STATUS REPORT

Progress and Improvements

DPW BUREAU/OFFICE: Back River Wastewater Treatment Plant (Back River) Date: 4/10/2023

Parameters	March 2023	Monthly Permit limit	Meeting Requirement
Total Suspended Solids (TSS)	3 MG/L	10 mg/l	Yes
Biochemical oxygen demand (BOD)	5 MG/L	10 mg/l	Yes
Total phosphorus (TP)	<.10 MG/L	0.20 mg/l	Yes
*Ammonia (NH3)	.52 MG/L	5.1 mg/l	N/A
E-coli	1 MPN/100 ML	126 MPN/100 ml	Yes

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

*NOTE: THERE IS A MONTHLY PERMIT LIMIT OF 2.0MG/L DURING THE SUMMER SEASON (FROM 5/1-10/31) AND 5.1MG/L THE REST OF THE YEAR.

Parameters	Annual Limit	Seasonal Limit	March Unofficial Totals	Meeting Requirements
Total Nitrogen (TN)	1,582,055 lbs cumulative	99,782 lbs	66,635 lbs	Yes**

** = Still awaiting 12 days of data. With the current trends, the plant will meet its parameter goals.

Maintenance Updates

Primary Settling Tank (PST) #7, pictured right, repairs are complete, and it was placed back into service on 3/23/2023. PST #1 is out of service for repairs to the skimmer arm, with a tentative return to service in early April. Back River will have 4 PSTs in full service at that time. Repairs to the floor topper on PST #2 continue and are scheduled for completion in July 2023. PST #9 and 10 are currently under repair with timelines of July and September 2023, respectively. PST #3 will be in service in November 2023. PST #4 will be ready in January 2024. PST #5 is slated for Fall 2023, and PST #6 needs to be cleaned out and assessed for repairs. This timeline would provide in-service 8 PSTs by the end of 2023.

There are 15 of 18 reactors available for the process (12 in service with three on standby). The remaining three are awaiting material to complete proactive repairs. The optimal number for regular flow is ten reactors. The secondaries have 32 of 36 final clarifiers, 26 in service, with six available on standby. Plant staff continues scaling back the number of in-service reactors and clarifiers toward the optimal amount for the flow. This change will increase the overflow rate through the process and reduce detention times which can lead to algae and phragmite growth within the process areas.

All 52 De-Nitrification Filters (DNF) filters are 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 operations. Parts for Centrifuge #4 are still pending and awaiting a shipping update.

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

Compliance and Safety

The Office of Environmental Regulatory Compliance and Safety (ERCS) participated in site inspections, at Patapsco WWTP and Back River WWTP, with MDE environmental compliance specialists. ERCS provided compliance support in coordinating plant update reports to MDE. ERCS also assisted WWTP personnel: in improving SOPs related to quality control, equipment verification processes, routine monitoring, and sample data reporting to MDE. ERCS has begun meeting routinely with the WWTP's management and the Program Management Team on health, safety, and facility asset management.

Training

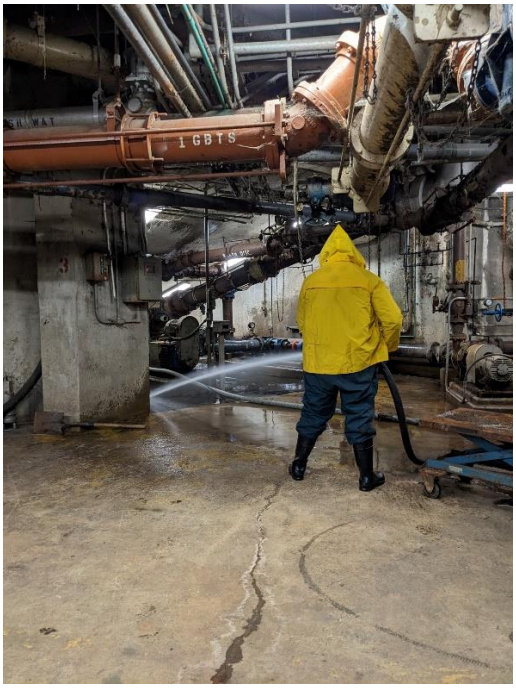
The City's Program Management Team, Atkins, has reviewed all plant information to assist with establishing the training and certification needs of the staff. This team coordinated efforts with the City's Training and Development Chief in a workshop on 4/5/2023. The goals are to establish robust apprenticeship training and continuing education for current staff. Additionally, we offer supplemental support classes to operations staff to enhance permanent certification rates.

The BMore WISE cohort continues their training within their second rotation. The cohort has two intensive in-class learning days and three weekly on-the-job training courses.

The City's computer-based training continues to be a focus of the Bureau of Water and Wastewater as we enhance our operations at our wastewater facilities. We encourage our employees to complete one 360Water course every two weeks for continuing education. Staff have completed over 80 hours of 360Water training since our March progress report, with two fully completed and six (6) others more than halfway.

The city is generating a list of participants for the June short course, which consists of classroom training to prepare operators for the 5A licensure exam.

Synagro Facility Update



On March 15, there was an explosion event at the Synagro Pelletizing facility, located on the leased land from the city, which a third-party vendor operates. The cause of the event remains unconfirmed. We understand this event resulted from an equipment issue within the Synagro plant. Thankfully, no one was injured, and the damage was limited to only a portion of the Synagro plant.

Synagro's on-site centrifuges and odor control systems were not damaged in the event and were cleared to resume operation the first week of April. As a result, the biosolids processing burden was shifted to the City-owned and operated centrifuge facility, which has sufficient capacity to handle the solids generated on the plant. In addition, Synagro has mobilized two belt presses and is hauling cake for land application. Additionally, Synagro is providing two temporary centrifuges for supplemental belts and suspenders-style support to ensure redundancy in operations. The two centrifuges will arrive and be installed on 4/14/23. Once online, the Synagro and City centrifuges will be the primary solids handling processes, with the temporary centrifuges and belt press as redundant support to maintain consistent solids handling operations.

Pictured above, is DPW housekeeping staff repairing city facilities to temporarily shut down by this event.

Summary

DPW has made substantial progress toward full compliance at Back River**. All monthly parameters are currently under permit limits, and Back River has maintained compliance since June 2022**. More specifically, suspended solids, biochemical oxygen demand, total phosphorus, ammonia, and total nitrogen have decreased significantly since March **2022.**

DPW recognizes that Back River is a valuable asset to the Baltimore region, and we are excited and confident in the path forward and in sustaining compliance.