

Pipelines

SPRING 2024



Reverse Osmosis

As the construction of our Northwest Regional Water Treatment Plant nears completion, you may wonder how we are softening the water. Instead of the typical home ion exchange softening systems using salt, we have opted to use a Reverse Osmosis (RO) system. RO systems are advanced water filtration technologies designed to remove contaminants and impurities from water by utilizing a semi-permeable membrane. This process involves applying pressure to force water molecules through the membrane while blocking the passage of dissolved solids, contaminants, and other particles. Reverse osmosis systems are widely used in residential, commercial, and industrial settings to produce clean, purified water for various applications.

One of the primary benefits of reverse osmosis systems is their ability to effectively remove a wide range of contaminants from water. The semi-permeable membrane used in RO systems can filter out impurities such as dissolved minerals, heavy metals, chemicals, bacteria, viruses, and other harmful substances, resulting in significantly cleaner water and safer consumption. Due to the technology's ability to strip out chemicals and contaminants, we are ensuring our ability to maintain a safe drinking water supply for the future.

In addition to producing high-quality drinking water, reverse osmosis systems offer several other positive benefits:

- **Improved Taste and Smell:** By removing a portion of the dissolved minerals, chemicals, and other contaminants that contribute to unpleasant tastes and odors, reverse osmosis systems can enhance the overall taste and quality of drinking water, providing a refreshing and enjoyable drinking experience.
- **Energy Efficiency:** Compared to other water treatment technologies, reverse osmosis systems are relatively energy-efficient, requiring minimal electricity to operate. This makes them a cost-effective and environmentally friendly option for producing clean drinking water.

Our current water hardness level is 27 grains per gallon. However, with the implementation of our new RO system, this hardness level will be significantly reduced to just 9 grains per gallon. Additionally, residents that wish to continue use of their home water softeners will see a reduction in the amount of salt needed annually. Thus, also experiencing a lower cost of maintaining their system.

Overall, reverse osmosis systems offer a reliable, efficient, and sustainable solution for producing clean, softened water for our customers. From enhancing water quality and taste to promoting environmental stewardship, RO systems provide numerous positive benefits that contribute to healthier communities and sustainable water management practices.



Household Hazardous Waste and Its Environmental Impact

Household hazardous waste refers to any discarded products or materials in a household that contain potentially harmful chemicals, substances, or components. These items pose environmental and health risks if improperly disposed of, making it essential for households to handle and dispose of them responsibly. Dumping household hazardous waste in regular trash poses significant dangers to the environment due to the potential for contamination and pollution.

Many common household products contain hazardous ingredients that can harm the environment if not disposed of properly. Examples of household hazardous waste include paint, solvents, pesticides, batteries, cleaning products, and automotive fluids. When these items are not properly disposed of they end up in landfills or discarded on property, where they may leak or leach harmful chemicals into the soil and groundwater contaminating waterways and ecosystems. Contaminated water sources can also impact human health if they are used for drinking, irrigation, or recreational activities.

Household hazardous waste requires special handling and disposal methods to minimize environmental risks as well as the health and safety of sanitation workers. Dumping these materials in the trash can lead to exposure to harmful chemical toxins and fumes for workers.

Also, chemical reaction risks can lead to fires, explosions, or chemical reactions in waste management facilities.

To prevent the environmental risks associated with household hazardous waste, households need to dispose of these materials through designated collection programs or facilities. Greene County Environmental Services offers the perfect solution for all Greene County residents. Even better... it's FREE! Once to twice a month, Environmental Services hosts a free Household Hazardous Waste drop-off event. Residents may simply collect the accepted materials and drive them to our facility for a no-hassle disposal. For a list of accepted and non-accepted items, as well as the quarterly schedule, please turn over to page 2.

By properly managing household hazardous waste, individuals can help protect the environment, conserve natural resources, and safeguard public health. Households need to educate themselves about the proper handling and disposal of hazardous materials to minimize environmental impact and ensure a safe and healthy future for generations to come. Remember the three Rs: Reduce, Reuse and Recycle. Avoid purchasing in bulk, because any chemical that will not be used before it expires becomes hazardous waste. Use all of the chemical or share with a neighbor and you can always recycle with Greene County Environmental Services!

The Importance of Backflow Prevention

Backflow prevention is a critical aspect of maintaining a safe and reliable water system. Backflow occurs when the flow of water in a plumbing system reverses direction, potentially allowing contaminated water to enter the clean water supply. This phenomenon poses significant health risks and can lead to water contamination, making backflow prevention essential for safeguarding public health and protecting the integrity of the public water supply.

One of the primary causes of backflow is a back siphonage, which occurs when there is a sudden drop in water pressure within the distribution system causing water to flow out of a house or building and back into the distribution system and public water supply. This pressure drop can occur due to various reasons, such as a water main break, firefighting activities, or sudden high water demand in nearby areas. When the pressure in the distribution system drops below that of the surrounding environment, it creates a vacuum effect, pulling water backward and potentially drawing contaminants into the clean water supply.

Another common cause of backflow is back pressure, which occurs when the pressure within a plumbing system exceeds that of the distribution system. This can happen due to factors such as thermal expansion, pumps, or multi-story buildings such as an apartment building or hotel. When the pressure occurs, it can force water to flow in the opposite direction, risking contamination of the clean water supply. This happens often in multi-family dwellings such as apartments and condos where all residents are tied into one line.

One of the key challenges faced in backflow prevention is the diverse range of potential sources of contamination. Industrial facilities, irrigation systems, fire protection systems, and residential plumbing all pose unique potential risks of backflow. Therefore, utilities must implement a comprehensive approach to backflow prevention that addresses these varied sources of contamination.

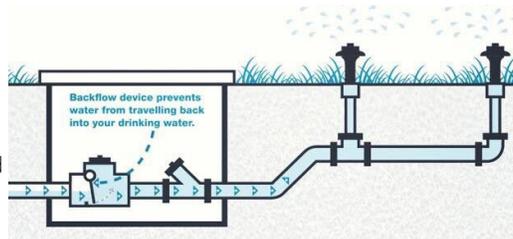
Backflow contamination poses significant risks to public health and safety. Some of the potential consequences include:

- **Waterborne Illnesses:** Contaminated backflow can introduce harmful bacteria, viruses, and other pathogens into the clean water supply. Consuming water contaminated with pathogens can lead to waterborne illnesses such as gastroenteritis, cholera, dysentery, and hepatitis.
- **Chemical Exposure:** Backflow can carry chemicals, pesticides, fertilizers, and other pollutants into the drinking water supply. Exposure to these contaminants through ingestion, inhalation, or skin contact can cause acute poisoning, allergic reactions, respiratory issues, or long-term health effects such as cancer and reproductive disorders.
- **Cross-Contamination:** Backflow can occur when there is a cross-connection between the potable water supply and sources of non-potable water, such as irrigation systems, industrial processes, or fire protection systems. Cross-contamination can result in the mixing of clean water with contaminated water, compromising the integrity of the water supply.
- **Infrastructure Damage:** Contaminated backflow can corrode pipes, valves, and other components of the private plumbing system and the distribution system, leading to infrastructure damage and leaks. Corrosion caused by chemical contaminants can weaken the structural integrity of plumbing materials, increasing the risk of pipe bursts and water main breaks.
- **Legal and Regulatory Compliance:** Utilities and property owners have a legal and regulatory obligation to prevent backflow and protect the water supply from contamination. Failure to implement adequate backflow prevention measures can result in fines, penalties, and legal liabilities, as well as damage to reputation and public trust.

To mitigate the risks associated with backflow, various backflow prevention devices are available. In our County, we require Reduced Pressure Zone Backflow Valves between our distribution system and the customer's irrigation systems or plumbing where more than one family resides (ie an apartment building). These valves are installed in plumbing systems to prevent the reverse flow of water. They automatically close when backflow conditions occur, preventing contaminated water from entering the clean water supply.

Regular maintenance and testing of backflow prevention devices are essential to ensure their proper functioning. Certified professionals should inspect and test backflow prevention devices annually to verify their effectiveness and compliance with regulatory standards. These inspections are then to be sent to our department to maintain compliance.

Overall, the risks associated with contaminated backflow underscore the importance of implementing backflow prevention measures, installation of backflow prevention devices, and regular inspection and testing. By prioritizing backflow prevention, communities can safeguard water quality, protect public health, and ensure the reliability and safety of their drinking water supply.



Greene County Environmental Services

Household Hazardous Waste

Accepted :

- Acids & Cleaners
- Aerosol Spray Cans
- Antifreeze
- < 5 Gallons of Fuel - Gasoline & Kerosene
- Herbicides & Pesticides
- Putty & Adhesives
- Stains, Varnishes & Paint Thinner
- Oil Based Paints

Not Accepted :

- Motor Oil
- Electronics
- Small Household Appliances
- Computers & Accessories
- Televisions
- Pharmaceuticals
- Ammunition
- Explosives



Household Hazardous Waste Drop off Dates/Times:

- Saturday, April 13th - 9:00 am to 12:00 pm
- Tuesday, April 23rd - 12:30 pm to 2:30 pm
- Saturday, May 11th - 9:00 am to 12:00 pm
- Tuesday, May 21st - 12:30 pm to 2:30 pm
- Saturday, June 15th - 9:00 am to 12:00 pm
- Tuesday, June 25th - 12:30 pm to 2:30 pm

Location: 2145 Greene Way Blvd, Xenia, Ohio 45385

Ways to pay your bill

Online or to set up automatic payments:

greencountyohio.gov/sanitary

By Phone: 855-925-1665 (24 Hr. Service)

By Mail:

Greene County Sanitary
Engineering Department
P.O. Box 340
Xenia, OH 45385-0340

Remember to update your GCSED online banking vendor address. Some banks send your payment via USPS rather than ACH transaction.

Greene County Sanitary Engineering

Administration Building

937-562-7450

Monday-Friday, 7:30 am to 4:00 pm

667 Dayton-Xenia Road
Xenia, OH 45385

After-Hours Emergencies

937-562-7450

Billing/Bill Payments

937-562-7457

greencountyohio.gov

