



THE TOWNSHIP OF UPPER ST. CLAIR

MS4 STORMWATER AND CONSENT ORDER UPDATES

JULY 28, 2025

AGENDA

- **MS4 Stormwater**
 - Background and Context
 - Progress Update
 - Community impact and benefits
 - Conclusion and Next Steps
- **Consent Order (Sanitary Sewer)**
 - Background and Context
 - Progress Update
 - Community impact and benefits
 - Conclusion & Next Steps
- **ALCOSAN Regionalization**
- **Questions**



MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

WHAT IS MS4?

- An MS4 is a conveyance or system of conveyances within an urbanized area that is:
 - Owned by a state, city, town, village, or other public entity that discharges stormwater runoff to waters of the Commonwealth;
 - Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
 - Not a combined sewer; and
 - Not part of a sewage treatment plant.
- USC's MS4 is comprised of numerous stormwater conveyances that drain into Lower Chartiers Creek, Middle Chartiers Creek and Brush Run

 **We All Live
Downstream**

Peace Resource Project 888-822-7075 www.peaceproject.com (5#194)



HISTORY OF THE MS4 PROGRAM

- Federal Regulation → EPA NPDES Phase II Stormwater Program (1999)
- State Regulation → PA DEP MS4 Stormwater Permit (2003)
- Overall Requirements
 - Implement a stormwater management program
 - Track progress toward measurable goals
 - Annual reports on progress
- MS4/PRP Programs 2018-2023 (unofficially extended from COVID thru 2025)
 - Prepare plan and implement projects to reduce amount of sediment & phosphorus generated by stormwater



KEY COMPONENTS OF THE MS4 PROGRAM

- Minimum Control Measures

- 1. Public Education & Outreach**

Educate the public through documents, website, and social media postings

- 2. Public Involvement & Participation**

Advertise, endorse, and conduct events related to stormwater management to allow target audiences to participate

- 3. Illicit Discharge, Detection, and Elimination**

Storm sewer mapping, outfall screening, and stormwater complaint management

DON'T LET PESTICIDES BUG OUR WATERSHED

Improper usage, storage, and disposal of pesticides can have a profound impact on our watershed.

Keep the bugs out!

The best way to minimize the impacts of pesticide pollution is to prevent pests to begin with.

Indoor Prevention

- **Remove Food and Water:** Fix any plumbing leaks, remove any water damaged items, and keep the home as dry as possible. Keep all food enclosed and stored properly and use tightly enclosed garbage cans. Pests thrive in damp dirty environments with open food sources.
- **Remove or Block Pest Hiding Places and Entryways:** Seal any cracks or crevices and check that windows and doors have screens or remain closed to reduce pest access.

Outdoor Prevention

- **Remove Outdoor Hiding Places:** Remove piles of wood and destroy diseased plants or fallen fruit that may contain pests.
- **Remove Breeding Sites:** Clean up pet waste, remove any litter or garbage, and make sure drainpipes and other water sources drain away from your home.
- **Take Care of Outdoor Plants:** Healthy plants resist pests better than weak plants. Plant at the best time of the year to promote healthy growth. Use mulch to reduce weeds and maintain even soil temperature and moisture. Water adequately.



Usage, Storage and Disposal Practices

1. When using pesticides, only use the recommended amount; twice the pesticide won't do twice the job.
2. If you have a spill clean it up immediately using sawdust or cat litter; don't wash it away with water.
3. Only spray pesticides near plants that you wish to treat.
4. If you can't dispose of unused pesticides at a collection event, tightly close the cap of its container and place it in the trash for routine collection.
5. Don't dump leftover pesticide down the sink, toilet, sewer, or street drain - as the chemicals contained in pesticides may interfere with the operation of wastewater treatment systems.
6. Store pesticides in dry environment away from areas that have access to water or moisture.
7. Check out prc.org for collection events near you.

KEY COMPONENTS OF THE MS4 PROGRAM

- Minimum Control Measures

4. **Construction Site Stormwater Runoff Control**

Taken care of by Allegheny County Conservation District

5. **Post Construction Stormwater Management (PCSM)**

Maintain inventory of stormwater BMPs, maintain public and enforce proper maintenance of private

6. **Pollution Prevention & Good Housekeeping**

Maintain Township facilities and ensure operations minimize potential of stormwater pollution entering the storm sewer system, and education of Township staff



If MCM efforts are not documented, DEP assumes they did not happen!!



DOCUMENTATION

- Utilize Township's ArcGIS MS4 Documentation application to record MS4 activities

Upper St. Clair MS4

MCM #1 MCM #2 MCM #3 MCM #4 MCM #5 MCM #6 PRP

MCM #3: Illicit Discharge Detection & Elimination (IDD&E)

Outfall Inspections Storm Complaints

INSPECTIONS

6 of 67

BR-19

Date of Inspection	3/12/2025, 12:00 AM
Outfall ID	BR-19
Is this a PCM (Pollutant Control Measure) Screening?	No
Appendix A:	
Appendix B:	
Appendix C:	
Land Use	Suburban Residential
Other Land Uses	
Dry Weather Inspection?	Yes

Search by Outfall ID...

Outfall ID: PR-198
Date: 3/12/25, 12:00 AM
Edit/Review

Outfall ID: PR-200
Date: 3/12/25, 12:00 AM
Edit/Review

Outfall ID: BR-2005
Date: 3/12/25, 12:00 AM
Edit/Review

Outfall ID: BR-19
Date: 3/12/25, 12:00 AM
Edit/Review

Outfall ID: BR-18
Date: 3/12/25, 12:00 AM
Edit/Review

INVESTIGATIONS

1 of 9

UNT to CC 002

objectid	17
GlobalID	ee03cd72-6a1a-499d-85d9f0255f62d
Outfall ID	UNT to CC 002
Receiving Water	
Location Description	
Date	
Investigator(s)	
Summary of Problem(s)	
Potential Sources and Activities	

Search by Outfall ID...

Outfall Investigated: UNT to CC 002
Date:

Outfall Investigated: CC-30
Date:

Outfall Investigated: CC-39
Date:

Outfall Investigated: CC-32
Date:

Outfall Investigated: MR-95
Date:

Outfall Investigated: MR-230
Date:

Outfall Investigated: MR-268
Date:

Pollution Reduction Plan (PRP)

New BMP

Search by BMP/HUC 12 Name

Country Club Drive
Status: Conceptual Design
Type: Hydrodynamic Separator - Baffle Box
HUC 12: low_charlars
Shed: mcLaughlin_run
Edit

Aljo Drive
Status: Conceptual Design
Type: Hydrodynamic Separator - Baffle Box
HUC 12: low_charlars
Shed: painters_run
Edit

Ravine Park Stream Restoration Phase I
Status: Completed
Type: Stream Restoration
HUC 12: mid_charlars
Shed: charlars_creek
Edit

Heartwood Estates Pond Retrofit
Status: Completed
Type: Wet Pond
HUC 12: brush_run
Shed: brush_run
Edit

Dominion Pond
Status: Completed
Type: Wet Pond
HUC 12: low_charlars
Shed: mcLaughlin_run
Edit

Ravine Park Stream Restoration Phase II
Status: Completed
Type: Stream Restoration
HUC 12: mid_charlars
Shed: charlars_creek
Edit

Hays Road
Status: Completed
Type: Stream Restoration
HUC 12: Middle Charlars Creek
Shed: brush_run
Edit

Turnberry Dr
Status: Abandoned

Last update: a few seconds ago

County of Allegheny, West Virginia GIS, Esri, HERE, Garmin, INCREMENT P, USGS, METINASA, EPA, USDA | The Gateway Engineers, Inc.

Map

Selected features: 1

Selected features: 1

DOCUMENTATION



- Township has a mapped inventory of all of the public and privately owned stormwater facilities (82 total mapped)
- Map is regularly used for ownership and compliance inspection purposes

KEY COMPONENTS OF THE PRP PROGRAM

- MS4 Requirement
(specific for Pennsylvania only)
- Required for Siltation or Nutrient Impaired Watersheds
- Requires reductions in Sediment (10%) and Phosphorus (5%) within program's 5-year period
- Types of PRP Projects Include:
 - New Stormwater BMPs
 - Existing BMP Retrofits
 - Stream Restoration / Floodplain Reconnection



Sediment Pollution



ANNUAL PROGRESS UPDATES (PRP)

- The Township has completed the five PRP projects to fulfill the sediment/phosphorus load reduction requirements
 - Two ponds
 - Three streambank restorations
 - PRP projects will remove over 200,000 lbs of sediments from waterways per year
- A new five-year MS4 permit is to be released by DEP this year
 - PRP will focus more on runoff volume instead of sediment loading
 - Incentives to be provided for multi-municipal collaboration of MS4 efforts
- Last DEP inspection was in 2023
 - Township performed well and received zero violations
 - Next inspection is anticipated for 2027/2028



COMMUNITY IMPACT AND BENEFITS

- Continued MS4 permit compliance efforts lead to:
 - Reduction in potential flooding and improved quality of life for safety and recreational purposes
 - Reduction of non-compliance and potential for fines and penalties for non-compliance
 - Improved quality of streams and ponds
 - Education to public about environmental stewardship



CONCLUSIONS AND NEXT STEPS

- Continue to conduct efforts toward compliance of the minimum control measures (MCMs)
- Continue to document compliance efforts in Townships MS4 Documentation application
- Submit Annual Report to DEP by September 30th
- Receive new permit from DEP by end of year and prepare plan for compliance



CONSENT ORDER (SANITARY SEWERS)

EXISTING SYSTEM OVERVIEW

- **Service Area:** ~7,287 residences and businesses
- **System Size:**
 - ~870,000 linear feet (LF) of sewer lines, with pipe sizes ranging from 6" to 33" in diameter
 - ~5,000 manholes
- **System Age:**
 - Majority constructed 50–60 years ago
 - Limited sections built within the past 10 years
- **Pump Stations:**
 - Brush Run Pump Station (servicing ~1,955 properties)
 - Deerfield Manor Pump Station (eliminated in 2024)
- **Sewershed Overview (3 Total):**
 - Brush Run (C-55-02)
 - Painters Run (C-53-00)
 - McLaughlin Run (C-53-10)



HISTORY OF THE CONSENT ORDER

- **Origins** - Initiated by U.S. Environmental Protection Agency (EPA) & adopted by the Pennsylvania Department of Environmental Protection (PA DEP), and Allegheny County Health Department to address sanitary sewer overflows
- **Administrative Consent Order (early 2000's)** - Focused on assessing the sewer system (Televising, O&M, Mapping) and identifying problem areas and establishing flows required to be conveyed by ALCOSAN to eliminate overflows.
- **Phase I Consent Order (2014-2018)** - Provide a summary Source Reduction Study to demonstrate effectiveness of source reduction. Used to establish Gold Line Standard (average I&I across region)
- **Phase II Consent Order (2022-2029)** - Emphasis on reducing excess water from entering the sewer system below accepted thresholds (Gold Line Standard) and modeling to identify causes of overflows
- **Phase III Consent Order (2030's)** - Reduce the threshold based on the average inflow and infiltration rate among all customer municipalities of ALCOSAN.



KEY COMPONENTS OF THE PHASE II COA

- **Establishment of baseline (Gold Line Standard)** – June 2022
- **Flow studies** – May 2023
- **Modeling & SSO Elimination Study** – December 2023
- **Source Flow Reduction Project Design** – September 2024
- **Project Construction** – December 2025
- **Performance Assessment** – June 2026
- **Final Report** – December 2026
- **Regional Report (with Municipalities cooperation)** – December 2027
- **Annual Status Reports** – Due Each June

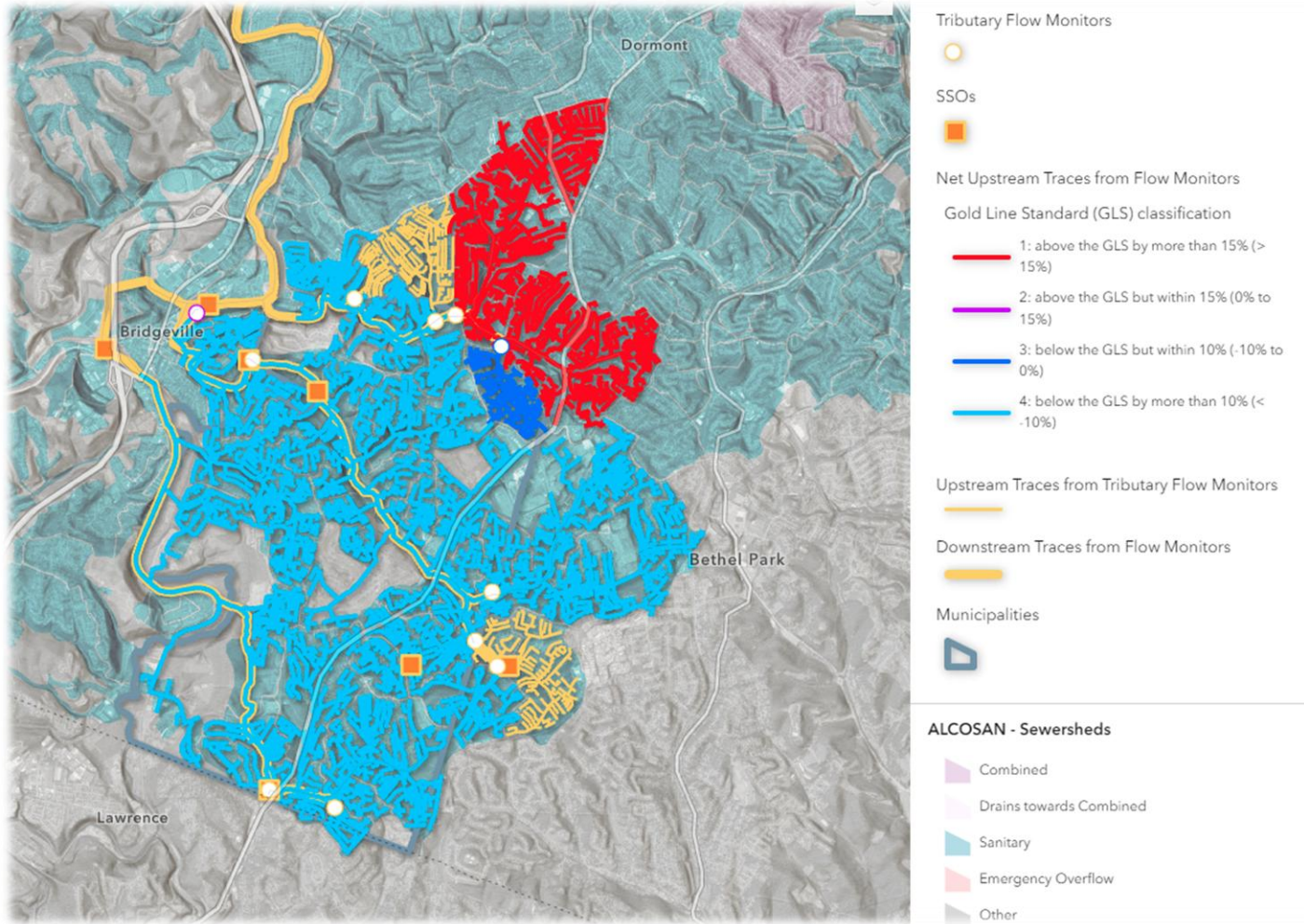


ESTABLISHMENT OF BASELINE I&I

- Gold Line Standard Threshold (GLS) Corrective Actions:
1 sewer shed
- SSO Corrective Actions:
6 sewer sheds
- Threshold has been met:
2 sewer sheds

2008 RCS-FMP Meters Exhibit B Update - September 2023 Upper St. Clair Township							
Sewershed	RCS-FMP METER_NAME	Municipality	Trace: Classification	Net Inch-Miles Tributary	Interim Investigative Flow Target Metric Threshold (IIFTMT) (GPIMD)	Actual Net I&I Annual GPIMD	Tributary to Municipal SSO
Painters Run	C5300-IM-S-09	UPPER ST CLAIR	Majority	64.02	4,094	3,878	No
	C5300-MB-L-05	UPPER ST CLAIR	Contributing	536.37	3,232	4,362	No
		BETHEL PARK	Contributing				
		MT LEBANON	Majority				
	C5300-POC-L-01	UPPER ST CLAIR	Contributing	196.02	3,832	2,562	No
		SCOTT	Majority				
McLaughlin Run	C5310-MB-L-10	UPPER ST CLAIR	Contributing	310.42	3,619	3,049	Yes
		BETHEL PARK	Majority				
	C5310-MM-L-09	UPPER ST CLAIR	Contributing	57.90	4,106	2,601	Yes
		BETHEL PARK	Majority				
	C5310-OSS-L-02	UPPER ST CLAIR	Majority	564.81	3,187	274	Yes
		BRIDGEVILLE	Contributing				
Brush Run	C5502-MB-S-08	UPPER ST CLAIR	Contributing	16.64	4,192	2,247	Yes
		PETERS	Majority				
	C5502-POC-L-01	BETHEL PARK	Contributing	646.72	3,059	1,892	Yes
		UPPER ST CLAIR	Majority				

ESTABLISHMENT OF BASELINE I&I

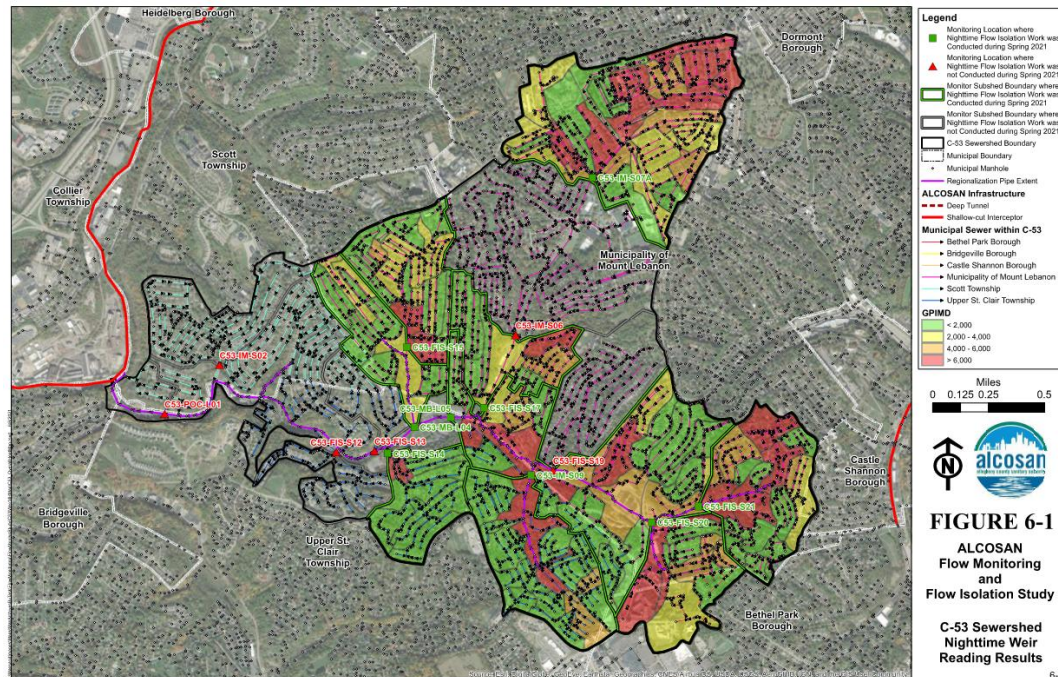


- Map of flow monitoring results
 - Areas shown in red have high I&I
 - Areas in blue drain to Sanitary Sewer Overflows (SSOs) shown in orange

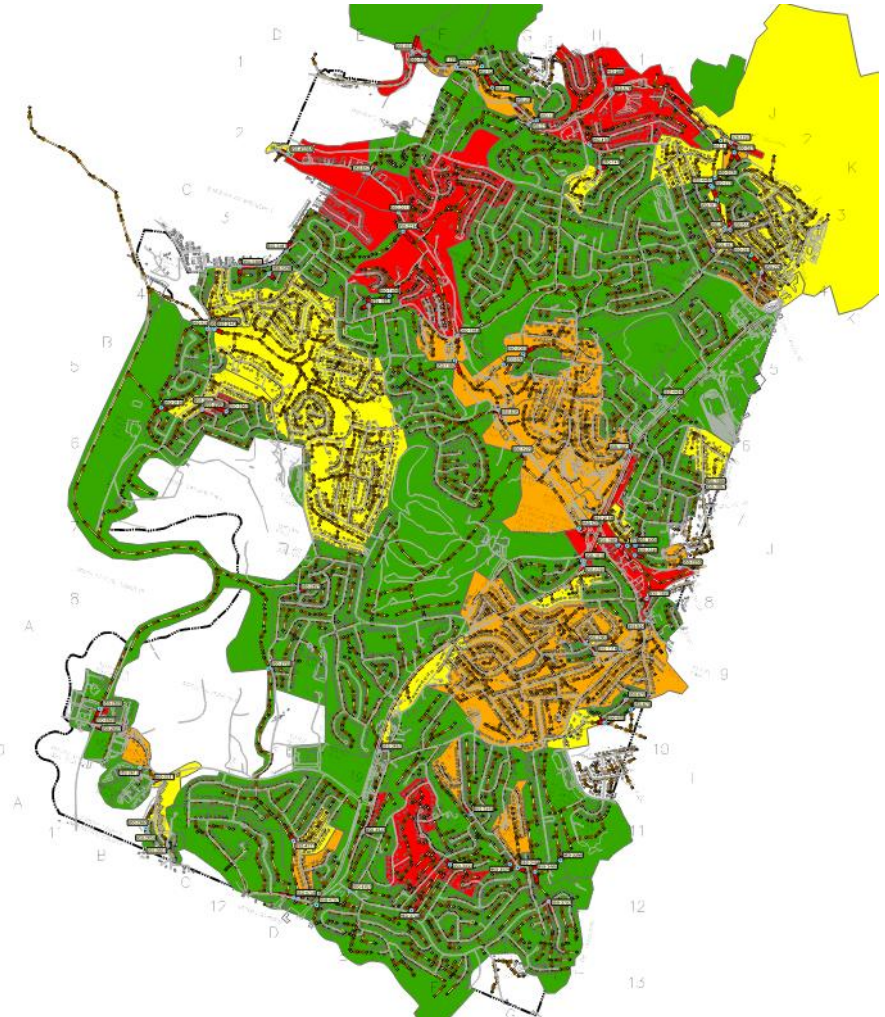
FLOW STUDIES

- Nine separate flow monitoring and flow isolation studies performed throughout the Municipality

2019/2021 ALCOSAN C-53 flow monitoring and isolation study



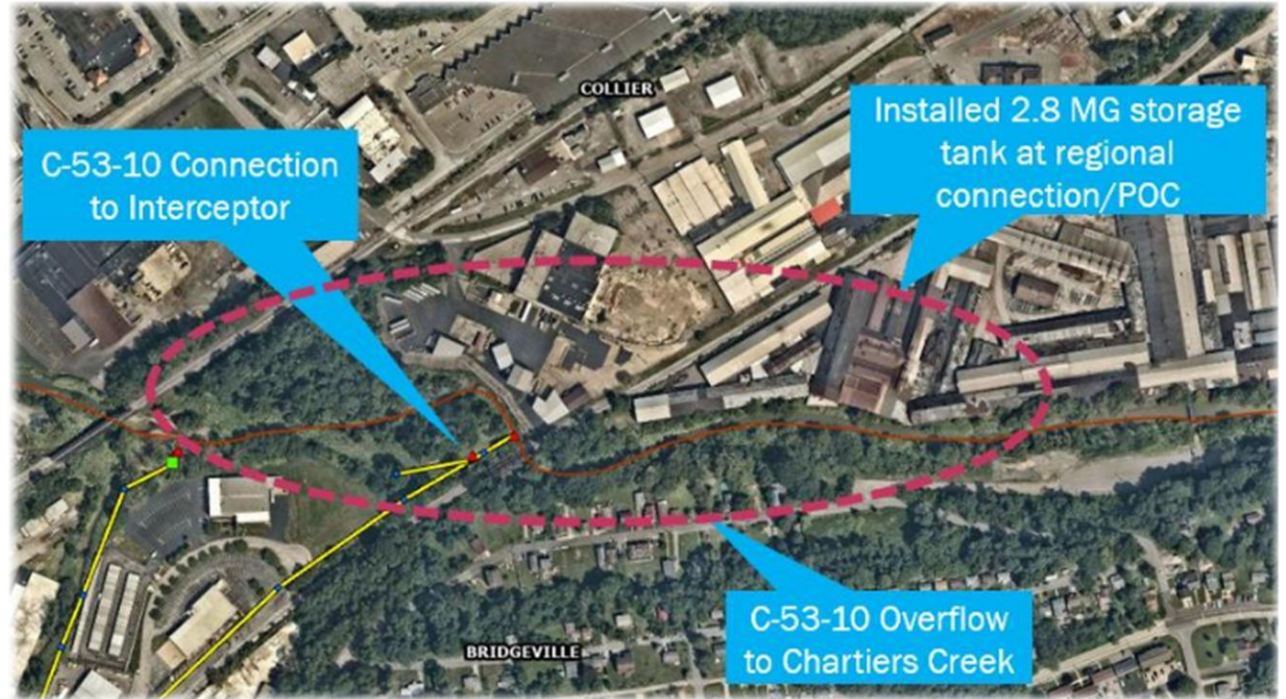
2011 Municipal flow isolation study



MODELING & SSO ELIMINATION STUDY

- C5310 – McLaughlin Run Trunkline SSOs: 8.6MG of total storage at two sites and 1,500 feet of increased conveyance capacity.
- C5310 – McLaughlin Run Harrow SSOs: 90,000-100,000 gal of storage near Harrow Park.
- C5502 – Brush Run SSOs: 1 MG of storage at the Brush Run Pumpstation and 3 MG of storage at the Brush Run POC.

C5310 – McLaughlin Run POC SSO preferred alternative



SOURCE FLOW REDUCTION PROJECT DESIGN

- Project Scope:
 - Approximately 28,200 L.F. of in-situ CIPP sewer line rehabilitation
 - Rehabilitation of manholes with signs of infiltration
 - Redirection of 320 acres tributary to C-53-10 to now be tributary to the C-54 POC
 - Adjustment of the restrictor plate placed in the McLaughlin Run trunk sewer
- Project Impact:
 - Required removal: 52.4 million gallons per year
 - Anticipated removal: 53.6 million gallons per year
- Sub-Projects / Contracts:
 - 2025 Upper St. Clair Consent Order Repairs Project
 - McLaughlin Run / C-54 Sanitary Sewer Re-Routing Project



PROJECT CONSTRUCTION

- **2025 Upper St. Clair Consent Order Repairs Project**

- Engineers Estimate: \$5.6M
- Project was bid November 5, 2024
- Awarded to A. Merante Contracting, Inc. for \$3.5M
- Construction to be completed by December 2, 2025.

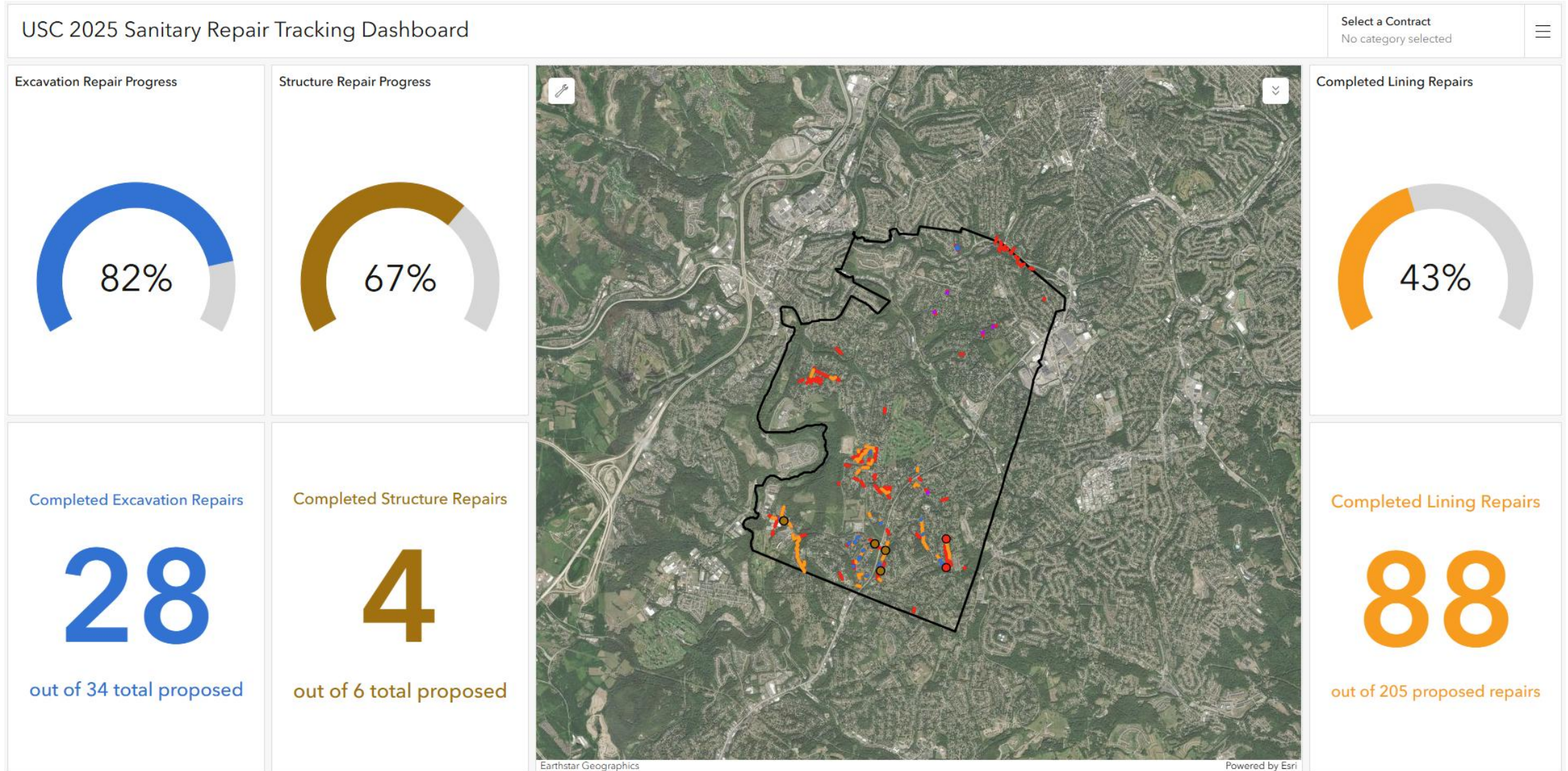


- **McLaughlin Run / C-54 Sanitary Sewer Re-Routing Project**

- Bridgeville is responsible for all aspects of project implementation, including construction administration and reporting.
- Expected to be completed by end of 2025



PROJECT CONSTRUCTION (CONT.)



ENVIRONMENTAL BENEFITS

- **Environmental Benefit Overview:**

- Eliminated untreated sewage from contaminating local waterways
- Reduces health risks associated with exposure to sewage
- Water quality improvements
- Cleaner Streams

- **Real World Results:**

- Significant reductions in McLaughlin Run SSO discharge volumes with diversion structure project.



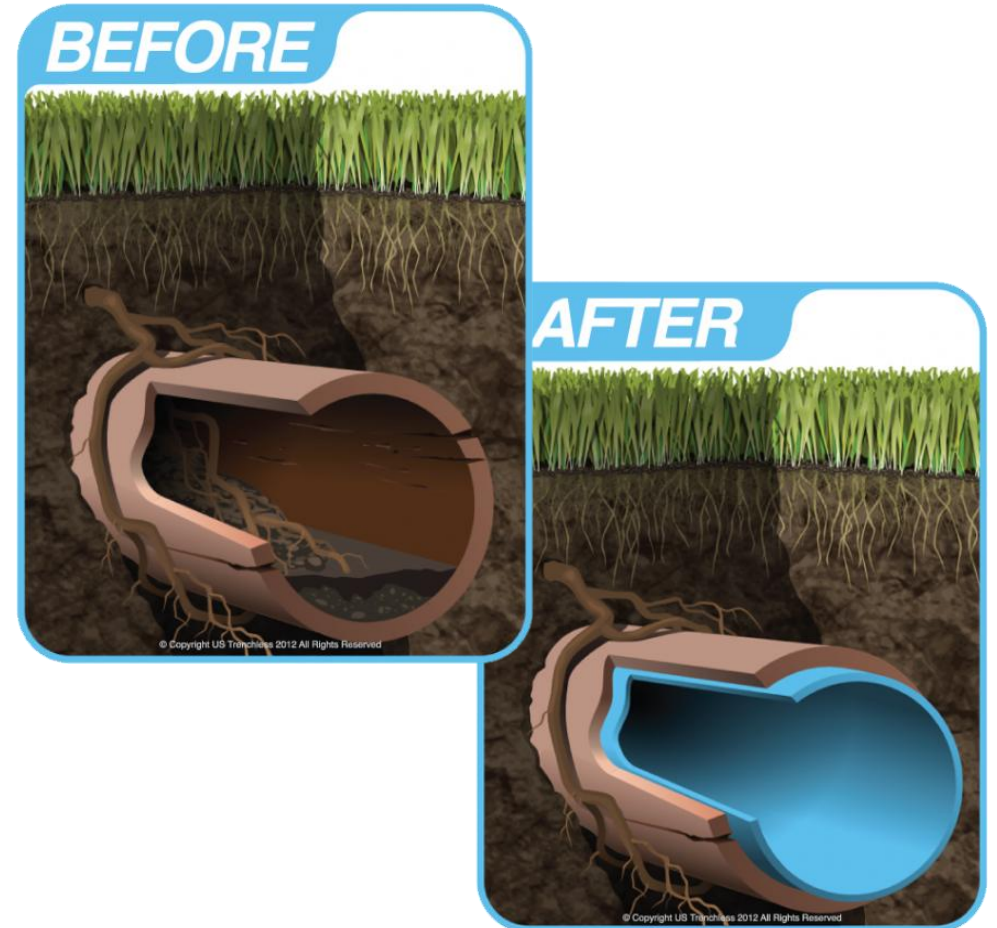
COMMUNITY BENEFITS

- **Community Benefit Overview:**

- Extended life and reduced maintenance
- Reduces the risk of backups
- Reduces likelihood and frequency of disruptive emergency repairs

- **Real World Results:**

- Oldest/most degraded sections of pipe within the Township will be repaired by the end of Phase II Order



WHAT'S NEXT?

- **Project Construction:**
 - Finalize 2025 O&M by December 2025
- **Performance Assessment:**
 - Continue post-construction flow monitoring through 2026 to validate removal targets
 - Participate in regional monitoring discussions with 3RW/W
- **Final Report:**
 - Submit final Consent Order report by December 2026
- **Ongoing Collaboration:**
 - Maintain strong partnerships with ALCOSAN, 3RW/W, and regional stakeholders to ensure long-term compliance and system sustainability and establish requirements for future Phase III Consent Order



ALCOSAN REGIONALIZIION

TRANSFER OVERVIEW

- **Trunk Line Transfers:**
 - **Painters Run (C-53-00)**
 - 13,600 LF of sewer lines (10" – 30")
 - **McLaughlin Run (C-53-10)**
 - 20,200 LF of sewer lines (10" – 30")
 - **Brush Run (C-55-02)**
 - 32,700 LF of sewer lines (10" – 33")
 - Brush Run Pump Station



TRANSFER STATUS

- **Painters Run (C-53-00)**

- All work completed by USC, approved by ALCOSAN
- Resolution passed by USC, ALCOSAN working on transfer permit

- **McLaughlin Run (C-53-10)**

- All work completed by USC, approved by ALCOSAN, Bridgeville working through improvements now
- Resolution passed by USC, ALCOSAN to begin transfer permit once Bridgeville improvements completed

- **Brush Run (C-55-02)**

- USC reviewing terms of transfer agreement, resolution to follow



QUESTIONS