

2022

Annual Drinking Water Quality Report



LINCOLN WATER SYSTEM OPERATING PHILOSOPHY

Lincoln Water System is dedicated to providing quality water and customer service to the community.

This philosophy results in reliable and cost-effective operations, efficient service to customers, and a safe and adequate supply of water.



Why This Report?

The Safe Drinking Water Act requires Lincoln Water System to annually issue a report describing the quality of your drinking water. This report fulfills that obligation and puts important information about the quality of your drinking water into the hands of our valued customers. This report provides an overview of last year's water quality data collected from January 1 through December 31, 2022, including details about the source of your water, what it contains and how it compares to state and federal standards.

Este formulario tiene información muy importante acerca del agua que usted bebe. Consiga que alguien se lo lea en español.

Báo cáo này chứa thông tin quan trọng về nước bạn uống. Tìm một người đọc nó cho bạn bằng tiếng Việt.



This report and other information about water are available on the City's website at water.lincoln.ne.gov.

Lincoln Water System | 2021 N. 27th | Lincoln, NE

Leirion Gaylor Baird, Mayor
Elizabeth Elliott, Director, Lincoln Transportation and Utilities

What is the source of our water?

In the United States, drinking water sources include rivers, lakes, streams, ponds, reservoirs, springs and groundwater. Lincoln's water source is groundwater that is naturally high in quality. It comes from wells along the Platte River near Ashland. Approximately one-half of the supply is groundwater and approximately one-half is groundwater under the direct influence of surface water. In 2022, more than 14.1 billion gallons of water were pumped from these wells to serve the 295,000 residents who used an average of about 38.8 million gallons of water each day.

A source water assessment of our water supply was completed by the Nebraska Department of Environment and Energy (NDEE). The assessment includes maps, an inventory of potential contaminant sources and a determination of the vulnerability of the system to contamination. If you have any questions or would like to view the source water assessment, call John Keith, 402-441-1622, to schedule an appointment.

As water travels over the surface of the land or through the ground, naturally occurring minerals dissolve, and the water can pick up substances resulting from the presence of animal or human activities. Factors that can impact the quality of our source water include microbial contaminants, organic or inorganic contaminants, pesticides, herbicides, and radioactive contaminants. To ensure that tap water is safe, U.S. Environmental Protection Agency (USEPA) Safe Drinking Water standards limit the amount of contaminants in the water supplied to customers. Following the treatment process, Lincoln's drinking water continues to meet all of these standards. Lincoln's water does contain small amounts of arsenic but these levels remain below USEPA Safe Drinking Water standards.

Arsenic, a naturally occurring element associated with soil and rock, is also detected in Lincoln's drinking water and remains below USEPA limits. The Safe Drinking Water standard (the Maximum Contaminant Level) for arsenic is 10 parts per billion (ppb). While Lincoln's drinking water meets USEPA's standard, it does contain between 6.4 ppb and 6.5 ppb arsenic based on testing performed in 2022. USEPA's standard balances arsenic's possible health effects against the cost of removing it from drinking water. USEPA continues to research the health effects. At concentrations much higher than regulatory levels, arsenic is known to cause some types of cancer and other health problems. Lincoln Water System continues to evaluate options for future treatment and removal of arsenic as regulations require.



How is our water treated?

Thanks to the natural filtration of groundwater, nature has already done much of the work in enhancing the quality of Lincoln's water. Lincoln's source water contains iron and manganese, which can stain clothing and plumbing fixtures if left untreated. To remove these and other unwanted substances, water is pumped to the water treatment plants. The water flows through one of two processes before it is distributed to your home or business.

The oldest process, highly effective since the 1930s, uses aeration, chlorination, detention and filtration. An exact amount of chlorine is added to the water in a large underground reservoir. The water is held in the reservoir for up to two hours. This allows the chlorine to inactivate microbes. It also oxidizes iron and manganese to form particles which are then trapped in the sand filters.

The second process uses ozone technology. Ozone, an extremely strong oxidizer and disinfectant, quickly inactivates microbes. It also causes iron and manganese to form particles which are then removed in the filtration process.

The next step is vital to protecting the health of our community. Once the water passes through the filters, small but exact amounts of chlorine and ammonia are added. These chemicals combine to form a disinfectant called "chloramine," which limits the growth of bacteria in the City's water distribution pipes. Finally, fluoride is added to help prevent tooth decay.

Special Health Requirements

While the presence of chloramines in our water is not a cause for concern among the general public, home dialysis patients, immuno-compromised individuals and aquarium owners must take special precautions before the water can be used.

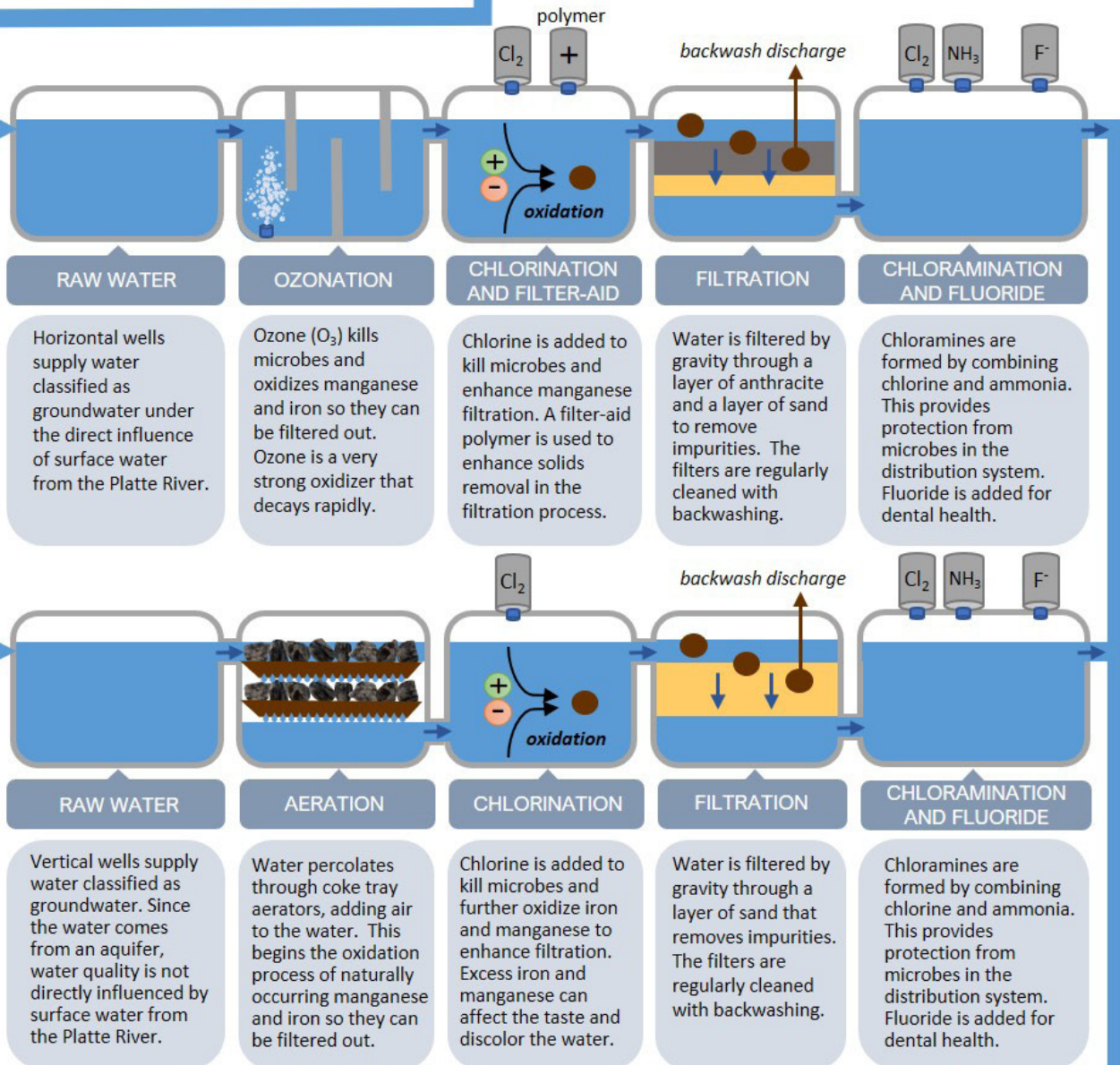
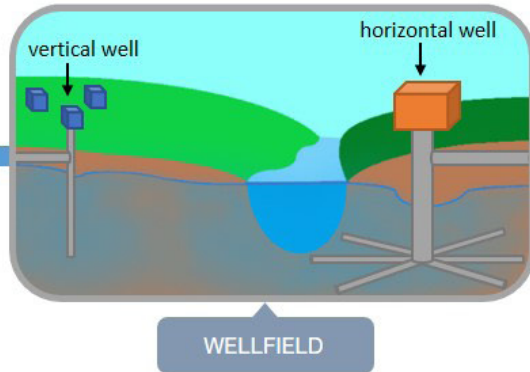
Water used for kidney dialysis equipment may require further treatment. Please contact your doctor or dialysis technician to ensure that your home equipment is adequate and proper tests are being made every time it is used.

Some people may be more vulnerable to contaminants in drinking water than the general population. This includes immuno-compromised persons, such as those with cancer who are undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people and infants. These customers and caregivers should seek advice about drinking water from their health care providers. USEPA and Centers for Disease Control (CDC) guidelines on how to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available by calling the Safe Drinking Water Hotline at 800-426-4791.

WATER TREATMENT

FROM WELLFIELD TO HOME

Water from the wells travels over 20 miles to reach Lincoln and its first stop is the Treatment Plant.





Key to Test Results

Action Level - The concentration of a contaminant which triggers treatment or another requirement which a water system must follow.

Treatment Technique - a required process intended to reduce the level of a contaminant in drinking water.

MCL - Maximum Contaminant Level: The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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

MRDL - Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

ppm (parts per million) = mg/L (milligrams per liter) - One ppm corresponds to 1 gallon of water in 1 million gallons of water.

ppb (parts per billion) - One ppb corresponds to 1 gallon of water in 1 billion gallons of water.

ND - Not detected. The result is less than the amount that the laboratory can accurately detect.

pCi/L - pico curies per liter (measure of radioactivity)

NTU - Nephelometric Turbidity Unit: A measure of the cloudiness of the water

LRAA - Locational Running Annual Average: An ongoing annual average calculation of data from the most recent four quarters at each sampling location.

RAA - Running Annual Average: An ongoing annual average calculation of data from the most recent four quarters.

What We Test For

We monitor for the regulated parameters listed below. Any contaminants found in the treated water are noted in the tables on the following pages.

Inorganic Chemicals

Antimony
Arsenic
Asbestos
Barium
Beryllium
Cadmium
Chromium
Copper
Cyanide
Fluoride
Lead
Mercury
Nickel
Nitrate
Nitrite
Selenium
Thallium
Total Chlorine

Synthetic Organic Chemicals

2,4 - D
2,4,5 - TP (Silvex)
Alachlor
Atrazine
Benzopyrene
Carbofuran
Chlordane
Dalapon
Di(ethylhexyl)adipate
Di(ethylhexyl)phthalate
Dibromochloropropane
Dinoseb
Diquat
Endothall
Endrin
Ethylene Dibromide
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Lindane
Methoxychlor
Oxamyl
PCBs Total
Pentachlorophenol
Picloram
Simazine
Toxaphene

Clarity

Turbidity

Volatile Organic Chemicals

Benzene
Carbon Tetrachloride
1,2-Dichloroethane
o-Dichlorobenzene
p-Dichlorobenzene
1,1-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
Dichloromethane
1,2-Dichloropropane
Ethylbenzene
Monochlorobenzene
Styrene
Tetrachloroethylene
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Xylenes (total)
Vinyl Chloride

Disinfection By-products

Bromate

The amounts of these five contaminants are added together to get the amount of Haloacetic Acids (HAA5):

Dibromoacetic Acid
Dichloroacetic Acid
Monobromoacetic Acid
Monochloroacetic Acid
Trichloroacetic Acid

The amounts of these four contaminants are added together to get the amount of Total Trihalomethanes (TTHM):

Chloroform
Bromodichloromethane
Dibromochloromethane
Bromoform

Radioactive Contaminants






Gross Alpha Emitters
Radium 226
Radium 228
Uranium

Test Results


These tables show the concentrations of detected substances in comparison to the regulatory limits. Substances not detected are not included in the table.

The USEPA and Nebraska Drinking Water Program establish the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The State requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be older than one year.

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 visiting the USEPA's website at epa.gov, calling the USEPA hotline at 800-426-4791 or calling the Lincoln-Lancaster County Health Department at 402-441-8000.

INORGANIC CHEMICALS - Tested at Water Treatment Plants							
	Highest Test Result	Range of Test Results	Sample Date	EPA's MCL (Highest Level Allowed)	EPA's MCLG (Goal)	Standard Met?	Source
Arsenic	6.46 ppb	6.35-6.46 ppb	2022	10 ppb	0 ppb		Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	0.133 ppm	0.099-0.133 ppm	2022	2 ppm	2 ppm		Discharge from drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	0.901 ppm	0.899-0.901 ppm	2022	4 ppm	4 ppm		Erosion of natural deposits; water additive which promotes strong teeth; fertilizer discharge
Nitrate + Nitrite	0.885 ppm	0.442-0.885 ppm	2022	10 ppm	10 ppm		Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	5.75 ppb	ND - 5.75 ppb	2022	50 ppb	50 ppb		Erosion of natural deposits; discharge from petroleum and metal refineries; discharge from mines
Fluoride is added in treatment to bring the natural fluoride level of about 0.4 ppm to the State recommended level of 0.8 - 1.5 ppm. LWS continuously monitors the fluoride level in the water.							


RADIOACTIVE CONTAMINANTS - Tested at Water Treatment Plants

	Highest Test Result	Range of Test Results	Sample Date	EPA's MCL (Highest Level Allowed)	EPA's MCLG (Goal)	Standard Met?	Source
Gross Alpha Emitters	14.7 pCi/L	7.91 - 14.7 pCi/L	2020 - 2021*	15 pCi/L	0 pCi/L		Erosion of natural deposits

Gross Alpha Emitters includes Radon and Uranium.



*Gross Alpha Emitters are required to be tested every six years.

TURBIDITY - Tested at Water Treatment Plants



	Percent of Samples at or below 0.3 NTU	Highest Result	Sample Date	Treatment Technique Requirement	Highest Result Allowed	Standard Met?	Source
Turbidity	100%	0.26 NTU	2022	95% or more of samples must be at or below 0.3 NTU	1 NTU		Soil runoff

Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system.


LEAD AND COPPER - Tested at Customer's Taps

	90% of LWS customers' homes were less than	Number of homes considered to have elevated levels	Sample Date	EPA's Action Level	EPA's MCLG (Goal)	Standard Met?	Source
Lead	1.80 ppb	1 out of 54	2022	90% of homes must test less than 15 ppb	0 ppb		Corrosion of household plumbing; erosion of natural deposits
Copper	0.800 ppm	0 out of 54	2022	90% of homes must test less than 1.3 ppm	1.3 ppm		Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives

DISINFECTION BY-PRODUCTS


	Highest Locational Running Annual Average (LRAA)	System Wide Range of Results	Sample Date	EPA's MCL (Highest Level Allowed) One Year Average	Standard Met?	Source
Total Trihalomethanes (TTHM)	31 ppb	16 - 34 ppb	2022	80 ppb		By-product of drinking water chlorination
Haloacetic Acids (HAA5)	21 ppb	4.0 - 23 ppb	2022	60 ppb		By-product of drinking water chlorination

Monitoring for TTHMS and HAA5 is conducted at 6 locations in the City of Lincoln.

	Highest Running Annual Average (RAA)	System Wide Range of Results	Sample Date	EPA's MCL (Highest Level Allowed) One Year Average	EPA's MCLG (Goal)	Standard Met?	Source
Bromate	0.85 ppb	ND - 3.1 ppb	2021-2022	10 ppb	0 ppb		By-product of drinking water ozonation


Monitoring for Bromate is conducted at Water Treatment Plant.

MICROBIOLOGICAL CONTAMINANTS - Tested throughout the Distribution System Over 150 samples collected throughout the City each month

	Highest Monthly Positive Coliform Samples	Sample Date	EPA's MCL (Highest Level Allowed)	EPA's MCLG (Goal)	Standard Met?	Source
Total Coliform Bacteria	0 (0%)	2022	Treatment Technique*	0		Naturally present in the environment









*Additional sampling in the distribution system is required following a positive Total Coliform Bacteria result. These results help us determine if additional actions are required. All samples were negative for E. coli.

TOTAL CHLORINE RESIDUAL - Tested throughout the Distribution System Over 150 samples collected throughout the City each month

	Highest Running Annual Average	Range of Test Results	EPA's MRDL (Highest Chlorine Level Allowed)	EPA's MRDLG (Highest Chlorine Level Goal)	Sample Date	Standard Met?	Source
Chloramine (as Chlorine)	2.44 ppm	ND - 3.62 ppm	4 ppm	4 ppm	2022		Water additive to control microbes

WATER QUALITY PARAMETERS WITH SECONDARY MAXIMUM CONTAMINANT LEVELS (SMCLs) - Tested monthly in the Distribution System

Secondary maximum contaminant levels (SMCLs) are non-enforceable guidelines to help water systems manage their drinking water for aesthetic properties, such as taste, color, and odor. These substances are not considered a risk to human health at the SMCL.

Parameter	Average of Test Results	Range of Test Results	Sample Date	EPA's SMCL (Recommended Highest Level)	Standard Met?
Chloride	22 ppm	19 - 24 ppm	2022	250 ppm	
Fluoride	0.83 ppm	0.72 - 0.93 ppm	2022	2 ppm	
Iron	ND	ND - ND	2022	300 ppb	
Manganese	2.4 ppb	1.2 - 3.4 ppb	2022	50 ppb	
pH	7.84	7.67 - 8.11	2022	6.5 - 8.5	
Sodium	29 ppm	24 - 32 ppm	2022	500 ppm*	
Sulfate	67 ppm	46 - 80 ppm	2022	250 ppm	
Total Dissolved Solids	329 ppm	287 - 351 ppm	2022	500 ppm	

* The EPA has not set a SMCL for sodium, but Nebraska Department of Environment and Energy has set a Maximum Contaminant Level (MCL) for sodium which takes precedence.

ADDITIONAL WATER QUALITY PARAMETERS - Tested monthly in the Distribution System

These parameters do not have a Maximum Contaminant Level or Secondary Contaminant Level. Parameters like these can be useful when purchasing a softener or using your water for activities like brewing beer or keeping a home aquarium.

Parameter	Average of Test Results	Range of Test Results	Sample Date
Calcium	53 ppm	46 - 60 ppm	2022
Total Alkalinity (as Calcium Carbonate)	168 ppm	160 - 192 ppm	2022
Total Hardness	196 ppm or 11.4 grains per gallon	172 - 246 ppm or 10.0 - 14.4 grains per gallon	2022

Home Water Treatment Devices

Lincoln Water System meets all state and federal water quality standards. Use of a supplemental filter or home water treatment device is a personal preference. However, if the treatment device is not properly maintained, it could cause water quality problems. In selecting a filter or home water treatment device, determine what substance you want to remove and look for a filter that has a National Sanitation Foundation / Underwriter's Laboratories (NSF/UL) certification to remove those specific substances. Information on plumbing fixtures and in-home filters is available by calling 1.800.NSF.MARK or visiting nsf.org.

It is important to follow the manufacturer's instructions for correct use and maintenance of your home treatment device.

Lead and Copper

Lincoln's drinking water does not contain detectable levels of lead and copper in its source water or after treatment. However, the presence of lead and copper used in plumbing systems can introduce detectable levels of these contaminants into the drinking water at individual homes or businesses. Water testing conducted by Lincoln Water System has found detectable levels of lead and copper in homes built before 1988. These homes are more likely to have pipes, fixtures, and solder that contain lead. In Nebraska, plumbing materials containing high concentrations of lead were banned in 1987. Homes built before 1950 may have a portion of the water service line constructed using lead pipes, and these homes may have higher levels of lead in their drinking water.

Safe drinking water properties vary across the country depending on the water source. Lincoln's drinking water chemistry does not promote excessive lead and copper leaching from plumbing systems. As a result, Lincoln Water System remains in compliance with USEPA requirements for lead and copper.

Lead and copper sampling is performed by Lincoln Water System every three years as required by the USEPA Lead and Copper Rule (LCR). The collective test results for the 54 samples collected in 2022 were below the USEPA action level of 15 parts per billion lead and 1,300 parts per billion copper. The statistical analysis of the test results continues to show Lincoln's drinking water remains in compliance with USEPA requirements for lead and copper.

If present, elevated levels of lead and copper can cause serious health problems, especially for infants, young children and pregnant women. Lead and copper in drinking water comes primarily from materials and components associated with service lines and home plumbing. Other sources of lead exposure can be lead-based paint and lead-contaminated dust, as reported by the U.S. Centers for Disease Control and Prevention (CDC).

Lincoln Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in household and business plumbing components. When the water in your pipes has been sitting for several hours, USEPA recommends minimizing the

potential for lead exposure by flushing your cold water tap for 30 seconds to two minutes before using the cold water for drinking or cooking. Because private plumbing system construction varies, Lincoln Water System recommends flushing for at least five minutes in homes constructed prior to 1950. Consider filling a water pitcher for drinking water to avoid repeated flushing.

If you are concerned about lead in your water, you may wish to have your water tested. Lincoln Water System offers one free lead test kit per year per address. To request your free lead test kit, please call Lincoln Water System at 402-441-7571 option 2. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is also available from these sources:

- USEPA Safe Drinking Water Hotline at 800-426-4791.
- USEPA website at [epa.gov/safewater/lead](https://www.epa.gov/safewater/lead).
- Nebraska Department of Environment and Energy/ Drinking Water Program at 402-471-1009.
- The Lincoln-Lancaster County Health Department at 402-441-8040.

EPA's Lead and Copper Rule Revisions Better Protects Against Exposure to Lead from Plumbing Materials

In December 2021, the U.S. Environmental Protection Agency (EPA) announced the agency's intent to develop a new

proposed rule that will strengthen the existing regulatory framework, the Lead and Copper Rule Improvements. This announcement followed the EPA's review of the revisions to the current Lead and Copper Rule that water systems must comply with starting in 2024. Included in these revisions are requirements for water systems to perform lead testing in schools and childcare facilities and to identify locations of lead service

lines. Because lead service lines found in older homes and buildings can contribute significant amounts of lead to water, the revised rule re-focuses on sampling water from these locations. These revisions will help water systems better identify high levels of lead, expand consumer awareness, and improve risk communication. Lincoln Water System maintains records of water service lines, which are privately-owned. These are available for viewing on the city's website. More information about accessing our tap records can be found in the section "Do I have a lead service line?" in this report.



Do I have a lead service line?

The water service line is the pipe that is owned by the property owner which connects their home to the public water main. Using existing records, LWS has identified approximately 4,000 privately owned water service lines that may contain lead. In some cases, records have limited or missing information that make it difficult to determine the exact material used in the installation of the service line.

Customers should also be aware that lead-containing materials can be found in other locations of the home plumbing constructed before 2014 when lead-containing materials were banned from use.

Hire a Plumber

We recommend you use an experienced, certified plumber to assist in reviewing your service line record and in identifying lead-containing materials in your plumbing system, fittings, fixtures, or other potential sources of lead.

Access our records

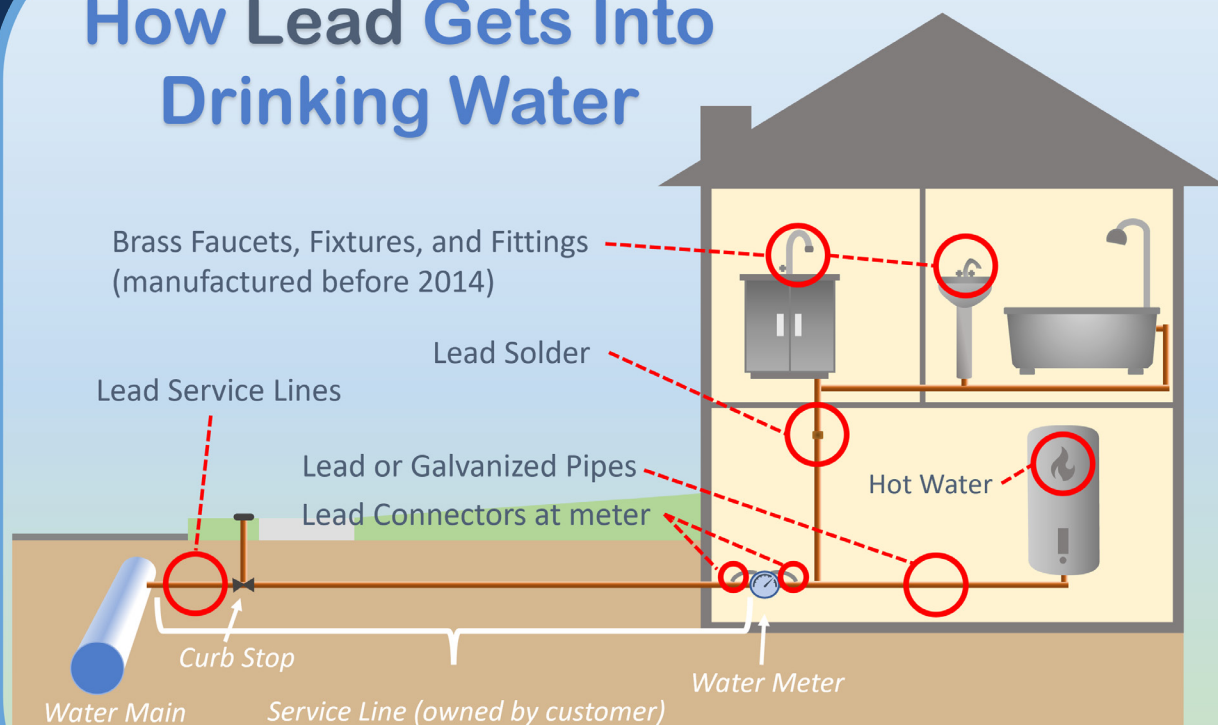
You can view information on your water service line by accessing records online. Knowing this information can

be helpful in determining the risk of your service line contributing to lead in your water.

Access our tap record interactive map at lincoln.ne.gov/WaterServiceLines. The database is searchable by address, owner, parcel number, or by clicking on a property on the map. If there are records associated with the selected address, they will appear under the heading "TAP Images". Click on all the records labeled "Water" to see the images of our records. Please feel free to call Lincoln Water System at 402-441-7571 option 2 for help interpreting these records. It is important to look over all the records listed as many older service lines have been partially or fully replaced and will have additional records indicating this. If the supply line was replaced, you should see the words "old tap abandoned" and/or "replacement tap". Please be aware these records may not be complete, may have missing information, or may not have been updated if the property owner had work performed and it was not reported to Lincoln Water System.

You can also call Lincoln Water System at 402-441-7571 option 2 for information about your service line.

How Lead Gets Into Drinking Water



Conserve - Reduce Outdoor Water Use

The last time Lincoln had mandatory water restrictions caused by drought conditions was during the summer of 2012. Since that time, the City has revised its Water Management Plan to simplify watering restrictions. One important change, if water restrictions are imposed, is placing all multi-family, commercial, industrial and governmental properties, street medians and single-family properties with a common irrigation system on a set schedule regardless of address. Designated watering days for these properties are on Sundays, Tuesdays and Fridays. Single-family properties and duplexes will be on the designated day schedule shown below based on even/odd numbered addresses if water restrictions are imposed.



On warm summer days, several million gallons of treated drinking water are used to irrigate lawns in Lincoln. Customers are reminded that the designated three-day watering schedule is available to provide flexibility when watering. The schedule is not meant to suggest that lawns be watered all three days. Rather, property owners should consider using only minimal amounts of water to maintain landscapes, and restrict weekly watering to one or two days, if possible.

Designated Day Outdoor Watering Schedule

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Multi-family, commercial, industrial, governmental, institutional properties, street medians and single family properties (townhome developments) with a common irrigation system. All addresses.	☑		☑			☑	
Single-family properties and duplexes with even-numbered addresses (ending in 0,2,4,6 or 8)	☑			☑		☑	
Single-family properties and duplexes with odd-numbered addresses (ending in 1,3,5,7 or 9)			☑		☑		☑

The Water Management Plan allows occasional outdoor watering at any time using an attended, handheld hose if water restrictions are imposed. This provides for watering of landscape materials, container plantings and bird baths without risk of ticketing during mandatory restrictions.

For additional information regarding the Water Management Plan and other helpful tips on water conservation, please visit water.lincoln.ne.gov.



Conservation Tips

- Check household faucets and toilets for leaks. A faucet with even a slow drip takes 10 to 25 gallons of water per month. Just think, 15 drips per minute add up to almost 3 gallons of water wasted per day, 65 gallons wasted per month and 788 gallons wasted per year!
- Keep showers to five minutes or less in length. A five-minute shower takes 10 to 25 gallons of water.
- Install water saving plumbing fixtures.
- Keep a pitcher of water in the refrigerator. Then you won't have to run tap water to cool it.
- Use a broom to sweep your driveway, garage or sidewalk instead of using water.
- Use a bucket of water to wash your bike or the family car, and rinse quickly with a hose.
- Water your lawn in the evening or in the early morning to avoid evaporation. Be careful to water only the lawn and not the sidewalk or the street.
- Use water only when you need it. Don't leave water running, and be sure to turn it off when you are finished.

Lincoln Water System Facts

- Lincoln Water System spent \$1.75 million for electricity and diesel fuel to treat and pump water to Lincoln and another \$1.35 million for electricity to distribute water to all parts of the City in 2022.
- On average in 2022, the total amount of water used in Lincoln each day was equal to 132 gallons per person.
- The City of Lincoln covers an area of more than 101.4 square miles.
- Lincoln Water System maintains 1,286 miles of water mains, 12,530 fire hydrants, and 28,800 valves.
- 152 broken mains were repaired in 2022.
- Water service lines between the main and private property are owned and maintained by the property owner.
- Water temperature is affected by seasonal weather. In 2022, the coldest water measured at a tap in Lincoln was 46°F in February and the warmest was 77°F in August.



To Learn More

For answers to questions you may have or to learn more about the water you drink, call John Keith, Manager of Laboratory Services, Lincoln Water System, at 402-441-1622. This report and other information about water are available on the City's website at water.lincoln.ne.gov.

Drinking water quality and the infrastructure required to deliver water to homes and businesses in Lincoln are essential to the community. The Lincoln Water System Facilities Master Plan, available at lincoln.ne.gov (search: water master plan) is a great way to learn more about Lincoln's water system and its future plans for providing the community an adequate supply of high-quality drinking water. The Mayor and City Council make decisions regarding Lincoln Water System. To participate or provide input, contact your City Council representative. A list is available at council.lincoln.ne.gov.

How can residents help protect our water?

You, our customers, also play an important role in protecting Lincoln's drinking water. One way to help is by preventing "cross connections", any connection between the drinking water supply and a source of possible contamination or pollution. Cross connections are controlled either by eliminating them or installing approved backflow prevention devices that stop contaminants from flowing back into the drinking water supply.

Contaminants and pollutants can enter the drinking water supply when there is a sudden loss of pressure from heavy usage or a fire in the area of a broken water main. When that happens, contaminated water could be siphoned through the plumbing system into the public water mains. These pressure drops occur somewhere in the City almost every day. Backflow prevention devices are important in preventing contaminants from entering the water supply in these situations.

Every five years, property owners and tenants are required by Nebraska Department of Health and Human Services regulations to inspect their plumbing systems and report any suspected or potential cross connections to Lincoln Water System. Residential and commercial customers are notified when a "premise survey" is required. These surveys must be completed and sent back to Lincoln Water System. All cross connections to the public water supply must be protected with a suitable backflow prevention device.

Property owners and tenants have the responsibility to identify if any cross connections exist on their property and to ensure they are properly protected with an approved backflow prevention device. Property owners and tenants must have these devices tested annually to ensure proper, continuous operation. A list of registered testers can be obtained from Lincoln Water System by calling 402-441-5912. The cost of the test is the responsibility of the owner. For more information on the cross connection program, visit the City's website at water.lincoln.ne.gov.

Lawn Irrigation Systems

The Lincoln Plumbing Code requires a backflow device on lawn irrigation systems. Backflow devices on lawn irrigation systems are exempt from annual testing. However, to ensure proper operation and to protect against contamination of the interior plumbing system, it is recommended these devices are also inspected and tested at regular intervals. Contact your local irrigation system contractor or plumbing contractor for additional information.



Typical backflow device for a lawn irrigation system.



American Water Works Association
Nebraska Section

Lincoln Water System is a proud member of AWWA.

water.lincoln.ne.gov

Water 2.0: Securing Lincoln's Second Source



The City of Lincoln and Lincoln Transportation and Utilities Lincoln Water System's efforts to secure a second source of water for the Lincoln community continue to move forward. In February 2023, Lincoln Mayor Leirion Gaylor Baird accepted a recommendation made by the Mayor's Water Source Advisory Council to develop a Missouri River wellfield, water treatment facility, and an underground pipeline to transport potable water to Lincoln.

The effort to secure a second water source to supplement the wellfields along the Platte River formally began in June 2022 when the mayor appointed the advisory council to evaluate the alternatives. The City hired an engineering firm to facilitate advisory council meetings and to do the necessary preliminary engineering work to validate the advisory council's recommendation.

The estimated life-cycle cost of the project is \$1.39 billion. The effort will be one of the largest and most complex in Lincoln's history and is expected to take 15-20 years to complete. To help fund the effort to secure a second water source, the City is reviewing State and Federal funding opportunities. Lincoln Water System is also actively dedicating revenues to a fund specifically for this project.

Next steps for the engineering firm include conducting studies, testing, technical analysis, and preliminary design to validate this solution.

The advisory council process

The Mayor's Water Source Advisory Council is made up of water experts, community and business leaders who spent nine months and nearly 40 hours of their time dedicated to finding a solution that fits our community's needs. Seven factors helped guide their evaluation of 14 potential alternatives. Those factors include reliability, governance, life cycle cost, operations, implementation, environmental stewardship, and stakeholder impacts. The advisory council reviewed data and consulted engineering, water, law, economic, and environmental experts on how each alternative would impact the evaluation factors.



The advisory council narrowed the list to seven alternatives that were deemed feasible and able to provide sufficient water supply through at least the year 2075. Those alternatives included interconnecting with the Metropolitan Utilities District in Omaha, expanding the existing wellfield on the Platte River, and building an off-channel reservoir. The council also considered using surface water from the Missouri River and treating both surface or groundwater at a new treatment facility or pumping it to the existing facility in Ashland to be treated before it would travel to Lincoln.

Developing a wellfield and water treatment facility along the Missouri River with an underground pipeline to Lincoln was chosen as the best and most reliable solution to secure an additional water source for our community.



The need for more water

This is not the first time the City of Lincoln has had to look elsewhere for additional water to support its growing population. Nearly 100 years ago, community leaders in Lincoln worked together to establish a wellfield near the Platte River. Over the years, Lincoln Water System has installed additional wells that will provide water for the next 20 to 25 years. By 2050, the population of Lincoln is anticipated to grow by 115,000 people. As the community grows, our needs for additional water supply will increase with it. This second water source solution will meet the needs of our growing city and supply water to the city's future generations through the year 2075 and beyond.

Lincoln Water System customers also do their part to contribute to conserving Lincoln's water use. Customers use 30% less water today than in the 1980s in thanks to water conservation efforts, plumbing innovations, regulations, and greater awareness of this essential resource. Lincoln Water System has also added wells to increase the amount of water available to the community by more than 30% in the last 10 years. These efforts make a significant difference to our quality of life and will continue to positively impact Lincoln as the City plans to secure a second long-term water source for the community.

Second water source recommendation offers many benefits

Lincoln's continued growth and high quality of life is dependent on a reliable and adequate supply of water. The advisory council's alternatives analysis shows the Missouri River has ample water available for use beyond 2075.

This option creates the highest degree of reliability and opportunities for redundancy. This will increase Lincoln's ability to manage potential natural disasters like the 2019 flood that damaged Lincoln's Platte River wells. With the Missouri River as a second source, Lincoln will increase its ability to successfully manage any future water issues.

Additional benefits include easier implementation with minimal water supply permitting and the ability to maintain the City's autonomy. Future operations at the new facility will be similar to Lincoln's existing operations at the City's current facility in Ashland.

Two open houses were conducted to inform the public about the advisory council process and recommendation.



For more information, please visit
lincoln.ne.gov/SecondWaterSource.

