



2021
Annual Drinking Water Quality
Report For The
Town of Millis
MassDEP PWSID #2187000

PLEASE NOTE:
Water Quality Reports are also available at the
Department of Public Works Office
Select Board Office
Board of Health

Millis Board of Selectmen

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Millis Department of Public Works

James F. McKay, Director
Ronald McKenney, Water & Sewer Sup.

900 Main Street
Millis, MA 02054
508-376-5424, Fax: 508-376-2442

2021 Consumer Confidence Report

For

Millis Department of Public Works

Millis, Massachusetts

MASSDEP PWSID # 2187000

This report is a snapshot of the 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 this information because informed customers are our best allies.

PUBLIC WATER SYSTEM INFORMATION

Address: 900 Main Street

Contact Person: James F. McKay

Telephone #: 508-376-5424

Email: <mailto:jmckay@millisma.gov>

Internet Address: <https://www.millisma.gov/public-works-highway-department>

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: The DPW had the water system consisting of two storage tanks, six water production wells and fifty-six miles of water mains tested for undetected leakage. As a result of this work unaccounted for water was 6.8% for 2021 and the total residential use was 51 gallons per person per day. This is the Eleventh year that the GPPPD was below DEP standards of 65 gallons per day.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may contact the above listed contact person.

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	2187000-01G	Groundwater	Water St.
Well #2	2187000-02G	Groundwater	Water St.
Well #3	2187000-03G	Groundwater	Birch St.
Well #4	2187000-04G	Groundwater	Orchard St.
Well #5	2187000-05G	Groundwater	Norfolk Rd.
Well #6	2187000-06G	Groundwater	Norfolk Rd.

Is My Water Treated?

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.

- We chemically treat the water to reduce lead and copper corrosion of household plumbing and protect against bacteria.
- Fluoride has been added since 1987 to prevent tooth decay/cavities.

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.

Our water system makes every effort to provide you with safe and pure drinking water. The water quality of our system is constantly monitored by us and MassDEP to determine if any treatment may be required. Prior water quality test results show that the water needs to be treated to continue to meet these goals. To improve the quality of the water, our system is working on the installation of additional treatment remove PFAS at Wells 1 and 2. Wells 1 and 2 have been offline during all of 2021.

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 high 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 the DPW office and online at <https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program> . For more information, call the Department of Public Works at 508-376-5424.

What Are the Key Issues For Our Water Supply?

The SWAP Report notes the key issues of for all source areas:

- Hazardous materials storage & use
- Residential Land Uses
- Oil/Hazardous Material Contamination Sites
- Dept. of Public Works Facility
- Landscaping & Agricultural Recommendations

The report commends our water system on initiating an Environmental Facilities Compliance Audit.

What Can Be Done To Improve Protection?

The SWAP report recommends:

- Inspect Zone I regularly
- Educate the public on the proper handling, storage and disposal of hazardous materials.

Our public water system plans to address the protection recommendations by:

- Continuing to inspect the Zone I areas, and providing residents with Hazardous Materials disposal information. Hazardous materials may be disposed of through a joint program with the Town of Norfolk. Contact the Millis Board of Health at 508-376-7042 for details.

Residents can help protect sources by:

- Practicing good septic system maintenance
- Taking hazardous household chemicals to hazardous materials collection site, call the Millis Board Of Health 508-376-7042 for information
- Limiting pesticide and fertilizer use, etc.
- Millis has an Emergency Response Plan (ERP) for its water system Millis recently completed a Risk and Resiliency Assessment of its water system, as required by the EPA. This assessment will be used to update the ERP in 2021. An important element of the water system's security includes any information or observations that the public can provide. If you see something that looks suspicious, please call the Millis Police at 508-376-1212 or the Department of Public Works at 508-376-5424.

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. The DPW 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>.

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.

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.

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

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

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.

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

Running Annual Average (RAA) – The average of four consecutive quarter of data.

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 expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Level 1 Assessment - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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)
 ND = Not Detected
 N/A = Not Applicable
 mrem/year = millirem per year (a measure of radiation absorbed by the body)

WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the table 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.

MassDEP has reduced the monitoring requirements for Inorganics, Synthetic Organic Compounds, and Perchlorate at Wells #3,4, 5 & 6 and Volatile Organic Compounds at Wells 5 & 6 because the sources are not at risk of contamination.

Regulated Contaminant	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	8/25/2021	4.5	15	0	20	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	8/25/2021	0.132	1.3	1.3	20	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

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							
Fluoride (ppm) ■	05/18/2021	.618	.618	4	4	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
■ Fluoride also has a secondary contaminant level (SMCL) of 2 ppm.							
Nitrate (ppm)	1/19/21 05/18/2021	2.64	0.515 – 2.64	10	10	N	Run off from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
PFAS							
PFAS6 (ppt)	Well 3: Jan-Dec Well 4: Jan, Apr, Jul, Oct Well 5: Jan-Apr Well 6: Apr, Jul, Oct 2021	15	ND-15	20	N/A	N	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.
Radioactive Contaminants							
Gross Alpha (pCi/l) (minus uranium)	3/7/15, 6/1/15, 12/17/15J	+/-0.7	-0.9-0.6	15	0	N	Erosion of natural deposits
Disinfection Contaminants							
Total Haloacetic Acids (ppb)	8/25/2021	0.99	ND – 1.85	60	-	N	Byproduct of drinking water chlorination
Total Trihalomethanes (ppb)	8/25/2021	14.5	10.3-18.7	80	-	N	Byproduct of drinking water chlorination

Unregulated and Secondary Contaminants

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 Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Perfluorobutanesulfonic ¹ Acid (PFBS)		ND-11.1	9.0	N/A	N/A	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanoic acid (PFHxA)		ND-2.62	2.2	N/A	N/A	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Sodium (ppm)	1/19/2021	33 - 92.8	50.5	N/A	20	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents
Sulfate (ppm) Well 3 Well 4 Wells 6	05/18/2021	7.78 - 11.5	9.49	250	N/A	Natural sources

Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Manganese* (ppb) Well 4 Well 4 Well 4 Well 4 Well 4 Well 6 Well 3	1/19/21 5/18/2021 8/25/21 9/02/21 10/19/21 05/18/2021 05/18/2021	ND - 2360	374.9	50	Health Advisory of 300	Natural sources as well as discharges from industrial uses
* EPA has established a lifetime Health Advisory (HA) for manganese of 0.3 mg/L and an acute HA at 1.0 mg/L (Add health language listed below if detect is over 300 ppb)						

6. COMPLIANCE WITH DRINKING WATER REGULATIONS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

7. EDUCATIONAL INFORMATION

Do I Need To Be Concerned about Certain Contaminants Detected in My Water?

Sodium sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled.

Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (microgram per liter), or 50 parts per billion. In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese. Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ppb and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ppb, primarily due to concerns about possible neurological effects. Children younger than one year old should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for more than a total of ten days throughout the year. The ORSG differs from the EPA's health advisory because it expands the age group to which a lower manganese concentration applies from

children less than six months of age to children up to one year of age to address concerns about children's susceptibility to manganese toxicity.

See EPA Drinking Water Health Advisory for manganese at: https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf

and MassDEP Office of Research and Standards (ORSG) for manganese

<http://www.mass.gov/eea/agencies/massdep/water/drinking/lead-and-other-contaminants-in-drinking-water.html#11>

Cross-Connection Control and Backflow Prevention

The Millis DPW makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

What is a cross-connection?

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



What can I do to help prevent a cross-connection?

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.
- Call James McKay at 508-376-5424 for more information about cross connections or for a free hose bibb vacuum breaker.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.

A cross connections is defined as any direct connection between the public water supply and a non-potable water source, contaminant, or sources of pollution. Cross connections can exist both in residential homes and in non-residential facilities.

The Millis Water Department maintains an effective Cross-Connection Control Program Plan (CCCPP) as required by MassDEP. This program consists of several components, including surveying all facilities serviced by the Department for Cross Connections, regular inspections of all testable backflow prevention devices, and educational outreach to residential and nonresidential customers regarding the importance of cross-connection elimination and protection.

Some important highlights of the Millis Water Department's CCCPP:

- The Millis Water Department requires that all facilities served by public water are equipped with appropriate backflow prevention devices where cross-connections exist. Unprotected cross connections are strictly prohibited by the Millis Water Department.
- The Millis Water Department has a Total Containment Policy which means that all facilities served by town water must have appropriate backflow protection at the meter to isolate that facility from the public water supply.
- The Millis Water Department is required to survey all facilities connected to the public water supply for cross connections.
- Failure to allow Millis Water Department personnel access to a facility to perform a cross-connection survey or backflow prevention device inspection will result in termination of water service to that facility.
- Backflow prevention devices must be approved by the Millis Water Department prior to installation. A completed Design Data Sheet and attached plan must be submitted to the Millis Water Department for review and approval prior to installation. A plumbing permit is required for installation of all testable backflow prevention devices.
- The installed backflow prevention device must be inspected by the Millis Water Department within 14 days of installation. A defective backflow prevention device must be repaired or replaced within 14 days of the failure date.
- Testable backflow prevention devices are inspected by the Millis Water Department on a regular basis. The Millis Water Department has MassDEP certified cross connection surveyors and backflow prevention device inspectors on staff.

Backflow Prevention Device Owner Responsibilities

The owner of any cross connection protected by a testable backflow prevention device must notify the Millis Water Department of all of these protected cross connections. Have suitable arrangements made so that inspections of backflow prevention devices and cross connection surveys can be made during regular business hours. Repair or replace within 14 days of the initial inspection data and retest pursuant to 310 CMR 22.22(13)(e), any device that fails a test or is found to be defective. Inspection of backflow prevention must be performed by Millis Water Department personnel.

Where can I get more information?

Millis Department of Public Works: James McKay, @ 508-376-5424.

Millis Department of Public Works: website millisma.gov

MassDEP Central Regional Office: 508-792-7650

8. ADDITIONAL INFORMATION

- **In 2021** the Board of Selectmen voted to enforce an outside watering ban as required by MassDEP on Millis residences and businesses. Effective May 01, 2021 through September 30, 2021 outside watering allowed on ODD/EVEN BASIS CORRESPONDING TO THE DATE AND YOUR HOESE NUMBER. No outside watering is allowed between the hours of 9:00 AM to 5:00 PM. The ability to pump more water does not mean that future water bans will not be needed. The capacity of the storage tanks on Farm St. and Walnut St. have not increased, however, the time it takes for the tanks to recover may be lessened. Residents should continue to conserve water whenever possible, and adhere to any water

ban policy to keep tank levels from dropping too low, putting increased demand on pumps, or stressing aquifer drawdown levels. Penalties for violation of the Policy are, \$50.00 for the first offense. Subsequent offenses would result in additional fines of \$100.00 per offense.

2022

MILLIS DEPARTMENT of PUBLIC WORKS

****** ANNOUNCES ******

REGULATIONS FOR OUTSIDE WATERING

FOR ALL MILLIS RESIDENCES and BUSINESSES

Effective May 01, 2021 through September 30th, 2021

OUTSIDE WATERING ALLOWED ON

ODD/EVEN BASIS CORRESPONDING TO THE DATE AND YOUR HOUSE NUMBER

NO OUTSIDE WATERING IS ALLOWED

BETWEEN the HOURS of

9:00AM THROUGH 5:00PM

Penalties for violation of the policy are:

\$50.00 for the first offense

Subsequent offenses will result in additional fines of

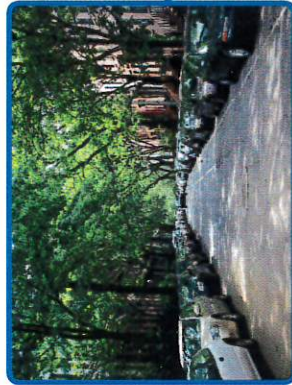
\$100.00 per offense.

WATER BAN REGULATIONS MAY CHANGE VISIT millisma.gov FOR UPDATES



Soak Up the Rain with Green Infrastructure

www.epa.gov/soakuptherain



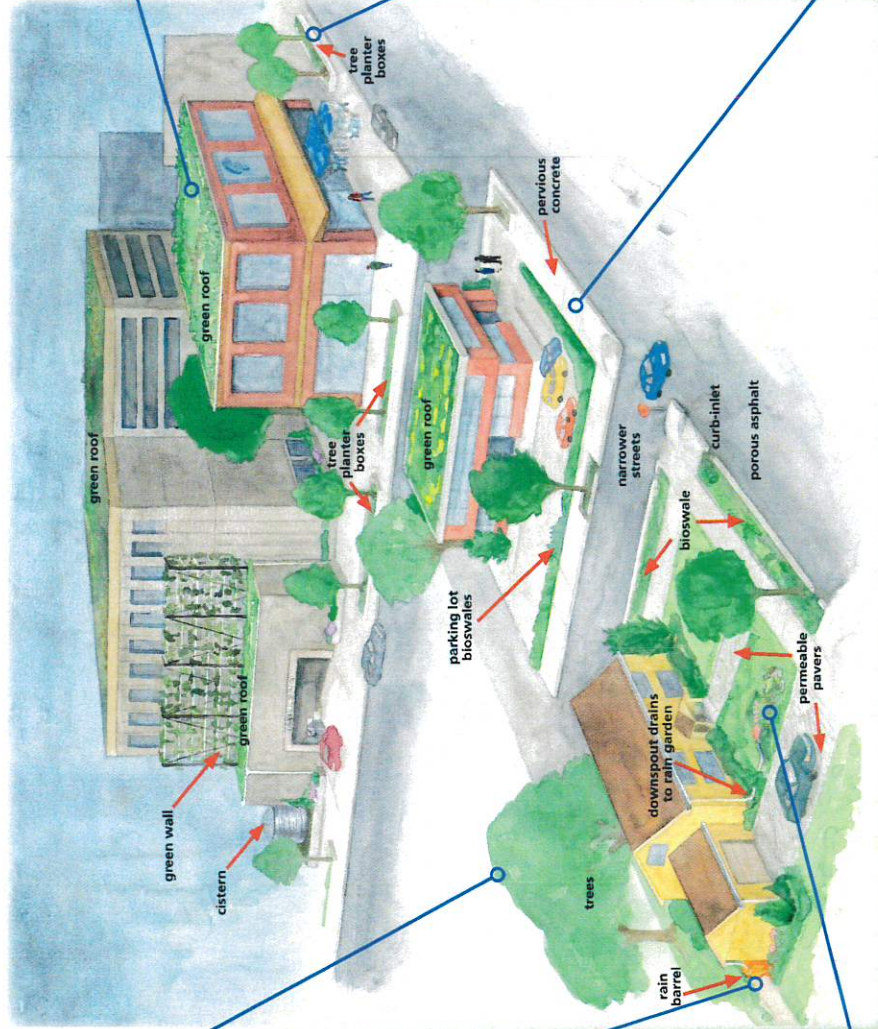
Tree Canopy



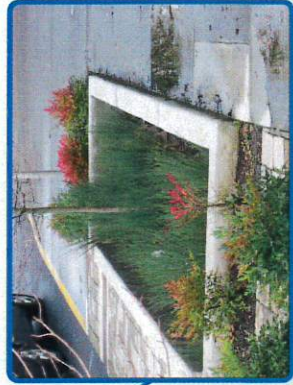
Rain Barrel



Rain Garden



Green Roof



Tree Planter Box



Pervious Concrete



Learn more. Take Action.

Poster created by U.S. EPA Office of Wetlands, Oceans and Watersheds.