



Modified Consent Decree for the Sanitary Sewer System



Public Information Session
Maryland Department of the Environment
1800 Washington Boulevard, First Floor Lobby
Thursday, January 23, 2020



Modified Consent Decree for the Sanitary Sewer System



Tonight's Agenda

- Welcome
- Program Overview and Update
- Meeting Purpose
- Introduction to Team
- Open House: Learning Stations



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Program Overview

- A **Consent Decree** is a legal agreement or settlement that resolves a dispute between parties without admission of guilt or liability.
- On September 30, 2002, Baltimore City entered into a Consent Decree with the United States Environmental Protection Agency (EPA), Department of Justice (DOJ) and the Maryland Department of the Environment to address sanitary sewer overflows (SSOs) from the City's collection system.

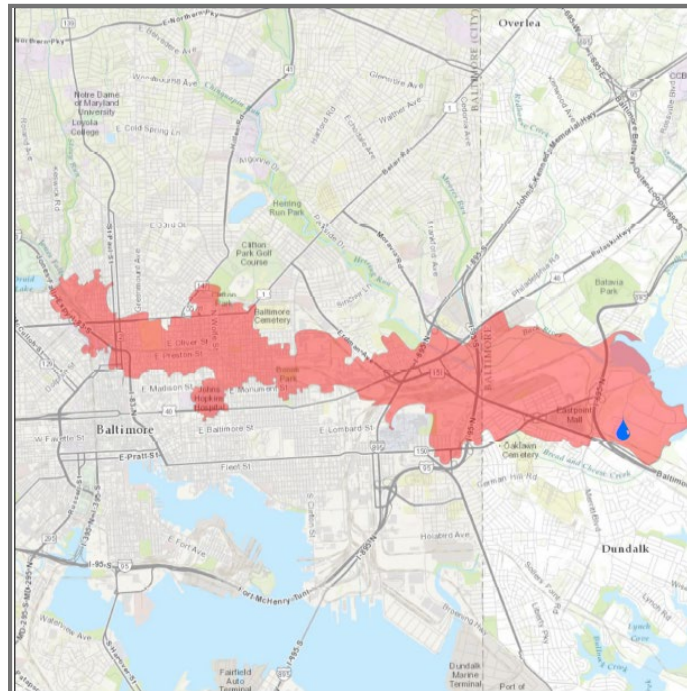


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Program Overview (cont'd)

- The City was not able to comply with the initial Consent Decree deadline, in part, because of a hydraulic restriction discovered at the Back River Wastewater Treatment Plant (WWTP)





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Meeting Purpose

- To educate you on the progress of the Modified Consent Decree (MCD) program for the sanitary sewer system
- To answer questions and solicit feedback on program elements
- To connect you with DPW and the work being performed in the City to address sanitary sewer overflows



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Modified Consent Decree

- Entered by the U.S. District Court on October 6, 2017
 - Phase I deadline – January 1, 2021
 - Phase I includes rehabilitation of collection system and elimination of Sanitary Sewer Overflows (SSOs)
 - Phase II deadline – December 31, 2030
 - Reducing infiltration/inflow and upgrading hydraulic capacity of the collection system citywide
- Deadlines are extended for CD compliance because:
 1. The City is doing more
 2. It allows the City to work smart, completing projects for less money



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MCD Project Team

- DPW Office of Engineering & Construction
- DPW Operations & Maintenance
- DPW Facilities
- Baltimore City Office of Boards and Commissions
- DPW Communications
- Program Management Consultant Team



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MCD Program Elements

- Elimination of SSO Structures (8)
- Implementation of Sewershed Plans (9)
- Regulatory Studies and Deliverables (9)
- Illegal Sewer Connections (10)
- Pumping Station Inspection, Repair and Rehabilitation (11)
- Collection and Transmission System Model (12)
- Collection System Operation and Maintenance (13)
- Information Management System Program (14)
- Sanitary Discharges of Unknown Origin (15)
- Revised Emergency Response Plan (16)
- Reporting Overflows and Recordkeeping (17)
- Stream Quality Monitoring (19)
- Review and Approval of Deliverables (20)

(##) Relevant Paragraph



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Elimination of SSO Structures (Paragraph 8)

The City of Baltimore shall eliminate the identified Sanitary Sewer Overflow (SSO) Structures and comply at all times with the Clean Water Act.

- 60 of 62 SSO structures identified in 2002 CD have been eliminated
- Remaining 2 SSO structures can't be eliminated until Back River WWTP Headworks Project is completed
- An additional 15 SSO structures identified since 2002; 6 have been eliminated
- Currently 11 SSO structures are being monitored
- DPW has submitted action plans and schedules to eliminate the remaining SSO Structures



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Implementation of Sewershed Plans (Paragraph 9)

The City of Baltimore shall complete all projects specified in Phase I and Phase II Plans by implementing an adaptive management process.

- Over the last 12 months
 - 4 consent decree construction projects completed
 - 12 active consent decree projects in construction
 - 1 projects in pre-construction
- As of public meeting, construction has been completed for 23 CD projects



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Implementation of Sewershed Plans (Paragraph 9)

The City of Baltimore shall complete all projects specified in Phase I and Phase II Plans by implementing an adaptive management process.

- Types of Projects
 - Cured-in place pipe (CIPP)
 - Point repair
 - Manhole rehabilitation
 - Sanitary House Connection / rehabilitation
- Back River WWTP Headworks Project
 - New Influent Pumping Station
 - New screening & grit removal facilities
 - 36 MG Storage



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Regulatory Studies and Deliverables (Paragraph 9)

Over the past 12 months...

- Installed 17 additional rainfall and flow monitors at:
 - ENS sites
 - Areas with recurring basement flooding
 - Locations to re-calibrate baseline model conditions
- Submitted progress reporting to EPA and MDE for each calendar quarter, including annual costs for Phase I projects



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Regulatory Studies and Deliverables (Paragraph 9)

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Calendar Quarterly Report

Quarter Ending Month Day, Year

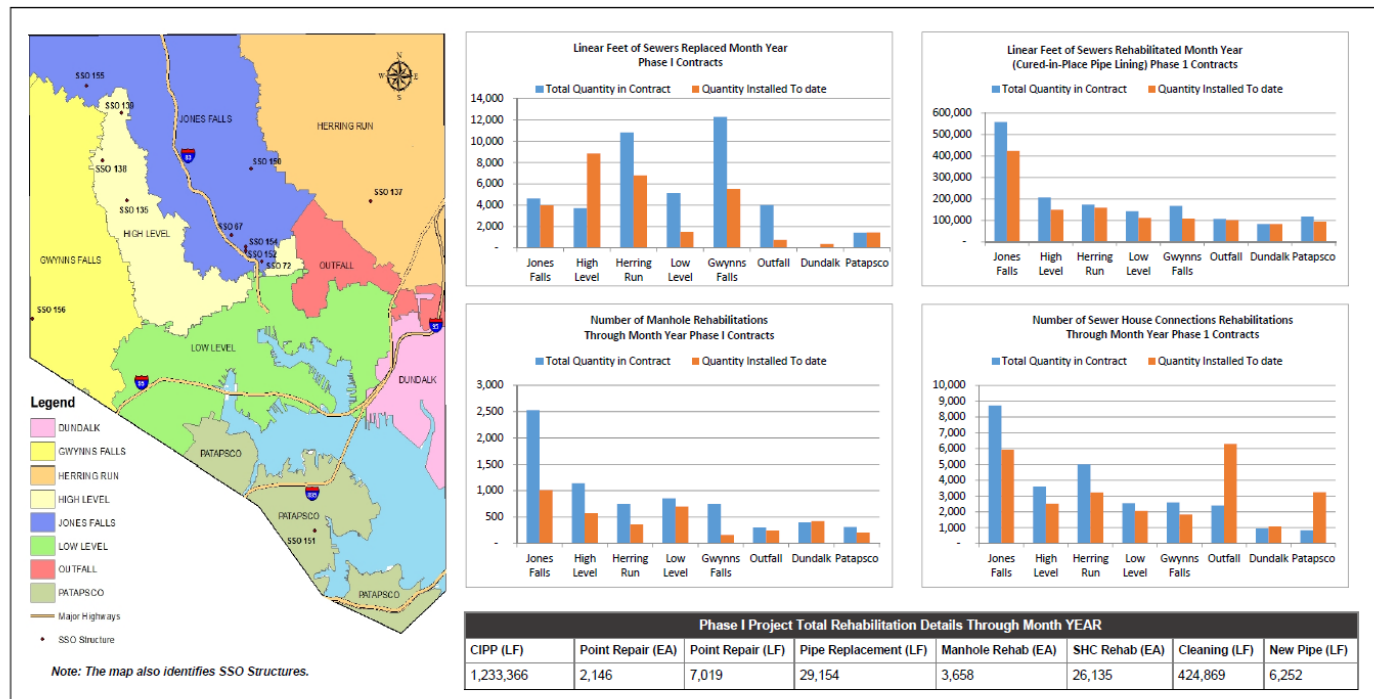


Figure 3-1. Phase I Project Work Completed during Calendar Quarter



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Back River WWTP Headworks Project

- Approximately \$430 Million
- Helps fulfill Baltimore City's Consent Decree requirements to address sewage overflows.
- Contributes to more than 80% reduction in the volume of SSOs.





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Illegal Sewer Connections (Paragraph 10)

The City of Baltimore shall continue to identify and eliminate each illegal connection to the Collection System.

- Baltimore continues to implement its illegal private connections enforcement action plan
- Illegal connections are identified in the Quarterly Progress Reports
- Baltimore will notify owners of privately-owned portions of laterals that cause or contribute to overflow of the collection system

Over the past 12 months...

- No enforcement actions were implemented or illegal connections abated



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Pumping Station Inspection, Repair & Rehabilitation (Paragraph 11)

The City of Baltimore shall continue to perform the following activities:

- Daily pumping station inspections
- Pumping station remote monitoring and SCADA system maintenance
- Pumping station preventative maintenance program
- Pumping station updates provided in Quarterly Progress Reports

Over the past 12 months...

- No overflows
- No Near misses



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Collection and Transmission System Model (Paragraph 12)

The City of Baltimore shall maintain the computerized collection and transmission system model for the Collection System

- The model establishes baseline performance

Over the past 12 months...

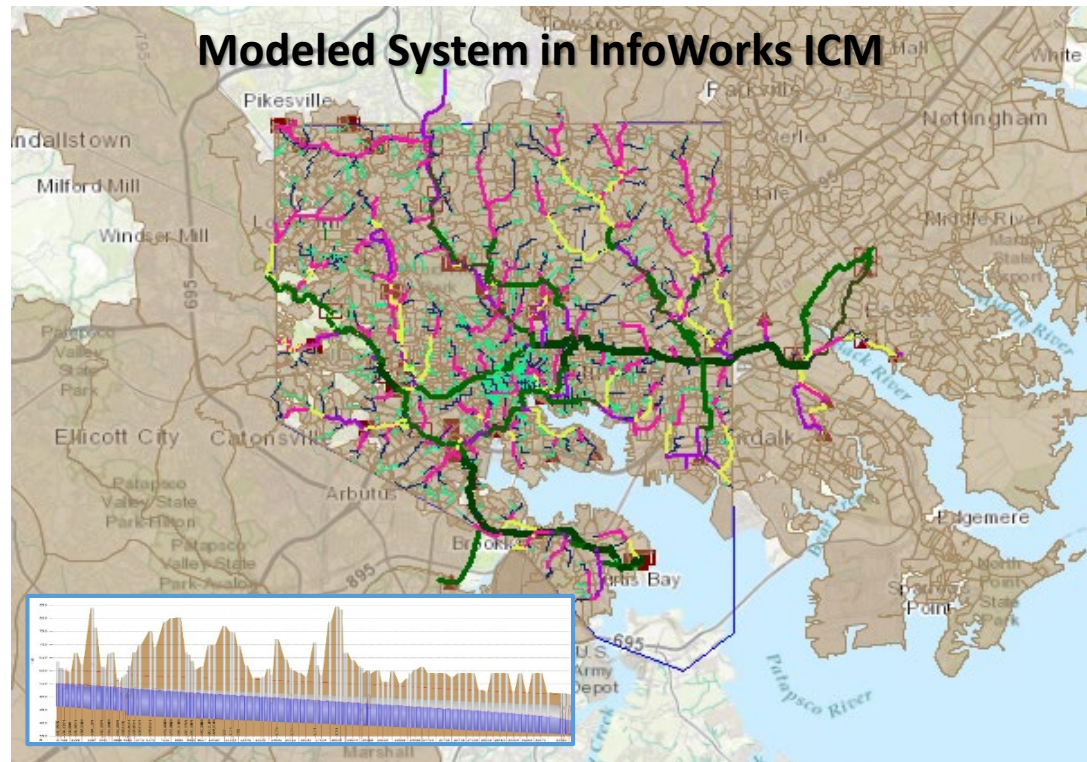
- Developed Phase 1 Post-Construction Flow Monitoring Plan (PCFM)
- Deployed 5 flow meters for Pilot Area PCFM in Dundalk Sewershed
- Permanently eliminated 1 SSO Structure in Herring Run Sewershed



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Collection and Transmission System Model (Paragraph 12)





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Collection System Operation and Maintenance (Paragraph 13)

The City of Baltimore shall perform a comprehensive review of its operation and maintenance ("O&M") Plan and prepare a revised O&M Plan for the Collection System, detailing how Baltimore will evaluate and maintain an effective program to prevent and minimize dry weather overflows.

- O&M Progress Report Approved by EPA and MDE
November 29, 2018
- An annual update was Approved by EPA and MDE
November 30, 2019



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Collection System Operation and Maintenance (Paragraph 13)

Over the past 12 months...

Activity	Results
Revised O&M Plan and published to DPW website for public comment	Plan approved 11/30/19
Developed Targeted Cleaning program to inspect and clean collection system sewers	59 miles cleaned
Conducted Fats, Oils, and Grease (FOG) treatment of sewer lines	11 miles Treated
Treated sewer lines for root intrusion	77 miles Treated
Conducted Food Service Establishments (FSE) inspections	3,900 inspections



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Information Management System Program (Paragraph 14)

The City of Baltimore shall maintain its information management system for the collection system including:

- GIS database
- Inventory of collection system assets
- Updates to inventory based on rehabilitation
- Baltimore uses the Cityworks application for customer service requests and work order management

Over the past 12 months...

- Achieved in-house management and expanded use of Cityworks
- Maintained databases during ransomware incident
- Continued to capture and maintain critical during system downtime by utilizing cloud-based GIS resources



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Addressing Sanitary Discharges of Unknown Origin (SDUO) (Paragraph 15)

The City of Baltimore shall develop and implement a plan for the investigation and the elimination of SDUOs.

- SDUO plan approved by MDE/EPA on November 29, 2018
- An SDUO is a discharge of sewage through Baltimore's separate storm sewer system, where the source of the sewage is unknown

Over the past 12 months...

- 18 SDUOs discovered, 10 abated
- 5 from previous year abated
- Average abatement time 80 days



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Revised Emergency Response Plan (Paragraph 16)

The City of Baltimore shall revise and submit to EPA and MDE its Emergency Response Plan (ERP) to adequately protect the health and welfare of persons in the event of an unpermitted release, spill or discharge of pollutants from the Collection System or in the event of a reported Building Backup.

- ERP training conducted annually for DPW operations, maintenance and response staff
- ERP Submitted to MDE/EPA on April 4, 2018 including building backups and SDUOs; Approval Pending



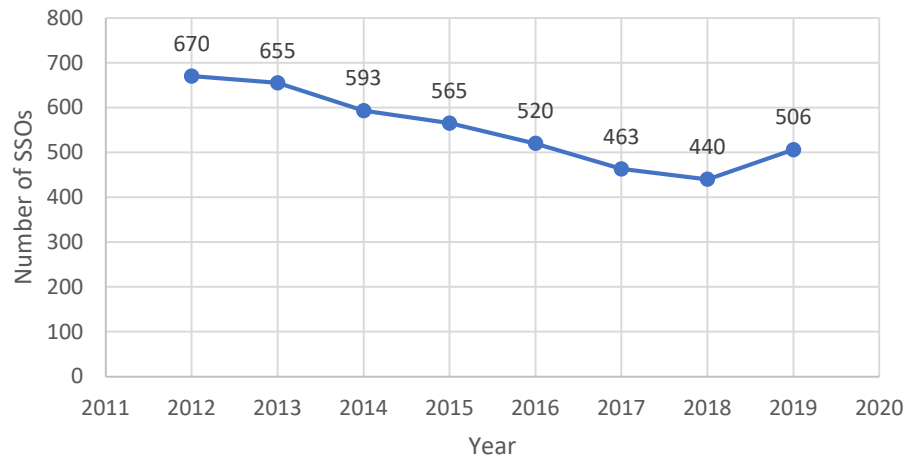
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Reporting of Overflows and Recordkeeping (Paragraph 17)

Baltimore continues to see overall reductions in SSOs due to various collection system improvements, repairs, and continued implementation of preventive maintenance programs

Number of SSOs Reported to Regulators



Programs to reduce SSOs

- Sewer Target Cleaning
- FOG Abatement
- Root Control
- Trunk Walk
- Lateral Assessment/Repair
- SSO Root cause analysis
- Collection system repairs/upgrades



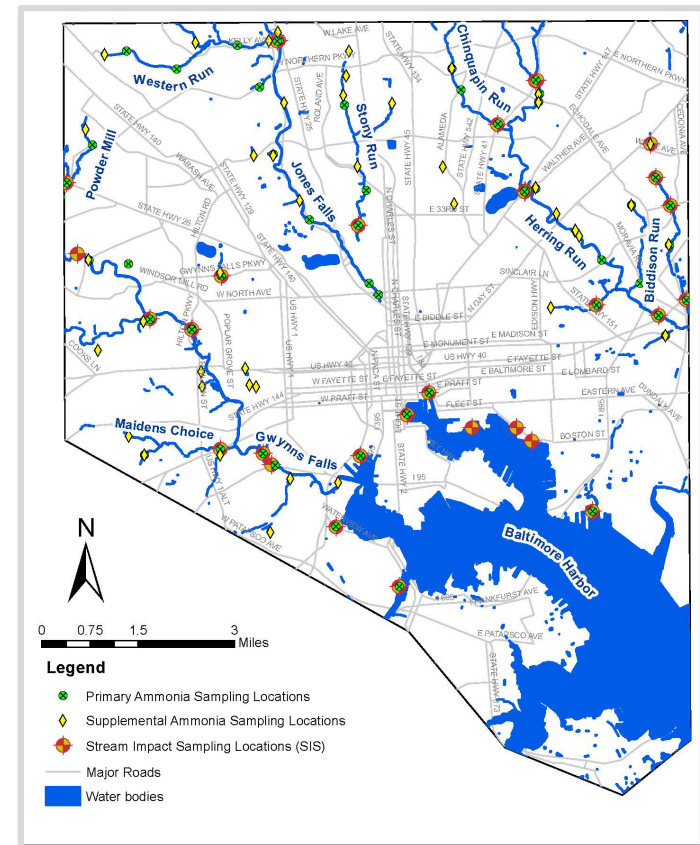
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Stream Quality Monitoring (Paragraph 19)

Baltimore shall post on the DPW website the results of its water quality monitoring programs.

- Baltimore continues to take action to monitor stream quality including:
 - Ammonia Screening, weekly
 - Stream Impact Sampling, monthly





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Water Quality Monitoring In 2019



13

Engineers and Scientists



89

Stations Routinely Sampled



496

Samples Tested for Bacteria

3,724
Ammonia Screening Samples

165
PST Investigations Initiated

56
Sewage Discharges Found

18
SDUOs Identified



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E. Coli (Non-tidal)

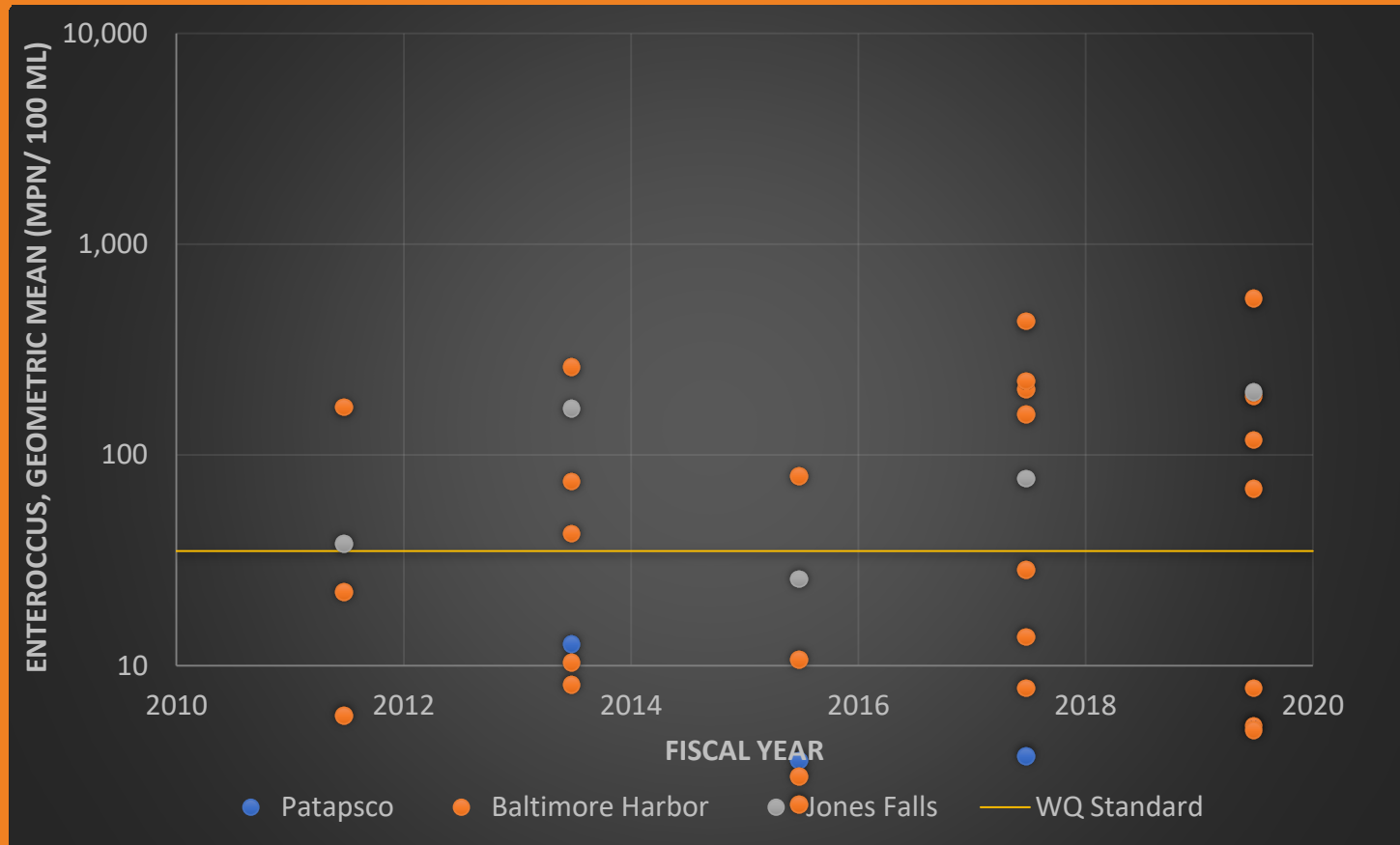




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Enterococcus (Tidal)



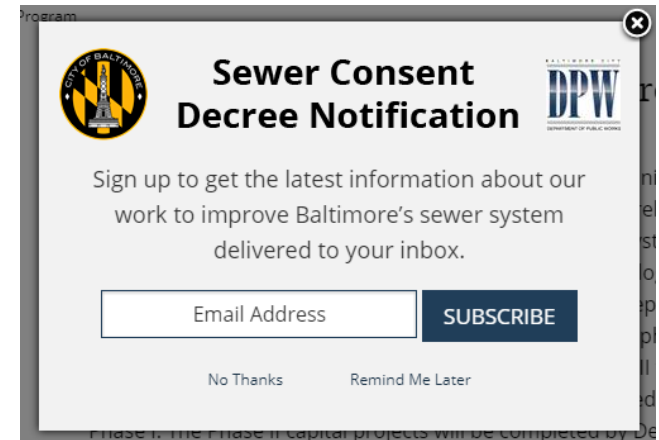


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Review and Approval of Deliverables (Paragraph 20)

- Produced brochure on Building Backup/Expedited Reimbursement program
- List and links for various reports and plans
- Provided signup for Consent Decree-related notifications



Learn more about the Consent Decree

Reports | FAQ's | Glossary | Upcoming Projects & Public Meetings

Publication	Public Comment Posting Date	Links to Comment Form	Comments Accepted Until	Final Version submitted to the Regulators
SDUO Plan	December 20, 2017	SDUO Plan Comments	January 20, 2018	
O&M Plan	December 20, 2017	O&M Plan Comments	January 20, 2018	

<https://publicworks.baltimorecity.gov/sewer-consent-decree>



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New class forming for September 2020

Small Business Development Program

The Small Business Development Program positions Minority/Women Business Enterprises (M/WBE) to successfully compete for utility construction work, including Consent Decree sewer rehabilitation.

- Over 140 firms graduated
- 80 firms M/WBE certified
- 40 firms prequalified for \$50K to \$2.5M
- Over \$2.5M in contracts, related services
- Recognized by Greater Baltimore Committee
- B&B, a graduate of the program was awarded two contracts for CCTV services totaling \$510,000





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Modified Consent Decree 2019 In Review

- The City is doing more to prevent SSOs
- The City is thoroughly evaluating the collection system
- The City is working smart, completing projects in a way that is economical for the people of Baltimore
- The City is investing in local small businesses





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Proceed to Information Learning Stations

- Learning Station 1 - Communications (Paragraph 20)
 - Customer Service/Affordability
- Learning Station 2 - Collection System and Tools (Paragraphs 8, 9, and 12)
 - SSO Structures
 - Rainfall and flow monitoring
 - Hydraulic modeling
 - Phase I Construction progress
- Learning Station 3 - Maintenance & Preventive Maintenance (Paragraphs 13, 14, and 17)
 - O&M Plan
 - Preventive Maintenance Programs
 - Cleaning program
 - Fats, Oils, and Grease (FOG)
 - Root Control
- Learning Station 4 - Compliance (Paragraphs 10, 15, and 19)
 - Sanitary Discharges of Unknown Origin
 - Water quality monitoring
 - Illegal sewer connections
- Learning Station 5 - Facilities (Paragraphs 9 and 11)
 - Back River Headworks Project
 - Wastewater pumping stations
- Learning Station 6 - Regulatory Requirements (Paragraphs 9 and 16)
 - Building backups/SSOs
 - HomeServe
 - Emergency Response Plan
 - Expedited Reimbursement Program
- Learning Station 7 - Office of Boards and Commissions/Small Business Development Program (Paragraph 20)