

Detroit Water and Sewerage Department

Managing Stormwater in District 1

March 25, 2023



Water & Sewerage
Department



Water and Sewer Systems

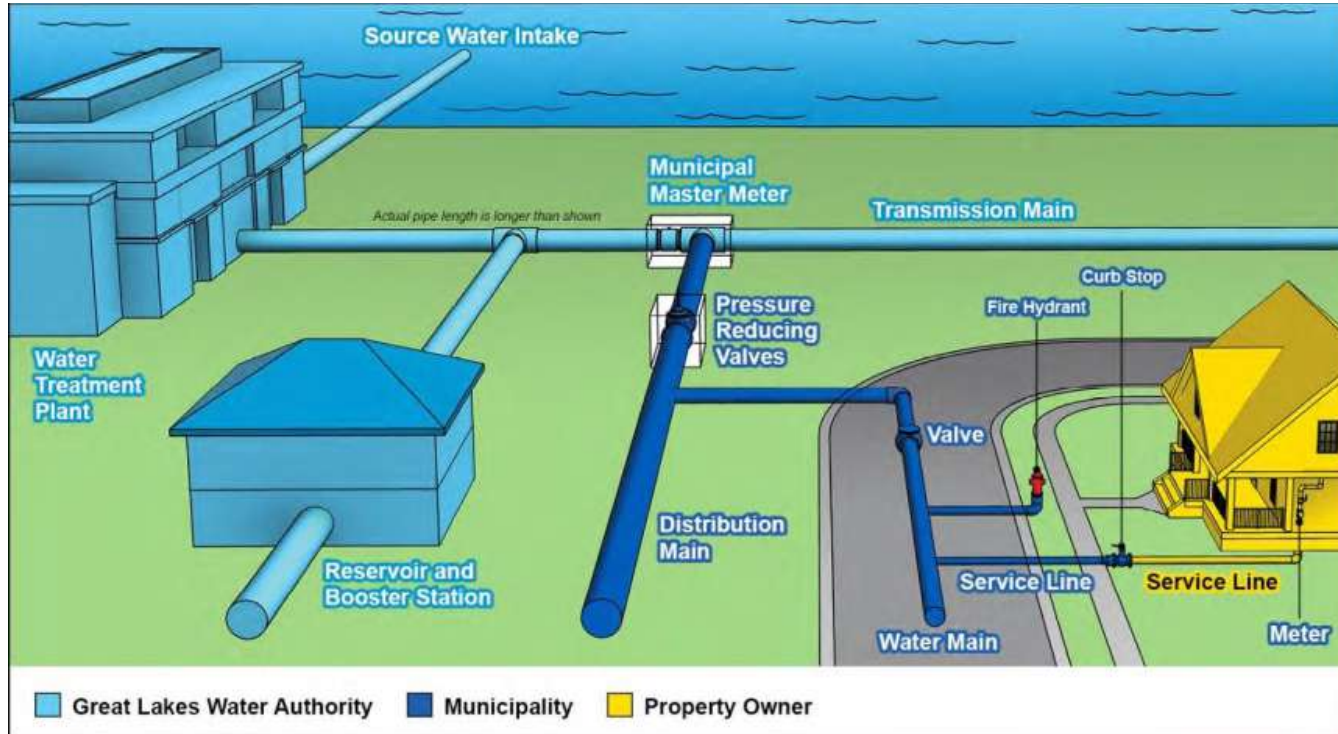


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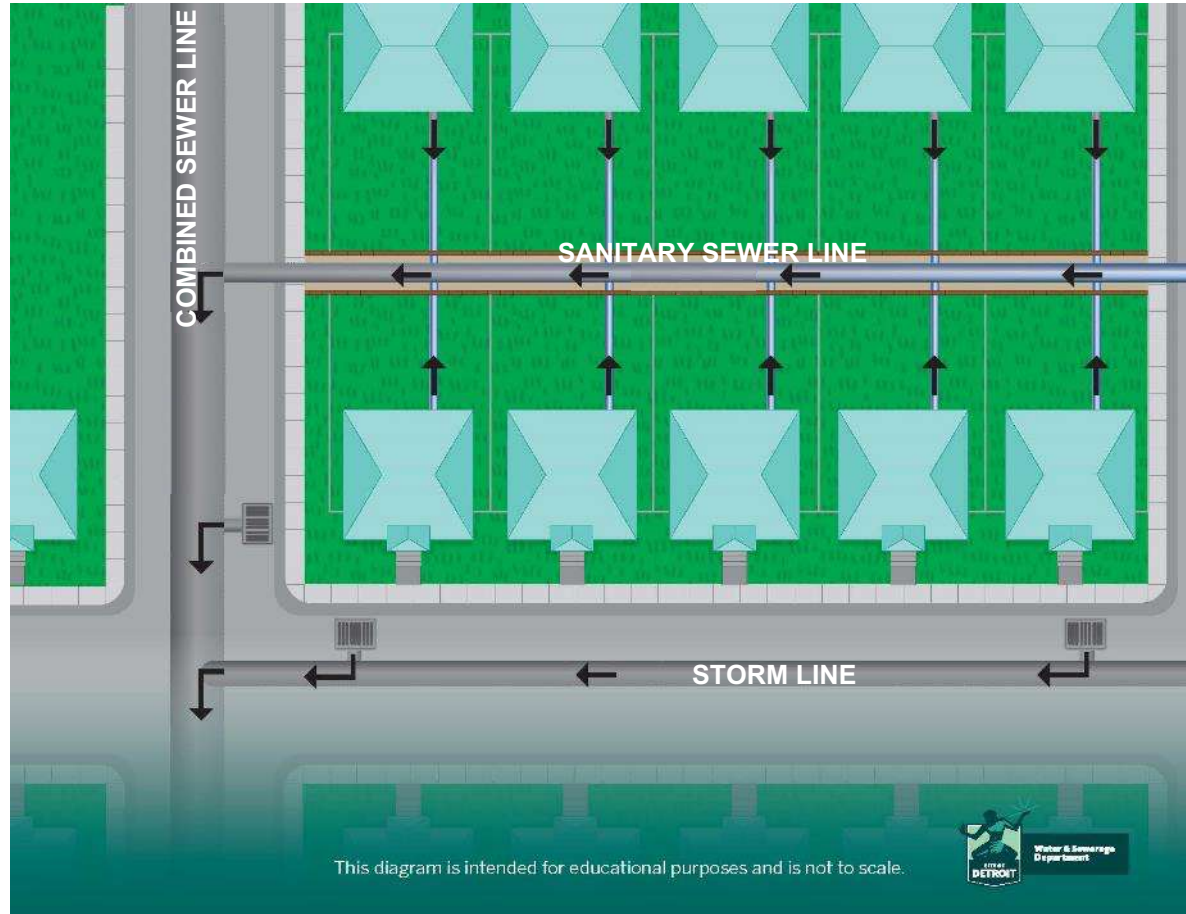
Water System

The treated drinking water system delivers clean water from water treatment plants and through the water mains to your property.



Sewer System

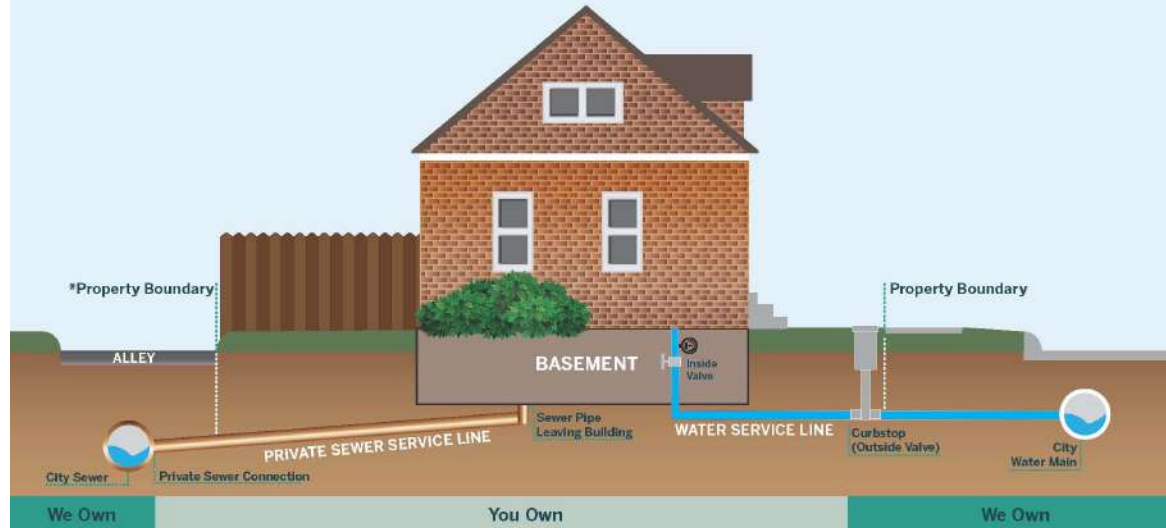
The combined sewer system is separate from the water system – untreated sewage and stormwater is collected in pipes, pumped and treated at nine wet weather facilities, and full treatment at the GLWA Water Resource Recovery Facility.



Water and Sewer Systems – Private Responsibility

YOUR RESPONSIBILITY AND OURS

THE WATER AND SEWER LINE FROM YOUR HOME



DWSD Capital Improvement Program

DWSD has **invested \$400M in capital improvement projects since 2019.**

- Water main, hydrant and lead service line replacement
- Sewer lining and replacement
- Green stormwater infrastructure installations

DWSD and our contractors have:

- Replaced **77 miles** of water main
- More than **1,900** lead service lines
- Replaced or lined **52 miles** of sewer collection piping
- Installed **19 bioretention gardens**



DWSD Stormwater



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What is stormwater?

Rainfall and snowmelt that flows from impervious (hard) surfaces into the combined sewer system. Impervious surfaces include:

- Roofs
- Streets
- Sidewalks
- Driveways
- Parking lots



Managing Stormwater

Why do we want to reduce stormwater from entering our combined sewer system?

- Stormwater runoff during extreme rain or snowmelt events can overwhelm our pipes (combined sewer system).
- When too much stormwater enters the combined sewer system it can cause untreated combined sewerage to discharge to our rivers.
- Reducing stormwater in our combined sewers means cleaner rivers, reduced street flooding and fewer basement backups.

Creating Capacity. Reducing Flooding. Keeping Basements Dry.

DWSD is advancing multiple initiatives to reduce impacts from stormwater across the city.



REDEVELOPMENT

Activating underutilized open space, promoting density and managing runoff via ordinance.



PEAK FLOW CONTROL

Reducing the intensity of runoff to the DWSD and GLWA system.



SOURCE REMOVAL

Removing unnecessary impervious area from the sewer system.



COLLABORATION

Bigger projects result in impactful benefits with higher return on investment.

DWSD

Green Stormwater Infrastructure Projects

DWSD has led the design and construction of 19 projects that manage stormwater from streets and parking lots across the city.

These projects manage more than 53 million gallons of volume annually and reduce peak stormwater flows to the DWSD sewer system.

Projects include native landscaping to beautify streets and parks across the city.

DWSD now evaluates water and sewer conditions with all stormwater improvement projects.



Porous pavers and bioswales within Crowell Recreation Center's parking lot

Stormwater in District 1



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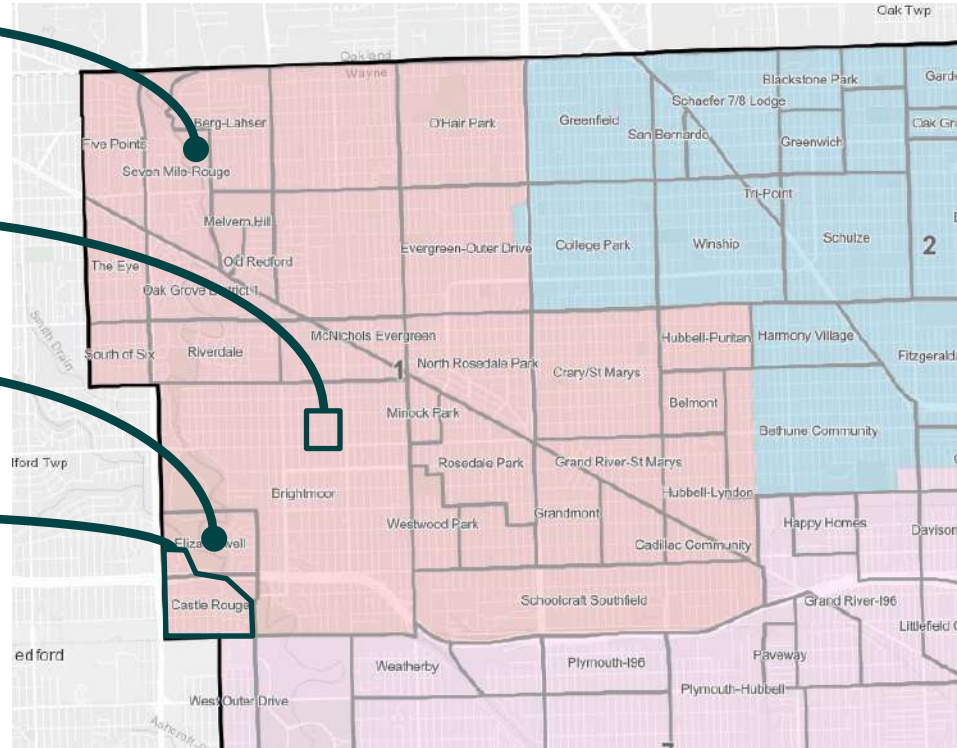
DWSD Stormwater Projects in District 1

Charles Wright Stormwater Improvements (Substantially Complete)

Fenkell Stormwater Projects

Eliza Howell Park Temporary Soil Stockpiles

Schoolcraft Stormwater Improvements



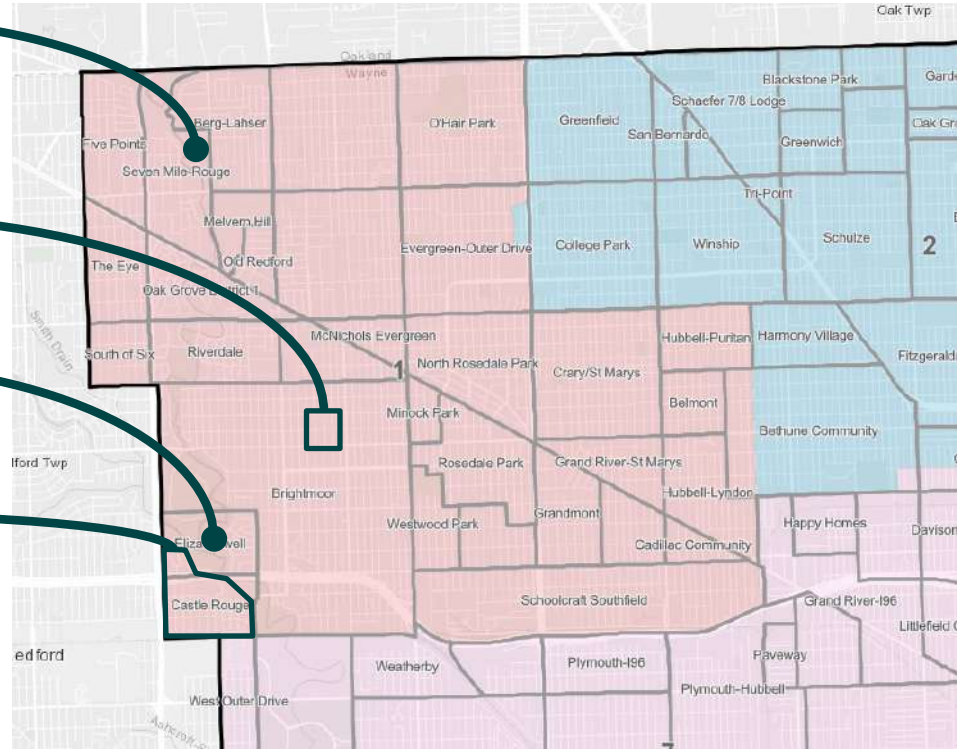
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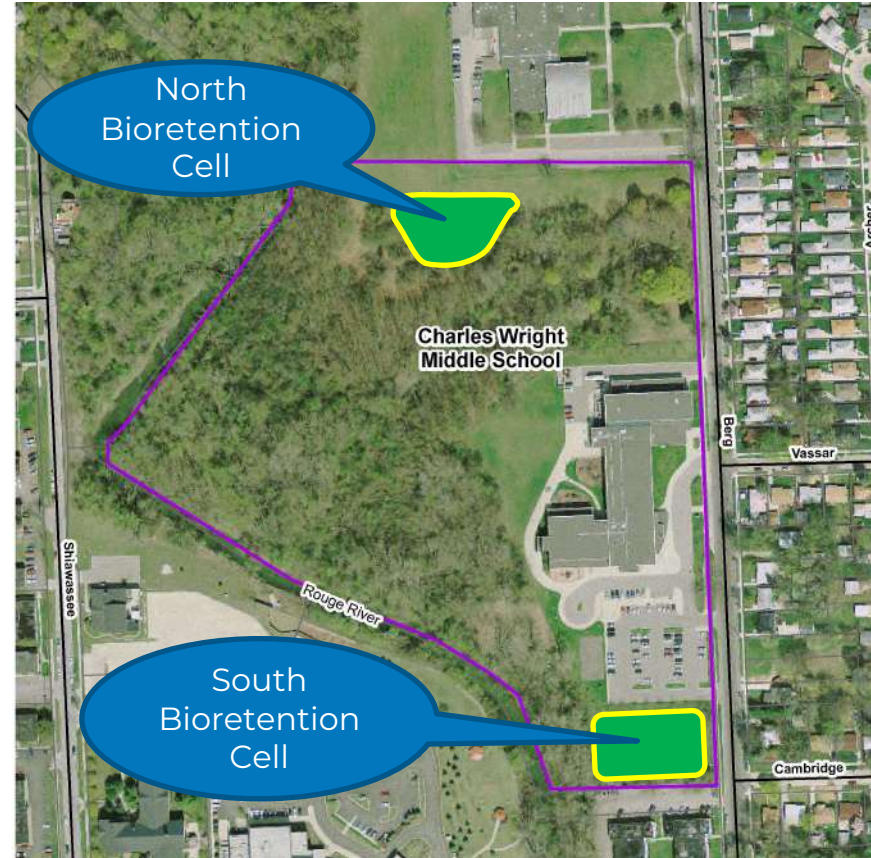
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Schoolcraft Stormwater Improvements



DWSD Capital Project: Charles Wright Bioretention



DWSD Capital Project: Charles Wright Bioretention



\$1.9M of stormwater improvements



115,000 Gallon reductions for 2 Year, 24-hour (direct discharge to Rouge River)



5.8 MG removed annually



Bioretention system within school property provides educational opportunity and template for future initiatives

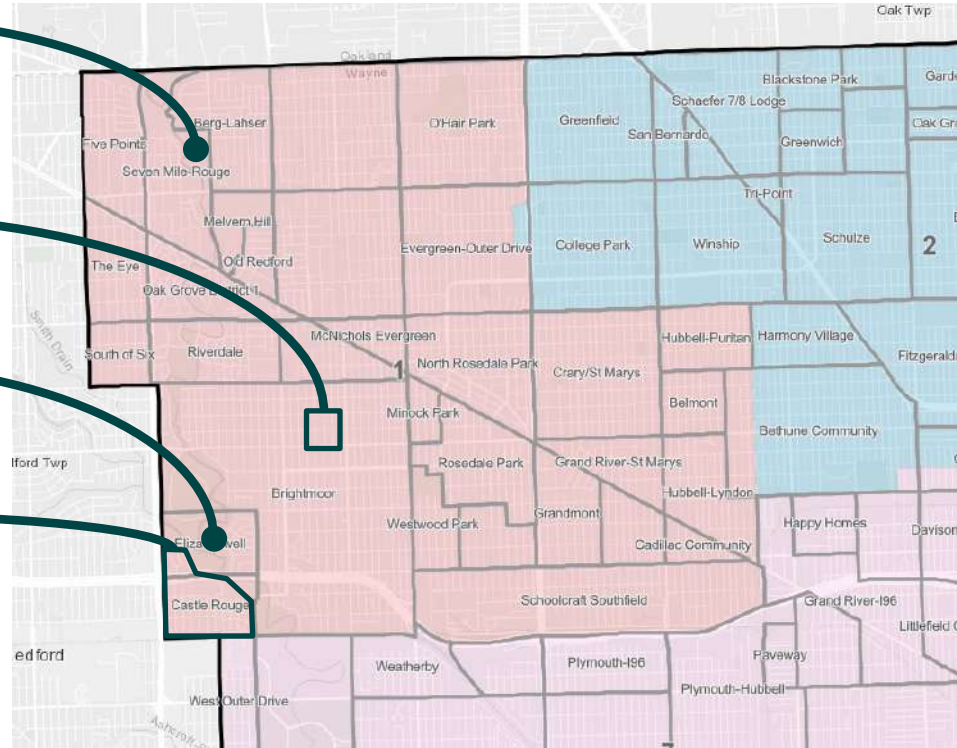
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Work within Eliza Howell Park

The City is repurposing clean soil generated from DWSD's stormwater project in Rouge Park for park projects across the city. Some soil may be placed within Eliza Howell Park.



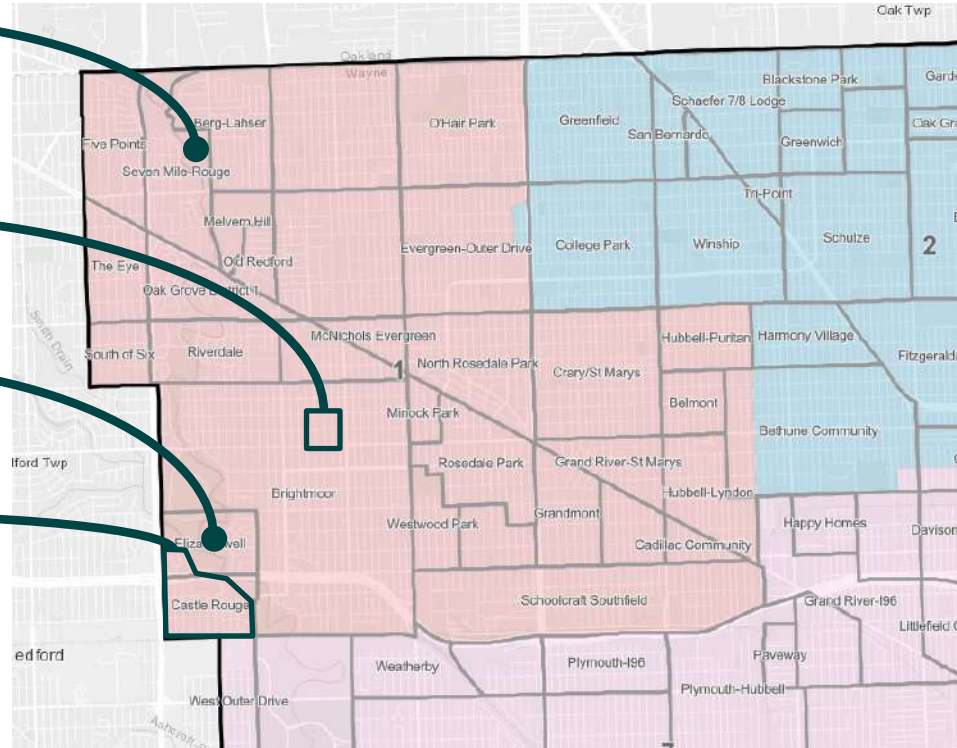
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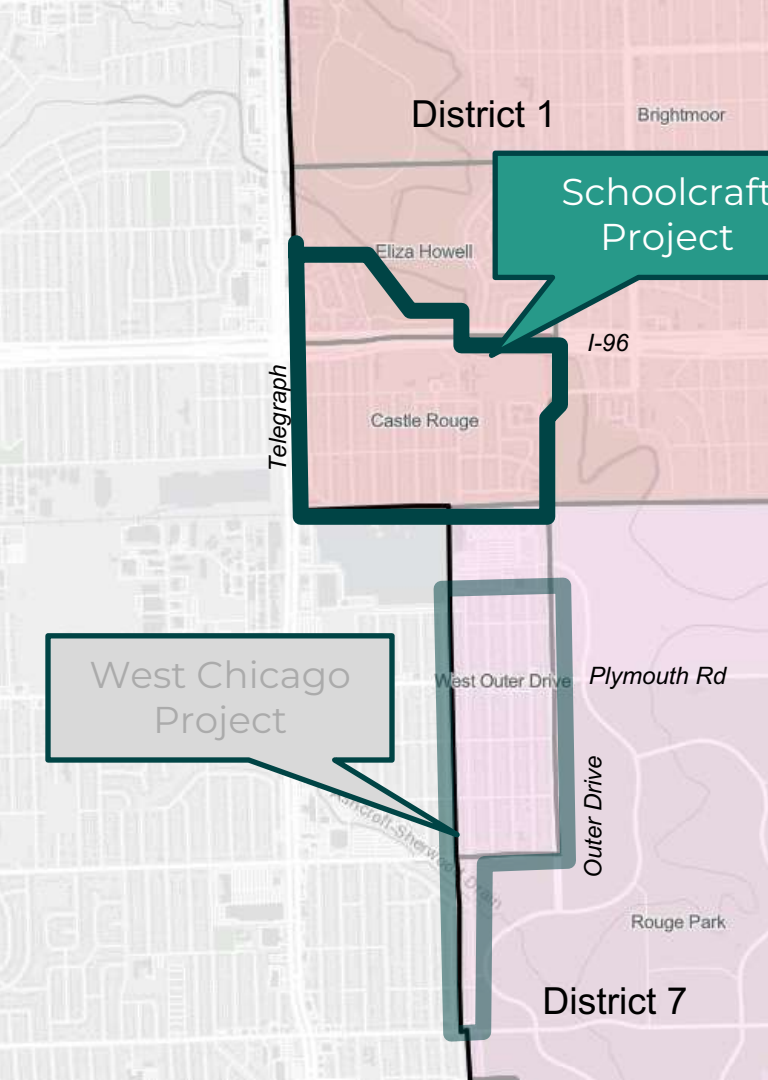
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Schoolcraft Stormwater Improvements





Schoolcraft Project

West Chicago Project

CWSRF Project Plan Areas

District 1

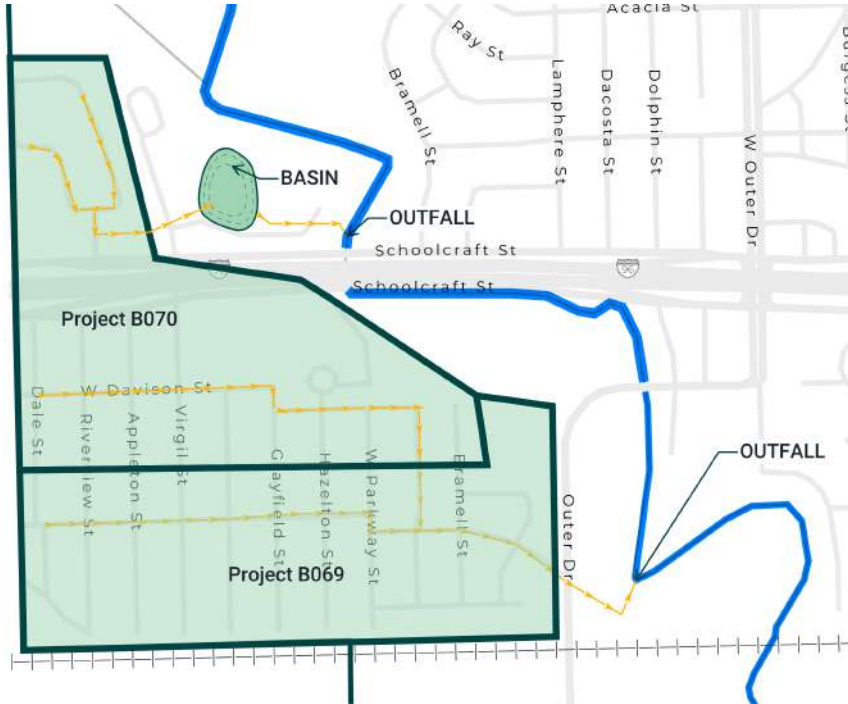
- Schoolcraft (2 Projects)
 - Castle Rouge Neighborhood
 - Eliza Howell Neighborhood / Park

District 7

- West Chicago (2 Projects)
 - West Outer Drive Neighborhood
 - Adjacent to Rouge Park



FY2024 CWSRF Projects (Schoolcraft)



Schoolcraft (2 Projects)

Schoolcraft South

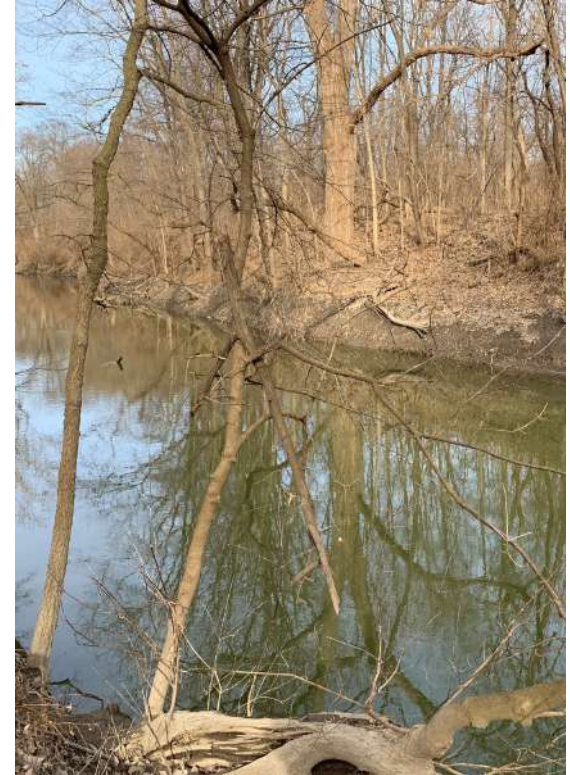
- \$22M infrastructure investment including GSI, storm sewer, water quality treatment and a new treated outfall to the Rouge River.

Schoolcraft North

- \$20M infrastructure investment including GSI, storm sewer and a new stormwater treatment basin within Eliza Howell Park with a new treated outfall to Rouge River

Schoolcraft Project Highlights

- Projects were identified in the 2020 GLWA Wastewater Master Plan and will significantly reduce sewer discharges to the Rouge River .
- The projects will utilize a mixture of proven infrastructure techniques to capture and divert stormwater.
- Projects are initiated in anticipation of grant funding through American Rescue Plan Act (ARPA).
- Pending grant funding, the projects could start construction in late 2024.



Schoolcraft Project: What you'll see in 2023

- Field work to assist project design including topographic survey, geotechnical test borings.
- Inspection of existing infrastructure including catch basins and manholes along with sewer televising.
- Community outreach to gain feedback from the Castle Rouge Neighborhood and provide updates on design efforts.

District 1 DLBA Holds



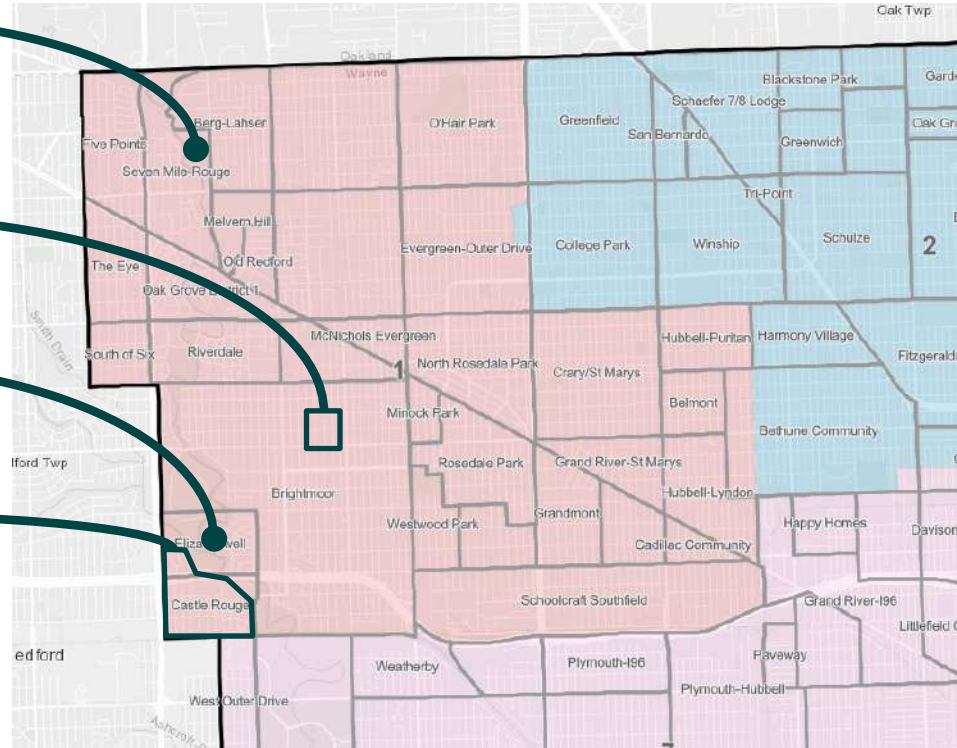
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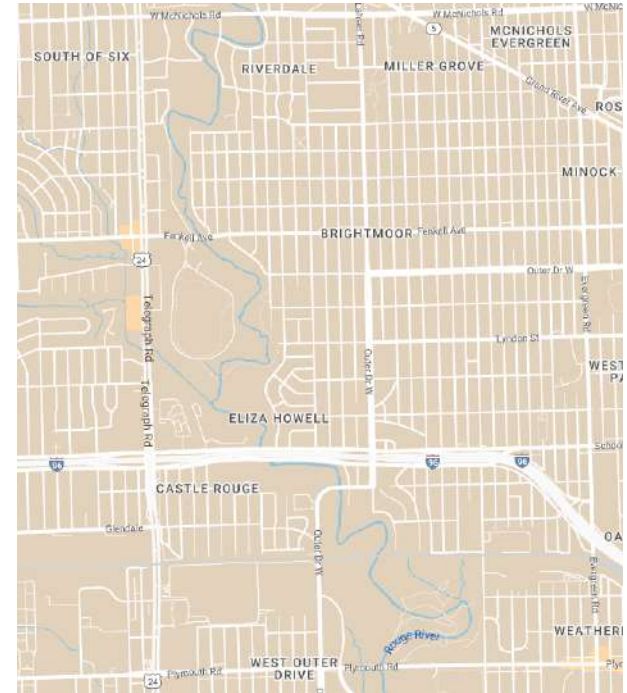
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Schoolcraft Stormwater Improvements



Fenkell Stormwater Projects

- Studying area for potential green stormwater infrastructure projects.
- Potential lot-sized projects will be designed to help hold back runoff and create capacity within the combined sewer system.
- DWSD is reviewing additional areas for future large-scale improvements.



Fenkell Stormwater Projects

- Received \$1.6M in grant funding to implement GSI in the neighborhood.
- Project will remove 460 feet of Blackstone Street between Keeler and Midland Street to create an area to manage stormwater.
- Removal of Blackstone will create a GSI practice that will manage more than 2 million gallons of stormwater annually.
- Project supports the Neighborhood Framework Plan.



Communication and Outreach



Water & Sewerage
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WAYS YOU CAN STAY INFORMED:

List Serv

- Send name and email address to: dwsd-publicaffairs@detroitmi.gov
- Public Affairs Construction Line: 313-880-2812

Project Progress Meetings

- For those within project neighborhoods, look for future community engagement opportunities.



Questions?



313-880-2812



DWSD-publicaffairs@detroitmi.gov



www.detroitmi.gov/dwsd



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