



August 17, 2020

Via Electronic Mail Delivery

Mr. Darrin Gordon
General Manager
Lewes Board of Public Works
107 Franklin Avenue
Lewes, DE 19958

Subject: July 2020 Monthly Report to BPW

Dear Mr. Gordon:

White Marsh Environmental Systems, Inc. (WMES) is pleased to submit the July 2020 monthly report. The report contains a summary of the operations and maintenance activities at the BPW lift stations and wastewater treatment plant by WMES for the month of July, 2020. In addition, the report contains the following documents:

1. Corrective Action Items Summary – This will be submitted each month until all items have been completed.

If you have any questions, please feel free to contact me at pperis@middlesexwater.com.

Sincerely,

Paul S. Peris

Paul S. Peris
Director of Production and Maintenance
White Marsh Environmental Systems, Inc.

July 2020

I. Effluent Quality and Compliance

The data below confirms that the effluent meets all permit requirements.

Sample Data	Total Nitrogen	Total Phosphorus	BOD	TSS	Enterococcus
Average:	1.16 mg/L	1.45 mg/L	<2.4 mg/L	<0.88 mg/L	<1 Col.
Maximum:	1.16 mg/L	2.59mg/L	<2.4 mg/L	<2.0 mg/L	<1 Col.
Permit Limit:	8 mg/L average	2 mg/L average	15 mg/L average	15 mg/L average	10 Col. average
Maximum Permit Limit	N/A	N/A	23 mg/L MAX	23 mg/L MAX	104 Col. MAX

- Maximum daily flow - 1.4016 MGD
- Monthly average flow – 0.9745 MGD

II. Activities – July 2020

Lift Stations Activities

- All Lift Stations monitored daily with Point Watch system.
- WMES personnel conducted bi-monthly lift station inspections. No deficiencies noted.
- 7/7/20 - Freemire Associates and WMES personnel inspected pumps and controls at Lift Station's 20 and 21. No issues were reported.
- 7/11/20 - WMES staff replaced a bad seal on pump #1 at Lift Station #4. Pump was returned to service.
- 7/12/20 - Lift Station #4 pump #2 motor tripped out on overload. WMES staff pulled the pump and removed rags and debris from the pump cavity. The pump was tested and returned to service.

Plant Activities

- 7/3/20 - Train #2 shut down due to high turbidity. Train #2 reset and returned to service. Air in the sample line was identified as the cause for the alarm.
 - WMES personnel on site two times for holiday weekend per BPW request.
- 7/4/20 - WMES personnel on site two times per day for holiday weekend per BPW request.
- 7/5/20 - Digester call out for low anoxic basin alarm. The digester recirculation pump VFD was offline. WMES operations staff manually wasted to the digester and WMES maintenance was notified of pump problem.
- 7/6/20 - WMES staff pulled and unclogged digester recycle pump and returned digester to automatic operation.
 - Breakwater Construction onsite to continue chemical line replacement.
- 7/8/20 - Breakwater onsite to continue chemical line replacement.
 - 24,000 gallons sludge hauled from digester by CDI to maintain mixed liquor concentration.
 - Digester recirculation pump pulled, unclogged, and put back in service. WMES staff will schedule replacement of pump.
 - Darrin Gordon was onsite with a BPW staff member for a tour of facility accompanied by James Taylor plant DRC.
 - Sussex County staff acquired samples from the drying beds for analysis. Analysis results will allow the Sussex County to accept Lewes WWTP sludge at the new Sussex drying facility.
 - Secondary recirculation pump tripped out. WMES staff reset pump with no issues and returned to service.
- 7/9/20 - Breakwater onsite to continue chemical line replacement.
 - WMES staff began preparation for upcoming tropical storm Faye by lowering the pump start level on the flow equalization tank.
- 7/10/20 - 28,000 gallons of sludge were hauled from the digester by CDI to maintain mixed liquor concentration.
 - High level flow at station #4 required WMES staff to have the Sussex County flow turned off to the lift station.

- Set points on EQ pumps remained lowered through the day to maintain adequate flow through the plant.
- WMES staff remained onsite until lift stations returned to normal flows and plant was returned to normal set-points.
- Total rainfall accumulation was 4 inches in 24 hours.
- 7/13/20 – Breakwater Construction was onsite to replace chlorine and caustic pumps.
 - Air timer on Digester was increased to allow for more Dissolved Oxygen to the sludge.
- 7/14/20 - WMES staff pulled recirculation pump from Digester Anoxic zone to repair a hole in the hose.
 - Breakwater Construction repaired an airline valve in train #2.
- 7/15/20 - 21,000 gallons of sludge hauled by CDI to maintain mixed liquor concentration.
 - Darrin Gordon onsite for walk through of facility with two members of the BPW board.
- 7/16/20 - Breakwater onsite replacing Caustic and aluminum sulfate pipe.
 - McDonald Safety was onsite and installed the horizontal lifelines.
- 7/20/20 - WMES staff initiated maintenance clean on Train #2 to maintain proper TMP.
 - Digester blower set to run 24 hrs. to help reduce odor and a deodorizer was sprayed on the tank walls and drying beds.
- 7/21/20 - Train #3 off for WMES staff to work on permeate pump. Pump continues shut down on low backwash pressure. Train #3 shut down for the night with air to membranes until following day.
- 7/22/20 - Darrin Gordon onsite for a standard plant walk through.
 - Train #3 permeate pump causing the train to shut down after more work. Train shut down for the night again.
 - Dale Sipple was onsite to assess the groundhog infestation at the plant for the BPW.
- 7/23/20 - WMES re-primed pump #1 at lift station #8.
 - WMES staff replaced the permeate pump in train #3. Train #3 was returned to service. The old unit was sent to Hills Electric for evaluation.
 - WMES staff investigated alarm issues at Lift station 17B. WMES found the signal wires were not making contact. Wires were repaired and lift station brought back online. No further deficiencies were noted.

- 7/24/20 – Breakwater Construction onsite continuing work on caustic pump and chemical lines.
 - Permeate pump from train #3 picked up by Hill's for repair. This pump is believed to be out of alignment.
 - Trains 2 and 3 shut down due to a high turbidity alarm after maintenance clean. Both trains were reset and returned to service with no further issues.
 - WMES staff cleaned the 2mm screens.
 - Dale Sipple onsite to remove groundhogs per BPW request.
- 7/27/20 - Process room cleaned by WMES staff.
 - Train #3 shut down for low flow. Train was reset with no additional issues.
 - Caustic Soda injection was increased to 70% to maintain adequate pH.
- 7/28/20 - Shut off train #4 due to turbidity readings. Josh Gritton from BPW was onsite and notified of this issue. WMES staff will investigate the issue with Mr. Gritton the following work day and the train was offline for the night.
 - Digester tanks washed down and sprayed with deodorizer along with the drying beds.
 - WMES staff cleaned the Headworks Building.
 - Train #2 shut down after Maintenance Clean. Train was reset and back online with no further issues.
- 7/29/20 - WMES Staff unlocked, reset and rescaled the SC200 controller on trains #3 and #4 turbidity analyzers. Signal to Insight system was restored and no further issues were noted.
- 7/30/20 - 25,300 gallons of sludge removed from Digester by CDI to maintain adequate mixed liquor concentration.
 - Chemical room floors washed down by WMES staff.
 - Sludge polymer pump injector, suction and discharge pump heads were replaced.
- 7/31/20-Transducer on 2mm macerator replaced. Noted that a new control display needs to be ordered.
 - Darrin Gordon from BPW was onsite for a walk thru.

SAFETY INFORMATION

- No work place injuries reported. Days without workplace injury: 222
- Performed monthly PPE inspection. No deficiencies noted.
- Performed monthly eyewash station and fire extinguisher inspections. No deficiencies noted.
- Connor Strong Safety Analysis Report July 2020 Status Update. (Attached)

Additional Information

- Bruce Patrick and Paul Peris from WMES attended the July 2020 Lewes BPW monthly meeting remotely via Zoom.
- WMES operators visited the plant two times per day during the July 4th weekend at the request of Darrin Gordon, BPW.
- Suez has scheduled training for the Insight Monitoring System on August 13, 2020.
- As requested by BPW, WMES is using an odor control product in the digester, drying beds and headworks daily.

Open Items

No open items at this time.

Attachments

- July 2020 Influent and Effluent Report
- July 2020 TMP chart for Kubota Digester Membranes
- July 2020 Influent Flow vs. Rainfall Chart
- July 2020 TMP, Flux, Turbidity, Permeability charts for Zeeweed Membranes
- July 2020 MLSS Chart
- July 2020 Sussex County pumpage numbers to Lift Station #4
- July 2020 E-DMR
- July 2020 Nutrient Offset Report
- Corrective Action Items Summary
- Connor Strong Safety Analysis Report Update