



PROJECT GROUNDWORK
your pipeline to clean water

CSO 125 Project (Martha and North Basins)

The CSO 125 project will eliminate about 138 million gallons of combined sewer overflows (CSOs) a year into the West Fork Creek, a tributary of the Mill Creek. The project, which includes two stormwater detention basins and storm sewers, is required under MSD's solution for the Lower Mill Creek.

What's the Challenge?

During rains, our combined sewer system can overflow into streams and rivers, making Cincinnati among the top five communities in the U.S. for combined sewer overflows (CSOs).

MSD is under a federal mandate (Consent Decree) to reduce the overflows and has implemented a major public works initiative called "Project Groundwork" to achieve compliance and bring value to the community through this significant investment.

The Challenge in Northside

When it rains, stormwater enters combined sewers in the vicinity of Kirby and Virginia avenues. If the sewers become too full, sewer overflows can occur at CSO 125 (near Beekman Street and Colerain Avenue) into the West Fork Creek, a tributary of the Mill Creek. About 188 million gallons of raw sewage and stormwater overflow annually from this location.

The Solution in Northside

MSD is designing two stormwater detention basins — North Basin and Martha Basin — to keep stormwater out of the combined sewer system and transport it directly to the West Fork Creek.

The CSO 125 basin project will reduce sewer overflows into the channel by about 138 million gallons a year. This project is part of MSD's West Fork Project, which is part of MSD's Lower Mill Creek Partial Remedy (LMCPR).

The basins are designed to hold stormwater during rain events. During lighter storms, the water will flow through a "low flow channel" (like a stream bed) along the bottom of the basins and will drain to an outlet structure. The outlet will release the water at a controlled rate into an underground stormwater outlet pipe that will convey it to the West Fork Creek. The outlet pipe will be about 1.2 miles long and will be constructed underground primarily in the right-of-way along Kirby and Virginia avenues.

During heavier storms, the basins will fill up when the stormwater coming in exceeds the outlet capacity. If the basins fill up completely, they will take less than 24 hours to empty.

Each basin is designed to hold stormwater from a 100-year storm. During extreme weather events, the basins are designed to overflow back into the combined sewer to prevent flooding.

Location of Basins and Storm Sewers



North Basin

The North Basin — located off Kirby Avenue just northwest of Mehmert Avenue — will be about 3.4 acres in size and hold up to 5.8 million gallons of stormwater. The basin will be about 25 feet deep (at its deepest point) with a 33% slope on its sides.

The basin will collect flow from a small creek as well as stormwater from intermittent streams and overland flow during rains. Due to the creek flow, there will be a fairly constant flow of water through the low-flow channel of the basin during dry weather except during extreme droughts.

Following rain storms, the basin will slowly release water into the underground stormwater outlet pipe that leads to the West Fork Creek. An access road off Kirby Avenue will allow MSD personnel to gain access to the basin for maintenance.

Concept drawing of North Basin



Martha Basin

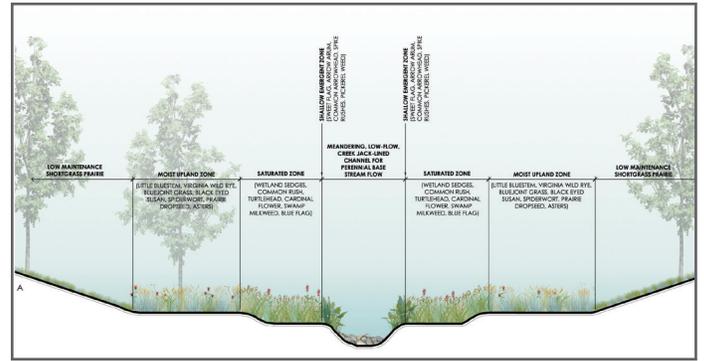
The Martha Basin — located south of Martha Street between Virginia/Kirby Avenues and Badgeley Street — will be about 1.4 acres in size and will hold up to 0.75 million gallons of stormwater. The basin will be about seven feet deep (at its deepest point) with a 33% slope on its sides.

The basin will collect stormwater from nearby intermittent streams as well as from overland flow.

Following rain storms, the basin will slowly release water into the underground stormwater outlet pipe that leads to the West Fork Creek.

An access road off Martha Street will allow MSD personnel to gain access to the basin for maintenance.

Concept drawing of Martha Basin



Cross section of the CSO 125 detention basins.

Landscaping

The basins are designed to look as natural and as attractive as possible to adjacent neighbors.

The basins will be planted with grass, along with native trees, shrubs and other plants that can tolerate wet conditions.

Examples of trees include:

- Ash
- Basswood
- Buckeye
- Maple
- Oak
- Paw Paw
- Sycamore
- Tulip
- Yellowwood

Plants include Black Willow, Buttonbush, Dogwood, Hazelnut, Hibiscus, Ninebark, Sweetspire and Virburnum. Various prairie and meadow seed mixes will also be planted.

Some existing trees and vegetation will need to be cleared to construct the basins.

Safety

The detention basins will not be fenced, as they are intended to blend into the natural space. However, safety signage will be placed around the basins.

During heavy rain storms, the basins should be treated with caution. Like any natural stream or creek, they can start to fill up with water which can pose a potential hazard. Caution should also be exercised around the inlet and outlet structures.

MSD is responsible for maintaining the basins and should be alerted of any public safety hazards.

Schedule

The project is proposed to begin in February 2018 and may include several phases. In addition, Duke Energy will be relocating electric poles prior to the start of construction.

Need More Information?

For more information contact:

MSD Engineering Customer Service

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