

Combined Sewer Overflows

When it rains, the sewer system can't handle the large volume of sewage and stormwater. This is called a combined sewer system because both sewage and stormwater flow into one pipe.

Instead of allowing water to back up into people's basements during a rainstorm, the combined sewer system dumps polluted water directly into the Rouge River. This discharge into the river is known as a combined sewer overflow or CSO.

This mixture of sewage and stormwater contains pollutants that result in a public health threat to your community. This includes the bacteria that caused numerous beaches throughout Lake St. Clair to be closed.

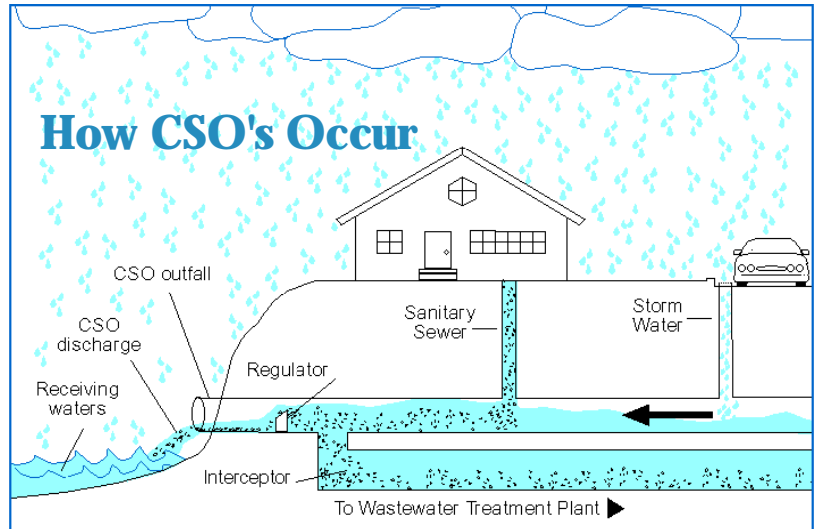
About 20 percent of the Rouge River Watershed is serviced by combined sewers, with 169 CSO discharge locations. The map on the back page shows the location of the Rouge River Watershed's combined collection sewer system.

Water Quality Problems

Studies by the Michigan Department of Natural Resources (MDNR) determined that CSOs are a significant cause of water quality problems in the Rouge River. In addition to the potential health hazards associated with disease-causing organisms released from CSOs, the natural beauty of the river is reduced by odors and deposits in the river.

Restoration Efforts

The United States Environmental Protection Agency (USEPA) and the MDNR, through the efforts of the Wayne County Rouge River National Wet Weather



Demonstration Project (Rouge Project) and local communities, are implementing CSO control projects to address this source of pollution to the Rouge River.

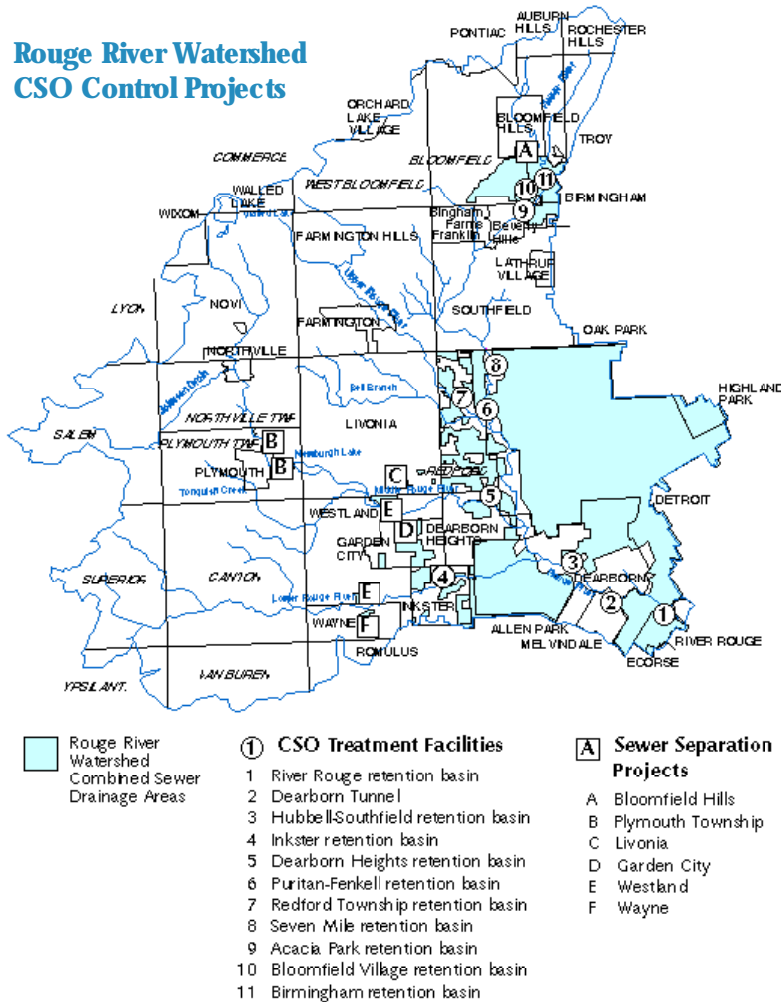
Structural Controls

Two primary types of structural controls are being used by the Rouge Project: sewer separation and CSO retention. Sewer separation prevents stormwater from mixing with sewage by building a new pipe to carry either sewage or stormwater. Because original pipes are often old and "leaky", a retention structure still may be required to regulate flows or to remove pollutants such as oil, grease and fertilizer that are typically found in stormwater.

CSO retention uses an enclosed, engineered structure to hold the combined sanitary and storm water until it can be treated by the local wastewater treatment plant. During extended heavy rainstorms or sudden major snowmelts, the retention structure may fill to capacity. Under these conditions, the facility removes large solids, skims floating material,



Rouge River Watershed CSO Control Projects



and kills harmful bacteria before releasing overflow to the River. This treatment greatly reduces the impacts to the River.

Each community with combined sewers in the Rouge River Watershed performed a thorough evaluation of its sewer system to determine the structural control to pursue. This evaluation considered factors such as: cost effectiveness, construction feasibility, and disruption caused by construction. Because advantages and disadvantages are associated with each control method, the decision was made on a site by site basis.

Phased Approach

The Rouge Remedial Action Plan (RAP), a comprehensive twenty year plan to clean up the Rouge River, recommended a phased approach to controlling CSOs. Implementation of CSO structural controls will be done in two phases. Presently, Phase 1 retention structures are being constructed across the watershed using a variety of sizes and features. The effectiveness of these Phase 1 CSO controls will help determine the best solutions to implement in Phase 2, when additional CSO control structures will be built. By the year 2005, all uncontrolled CSO discharges to the Rouge River will be eliminated.

Team Approach

This watershed-wide approach to CSO control is the first of its kind. The results will allow the Rouge Project to gain insight and practical experience that can be used to better control CSO problems in communities across the country.

This fact sheet was prepared as part of the Rouge River National Wet Weather Demonstration Project, USEPA grant #X995743-02.

If you have any questions about the Rouge Education Project DemoInfo or the Rouge Project, in general, please call the Rouge Hotline at (888) 223-2363 or visit our web site at <http://www.rougeriver.com>.

