | —                                 | Yes                                 | Discharge from industrial chemical factories.   |

\*\*\*\*During the year, New Brighton had a violation for Combined Radium. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer. New Brighton is studying alternatives for corrective action.