

**CITY OF BALTIMORE**

BRANDON M. SCOTT, Mayor



**DEPARTMENT OF PUBLIC WORKS**

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November 29, 2023

**VIA ELECTRONIC MAIL**

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RE: Baltimore City Consent Decree Case No. 24-C-22-000386  
Quarterly Report No. 01

Pursuant to Section E, Paragraph 170 of the Consent Decree, enclosed for your reference is the City of Baltimore's progress report for the reporting period from November 15, 2023 to November 29, 2023.

Please contact me with any questions or concerns.

Best regards,

A handwritten signature in black ink, appearing to read "Paul Sayan".

Paul Sayan, P.E.  
Acting Bureau Head  
Bureau of Water & Wastewater  
Baltimore City Department of Public Works

Encl.

cc: Richard Luna/Baltimore City  
Darnell Ingram/Baltimore City  
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**City of Baltimore**

Department of Public Works

# Consent Decree Quarterly Progress Report

Wastewater Facilities Consent Decree  
Case No. 24-C-22-000386

Reporting Period:

November 15, 2023, to November 29, 2023



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## 1.0 INTRODUCTION

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This Quarterly Report is submitted pursuant Paragraph 170 of the Consent Decree (Case No. 24-C-22-000386).

Since the summer of 2021, when the Baltimore City Department of Public Works (DPW) was notified by the Maryland Department of the Environment (MDE) of alleged permit violations at the Back River and Patapsco Wastewater Treatment Plants, DPW has implemented significant improvements at each plant with Back River meeting permit requirements since June of 2022 (with the exception of a de minimis phosphorous excursion in April 2023), and Patapsco meeting its daily, weekly, and monthly effluent limitations since September of 2022 and meeting all effluent limits since January of 2023.

Since 2022, DPW has made the following improvements:

- Created the Environmental Regulatory Compliance and Safety (ERCS) division – a team of multi-disciplined environmental compliance professionals who troubleshoot and execute timely compliance actions.
- Updated human resource hiring practices to improve the recruitment and hiring of new staff.
- Modernized and executed preventative maintenance programs, including the repair and rehabilitation of critical assets at both plants.
- Returned the solids processing operations at both plants to full service and removed the excess solids inventory.

The City of Baltimore (City) continues to make improvements to operations at the Back River and Patapsco Wastewater Treatment Plants and has implemented or continued a number of corrective actions during the report period, which are summarized in this document and cumulatively in the appendix.

This report is organized as follows:

- Section 2 summarizes the status of implementation of all corrective actions and work being performed under this Consent Decree.
- Section 3 provides up-to-date information on the progress of specific projects that are required to be completed under this Consent Decree, including required and actual completion dates and financial expenditures for each project.
- Section 4 lists all stipulated penalties that have accrued during the reporting period.
- Section 5 provides an accounting of maintenance inadequacies that impacted the functioning of the plants, as identified by engineers in Paragraph 174 of the Consent Decree.
- Section 6 summarizes current and required staffing levels, steps taken to fill vacancies, and the use of contractors in lieu of permanent staff.

## 2.0 WORK TO BE PERFORMED - PROGRESS SUMMARY

A summary of completed work is provided in the table below. Status of remaining work to be completed is in Attachment 2.

Table 1: Progress Tracking Summary at the Back River and Patapsco Wastewater Treatment Plants

Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup>	Activity	Consent Decree Deadline	Actual Completion Date	Compliance Status
132-BR	Replace H <sub>2</sub> S sensors	12/15/2023	5/16/2023	Complete
147-PAT	Provide the Dryer Facility with access to, and control of, GST thickened sludge pumps to automate sludge withdrawal from the GSTs until the existing stored sludge from the SBTs is removed and the SBTs are returned to normal operating mode	11/15/2023	October 2023	Complete
152-PAT	Repair and upgrade scum trough actuators associated with the PSTs to allow for automatic operation of the scum removal system, and upgrade mechanisms of clarifiers #1-3 to provide automatic operation	6/30/2024	10/23/2023	Complete
154(a)-PAT	Repair all RAS/WAS pumps for secondary clarifier #6a to operate as designed	11/25/2023	8/16/2023	Complete
154(b)-PAT	Replace missing skimmer sections to increase scraper effectiveness.	11/25/2023	9/22/2023	Complete
154(c)-PAT	Remove BAF media from secondary clarifier influent and BAF mudwells	11/25/2023	11/18/2023	Complete
156-PAT	Investigate Biological Aerated Filter Facility (“BAF”) media state	12/15/2023	March 2023	Complete
157-PAT	Submit a plan and schedule to address BAF media loss and prohibit any discharge of media to waters of the State.	1/14/2024	11/25/2023	Complete
160-PAT	Rehabilitate GST #4 and associated pumps	3/14/2024	2/10/2023	Complete

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<b>Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup></b>	<b>Activity</b>	<b>Consent Decree Deadline</b>	<b>Actual Completion Date</b>	<b>Compliance Status</b>
162-PAT	Submit a PCB Minimization Plan	12/15/2023	11/25/2023	Complete
164-PAT	Submit a revised FOG Mitigation Plan.	11/25/2023	11/25/2023	Complete

<sup>1</sup> BR = Back River Wastewater Treatment Plant, PAT = Patapsco Wastewater Treatment Plant

### **3.0 STIPULATED PENALTIES**

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The City of Baltimore (City) has not incurred any stipulated penalties.

#### **3.1 CURRENT QUARTER**

Not applicable.

#### **3.2 CUMULATIVE PENALTIES**

Not applicable.

## 4.0 PROJECT EXPENDITURES QUARTER

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The City has continued to invest in capital improvements at the wastewater treatment plants (WWTPs), including specific projects required to be completed in accordance with the Consent Decree. In calculating the current and cumulative expenditures, the City is including all funds encumbered or spent prior to entering the Consent Decree that are associated with meeting Decree requirements and deadlines.

### 4.1 CURRENT EXPENDITURES

Current expenditures are:

Table 2: Back River WWTP Current Expenditures

<b>Project</b>	<b>Project Title</b>	<b>Budget (Millions)</b>	<b>Incurred thru Reporting Period (Millions)</b>
<b>SC954</b>	Primary Settling Tanks No's 3&4 Rehabilitation	\$26.4	\$8.8
<b>SC954P</b>	S.C. 954 - PAS Primary Settling Task No.3 and 4 Rehabilitation.	\$1.5	\$0.5
<b>TOTAL</b>		\$27.9	\$9.3

Table 3: Patapsco WWTP Current Expenditures

<b>Contract</b>	<b>Project Title</b>	<b>Budget (Millions)</b>	<b>Incurred thru Reporting Period (Millions)</b>
<b>SC938D</b>	(SC 938 Design) Headworks Facilities Improvements at the Patapsco WWTP	\$2.9	\$0.02

## 4.2 CUMULATIVE EXPENDITURES

Cumulative expenditures are:

Table 4: Back River WWTP Cumulative Expenditures

<b>Contract</b>	<b>Project Title</b>	<b>FY Started / Study</b>	<b>FY Completed Construction</b>	<b>Total Cost (Millions)</b>
<b>SC 992</b>	Egg-Shaped Digesters Rehab.	2020	2026	\$77.7

Table 5: Patapsco WWTP Cumulative Expenditures

<b>Contract</b>	<b>Project Title</b>	<b>FY Started / Study</b>	<b>FY Completed Construction</b>	<b>Total Cost (Millions)</b>
<b>SC 938</b>	Headworks Improvements	2015	2027	\$91.9
<b>TOTAL</b>				<b>\$91.9</b>

Other expenditures the City has incurred in support of both WWTPs include over \$95M :

Maryland Environmental Service = \$7M

Staff Augmentation =\$19M

Maintenance support over 5 years = \$50M

Program Management Team to support compliance = \$7M

Plant Operations Efforts = \$12M

## **5.0 ACCOUNTING OF MAINTENANCE INADEQUACIES**

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None to report this period.

## **6.0 STAFFING**

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The Consent Decree deadline to complete a staffing assessment for the Back River and Patapsco WWTPs is December 31, 2023. A summary of current staffing levels compared to current needs and the steps taken to fill vacancies, including the use of contractors in lieu of permanent staff, will be presented here upon completion of the Staffing Plan.

## **Attachment 1**

### **Overall Progress Summary**

Overall progress is summarized in the table below.

Table 6: Overall Progress Tracking Summary

Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup>	Activity	Consent Decree Deadline	Actual Completion Date	Compliance Status
132-BR	Replace H <sub>2</sub> S sensors	12/15/2023	5/16/2023	Complete
133(a)-BR	Clean and complete repairs on at least 8 PSTs to ensure they are fully functional and capable to operate as designed	1/1/2024		0%
133(b)-BR	Clean and complete repairs to all 11 PSTs to ensure they are fully functional and available for use	12/31/2025		45%
134-BR	Baltimore City to have and maintain an adequate supply of Dissolved Oxygen (“D.O”) probes	12/31/2023		98%
135-BR	Baltimore City shall maintain Activated Sludge Plants No. 2 & 3 as well as their associated clarifiers.	Ongoing		Compliant
135(a)-BR	Submit for review and Department approval the standard operating procedure (SOP) for removal of vegetative growth in the final clarifiers.	1/15/2024		98%
135(b)-BR	Implement vegetative growth plan	Upon approval of 135(a)-BR		95%
135(c)-BR	Maintain average sludge blanket depth of 2 to 4 feet in final clarifiers	Ongoing		Compliant
135(d)-BR	Maintain manual operations until Activated Sludge PLCs are updated and set up for automatic operation	Ongoing		Compliant
136(a)-BR	Complete evaluation of sand filters. Within 10 days of sand filter evaluation, request approval for change of use of the approved sand filter, OR	4/30/2023		20%

Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup>	Activity	Consent Decree Deadline	Actual Completion Date	Compliance Status
136(b)-BR	Submit plan and schedule for implementation of sand filter improvements (Sand Filter Improvement Plan). Immediately upon approval City shall implement the approved Sand Filter Improvement Plan	5/10/2024		20%
137-BR	Repair all Gravity Belt Thickeners (GBTs) to operate as designed	6/30/2024		10%
138-BR	Repair and install one of the three non-operational Dissolved Air Flotation (DAF) systems and thickened sludge pumps	12/32/2023		10%
139-BR	Issue notice to proceed with contract for rehabilitation of the egg-shaped digesters. Complete rehabilitation of egg-shaped digesters.	8/16/2023 (NTP)  9/16/2027 (Rehabilitation)		100%  4%
140-BR	Create and submit a Centrifuge Maintenance Plan to the Plaintiffs for review and the Department’s approval.	12/15/2023		10%
141-BR	Complete repairs and installation of Centrifuge #4 to operate as designed.	12/31/2023		55%
142-BR	Submit Staffing Plan	12/31/2023		98%
143-BR	City to have, maintain, and make available to the Department the formal written operation and maintenance procedures (Back River WWTP SOP)	6/30/2024		20%
144-BR	City to submit a report that identifies what processes are currently automated and conduct a feasibility study for automation of additional processes, with a plan and schedule for future automation.	5/13/2023		60%

Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup>	Activity	Consent Decree Deadline	Actual Completion Date	Compliance Status
145-BR	Baltimore City shall have, maintain, and update a Computerized Maintenance Management System (CMMS) as a functional work order system to ensure that the plant and its equipment operate as designed.	Not specified		85%
146-BR	Complete a condition assessment and inventory of existing assets in order to develop an asset management program. Complete development and begin implementation of asset management program within 90 days of assessment and inventory.	11/15/2024 (Assessment)  2/12/2025 (Commence Implementation)		70%  0%
147-PAT	Provide the Dryer Facility with access to, and control of, GST thickened sludge pumps to automate sludge withdrawal from the GSTs until the existing stored sludge from the SBTs is removed and the SBTs are returned to normal operating mode	11/15/2023	October 2023	Complete
148-PAT	Have and maintain contracts for on-call hauling services to serve as back-up to the Dryer Facility.	Ongoing		Compliant
149-PAT	Complete replacement or rehabilitation of the grit facility, with includes provision for odour control and proper ventilation. Workers entering the grit facility to comply with Grit Facility SOPs	4/30/2024 (RFP)  12/31/2027 (Complete Rehabilitation or Replacement)		10%  0%

<b>Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup></b>	<b>Activity</b>	<b>Consent Decree Deadline</b>	<b>Actual Completion Date</b>	<b>Compliance Status</b>
150-PAT	Repair or refurbish Industrial Plant Influent Facility (IPI) screens and pumps and replace or fully rehabilitate the IPI Facility to operate as designed.	6/30/2024		90%
151-PAT	Repair all non-functional screens in the Fine Screen Facility, increase screen opening size for three screens, and install new conveyors, northern screen compactors, and curtains from the screen chutes to the belt.	6/30/2024		20%
152-PAT	Repair and upgrade scum trough actuators associated with the PSTs to allow for automatic operation of the scum removal system, and upgrade mechanisms of clarifiers #1-3 to provide automatic operation	6/30/2024	10/23/2023	Complete
153-PAT	Ensure all six PSTs are fully functional and operating as designed.	12/15/2023		60%
154(a)-PAT	Repair all RAS/WAS pumps for secondary clarifier #6a to operate as designed	11/25/2023	8/16/2023	Complete
154(b)-PAT	Replace missing skimmer sections to increase scraper effectiveness.	11/25/2023	9/22/2023	Complete
154(c )-PAT	Remove BAF media from secondary clarifier influent and BAF mudwells	11/25/2023	11/18/2023	Complete
155(a)-PAT	Complete evaluation of need for secondary clarifier #3. Within 10 days of evaluation: Request approval to discontinue or alter use of clarifier	4/1/2024 (Complete evaluation)  5/1/2024 (Request Approval to Discontinue/Alter)		20%  0%

<b>Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup></b>	<b>Activity</b>	<b>Consent Decree Deadline</b>	<b>Actual Completion Date</b>	<b>Compliance Status</b>
155(b)-PAT	Submit a plan for Departmental approval to improve the clarifier #3 (Clarified #3 Improvement Plan) and implement immediately upon approval	5/1/2024		0%
156-PAT	Investigate Biological Aerated Filter Facility (“BAF”) media state	12/15/2023	March 2023	Complete
157-PAT	Submit a plan and schedule to address BAF media loss and prohibit any discharge of media to waters of the State.	1/14/2024	11/25/2023	Complete
158-PAT	Automate timed scum log operation of the Chlorine Contact Tank (CCT)	1/31/2025		50%
159-PAT	Ensure staff are present at all times during each shift to maintain manual skimming of FOGs or floating solids at the CCTs until 158-PAT is complete.	Upon Automation of Timed Scum Log Operation of Chlorine Tank		10%
160-PAT	Rehabilitate GST #4 and associated pumps	3/14/2024	2/10/2023	Complete
161-PAT	Ensure all GSTs are fully functional and operating as designed. Baltimore City shall notify Plaintiffs upon receipt of parts.	11/25/2023	11/25/2023	Complete
162-PAT	Submit a PCB Minimization Plan	12/15/2023	11/25/2023	Complete
163-PAT	Complete investigation into flow meter and complete root cause analysis of the discrepancy between influent and effluent flow volume.	12/15/2023	11/25/2023	Complete
164-PAT	Submit a revised FOG Mitigation Plan	11/25/2023	11/25/2023	Complete
165-PAT	Submit Staffing Report and Staffing Plan	12/31/2023	8/1/2023	Complete
166-PAT	Have, maintain, and make available to the Department Patapsco WWTP SOP	6/30/2024		45%

Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup>	Activity	Consent Decree Deadline	Actual Completion Date	Compliance Status
167-PAT	Submit a report that identifies what processes at the Patapsco WWTP are currently automated, and conduct a feasibility study for the automation of additional processes, with a plan and schedule for future automation	5/13/2024		10%
168-PAT	Have, maintain, and update a Computerized Maintenance Management System (CMMS) as a functional work order system to ensure that the plant and its equipment and components operate as designed.	Ongoing		Compliant
169-PAT	Complete a condition assessment and inventory of existing assets in order to develop an asset management program, and within 90 days of the completion of the assessment and inventory, begin implementing the asset management program.	11/15/2024 (Completion of assessment)  2/13/2025 (Commence Implementation)		75%   0%
170-TPN	Every February 15, May 15, August 15, and November 15 during the pendency of the CD, Baltimore City shall submit to the Plaintiffs and post on its website quarterly progress reports detailing for the preceding calendar quarter, at a minimum, the implementation of any corrective actions and work performed under the CD, progress tracking on projects, required completion dates and actual completion dates, financial expenditures on each project, and all stipulated penalties that accrued during the quarter.	Annually 2/15 5/15 8/15 11/15	11/29/2023	Compliant
171-TPN	Hold one virtual and one in-person meeting per year for each facility until completion of the CD	11/15/2024		Pending

<b>Consent Decree Paragraph Reference – Treatment Plant <sup>1</sup></b>	<b>Activity</b>	<b>Consent Decree Deadline</b>	<b>Actual Completion Date</b>	<b>Compliance Status</b>
172-TPN	Sign on Back River pier	12/15/2023		95%
173-TPN	Apply for approvals/permits for sign at Patapsco Outfall	2/13/2024		45%
174-TEA	Baltimore City shall consult with the Plaintiffs and retain or engage a qualified, independent third-party engineer, to conduct an update to the comprehensive assessment of the Back River and Patapsco WWTPs prepared by Greeley and Hansen (“G&H”) in June 2022, and to submit a report, signed and sealed by the licensed professional engineer, summarizing the findings simultaneously and directly to all Parties within 90 days of the Effective Date. The updated assessment shall describe the status of the recommendations made in the June 2022 G&H reports regarding the facilities’ operations, maintenance, management, staffing, capital improvement needs, and technical status. The report should also include any recommendations for additional actions, including additional or improved automation of processes, that in the opinion of the independent, third-party engineer are needed to maintain permit compliance.	2/13/2024		80%
175-FCR	Final confirmation report after all Work to Be Performed is complete	6/22/2027		32%

<sup>1</sup> BR = Back River Wastewater Treatment Plant, PAT = Patapsco Wastewater Treatment Plant, TPN = Transparency and Public Notification, TEA = Third party Engineering Assessment, FCR= Final Confirmation Report