

Developing Regional Solutions



SEMCOG
Southeast Michigan Council of Governments

Stormwater Management & Green Infrastructure

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Appropriations Subcommittee on Transportation

April 27, 2022

Green Infrastructure

- Constructed Techniques
 - Rain Gardens
 - Bioswales
 - Porous Pavement
- Natural features
 - Wetlands
 - Woodlands
 - Meadows



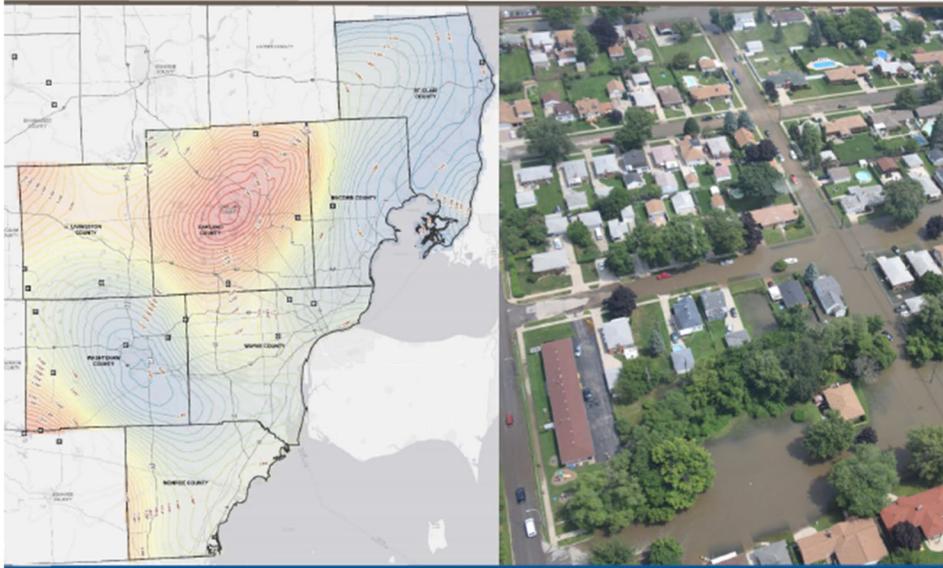


Future Considerations – Rainfall Projections

Current 10-year	Mid-Century 10-year (projection)
3.3"	5.2"
	57% ↑

SEMCOG **MDOT**
Michigan Department of Transportation

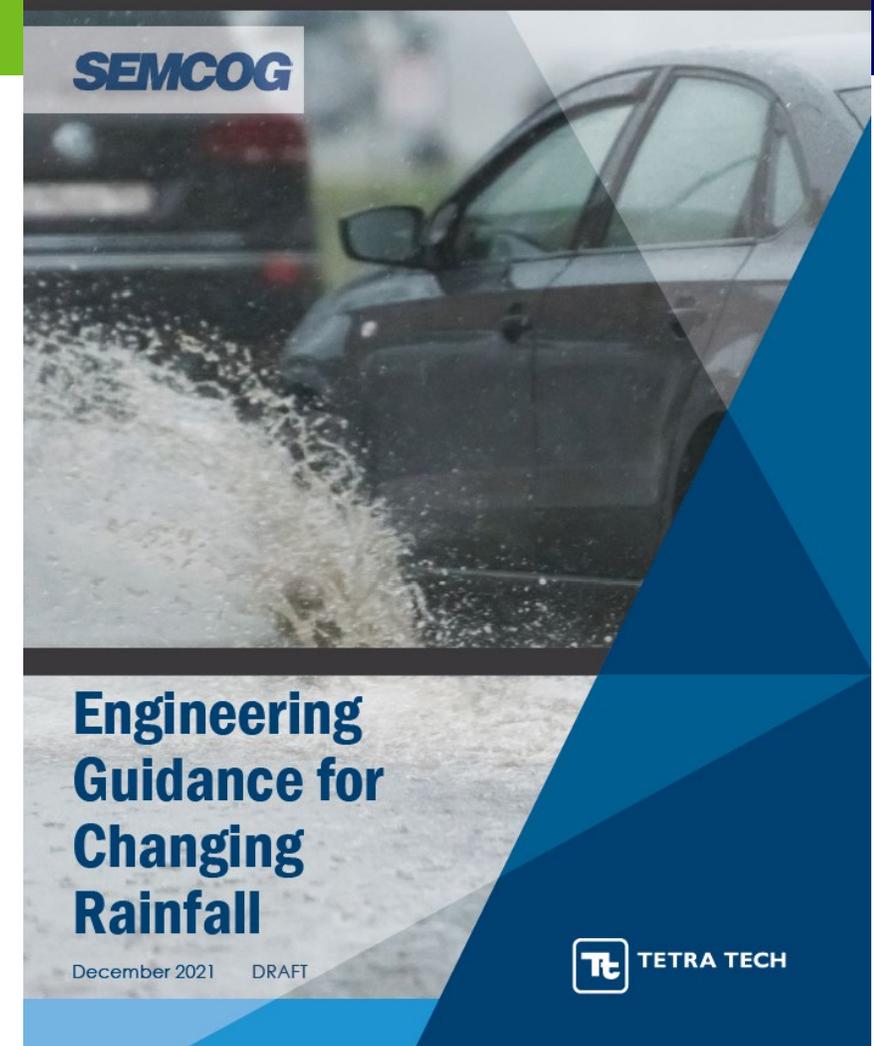
**Southeast Michigan
Current and Future Precipitation**
Climate Resiliency and Flooding Mitigation Study



Tt TETRA TECH June, 2020

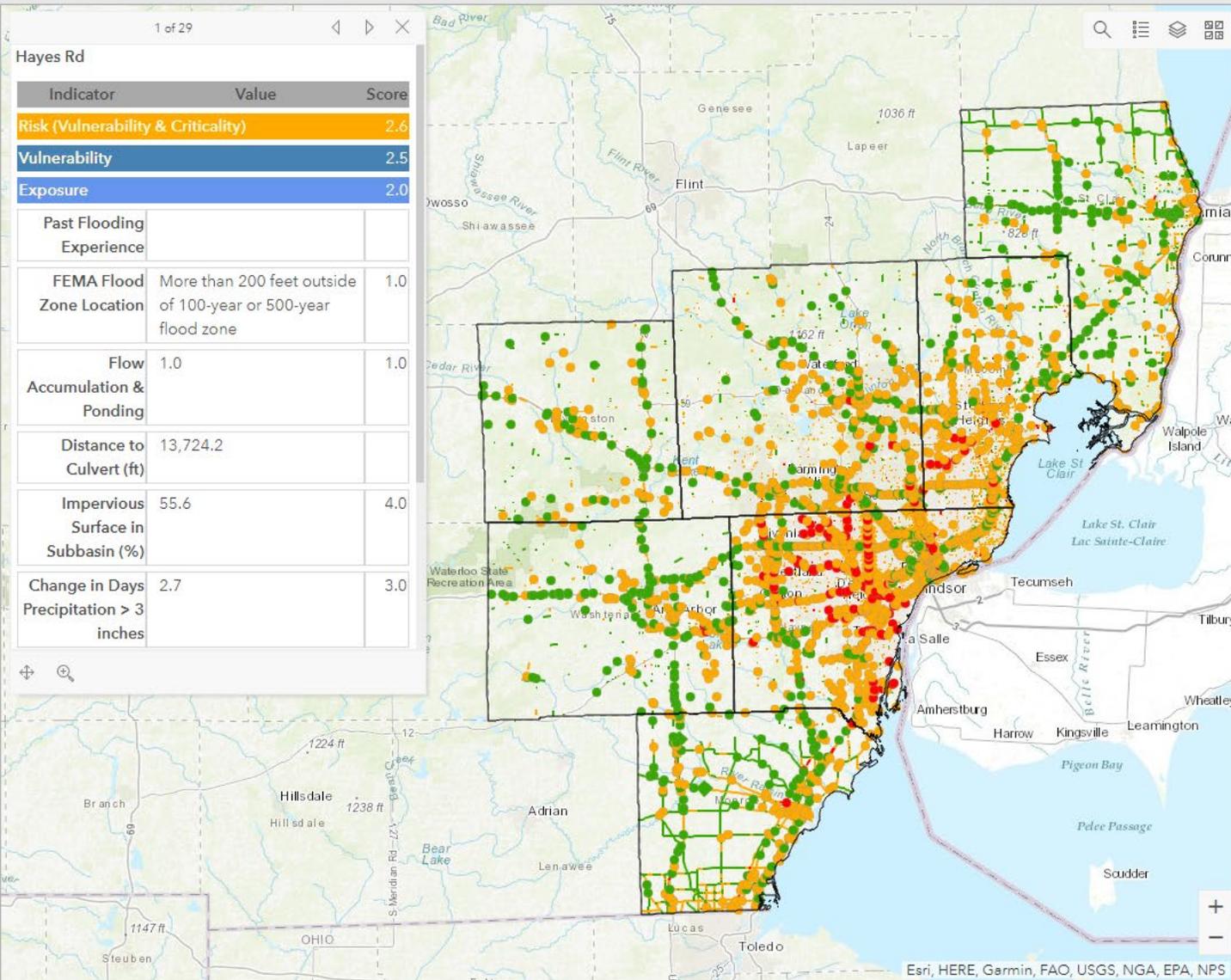
Stormwater Roundtable Practitioners

- Develop engineering alternatives & guidance for future infrastructure planning & design
- Considerations:
 - National Guidance and Best Practices
 - Future rainfall predictions
 - Regulatory impacts
 - Case studies and different approaches
 - Risk management

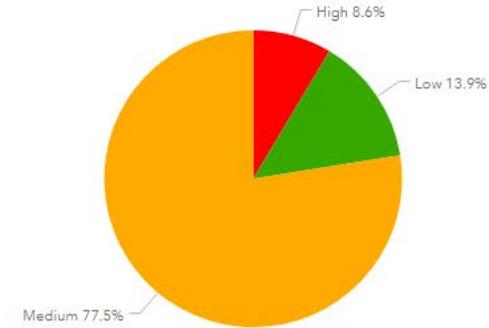


Flood Risk Tool Dashboard

SEMCOG Flooding Risk Tool Dashboard



Roads Risk Rating Breakdown



Roads Bridges Culverts Pump Stations

Top 5 Road Segments at Risk

Within Filtered Assets

- Road Name:** From: Outer - To: Outer/S I 75
Criticality Score: 4 **Vulnerability Score:** 3.9
- Road Name:** Inkster Rd From: Edward N Hines Dr - To: Inkster/Edward Hines Cutoff
Criticality Score: 3.7 **Vulnerability Score:** 4
- Road Name:** Inkster Rd From: Clairview Dr - To: Edward N Hines Dr
Criticality Score: 3.7 **Vulnerability Score:** 4
- Road Name:** Telegraph Rd From: Shiawassee Dr - To: N US 24/E M 102 RAMP
Criticality Score: 3.7 **Vulnerability Score:** 3.9
- Road Name:** Telegraph Rd From: Shiawassee Dr - To: N US 24/E M 102 RAMP
Criticality Score: 3.7 **Vulnerability Score:** 3.9

Roads Bridges Culverts Pump Stations

Road Asset Count

71,599

Last update: a minute ago

Bridge Asset Count

2,634

Last update: a minute ago

Culverts Asset Count

2,634

Last update: a minute ago

Pump Stations Asset Count

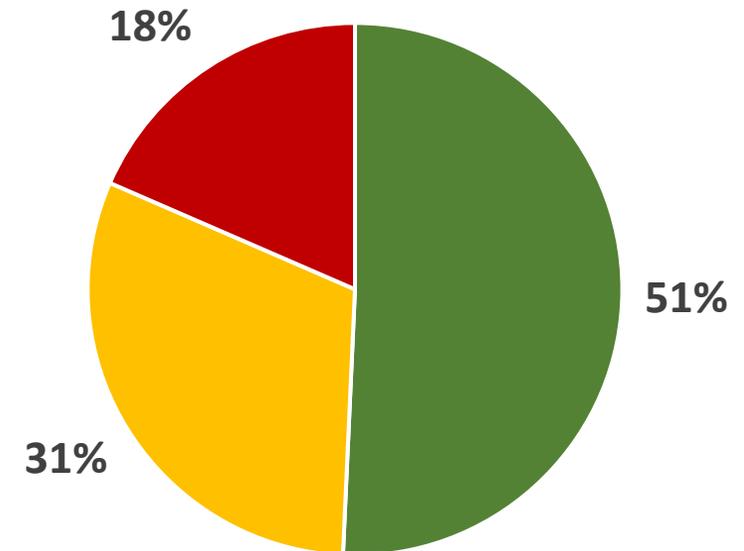
143

Last update: a minute ago

Stormwater Infrastructure Condition & Investment Need

- At least \$1B needed for linear assets annually through 2045
- Does not include cost for:
 - CSO reduction
 - Upsizing or rightsizing
 - Treatment (i.e. green infrastructure/other stormwater BMPs)
 - Vertical assets like pump stations

Storm Sewer Condition
(based on 2019 SEMCOG AM Program)

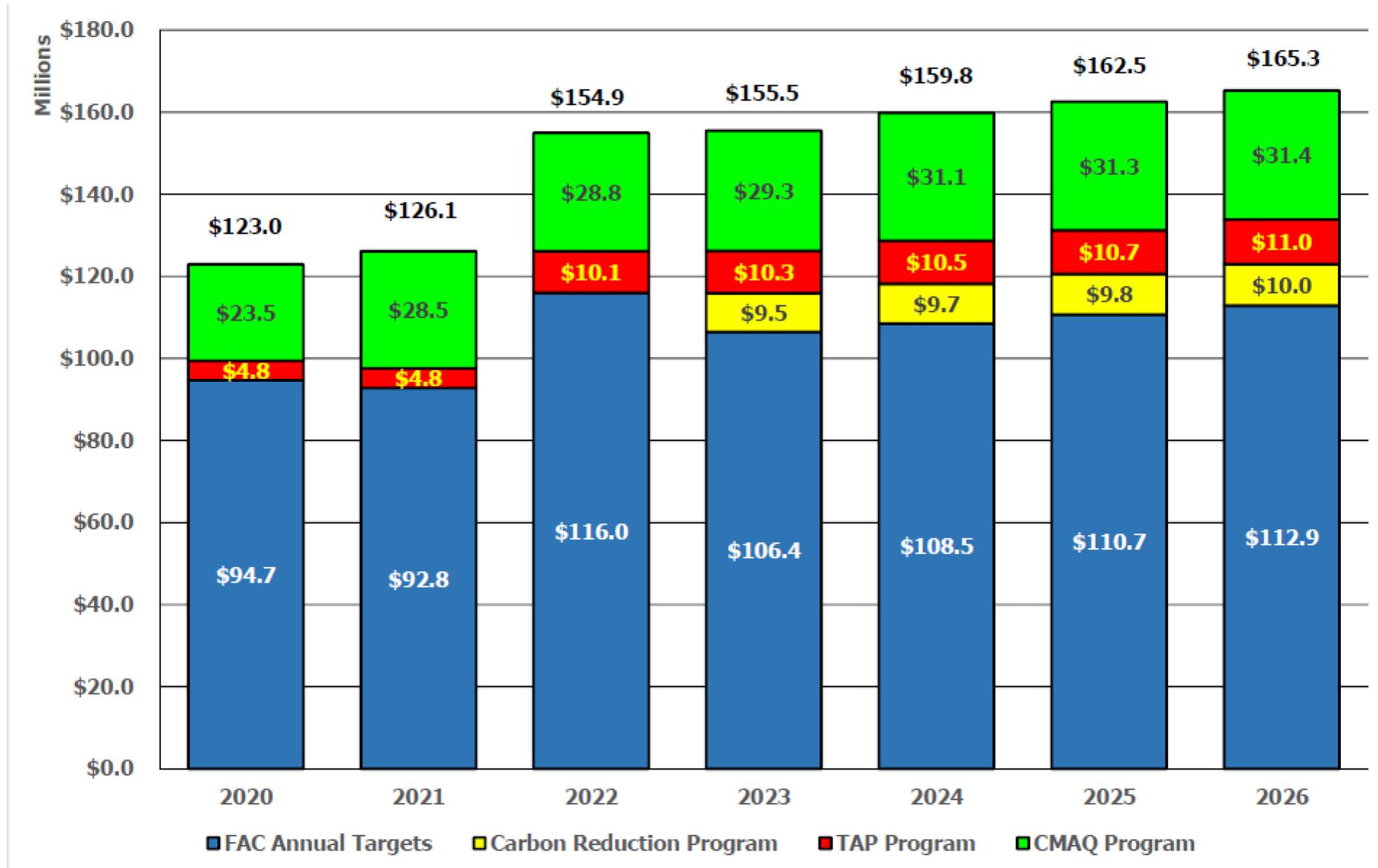


Southeast Michigan Stormwater Management Funding Initiatives

EPA Green Infrastructure SubGrant Program



Estimated Funding Available to Local Agencies (millions)



Transportation Alternatives Program (TAP) Increase under the BIL

	2013- 2021	2022
SEMCOG Funding must be spent in Southeast Michigan	\$4.8 Million	\$10.1 Million 2% increase annually through 2026
MDOT Funding can be spent anywhere within the state, including Southeast Michigan	\$17 Million	\$25 Million

Eligible TAP Projects

- Facilities for Pedestrians and Bicyclists
 - Non-motorized pathways/trails (on & off road facilities)
 - Pedestrian safety & accessibility projects
- **Transportation-related Environmental Mitigation**
 - **Green Infrastructure**
- Community Improvement & Streetscape Projects focus on safety elements
- Safe Routes to School (SRTS) Programs



Other Stormwater Funding Options –

Clean Water State Revolving Fund

- Low Interest loans for clean water projects
- Wastewater & Stormwater
- Less than 1% of funds support stormwater projects
- Eligibility limited to smaller scale stormwater management (water quality)
- HB 5890 - 5892

Stormwater Utility

- Adopt a plan
 - Enable multi-community approaches
 - Detail the specific purposes you chose
 - The level of service and supporting rationale
 - The total cost of service
 - Assuring charges are proportional
- Adopt an ordinance that follows the plan

Regional Infrastructure Planning & Coordination

Portal – Capital Improvement Projects

- Public Utilities
- Road projects
- Drinking Water
- Wastewater
- Stormwater

The screenshot displays the SEMCOG Capital Improvement Projects portal. At the top left, the SEMCOG logo and 'SOUTHEAST MICHIGAN COUNCIL OF GOVERNMENTS' are visible. The main area is a map of the region with various project points and areas overlaid. A legend titled 'Capital Improvement Project Points' lists categories: Road (black dot), Water (blue dot), Sewer (green dot), Storm (yellow dot), Electric (red dot), Gas (purple dot), and Telecommunications (grey dot). Another legend titled 'Capital Improvement Project Areas' lists categories: Road (grey polygon), Water (blue polygon), Sewer (green polygon), Storm (yellow polygon), Electric (red polygon), and Gas (purple polygon). On the right side, there is a 'Filter Projects' panel with several dropdown menus: 'Federal Aid Committee' (8 options selected), 'Project System' (6 options selected), 'Project Type' (17 options selected), 'Construction Start Year' (14 options selected), and 'Construction End Year' (9 options selected). Below these are input fields for 'Minimum Project Cost' and 'Maximum Project Cost', both set to '\$ 0.00', and a 'Project Street' filter with the text 'Filter by street name'. A user profile for 'Rachael Barlock' is shown in the top right corner. The bottom right corner of the map area says 'Powered by Esri'.

Key Stormwater Management Takeaways

- Green infrastructure provides multiple benefits along transportation corridors, but is not going to solve flooding challenges
- Stormwater management must be addressed collaboratively across different jurisdictions
- Storm sewer investments needs are at least \$1 billion annually – and that is only to replace poor condition pipes.
- Trends in future rainfall show increasing frequency and intensity
- The level of service will continue to decline
- Transportation Alternatives Programs are opportunities to support stormwater management along roads, but more is needed

Recommendations

Transportation & Stormwater Management

- Funding: Regional Stormwater Studies for Future Infrastructure Planning and Design
- Collaboration: Infrastructure “Dig Once” Concept. Align infrastructure projects for long-term cost savings and efficiencies
- Data Collection: Stormwater assets condition and capacity (culverts as example)
- Public Education: Impacts of future rainfall on existing systems
- Legislative: SRF changes (HB 5890 – 92) and Stormwater Utility

Thank You!

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