



City of
Wapakoneta, Ohio

BACKFLOW
PREVENTION
&
CROSS
CONNECTION
CONTROL

What is Backflow and Cross Connection?

BACKFLOW is the undesirable reversal of flow in a potable water distribution system as a result of a cross connection. Whenever there is a physical connection between a potable water system and a non-potable environment, backflow may occur prior to either backsiphonage or back pressure.

BACKSIPHONAGE is backflow caused by negative or reduced pressure in the supply piping. Backpressure may cause backflow to occur whenever a potable system is connected to a non-potable supply which operates under a higher pressure by means of a pump, boiler, elevation difference, air or steam pressure, etc.

CROSS CONNECTION is a connection or potential connection between any part of a potable water system and another environment containing other substances in a manner that may allow such substances to enter the potable water system. These other substances may include gases, liquids, or solids such as chemicals, waste products, steam or water that have the potential to alter the integrity of the water in the form of odor, taste, etc.



Why Do We Need Backflow and Cross Connection Control?

The ability to provide clean, safe high quality drinking water to the citizens of Wapakoneta and the surrounding communities is the mission of the City of Wapakoneta Water Treatment Plant, preventing any hazards from entering the water system. Hazards may come in two forms: Health or contaminant hazard, and non-health or pollutant hazard.

A health or contaminant hazard is a substance that could, if introduced into the potable water supply through a cross connection or potential cross connection, causing death, illness, spreading disease, or have a high probability of causing such effects.

A non-health or pollutant hazard is any substance that would generally not be a health hazard but would constitute a nuisance, or be unpleasant in taste, odor, or color.

A backflow preventer is the key element in preventing the introduction of such hazards. Backflow preventers can be an air gap, reduced-pressure backflow prevention assembly or a double-check valve assembly.

Backflow Requirements

The Backflow Prevention Program established by the City of Wapakoneta Water Treatment Plant is designed to enforce and manage backflow requirements established under the Ohio Revised Code 3745-95, the Ohio Environmental Protection Agency and the codified Ordinances of the City of Wapakoneta. The program requires that any service line connection to a public water supply that in the judgment of the supplier of water poses either a potential or existing hazard must have an approved backflow prevention device installed immediately downstream of the water meter and prior to any other pipe connections.

What is the Penalty for Noncompliance?

Any violation of the backflow requirements may result in immediate termination of water service without notification. Continued noncompliance will result in the loss of water service until the system is brought into compliance.

If you have any questions, please feel free to contact Brent Hamel, Superintendent of Water Treatment and Distribution, at (419) 738-7439.

CAUTION ! Your Hose May Be Hazardous To Your Health

The danger comes when the hose -any hose- is connected to a harmful substance. If the pressure in a water main drops (ex. broken water main / fire fighting) while your hose is submerged in polluted water, then the water (and whatever is in it) could be sucked back into your pipes. When water is mixed with hazardous chemicals or bacteria, it is called dangerous !

NEVER submerge hoses in buckets, pools, tubs or sinks



DO NOT use spray attachments without a backflow prevention device. The chemicals used on your lawn are toxic and can be fatal if ingested.



What Are Sources of Contamination to Drinking Water

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: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminant, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are the by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems; (E) 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. 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791

DEFINITIONS OF SOME TERMS CONTAINED WITHIN THIS REPORT

MCL (Maximum Contaminant Level) -- The highest level of contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal) -- The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MRDLG (Maximum Residual Disinfectant Level Goal) -- The level of a drinking water disinfectant below which there is no known or expected risk to health.

MRDL (Maximum Residual Disinfectant Level) -- The highest residual disinfectant level allowed.

ppm (Parts Per Million) or mg/l (Milligrams per liter) -- Units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.

ppb (Parts Per Billion) or ug/l (Micrograms per liter) -- Units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

AL (Action Level) -- The concentration of a contaminant which, if exceeded, triggers treatment of other requirements which a water system must follow

The "<" Symbol -- A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

pCi/L -- picocuries per liter is a measurement for radioactivity.

BDL -- below detection level

mfl -- million fibers per liter **N/A** -- Not Available

Listed below is information on those contaminants that were found in the CITY OF WAPAKONETA Drinking Water

<u>Lead & Copper</u>	Unit	MCLG	Action Level	90% of Test Levels Were Less Than	Range Detected	Violation Yes/No	Year Sampled	Potential Source of Contamination
Lead	ppb	0	15	2.60	<2.0 – 5.5	No	2023	Corrosion of household plumbing systems
0 out of 60 samples were found to have lead in excess of the AL of 15 ppb								
Copper	ppb	1300	1300	97	<10 - 510	No	2023	Corrosion of household plumbing systems
0 out of 60 samples were found to have copper in excess of the AL of 1300 ppb								
<u>Inorganic Contaminants</u>	Unit	MCLG	MCL	Avg Level Detected	Range Detected	Violation Yes/No	Year Sampled	Potential Source of Contamination
Nitrate	ppm	10	10	0.44	N/A	No	2023	Erosion of rocks & minerals
Barium	ppm	2	2	0.019	N/A	No	2023	Exists in nature only in ores
Fluoride	ppm	4	4	1.09	.835 – 1.23	No	2023	Erosion of natural deposits

<u>Volatile Organic Contaminants</u>	Unit	MCLG	MCL	Avg Level Detected	Range Detected	Violation Yes/No	Year Sampled	Potential Source of Contamination
TTHM (Total Trihalomethanes)	ppb	N/A	80	38.8	29.5 ~ 48.1	No	2023	By-Product of Chlorination
HAA5 (Haloacetic Acids)	ppb	N/A	60	10.6	9.8 ~ 11.4	No	2023	By-Product of Chlorination

<u>Radioactive Contaminants</u>	Unit	MCLG	MCL	Avg Level Detected	Result	Violation Yes/No	Year Sampled	Potential Source of Contamination
Gross Alpha	pCi/L	0	15	NA	3.10	No	2023	Erosion of natural deposits
Radium 228	pCi/L	0	5	NA	BDL	No	2023	Erosion of natural deposits

<u>Residual Disinfection</u>	Unit	MRDLG	MRDL	Avg Level Detected	Range Detected	Violation Yes/No	Year Sampled	Potential Source of Contamination
Total Chlorine	ppm	4	4	0.82	0.61 ~ .98	No	2023	Water additive used to control microbes

<u>Optional Section</u>	Unit	Average for year	Range Detected	No. of Samples	Year Sampled	Source
Sodium (Jan – Aug)	ppm	158	49.3 ~ 199	31	2023	Ion-Exchange Softening
Hardness	ppm	172	120 ~ 422	365	2023	Dissolved Naturally Occurring Minerals