



Pittsburgh
Water & Sewer
Authority

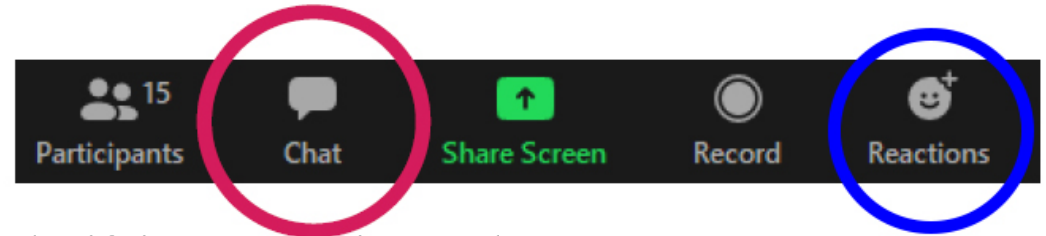
Four Mile Run Neighborhood Projects: Water / Stormwater / Sewer

19 October 2021 Project Updates

Submitting Questions Using Zoom

During Presentation

- Participants will be muted
- To ask a question use the chat box below
- We will pause between sections to answer clarifying questions about information presented on slides



Click the Chat Icon

- Located bottom of screen
- Looks like cartoon bubble
- Type question in dialogue box; press enter to send
- All attendees will receive your question
- Raise hand (*9 phone) or Reactions button if need to interject

When presentation ends

- We will respond to questions individually
- We will unmute microphones to enable verbal Q&A

For more information or to ask a question after the meeting, please visit www.pgh2o.com/4mr

Welcome and Introductions



Tony Igwe, PE
PWSA– Stormwater Group Manager; Project Manager

Dan Cleary
PWSA – Water Group; Project Manager

Meghan Simek, PE
PWSA – M29 Outfall Project Manager

Tim Prevost
ALCOSAN – GROW Program Manager

Mallory Griffin, P.E.
JMT – M29 Outfall and Stormwater Pipeline Design

Diane McConnell, P.E.
JMT – Four Mile Run Water Relocation Design

Kari Mackenbach, CFM, ENV SP
ms consultants – Hydraulic modeling – 4MR Storm

Pat Sullivan, PE
CEC – Panther Hollow Lake and Junction Hollow Design



ms consultants, inc.
engineers, architects, planners



Civil & Environmental Consultants, Inc.



Today's Agenda

6:30pm – 8:00pm



- 1: PWSA's Mission and Program Goals**
- 2. Four Mile Run Large Diameter Water Relocation - Update**
- 3. Four Mile Run Stormwater Improvements – Update**
- 4. M29 Outfall Improvements – Construction Update**
- 5: Overall Project Schedule and Costs**
- 6: Questions and Answers**

1

PWSA Mission and Program Goals



PWSA's Mission

ORIGINAL MISSION:

- PWSA's mission was originally limited to providing drinking water to Pittsburgh's homes and businesses, and to providing conveyance of wastewater through the sewer system to ALCOSAN's treatment facilities.
 - The M29 Outfall is part of the PWSA combined sewer system
 - The Four Mile Run 50-inch transmission main is a critical portion of the PWSA drinking water system

TODAY: inclusion of stormwater

- Successful stormwater management requires participation from government, residents, businesses, and non-profits.
- As the problem has grown in scale and in intensity, PWSA identified a need and has taken the initiative to address the impacts of stormwater.
- PWSA's 2016 Green First Plan identified projects and programs, including the Four Mile Run project, that can have a positive impact.



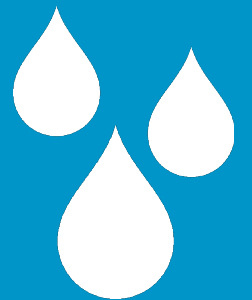


COMBINED PROJECT GOALS AND BENEFITS:

1. Longevity of Critical Water and Sewer Infrastructure
2. Resiliency of Infrastructure and Water Quality
3. Reduce Combined Sewer Overflows
4. Reduce Flood Risk
5. Manage Sediment and Operational Costs
6. Leverage Resources for Regional Benefit

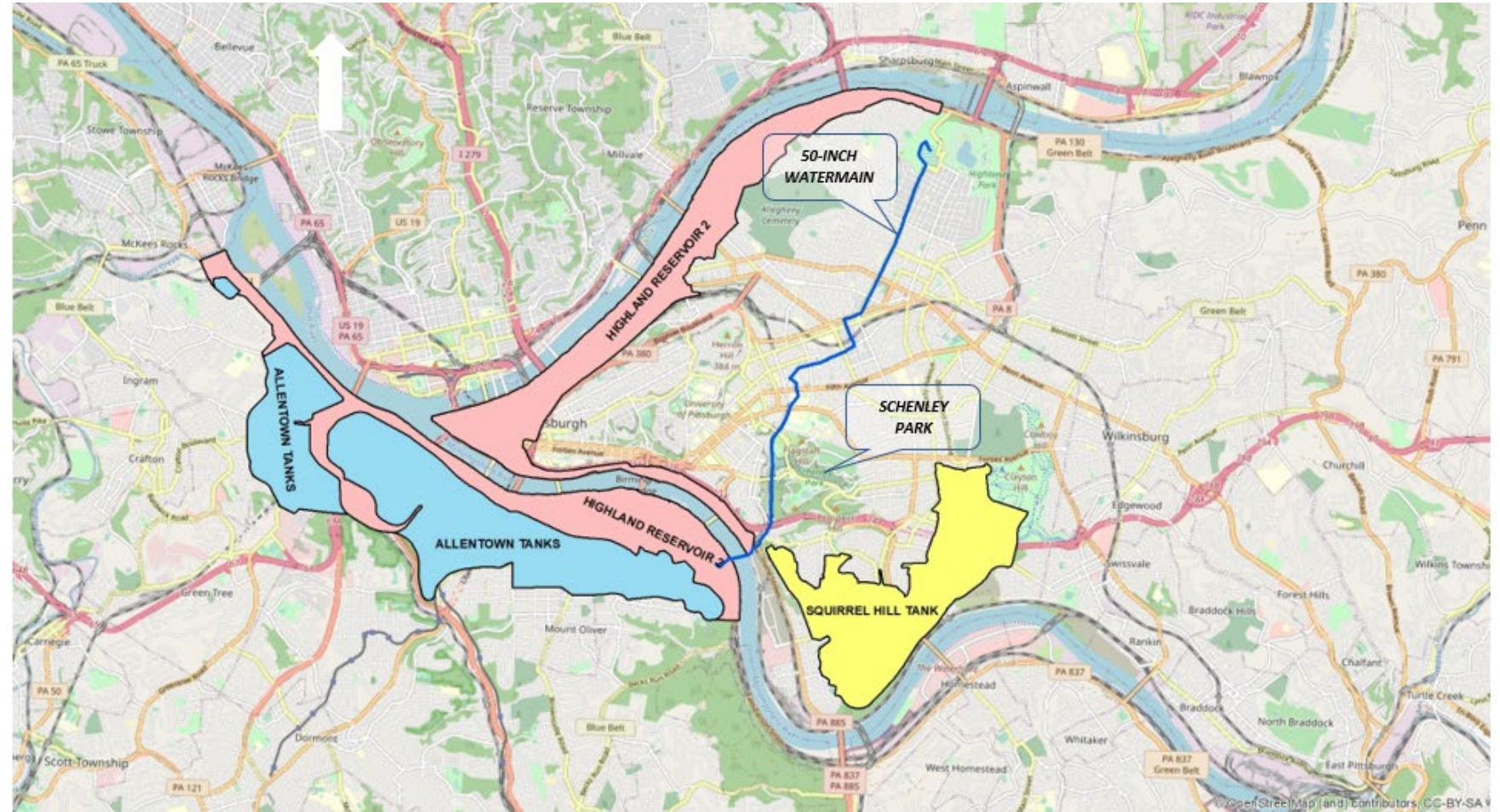
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Four Mile Run Large
Diameter Water Relocation

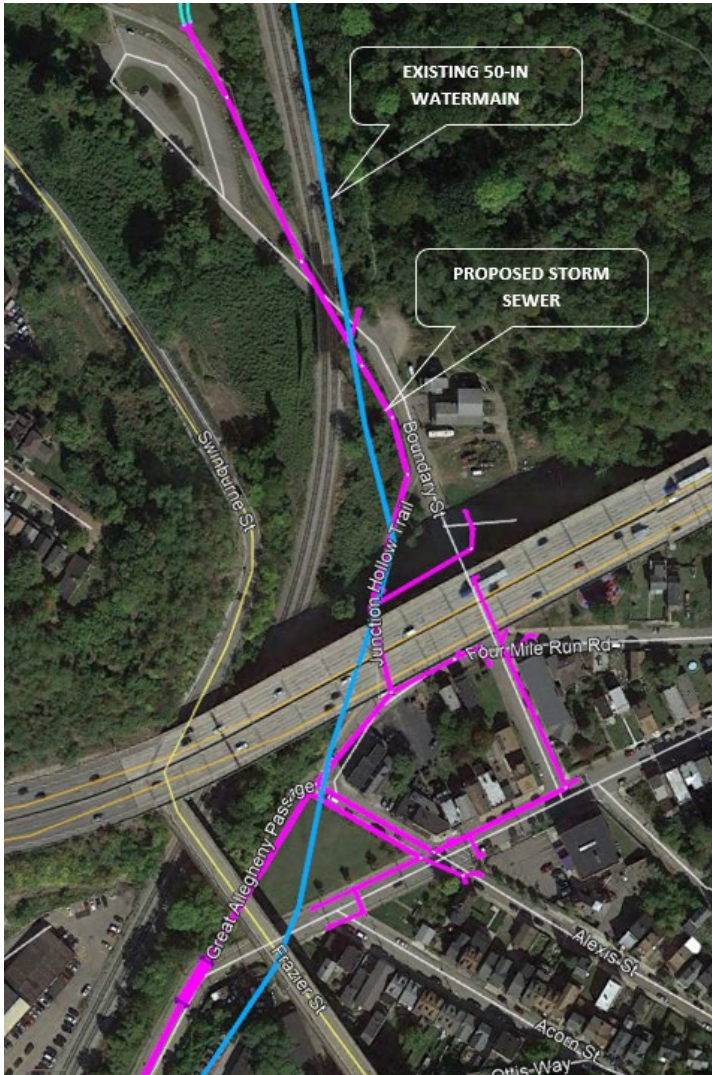


Four Mile Run Large Diameter Water Overview

- Existing 50-inch steel water main built in 1906
- Part of Highland System 2 from Highland Park to South Side
- Through Schenley Park and Four Mile Run neighborhood



Four Mile Run Large Diameter Water Relocation



- Water main location conflicts with new storm water pipes in the Run
- Relocating the water main is the only viable option
- Relocate 1,000 LF of 50 -inch water main in the Run
- Considering that the storm water project continues to Panther Hollow Lake and the water main does , too ...
- Relocate 3,000 LF of 50 -inch watermain along CSXT railroad to Panther Hollow Lake





Four Mile Run Large Diameter Water Relocation

- Construct relocated water main in a location that will ensure long-term operation and maintenance access
- Eliminate risk associated with critical infrastructure failure due to age
- Coordinate asset construction with other PWSA projects to avoid future service disruptions

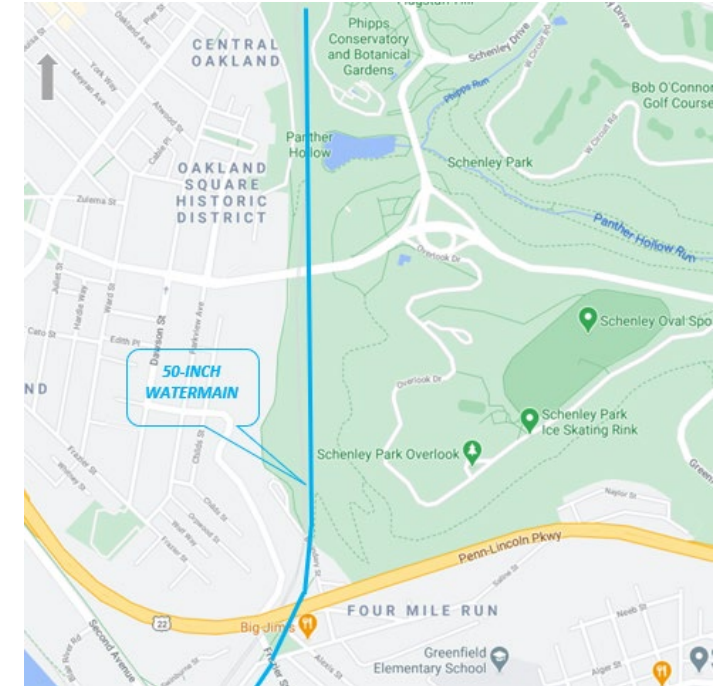
Four Mile Run Large Diameter Water Relocation

SCHEDULE

- PADEP public water supply (PWS) application submitted in May 2021
- CSX railroad permitting ongoing
- Begin construction after receiving permit
- Coordinate construction with stormwater projects
- Estimated construction Spring 2022 – Early 2023
- **Project must be completed ahead of stormwater project**

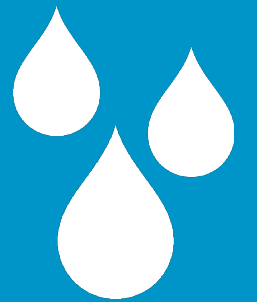
IMPACTS

- Junction Hollow temporary trail and detours
- Construction occurring in Four Mile Run Park and Schenley Park

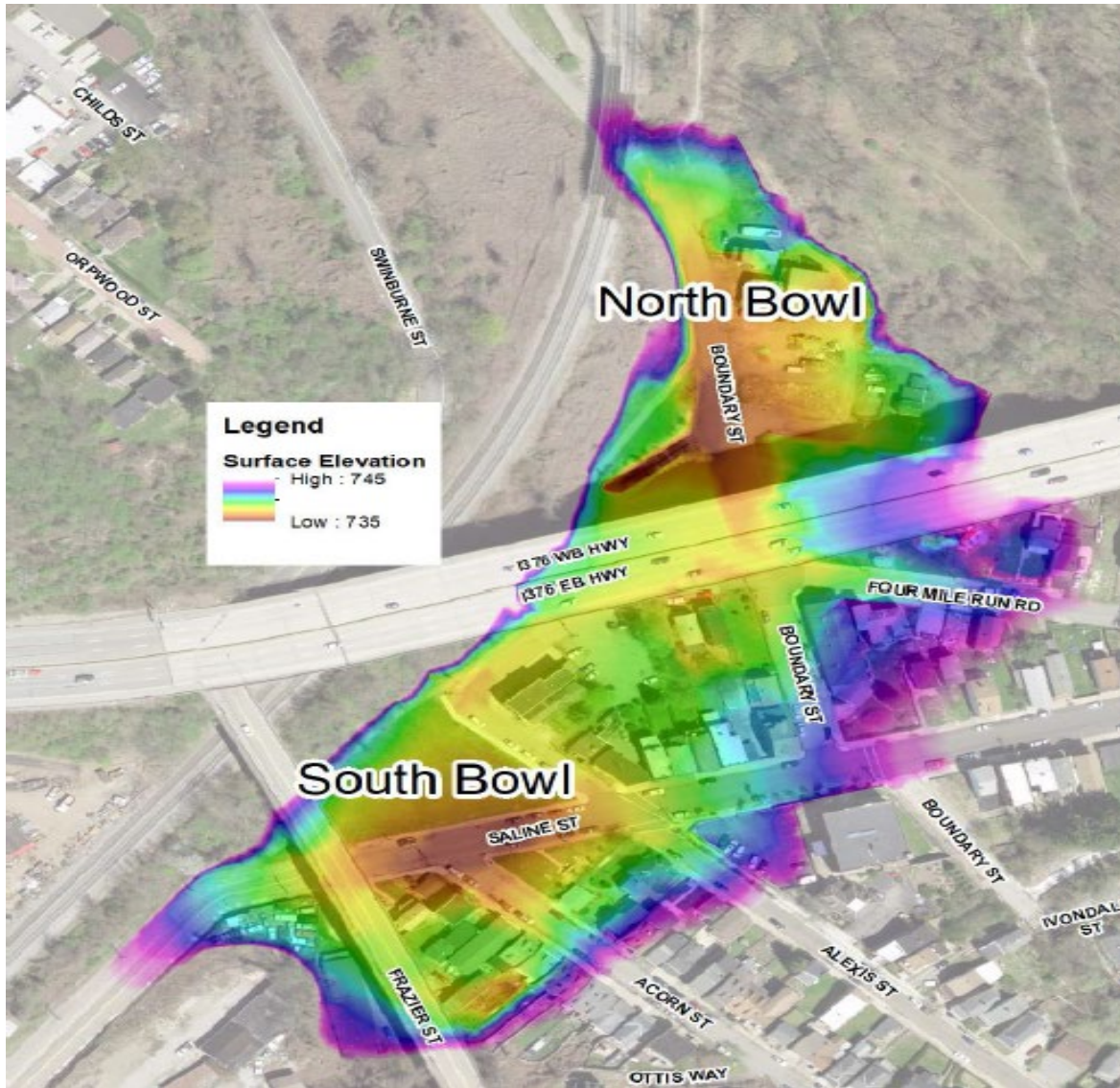


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Four Mile Run Stormwater
Improvements - Update



Review - Flooding – Points of Interest



Proposed conditions:
10-year storm;
flooding confined to
road / drainage
channel



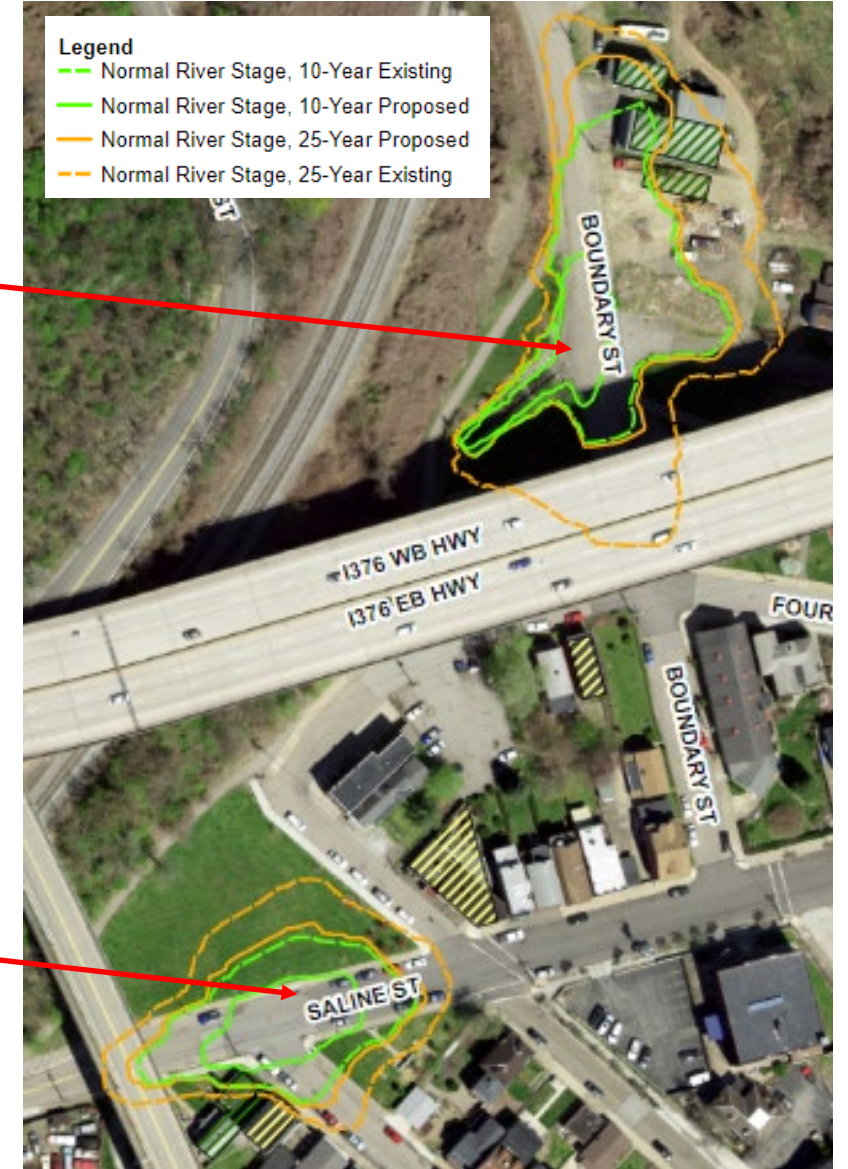
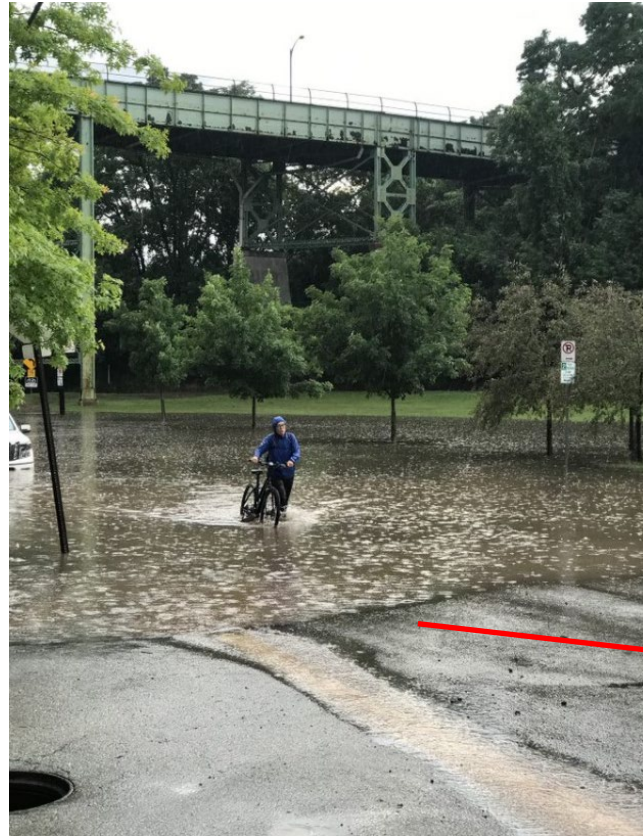
Review - Flooding – Points of Interest



June 13, 2021, rain event existing conditions at Four Mile Run North and South bowl.

This storm was calculated to be less than a 2-year storm.

30 inlets were cleaned over the next 2 days by PWSA crews.

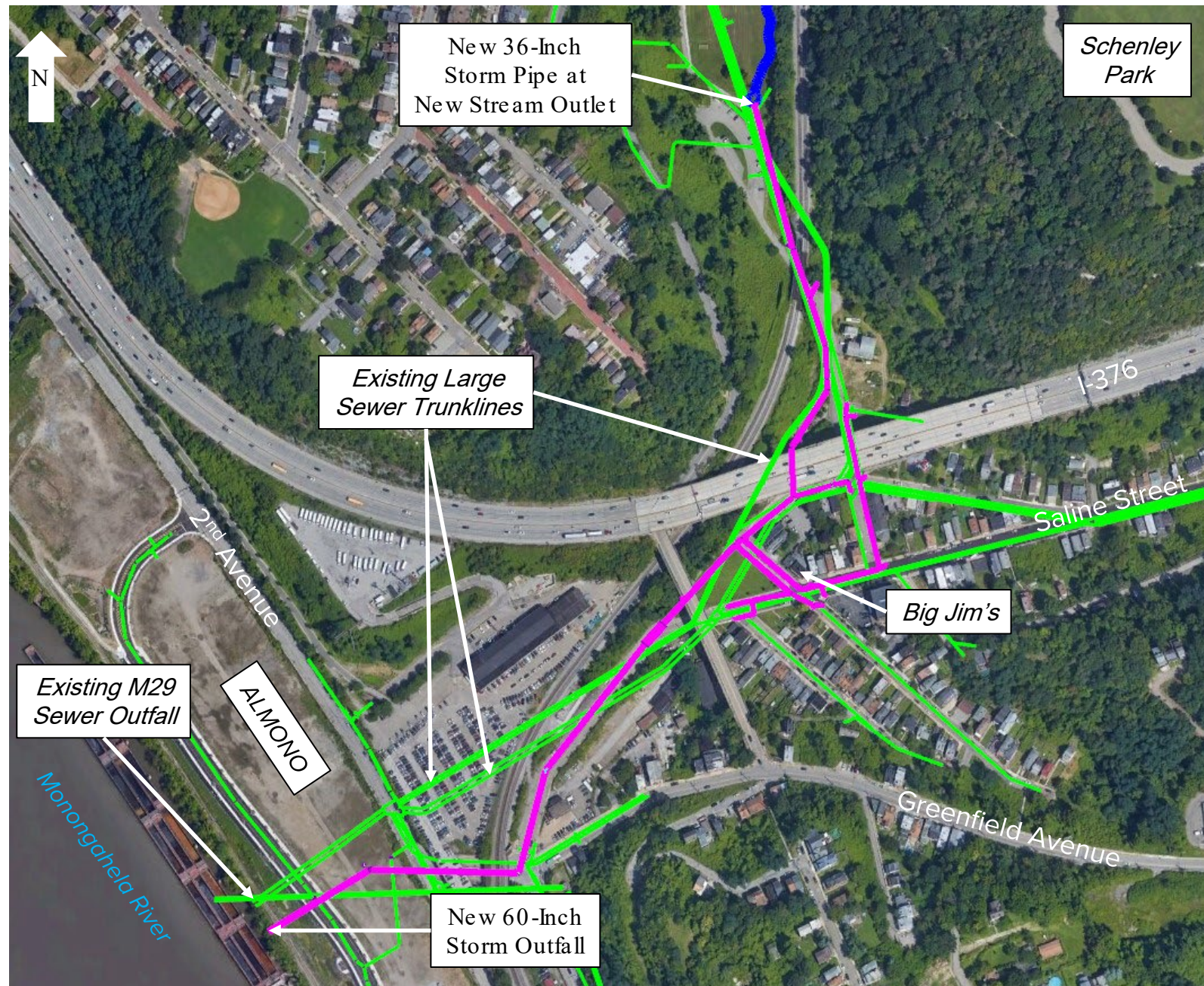


Increase level of service from less than 2 -year storm to 10-year storm

Review - Stormwater Pipeline

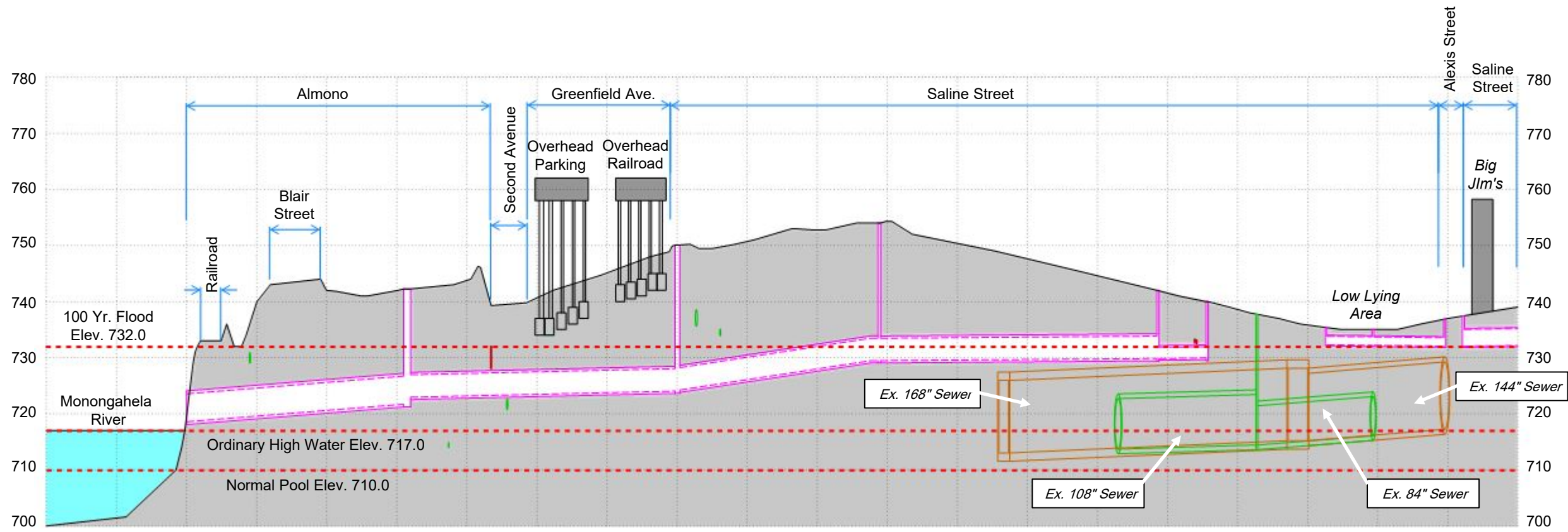
Map Legend

- Existing Combined Sewer
- Proposed Storm System



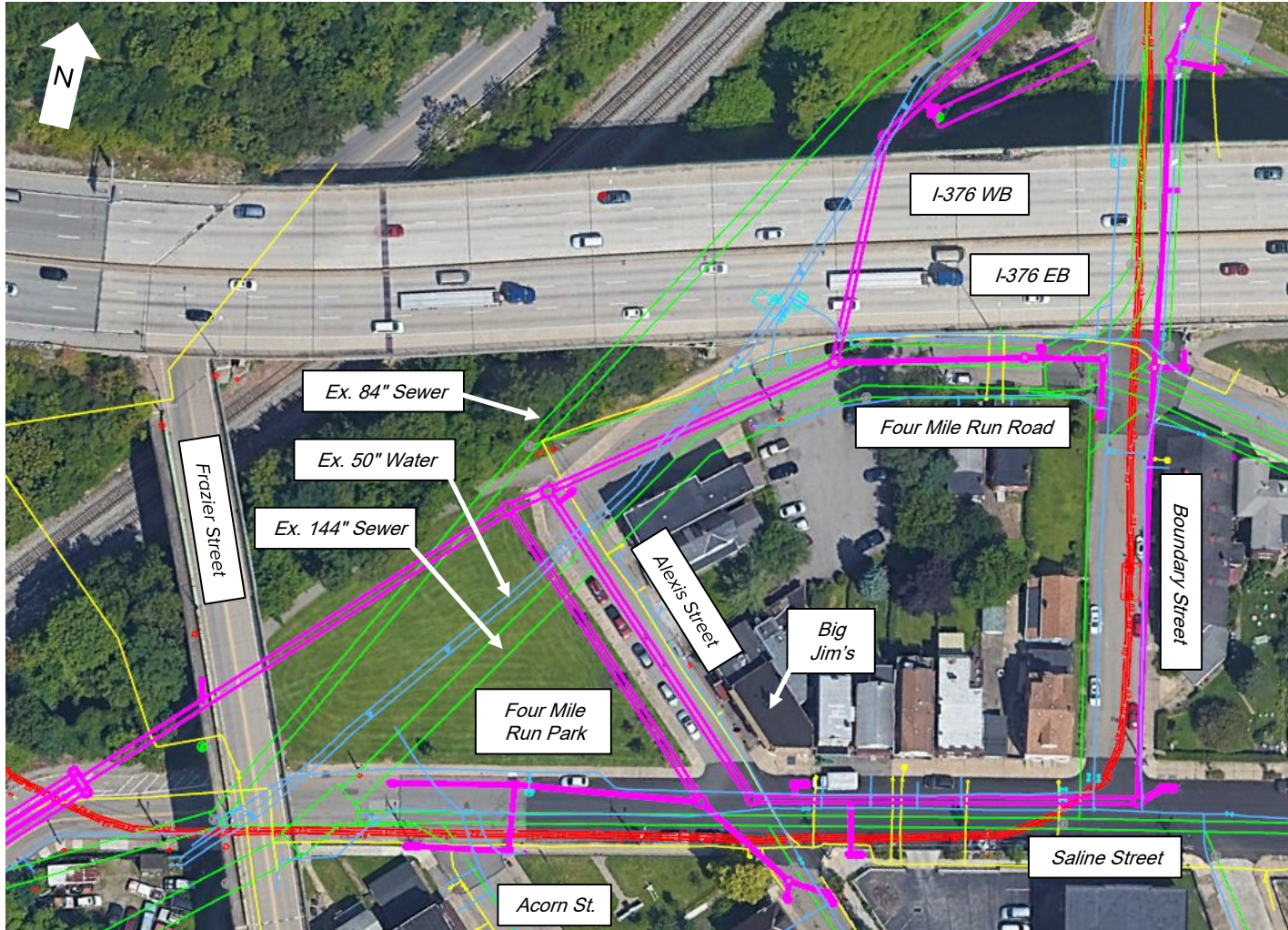
Review - New Storm Profile

Monongahela River to Big Jim's on Saline St.



Review - Utility Improvement Corridor

Saline St. / Alexis St. / Four Mile Run Rd./ Boundary St.



Updates from stormwater:

- 30+ new storm inlets
- Disconnection of combined sewer inlets
- Disconnection of I-376 drainage

Additionally, PWSA is replacing

- 16" water main in Saline and Boundary St.
- 8" water main in Boundary St.

People's Gas is replaced:

Gas mains in Saline, Alexis, Boundary, and Four Mile Run Rd. – **Completed**

Map Legend	
	Proposed Storm
	Existing Sewer
	Existing Water
	Existing Electric
	Existing Gas

Work completed by Peoples Gas



People's Gas is replaced:

Gas mains in Saline, Alexis, Boundary, and Four Mile Run Rd. **Completed in Summer 2021**

This work was coordinated with PWSA future storm drains but completed by PNG. Contact PNG Project Manager: DouglasDuSheid with any questions. Douglas.DuScheid@peoples-gas.com

4MR Stormwater Update – Where we are at: Final Permitting

Allegheny County Conservation District - Erosion and Sed. Control Approved Dec. 2020

City Stormwater – Final Approvals February 2021

PADEP Joint Permit Application – submitted Aug. 2020; revised Aug. 2021; in technical review

US Army Corps of Engineers – submitted August 2020; **Approved October 2021**

Panther Hollow Lake Dam Safety Permit – original submission Nov 2019

- Completeness review accepted March 2021; Technical Review Period ongoing

PennDOT HOP – **Approved July 2021**

CSX Railroad

- Agreement and technical review ongoing

Stormwater Project Schedule- Update

Permitting – August 2020 to present:

If the new City Administration changes or removes the Mon+Oakland trail design, permitting will need to start over causing significant delay.

Construction Phasing: Spring 2022 – Winter 2024

Phase 1 – Mon River to Saline Street: Mid 2022

Phase 2 – Boundary Street to Soccer Field: Early 2023

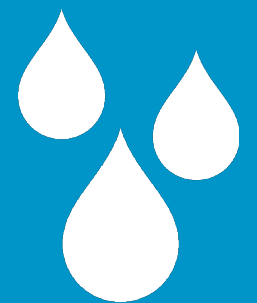
Phase 3 – Stream Daylighting: Mid 2023

Phase 4 – Connect Panther Hollow: Early 2024

Phase 5 – Restoration: 2024

4

M29 Outfall Improvements Construction Update



M-29 Outfall Improvements Location

- Joint responsibility of PWSA and ALCOSAN
- 3rd Largest CSO Structure in the System
- Original construction in 1800's for steel mill to culvert Four Mile Run
- Approximately 450 foot long section of Brick Culvert between Second Avenue and the Monongahela River



Project Location



1892 keystone date



M-29 Construction Challenges



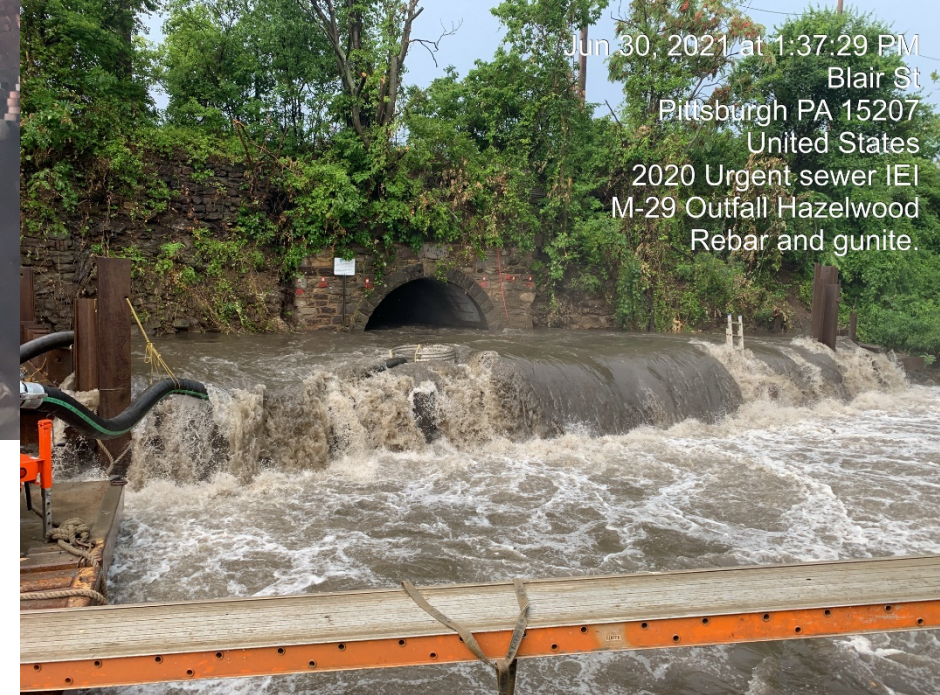
Setting up to build the steel sheet pile cofferdam on the Monongahela River

The *POWER OF WATER* Bent a 14-inch steel beam



Jun 26, 2021 at 1:07:30 PM
Blair St
Pittsburgh PA 15207
United States
2020 Urgent sewer IEI
M-29 Outfall Hazelwood
Rebar and gunite.

Once dewatered, the conditions inside the culvert were not good



Jun 30, 2021 at 1:37:29 PM
Blair St
Pittsburgh PA 15207
United States
2020 Urgent sewer IEI
M-29 Outfall Hazelwood
Rebar and gunite.

June 30th rain event washed out the entire site

M-29 Culvert Rehabilitation Progress

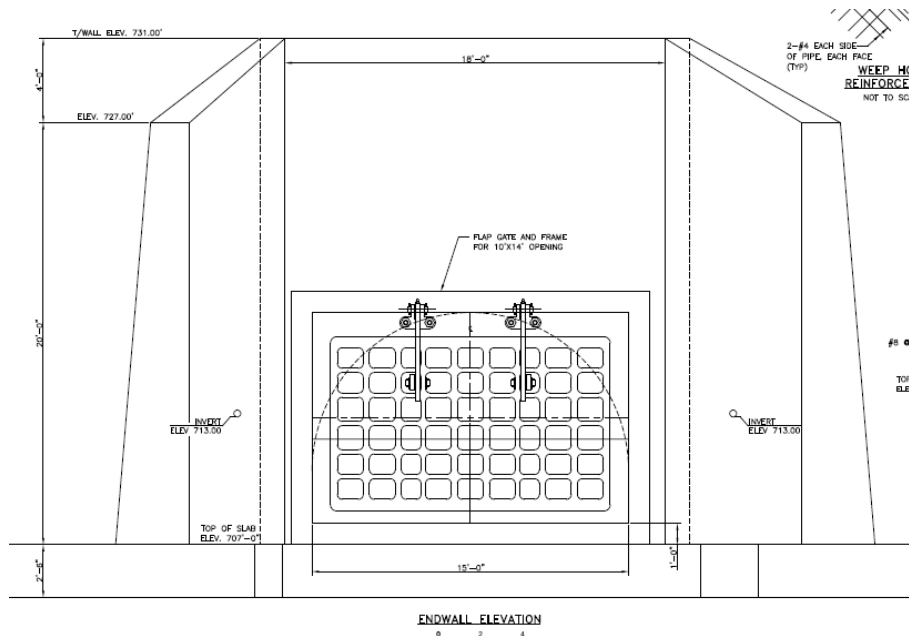


July 2021 Before: Brick structure with major structural defects and wall missing



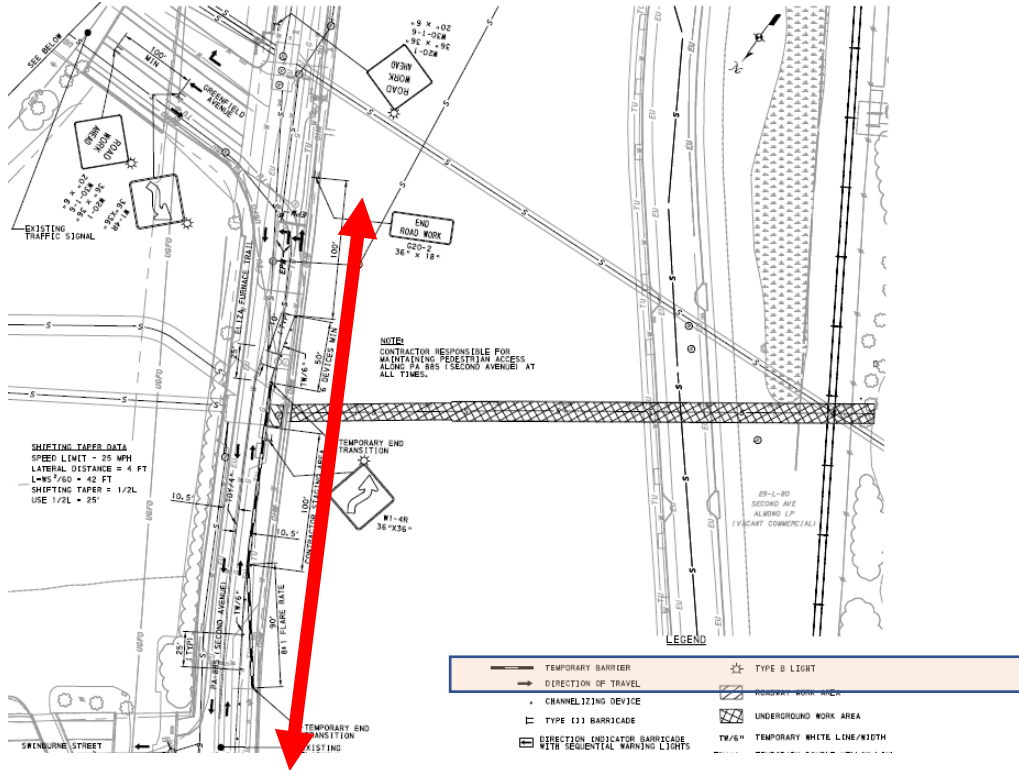
October 2021 After: Full structural lining and new invert

M-29 Outfall Rehabilitation Progress



- Replace old failing endwall on the Mon River
- Construct new cast-in-place concrete endwall
- Install new flapgate structure to stop river water and sediment from entering the system

M-29 Outfall Construction Schedule and Impacts



CONSTRUCTION AWARD: April 23, 2021

CONSTRUCTION DURATION

- June to November 2021
- Flap gate to be installed in 2022 due to manufacturing delays

IMPACTS:

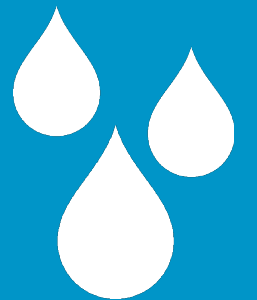
- Daily lane closure at Second Avenue following PennDOT restrictions
- Limited detours on nights / weekends

Second Ave Lane Closure and Detour



5

Project Schedule and Costs



Project Costs and Funding

- Update

All Project Costs: ~\$42.65M

- Design, easement, permitting and modeling fees: \$8.5M
- Early Action project (complete) - \$537,000
- M29 Outfall project (in construction) - \$3.6M
- 50-inch water relocation (in final design) - \$9M
- Stream and Panther Hollow Lake - \$4.5M
- Stormwater Pipeline - \$13M
- Construction Management / Inspection - \$2.5M
- Future maintenance and operation - \$1M

ALCOSAN GROW Funding \$10M to be reimbursed after construction

THANK YOU, ALCOSAN!



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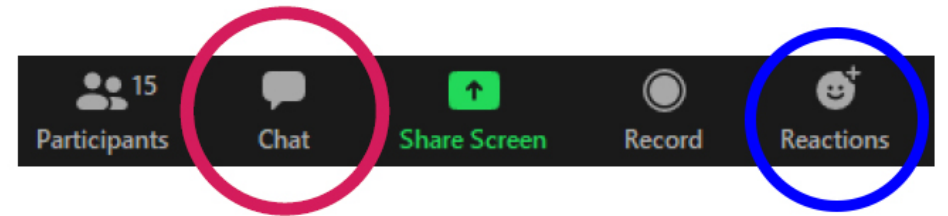
Questions and Answers



Facilitating Today's Q&A

Click the Chat Icon to ask a question

- We will answer questions in the chat first
- Located bottom of screen
- Looks like cartoon bubble
- Type question in dialogue box; press enter to send
- All attendees and facilitators will see your question



Open Q&A Discussion

- We will call on those with questions
- Everyone will have a chance to speak
- Speak politely; one at a time
- You may continue to use chat feature to ask questions

For more information or to ask a question after the meeting, please visit www.pgh2o.com/4mr