East Side Stormwater Resiliency Planning Study

Neighborhood Meeting



Water & Sewerage Department



Agenda

- Greetings and Introductions
- How the Sewer System Functions
- Stormwater Management Strategies
- Sewer System Improvements
- Planning Study Overview
- Discussion





Project Team Introductions



Detroit Water and Sewerage Department

Lisa Wallick (Field Services Director) Barry Brown II (Compliance Engineering Manager) Bryan Peckinpaugh (Director of Public Affairs) Sonali Patel (Infrastructure Communications Manager) Anna Timmis (Project Engineer) Grayson Obey (Project Engineer)

OHM Advisors (Consultant)

Patrick Droze (Project Manger) Liz Whiddon (Project Engineer) Madison Merzlyakov (Communications)

Drummond Carpenter (Consultant)

Donald Carpenter (Project Manager & Grant Administration) **Rachel Pieschek** (Project Engineer)

How the Sewer System Functions



Detroit Sewer System: Private Portion



Less than 20% of homes in Detroit have the sewer service line in front of the house, including some parts of Jefferson Chalmers and in several westside neighborhoods.



What is stormwater?

Rainfall and snowmelt flow 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 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.**





Stormwater Management Strategies



Infrastructure Options to Manage Stormwater

Grey Infrastructure

Stormwater runoff is managed with **traditional structures** such as underground sewers, underground basins, or water treatment plants which require pumps, gates, concrete tanks, chemical treatment, odor control, etc.







Green Stormwater Infrastructure

Green stormwater infrastructure (GSI) is an approach to managing stormwater that uses the natural processes of soils and plants to **soak up stormwater** where it falls.

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





Benefits of Green Stormwater Infrastructure

- Creates capacity within the combined sewer system
- Helps reduce the potential for future basement backups and street flooding
- Reduces the potential for combined untreated sewage to enter rivers





Infrastructure Options to Manage Stormwater

Small-Scale Green Infrastructure

Local stormwater runoff is managed with **small-scale natural systems**. Soils and plants soak up stormwater where it falls before it can enter and overwhelm the combined sewer system.



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Bioretention in vacant parcels and gardens:







Infrastructure Options to Manage Stormwater

Large-Scale Green Infrastructure

Large-scale GSI captures stormwater runoff from a much larger area and can benefit multiple tributaries along a river rather than just localized areas.





Urban Watershed



Example of Large-Scale Green Infrastructure in Detroit







Comparison of Different Infrastructure Options



*DWSD evaluates all options and works towards the most cost-effective option to reduce impacts on rate payers.



Sewer System Improvements



Sewer Cleaning and Rehab to Build Capacity

- DWSD cleaned 2,591 miles in since 2020 with a goal to clean 500 miles each year.
- DWSD cleaned 46,915 catch basins since 2017 with a goal to clean 8,000 each year.
- 19.05 miles of sewer have been lined or repaired since
 2018 to extend the useful life.





Flood Mitigation Projects in Planning, Design and Construction



Collaboration Projects



East Side Stormwater Resiliency **Planning Study**



Grant Funding

DWSD has secured two grants totaling \$660,000 which fully fund the East Side Stormwater Resiliency Study. Together, the grants allow for DWSD to advance the study without any use of ratepayer dollars.



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

\$480,000 - High Water Resiliency Grant



\$180,000 - High Water Resiliency Grant





August 1, 2024 Site Tour with NOAA Staff and Legislative Staff

East Side Sewer System

Detroit's east side sewer district is a 27 square mile area which collects and conveys sewage towards Connor Creek which is the lowest point in the east side system.

During wet weather events, these areas experiences extreme flooding due to its elevation.





June 2021 impacts

In June 2021, extreme precipitation resulted in a significant volume of water in basement reports as well as street flooding. The areas within the study area were particularly hard-hit.





Background & Historical Context





Jefferson Chalmers Business District

1876













Planning Study Goals

The East Side Stormwater Resiliency Planning Study will:

- Develop a plan and strategy for implementing feasible, affordable, near-term nature-based solutions for catastrophic flooding in Detroit.
- Create a vision for increased neighborhood access to nature, microclimate regulation, improved property values and better health outcomes.

Drainage Area	Area (Acres)
East English Village	404
Fox Creek	202
Riverbend	665
Morningside	823
Cornerstone Village	47
TOTAL	2,141





Holistic Project Objectives





Flood Risk Reduction

Divert stormwater from the combined sewer system to reduce water in basements and street flooding

Infrastructure Resiliency

Find cost effective improvements in the DWSD and GLWA sewer system to reduce wet weather impacts



Water Quality

Improve water quality within the Fox Creek and east side canal network



Community Benefits

Enhance opportunity on the east side of Detroit through the creation of green stormwater infrastructure public spaces



Planning Study Timeline





Review of Past Planning

- LEAP III A Community-Driven Vision for the Lower Eastside
- East Warren/Cadieux Framework Plan
- USACE Flood Risk Reduction Study for Jefferson-Chalmers
- Mack Avenue Improvement Plan

LEAP III

2018

A Community-Driven Vision for the Lower Eastside

DETROIT - MICHIGAN



Community Input

Neighborhood Meetings (today)

- Spring 2025
- 4 meetings
- Input on management strategies

Visioning Sessions:

- Fall 2025
- 2 meetings
- Review conceptual designs

Other:

- Door Knocking
- Email Updates
- Surveys





Group Discussion

- 1. What else should the project team know about your neighborhood?
- 2. Should large tracts of land be used to manage stormwater? If so, where?
- 3. Should rain gardens be installed? If so, where and what size?
- 4. Should underutilized roads be removed to reduce surfaces that contribute to flooding? If so, which roads?
- 5. What other questions or concerns do you have?

Please share your neighborhood, when speaking.



Share Your Feedback by Neighborhood

Choose a colored marker based on which neighborhood you live in and share your feedback on the question boards.





Thank You

Questions?

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