



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Horacio Tablada, Secretary
Suzanne E. Dorsey, Deputy Secretary

June 8, 2022

The Honorable Guy Guzzone, Chair
Senate Budget and Taxation Committee
Miller Senate Office Building, 3 West
11 Bladen Street
Annapolis, MD 21401-1991

The Honorable Maggie McIntosh, Chair
House Appropriations Committee
Lowe House Office Building, Room 121
6 Bladen Street
Annapolis MD 21401-1991

Dear Chair Guzzone and Chair McIntosh:

The 2022 Joint Chairmen's Report (JCR) required the Maryland Department of the Environment (MDE) to submit a report on the status of the Back River and Patapsco Wastewater Treatment Plants. The requested report is attached.

Also attached, in response to the JCR, is a comprehensive assessment report completed by the Maryland Environmental Service based on their findings at the Back River Wastewater Treatment Plant. Please note that there is not a comparable assessment report for the Patapsco Wastewater Treatment Plant.

MDE greatly appreciates the two-week extension for submission of these reports.

If you have questions or need additional information, please contact me or have a member of your staff contact Terri Wilson, MDE, at 410-537-4155 or terria.wilson@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'H. Tablada', is written over a light blue horizontal line.

Horacio Tablada
Secretary

Attachments

cc: David Brinkley, DBM Secretary
Andrew Gray, Department of Legislative Services
Tyler Abbott, MDE Chief of Staff
Terri Wilson, Director, MDE Office of Budget and Infrastructure Financing

Back River and Patapsco Wastewater Treatment Plants Regulatory Oversight

Prepared for:

The Senate Budget and Taxation Committee

The House Appropriations Committee

Annapolis, MD

June 6, 2022

MARYLAND DEPARTMENT OF THE ENVIRONMENT
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Larry Hogan, Governor | Boyd K. Rutherford, Lt. Governor | Horacio Tablada, Secretary | Suzanne Dorsey, Deputy Secretary

Table of Contents

Introduction	3
Back River and Patapsco Wastewater Treatment Plant Permits and Performance	3
NPDES Permits and Enforcement Authority	5
MDE Regulatory Procedures	6
Back River WWTP Permit Violations	6
Patapsco WWTP Permit Violations and Consent Orders	7
Fats, Oils and Grease (FOG) Consent Order	7
ENR Consent Order	8
Nutrient and Solids Violations	9
Back River and Patapsco WWTPs: Departmental Actions taken between August 2021 and March 20, 2022	9
Issuing the Back River WWTP Directive	11
Back River and Patapsco WWTPs: Departmental Actions taken after the March 27, 2022 Directive	12
Back River WWTP	12
Patapsco WWTP	13
Attachment A – Baltimore City Order	
Attachment B – MES Directive	

Introduction

In the FY23 Joint Chairmen's Report, the Senate Budget and Taxation committee and the House Appropriation committee expressed concerns about the precipitous decline in the proper maintenance and operation of the Back River and Patapsco wastewater treatment plants (WWTPs). As a result, the Maryland Department of the Environment (Department or MDE) was “requested to provide a report describing and evaluating oversight of its failures for the Back River and Patapsco Wastewater Treatment Plants.” More specifically, the “report is requested to include a detailed evaluation of the decision-making process underpinning MDE’s failure to provide timely assistance and constructive oversight despite a pattern of well-documented permit violations”.

This report provides an overview of the Department’s clean water regulatory tools, the actions it has taken, and how the intensity and frequency of regulatory actions have increased due to inadequate responses from Baltimore City (the city) and unacceptable performance of Baltimore City’s WWTPs.

Back River and Patapsco Wastewater Treatment Plant Permits and Performance

Baltimore City owns and operates the two largest WWTPs in the State of Maryland: Back River WWTP and Patapsco WWTP.

The Back River WWTP has a design flow of 180 million gallons per day (MGD) and currently operates at ~145 MGD. For the Back River WWTP, the Department issued Baltimore City a State Discharge Permit Number 15-DP-0581A (federal National Pollutant Discharge Elimination System (NPDES) Number MD0021555), which became effective May 1, 2018. The Back River Discharge Permit was modified on January 1, 2020 and expires on April 30, 2023.

The Patapsco WWTP has a design flow of 73 MGD and operates at a flow of ~65 MGD. For the Patapsco WWTP, the Department issued Baltimore City a State Discharge Permit Number 15-DP-0580 (federal NPDES Number MD0021601), which became effective October 1, 2017. The Patapsco Discharge Permit expires on September 30, 2022.

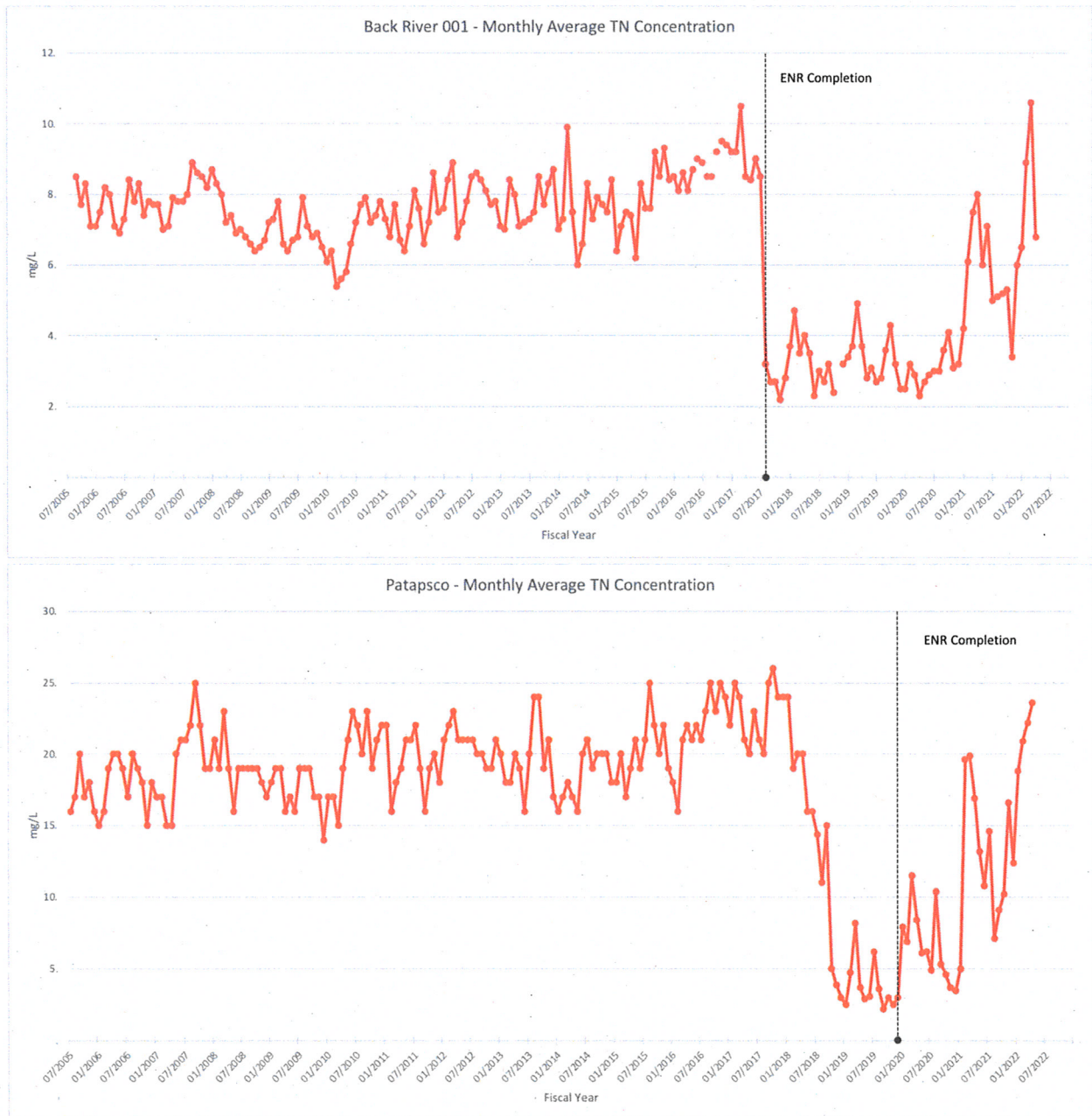


Figure 1: Monthly average nitrogen concentrations at Back River Outfall 001 and Patapsco (Results reported from January 2005 to April 2022)

Baltimore City has violated numerous General Conditions and Special Conditions contained in both Discharge Permits, including exceeding effluent limits, failing to report sampling results, failing to report discharge report non-compliance, failing to comply with effluent sampling and testing protocols, failing to maintain sampling equipment, failing to provide various required reports, failing to comply with stormwater discharge permit requirements, and failing to efficiently operate the plants and conduct necessary maintenance.

Due to a lack of maintenance, effective management, and leadership and staffing, neither of these plants are currently operating at ENR levels. Until these concerns are addressed, both plants will likely be unable to achieve ENR performance levels. **For context, when compared to FY20 reported monitoring data, the combined nitrogen pollution from Patapsco and Back River increased by 68% in FY21.**

Baltimore City's operation of the Back River and Patapsco WWTPs and the continued unauthorized discharge of pollutants, including nitrogen and phosphorus, undermines the federal, state, and local efforts by Maryland and the other states in the Chesapeake Bay watershed to restore clean water in the Chesapeake Bay and the region's streams, creeks, and rivers.

NPDES Permits and Enforcement Authority

The federal Clean Water Act (CWA) prohibits any person from discharging "pollutants" through a "point source" into a "water of the United States" unless they have an NPDES permit. The permit will contain limits on what a permittee can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people's health. In essence, the permit translates general requirements of the CWA into specific limits tailored to the operations of each permittee discharging pollutants.

A NPDES permit will specify an acceptable level of a pollutant or pollutant parameter in a discharge. The permittee may choose which technologies to use to achieve that level. However, some permits do contain certain generic 'best management practices,' such as installing a screen over the pipe to keep debris out of the waterway. NPDES permits make sure that a state's mandatory standards for clean water and the federal minimums are being met.

Surface water discharges in Maryland are regulated through combined state and federal permits under the NPDES program, and the U.S. Environmental Protection Agency (EPA) has delegated authority to issue NPDES permits to MDE. Similar to the CWA, state law in Environment Article § 4-402 and § 9-302(b), provides that: "[I]t is State public policy to provide that no waste is discharged into any waters of this State without first receiving necessary treatment or other corrective action to protect the legitimate beneficial uses of this State's waters." Environment Article §§ 9-322, 9-323 states that "[no] person may discharge any pollutant into the waters of this State" without obtaining authorization (i.e., a discharge permit) from the Department."

Maryland uses various methods to monitor compliance with NPDES permit conditions. The permit will require the facility to sample its discharges and notify MDE and EPA of the results. In addition, the permit will require the facility to notify MDE and EPA when the facility determines it is not in compliance with the requirements of a permit. MDE also routinely sends inspectors to facilities in order to determine if a permittee is in compliance with the conditions imposed under their permits. It should be noted that both state and federal permits rely on "self-testing and reporting" as the main means of ensuring compliance. The state oversight inspections served as a verification mechanism.

State and federal laws provide various methods of taking enforcement actions against violators of permit requirements. For example, MDE may issue administrative orders that require facilities to correct violations and that assess monetary penalties. Laws also allow MDE to pursue civil and criminal actions that may include mandatory injunctions or penalties, as well as jail sentences for persons found willfully violating requirements, and endangering the health and welfare of the public or environment. Equally important is how the general public can enforce permit conditions. The facility monitoring reports are public documents, and the general public can review them. If any member of the general public finds that a facility is violating its NPDES permit, that member can independently start a legal action, unless EPA or the state regulatory agency has taken an enforcement action.

Section 9-252(b) of the Environment Article **grants the Secretary of the Environment the power to order that any public sewage system be operated in a manner that will protect public health and comfort. In the event a person fails to comply with such an order, Section 3-109 of the Natural Resource Article provides the Secretary of the Environment the authority to issue a directive to the Maryland Environmental Service (MES) in order to take certain action to ensure protection of public and environmental health.**

MDE Regulatory Procedures

MDE routinely reviews DMR data and applies EPA's Significant Non-Compliance (SNC) criteria to determine when enforcement is necessary. EPA also evaluates DMR data on a quarterly basis and summarizes the compliance status on its public access ECHO database. Due to the volume of NPDES/state permitted facilities routinely identified as SNC via automated screening of DMR data (including individual permits and registrations under general permits), and approximately a one month delay in DMR data being available in the ECHO database, MDE relies heavily on inspections and noncompliance notifications from permittees to determine when to shift enforcement priorities and take enforcement actions. In many cases, the SNC violations identified through the automated screening process are failure to report or incorrect reporting, not necessarily effluent violations and may not trigger the need for onsite inspections.

Back River WWTP Permit Violations

From January 2019 through July 2020, the Back River's DMRs showed effluent violations for several parameters, but these exceedances did not reach the threshold for SNC. **During this time, the facility failed to call MDE to report its violations or alert the Department to the follow-up letters submitted with the DMRs. The facility also failed to submit all the required DMR data during this period.** While any missing data is automatically treated as SNC by the system, it does not necessarily trigger an inspection, but does result in follow up action by the Department.

In review of the records and in preparation for the June 2021 onsite inspection, the Department learned that from August 2020 through January 2021, the facility's DMRs showed effluent violations that reached the SNC threshold, but **the facility had failed to submit the required**

DMR data. These violations were for nitrogen, phosphorus, and total suspended solids. The **facility also failed to call MDE to report the violations** but did submit follow-up letters with the DMRs. EPA's ECHO database flagged the violations as SNC.

Starting in January 2021, the Department began preparing for this inspection by requesting raw data, including laboratory reports, chain of custody sheets, operator logs, laboratory quality assurance and validation data for 2020. **During this review, the Department observed discrepancies with the validation and supporting data for the analytical results and determined that there were corrections required for some of the monitoring protocols.** The Department reviewed more data and in February 2021 provided the Back River WWTP with an effluent monitoring protocol to correct the monitoring deficiencies. During the Department's review of subsequent data for the Q1 and Q2 of 2021, no further issues were found with the effluent validation data. The monitoring data was reviewed off site up until the June 2021 inspection.

While MDE was preparing for a spring 2021 inspection, on March 26, 2021, the facility notified MDE that its DMR for February 2021 would be late due to the contracted laboratory, ALS, withholding the data due to payment issues with Baltimore City. On April 28, 2021, the facility submitted the DMRs for February and March of 2021, which indicated substantial treatment issues at the facility. The Department was preparing for a June inspection.

On June 16, 2021, MDE conducted an inspection of the facility. **The MDE inspection found that the facility was in noncompliance with its permit requirements and required nine corrective actions.** Some of the violations observed included:

- A series of effluent violations beginning in August 2020 caused by operational and maintenance problems. The treatment operations have failed to produce a final effluent that has consistently met the effluent limitations of the permit.
- Failure to report all effluent violations to the Department and follow up with a letter of explanation within 5 days of reporting the violation(s).
- Failure to submit certain data and reports.
- The facility requires an updated Operations and Maintenance Manual.

Patapsco WWTP Permit Violations and Consent Orders

The Patapsco WWTP has operated in SNC since 2015. However, MDE previously issued two separate enforcement actions to bring the facility into compliance with the NPDES Discharge Permit. **The city failed to comply with the terms of both enforcement actions. The city has also frequently failed to provide certain data on the submitted DMRs, citing sample processing, and laboratory errors.**

Fats, Oils and Grease (FOG) Consent Order

In June 2016, MDE and Baltimore City entered into a consent order (negotiated administrative action), primarily to resolve unauthorized discharges of FOG from the facility. The FOG Consent

Order required that the city develop and implement a plan to mitigate FOG discharges. The FOG Consent Order also included a penalty to resolve permit violations at the Patapsco and Back River WWTPs, as well as deficiencies at both facilities' on-site laboratories. Since 2016, both facilities have used a third-party laboratory, ALS, for the official analyses of effluent samples required by the NPDES Discharge Permits.

The city submitted an initial FOG Plan to MDE in August 2016. **In a letter dated December 12, 2016, MDE requested a revised FOG Plan to correct certain deficiencies, but the city did not respond.** The facility's NPDES Discharge Permit became effective on October 1, 2017, and also required a FOG Plan (and referenced the FOG Consent Order). In November 2017, the city provided a revised FOG Plan. However, MDE also considered this version of the FOG Plan to be deficient, and this was communicated to the city during an inspection of the facility in September 2018. Further, the NPDES Discharge Permit also required that the city submit to MDE annual reports regarding the implementation of the FOG Plan, but **the City never submitted these reports.** The city did implement some of the temporary measures proposed in the FOG Plan but did not complete all the necessary upgrades/repairs to the facility. MDE documented the ongoing deficiencies related to FOG during its May 6, 2021 inspection of the facility. **Ultimately, due to the city's failure to comply with the FOG Consent Order, MDE assessed stipulated penalties to the city per the terms of the FOG Consent Order and closed the FOG Consent Order via letter dated February 15, 2022.**

ENR Consent Order

On January 28, 2015, MDE and Baltimore City entered into a consent order (negotiated administrative action) to memorialize a plan for the required upgrade of the facility to achieve ENR for nitrogen and phosphorus. The original agreed upon deadline to complete the upgrade was January 1, 2017, but the city requested multiple extensions of the deadline due to contractor delays. Ultimately, MDE agreed to extend the deadline to September 30, 2018. Due to the upgrade requiring the disruption of treatment processes, the ENR Consent Order also provided temporary interim performance standards that were less stringent than the effluent limits in the NPDES Discharge Permit. **The city was unable to comply with the interim performance standards during the upgrade, and the Department successfully assessed stipulated penalties for these failures through 2016 via letter dated July 31, 2018.** The city officially completed the upgrade in January 2020, well beyond the agreed upon deadline of September 2018. However, the city continued to struggle to meet the ENR treatment standards at the facility. In a letter dated January 15, 2020, MDE expressed concern for these ongoing deficiencies at the facility and attempted to assess additional stipulated penalties per the terms of the ENR Consent Order for violations that occurred from 2017 through 2019. **However, in their response letter dated February 18, 2020, the city resisted this second assessment, arguing for an alternative interpretation of the ENR Consent Order.** This was despite MDE previously attempting to clarify the terms of the ENR Consent Order when granting the deadline extensions. MDE officially requested assistance from the Office of the Attorney General (OAG) in interpreting and resolving the ENR Consent Order in March 2021. Ultimately, in the interest of pursuing a new consent decree to resolve the ongoing violations at the facility, and because the

city did officially complete the upgrade at the facility, MDE agreed to a revised stipulated penalty assessment and closed the ENR Consent Order via letter dated January 7, 2022.

Nutrient and Solids Violations

The city continued to have problems meeting the load-based limits for nitrogen and phosphorus in 2020, after the ENR upgrade was completed, and in late 2020, the city submitted several incomplete DMRs, citing laboratory processing issues. The city did submit noncompliance letters for these violations with the DMRs but did not call MDE in each instance. In January and February 2021, the city reported no effluent violations on the DMRs, however the February DMR was submitted late due to payment issues with the city's contractor, ALS. On April 28, 2021, the city submitted the DMR for March 2021, which indicated one violation of the Enterococci limit. The city called MDE to report the violation on April 9, 2021 and provided a follow-up letter on April 12, 2021. The March 2021 DMR also failed to include valid sample results for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) due to a laboratory error. The city called MDE to report this deficiency on April 16, 2021 and provided a follow-up letter with the DMR submission on April 28, 2021.

On May 6, 2021 MDE conducted an inspection of the facility. **The MDE inspection found that the facility was in noncompliance with its permit requirements and required 12 corrective actions.** Some of the violations observed included:

- A series of effluent violations beginning in July 2020 caused by operational and maintenance problems.
- Failure to comply with the FOG mitigation plan to prevent FOG discharges, and the failure to submit annual reports to MDE regarding the implementation of the FOG mitigation plan.
- The frequent miscollection or mishandling of effluent samples, resulting in certain data not being reported to MDE.
- Improper sampling, analysis, and reporting of PCB and other toxic chemical data.

DMRs for April, May, and June 2021, submitted after the May 6, 2021 inspection, reported additional effluent violations of BOD, TSS, Enterococci, nitrogen and phosphorus.

Back River and Patapsco WWTPs: Departmental Actions taken between August 2021 and March 20, 2022

On August 23, 2021, the Department sent a letter to the Baltimore City Department of Public Works (DPW). The letter served as a notice that the Department had assessed both facilities and found them to be in SNC. The letter also served to provide notice that the Department intended to proceed with a formal enforcement action to require the implementation of corrective measures. In the letter, the Department requested a meeting with DPW to discuss the alleged violations and obtain any additional information for consideration and requested a response within 7 days.

On September 3, 2021, MDE met with the DPW to pursue negotiations toward a consent decree (a negotiated civil action). **On September 10, 2021, MDE officially referred the Back River facility to the OAG to facilitate development of the enforcement action.** On September 17, 2021, the city provided a strategic plan detailing actions to bring the facility into compliance. The Department reviewed the strategic plan, provided comments, requested additional information, and the negotiations toward a consent decree continued. MDE and OAG met again with the city on September 23, 2021. **MDE officially referred the Patapsco facility to the OAG on November 2, 2021.**

In October 2021, MDE and DPW staff began holding technical meetings approximately biweekly to discuss progress in implementing the Strategic Plan at the Patapsco and Back River facilities, and DPW began providing biweekly status reports. The ultimate purpose of these meetings and reports was for MDE and the city to identify specific corrective actions and deadlines to incorporate into a consent decree. **Also in October 2021, Secretary Ben Grumbles sent a letter to Baltimore City Mayor Brandon M. Scott to strongly encourage him to direct significant funding, which the City is receiving under the federal American Rescue Plan, to fix the problems at the WWTPs.**

In November 2021, the city provided a Status Report, in which it referenced its immediate action in response to the inspections of the facilities in May and June of 2021, including root cause analyses regarding effluent violations, expedited procurement of contractors and vendors to implement equipment repairs, coordination with subject matter experts on operational deficiencies, and expedited acquisition of supplemental operational/maintenance staff. Additionally, MDE requested a copy of the Gap Analysis, a document that was being prepared by the city in coordination with a subject matter expert. The Gap Analysis was referenced in the Strategic Plan for the facilities and was intended as a proactive measure to identify performance deficiencies that may present future compliance concerns. The city advised MDE it was awaiting approval from its legal team prior to releasing the Gap Analysis.

On November 23, 2021, the city provided a list of operators at each facility who needed renewed operator certifications. **The city referenced MDE's slow turnaround time to process renewal applications, but MDE determined that many of the renewal applications were completed incorrectly and/or submitted late.** Additional status meetings occurred in November and December 2021 with the intent to have a consent decree completed in draft by late December. On January 19, 2022, at the request of the city, MDE agreed to expedite processing of "reciprocity applications" for operator certifications. This would allow the city to employ additional operators with out-of-state licenses at the facilities, which would help relieve the staffing shortages. **MDE arranged an emergency meeting for February 2, 2022, but the city withdrew its request and the meeting was canceled because the city claimed it had hired sufficient operators via a contractor.**

In January 2022, MDE determined that the Status Reports did not provide sufficient information for MDE to track the city's progress towards implementing the Strategic Plan. MDE requested that the city revise the Status Reports and MDE facilitated reformatting the Status Reports.

On January 12, 2022, the city provided the Gap Analysis report for the Patapsco facility. The Gap Analysis did include some additional recommendations for improvements to the facility, but it was not a formal engineering evaluation, which MDE was expecting. MDE asked for clarification from the city, and the city advised that the Gap Analysis was an informal review by several engineers who were already familiar with the facility. The city provided a similar Gap Analysis report for the Back River facility on February 10, 2022.

On January 21, 2022, MDE filed a suit against Baltimore City to stop unauthorized discharges of pollution. The lawsuit was filed in the Baltimore City Circuit Court and stated that Baltimore City's operation of the Back River WWTP and the unauthorized discharge of pollutants, including nitrogen and phosphorus, undermines Chesapeake Bay restoration efforts by Maryland and the other bay watershed states. **The suit describes a number of alleged permit violations, including effluent limit exceedances and reporting failures, and includes four counts alleging significant violations of environmental law.** The complaint requests the court to require Baltimore City to stop discharges of pollutants from the plants that are not authorized by an MDE permit and to require the city to take all steps necessary to come into permanent and consistent compliance with the applicable environmental law. **It also requests the court to assess civil penalties against the city of up to \$10,000 per violation per day. Notwithstanding MDE's filing of the civil complaint, MDE and Baltimore City continued to pursue a consent decree settlement.**

In February 2022, MDE requested again that the city provide more clarity in the Status Reports regarding progress for specific corrective actions. **The city did not comply, arguing that MDE's request was unreasonable.** In response to observations made during recent inspections, MDE also requested that operational staff avoid leaving operational areas of each facility unattended during shift changes. MDE also requested further clarifying revisions to the Status Reports.

In early March 2022, due to the lack of progress being made by the city in implementing the Strategic Plan, MDE issued a letter to DPW for each facility requesting detailed information on the operational status and the status of repairs for each facility. The letter also requested detailed information on the city's plans to fill the numerous vacancies in operations/maintenance positions at each facility, and the letter requested a third-party Engineer Evaluation of each facility to be completed by early June 2022.

Issuing the Back River WWTP Directive

On March 27, 2022, the MDE Secretary issued a directive to MES to take charge of Baltimore City's Back River WWTP in order to work with the city to ensure certain permit objectives are met. More specifically, the MDE Secretary directed MES to oversee the operation, maintenance, and improvements of the plant to ensure that Baltimore City meets objectives that include protecting public and environmental health. The directive specifies that MES shall take action to ensure that the city operates the plant in compliance with all terms of its discharge permit and ceases all illegal discharges from the Back River WWTP.

The directive to MES was issued after Baltimore City failed to comply with a previous March 24 order from the MDE Secretary to immediately end illegal discharges of water pollution at the WWTP and demonstrate that it has come into compliance with all CWA and state law permit conditions. That March 24 order was issued following a MDE inspection 2 days earlier that “revealed the precipitous decline of the functioning of several critical processes at the Plant in comparison with prior inspections.” The directive to MES states that MDE “has determined that the decline in the proper maintenance and operation of the Plant risks catastrophic failures at the Plant that may result in environmental harm as well as adverse public health and comfort effects.”

Leading up to the March 24, 2022 order and the March 27 directive, **MDE had taken multiple actions under state and federal law, conducted 10 onsite inspections, and issued corrected actions, but sufficient response and progress by Baltimore City did not occur.**

Back River and Patapsco WWTPs: Departmental Actions taken after the March 27, 2022 Directive

Back River WWTP

Following the issuance of the directive, MES was on site at Back River on March 28, 2022. Also, beginning on March 28, MDE, MES, and DPW started weekly progress and status meetings covering plant safety, operations, maintenance, and effluent concentrations. Biweekly Back River progress reports produced and posted online by MDE indicate progress is being made toward maintenance and operation, but there are still significant challenges.

In April 2022, MDE conducted two on-site inspections to investigate complaints that reported sewage discharge to the Back River next to the WWTP outfall. **The April 16, 2022 report concluded that the WWTP is allowing partially treated solid material to be discharged to the surface waters** due to malfunctioning equipment and that the city must ensure that floating materials and partially treated solids are not allowed to discharge to Back River. The Department also required that the Back River WWTP must ensure that all process equipment is functioning as designed and evaluate and confirm that there is adequate staff at all times to monitor all process equipment and ensure satisfactory performance. **A follow up inspection occurred on April 22, 2022 identified continued process problems with the treatment of solids.**

On April 22, 2022, MDE and the Maryland Department of Health issued a public health advisory that included recommendations regarding contact with water in the Back River. The Baltimore County Health Department also posted signage near Cox’s Point Park.

The Department is currently reviewing the information that was requested in the March 4, 2022 letter to the city and is expecting a third-party engineering assessment of the plant to be provided to MDE on June 6, 2022. As a condition of the March 27, 2022 directive, MES is also to complete a comprehensive evaluation and assessment of the Back River WWTP’s operation, maintenance, staffing, and equipment and, by June 6, 2022, submit a report to the Department

of their findings and recommendations, including a comprehensive list of needed improvements, ranked by their impact on compliance with discharge permit effluent limitations. It is the intent that the results of both reports will be used in the development of a consent decree, an order by the court, to resolve the ongoing violations at the WWTP.

Patapsco WWTP

The biweekly meetings and status reports for Patapsco WWTP ceased after MDE issued the March 27, 2022 directive to MES.

In April and May of 2022, the Department conducted two inspections at the Patapsco WWTP. The most recent inspection reported that the treatment and disposal of solids at Patapsco WWTP are not at the level necessary to keep the treatment works and treatment processes functioning satisfactorily. The high TSS concentrations have affected the treatment processes enabling effluent violations for a number of effluent parameters. **For over a year, the Patapsco WWTP has been having ongoing problems getting the sludge processing contractor to process biosolids on a daily basis at the quantity required to keep the treatment works and treatment processes functioning satisfactorily.** The DPW reported to MDE that the ability of the contractor to process the biosolids has been affected by the presence of hydrocarbons in the material at concentrations that may pose a fire hazard in the main drying process. After multiple requests for the data, MDE received the laboratory results on May 31, 2021 and is in a process of reviewing the information. So far, the city has been unable to determine the source of the hydrocarbons. **Many other violations were observed, including bypassing certain parts of the wastewater treatment process.** Following the last inspection, on May 17, MDE sent a letter to the city requesting that the city promptly enter into a consent order with MDE that ensures timely compliance of the Patapsco WWTP. No agreement has been reached at this time.

The Department is currently reviewing the information that was requested in the March 4, 2022 letter to the city and is expecting a third-party engineering assessment of the plant to be provided to MDE on June 6, 2022. The intent is that the information included in the assessment will be used in the development of a consent decree, an order by the court, to resolve the ongoing violations at the WWTP.

STATE OF MARYLAND
DEPARTMENT OF THE
ENVIRONMENT
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v.

MAYOR AND CITY COUNCIL
OF BALTIMORE, MARYLAND
250 City Hall
Baltimore, Maryland 21202,

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James L. Shea, City Solicitor
Baltimore City Solicitor's Office
Baltimore City Department of Law
100 North Holliday Street, Suite 101
Baltimore, Maryland 21202.

SECRETARY OF THE
ENVIRONMENT

* * * * *

ORDER

The Mayor and City Council of Baltimore ("Baltimore City") applied for, and the Maryland Department of the Environment (the "Department") established conditions and requirements and authorized Baltimore City, pursuant to NPDES Discharge Permit Number MD0021555, State Discharge Permit Number 15-DP-0581A (effective May 1, 2018; modified January 1, 2020; expires April 30, 2023) ("Back River Discharge Permit") to discharge from the Back River Wastewater Treatment Plant ("Back River WWTP" or the "Plant"), located at 8201 Eastern Avenue, Baltimore, Maryland.

On March 22, 2022, the Department conducted an inspection of the Back River WWTP. This inspection revealed the precipitous decline of the functioning of several critical processes at the Plant in comparison with prior inspections, including, but not limited to, those conducted on

September 20 and December 29, 2021. The March 22, 2022, inspection revealed significantly increased noncompliance with the Back River Discharge Permit that is causing new or increased unpermitted discharges to Back River, which is designated as Use II waters protected for Estuarine and Marine Aquatic Life. Additional data from Discharge Monitoring Reports submitted by Baltimore City indicate monthly violations of total suspended solids (“TSSs”), total nitrogen, and total phosphorus.

Specifically, the March 22, 2022, inspection report revealed that:

1. Only 2 of the 11 primary settling tanks (“PSTs”) were in service, and 1 of the 2 operating PSTs requires maintenance to function properly. The Back River WWTP does not have sufficient PST capacity to treat its primary waste stream;
2. Denitrification filters (“DN Filters”) were not functioning as designed because of the presence of a high solids concentration in the DN Filter influent. The Plant has 52 DN Filters arranged in 4 quads of 13 DN Filters each. Quads 1, 2 and 4 are not functioning properly because they are underwater. Additionally, the 13 DN Filters in Quad 4 are not functioning properly because they require various mechanical maintenance. These improperly functioning DN Filters are causing DN Filter influent to bypass permit required Enhanced Nutrient Reduction (“ENR”) treatment. In addition, the Department observed the presence of hydrogen sulfite (sewer gas) at the DN Filters which indicates operational or treatment process deficiencies; this is possibly related to incorrect methanol dosing;
3. January 2022 concentrations of TSS in DN Filter influent ranged between 31 and 292 mg/L. This indicates that the solids settling processes are failing. These high concentrations are causing intermittent and chronic clogging of the DN Filter system;

4. Significant algal and vegetation have grown on the weirs of the secondary clarifiers. This has caused the short circuiting of the system and likely negatively impacts TSS concentration in the Plant's treatment train wastewater;

5. Significant amounts of solids have accumulated in the secondary clarifiers. This accumulation is decreasing the quality of the Plant's final effluent.

6. Significant amounts of vegetation (*e.g.*, reed grasses) have grown and are established in the secondary clarifiers. This is preventing the proper functioning of these clarifiers; and

7. Significant amounts of vegetation (*e.g.*, reed grasses) have grown and are established in the biological reactors. This is preventing the proper functioning of these reactors.

The decline in the proper maintenance and operation of the Plant risks catastrophic failures at the Plant that may result in environmental harm as well as adverse public health and comfort effects.

Pursuant to § 9-252(a) of the Environment Article, to prevent or correct pollution of the waters of the State and to ensure the Back River WWTP is operated in a manner that will protect public health and comfort, effective immediately, Secretary Grumbles hereby ORDERS Baltimore City to operate the Back River WWTP in compliance with all terms of the Back River Discharge Permit, including, but not limited to, providing an adequate number of operating staff that are qualified to carry out the operations, maintenance, and testing functions required to ensure compliance with the Back River WWTP Permit, and to cease all unpermitted discharges from the Back River WWTP. Baltimore City shall make all necessary and appropriate alterations to the Back River WWTP and its operations in order to comply with this Order.

Within 48 hours of service of this Order, Baltimore City will submit to the Department sufficient documentary evidence that the Back River WWTP is operating in compliance with all terms of the Back River Discharge Permit and that it has ceased all unpermitted discharges.

In accordance with § 9-263 of the Environment Article, if Baltimore City is dissatisfied with this Order, it may commence, within 10 days after the service of this Order, an action in circuit court to vacate or set aside the Order on the grounds that the Order is unlawful or unreasonable, or that the Order is not necessary for the for the protection of the public health or comfort.

STATE OF MARYLAND,

DEPARTMENT OF THE ENVIRONMENT



Ben Grumbles, Secretary

Date March 24, 2022

IN THE MATTER OF
BACK RIVER WASTEWATER
TREATMENT PLANT
8201 Eastern Avenue
Baltimore, Maryland

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SECRETARY OF THE
ENVIRONMENT

SERVE ON:
MARYLAND ENVIRONMENTAL
SERVICE
259 Najoles Road
Millersville, Maryland 21108

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DIRECTIVE TO THE MARYLAND ENVIRONMENTAL SERVICE
BY THE SECRETARY OF THE ENVIRONMENT

The Secretary of the Environment (“Secretary”), on behalf of the Maryland Department of the Environment (“Department”), pursuant to the powers, duties, and responsibilities set forth in the Maryland Annotated Code, Environment Article, § 9-252(a) and (b), and Natural Resources Article, § 3-109(c) and (d), issues this Directive to the Maryland Environmental Service (“Service”) in order to ensure protection of public and environmental health, as follows.

APPLICABLE LAW

1. The General Assembly has empowered the Secretary with the duty and powers to protect public health and the environment. Among other powers and duties enumerated in the Environment Article, § 9-252(a) authorizes the Secretary to take action to address pollution of waters of the State; specifically:

- (a)(1) To prevent or correct pollution of the waters of this State, the Secretary may:
 - (i) Adopt and enforce regulations; and
 - (ii) Order works to be executed.

(2) The Secretary may:

(i) Require any public water supply system, public sewerage system, or refuse disposal system to be operated in a manner that will protect public health and comfort; and

(ii) Order the alteration, extension, or replacement of any public water supply system, public sewerage system, or refuse disposal system.

2. Section 9-252(b) of the Environment Article grants the Secretary the power to require that any public sewage system be operated in a manner that will protect public health and comfort; specifically:

(b) The Secretary:

(1) Has supervision and control over the sanitary and physical condition of the waters of this State to protect public health and comfort;

(2) Shall investigate:

(i) All sources of water and ice; and

(ii) All points of sewage discharge;

(3) Shall examine all public water supply systems, public sewerage systems, and refuse disposal systems; and

(4) Shall approve or disapprove the design and construction of any public water supply system, public sewerage system, or refuse disposal system that is to be built in this State.

3. In addition, § 3-109(c) of the Natural Resource Article provides that:

(1) Upon the failure of a municipality or person to comply with an order of the Secretary of the Environment to correct deficiencies on the operation of sewerage systems or refuse disposal works as provided in Title 9 of the Environment Article, the Secretary of the Environment shall direct the Service to take charge of and operate the systems or works to secure the results demanded by the Secretary of the Environment.

(2) Except as provided in subsection (e) of this section, upon the receipt of the directive from the Secretary of the Environment, the Service immediately shall take charge of and operate the systems or works to secure the results set forth in the directive of the Secretary of the Environment. All costs for maintenance, operation, and other services including legal fees incidental to taking possession of the sewerage system or refuse disposal works shall be charged to the municipality or person against which or whom the original order of the Secretary of the Environment was served.

(3) (i) Funds to pay the Service for services rendered under this subsection shall be raised in the case of a municipality under Title 9 of the Environment Article.

(ii) If the order is issued against a person, the Service shall bill the person for the full cost of services rendered.

(iii) If payment is not made within 60 days, the costs become a lien against the sewerage system or refuse disposal works if it is recorded and indexed as provided in this subtitle, and the Director shall refer the matter to the Attorney General for collection.

4. Section 3-109(d) of the Natural Resource Article also provides that:

(1) Upon failure of a municipality or person to comply with an order of the Secretary of the Environment to extend or alter a sewerage system or refuse disposal works as provided in Title 9 of the Environment Article, the Secretary of the Environment shall direct the Service to make alterations or extensions to the systems or works, or install a new system or works as the Secretary of the Environment deems necessary to correct the improper conditions.

(2) Except as provided in subsection (e) of this section, upon receipt of the directive from the Secretary of the Environment, the Service shall assume jurisdiction over the systems or works and make the alterations, extensions, or new construction required to comply with the directive of the Secretary of the Environment. All costs, including legal fees incidental to assuming jurisdiction over the system or works, shall be charged to the municipality or person against which or whom the order of the Secretary of the Environment was issued.

(3) Funds to pay the Service for costs incurred as a result of actions taken under this subsection may be raised as provided in Title 9 of the Environment Article. If the order was against a person, the Service shall charge the person with the cost of making the necessary improvements to comply with the directive of the Secretary of the Environment. If the person fails to pay within 60 days, the cost becomes a lien against the property served if it is recorded and indexed as provided in this subtitle, and the matter shall be referred to the Attorney General for collection.

5. Finally, § 3-109(e) of the Natural Resources Article provides:

(1) In the event the Service determines, at any time, that it will be unable to recoup all or a portion of its costs from the municipality or persons subject to the order of the Secretary of the Environment, the Service shall provide to the Secretary a full accounting of all costs incurred or anticipated to be incurred by it in complying with the Secretary's directive.

(2) Within 30 days of receipt of the accounting, the Secretary may request that the Service provide additional information.

(3) Within 90 days of receipt of the accounting or, when applicable, the additional information, the State shall pay to the Service the full amount of the Service's costs that are not paid or reasonably expected to be paid by the municipality or persons.

(4) (i) The State's payment of any amount to the Service does not preclude the State from seeking or obtaining reimbursement from the municipality or persons subject to the order of the Secretary.

(ii) The Service shall cooperate fully with the Secretary in seeking reimbursement from the municipality or persons.

FACTUAL BACKGROUND

6. The Mayor and City Council of Baltimore ("Baltimore City") applied for, and the Department established conditions and requirements and authorized Baltimore City, pursuant to Title 9, subtitle 3 of the Environment Article and NPDES Discharge Permit Number MD0021555, State Discharge Permit Number 15-DP-0581A (effective May 1, 2018; modified January 1, 2020; expires April 30, 2023) ("Back River Discharge Permit"), to discharge from the Back River Wastewater Treatment Plant ("Back River WWTP" or the "Plant"), located at 8201 Eastern Avenue, Baltimore, Maryland.

7. The Back River Discharge Permit (a) details the actions that Baltimore City is required to take to operate the Back River WWTP, and (b) limits Baltimore City's discharges of

pollutants to (i) Outfall 001A in the Back River, and (ii) Outfall 002A at Bear Creek. The Back River, which is designated as Use II waters protected for estuarine and marine aquatic life, then flows to the Chesapeake Bay.

8. On or about June 16, 2021, September 20, 2021, and December 29, 2021, the Department conducted inspections at the Back River WWTP. During these inspections, and as a result of reviewing information and materials submitted by Baltimore City before and after these inspections in accordance with the terms of the Permit, the Department observed extensive violations of General and Special Conditions contained in the Back River Discharge Permit.¹

9. On March 22, 2022, the Department conducted an additional inspection of the Back River WWTP. This inspection revealed a precipitous decline of the functioning of several critical processes at the Plant in comparison with prior Department inspections. The March 22, 2022, inspection revealed significantly increased noncompliance with the Back River Discharge Permit that is causing new or increased unpermitted discharges to Back River. Additional data from Discharge Monitoring Reports submitted by Baltimore City indicate monthly violations of total suspended solids (“TSSs”), total nitrogen, and total phosphorus.

10. Specifically, the March 22, 2022, inspection report revealed that:

a. Only 2 of the 11 primary settling tanks (“PSTs”) were in service, and 1 of the 2 operating PSTs requires maintenance to function properly. The Back River WWTP does not have sufficient PST capacity to treat its primary waste stream;

¹ As a result of the extensive violations of General and Special Conditions contained in the Back River Discharge Permit observed by the Department, on January 21, 2022, the Department filed an action against Baltimore City under Title 9, subtitle 3 of the Environment Article in the Circuit Court for Baltimore City, Case No. 24-C-22-000386.

b. Denitrification filters (“DN Filters”) were not functioning as designed because of the presence of a high solids concentration in the DN Filter influent. The Plant has 52 DN Filters arranged in 4 quads of 13 DN Filters each. Quads 1, 2 and 4 are not functioning properly because they are underwater. Additionally, the 13 DN Filters in Quad 4 are not functioning properly because they require various mechanical maintenance. These improperly functioning DN Filters are causing DN Filter influent to bypass permit required Enhanced Nutrient Reduction (“ENR”) treatment. In addition, the Department observed the presence of hydrogen sulfite (sewer gas) at the DN Filters which indicates operational or treatment process deficiencies; this is possibly related to incorrect methanol dosing;

c. January 2022 concentrations of TSS in DN Filter influent ranged between 31 and 292 mg/L. This indicates that the solids settling processes are failing. These high concentrations are causing intermittent and chronic clogging of the DN Filter system;

d. Significant algal and vegetation have grown on the weirs of the secondary clarifiers. This has caused the short circuiting of the system and likely negatively impacts TSS concentration in the Plant’s treatment train wastewater;

e. Significant amounts of solids have accumulated in the secondary clarifiers. This accumulation is decreasing the quality of the Plant’s final effluent.

f. Significant amounts of vegetation (*e.g.*, reed grasses) have grown and are established in the secondary clarifiers. This is preventing the proper functioning of these clarifiers; and

g. Significant amounts of vegetation (*e.g.*, reed grasses) have grown and are

established in the biological reactors. This is preventing the proper functioning of these reactors.

11. The Department has determined that the decline in the proper maintenance and operation of the Plant risks catastrophic failures at the Plant that may result in environmental harm as well as adverse public health and comfort effects.

12. Therefore, pursuant to § 9-252(a) of the Environment Article, to prevent or correct pollution of the waters of the State and to ensure the Back River WWTP is operated in a manner that will protect public health and comfort, the Secretary Grumbles ordered Baltimore City on March 24, 2022, to operate the Back River WWTP in compliance with all terms of the Back River Discharge Permit, including, but not limited to, providing an adequate number of operating staff that are qualified to carry out the operations, maintenance, and testing functions required to ensure compliance with the Back River Discharge Permit, and to cease all unpermitted discharges from the Back River WWTP. The Secretary further ordered Baltimore City to make all necessary and appropriate alterations to the Back River WWTP and its operations in order to comply with the March 24, 2022, order, and within 48 hours of service of the order, to submit to the Department sufficient documentary evidence that the Back River WWTP is operating in compliance with all terms of the Back River Discharge Permit and that it has ceased all unpermitted discharges.

13. On March 26, 2022, more than 48 hours after service of the March 24, 2022, order, the Department conducted a follow-up inspection of the Back River WWTP. The Department documented that the corrective actions identified in the March 22, 2022, inspection have not been completed, and extensive violations of General and Special Conditions contained in the Back River Discharge Permit continue unabated.

14. As of the date of this Directive, Baltimore City has failed to comply with the March 24, 2022, order and to operate the Back River WWTP in compliance with all terms of the Back River Discharge Permit and cease all unpermitted discharges from the Back River WWTP.

DIRECTIVE TO THE SERVICE

15. Pursuant to § 3-109(c) and § 3-109(d) of the Natural Resource Article, the Secretary hereby DIRECTS that the Service take charge of the Back River WWTP, including its operations, maintenance, and improvements functions, in order to work with Baltimore City to ensure that Baltimore City meets the following objectives: protecting public and environmental health; abating any further nuisance; providing appropriate levels of qualified staff; conducting appropriate maintenance, improvements, and modifications; operating the Back River WWTP in compliance with all terms of the Back River Discharge Permit; and ceasing all unpermitted discharges from the Back River WWTP.² The Service shall work with Baltimore City to the extent it deems practicable, but in any event, shall achieve the aforementioned objectives with the means and methods the Service, in its discretion, deems most effective and efficient. Specifically, the Service shall take actions to ensure that the Back River WWTP is operated in compliance with all terms of the Back River Discharge Permit and cease all unpermitted discharges from the Back River WWTP, which shall include:

- a. Immediately commencing action to correct the deficiencies identified in Paragraph 10.a. through g. of this Directive;

² Nothing in this Directive imposes liability on the Service under Title 9, subtitle 3 for violations of the Back River Discharge Permit.

- b. Immediately begin assessing the adequacy of both the number and qualifications of Plant staff in order to provide a recommendation to Baltimore City and the Department on the adequate number of qualified operating staff that are necessary to carry out the operations, maintenance, and testing functions required to ensure compliance with the Back River Discharge Permit; and
- c. Identifying and implementing all necessary and appropriate alterations to the Back River WWTP and its operations and maintenance, including, if necessary, the retaining of additional workers to temporarily supplement staffing at the Back River WWTP.

16. The Secretary further DIRECTS the Service to undertake a comprehensive evaluation and assessment of the Back River WWTP's operation, maintenance, staffing, and equipment and, by June 6, 2022, to submit a report to the Department of the Service's findings and recommendations, including a comprehensive list of needed improvements, ranked by their impact on compliance with discharge permit effluent limitations.

17. The Secretary further DIRECTS the Service to abide by any amendments or modifications to this Directive issued by the Secretary of Environment if the Secretary believes any such amendment or modification is necessary to protect human and environmental health.

18. The Secretary further DIRECTS the Service to seek recoupment as referenced in § 3-109 of the Natural Resources Article and may record and index one or more liens against Baltimore City, and any other responsible parties, assigns, owners, or operators.

19. The Secretary further DIRECTS the Service to complete all tasks in this Directive until the Secretary notifies the Service that this Directive is terminated.

STATE OF MARYLAND,
DEPARTMENT OF THE ENVIRONMENT



Benjamin Grumbles, Secretary

Date March 27, 2022