

CITY OF RIVERVIEW

14100 Civic Park Drive
Riverview, MI 48193

WATER – IT'S OURS TO CONSERVE AND PROTECT

WATER & SEWERAGE DEPARTMENT 2014 Consumer's Annual Report on Water Safety

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Our 2014 Consumers' Annual Report on Water Quality provides the sources of our water, test results, and important information about water and health. We will notify you immediately if there is ever any reason for concern about our water.

The City of Riverview and the Water and Sewerage Departments want you to know your tap water meets or surpasses all federal and state standards for quality and safety.

This Report covers the last complete year (2014) of water service to our community.

Drinking Water Regulations

- **Contaminants and their presence in 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 (800-426-4791).

- **Vulnerability of sub-populations:**

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 systems 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* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

- **Sources of drinking water:**

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

In order to ensure that tap water is safe to drink, 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.

Water costs money... don't waste it!

A dripping faucet or fixture can waste 3 gallons a day...a total of **1095 gallons** a year.

Waste per quarter at 60 psi water pressure

Diameter of stream	Gallons	Cubic Feet	Cubic Meters
 1/4"	1,181,500	158,000	4,475
 3/16"	666,000	89,031	2,521
 1/8"	296,000	39,400	1,115
 1/16"	74,000	9,850	280
 <i>A continuous leak from a hole this size would, over a three month period, waste water in the amounts shown above.</i>			

Lead in Drinking Water

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 Riverview 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 www.epa.gov/safewater/lead. Since 1992, the City of Riverview has been testing homes with plumbing systems that could contribute lead to the household water supply. The City of Riverview tested five homes in 2014 and none of the homes tested exceeded the action levels for lead or copper.



Please do not be alarmed by this information; none of the homes tested in 2014 showed lead levels exceeding safety standards.

Educational Information About Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Save Water and Money - Check For Leaks

Most of our newer style meters have a red triangular disc in the center of the meter that rotates to show when there is water passing through the meter. To check to see if you have any leaks in your home make sure all fixtures in your home are off and not drawing water. Then look at the red triangle, it should not be moving. If it is rotating you should check all fixtures (sink faucets, toilets, washers, water heaters, outside faucets, lawn sprinkler valves, etc.) at the home to make sure there are no streams or drips coming from them.

Be sure to check your toilets. Leaking toilets are the most common and hard to detect of water wasters. To check for a leaking toilet, put food coloring in the toilet tank and wait 10 minutes. Do not flush during this time. If the coloring appears in the water in the toilet bowl, there is a leak. Or if you notice the toilet running from time to time when no one has used it (the phantom flush) there is a leak. A toilet leak can waste gallons of water a day which will run up your water bill.

Cross Connections

A cross connection is an arrangement of piping which could allow undesirable water, sewage, or chemical solutions to enter your drinking (potable) water system as a result of backflow. Cross connections with potable piping systems have resulted in numerous causes of illness and even death.

Historically, cross connections have been one of the most serious public health threats to a drinking water supply system, and many times are present in a residential water system.

What is a Backflow and how can it occur?

Backflow is the reversal of normal flow in a system due to backsiphonage or back pressure.

Backsiphonage backflow occurs when a vacuum is induced on a piping system, just like drinking from a glass with a drinking straw. A garden hose or a hose connected to a laundry tub can act as a “drinking straw” allowing undesirable liquids to be drawn through it by backsiphonage. Some typical situation which cause backsiphonage action include:

- Water main breaks or repairs occurring in the system at a point of lower elevation than your service point;
- High water flow rates exerted on a watermain due to firefighting, hydrant flushing, large system demands or major piping breaks;
- Booster pumps taking direct suction from potable water supply piping; or
- Undersize piping.

When ever the drinking water supply system is directly connected to another piping system or process which operates at a higher system pressure, backpressure backflow can occur. Typical cause of backpressure backflow include:

- Non potable piping systems equipped with pumping equipment (irrigation well interconnected with potable system, for example);
- Steam or hot water boilers; or
- Heat exchangers.

What is the Law?

Cross connection with potable piping systems are prohibited by state plumbing codes. Additionally, Michigan water utilities are required to have cross connection control inspection program of their water customers to eliminate and prevent cross connections. Common commercial and industrial users posing a public health threat include:

- Industries with chemically treated boilers;
- Plating operations, chemical processing plants;
- Funeral Homes, Mortuaries;
- Marine Facilities;
- Hospitals, nursing homes;
- Research laboratories;
- Car washes, laundromats; and
- School facilities

The City of Riverview makes routine inspections of these facilities to insure that corrective action is taken where necessary.

What Hazards threaten the Homeowner?

Many common household uses for water pose a public health threat to the potable water supply system whether the home is supplied by municipal water or by a private well. Principal areas of water use in the home that pose a threat due to cross connections are:

- A hose connection to a chemical solution aspirator to feed lawn/shrub herbicides, pesticides, and fertilizers;
- Lawn irrigation systems;
- Chemically treated heating systems;
- Water softeners;
- Hose connections to a water outlet or laundry tub;
- Swimming pools;
- Solar heating systems;
- Private non potable water supplies;
- Non-code (siphonable) ball cock assemblies in toilets; and
- Water-operated sump drain devices

This list of potential cross connection hazards is by no means complete. A private residence that has one or two of these situations is seriously jeopardizing its own potable water system and that of the community if it is served by a public water supply system.

Home Irrigation Backflow Prevention

All lawn irrigation systems in the City of Riverview are required to have an approved testable backflow device. The device is to be tested every three (3) years and the results of a passed test sent to the Public Works Department. Testing of the device must be completed by a licensed plumber with cross connection certification. A list of plumbers that are registered with the City can be obtained from the Public Works Department by calling (734) 281-4268.

The City of Riverview will mail out notices in the spring, to known residents and businesses that have backflow devices due to be tested this year.

Help Keep Our Water Rates in Check

One of the main factors that determine the rate that The City of Detroit Water & Sewage Department charges the City of Riverview for water is Peak demand. Basically the peak demand is the rate we are charged for the amount of water used on our highest water usage day of the year (the more water used the higher the rate). The peak water demand periods are usually measured during the hot dry days when outdoor water usage is at its highest resulting in our water rates from Detroit being calculated much higher than they could be. We can take voluntary steps to reduce the amount of water used during these peak periods, such as avoiding lawn watering during the peak hours of 6:00 a.m. to 8:00 p.m. and by curbing outdoor water use like filling pools or washing cars during these peak periods. A little effort could help in keeping our water rates in check and saving you money.

Information From the Water Department

You may now pay your water bill by credit card at the City Hall Finance Department, or online at cityofriverview.com

For your convenience the City has a drop box in the Police Department lobby where after hours water bill payments may be deposited. When you sell your home contact the Water Department to get a final bill and have the water taken out of your name. When you purchase a home contact the Water Department and provide your name and billing information. To avoid late payments and penalties seasonal residents should notify the Water Department with their forwarding address. Unpaid water and sewage bills will become a lien against the property and if not paid by the 15th of April will be placed on succeeding year's city tax bill.

Southwest & Springwells Water Treatment Plants

2014 Regulated Detected Contaminants Table

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
INORGANIC CHEMICALS – MONITORING AT PLANT FINISHED WATER TAP								
Fluoride								
Southwest Plant	5/13/2014	ppm	4	4	0.56	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Springwells Plant		ppm	4	4	0.61	n/a	no	
Nitrate								
Southwest Plant	5/13/2014	ppm	10	10	0.29	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Springwells Plant		ppm	10	10	0.39	n/a	no	

DISINFECTANT RESIDUALS AND DISINFECTION BY-PRODUCTS – MONITORING IN DISTRIBUTION SYSTEM BOTH PLANTS								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2014	ppb	n/a	80	36	23-50	no	-product of drinking water chlorination.
Haloacetic Acids (HAAS)	2014	ppb	n/a	60	14	6-18	no	y-product of drinking water disinfection.

DISINFECTANT RESIDUALS – MONITORING IN DISTRIBUTION SYSTEM SOUTHWEST PLANT								
Total Chlorine Residual	2014	ppm	4	4	0.64	0.52-0.73	no	Water additive used to control microbes.
DISINFECTANT RESIDUALS – MONITORING IN DISTRIBUTION SYSTEM SPRINGWELLS PLANT								
Total Chlorine Residual	2014	ppm	4	4	0.70	0.64-0.74	no	Water additive used to control microbes.

2014 TURBIDITY – MONITORED EVERY 4 HOURS AT PLANT FINISHED WATER TAP			
Cannot exceed 1 NTU	TU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
Southwest 0.14 NTU Springwells 0.24 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.			

2014 MICROBIOLOGICAL CONTAMINANTS – MONTHLY MONITORING IN DISTRIBUTION SYSTEM								
Regulated 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 Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E.coli positive.		in one year 0	no	Human waste and animal fecal waste.		

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 quarter and because the level was low, there is no requirement for TOC removal.		Erosion of natural deposits

2014 Lead and Copper Monitoring at Customer's Tap								
Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2014	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	ppm	1.3	1.3	.101	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.

2014 SPECIAL MONITORING

CONTAMINANT	MCLG	MCL	LEVEL DETECTED	SOURCE OF CONTAMINATION
Sodium (ppm) Southwest	n/a	n/a	5.41	Erosion of natural deposits
Sodium (ppm) Springwells	n/a	n/a	5.15	Erosion of natural deposits

Southwest Water Treatment Plant

2014 Regulated Detected Contaminants Tables

Regulated Contaminant	Treatment Technique		Running annual average		Monthly Ratio Range	Violation Yes/No	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	
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Level Detected	Violation Yes/No	Major Source in Drinking water
Combined Radium Radium 226 and 228	5/13/2014	pCi/L	0	5	0.65 + or - 0.54	no	Erosion of natural deposits

The City of Riverview receives its water from the Southwest Water Treatment Plant, which receives its raw water from the Detroit River near Fighting Island. The actual Intake lies east of the international boundary line between Canada and the United States. The intake is physically located on the Canadian side of the river. Raw water flows to the plant by gravity through a 12-foot diameter four mile long tunnel. Engineers deemed this site to be the prime spot for quality water within the Detroit River. The water plant is located at 14700 Moran in Allen Park.

Key to Detected Contaminants Table

Symbol	Abbreviation for	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.
mg/L	Milligrams per liter	A Milligram = 1/1000 gram 1 milligrams per liter is equal to 1 ppm
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.
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.
pCi/l	picocuries per liter	A measure of radioactivity
n/a	Not applicable	
>	Greater than	

Your source water comes from the Detroit River, situated within the 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. The Michigan Department of Environmental Quality 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 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. The susceptibility of 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 Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards. DWSD has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. DWSD participates in a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan.

If you would like to know more information about this report or a complete copy of this report, please contact your local water department (734) 281-4270.

**Remember,
you're not just
fertilizing your lawn**



Improper fertilization such as leaving fertilizer on paved surfaces, using improper type, or applying it to frozen ground causes it to get into storm drains. Fertilizer in lakes and rivers causes algae to grow which uses oxygen that fish need.

**Remember,
it all drains to
our lakes and rivers**



Storm Drains and roadside ditches lead to our streams and rivers. Any pet waste, oil, leaves, chemicals or other dirty water that goes into the storm drain enters our lakes and streams.

**Be a H2O Hero,
properly dispose of
pet waste**



Fight the spread of unsafe diseases and bacteria. Stop SIP (step in poop) occurrences. Protect water quality: H2O Heroes know that when pet waste is left behind, it washes into storm drains and ditches. From there, it heads straight to our local rivers, lakes and streams. Be an H2O Hero and your dog's best friend — scoop it, bag it, and pitch it in the trash!

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