

Improving Water Quality in Our River and Streams

CSO!

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Doing Our Part for a better tomorrow

While the Missouri River meets water quality standards upstream from Omaha, water quality declines when it flows past Omaha.

Wastewater overflows from our combined sewers have a negative impact on water quality. The CSO Program is taking the necessary steps to reduce polluted discharges to our waterways, with the overall goal of minimizing Omaha's impact on the Missouri River and other streams.

From new construction to improvements at existing facilities, 59 CSO projects will combine to help achieve and maintain the City's long-term clean water goals.

To finish the plan, there will be additional system improvements, with projects that may include constructing tunnels, adding storage tanks, building high-rate treatment facilities and finalizing sewer separation.

Targeted Sewer Separation New pipes are installed to separate the stormwater from sanitary sewer pipes, releasing stormwater to the waterways and directing sanitary waste to the treatment plants.

High-rate Treatment Facilities These facilities are built to operate only during overflow conditions and treat combined sewage before it enters the Missouri River or Papillion Creek.

Lift Stations New lift stations constructed at key sites help efficiently move flows from lower elevations and divert to treatment facilities.

Storage Tanks Storage tanks capture and hold combined sewage when the combined sewer system is overwhelmed with stormwater, and then release it to the treatment plant as treatment capacity allows.

Tunnels Tunnels can act like large pipes, conveying combined sewage to a treatment facility or storing the combined runoff until it can be treated.



Dedicated to Clean Water

In Omaha and about 800 other cities, combined sewer overflows (CSOs) are a major cause of water pollution. When it rains or snow melts, the water cannot soak into the ground and flows to the combined sewer system, which carries both stormwater and sewage.

If flows in the combined system become more than the pipes and the treatment facilities can handle, it overflows into the Missouri River and nearby streams. These overflows can contain animal waste, fertilizer runoff, untreated sewage and other pollutants, which impact water quality.

In 2006, the City of Omaha initiated Clean Solutions for Omaha (CSO), a program to develop and implement a plan that addresses combined sewer overflows and improves the water quality of our local waterways. Omaha is committed to meeting the unfunded, federal mandate to address such releases, and has been recognized as a leader with its efforts to managing stormwater and combined sewage.



Typical combined sewer



Typical separated sewer

Maximizing Opportunities for Efficiency

The CSO Program has made tremendous progress, and we are moving toward a successful completion in 2037!

Working closely with the Nebraska Department of Environment and Energy (NDEE), the City has been able to implement the CSO Program by adapting projects as we find success along the way and make progress toward our clean water goals, thereby saving money.

Many CSO projects are in planning or design, some are completed, and others are under construction. The Program is constantly adapting, implementing new technologies and maximizing effectiveness to improve cost savings.



The Work Continues

The CSO Program is designed to make improvements to the sewer system that will significantly reduce the number of combined sewer overflows and ultimately minimize the amount of bacteria and other harmful substances in our river water.

59 CSO projects, to be completed by 2037, will capture at least 85 percent of the wet weather combined sewage volume.

Green Infrastructure Mimics Natural Processes

The CSO Program is dedicated to implementing the most cost-effective solutions, being good stewards of financial resources and using local materials and labor. The Program continuously looks for smart solutions that reduce combined sewage impacts.

By including thoughtful green infrastructure components, CSO can maintain or restore the natural hydrologic function of urban areas – treating precipitation as a resource rather than a waste.

Combining natural and engineered systems to mimic natural processes, green infrastructure minimizes stormwater inflows into the combined system or delays stormwater peaks, which ultimately reduces combined sewage overflows and saves money. This approach has brought enhancements to neighborhoods that otherwise wouldn't have been possible, so it's a win-win for both our community and the CSO Program.

You Can Help

Green infrastructure is often soil- or vegetation-based and includes approaches such as tree planting and preservation, installing porous pavements and restoring natural landscapes. There are simple ways you can play a role in supporting the Missouri River's water quality right at home, too.

- **Disconnect Roof Drains** – One of the most significant actions you can take to control combined sewer overflows is disconnecting roof drains from the sanitary or combined sewer system. This helps prevent heavy rain and stormwater from overwhelming the system, which otherwise leads to environmental pollution and property damage.



Weirs at Elmwood Park



Adams Park



How CSO Work is Funded

The CSO Program is financed primarily with 30-year revenue bonds issued in periodic increments, and is funded by sewer user fees. The CSO Program reduces ratepayer cost by using the State's revolving funds, foundation grants, and financing through the EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program.



Ratepayer Assistance is Available

Because the increased rates for sewer services can be a hardship for some residents, the City of Omaha created the Ratepayer Assistance Program in 2011 for fixed- and low-income residents. Residents receiving low-income energy assistance (LIHEAP) from the State of Nebraska automatically receive this ratepayer assistance.



Keeping Opportunities Local

CSO construction projects provide opportunities for businesses and the use of local materials and labor. Through the Small Emerging Business (SEB) program, the City actively encourages businesses to bid and work on these projects. The SEB program also has a youth outreach component to share career opportunities with high school students.

- **Rain Gardens** – Rain gardens collect and slow the rapid flow of stormwater from homes to storm drains and thus protect streams and lakes from pollutants that are washed from house roofs and paved areas.
- **Rain Barrels** – Use of a rain barrel located under gutter downspouts can help spread rainfall over longer periods of time, thereby slowing the flow of stormwater, increasing its infiltration and decreasing peak flows downstream.

These approaches help prevent combined sewer overflows in our waterways by capturing stormwater runoff before it enters the sewer system.

Residents can get more information on how they can help address stormwater quality by visiting the Omaha Stormwater program's website at OmahaStormwater.org.