

Water Reuse Fact Sheet

What is Water Reuse?

Water reuse reclaims water from a variety of sources then treats and reuses it for beneficial purposes. Water reuse can provide alternatives to existing water supplies and be used to enhance water security, sustainability, and resilience. The NYC Construction Codes regulate two types of permitted onsite water reuse systems in New York City: wastewater and rainwater. For these systems, the level of treatment depends upon the alternate water source and the end uses for the treated water.

Types of Water Reuse

 **Rainwater** Precipitation collected directly from the sky or from roof and balcony runoff.


Treatment Overview: Rainwater systems typically require the least amount of treatment. In general, debris excluders, first flush diverters, and filtration provide adequate treatment to maintain a rainwater system.




Forest House, which is an affordable housing development located in the Bronx, implemented a stormwater harvesting system that recycles rainwater for irrigation on its rooftop greenhouses. This reuse system uses predictive weather information and real time monitoring to actively manage the retention and discharge function of its detention system. This makes detained water available for onsite use and significantly reduces stormwater flows to the combined sewer system during storm events.

UA Local 1 Plumber's Union installed an innovative green roof system on its facility in Queens. This system captures and reuses rainwater for indoor plumbing systems. It includes a collection cistern and green rooftop area to reduce runoff, as well as a gray water recycling system to promote water reuse. This helps increase sewer capacity and reduce combined sewer overflows to nearby waterbodies.



 **Gray Water** Gray water includes discharge from lavatories (with the exception of wastewater from toilets) and steam condensate.

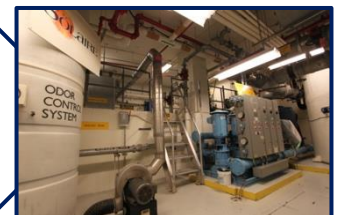
 **Black Water** Discharge from water closets, urinals, bathtubs, showers, clothes washers, and laundry trays, washdown water and blowdown water from cooling towers, and any other fixtures discharging animal or vegetable matter in suspension or solution.

Treatment Overview: Gray water quality is highly variable and site-specific. Filtration and disinfection is usually sufficient, without further treatment, to meet water quality criteria. In addition to the filtration and disinfection requirements for all other alternate water sources, black water systems also require biological treatment to lower the levels of organic material in the water.



The New School implemented a reuse system at its Manhattan Campus University Center that collects rainwater, as well as water from sinks, showers, and washing machines to distribute for reuse in toilets, green roof irrigation, and the buildings cooling tower. This system helps cut potable water usage by 74% and reduces sewer discharges.

The Solaire Building, which is a part of Battery Park City, is the first reuse project in NYC to incorporate wastewater reuse. The system recycles 25,000 gallons of wastewater per day, which is used for flushing toilets in its 293-unit apartments, cooling tower make-up water, laundry, and garden irrigation. Compared to similar residential buildings in NYC, the Solaire consistently achieves a 48% reduction in water consumption and a 56% reduction in wastewater discharge.



Water Reuse Systems





Onsite Non-Potable Water System

A system in which water from local sources is collected, treated, and used for non-potable uses at the building to district/neighborhood scale, generally at a location near the point of generation.

District-Scale Project

An onsite non-potable water system for a defined service area that covers two or more properties and may cross public rights-of-way.

Benefits

Primary Benefit	 Potable Water	Reduces potable water use
	 Capacity	Increases capacity of wastewater infrastructure by reducing flows to the sewer system and wastewater facilities
Co-Benefits	 Water Quality	Reduced flows to the sewer system contribute to reductions in pollution from stormwater runoff and combined sewer overflows
	 Energy	Reduced flows to wastewater facilities contribute to reducing energy use and greenhouse gas emissions

Water and Wastewater Rate Discounts

DEP offers a 25% water fee discount to customers who install water reuse systems that reduce the building's water consumption by at least 25%. A 76% wastewater fee discount is also offered for properties that discharge less than 25% of their flow.

[Water and Wastewater Rate Schedule](#)

- Property Connected to the Sewage Network Also Served by a Private Wastewater Treatment Plant (Part III – Section 6)
- Comprehensive Water Reuse (Part IV – Section 6)

[Comprehensive Water Reuse Program Application](#)