



## STATUS REPORT Progress and Improvements

DPW BUREAU/OFFICE: Back River Wastewater Treatment Plant (Back River) Date: 7/10/2023

Parameters	June 2023	Monthly Permit limit	Meeting Requirement
Total Suspended Solids (TSS)	1 mg/l (Outfall 001) 2 mg/l (Outfall 002)	10 mg/l (both outfalls)	Yes
Biochemical Oxygen Demand (BOD)	3 mg/l (Outfall 001) <2.0 mg/l (outfall 002)	10 mg/l (both outfalls)	Yes
Total phosphorus (TP) *	<.10 mg/l (Outfall 001) <.10 mg/l (Outfall 002)	0.20 mg/l (both outfalls)	Yes (Outfall 001) Yes (Outfall 002)
Ammonia (NH3)	0.6 mg/l (Outfall 001) 0.6 mg/l (Outfall 002)	5.1 mg/l (Nov, 1 to Apr. 30) 2.0 mg/l (May 1, to Oct. 31) both Outfalls	Yes
E-coli	2 MPN/100 ml (Outfall 001) 1 MPN/100 ml (Outfall 002)	126 MPN/100 ml (both outfalls)	Yes

MPN = Most Probable Number; N/A = Not Applicable

Parameters (Outfall 001)	Annual Limit	Seasonal Limit (May 1 to Oct. 31)	June Official Total	Meeting Requirements
Total Nitrogen (TN)	1,582,055 lbs./yr. cumulative	99,782 lbs./month	58,535 lbs.	Yes*

\*Five days of TN data is pending



Figure 1: Back River WWTP Primary Settling Tank

## Maintenance Updates



Figure 2: Back River WWTP new polymer units ready for installation

Back River WWTP continues with 4 Primary Settling Tanks in full service (#1, #7, #8, and #11). Repairs to PST #2 remain on schedule for completion in July 2023 with the final floor repairs underway. PST #9 will be back in service in mid-July and #10 in September 2023. PST #3 will be in service in November 2023. PST #4 will be ready in January 2024. PST #5 is slated to begin repairs this summer, and once #2 is returned to service, PST #6 will be cleaned out and assessed for repairs. This timeline would provide eight available PSTs by the end of 2023.

There are 16 of 18 reactors available for the process (12 in service with four on standby). The remaining are awaiting materials to complete the repairs. The optimal number for regular flow is 10 reactors. The secondaries have 32 of 36 final clarifiers, 23 in service, with nine available on standby. Plant staff continue scaling back

the number of in-service reactors and clarifiers towards the optimal amount for the flow. This change has increased the overflow rate through the process and reduced detention times which can lead to algae and phragmite growth within the process areas.

All 52 De-Nitrification Filters (DNF) filters remain available for service, including 13 filters for redundancy. All methanol sensors have been replaced and calibrated, allowing the system to work automatically.

Currently, three of four centrifuges are available for operation. Parts for Centrifuge #4 have arrived in the states where final balancing and adjustments are being made at the vendor's facility in Kentucky. Additionally, new polymer units and day tanks have been installed to improve the solids capture rate within the centrifuges and improve the centrate. The cake material produced from the City centrifuges is hauled out for composting. Composting is one way Back River supports DPW's environmental protection mission. Our mission statement states, "We support the health, environment, and economy of our City and region by providing customers with safe drinking water and keeping neighborhoods and waterways clean."

Rehabilitation of the in ground and egg-shaped digesters will begin in mid-July. This critical work will rehabilitate processes and equipment at the end of their useful life cycle. The work will aid the plant in biosolids digestion (which reduces the amount of biosolids to process and dispose of by ~ 40%) while also generating methane gas used for heating and electrical generation to offset utility costs.

Preventive maintenance efforts continue to be the primary focus of the maintenance staff.

## Compliance and Safety

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On June 14, 2023, The Office of Environmental Regulatory Compliance and Safety (ERCS) participated in MDE field inspection at Back River WWTP, with MDE environmental compliance specialists. ERCS conducted a follow up investigation to address areas observed in the MDE site walk.

The City and Atkins Global, the City's partner in ensuring compliance, continue to implement the Weekly Asset Management and Safety Meeting to increase efforts for current site hazards and prior MOSH violations. Review of OSHA 300 data and incident reports is ongoing, to determine personal protection equipment needs and safety training needs. Health and Safety professionals have begun conducting comprehensive safety audits.

Work continues in the review of updated Stormwater Pollution Prevention Plans (SWPPP) to meet applicable changes to the newly released MDE 20 SW Industrial Stormwater Permit.

ERCS met with the plant staff to review the monthly operating report's data and to address communication tracking between the City and our contract laboratory.

ERCS continues to work with the City's contractor on the root cause analysis into the March 2023 explosion at the Synagro facility, and to review the current emergency action plan for Pelletec.

## Training

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The City's Program Management Team (PMT), Atkins Global, continues working with the City staff to help assure apprenticeship and ongoing training needs are being met.

The B'More WISE cohort is nearing graduation. The 11-member cohort has been involved in two intensive in-class learning days and three on-the-job training courses each week over the past 6-months. Their participation in the program has been received with positive feedback from both the cohorts and the host facility staff. The next cohort is being screened and reviewed to start in August 2023.

It is important to note that the B'More WISE cohort, by graduation, will have completed the necessary testing requirement for their permanent operator certification. They will still need the required three years of experience before the formal issuance of the certificate but will have already completed the testing portion. Maryland Center for Environmental Training (MCET) personnel is working with the City of Baltimore to schedule a testing date for the B'More WISE Cohort.

The Bureau continues its focus on 360Water training for operations and maintenance staff. The plant operations team met their June goal of 70 training hours utilizing the 360Watersystem.

## Synagro Facility Update

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Synagro continues operating its 3 existing centrifuges along with 3 temporary centrifuges while still conducting repairs to the on-site dryers. Synagro is also coordinating the hauling of the cake material for land application.

## Summary

DPW has made substantial progress toward full compliance at Back River. **All monthly effluent permit parameters have been met for June 2023.** DPW recognizes that Back River is an asset to the Baltimore region, and we are excited and confident in the path forward and in sustaining our compliance.