

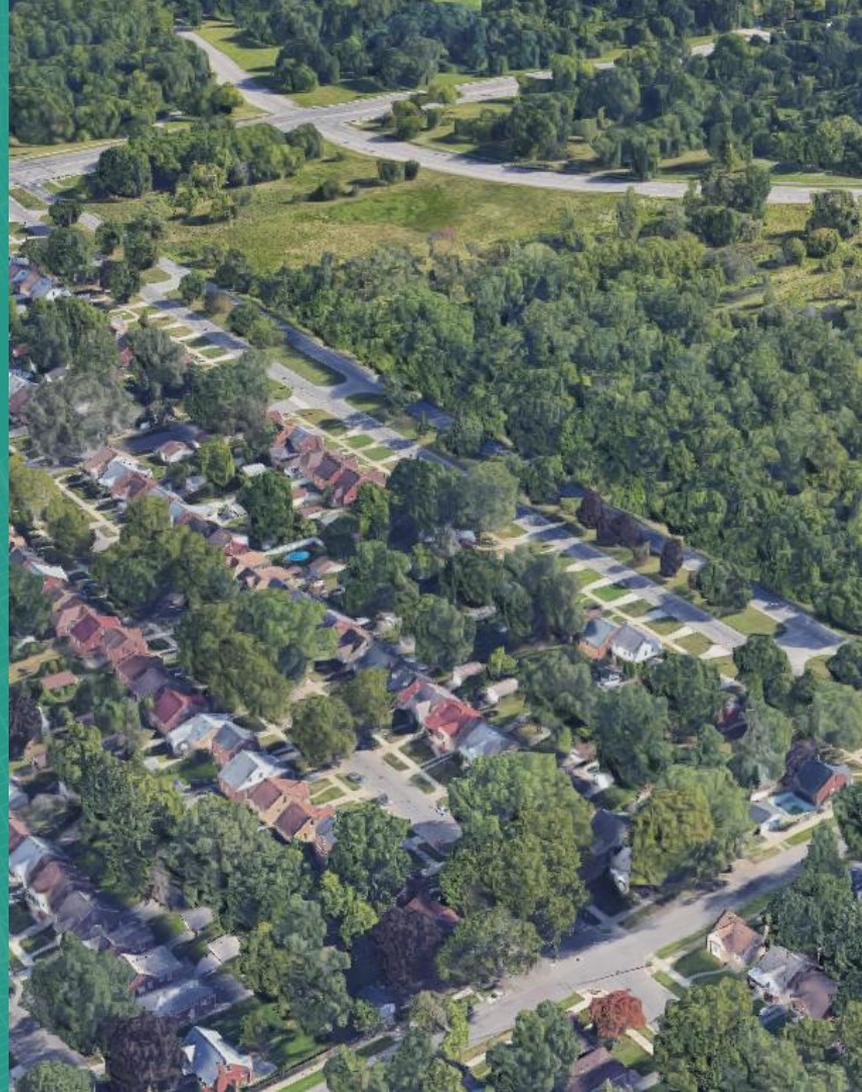
West Outer Drive Civic Association

West Chicago Stormwater Improvement Project

March 11, 2024



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Presentation Outline

- Introductions
- DWSD Sewer System Overview
- Project Overview
- Potential for Green Stormwater Infrastructure
- Questions



Key Points

- DWSD sought \$80M in funding for 4 projects in early 2023.
 - 1 project has been funded (**West Chicago South**).
- The project will include new storm sewer and roadway replacement in your neighborhood.
- Construction is planned to begin in late 2024 and should be completed in 2026.



Sewer System Overview



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What is stormwater?

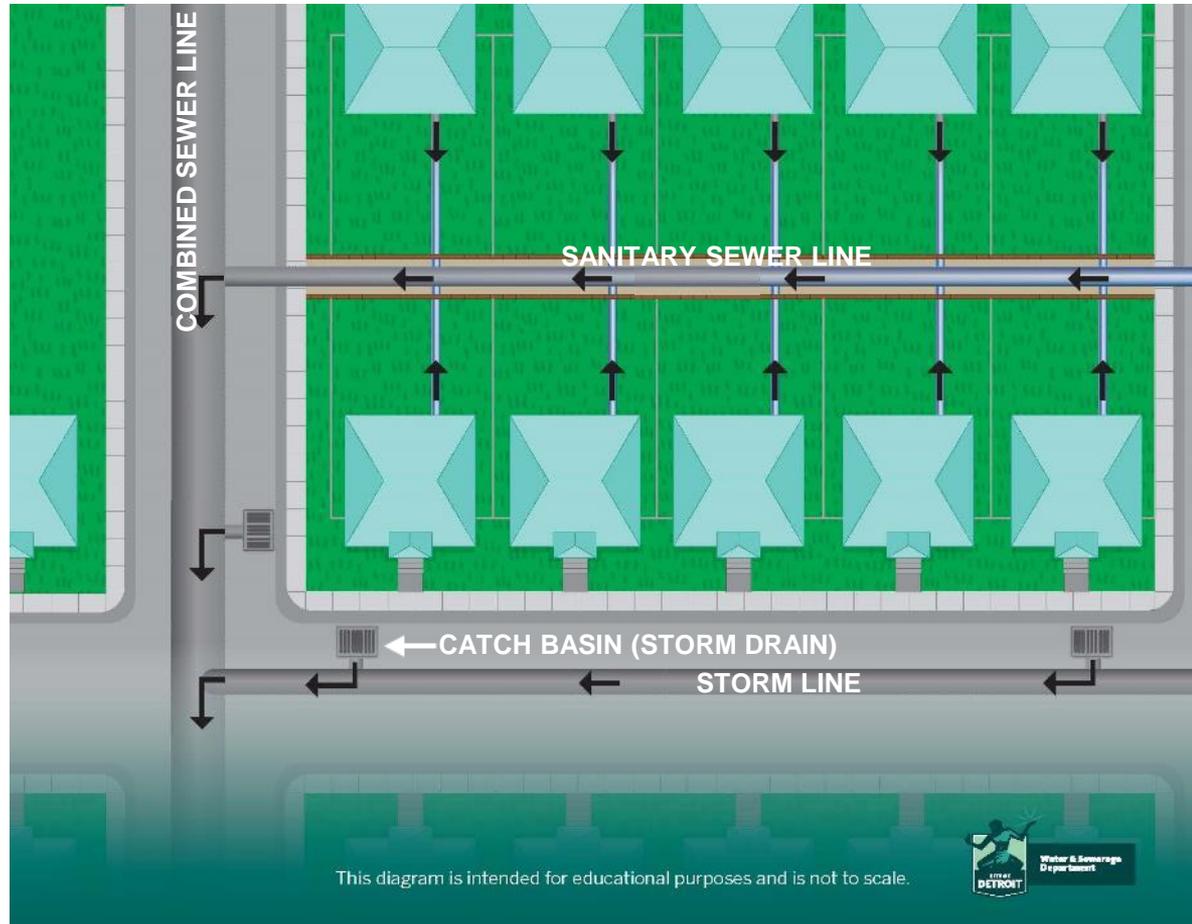
Rainfall and snowmelt that flows from impervious/hard surfaces into the combined sewer system. Impervious surfaces include:

- Roofs
- Streets
- Sidewalks
- Driveways
- Parking lots



Combined Sewer System

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



Combined Sewer System

What happens during intense rain events?

The combined sewers can reach capacity and get overwhelmed, resulting in:



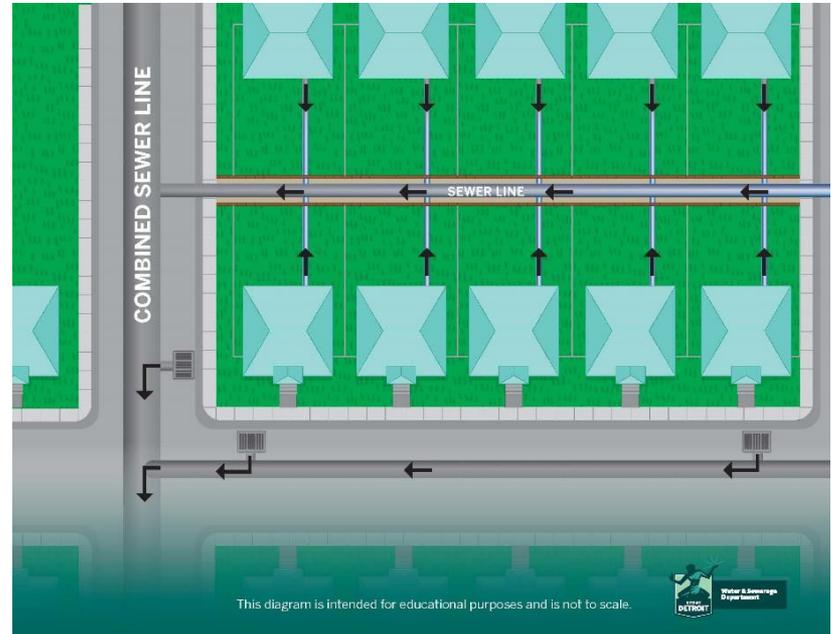
Basement backups



Street flooding



Combined sewer overflows



Combined Sewer Outfall (CSO)

A combined sewer overflow (CSO) is a location where the sewer will discharge into a body of water when the existing system is unable to maintain the storm water from a large rain event.

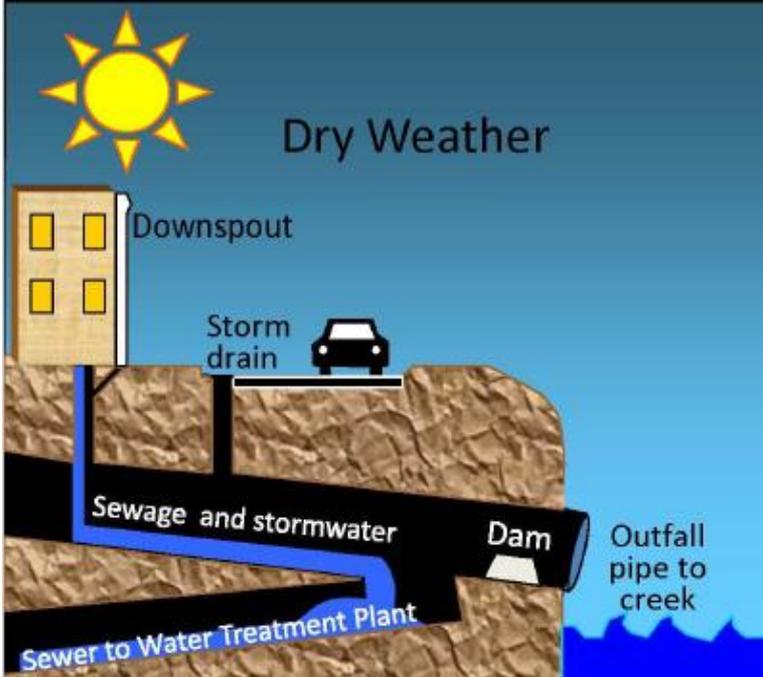
This results in the introduction of an untreated discharge into the water way.



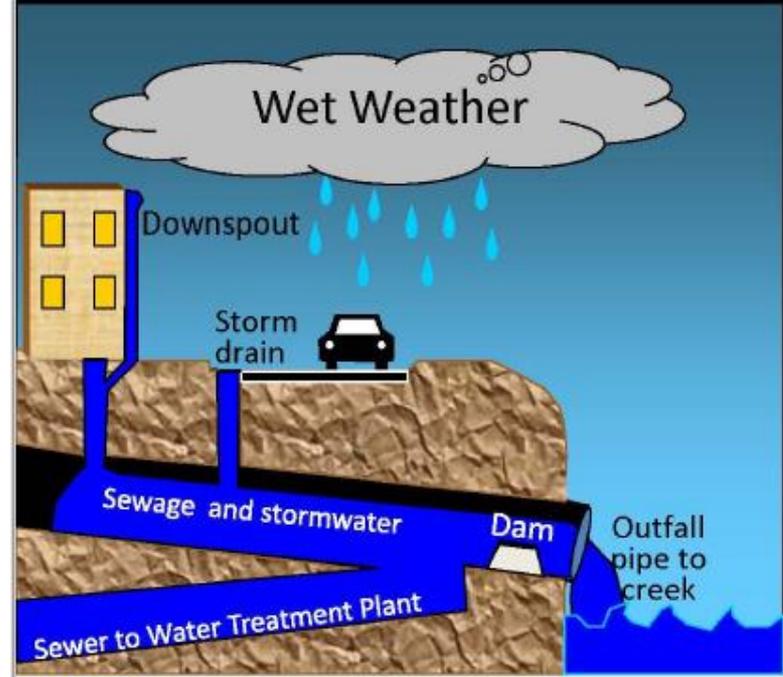
CSO at Plymouth Road and the Rouge River

Combined Sewer Overflow

Combined Sewer



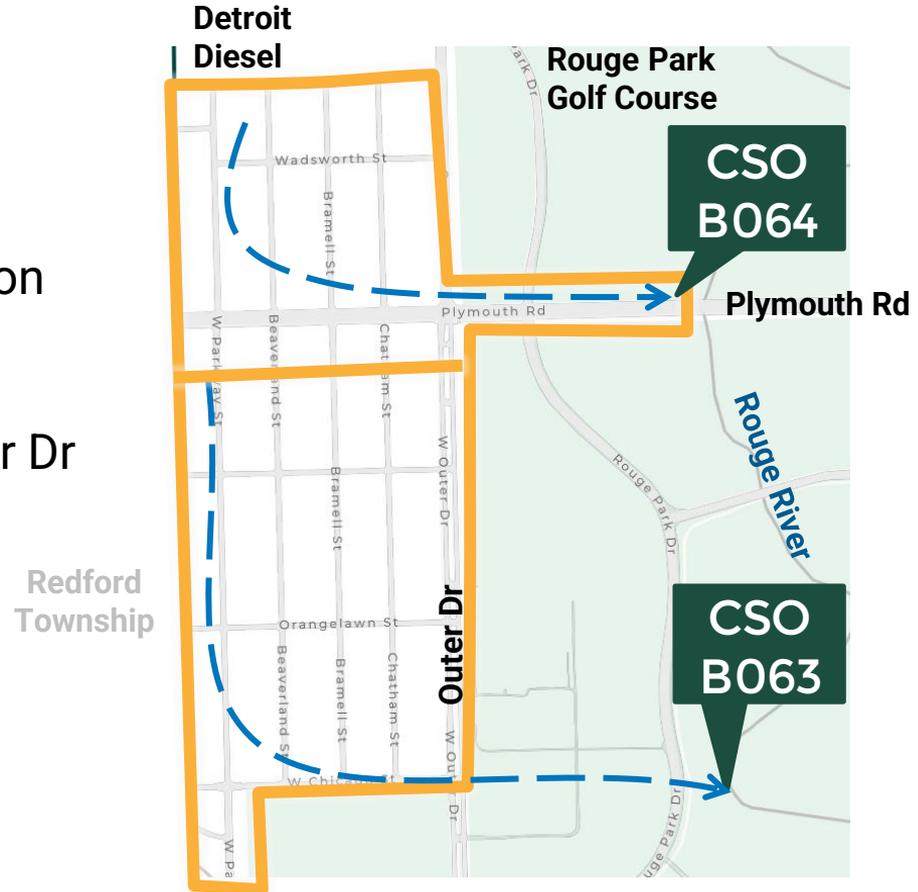
Combined Sewer



West Chicago Project Area

There are 17 Combined Sewer Overflow (CSO) outfall locations on Detroit's West-side.

- 2 CSO's tributary to West Outer Dr neighborhood



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Funding Source

- As part of the American Rescue Plan Act (ARPA), funding has been made available to address water and sewer needs.
- In 2023, DWSD applied for nearly \$80,000,000 in grant funds to create more capacity in the sewer system on the west side.
- DWSD was awarded **\$19.1M** in APRA funds in October 2023. This allowed for the West Chicago project to move forward with construction beginning in late 2024.

Project Goals

1. Reduce basement backups and street flooding
2. Significantly reduce combined sewer overflows to the Rouge River

We do this by:

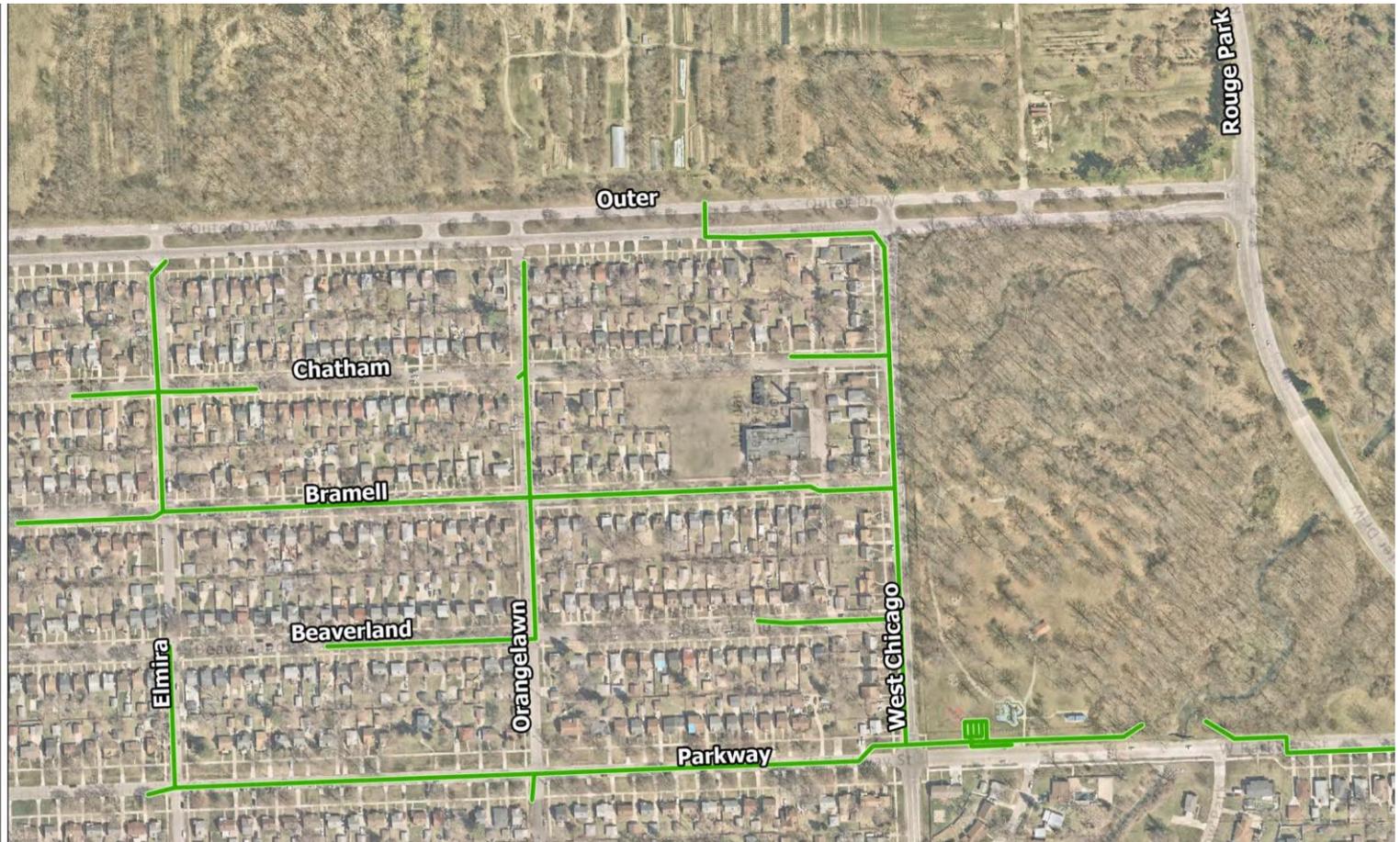
- **Redirecting** runoff from roadways by intercepting catch basins with new dedicated storm sewer
- **Planning** storm infrastructure for future disconnections (rooftops, footing drains) within the neighborhood
- **Reducing** stormwater runoff where possible by utilizing green infrastructure to help filter and infiltrate water into the ground



Project Scope

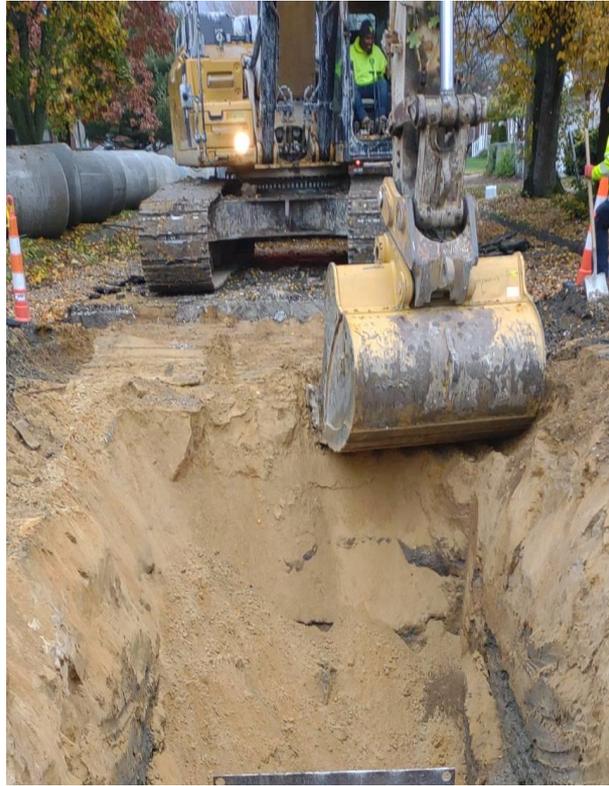
- Construction of **new storm sewer system** within neighborhood streets.
- **Stormwater quality practices** where possible throughout the project
 - Use of Green Stormwater Infrastructure (GSI) where possible within right of way areas
 - Special underground treatment devices to clean runoff prior to discharge to the Rouge River
- **Full restoration of impacted areas** (lawns, driveways, walks and roadways). Areas will be restored to current standards.

Project Map



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Project Scope



- Sewer installation
- Road and sidewalk reconstruction
- Tree removal and replacements

Benefits of the Project

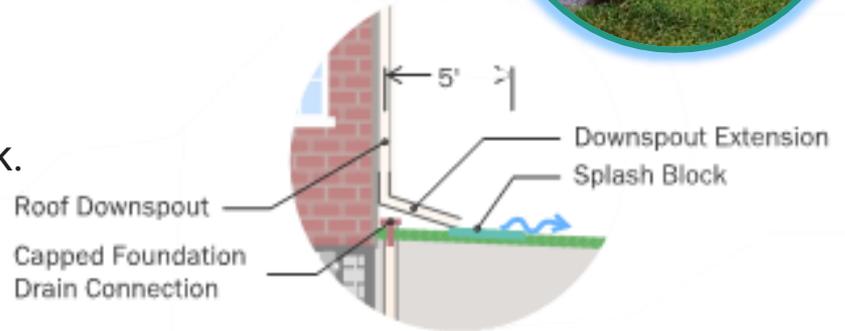
- Creates capacity within the combined sewer system
- Helps reduce basement backups and street flooding
- Reduces the potential for combined untreated sewage to enter the Rouge River
- Improves water quality of the Rouge River
- Surface infrastructure will be reconstructed (improved pavements and sidewalks)



Activity on Residential Property

Downspout Disconnections

- Each home in the neighborhood will have an inspection scheduled to review downspout connections.
- Any downspouts that can easily be directed to lawn and garden areas will be disconnected by contractors.
- Residents will receive door hangers and additional information in advance of the work.



Activity on Residential Property

Lead Service Line Replacement

Only for houses where the service lines are exposed due to storm sewer installation. Not all streets or homes will be eligible for replacements as part of this project.

- The stop box will be excavated to confirm material type.
- If a lead service is identified, a DWSD inspector or contractor will contact you to schedule an appointment. A new copper line will be installed from the water main to the water meter in the basement.
- Informational packets will be distributed prior to construction beginning.

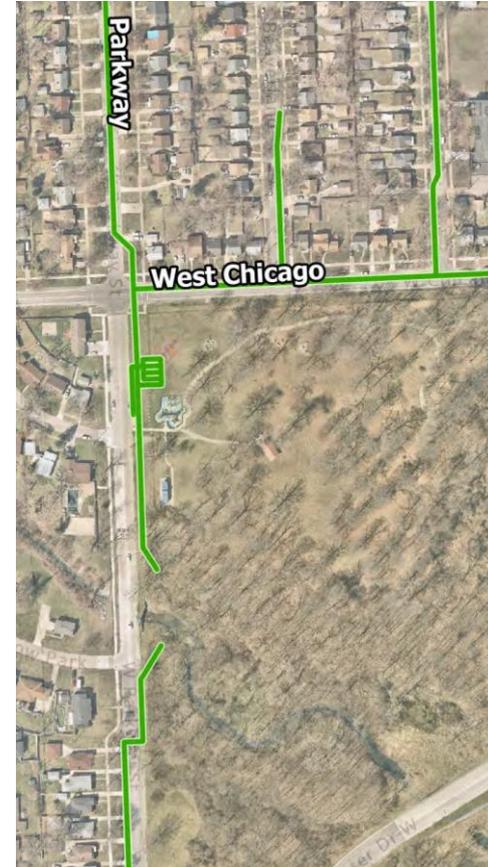


Rouge Park Impact

Work in the park includes:

- Underground filtration system installation in the park near the corner of West Chicago and West Parkway.
- Storm sewer installation from West Chicago to the Rouge River.
- Stormwater outfall in the park at the river.
- Joe Prance Park grass and sidewalk restoration where impacted.
- Tree restoration.

DWSD is coordinating with the City of Detroit General Services Department (GSD) on park impact and restoration.



Green Stormwater Infrastructure (GSI)



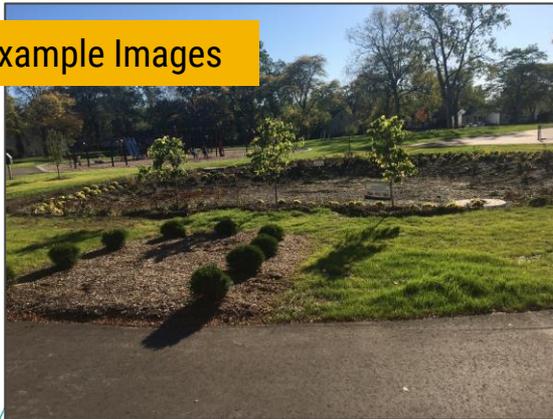
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Green Stormwater Infrastructure

Green stormwater infrastructure (GSI) is an approach to managing stormwater using the natural processes of soils and plants to **soak up stormwater** where it falls **before it can enter and overwhelm** the combined sewer system.

Examples of GSI includes **bioretention/rain gardens**, bioswales, pervious pavers, and tree boxes.

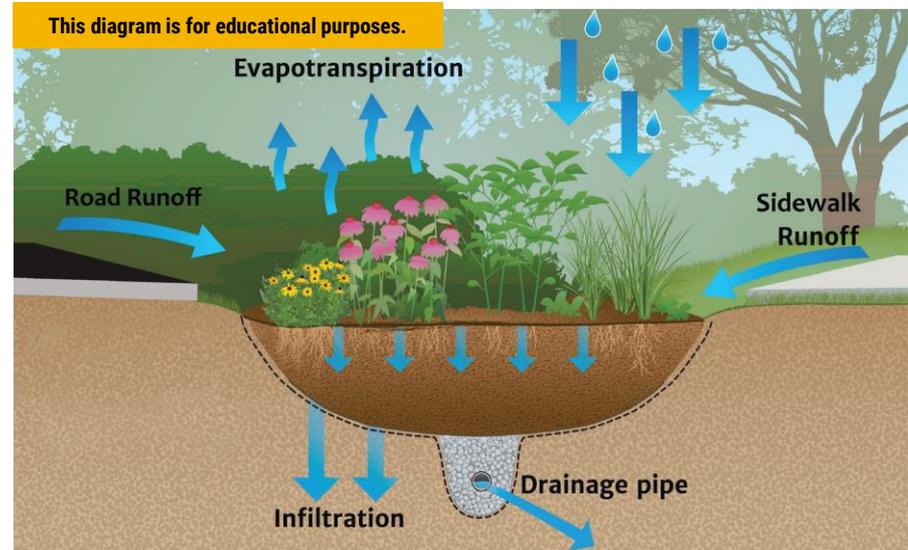
Example Images



Green Stormwater Infrastructure

How a bioretention works:

1. Stormwater runoff flows into the bioretention from the hard surfaces.
2. Water soaks into the grass and plants, preventing it from entering the combined sewer system.
3. Buried drain pipe carries excess water to the combined sewer in extreme conditions.



Potential Green Infrastructure

- DWSD has explored GSI where feasible within the neighborhood (side yard areas along Orangelawn and Elmira).
- Survey results have been received from 5 residents. DWSD will be reaching out to interested homeowners within the coming weeks.

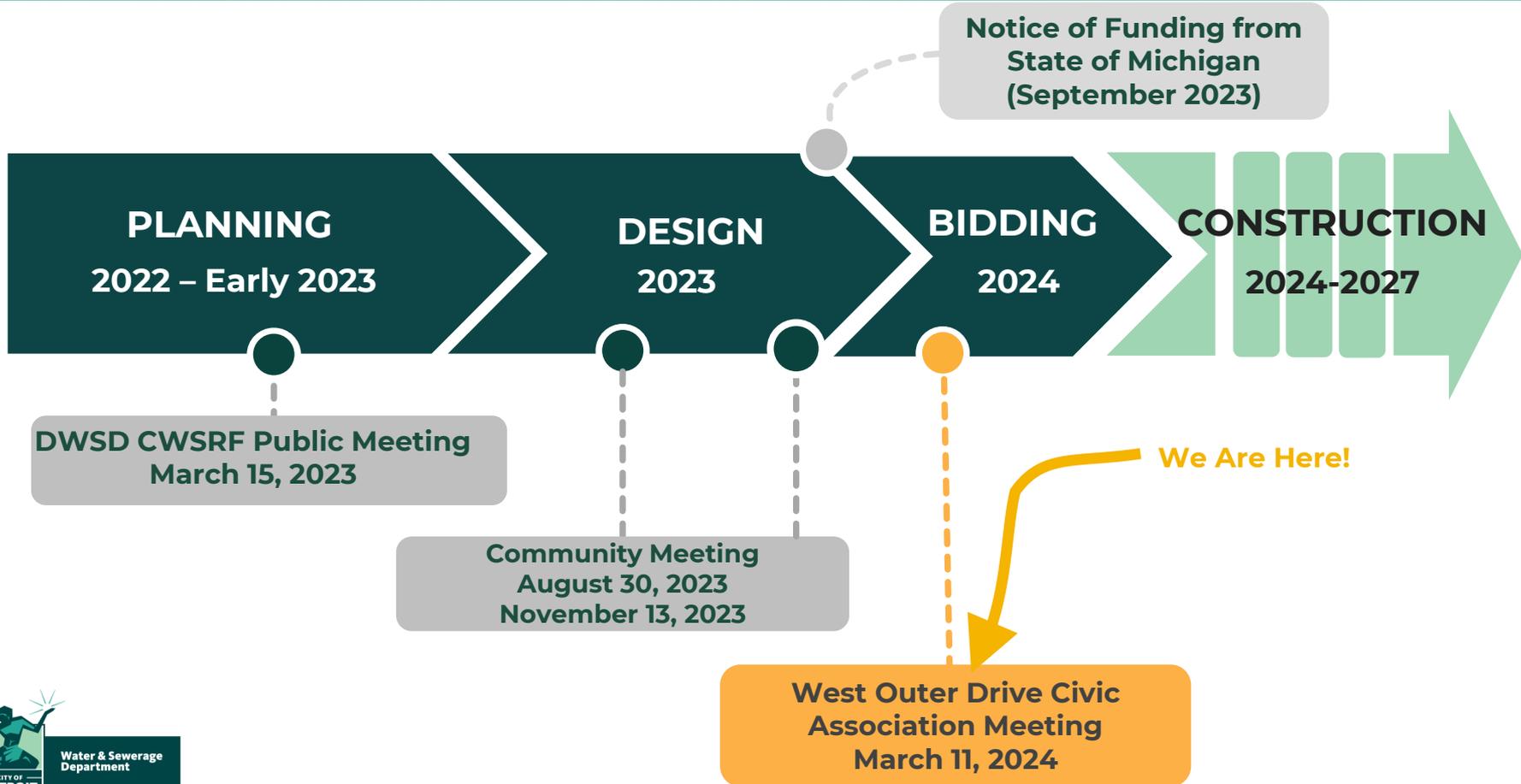


Schedule



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Project Timeline



Thank You

Questions?

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 www.detroitmi.gov/DWSD



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