Welcome

Special thanks to all of our hard working teaming partners and dedicated leaders at the City of Akron, including:

DAN HORRIGAN, MAYOR
JOHN O. MOORE, SERVICE DIRECTOR
CHRIS D. LUDLE, DEPUTY SERVICE DIRECTOR
JAMES A. HEWITT, PE, CITY ENGINEER
PATRICK D. GSELLMAN, PE WW3, PROGRAM MANAGER
BRIAN M. GRESSER, PE, WRS MANAGER
ROBERT SOLOMON, PE, PROJECT MANAGER

Our Mission lies in building infrastructure that will protect public health and maintain water of the highest quality in the most cost-effective manner while providing local jobs.
CSO TRILOGY – GRAY TO GREEN TO GRAY
HOWARD STORAGE BASIN
AKRON WATERWAYS RENEWED

Presented by: Robert Solomon, PE & David Frank, PE
Agenda

› BACKGROUND
› COMPLIANCE – CSO TRILOGY - GRAY TO GREEN TO GRAY
› INTEGRATED PLANNING SEPARATION & GI CHALLENGES
› STORAGE BASIN
› CREATIVE FINANCING
› CONSTRUCTION AFO

2018 OWEA Collection System Workshop
Census:
• Population ~200,000
• Service Area Population 350,000

Great Lakes & Ohio River Basins:
• Receiving Waterways:
  - Cuyahoga River
  - Tuscarawas River

WRF (WWTP) Capacity:
• Activated Sludge Process - 175mgd avg./130mgd max.
• Secondary Treatment – 280mgd hydraulic peak

Consent Decree:
• Entered in January 2014 (Started 1991)
• ZERO overflows during the TY storm.
411 on the 330

Long Term Control Plan:
• WRF WWTP Increased Capacity
• 10 CSO Storage Basins
• 27’ Dia. Ohio Canal Interceptor Tunnel
• Northside Interceptor Tunnel
• 5 Sewer Separation Projects
• CMOM Program, 5yr Reoccurring
• 4 Additional CD/SSO Projects

Integrated Planning:
• Increase environmental benefits
• Reduce long term maintenance
• Swop CSO Storage Basin project with Separation & Green Infrastructure
• Make cost less unaffordable
• Commitment to maintain schedule
North Hill Separation – Green Project (CSO Rack 22)

- 425 Acre Residential/Commercial Sewershed
- Work to be performed on City owned land, within Ex. R/W and on private property, if warranted.
- Clean water connections and testing
- Partial Separation to achieve compliance of ZERO overflows during TY
- Topographic relief
- Timing constraints – AFO December 31, 2017
North Hill Separation – Green Project (CSO Rack 22)

- Distributive GI negotiated to treat 100% of the WQv within the separation limits
- Impact to mature neighborhoods
- Impact to public and private utilities
- Regional end-of-pipe GI BMP alternative
- Restoration & Maintenance
Separation at the Source

- Dye tested every property within the separation limits.
- Only 15 of the 650 homes tested had positive connections.
- Glowing positive for separation

Private Property Testing
A Look at Regional GI Opportunity

- Constructed Stormwater Wetland
- Volume control of 1.32 MG
- Access & Use
- Interruption of Amenities
  - Playground
  - Community Garden
- Child Safety
- Maintenance
- Introduction of point discharge

End-of-pipe BMP
Howard Storage Basin

3 Key Design Considerations:

1. Location
   - Access, Geology, Surface and Groundwater
   - Maintenance

2. Conveyance
   - Flow to Basin
   - Flow from Basin

3. Model Response
   - Meet regulatory requirements
   - Define real time controls and response
   - Dewatering

Basin Design Keys
Howard Storage Basin

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Basin Overview
Creative Financing

- Ohio Water Development Authority loans commonly used by Akron to help with unaffordability.
- Total Loan Amount: $21.9M
  - Construction: $16.5M
  - Planning & Design: $2.7M
  - CM: $1.7M
  - Admin./Contingency: $0.95M
- $13M using 0% rate, 30yr Water Pollution Control Loan Fund (WPCLF) CSO Reduction Discount Program
- Combined with Water Resource Restoration Sponsorship Program (WRRSP), 45yr, 0.93% rate. Sponsoring three Ohio projects:
  - Williamsburg Low-Head Dam Removal ($674,911)
  - Scioto River Preserve Phase 2 ($775,000)
  - Cackley Swamp Kiser Property Acquisition and Restoration ($565,000)
- Saved $17M!

Show me the money!
Construction Progress & AFO
Construction Progress & AFO
Construction Progress & AFO
Thank you