

Saddle Creek Retention Treatment Basin



The Saddle Creek Retention Treatment Basin (RTB) facility will provide improved water quality for the Little Papillion Creek.

The Saddle Creek RTB is an important project for Omaha's water quality program called Clean Solutions For Omaha. Over 65 times a year untreated combined sewage overflows into the Little Papillion Creek from the sewer outfall at the project location. The purpose of the Retention Treatment Basin facility is to capture this water and treat it during wet weather. This project began planning and design activities in April of 2011 and is proposed to be constructed at 64th and Dupont Streets in Omaha.

The facility will operate during rain events. If it is a small rain event, the combined sewage may be retained and sent to the Papillion Creek Water Resource Recovery Facility (PCWRRF) for treatment. When the rain event exceeds the capacity of the RTB, the combined sewage will be treated, disinfected, and then discharged to the creek.

Combined sewage will be diverted from an existing outlet channel to the facility headworks where large materials like cans, rocks, tree branches and floatable solids are removed using a grit pit and mechanical screens. At this point in the process, a disinfectant is added. If the tank fills up, an overflow channel is provided for discharge of treated flow back to the creek.

The RTB will use pumps to empty the facility after a rain event has ended. The dewatering pumps will convey captured combined sewage volume into the downstream Papillion Creek Interceptor sewer for additional treatment at the PCWRRF.

Above ground improvements include a building to house controls, grit and screening equipment, and chemicals. The building, illustrated above, will provide office space for full-time staff, some additional city offices, and maintenance access to the facility.

An odor control system will be installed to address the risk of odors being released to the surrounding area. The site will include fencing and lighting for security purposes. Deliveries will occur regularly, but are not expected outside of typical business hours.

This project was originally bid in 2015, and the City elected not to proceed with construction of the facility at that time. To keep the project moving, a site preparation project was identified to remove buried construction and demolition (C&D) debris. This work was completed in June 2016 and reduces the amount of site preparation required for the larger facility project.

Saddle Creek RTB (Continued)

Simultaneously, a process of Value Engineering (VE) was undertaken in 2016 to examine items that could be changed to reduce the cost of the project. Recommendations included revisions to reduce cost while maintaining the required water quality performance.

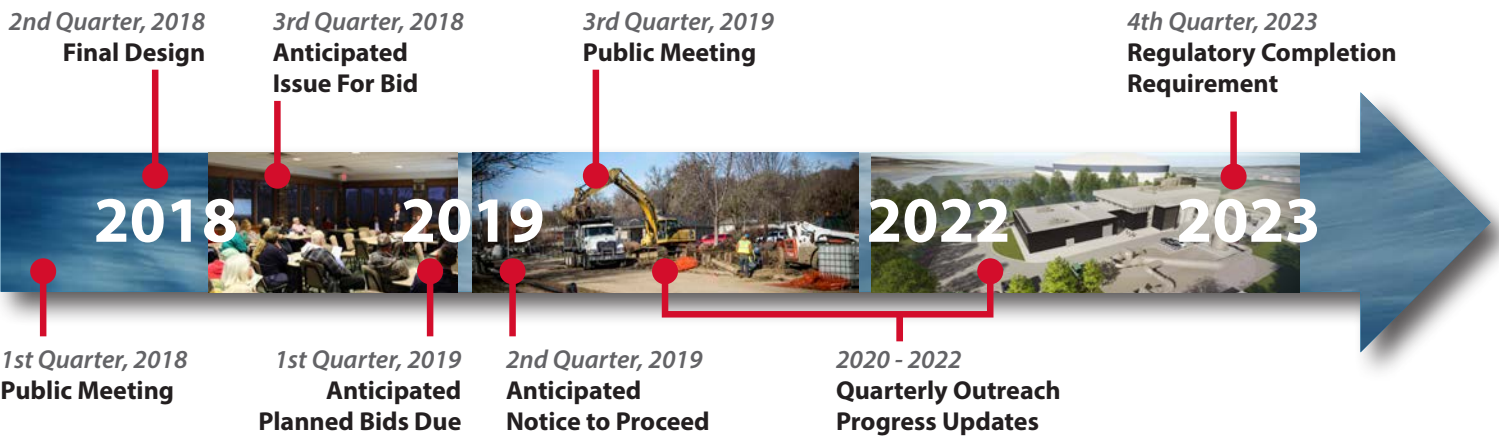
The Saddle Creek RTB facility is currently being re-designed to incorporate cost savings recommendations, and the project will be re-issued for bid. Changes from the original project concept include a 50 percent reduction in the storage basin volume and incorporating a simpler pump station within the larger tank structure.

CSO: A Water Quality Improvement Program

Omaha is a national leader among the more than 772 cities who have an unfunded, federal mandate to improve the water quality in their rivers and streams.

In 2006, the Clean Solutions for Omaha (CSO) Program was initiated to study and plan changes required by 2024 under the Federal Clean Water Act. In 2014, the timeline was extended to 2027 because of the Missouri River Flood.

The CSO! Program is dedicated to implementing the most cost-effective solutions, being good stewards of financial resources, using local materials and labor, and continuously looking for green solutions that reduce stormwater impacts and provide other community benefits.



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