Edwards Air Force Base
California

2024 Water Quality Report

2024 Monitoring Results for Edwards AFB – AFRL (Public Water System ID: CA1510702)
Prepared By: 412th Test Wing – Bioenvironmental Engineering Flight

Annual Consumer Report

We feel it is important that our consumers know about where our water comes from, what it contains, and how it compares to requirements set by regulatory agencies. This report is a snapshot of last year's water quality.

Last year, our tap water met or exceeded all U.S. Environmental Protection Agency (USEPA) and state drinking water health requirements. See page 6 for detailed information regarding lead sample results and education.

Through regular monitoring, any contaminates found were verified to be within regulatory standards. The detected amounts and the associated standards, are included in the tables published within this report.

Where Does Our Water Come From?

The AFRL Drinking Water System draws water from two sources:

- Antelope Valley East Kern (AVEK) Water Agency
- On-base groundwater wells

AFRL receives a majority of our water supply from the Antelope Valley East Kern (AVEK) Water Agency. The water received from the AVEK is supplied to AFRL in finished drinking water quality form. The AVEK main water source is the California Aqueduct. AVEK's alternative supply is from the State Water Project, which is water stored in the aquifer at various underground storage facilities (i.e. "water banks"). This water is extracted as local groundwater for water quality purposes or as supply during drought. As a water wholesaler, the AVEK Water Agency published their 2024 Water Quality Report earlier this year, which is located at https://www.avek.org/2024-annual-water-quality-report-kern-county-system

Additionally, groundwater can be extracted from one out of six active installation wells. Although throughout 2024, the wells only served as a back-up function to AVEK supply. These wells are fed by the Antelope Valley Aquifer**.**

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Treatment Process

Our water is treated with chlorine, a disinfectant which kills dangerous bacteria and other microorganisms that may be in the water. The 412th Civil Engineering Squadron monitors the disinfectant levels daily.

Pictured above: A technician from the 412th Operational Medical Readiness Squadron, Bioenvironmental Engineering Flight conducting routine water testing at locations spanning the water distribution system. Water samples are collected, tested by a certified laboratory, and results are submitted to the State Water Resources Control Board to demonstrate compliance with all requirements and regulations.

Source Water Assessment

The 412th Civil Engineering (CE) Squadron completed our Source Water Assessment on 18 June 2003 and it is on file in the CE Water & Gas office (661-277-5000). This assessment looks at possible contamination sources that may affect the base water supply. Possible contaminating activities for the wells surveyed in this assessment include nearby abandoned wells, storm drainage discharge, above ground water storage tanks, and nearby roads. The health risks from these activities are diminished through weekly monitoring of the potable water system.

EAFB is aware that many buildings at AFRL use bottled water. EAFB is not responsible for sampling or for reporting on bottled water. Water quality reports for your bottled water may be obtained by contacting your building's bottled water vendor.

What Is In Drinking 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 the water poses a health risk**. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (1-800-426-4791).

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:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that 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, that 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, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that 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 U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Consumption Note for Susceptible Individuals

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (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 (1-800-426-4791).

Water Quality Data Table

All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. Additionally, some naturally occurring minerals provide benefits by improving the taste of drinking water and providing nutritional value at low levels.

In order to ensure that tap water is safe to drink, the USEPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The tables on the following pages list all of the drinking water contaminants that were detected during the 2024 calendar year of this report. Many more contaminants were tested than listed on the following table; only those substances listed below were detected in our water. The USEPA and state allow us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently, or because the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, is more than one year old.

In these tables you may find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below.

Important Terms Used

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
LRAA	Local Running Annual Average: Annual running average at a single sampling site.
HAA5	Sum of Five Regulated HAAs, i.e., Monochloroacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid, Dibromoacetic Acid, and Trichloroacetic Acid
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.
mg/L	Mg/L: Milligrams per Liter (ppm)
N/A	Not Applicable
ND	Not Detected
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
PDWS	Primary Drinking Water Standards: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
PHG	Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
ppm	ppm: parts per million, or milligrams per liter (mg/L)
SDWS	Secondary Drinking Water Standards: MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.
TTHM	Total Trihalomethanes, or Sum of Four Regulated THMs, i.e., Chloroform, Bromodichloromethane, Dibromochloromethane, and Bromoform
µs/cm	µs/cm: micro Siemens per centimeter (a measure of conductivity of a solution)
µg/L	Micrograms per Liter (ppb)

Water Quality Data Table

Contaminant	MCL	AVEK[1]	AFRL Well	Distribution System[2]	Months in Violation	Major Sources in Drinking Water
Microbiological Contaminants (PDWS)[3]						
Total Coliform	5% positive or 2 consecutive positive samples	0	0	0	0	Naturally present in the environment
E. coli	1 positive sample	0	0	0	0	Human or animal fecal waste

Contaminant	MCL	PHG	AVEK Plant Average[1]	AVEK Wells Average[1]	AFRL Well	Sample Date	Violation	Major Sources in Drinking Water
Inorganic Compound (PDWS)								
Aluminum (µg/L)	1000	600	130	ND	ND	2021	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic[4] (µg/L)	10	0.004	3.6	5.2	8.8	2024	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium	1000	2000	58	ND	33	2024	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Total Chromium (µg/L)	10	MCLG = 100	5.1	ND	ND	2024	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Hexavalent Chromium (µg/L)	10	0.02	5.8	2.9	8.4	2024	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Fluoride (mg/L)	2	1	0.28	0.15	0.3	2024	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (mg/L)	10	10	0.59	2.8	0.4	2024	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

1. AVEK data, including AVEK Plant Average and AVEK Wells Average, were obtained from 2024 & 2023 Kern County Annual Water Quality Report. Some contaminants are not required to be tested every year, thus some of these data were obtained from the 2023 report or previous reports.
2. Distribution System refers to sampling that are taken at final point of delivery to end user throughout the base.
3. In June 2024, there was a failure to collect routine samples within the month. The failure to collect the samples will lead to a citation by the State Water Resources Control Board, Division Of Drinking Water. The sample failure also led to a public notice to the consumers. Samples were soon taken in July 2024 and all results were negative of Total Coliform and E. coli. Remedial training and standard operating procedures (SOP) updates were completed to ensure samples are taken within the monthly timeframe.
4. Well water was mixed with water supplied from AVEK to dilute arsenic levels.

<<< Table Continues on Next Page >>>

Water Quality Data Table Continued

Contaminant	MCL	PHG	AVEK Plant Average	AVEK Wells Average	AFRL Average	AFRL Range	Sample Date	Violation	Major Sources in Drinking Water
Disinfectants & Disinfection By Products[5] (PDWS)									
Total Trihalomethanes (µg/L)	LRAA: 80		46	20	20	4.8-33	2024	No	Byproduct of drinking water disinfection
Haloacetic Acids (µg/L)	LRAA: 60		11	3.2	ND	ND	2024	No	Byproduct of drinking water disinfection
Lead and Copper[6] (PDWS)									
Lead (mg/L)	AL=90% of bldgs. <15	0.2	ND	ND	0.0058	5 sites sampled; 0 sites over AL		No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (mg/L)	AL=90% of bldgs. <1.3	0.3	ND	ND	0.074	5 sites sampled; 0 sites over AL		No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Contaminant	**MCL**	**PHG**	**AVEK Plant Average**	**AVEK Wells Average**	**AFRL Average**	**AFRL Range**	**Sample Date**	**Violation**	**Major Sources in Drinking Water**
Radioactive Contaminants (PDWS)									
Gross Alpha (pCi/L)	15	0.2	N/A	5.3	4.15	4.15	2021	No	Erosion of natural deposits
Uranium (pCi/L)	20	0.43	3.5	N/A	1.63	1.63	2021	No	Decay of natural and man-made deposits
5th Unregulated Contaminant Monitoring Rule									
PFOS (ppt)	4	1	N/A	N/A	ND	ND	2024	No	Industrial Sites, Fire Training, landfills, wastewater treatment
PFOA (ppt)	4	0.007	N/A	N/A	ND	ND	2024	No	Industrial Sites, Fire Training, landfills, wastewater treatment
Contaminant	**Secondary MCL[7]**		**AVEK Plant Average**	**AVEK Wells Average**	**AFRL Well**	**Sample Date**	**Violation**	**Major Sources in Drinking Water**	
Secondary Standard Contaminants (SDWS)									
Alkalinity Bicarbonate (mg/L)	N/A		50	ND	93	2015	No	Erosion of minerals and natural carbonate deposits	
Calcium (mg/L)	N/A		74	70	28.3	2015	No	Leaching from natural deposits	
Chloride (mg/L)	250		47	5	12.3	2015	No	Runoff/leaching from natural deposits; seawater influence	
Hardness Total as CaCO3 (mg/L)	N/A		140	220	98	2015	No	The sun of polyvalent cations present int eh water, generally naturally occuring magnesium and calcium	
Iron (µg/L)	300		ND	135	408	2015	No	Leaching from natural deposits; industrial wastes	
Magenesium (mg/L)	N/A		8.3	8.5	3.85	2015	No	Erosion of minerals and natural deposits	
Manganese (µg/L)	50		ND	ND	1.94	2015	No	Erosion of minerals and natural deposits; steel production and mining.	
Sodium (mg/L)	N/A		15	43	50.4	2015	No	Leaching from natural deposits	
Specific Conductance (µs/cm)	1		500	650	394	2015	No	Substances that form ions when in water; seawater influence	
Sulfate (mg/L)	500		53	56	69.5	2015	No	Runoff/leaching from natural deposits; industrial wastes	
TDS (m/L)	1000		290	390	266	2015	No	Runoff/leaching from natural deposits; industrial wastes	

5. Disinfection Byproduct (DBPs), which includes Trihalomethanes and Haloacetic Acids. They are formed when disinfectant like chlorine is used to control microbial pathogens combine with naturally occurring materials found in source water.
6. Lead and Copper is regulated by ensuring the 90th percentile of sample result in under the AL. Sampling is conducted every 3 years. The most recent samples are from August 2024.
7. Secondary MCLs do not have PHGs or MCLGs because secondary MCLs are set to protect the aesthetics of water and PHGs and MCLGs are based on health concerns.

Additional Information Regarding Lead

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. 412th Bioenvironmental Engineering Flight and 412th Civil Engineering Squadron are 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 do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants. 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 (800-426-4791) or at http://www.epa.gov/lead. Additionally, a service line inventory was conducted in 2024 and there are 11 unknown lead status service lines. Moreover, the identified were determined to be non-lead service lines. A full report on the service line inventory has been attached to this report for reference.

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/or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the U.S. EPA Safe Drinking Water Hotline (1-800-426-4791).

Additional Information Regarding Fluoride

The AFRL water systems contain naturally occurring fluoride. AFRL does not add additional fluoride to the water system due to State requirements and the scope/size of the EAFB water distribution system. The natural level of fluoride present in the water system is below the maximum contamination limit (MCL) of 2.0 parts per million (ppm).

In 2015, the U.S. Department of Health and Human Services released a Public Health Service recommendation of 0.7 ppm as the optimal fluoride level in drinking water to prevent tooth decay. Your local dentist or pediatrician can prescribe daily fluoride brushing, tablets, or drops for you and your children to ensure you receive enough fluoride.

Tips for Protecting Your Water

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil to a recycling center.

Additional Information Regarding Arsenic

While your drinking water meets federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

For more information regarding this report, please contact either:

- 412th Operational Medical Readiness Squadron – Bioenvironmental Engineering Flight (661-277-3272)
- 412th Test Wing – Public Affairs (661-277-1454)

EPA
United States
Environmental Protection
Agency

Distribution System Water Quality

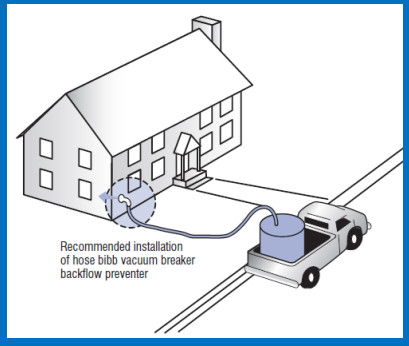
Protecting Water Quality through Cross-Connection Control and Backflow Prevention

Cross-connections are actual or potential connections between a potable water supply and nonpotable water plumbing. Backflow is the unintended reversal of water flow through a cross-connection, which can result in a potentially serious public health hazard. A cross-connection control and backflow prevention program helps prevent contaminants from entering a drinking water distribution system. This fact sheet is part of EPA's Distribution System Toolbox developed to summarize best management practices that public water systems (PWSs), particularly small systems, can use to maintain distribution system water quality and protect public health.

Examples of Utility Actions

At a western United States (U.S.) PWS serving 2,500 people, a customer created a cross-connection when they connected a surface water irrigation line to the water system without installing an approved backflow prevention assembly. Irrigation water flowed back into the county water system when the pressure in the irrigation line increased. Samples tested positive for *E. coli* and the Department of Water issued a "Do Not Use" notice to customers.

A PWS in the southeastern U.S. serving 500,000 people experienced a cross-connection and backflow incident where aqueous fire-fighting foam was forced into the homes of an estimated 40,000 customers. After review of the incident, the PWS installed a backflow prevention assembly.



Cross-Connection Control, Backflow Prevention, and Water Quality

- Backflow of untreated water through an unprotected cross-connection can lead to serious chemical or microbiological contamination in distribution systems.
- Cross-connections can occur between the PWS distribution system and private irrigation systems, fire sprinkler systems, and other piping systems that receive PWS drinking water.
- When the pressure in a PWS distribution system is lower than in the connected plumbing system, backflow contamination can occur.
- A study published by the Water Research Foundation in 2010, using backflow-detecting water meters, found that 5% of homes registered a backflow incident of 1 gallon or more each year. However, the impact of these residential backflow incidents on distribution system disinfectant residual remains undetermined.
- Cross-connection and backflow prevention programs vary by state and municipality. Additional information may be available from state drinking water programs, building code or plumbing authorities, and health departments.
- Sanitary surveys, conducted at least once every three years for community water systems and once every five years for non-community PWSs, offer opportunities to identify potential cross-connections that put public health at risk.

Indicators of a Cross-Connection and Backflow Incident

- Customer complaints of odor, discoloration of water, or direct physical harm are the primary indicators of a backflow incident.
- Decreases in water pressure can indicate the occurrence of a backflow incident, as well as suggest where the incident may have occurred.
- A short-term reduction in disinfectant residual could indicate a potential backflow incident.
- During periods of reversed flow, water meters might run in reverse.

Example of a double check backflow prevention assembly

Cross-Connection Control and Backflow Incident Response

- In the case of a backflow incident, reverse the pressure differential that caused the backflow, if possible.
- Identify and eliminate the cross-connection or install a backflow prevention assembly or device that meets local and state requirements.
- Perform a systematic flushing or cleaning of the system while strategically minimizing the risk of drawing contaminants into uncontaminated areas.
- Throughout the incident, continue to sample within and outside of the suspected contamination area to assess the extent of the contamination.
- Maintain compliance with local discharge regulations for disposal of potentially contaminated water.
- After flushing and cleaning, test the drinking water in the affected areas to ensure it meets regulatory standards.

Example Elements of an Effective Cross-Connection Control and Backflow Prevention Program

- **Legal authority:** PWSs may need legal authority to implement and enforce the program, like requiring customers to install and maintain backflow prevention assemblies. Rules may vary from state to state in terms of allowable backflow prevention assemblies for different hazard types, testing frequency, and remedial repair options.
- **Trained personnel:** All backflow prevention staff should be trained and certified in testing backflow prevention assemblies and distribution system operations. Certification requirements may vary from state to state.
- **Recordkeeping:** Recordkeeping should cover testing and repair activities, certification of inspection and repair personnel, and records associated with backflow prevention assemblies in service, including inspection dates and results.
- **Public education:** PWS customers should understand the potential health risks posed by cross-connections and backflow and their responsibilities for testing and repairing backflow prevention assemblies on irrigation systems or other potential cross-connections.

Table 1: Resources and Guidelines for Cross-Connection Control and Backflow Prevention

Resource Title and URL	Relevance to Cross-Connection Control and Backflow Prevention
ASDWA. 2020. Distribution System Survey White Paper. http://www.asdwa.org/	Summarizes survey findings about state cross-connection control programs.
AWWA. 2015. M14 Backflow Prevention and Cross-Connection Control: Recommended Practices. https://www.awwa.org/	Provides an in-depth analysis of causes and prevention of backflow and cross-connections in potable water systems.
University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. 2012. Manual of Cross-Connection Control, Tenth Edition. https://fccchr.usc.edu/ List of Approved Backflow Prevention Assemblies. https://fccchr.usc.edu/list.html	The manual covers all aspects of cross-connection control and backflow prevention. Associated resources available on the FCCCHR website include a list of tested and approved backflow prevention assemblies and field test kits, training videos, and sample forms to be used in a cross-connection control program.
USEPA. 2006. Cross-Connection Control: A Best Practices Guide. http://nepis.epa.gov/	A concise summary of best practices for cross-connection control.
USEPA. 2003. Cross-Connection Control Manual. http://nepis.epa.gov/	Defines, describes, and illustrates typical cross-connections and suggests simple methods and devices by which cross-connections can be eliminated without interfering with the functioning of plumbing or water supply distribution systems.

Office of Water (4606)
EPA 815-F-21-004
October 2021

ATTENTION

EDWARDS AIR FORCE BASE RESIDENTS

Please Read the Following Backflow Prevention Guidelines Carefully and Help Us Keep Our Water Safe!

What is Backflow?

Backflow is when a drop in the incoming water pressure allows a reverse flow from a homeowner's plumbing system back into the public water system. For example, if you have a garden hose submerged to fill a bucket, Jacuzzi, fish tank, etc., and the water system suddenly loses pressure, the flow of water can be reversed, sucking any contaminants in the water backwards into the system.

A Cross-Connection is any physical connection between a possible source of contamination and the public water system. For example, if a homeowner uses a cistern or an old well for outdoor watering, it cannot be connected to pipes that are connected to the public water system. Even with a bypass valve in place, it is prohibited.

Why is Preventing Backflow Important?

Cross connection control is extremely important in public water systems as it is a matter of public health and safety. Many contamination issues in public water systems, including bacteria from sewage, are not due to the water source but are due to cross-connections. Therefore, it is very important that all customers are aware of the dangers and take necessary precautions.

Examples of Cross-Connection and Backflow Scenarios

- Water softener, under-sink reverse osmosis unit, or water filter discharge tubing connected to a drain creates a direct connection to the sewage system.

- A bottled water system such as a water cooler that is connected to the home's plumbing system could contaminate the water system if the bottled water becomes contaminated.

- A toilet in your home installed prior to 1964 that does not have an anti-siphon fill valve to prevent backflow from the tank into the water supply.

- Soapy water or other cleaning compounds could back siphon into your water supply plumbing through a faucet or hose submerged in a bucket, basin, or mop sink.

- An aquarium, dishwasher, or sink that fills from below the normal water level provides a conduit for contaminants to enter the water supply plumbing.

- A hose submerged in a swimming pool creates a pathway for pool water to enter the water supply plumbing.

- Fertilizers/pesticides or animal waste can be drawn into the water supply plumbing from a lawn irrigation system with submerged nozzles.

What Can You Do?

- ✓ Be aware of and eliminate cross-connections and backflow scenarios.

- ✓ Maintain air gaps. Do not submerge hoses or place them where they could become submerged (create a gap of air between supply and container, see attached photographs). The air gap should be a distance of twice the diameter of the outlet pipe.

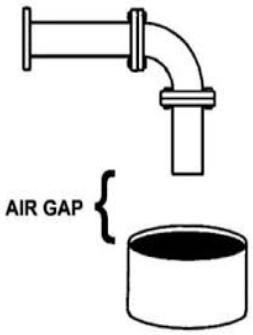


Figure 1. Air Gap Separation

- ✓ Use hose bib vacuum breakers on fixtures (hose connections in the basement, laundry room and outside) (see attached photograph of a hose bib vacuum breaker).

- ✓ Make sure toilets have anti-siphon ballcock assemblies.

- ✓ Do not create a connection between an auxiliary water system (well, cistern, body of water, puddles) and the water supply plumbing.

Backflow Prevention Examples

Air Gap Example 1

Air Gap Example 2

Hose Bib Vacuum Breaker