Water & Wastewater Infrastructure History

• Major Basic Infrastructure Construction in late 1800s and early 1900s
  • Sewers and Water Mains
Agenda

• Authority Overview
• General Update
• Clean Water Plan Overview
• Regionalization
• Professional Services Opportunities
• Upcoming Construction Projects
• Outreach
Authority Snapshot

- 60th Anniversary of Treatment
- 7 member Board of Directors
- 21 member Advisory Committee
- 7 Divisions
- 433 Employees
- Operating Budget - $101,613,100
- Capital Budget - $113,109,563
Divisions/Directors

Doug Jackson
Director of Operations & Maintenance/Deputy Executive Director

Jan Oliver
Director of Regional Conveyance

Kimberly Kennedy
Director of Engineering and Construction

Michelle Buys
Director of Environmental Compliance

William Inks
Director of Finance and Administration

Joey Vallarian
Director of Communications

Jeanne Clark
Director of Governmental Affairs

Suzanne Thomas
Procurement Officer
Woods Run WWTP
General Authority Update

• Consent Decree lodged, public comment period ended December 2\textsuperscript{nd}

• GROW Cycle 5 submittals in progress

• Two plant expansion construction projects underway
  ➢ Temporary hypochlorite
  ➢ Main pump station flow meters

• Phase III geotechnical drilling program underway

• Controlling the Source report nearing completion
ALCOSAN’s Clean Water Plan

**1992 - 1999**
- Regional Long Term Wet Weather Control Concept Plan Submitted: 1999

**2000 - 2013**
- Wet Weather Plan & Municipal Feasibility Studies Submitted: 2013
- Consent Decree Entered: 2008
- Alcosan, U.S. reach clean water agreement

**2014 and beyond**
- Starting at the Source Study: 2015
- Act 537 Special Study Sets Path for Plant Expansion: 2018
- GROW
  - Municipal Source Reduction Studies Submitted: 2017

**Phase 1 Treatment Plant Upgrades**
- Established: 1998
- 3 Rivers Wet Weather
- Stream Removal & Restoration Projects
- Regionalization Study: 2013

**Treatment Plant Capacity Expansion**
- Modified Consent Decree Supports Green First and Adaptive Grey Infrastructure

**System Monitoring & Modeling**
Key Features of the Modified CD

- Reflects regional priorities
- $2 Billion clean water investment
  - Source control / Flow reduction
  - Plant expansion
  - Regional storage and conveyance upgrades
  - Regionalization
- Extends completion date
- Adaptive management flexibility
**Phased Implementation**

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**Phase 1 Facilities**

- Complete Evaluation of Existing Interceptors
- Preliminary Planning Basis of Design Report
- Expand WWTP to 480 MGD Wet Weather Capacity (and 600 MGD disinfection)
- Request/Analyze Municipal Source Reduction Measures

**Phase 2 Facilities**

- Expand WWTP to 600 MGD Wet Weather Capacity
- Wet Weather Pump Station
- Ohio River Tunnel and Consolidation Sewers

**Phase 3 Facilities**

- Expand Secondary Treatment Capacity to 295 MGD
- Upper Monongahela Retention Treatment Basin
- Allegheny River Tunnel and Consolidation Sewers
- Monongahela River Tunnel and Consolidation Sewers

*Conceptual timeline, not all activities and dates are enforceable requirements*
Regionalization
Regionalization

ALCOSAN made best faith efforts to take responsibility for at least 200 miles of sewers and associated facilities by January 31, 2020

And the work continues...
Regionalization

• Criteria:
  ➢ Sewers that collect flow from more than one municipality
  ➢ Sewers 10 inches or larger in diameter

• Equals approximately:
  ➢ 270 miles of sewer
  ➢ 8 facilities (pump stations and EQ basins)
  ➢ 6,200 manholes
  ➢ 80 diversion structures

• 70 transfer agreements have been distributed
• Detailed facility evaluations underway
• On-Call contracts available for repairs
• GROW Program coordination ongoing
• Several transfers in progress
Capital Improvements Program

- Major repairs and rehabilitation necessary to maintain current facilities
- System upgrades and improvements to enhance capacity or efficiency of the treatment plant and interceptor system
- Long-term improvements required by the Consent Decree
Anticipated 2020 Professional Service Contracts
2020 Opportunities

• CSO-related bypass disinfection
• On-call
  ➢ WWTP process improvements
  ➢ Building renovation
  ➢ Green infrastructure
  ➢ Sewer improvements
• New access shaft manholes near river crossings
• Precipitation monitoring system replacement and upgrade
• Tunnel program management
Anticipated 2020 Plant Construction Projects
Wastewater Treatment Plant Expansion Projects

- Contract 1723, “North End Plant Expansion”
- Existing return activated sludge system modifications
- Electrical system improvements
  - Disconnect and remove 5KV outdoor main switchgear
  - Construct new 5KV substation
- Effluent flushing water system improvements
- New east headworks
- Parking garage
Contract 1723: North End Plant Expansion

- 1723G: General/Process Mechanical
- 1723E: Electrical
- 1723H: HVAC
- 1723P: Plumbing

- Advertised
- Bids Due April 14, Pre-Bid meeting Feb. 20
## 2020 Plant Expansion Projects Summary

<table>
<thead>
<tr>
<th>Package</th>
<th>Estimated Cost</th>
<th>Anticipated Bid Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>North End facilities</td>
<td>$130 Million</td>
<td>Bid January 28&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>Existing RAS system modifications</td>
<td>$20 Million</td>
<td>June</td>
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<tr>
<td>Electrical system improvements</td>
<td>$10 Million</td>
<td>TBD</td>
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<tr>
<td>EFW system improvements</td>
<td>$1.5 Million</td>
<td>November</td>
</tr>
<tr>
<td>East headworks</td>
<td>$110 Million</td>
<td>November</td>
</tr>
<tr>
<td>Parking garage</td>
<td>$12 Million</td>
<td>TBD</td>
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Anticipated 2020 Regional Conveyance Construction Projects
Regional Conveyance Projects

- CIPP rehab of the Lower Saw Mill Run interceptor
- 2020 flap gate replacement project at various locations
- CIPP rehab of Monongahela subaqueous interceptor
- Misc. pump station improvements
## Regional Conveyance Projects Summary

<table>
<thead>
<tr>
<th>Package</th>
<th>Estimated Value</th>
<th>Estimated Bid Date</th>
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</thead>
<tbody>
<tr>
<td>CIPP rehabilitation of the Lower Saw Mill Run interceptor</td>
<td>$11M</td>
<td>April</td>
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<tr>
<td>2020 flap gate replacement project at various</td>
<td>$2.5M</td>
<td>June</td>
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<tr>
<td>CIPP rehabilitation of the Monongahela subaqueous interceptor</td>
<td>$7M</td>
<td>July</td>
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<tr>
<td>Pump station improvements</td>
<td>$3.5M</td>
<td>October</td>
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Factual yet Misconstrued

PEOPLE DO BUSINESS WITH PEOPLE THEY KNOW
Business Basics

- Familiarity
- Reputation
- Credentials
ALCOSAN Website

- www.alcosan.org
- Registration for interested parties
- More information on awards
- Forms and policies available
Scholastic Outreach & Education

- PA Certified teachers conduct in-school educational programming surrounding STEM and STEAM curriculum
- Workforce and Vocational Exploration (WAVE) program in schools for middle and high school students
- Summer events:
  - Summer Science – Grades 4-5: June 15-19 or June 22-26
  - Summer Science – Grades 6-8: July 6-10 or July 20-24
  - Clean Water Academy – Grades 9-12: July 13-17
Save the Date:
Annual ALCOSAN Open House
September 12, 2020
Questions / Comments?