

Helping Green Stormwater Infrastructure (GSI) Take Root in Detroit Through Partnerships



Ohio Stormwater Conference 2018

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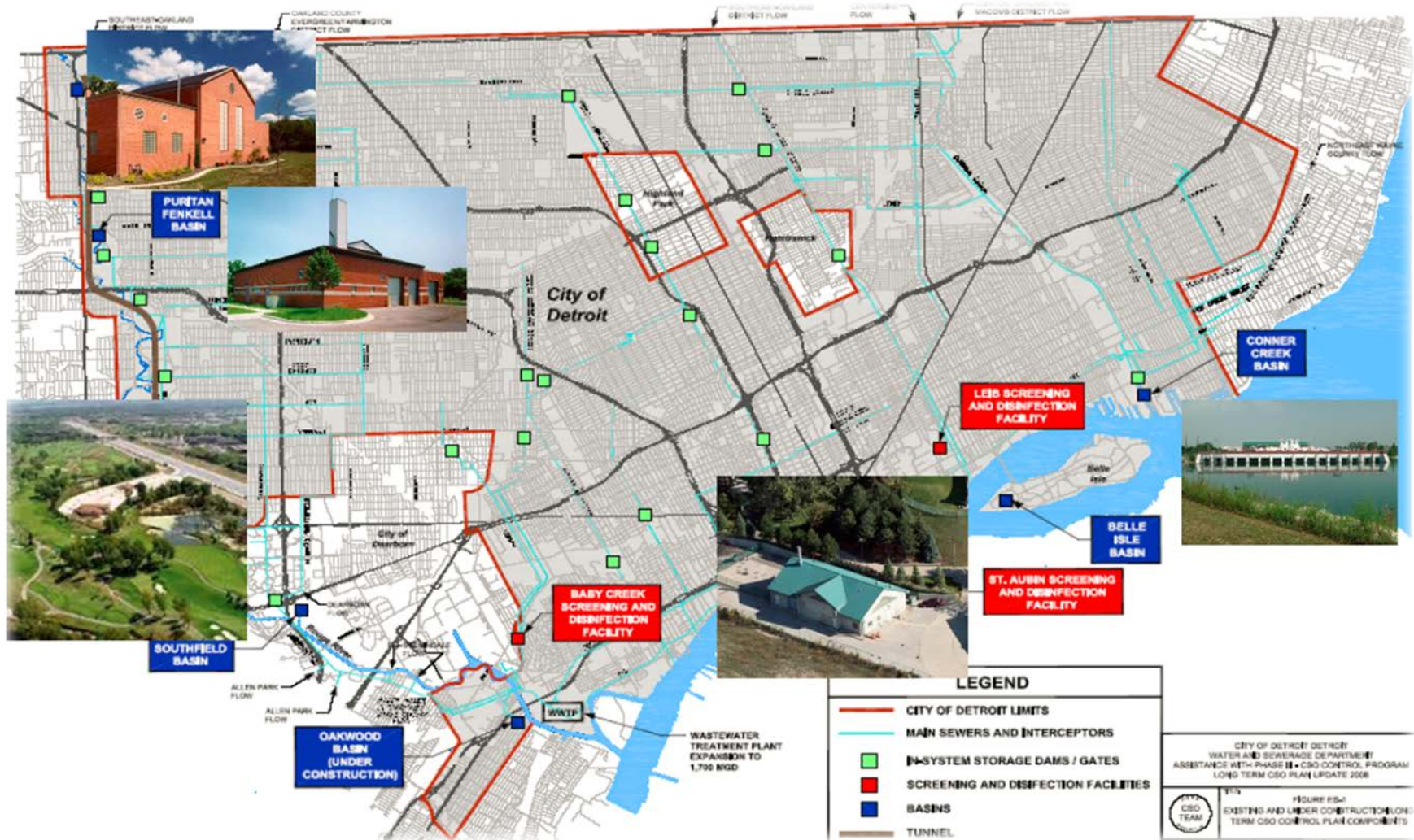


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Detroit Invested \$1.5 Billion in Combined Sewer Overflow (CSO) Facilities



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DWSD's Multi-Faceted Stormwater Management Approach



- Provide **drainage charge credits** to incentivize green stormwater infrastructure
- Construct **Green Stormwater Infrastructure (GSI) projects** to benefit neighborhoods and meet regulatory requirements
 - Will spend **\$50 million** on green infrastructure over 20 year period. Upper Rouge Tributary.
 - Remove **2.8 million gallons** of stormwater during a 2-year, 24-hour storm event.
- Update the **City's Municipal Code** to support and incentivize GSI during development. Develop **Post Construction Stormwater Management Ordinance.**



DWSD's Green Stormwater Infrastructure Program Goals



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- Regulatory: Invest \$3 million/year in the Upper Rouge Tributary
- Broader city objectives:
 - Use GSI as a primary means to address CSO discharges
 - Improve level of service (i.e. reduce basement backups) in the community
 - Invest in neighborhoods to enhance the quality of life



Video: Green Stormwater Infrastructure in Detroit



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<https://www.youtube.com/watch?v=TT2q70I3dM0>

DWSD GSI Program Rooted in Partnerships



- DWSD GSI Program resulted from collaboration and negotiation
 - City of Detroit/DWSD
 - Southeast Michigan Council of Governments (SEMCOG)
 - Michigan DEQ
 - U.S. EPA
- DWSD committed to working with others to maximize the value of the investment (multiple benefits)
 - Internal city partnerships
 - External stakeholder partnerships with NGOs and neighborhoods

Establishing Strong Internal Partnerships



- Most DWSD GSI projects transcend multiple city departments
 - Department of Public Works
 - Building Safety Engineering and Environmental Department
 - Planning and Development Department
 - General Services Department
- Interdepartmental coordination during all phases to ensure effective communication and collaboration
 - Project & issue specific interdepartmental meetings
 - Monthly interdepartmental coordination meetings for sharing/planning citywide GSI project and vision



Vacant Lot Bioretention



Bioretention in City Parks



Combining Dual Project Goals: Vacant Lot Bioretention Sites



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Detailed project design &
implementation
Fund design and construction
Flow monitoring and assessment



Land owner
Demolition
Outreach



Project concept & design
Water quality & social impacts



Fred A. and Barbara M.
Erb Family Foundation

Funder for U of M
Water Center
research in
Detroit



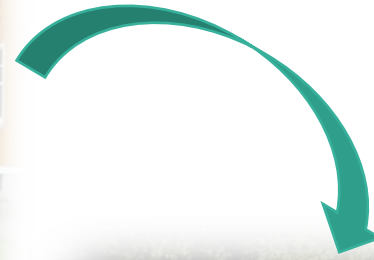
Construction



Water quality monitoring



Demolition to Construction



Construction to Completion



Final GSI Design Reflecting Joint Project Goals



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Project Partnership Lessons Learned

- Identify and involve neighborhood project champions – organizations and active residents
- Team up with academic institutions that can bring key skills to the project such as water quality monitoring and social research
- Establish relationship with foundations that embrace GSI to leverage resources and enhance project budget for key components
- Involve local educators and students about the project to help raise awareness and encourage the GSI practice to become part of curriculum



Balancing Community Needs with GSI Program Goals: Stoepel Park No. 1



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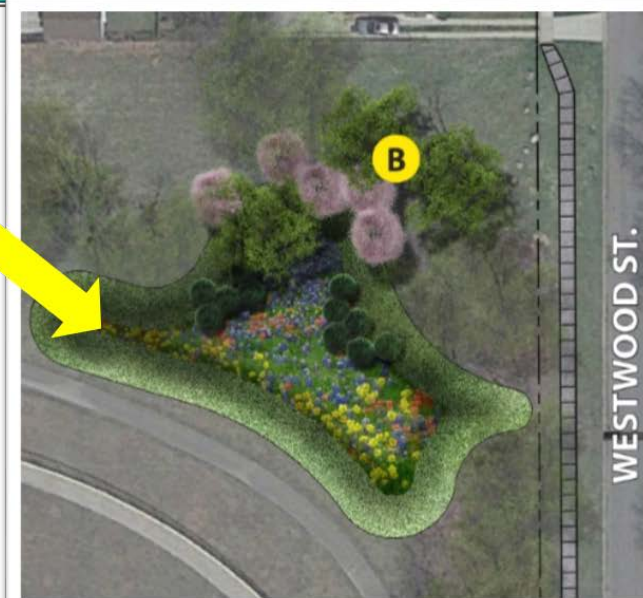
Funder
Project design
Construction oversight
Maintenance



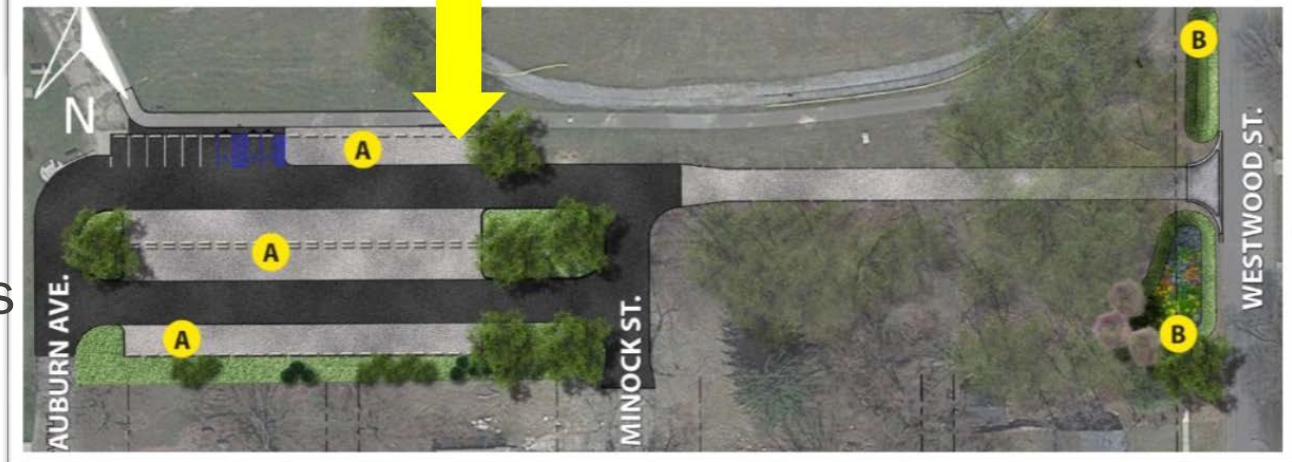
Design input
Outreach
Volunteer coordination



GSI Design Accomplishes Multiple Community Goals



Bioretention and porous stone parking lot with additional spaces and additional access points



Project Partnerships Lessons Learned



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- Integrating neighborhood goals with program goals can slow the process, so be prepared and patient
- Going slow can establish buy-in and earn trust
- Embracing opportunities to get residents involved in the entire process = ownership
- Maintaining strong communication with partners helpful for maintaining project



GSI to Help Restore Civic Pride: Viola Liuzzo Park



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Local Partners Plant the Seeds



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- Neighborhood park steward: Artis Johnson
- Viola Liuzzo Park Association (VLPA)
 - NW Detroit neighborhood residents
 - Gospel Tabernacle Church members
 - Other organizations and individuals passionate about Detroit
- Existing VLPA partnership bolsters GSI potential score for Liuzzo Park

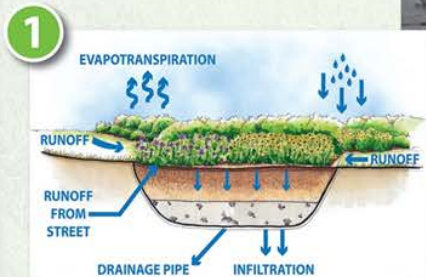


Partnership Grows, Project Blooms



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Changes Coming to Viola Liuzzo Park



Bioretention Areas:

- Designed to soak up storm water before it enters the sewer system
- Beautifies the park while improving drainage and water quality



Playground Equipment:

- Selected with input from local families and children
- Safe and durable for years of enjoyment



Viola Liuzzo



Park Association



Fitness Equipment:

- Selected to provide free, public outdoor workout space
- Promotes improved community health and well-being



Pickleball Court:

- First of its kind in a Detroit park
- Introduces community residents to a unique sport with growing popularity



Walking Path:

- Included in park redesign based on community input
- Provides a safe, beautiful space for walking and running

Project Partners: City of Detroit; Michigan Department of Natural Resources; Viola Liuzzo Park Association; KEO & Associates; Tetra Tech; WCI Contractors

Viola Liuzzo Park: Then and Now



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Project Partnership Lessons Learned



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- Look for GSI opportunities on like-minded projects with existing momentum
- Add value to the existing effort to amplify their work and goals while achieving GSI goals
- Establish lines of continuous communication among partners
- Address project-related concerns and help facilitate answers to those unrelated to the GSI project



Photo: City of Detroit

Reflecting Neighborhood Vision: Oakman Boulevard GSI



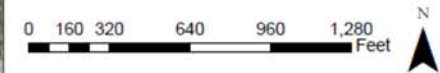
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Engineers see opportunities...

DETROIT WATER AND SEWERAGE DEPARTMENT
CS-1522 2013-2018 GREEN INFRASTRUCTURE PROGRAM



- Catch Basin
- Proposed Storm Sewer
- Water Main Replacement
- ▬ Oakman Study Area
- ▭ Construction Limits
- Drainage Area
- GSI Practice and Landscaping
- Landscaping Only



**Oakman Boulevard
Infrastructure Improvement Project**

Source: Map: C:\projects\Oakman\Map\001157250_1075_1076\Oakman\Oakman_Contract_Water_Utility_01.mxd

...Residents See Beloved Boulevard



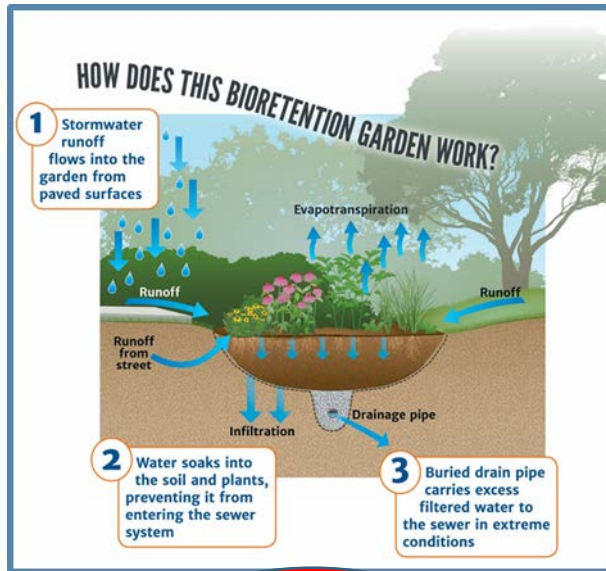
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Soaking Up Community Input on GSI Project Design



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- Initial meeting focused on residents adjacent to boulevard
 - Introduced project components
 - Asked for input on possible boulevard bioretention design elements
- Heard preferences loud and clear



Revisions to the Concept Based on Community Vision



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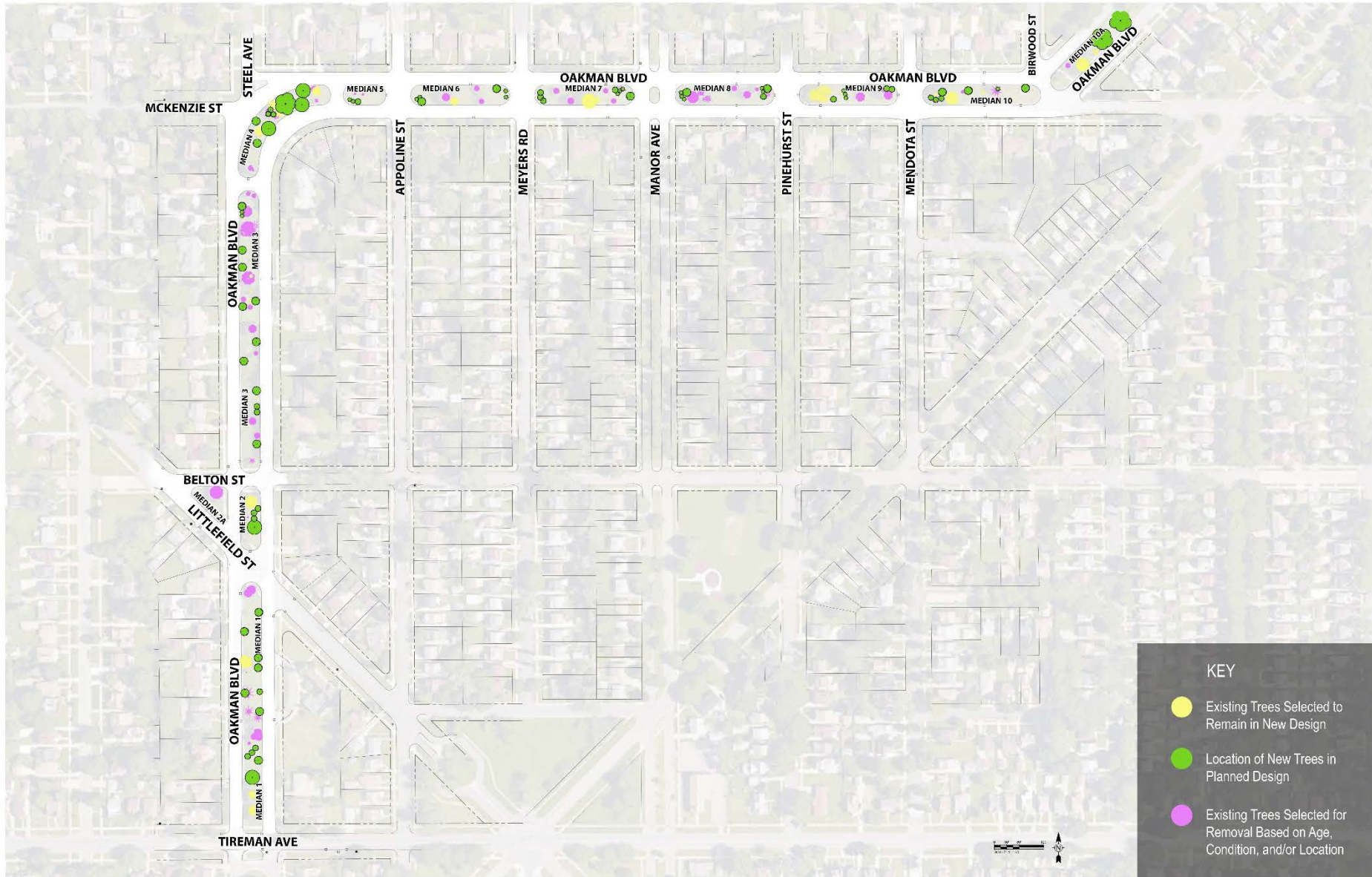


DWSD OAKMAN BLVD. INFRASTRUCTURE IMPROVEMENT PROJECT: MEDIAN LANDSCAPING CHANGES





DWSD OAKMAN BLVD. INFRASTRUCTURE IMPROVEMENT PROJECT: MEDIAN VEGETATION CHANGES



Project Partnership Lessons Learned



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- Involve partners during conceptual design to identify their needs and ensure design reflects key aspects of their vision
- Communicate up front where their input can and can't influence the design to establish realistic expectations
- Adapt outreach and engagement based on partner input

In Closing...



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- The seeds of a strong GSI project can be found in existing partnerships.
- Strong partnerships can take time to cultivate, so build in time for growth.
- Projects rooted in partnerships are better suited to weathering challenges through collaborative problem solving.

Working Together to Give Viola Liuzzo Park a Fresh Start

For many years, Viola Liuzzo Park sat outdated. Neighbors, school children, church groups, and community activists tended to the park. People familiar with Viola Liuzzo's legacy as a murdered Detroit civil rights activist were also concerned about the park, even if they didn't live nearby. Together they shared ideas on how to give the park a fresh start. This group became the Viola Liuzzo Park Association (VLPA).

The City of Detroit worked with VLPA, including members of the Liuzzo family, to come up with a plan. Funding to make the plan a reality came from the City of Detroit through Mayor Duggan's 40 Neighborhood Parks Initiative, the Detroit Water and Sewerage Department's Green Stormwater Infrastructure Program, as well as the State of Michigan and the United Auto Workers Ford Foundation. The groundbreaking celebration for the project took place on July 12, 2016.

Members of the Viola Liuzzo Park Association and Liuzzo family at the park ground breaking celebration.

Try A Rain Garden At Home

Rain gardens can soak up stormwater from your disconnected downspout, add beauty to your yard, and possibly help reduce your drainage charge. Consider using plants like the ones selected for the Viola Liuzzo Park bioretention gardens.

This bioretention garden features plants that are native to Michigan, which means they are adapted to the local environment and provide habitat and food for wildlife. For information on how to make a rain garden, visit www.detroitmi.gov/dwsd.

Benefits

- Beautification
- Reduced flooding
- Cleaner water
- Lowered treatment costs

Plants featured in the garden:

- Butterfly Weed (*Asclepias tuberosa*)
- Spotted Chickadee (*Parus tyro*)
- Purple Loosestrife (*Lythrum salicaria*)
- Black-eyed Susan (*Rudbeckia hirta*)

space water

Visit www.detroitmi.gov for more information on green stormwater infrastructure.

IMPROVE DETROIT

Please report any problems with the bioretention garden to DWSO Customer Service at 313-267-8000 or use the Improve Detroit mobile app or website available at www.detroitmi.gov.



Website:

<http://www.detroitmi.gov/gsi>



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