2014 Annual Drinking Water Quality Report

For

Hillcrest Water District

Leicester, Massachusetts

MASSDEP PWSID # 2151002

This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

I. PUBLIC WATER SYSTEM INFORMATION

Address: P.O. Box 317 Leicester, MA 01524

Contact Person: Roger Hammond, Superintendent

Telephone #: (508) 892-7585 Fax #: (508) 892-1812

Internet Address: http://www.lwsd.net/hwd/water.htm

Water System Improvements

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system. As part of our ongoing commitment to you, last year we made the following improvements to our system: we are moving forward with a plan to re-paint the water tank and are evaluating alternatives to boost pressure in our system including a booster pump.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events: monthly/bi-monthly Commissioner meetings (please call office for upcoming events) and our Annual Meeting held every second Tuesday in May.

2. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your water is provided by the following sources listed below:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Well #1	2151002-01G	Groundwater	Lehigh Road

Is My Water Treated?

- *We add a disinfectant to protect you against microbial contaminants.*
- *We filter the water to remove uranium and other naturally occurring radionuclides.*
- *We filter the water to remove arsenic.*

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove several contaminants.

The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

How Are These Sources Protected?
MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

What is My System's Ranking?
A susceptibility ranking of moderate was assigned to this system using the information collected during the assessment by MassDEP.

Where Can I See The SWAP Report?
The complete SWAP report is available at Hillcrest Water District offices, 124 Pine Street, Leicester, MA 01524 and online at *http://www.mass.gov/dep/water/drinking/sourcewa.htm#reports* . For more information, call Roger Hammond at (508) 892-7585

What Can Be Done To Improve Protection?
Residents can help protect sources by:

- *Practicing good septic system maintenance*
- *Supporting water supply protection initiatives at the next town/annual meeting*
- *Taking hazardous household chemicals to hazardous materials collection days*
- *Contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools*
- *Limiting pesticide and fertilizer use, etc.*

3. SUBSTANCES FOUND IN TAP WATER

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, and 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 Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All 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).

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 some 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 and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. Hillcrest Water District 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.

4. IMPORTANT DEFINITIONS

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 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 Residual Disinfectant Level (MRDL) -- The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) 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 (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

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

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ppt = parts per trillion, or nanograms per liter
pCi/l = picocuries per liter (a measure of radioactivity)
NTU = Nephelometric Turbidity Units
ND = Not Detected
N/A = Not Applicable
mrem/year = millimrems per year (a measure of radiation absorbed by the body)

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

5. WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

	Highest # Positive in a month	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	3	1	0	N	Naturally present in the environment
Fecal Coliform or *E.coli*	0	*	0	N	Human and animal fecal waste

* Compliance with the Fecal Coliform/E.coli MCL is determined upon additional repeat testing.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Antimony (ppb)	4/15/2014	ND		6	6		Discharge from fire retardants; ceramics; electronics; solder
Arsenic (ppb)	2/13/2014 4/9/2014 8/14/2014 10/14/2014	0.0091 0.0082 0.012 0.0043		10	-----		Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos (MFL)	5/10/2011	ND		7	7		Decay of asbestos cement water mains; erosion of natural deposits
Barium (ppm)	4/15/2014	ND		2	2		Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	4/15/2014	ND		4	4		Discharge from electrical, aerospace, and defense industries; erosion of natural deposits
Cadmium (ppb)	4/18/2014	ND		5	5		Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	4/15/2014	ND		100	100		Discharge from pulp mills; erosion of natural deposits
Cyanide (ppb)	4/15/2014	ND		200	200		Discharge from metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm) ■	4/15/2014	ND		4	4		Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (ppb)	4/15/2014	ND		2	2		Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (ppm)	4/9/2014	ND		10	10		Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Nitrite (ppm)	5/11/2012	ND		1	1		Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate	8/15/2014	ND		2	N/A		Rocket propellants, fireworks, munitions, flares, blasting agents
Selenium (ppb)	4/15/2014	ND		50	50		Discharge from metal refineries; erosion of natural deposits; discharge from mines
Thallium (ppb)	4/15/2014	ND		2	0.5		Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Volatile Organic Contaminants							
Benzene (ppb)	4/9/2014	ND		5	0		Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	4/9/2014	ND		5	0		Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	4/9/2014	ND		100	100		Discharge from and agricultural chemical factories
o-Dichlorobenzene (ppb)	4/9/2014	ND		600	600		Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	4/9/2014	ND		5	5		Discharge from industrial chemical factories
1,2-Dichloroethane (ppb)	4/9/2014	ND		5	0		Discharge from industrial chemical factories
1,1-Dichloroethylene (ppb)	4/9/2014	ND		7	7		Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	4/9/2014	ND		70	70		Breakdown product of trichloroethylene and tetrachloroethylene
trans-1,2-Dichloroethylene (ppb)	4/9/2014	ND		100	100		Discharge from industrial chemical factories
Dichloromethane (ppb)	4/9/2014	ND		5	0		Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	4/9/2014	ND		5	0		Discharge from industrial chemical factories
Ethylbenzene (ppb)	4/9/2014	ND		700	700		Leaks and spills from gasoline and petroleum storage tanks
MTBE - Methyl Tertiary Butyl Ether (ppb)	4/9/2014	ND		ORSGL 70	-		Fuel additive; leaks and spills from gasoline storage tanks
Styrene (ppb)	4/9/2014	ND		100	100		Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (PCE) (ppb)	4/9/2014	ND		5	0		Discharge from factories and dry cleaners; residual of vinyl-lined water mains
1,2,4-Triclorobenzene (ppb)	4/9/2014	ND		70	70		Discharge from textile-finishing factories

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
1,1,1-Trichloroethane (ppb)	4/9/2014	ND		200	200		Discharge from use in septic system cleaners
1,1,2-Trichloroethane (ppb)	4/9/2014	ND		5	3		Discharge from industrial chemical factories
Trichloroethylene (TCE) (ppb)	4/9/2014	ND		5	0		Discharge from metal degreasing sites and other factories
Toluene (ppm)	4/9/2014	ND		1	1		Leaks and spills from gasoline and petroleum storage tanks; discharge from petroleum factories
Vinyl Chloride (ppb)	4/9/2014	ND		2	0		Leaching from PVC piping; discharge from plastics factories
Xylenes (ppm)	4/9/2014	ND		10	10		Leaks and spills from gasoline and petroleum storage tanks; discharge from petroleum factories; discharge from chemical factories
Radioactive Contaminants							
Gross Alpha (pCi/l) (minus uranium)	8/12/2014	3.37		15	0		Erosion of natural deposits
GrossBeta/photon emmiters (pCi/L) ▲	N/A			50	0		Decay of natural and man-made deposits
Radium 226 & 228 (pCi/L) (combined values)	N/A			5	0		Erosion of natural deposits
Uranium (ppb)	1/7/2013	ND		30	0		Erosion of natural deposits
Synthetic Organic Contaminants							
2,4-D (ppb)	5/3/2012	ND		70	70		Runoff from herbicide used on row crops
2,4,5-TP (Silvex) (ppb)	5/3/2012	ND		50	50		Residue of banned herbicide
Acrylamide	5/3/2012	ND		TT=5 %	0		Added to water during sewage/wastewater treatment
Alachlor (ppb)	5/3/2012	ND		2	0		Runoff from herbicide used on row crops
Atrazine (ppb)	5/3/2012	ND		3	3		Runoff from herbicide used on row crops
Benzo(a)pyrene (ppt)	5/3/2012	ND		200	0		Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	5/3/2012	ND		40	40		Leaching of soil fumigant used on rice and alfalfa
Chlordane (ppb)	5/3/2012	ND		2	0		Residue of banned termiticide
Dalapon (ppb)	5/3/2012	ND		200	200		Runoff from herbicide used on rights of way
Di (2-ethylhexyl) adipate (ppb)	5/3/2012	ND		400	400		Discharge from chemical factories
Di (2-ethylhexyl) phthalate (ppb)	5/3/2012	ND		6	0		Discharge from rubber and chemical factories

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Dibromochloropropane (DBCP) (ppt)	5/3/2012	ND		200	0		Runoff/leaching from soil fumigant used on soybeans, cotton, and orchards
Dinoseb (ppb)	5/3/2012	ND		7	7		Runoff from herbicide used on soybeans and vegetables
Endrin (ppb)	5/3/2012	ND		2	2		Residue of banned insecticide
Epichlorohydrin	5/3/2012	ND		TT=1 %	0		Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide (EDB) (ppt)	5/3/2012	ND		20	0		Residue of leaded gasoline or runoff from soil fumigant used on tobacco or strawberries
Heptachlor (ppt)	5/3/2012	ND		400	0		Residue of banned pesticide
Heptachlor epoxide (ppt)	5/3/2012	ND		200	0		Breakdown of heptachlor
Hexachlorobenzene (ppb)	5/3/2012	ND		1	0		Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene (ppb)	5/3/2012	ND		50	50		Discharge from chemical factories
Lindane (ppt)	5/3/2012	ND		200	200		Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)	5/3/2012	ND		40	40		Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl (Vydate) (ppb)	5/3/2012	ND		200	200		Runoff/leaching from insecticide used on apples, potatoes and tomatoes
Polychlorinated biphenyls (PCBs) (ppt)	5/3/2012	ND		500	0		Runoff from landfills; discharge of waste chemicals; residue of banned use in electrical transformers
Pentachlorophenol (ppb)	5/3/2012	ND		1	0		Discharge from wood preserving factories
Picloram (ppb)	5/3/2012	ND		500	500		Herbicide runoff
Simazine (ppb)	5/3/2012	ND		4	4		Herbicide runoff
Toxaphene (ppb)	5/3/2012	ND		3	0		Runoff/leaching from insecticide used on cotton and cattle
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	2/11/2014 2nd qtr 8/15/2014 11/14/2014	0.0 DNT ND 5.1		80	-----		Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	2/10/2014 2 QTR 8/15/2014 11/10/2014	0.0 DNT ND 5.1		60	-----		Byproduct of drinking water disinfection

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Chlorine (ppm) (free, total or combined)	2014 Monthly	1.09		4	4		Water additive used to control microbes

■ Fluoride also has a secondary contaminant level (SMCL) of 2 ppm.
▲The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Inorganic Contaminants						
Sodium (ppm)	4/15/2014	16		----	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Nickel (ppm)	4/15/2014	0.0022		----	0.1	Discharge from industrial processes
Sulfate (ppm)	1/8/2013	35		250	----	Natural sources
Organic Contaminants						
MTBE - Methyl Tertiary Butyl Ether (ppb)	4/9/2014	ND		20-40	70	Fuel additive; leaks and spills from gasoline storage tanks
Other Organic Contaminants - When detected at treatment plant as VOC residuals, not TTHM compliance						
Bromodichloromethane (ppb)	4/9/2014	ND		---	---	By-product of drinking water chlorination
Bromoform (ppb)	4/9/2014	ND		---	---	By-product of drinking water chlorination
Chloroform (ppb)	4/9/2014	ND		---	---	By-product of drinking water chlorination
Dibromodichloromethane (ppb)		N/A		---	---	By-product of drinking water chlorination
Secondary Contaminants						
Iron (ppb)	2/10/2014 4/9/2014 8/13/2014 10/14/2014	ND ND 0.096 ND		300	---	Naturally occurring, corrosion of cast iron pipes
Manganese (ppb)	2/10/2014 4/9/2014 8/13/2014 10/14/2014	0.0025 0.0026 0.056 0.079		50*	---	Erosion of natural deposits
Aluminum (ppb)	1/8/2013	ND		200	---	Byproduct of treatment process
Chloride (ppm)	1/8/2013	ND		250	---	Runoff from road de-icing, use of inorganic fertilizers, landfill leachates, septic tank effluents, animal feeds, industrial effluents, irrigation drainage, and seawater intrusion in coastal areas
Color (C.U.)	1/8/2013	0		15	---	Naturally occurring organic material
Copper (ppm)	1/8/2013	ND		1	---	Naturally occurring organic material
Odor (T.O.N.)	1/8/2013	1		3 TON	---	Erosion of natural deposits; Leaching from wood preservatives0
PH	1/8/2013	7.5		6.5-8.5	---	-----

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Silver (ppb)	1/8/2013	ND		100	---	Erosion of natural deposits
Total Dissolved Solids (TDS) (ppm)	1/8/2013	280		500	---	Erosion of natural deposits.
Zinc (ppm)	1/8/2013	0.0076		5	---	Erosion of natural deposits, leaching from plumbing materials

* The EPA has established a lifetime health advisory (HA) value of 300 ppb for manganese to protect against concerns of potential neurological effects, and a one-day and 10-day HA of 1000 ppb for acute exposure.

6. COMPLIANCE WITH DRINKING WATER REGS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. However some contaminants that were tested last year did not meet all applicable health standards regulated by the state and federal government. Due to contaminant violations of Total Coliform during the period of February, July and September 2014 our system took the following corrective actions.

- We collected additional samples.
- We announced public notification by newspaper, posting notices etc.
- We disinfected and flushed the distribution system to eliminate coliform bacteria.

Our water system and MassDEP monitor and record the effectiveness of actions taken in response to contaminant violations. The health effect statement for this contaminant is listed below.

Samples for Total Trihalomethanes (THM's) and Haloacetic Acids (HAA's) were not collected during the first week of May 2014. This was due to this year being the first year of us going to quarterly testing versus semi-annually. We have subsequently done our quarterly testing in August and November of 2014. (NON-CE-145D569)

We did not collect lead and copper samples during September 2014. These samples will be collected in September of 2015 (NONCSA-CE-15-5D514)

We did not collect Iron and manganese samples for the 3rd quarter (July-Sept). These were subsequently collected on 10/14/2014 (NONCSA-CE-15-5D514)

We did not collect Uranium samples during the fourth quarter 2014 (Oct-Dec). These samples were subsequently collected in January 23, 2015 (NONCSA-CE-15-5D532)

Health Effects Statements

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

7. EDUCATIONAL INFORMATON

Do I Need To Be Concerned About Certain Contaminants Detected In My 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. Hillcrest Water District 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.

Arsenic*:* While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral know to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Trihalomethanes (THM's): occur when naturally-occurring organic and inorganic materials in the water react with the disinfectants, chlorine and chloramine. Some people who drink water containing total trihalomethanes in excess of the MCL over many years could experience liver, kidney, or central nervous system problems and increased risk of cancer.

Haloacetic acids (HAA's): occur when naturally-occurring organic and inorganic materials in the water react with the disinfectants, chlorine and chloramine. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Uranium: Exposure to uranium in drinking water may result in toxic effects to the kidney. Some people who drink water containing alpha emitters, such as uranium, in excess of the MCL over many years may have an increased risk of getting cancer.

8. ADDITIONAL INFORMATION

Preventing backflow is an important part of maintaining a healthy water supply. The Hillcrest Water District's water distribution system is designed to carry water from the water treatment plant to the consumer. Cross connections, or connections between potable water in the distribution system to any non-potable water, exist. These connections make the water distribution system susceptible to backflow, which is the reversal of water flow from its intended direction. In other words, non-potable water could be introduced into the distribution system.

There are two types of backflow:

- **Backpressure backflow,** which occurs when the pressure outside the water distribution system exceeds the pressure within the system.
- **Backsiphonage,** which occurs when a partial vacuum is created in the system sucking non-potable water back into it.

Three Common Types of Backflow Prevention Devices for Irrigation Systems

Pressure Vacuum Breaker

Pressure Vacuum Breaker.
This device is approved for irrigation systems, however it is rarely used because of above ground installation and is subject to freezing during winter months. This device is also approved for chemical injection systems on sprinklers. Irrigation system can be turned off at 1 of 2 shut off handles.

Atmospheric Vacuum Breaker

Atmospheric Vacuum Breaker.
This device is commonly found on older sprinkler systems, but is not approved for new installations because it is non-testable. It must be replaced by a Double Check Valve when upgrading irrigation system. No shut off handles to isolate irrigation system.

Double Check Valve

Double Check Valve.
This is the most widely used backflow prevention device on sprinkler systems. It is installed below grade in a standard valve box. Irrigation system can be turned off at 1 of 2 shut off handles.

Simple Steps to Prevent Backflow:

- Guard against cross connections. A garden hose is a direct connection to the drinking water in the home. Don't attach chemical sprayers or leave a garden hose submerged in a swimming pool. (Hose Bibb Vacuum Breakers may also be installed on garden hoses)
- Make sure backflow prevention device is installed on your home sprinkler system. Common devices are Double Check Valve Assemblies and Pressure Vacuum Breakers.

Permitting