



PROJECT GROUNDWORK
your pipeline to clean water

San Antonio Church Early Success Project

Introduction

During heavy rains, raw sewage - mixed with storm water - overflows from our sewers into local streams and rivers and can also back up into basements.

To resolve this public health and environmental issue, the Metropolitan Sewer District of Greater Cincinnati (MSD) must rebuild and improve our sewer system.

Called **Project Groundwork**, this multi-year and multi-billion dollar initiative is one of the largest public works projects in the history of our community and includes hundreds of sewer and treatment plant improvements and stormwater control projects.

Stormwater Controls

The vast majority of overflows occur from combined sewers, which carry both sewage and stormwater in the same pipe. By controlling the amount of stormwater that enters combined sewers, MSD can help reduce or eliminate overflows.

MSD is currently partnering with other organizations, such as the Cincinnati Park Board, to implement and evaluate the effectiveness of various stormwater controls through demonstration projects. Examples include rain gardens, green roofs, bioswales and pervious paving that absorb stormwater into the ground and prevent or delay it from reaching combined sewers.

San Antonio Church

The San Antonio Church covers about 1.4 acres in the 1900 block of Queen City Avenue in the South Fairmount neighborhood of Cincinnati. This community landmark is located at the corner of Queen City Avenue and White Street.

During rainstorms, stormwater from the church property and the hillside north of the church flows into MSD's combined sewer system.

Based on a typical year rainfall, the annual stormwater runoff from the property is about 900,000 gallons. That's enough water to cover a football field with two feet of water.



San Antonio Church

San Antonio Church Early Success Project

To help reduce the volume of stormwater runoff from this site, porous pavers and four rain gardens will be constructed. This work is anticipated to begin in early spring 2011 and take about two months to complete.

Porous Pavers

Porous pavers will be installed at two locations, directly north and west of the church building. Porous pavers are different than conventional asphalt or concrete, as they are designed with spaces between the paving stones. These spaces allow stormwater runoff to soak into the ground. A layer of gravel underneath the pavers slows and cleanses the stormwater and provides storage space. The stormwater ultimately flows into an under-drain system which carries the stormwater to MSD's combined sewer system at a slower rate and reduced volume, thereby decreasing the potential for sewer overflows. To keep the stormwater in this area, an impermeable plastic liner will be placed at the bottom of the porous pavers.



Example of porous pavers

Rain Gardens

The rain gardens, also known as bioinfiltration basins, will be constructed at four locations in the parking lot. Two will be located adjacent to the porous paver area, and two will be located at the ends of the northern parking stall.

Although the rain gardens look like regular landscaped gardens, they use native plant species, special soils and layers of gravel to naturally absorb and cleanse the stormwater runoff. A portion of the stormwater is completely absorbed, and the rest is released into MSD's combined sewer system at a slower rate.



Example of rain garden

Project Benefits

This project will provide numerous benefits to both MSD and the South Fairmount community, including:

- This project will reduce the volume of stormwater entering MSD's combined sewer system.
- The porous pavers will provide below ground storage for the stormwater.
- The plants in the gardens will absorb and cleanse the stormwater, while simultaneously provide habitat and food sources for insects, birds and butterflies.
- The rain garden and porous pavers will be attractive and educational to visitors.

For More Info

For more details on this project, please contact MaryLynn Lodor, MSD's Environmental Program Manager, at (513) 244-5535 or MSD.Communications@cincinnati-oh.gov.

