



**ROBINSON PIPE CLEANING**  
*A Carylton Company*



**METCO**



**Somat Engineering**  
INCORPORATED



***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.***

# Welcome



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

DAN HARRIGAN, 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

ROB SOLOMON, PE, PROGRAM PROJECT MANAGER

## 2018 Ohio Stormwater Conference







# FAST-TRACKED DESIGN SAVES RATE PAYERS MONEY FOR AKRON CSO PROGRAM



Presented by GPD Group: R. Tony Burgoyne, PE & David E. Frank, PE



Akron Waterways  
Renewed!



# Agenda

GPD GROUP // 2018 OSWC

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



2018 Ohio Stormwater Conference





## 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



## The City of Akron



Akron Waterways  
Renewed!



# 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

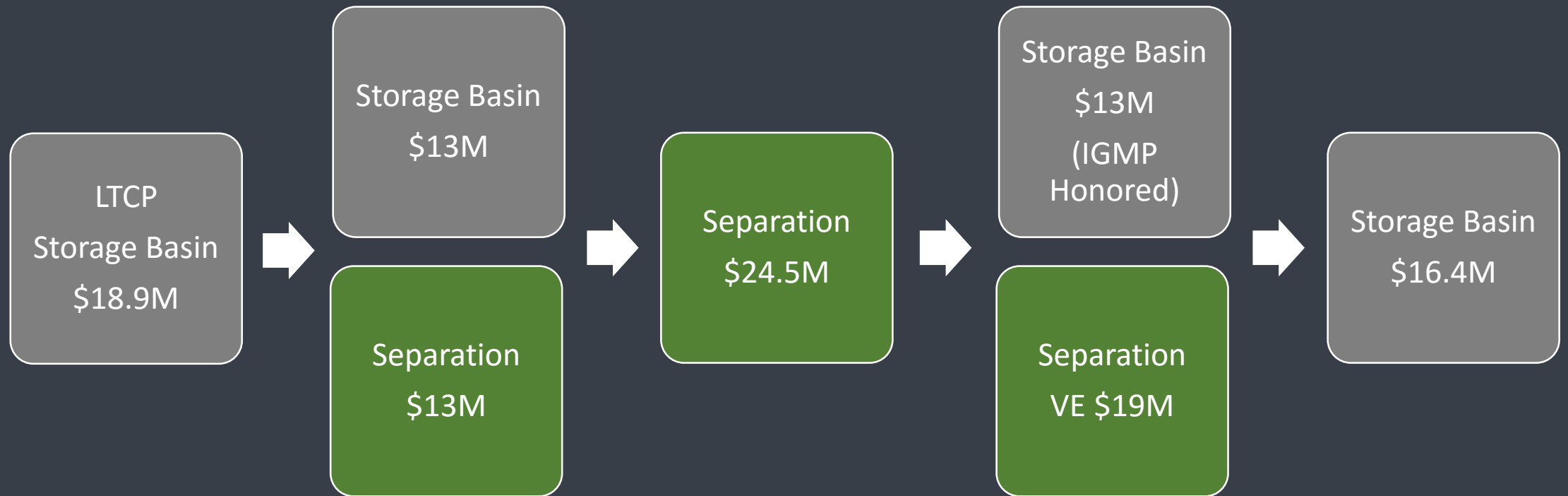


The City of Akron



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# CSO Trilogy – Gray – Green - Gray



Planning

30% Design

60% Design

90% Design

Final Design



Fast Tracked Design



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# 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



## Separation Challenges



## Akron Waterways Renewed!



# North Hill Separation – Green Project (CSO Rack 22)



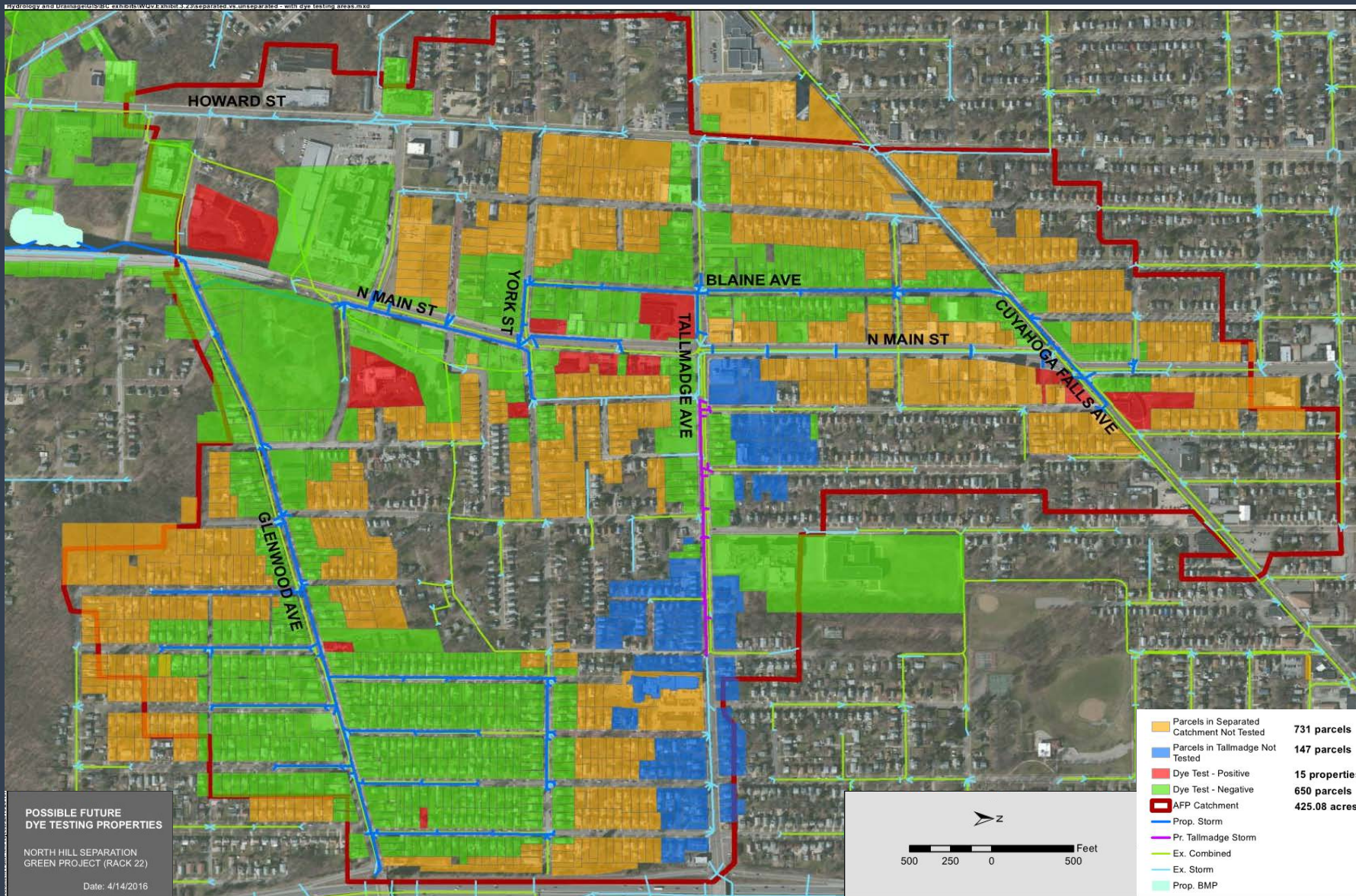
- Distributive GI negotiated to treat 100% of the WQv within the separation limits
- Impact to mature neighbor hoods
- Impact to public and private utilities
- Regional end-of-pipe GI alternative
- Regional end-of-pipe GI BMP alternative
- Restoration & Maintenance



Separation Challenges



# 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



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# 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

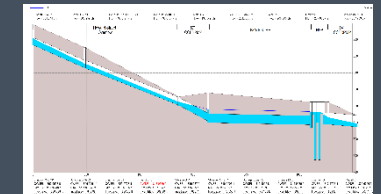
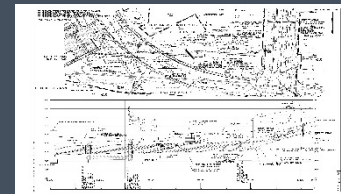
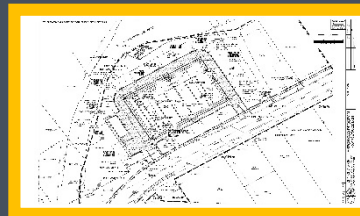
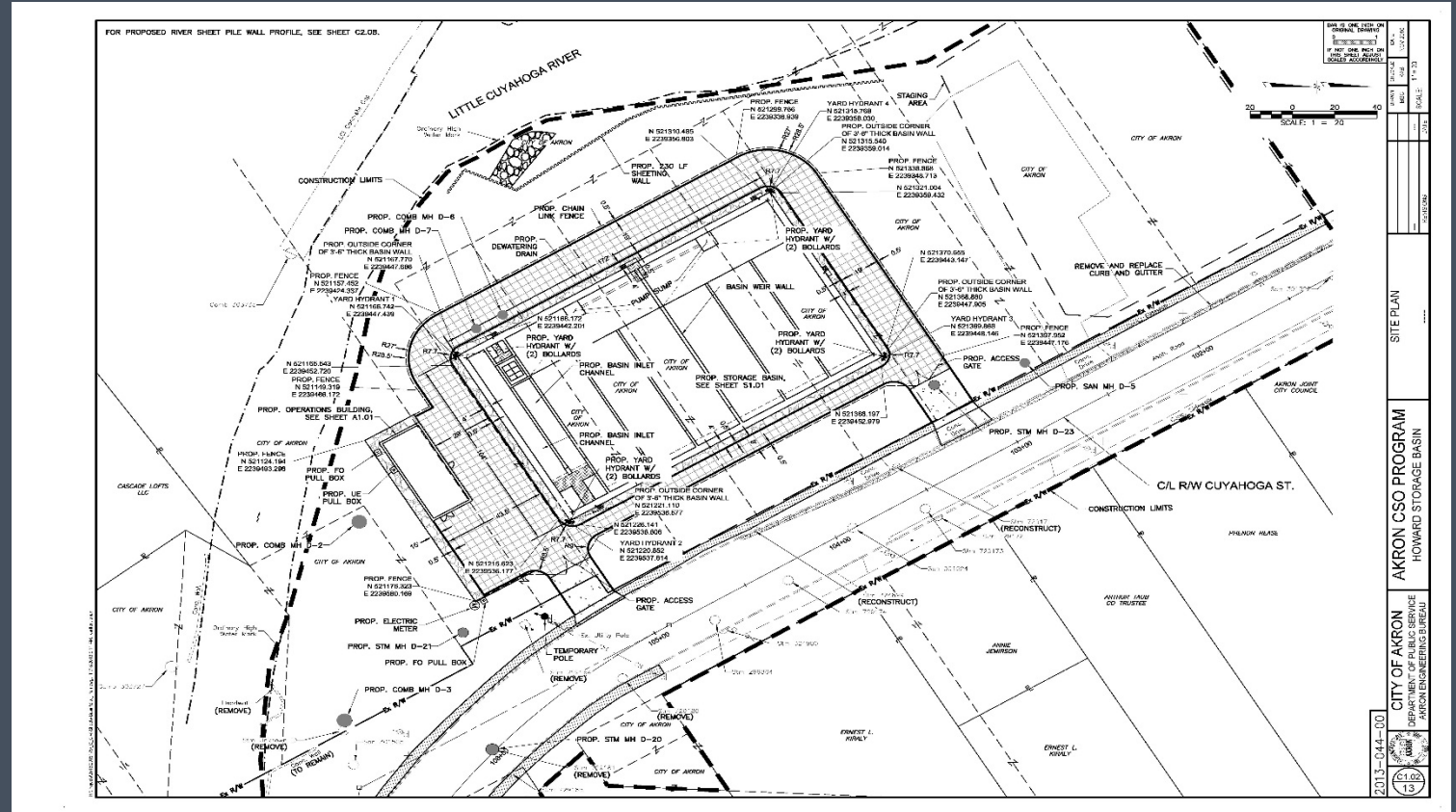
- **Access, Geology, Surface and Groundwater**
- **Maintenance**

## 2. Conveyance

- Flow to Basin
- Flow from Basin

### 3. Model Response

- Meet regulatory requirements
- Define real time controls and response
- Dewatering





# Howard Storage Basin

## 3 Key Design Considerations:

### 1. Location

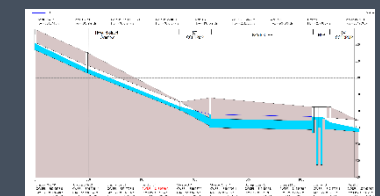
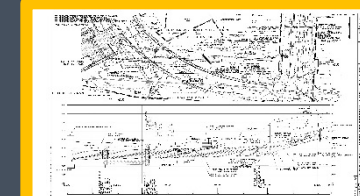
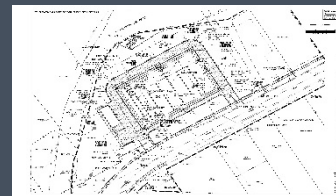
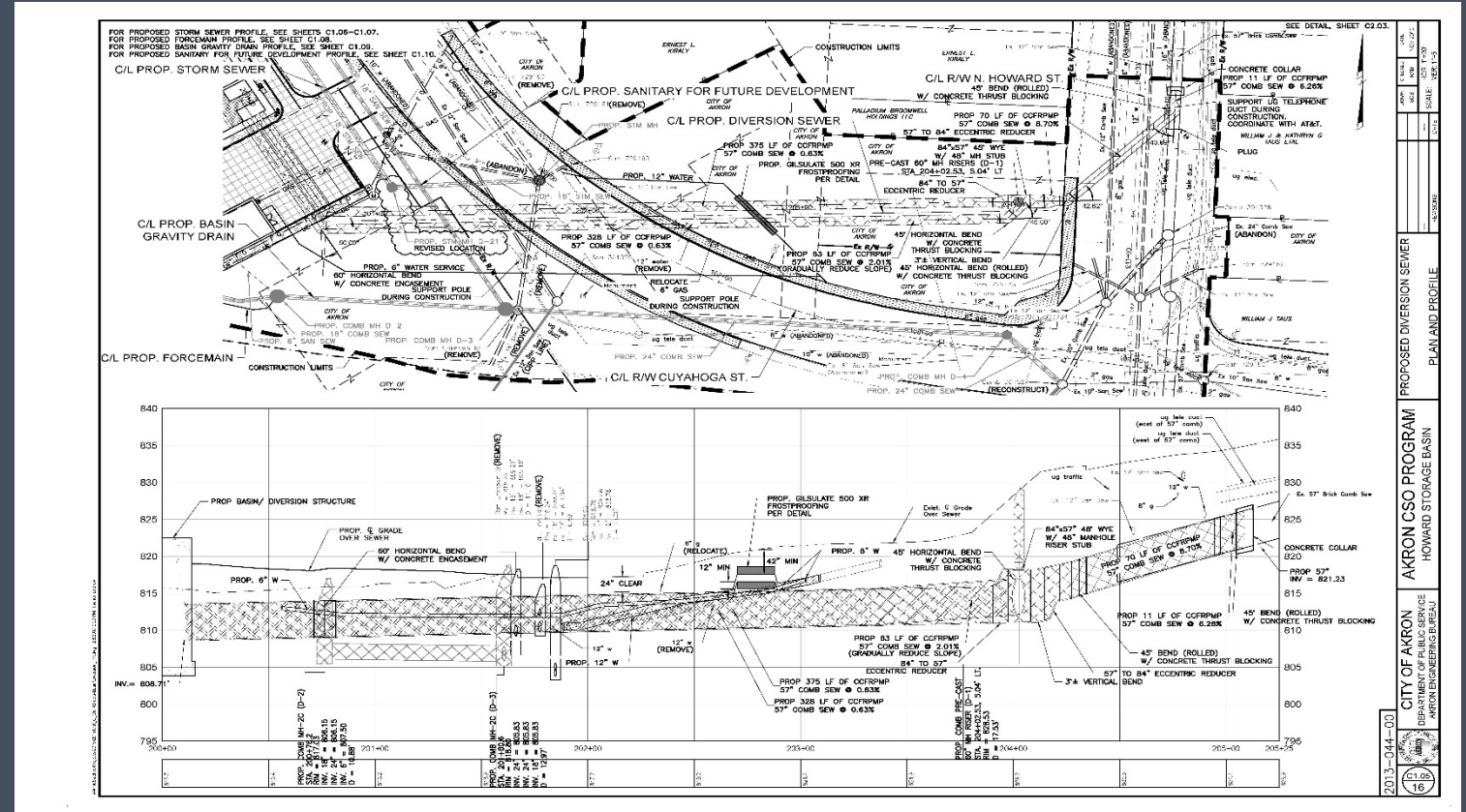
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Basin Design Keys



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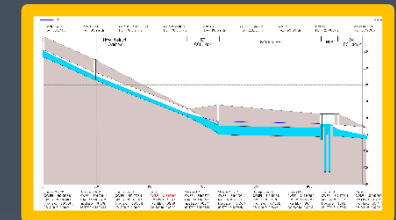
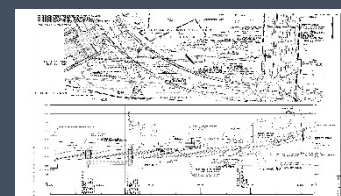
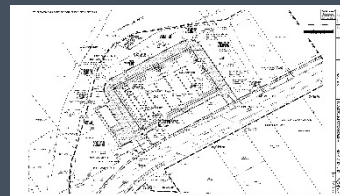
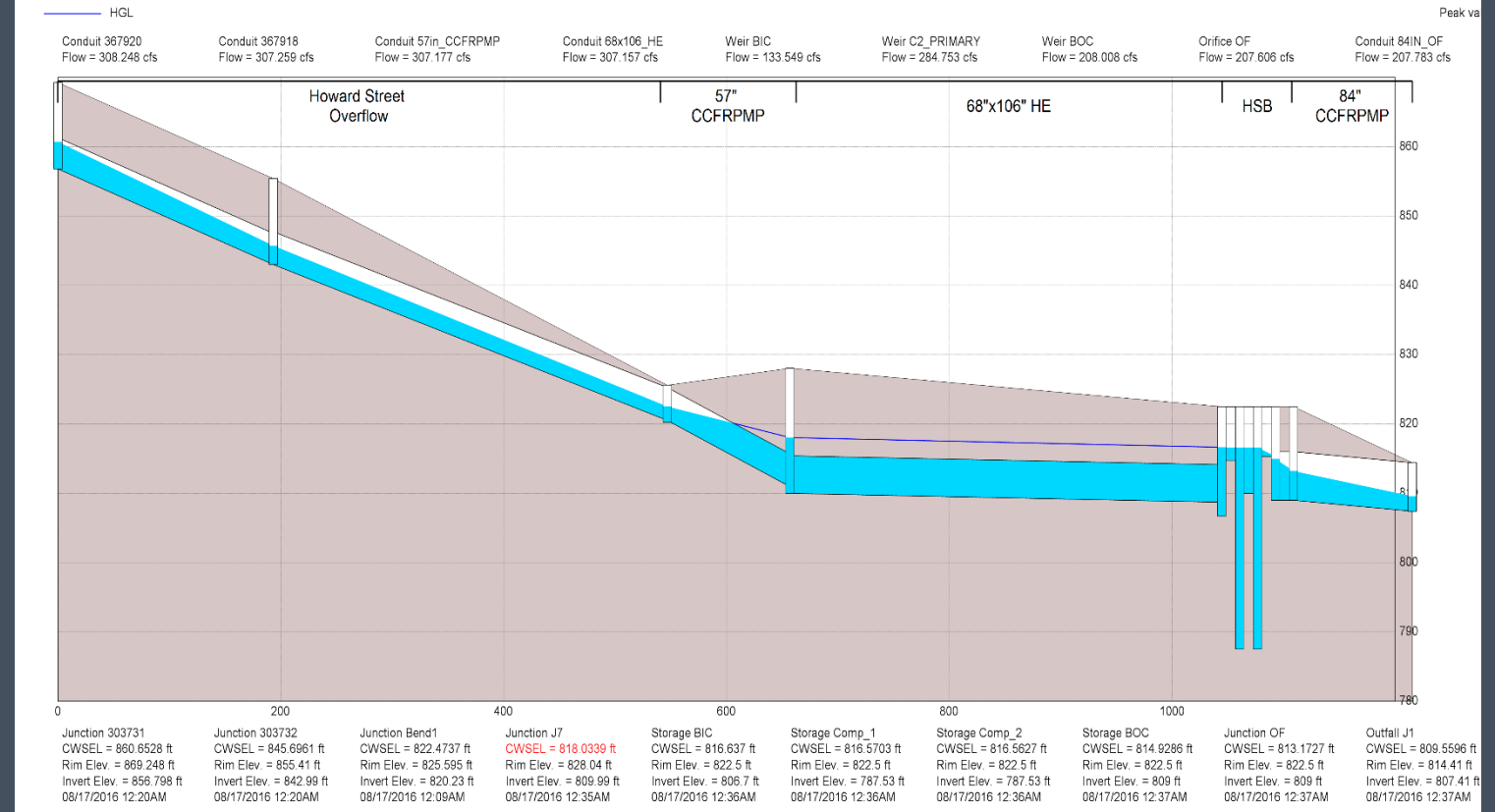
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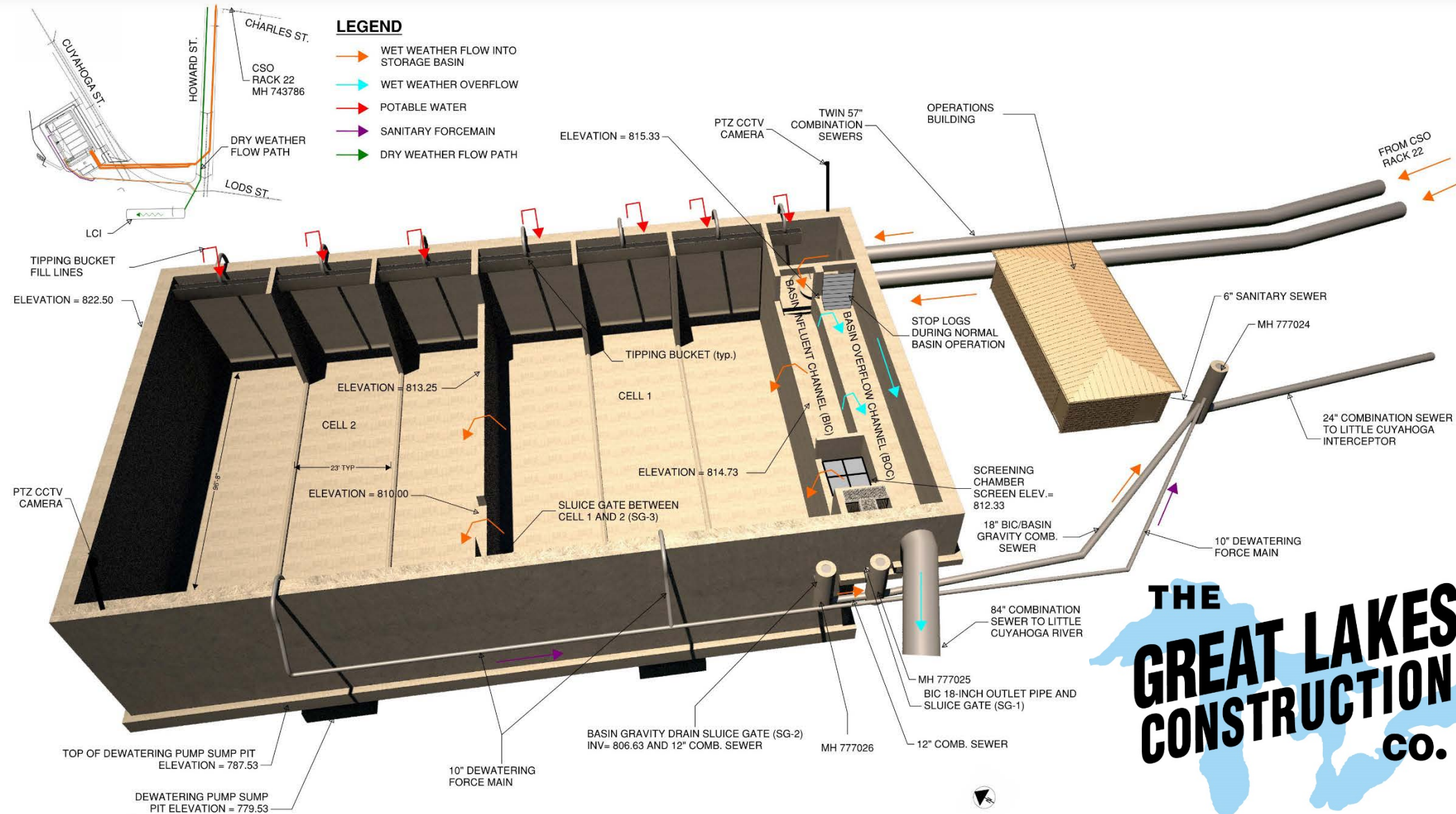
- **Meet regulatory requirements**
- **Define real time controls and response**
- **Dewatering**



Basin Design Keys



# Delivery Thru CMaR





# Creative Financing

- Ohio Water Development Authority loans commonly used by Akron to help with unaffordability.
- Total Loan Amount: \$21.9M
  - Construction: \$16.5
  - 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!**



Williamsburg Low-Head Dam Removal



Cackley Swamp Kiser Restoration



**Howard Storage Basin project recognized as one of only 28 projects in the county and rated exceptional by the U.S. EPA for excellence and innovation!**



Show me the money!





## Construction Progress & AFO



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## Construction Progress & AFO





## Construction Progress & AFO





## Construction Progress & AFO



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Thank you.



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