

# BALTIMORE SSO CONSENT DECREE 2002 - 2016



**Maryland**  
Department of  
the Environment

# OVERVIEW

- **US EPA, MDE and Baltimore agreed to a consent decree to address sewage overflows in 2002**
- **As authorized by the Clean Water Act**
- **One of the first decrees to address a citywide system**
- **Studying sewer system and monitoring of flow essential to determine system failures causing CWA violations, and to identify remedial actions**

# 2002 CONSENT DECREE ACCOMPLISHMENTS

- **Separation of combined sewers**
- **26 Paragraph 8 projects – elimination of 60 SSO structures**
- **Study and modeling of 8 sewersheds**
- **Pumping station rehabilitation at**
  - **Quad Avenue**
  - **Brooklyn**
  - **Dundalk**
  - **Jones Falls**
  - **Locust Point**
  - **Westport**

# 2002 CONSENT DECREE ACCOMPLISHMENTS

- **Increased capacity of Jones Falls pumping station from 35 to 55 Million Gallons per Day (MGD)**
- **New Stony Run pumping station - 20 MGD**
- **Implementation of pumping station preventive maintenance program**
- **Upgraded the supervisory control and data acquisition (SCADA) system - remotely monitor pumping stations**
- **Replacement or rehabilitation of approximately 163 miles of sewer lines**

# 2002 CONSENT DECREE ACCOMPLISHMENTS

- **Conducted valve inspection and repair**
- **Implementation of information management system to collect and assess information regarding operation and maintenance of collection system**
- **Emergency Response Plan (ERP) addressing unpermitted discharges**
- **Quarterly reports**
- **Over \$1.8 million paid to the United States and Maryland in stipulated penalties for overflows**

# SEWERSHED STUDIES

Conducted comprehensive sewershed evaluations for all 8 sewersheds

- assessed system collection and conveyance capacity
- inspected 33,000 manholes
- inspected 1,100 miles  $\geq$  8" pipes
- I/I Evaluation

Developed system-wide hydraulic model

Comprehensive Flow & Rainfall Monitoring Program

Prepared sewershed rehabilitation plans

Submitted all Sewershed Plans to EPA & MDE on schedule



# SEWERSHED STUDIES

## **Identified additional challenges:**

- **Other SSOs structures**
- **Back River WWTP hydraulic restriction**
- **Must address capacity before closing other SSO structures**

## **Other challenges**

- **Sanitary Discharges of Unknown Origin (SDUOs)**

# SEWERSHED STUDIES

- **Completion of sewershed evaluations and rehabilitation plans by 2009/2010**
- **EPA and MDE disapproved those plans in February 2011 because of the expected number of overflows that would remain – plan improvements based on 2yr-24 hr storm**
- **Baltimore developed continuous simulation modeling**



# SEWERSHED STUDIES

- **Continuous simulation is based on peak flow instead of synthetic storm**
- **Models whole system response to flow, not just response in individual sewersheds**
- **Plan implementation through phased approach**
- **Initial projects approved in November 2013**

# WHAT REMAINS TO BE DONE:

- **Implement rehabilitation projects in all sewersheds to address capacity and infiltration**
- **Fix hydraulic restriction**
- **Implement proactive maintenance program to prevent recurring issues**
- **Close remaining SSOs**

# NEW DEADLINES UNDER MODIFIED CD

- **Phase 1: January 1, 2021:**
  - Includes addressing the hydraulic restriction to Back River WWTP
  - Includes 31 other structural improvement, heavy cleaning and meter basin rehabilitation projects – will close 13 remaining SSO structures
  - Expected to address  $\pm 83\%$  of the SSO volume
  - Implementation of revised O&M program
- **Phase 2: December 31, 2030**
  - Specific projects to be determined following monitoring after Phase 1
  - Projects must reduce SSOs to no more than 1 event/5 years with more controls in sensitive areas

# **WORK BALTIMORE IS COMPLETING CONCURRENTLY WITH THE CD REQUIREMENTS:**

**Concurrent with Phase I, the City has other obligations:**

- **Address 20% of the City's impervious surface (about 4,200 acres) by December 2018 under 5-yr MS4 Permit – We expect the City to implement green infrastructure measures in order to comply with this requirement.**
- **Address other TMDL obligations under the MS4 Permit through restoration plans**

# **WORK BALTIMORE IS COMPLETING CONCURRENTLY WITH THE CD REQUIREMENTS:**

- **Concurrent with Phase I, the City has other obligations:**
  - **Construct and implement enhanced nutrient removal treatment at Patapsco and Back River WWTPs pursuant to NPDES permit requirement by 2017**
  - **Implement requirements of Safe Drinking Water Act rule and of administrative order regarding the City's three finished drinking water reservoirs (36, 220 and 338 MGW, respectively), which will be replaced with tanks, by the end of 2021.**

# **WORK BALTIMORE IS COMPLETING CONCURRENTLY WITH THE CD REQUIREMENTS:**

- **Concurrent with Phase 2 – Drinking Water**
  - **Construction of new drinking water filtration plant, using treatment technology that would allow using water from various sources (2018-26), to supplement existing 100 yr-old filtration plant**
  - **Systematic water main replacement to proactively prevent failure of aging pipes – to be done concurrently with CD sewerline work to minimize street disruption (ongoing)**
- **Also ongoing MS4 obligations under next permit cycle**

# **NEW POST CONSTRUCTION MONITORING REQUIREMENT**

- **After completion of the rehabilitation projects, Baltimore must continue to monitor for at least two years.**
- **EPA/MDE can require more work if the City has not achieved compliance**

# **OTHER ADDITIONS: REVISED O&M**

- **Baltimore must revise its operations & maintenance (O&M) plan**
  - **Must include periodic cleaning**
    - **All lines +8” must be inspected for cleaning every 7 years.**
    - **Targeted cleaning program for areas of reoccurring problems / blockages.**
  - **Inspection and enforcement protocol to prevent grease blockages**
  - **Mapping of areas of recurring problems**
  - **Public education efforts**



# **OTHER ADDITIONS: PUBLIC NOTIFICATION AND REPORTING**

- **Revise Emergency Response Plan (ERP)**
  - **Documentation of implementation of institutional controls**
  - **Listing of areas that regularly overflow and of chronic Sanitary Discharges of Unknown Origin (SDUOs), and posting of signs to advise the public**
- **Public reporting of SDUOs**
- **Requires consideration of photo evidence in calculating amount of overflow if response to overflow is delayed**
- **Continued reporting of overflows from SSOs structures is required**

# **OTHER ADDITIONS: SDUO INVESTIGATION PLAN**

- **SDUOs = Sanitary Discharges of Unknown Origin – i.e. sewage discharge through storm water sewers**
  - **Requires development and implementation of SDUO investigation and elimination plan**
  - **Requires plan and schedule for any confirmed cross-connections**
  - **Requires reporting on SDUOs in quarterly reports**

## **OTHER ADDITIONS:**

- **Annual public forums**
- **Stipulated penalties for overflows from SSO structures, for overflows of unknown volume, and for failure to implement the ERP (including pub notification, institutional controls, signage)**

# MODIFIED CD COMMENT PERIOD

- The Consent Decree is available at <https://www.justice.gov/enrd/consent-decrees>
- You can submit comments on the proposed Modified Consent Decree through August 6.
- Submit by email to [pubcomment-ees.enrd@usdoj.gov](mailto:pubcomment-ees.enrd@usdoj.gov) or
- By mail to:  
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