

2015 ANNUAL WATER QUALITY REPORT

Arlington's High-Quality Water

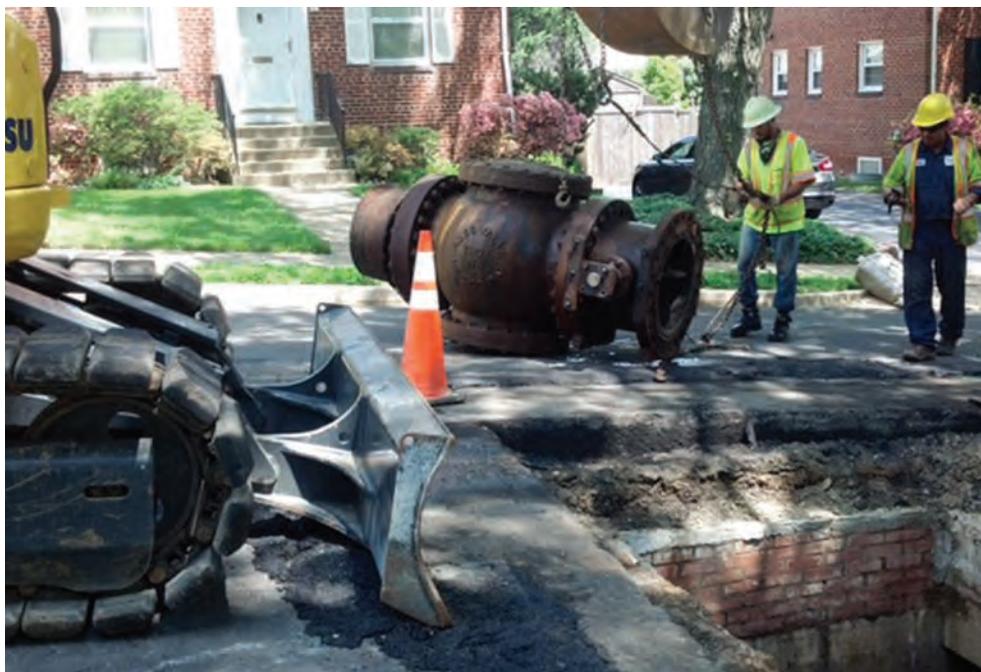
This annual "Consumer Confidence Report," required by the Safe Drinking Water Act, tells you where your water comes from, what our tests show about it and other things you should know about drinking water.

Arlington's Department of Environmental Services (DES) provides

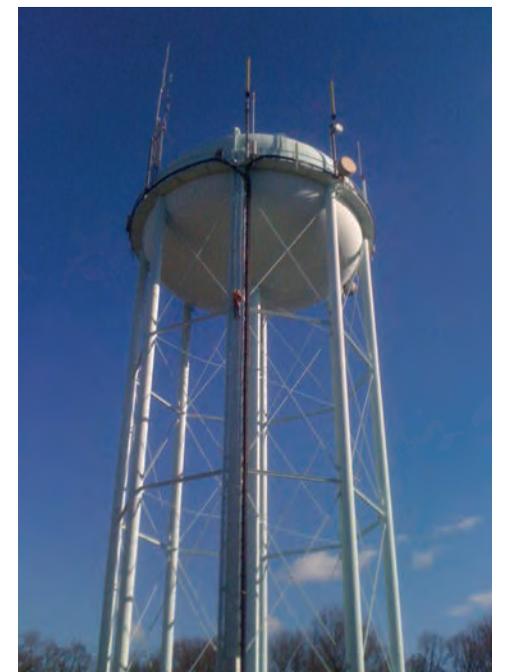
residents with a safe and reliable supply of high-quality drinking water. DES tests County water using sophisticated equipment and advanced procedures. Our water meets all state and federal standards for quality. View this report online at water.arlingtonva.us; search "water quality report."

Notice to building managers for office, commercial and multifamily residential buildings: Please share the information in the Water Quality Report with all occupants of your facility. Contact the Water Control Center at 703-228-6555 for additional information or copies of this report.

Aviso a los administradores de edificios de oficinas, propiedades comerciales y unidades residenciales: Por favor comparta la información de este informe sobre la Calidad del Agua con los ocupantes de su establecimiento. Comuníquese con el Centro Para Control del Agua al 703-228-6555 para mayor información o para recibir copias de este informe.



To provide a more resilient water flow for south Arlington, the County replaced a key 24-inch pressure-regulating valve last year.



The Lee elevated tank in north Arlington holds a half million gallons on water.

Where Arlington's Water Comes From

Arlington County purchases water from the Washington Aqueduct Division of the Army Corps of Engineers. The Washington Aqueduct operates two water treatment plants in the District of Columbia. The plants treat water from a surface water source, the Potomac River.

Arlington's water is treated at the Dalecarlia Treatment Plant located on MacArthur Boulevard in Northwest Washington. The Interstate Commission on the Potomac River Basin conducted the Source Water Assessment of the Potomac

River watershed in April 2002. The assessment identified urban runoff, toxic spills, agriculture and inadequate wastewater treatment as potential contamination sources to the water supply. Contact the Interstate Commission on the Potomac River Basin at 301-984-1908 for more information.

Arlington County maintains water quality assurance through our regular water distribution and storage evaluation and routine water sampling analysis.

What's in the 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. The water also can pick up substances resulting from animals or human activity.

Contaminants that may be present in water sources include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges,

oil and gas production, mining, or farming.

- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile 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 the result of oil and gas production and mining activities.

The water treatment process removes contaminants, making Arlington's water safe to drink.

Important Health Information

Source water is tested for cryptosporidium, a parasite that has caused outbreaks of intestinal disease in the United States and overseas. It is common in surface water, difficult to kill, and even the best water system will contain some live parasites. The Environmental Protection Agency (EPA) is currently working to improve the control of microbial pathogens, namely the protozoan cryptosporidium, in drinking water. The Potomac River source was monitored monthly at Great Falls for cryptosporidium during 2015 and none were detected. No precaution about County drinking water is currently necessary for the general public.



How to Read This Table

It's easy! Our water is tested to ensure it's safe and healthy. Test results from 2015 are presented in the table (footnotes below). The column marked **Goal** shows the Maximum Contaminant Level Goal or **MCLG**. This is 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. The column marked **Maximum Allowed** is the Maximum Contaminant **Level** or **MCL**. This is 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 Residual Level (MRDL)** is the highest level of a residual disinfectant that is allowed in drinking water. **Maximum Residual Disinfectant Level Goal (MRDLG)** is the level of residual disinfectant below which there is no known or expected risk to health. MRDLGs allow for a margin of safety. **Non-Detects (ND)** – lab analysis indicates the contaminant is not present. **Nephelometric Turbidity Unit (NTU)** is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Parts Per Million (ppm) or Milligrams per liter (MG/L) corresponds to one minute in two years or a single penny in \$10,000. **Parts Per Billion (PPB)** corresponds to one minute in 2,000 years, or a single penny in \$10,000,000. **Parts Per Trillion (PPT)** corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000. **Picocuries Per Liter (pCi/L)** is a measure of the radioactivity in water. The column marked **Detected Level** shows the results observed in our water during the most recent round of testing. **Source of Substance** provides an explanation of the typical natural or man-made origins of the contaminant. **Action Level (AL)** is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. **Treatment Technique (TT)** is a required process intended to reduce the level of a contaminant in drinking water.

Summary of 2015 Water Quality Data

Finished water characteristics, treatment plant monitoring¹

NOTE: Arlington County had one positive sample from 1,473 samples for total coliform in calendar year 2015. There were no detections of E coli in any of the monthly samples during CY 2015.

Substance	Unit	Goal (MCLG)	Maximum Allowed (MCL)	Detected Level	Range of Levels Detected	Source of Substance
Antimony	ppb	6	6	0.2	ND - 0.2	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	ppb	0	10	0.4	ND - 0.4	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes ²
Atrazine	ppb	3	3	0.09	ND - 0.09	Runoff from herbicide used on row crops
Barium	ppm	2	2	0.04	0.03 - 0.04	Discharge of drilling wastes; Discharge from metal refineries ² ; Erosion of natural deposits
Cyanide	ppm	0.2	0.2	0.007	ND - 0.007	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride	ppm	4	4	0.8	0.5 - 0.8	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Gross alpha particles ³	pCi/L	0	15	9	ND - 9	Erosion of natural deposits
Nitrate (as Nitrogen)	ppm	10	10	2	0.5 - 2	Runoff from fertilizer use; Leaching from septic tanks, sewage ² ; Erosion of natural deposits
Nitrite (as Nitrogen)	ppm	1	1	0.01	ND - 0.01	Runoff from fertilizer use; Leaching from septic tanks, sewage ² ; Erosion of natural deposits
Total Organic Carbon (TOC)	ppm	n/a	TT	Running annual average removal ratio is required to be equal to or greater than 1.00. Removal ratio actually achieved: ≥1.44 based on running annual averages.		Naturally present in the environment
Turbidity ⁴	NTU	n/a	TT	0.08 = highest single hourly measurement. Lowest monthly percentage of samples meeting turbidity requirements = 100%.		Soil runoff

Finished water characteristics, Arlington County distribution system monitoring

Substance	Unit	Goal (MCLG)	Maximum Allowed (MCL)	Detected Level	Range of Levels Detected	Source of Substance
Copper ⁵	ppm	1.3	AL - 1.3	0.07	0.01 - 0.15	Leaching from wood preservatives, corrosion of household plumbing ²
Lead ⁶	ppb	0	AL - 15	1.8	0.11 - 16.6	Runoff from fertilizer use; leaching from septic tanks, corrosion of household plumbing ²
Total Coliform ⁷	n/a	0	< 5% of monthly samples contain coliform bacteria	0.07%	ND - 0.07%	Naturally present in the environment.
Chloramines ⁸	ppm	(MRDLG) 4	(MRDL) 4	2.9	ND-4.7	Water additive used to control microbes
TTHM ⁸	ppb	n/a	80	52	15 - 59	By-product of drinking water chlorination
HAAS ⁸	ppb	n/a	60	29	5 - 42	By-product of drinking water chlorination

NOTICE ABOUT PERCHLORATE

Perchlorate is a naturally occurring as well as man-made compound. Its presence in drinking water is currently unregulated and utilities are not required to monitor for it. The Washington Aqueduct has been voluntarily monitoring for perchlorate since 2002. The EPA initially established a reference dose of 24.5 parts per billion (ppb) for perchlorate and beginning in 2009 has proposed an interim health advisory of 15 ppb. A reference dose is a scientific estimate of daily exposure level that is not expected to cause adverse health effects in humans. The reference dose concentration was used

in EPA's efforts to address perchlorate in drinking water and to establish the interim health advisory. The source and treated water samples collected in 2015 from the Dalecarlia treatment plant showed only trace amounts of perchlorate. The highest level detected was 7.5 ppb. If you have special health concerns, you may want to get additional information from the EPA at water.epa.gov/drink/contaminants/unregulated/perchlorate.cfm or contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791

Table Footnotes

- ¹ All test results are from 2015, unless otherwise noted
- ² Erosion of natural deposits or products
- ³ Triennial radionuclide monitoring was performed in 2014.
- ⁴ Turbidity is the measure of cloudiness of the water. We monitor it because it's a good indicator of the effectiveness of the filtration process. The turbidity level of filtered water shall be less than or equal to 0.3 NTU in at least 95% of the measurements taken each month, and shall at no time exceed 1 NTU.
- ⁵ The Detected Level represents the 90th percentile value. None of the 51 samples tested for copper exceeded the current Action Level of 1.3 ppm. Most recent testing for this parameter was 2013.
- ⁶ The Detected Level represents the 90th percentile value. One of the 51 samples (2% of the sample set) tested for lead exceeded the current Action Level of 15 ppb. Most recent testing for this parameter was 2013.
- ⁷ The Detected Level represents the highest monthly percentage of positive results.
- ⁸ The Detected Level represents the highest running annual compliance average during calendar year.

Water and Sewer Rates

No Increase for FY 2017

The water rate will stay at \$4.21 per 1,000 gallons of metered water consumption and the sewer rate will stay at \$9.06 per 1,000 gallons. The last increase was in May 2015. Water/sewer fees are the main source of revenue for the Utilities Fund, which pays for the operations and maintenance of the County's water distribution and sewage collection systems and the Water Pollution Control Plant, as well as wholesale water purchases from the Washington Aqueduct. Utilities Fund revenues also pay for debt service and a transfer to the utilities capital fund to finance projects that maintain, upgrade, and expand the County's water, sewer and wastewater infrastructure.

Measuring the rates

Each year, the County Board approves the water rate and a separate sanitary sewer rate. Both charges are based on the amount of water registered on the water meter that is adjacent to a residence or business. Every three months, residents in duplex and single-family homes receive utilities bills from the County.

Simple Steps to Save Water and Lower Your Bill

- Repair leaks in faucets, toilets and hoses.
- Install more efficient water fixtures, such as aerators and low volume toilets.
- Run your clothes washer and dishwasher only when full.
- Take shorter showers.
- Turn off the water while you brush your teeth, shave and shampoo your hair.
- Conserve when watering your lawn — use only what is needed, prevent run-off and avoid watering during the heat of the day. Reminder: There are no credits available to sewer charges for water used for irrigation.

The utilities bills include charges for water, sewer and refuse services. Need more information? Call 703-228-6570 with questions about your water and sewer bills. Or go to water.arlingtonva.us; click "customer service."

Advice for Special Populations

Some people may be more vulnerable to containments 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 at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline, 800-426-4791.

EPA Regulations

To ensure tap water is safe to drink, the EPA mandates regulations that 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. Call the EPA's Safe Drinking Water Hotline at 1-800-426-4791 for information about contaminants and potential health effects.

Lead in Drinking Water

The EPA finalized the Lead and Copper Rule Short-Term Regulatory Revisions and Clarifications in October 2007, with one of its goals being to improve customer awareness. Hundreds of water samples have been taken throughout Arlington County to determine the lead concentration in our water. Historically, these concentrations have been below the action level for 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. Arlington County 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 15 to 30 seconds or until it becomes cold or reaches a steady temperature 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 epa.gov/safewater/lead.

Average Levels of Compounds in Arlington Drinking Water

Calcium	38 mg/L
Chloramine Residual	2.9 mg/L
Chloride	52 mg/L
Fluoride	0.7 ppm
Total Hardness	127 mg/L or 7.4 grains/gal
Magnesium	8 mg/L
Nickel	0.9 ppb
pH	7.7
Sodium *	31 ppm
Sulfate	42 mg/L

* Although sodium is not regulated by an MCL, the EPA's Fall 2009 Drinking Water Advisory Table identified 20 mg/L as a health-based value for a person on a 500 mg/day restricted sodium diet.

After this edition, the Arlington County Water Quality Report will no longer be printed annually in *The Citizen* but will be published exclusively online at water.arlingtonva.us/water/water-quality-reports/.

ARLINGTON COUNTY

WATER & SEWERS

BY THE NUMBERS

- 500 MILES OF WATER PIPES
- 5 WATER PUMP STATIONS
- 8.1 BILLION GALLONS OF WATER THAT THE COUNTY USED IN 2015
- 16K VALVES
- 32 MILLION GALLONS OF WATER STORAGE
- 465 MILES OF SANITARY SEWERS
- 13K MANHOLES
- 12 SEWER PUMP STATIONS
- 7 MILES OF SANITARY SEWERS REHABILITATED BY CURED-IN-PLACE LINING PER YEAR

WATER.ARLINGTON.US

Keeping Biosolids Out of the Bay

Have you ever considered what happens to the water and waste material you put down the sink or shower drains, or flush down the toilet? This wastewater gets transported through 465 miles of pipe throughout the County to our Water Pollution Control Plant on Glebe Road, where it gets cleaned to a high degree before being released into Four Mile Run and, ultimately, the Chesapeake Bay. The water we release into Four Mile Run meets or exceeds the state standards.

While we are doing an excellent job of managing the County's biosolids, the treatment equipment is aging and we must make plans to upgrade and modernize the facilities.

We are in the process of preparing a Solids Master Plan, which will lay out a plan for the modernization of plant facilities, while improving sustainability and resource recovery.



The plan will address aging solids treatment equipment, prepare for more restrictive regulations of biosolids and look for potential energy savings and greenhouse gas reductions.

As part of the Master Plan process we are gathering input and analyzing data, setting the stage for making critical improvements to equipment. We anticipate completing the Master Plan in early 2017.

For more information, visit arlingtonva.us, search "Solids Master Plan."

Never Down the Drain: Fats, Oils and Grease

Few issues are more alarming for a property owner than a sewage backup. Though preventable, fat, oil and grease, or FOG, is the number one cause of sewage backups in homes. FOG builds up in the sewer lines when people wash grease down the drain. Once in the sewer, FOG sticks to the pipe and thickens, and over time can block the entire pipe. Blockages in pipes can send sewage out of manholes into streets and rivers, or up drains into homes. Sewer backups can cause damage to homes or businesses, are a health hazard, and threaten the environment.

FOG is found in:

- Liquid oil used for sautéing or frying
- Butter, lard, margarine or shortening
- Meat fats such as from bacon or hamburger

DO

- Scrape solid greasy food waste into the trash.
- Pour liquid grease to cool in a container, and throw in the trash.
- Use a paper towel to wipe grease out of the pan prior to washing.
- Place used liquid oil in a sealable container, and throw in the trash.



DON'T

- Pour fat, oil or grease down a drain, garbage disposal or toilet.
- Use hot water to rinse grease off cookware, utensils, dishes or other surfaces.

Remember, the sewer line that connects your property to the line in the street is privately maintained all the way to the connection point, even the part that runs under the street. Check your insurance to see if it covers sewage backups, and if not, consider adding the coverage. You can keep your drains clean by pouring 1/2 cup baking soda down the drain followed by 1/2 cup vinegar. Wait 15 minutes, then rinse with hot water.

Do your part to keep our sewers clear.

FAQs about Lead

Does Arlington have lead water services/pipes?

No, Arlington does not have any lead services and/or pipes in the water distribution system.

How often does Arlington test the water for lead?

In accordance with the Lead and Copper Rule (LCR), the Environmental Protection Agency (EPA), via the Virginia Department of Health, requires Arlington County to test the water for lead and copper every three years. Previously, per the LCR, Arlington tested the water more frequently and at additional locations, but because of consistent compliance and results below the Action Level, sampling is only taken once every three years.

Testing will be conducted in the summer of 2016. Arlington will mail letters requesting residents to volunteer to be part of the sampling. Only specific homes deemed to be at the highest risk under the LCR are eligible for testing, essentially single family and townhouses built in the early 1980s. If you receive the letter, we encourage you to participate.

Where do we test for lead and copper?

Per the LCR, Arlington is required to sample homes built between 1982 and 1986 because they are likely to yield the highest results mainly because they have copper pipes joined with lead solder. Solder is used in the pipe connections in household plumbing. In 1986, lead solder was banned from use in household plumbing. The intent of the Lead and Copper Rule is to optimize water quality parameters to minimize corrosion. Our corrosion control performance far exceeds regulatory requirements. For more information about the rule, visit the EPA website at <https://www.epa.gov/dwreginfo/lead-and-copper-rule>.

What are the common sources of lead?

The primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated residential soil.

Exposure to lead is a significant health concern, especially for young children and infants whose growing bodies tend to absorb more lead than the average adult. If you are concerned about lead exposure, contact your health provider to find out how to get your child tested.

What is being done to reduce exposure to lead in the publicly-owned drinking water supply?

The Washington Aqueduct adds Orthophosphate to the water during the treatment process. Orthophosphate acts as a corrosion inhibitor by forming a protective film on the interior of pipes. This film protects the pipe material from the corrosive effects of water, which reduces/eliminates the potential for lead leaching into the water.

What can I do to reduce exposure to lead in drinking water?

Water is lead-free when it leaves the treatment plant. However, lead may work its way into drinking water after the water enters the distribution system and is on its way to consumers taps. This usually happens through the corrosion of materials containing lead in household plumbing. These materials include brass faucets, lead solder on copper pipes or other plumbing fixtures. Lead pipes are no longer installed for service lines or in household plumbing, and lead solder has been outlawed in Virginia since 1986.

For more information visit www.water.arlingtonva.us.

