



June 24, 2020

Via Electronic Mail Delivery

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

Subject: May 2020 Monthly Report to BPW

Dear Mr. Gordon:

White Marsh Environmental Systems, Inc. (WMES) is pleased to submit the May 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 May, 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.

May 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:	2.52 mg/L	1.71 mg/L	<4.35 mg/L	<.70 mg/L	<1 Col.
Maximum:	2.52 mg/L	2.45 mg/L	10.2 mg/L	<0.39 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
			23 mg/L MAX	23 mg/L MAX	104 Col. MAX

- Maximum daily flow .8515 MGD
- Monthly average flow .7431 MGD

II. Activities – May 2020

Lift Stations Activities

- 5/6/2020 - WMES personnel replaced V belts on Pump #1 at Lift Station #8.
- 5/21/2020 - WMES personnel or electrician checked Lift Station #17 for high amp alarm. Identified an issue with the pump control alternator. WMES electrician will return to replace.
- 5/22/2020 - BPW personnel pumped out and cleaned Lift Station #17 to allow for equipment replacement.
- 5/22/2020 – WMES electrician replaced bad pump control alternator at Lift Station #17.
- 5/26/2020 - WMES personnel replaced one float at Lift Station #17.
- 5/26/2020 - Freemire replaced two E-One pumps at 21 Monroe Avenue and the control panel circuit board.
- All Lift Stations monitored daily with Point Watch system.
- Bi-Monthly lift station inspections performed. No deficiencies noted.

Plant Activities

- 5/1/2020 - Pressure washed headworks building and process building.
- 5/4/2020 - Shutdown trains 2&3 for Suez and Breakwater Construction personnel to install air valves on headers for Leap Air upgrade. Darrin Gordon and BPW member on site to observe the installation.
- 5/5/2020 - County flows turned off prior to new membrane installation and Leap Air upgrades.
- 5/6/2020 - Shut off train #2 to allow Suez and Breakwater personnel to remove two cassettes and inspect the membranes following the Leap Air upgrades.
- 5/7/2020 - Issues with plant RTU. Josh Gritton from BPW on site to troubleshoot.
- 5/7/2020 – WMES electrician onsite to troubleshoot a bad outlet powering # 3&4 turbidity analyzers. Temporary repairs were completed by the WMES electrician.
- 5/7/2020 – Josh Gritton from BPW and BPW integrator Keystone troubleshooting RTU issues.
- 5/8/2020 – WMES electrician replaced breaker #6 on the second floor head works panel.
- 5/8/2020 – WMES electrician replaced the outlet to #3&4 turbidity analyzers.
- 5/8/2020 - WMES personnel prepared (empty and clean) train #3 for piping repairs and new membrane installation.
- 5/8/2020 - Plant shutdown for one hour for Suez personnel to install updated programming as part of conversion to Leap Air.
- 5/11/2020 - WMES personnel drained train #4 to allow Suez and Breakwater personnel to install new membranes.
- 5/12/2020 – CDI onsite cleaning out old EQ tank.
- 5/12/2020 – WMES electrician working with Suez technician on cyclic valve #4 wiring.
- 5/13/2020 – Notified Sussex County to resume sending flow to Lewes WWTP.
- 5/14/2020 - Train #1 shut down for low permeate rate. Found loose Straub couplings that were allowing air into the system.
- 5/15/2020 – During the daily morning inspection, WMES operator found EQ pump #2 had a broken discharge valve. The valve was replaced by WMES personnel and the pump was returned to normal operation.
- 5/16/2020 - Breakwater personnel replaced Straub couplings on train #2&3. Air leaks were causing false turbidity and low flow alarms and shutting both trains off.
- 5/18/2020 - Membrane replacement in train #2 complete. Returned to service.
- 5/19/2020 - Membrane replacement in train #3 complete. Returned to service.
- 5/22/2020 - Sludge samples sent to the lab for dry sludge hauling permit.
- 5/22/2020 – Membrane blower B-85-B tripped out. Motor shorted out and is scheduled to be replaced with a spare unit. Old unit will be sent to Hills Electric for evaluation.

- 5/22/2020 – Membrane installation and Leap Air upgrades complete. All 4 train's online and operating fully.
- 5/26/2020 - WMES personnel replaced the air dryer to the compressors with a new unit. Old unit is beyond economical repair.
- 5/29/2020 - Shut down train #4 for Breakwater personnel to complete chemical lines replacement project. Returned to service at the end of the shift.
- 5/30/2020 - Received two CL2 pumps for membrane cleaning process and a replacement spare permeate pump for the digester.

SAFETY INFORMATION

- No work place injuries reported. Days without workplace injury: 161
- Performed monthly PPE inspection. No deficiencies noted.
- Performed monthly eyewash station and fire extinguisher inspections. No deficiencies noted.
- Connor Strong Safety Analysis Report May 2020 Status Update. (Attached, with dates that items were addressed; and estimated completion dates for remaining items).

Additional Information

- Programming of the new control panel with the Insight system is scheduled for the week of June 15th. Suez field technicians will be onsite working with their technical support team remotely to download the software and program and perform startup. Panel was previously installed by WMES personnel per Suez specifications.
- GMB was contracted by the BPW to perform quarterly plant inspections. Paul Peris from WMES met with GMB representative Scott Getchell on May 19, 2020 for the second quarterly inspection. GMB will issue report to BPW. WMES personnel will provide the following documents, which were requested by GMB during the inspection:
 - Asset list for plant and lift stations requested by GMB
 - Spare parts list for plant requested by GMB
 - Work order list for May 2020
 - Plant and Lift Station Periodic Maintenance list and associated intervals for assets per GMB request
- Bruce Patrick and Paul Peris from WMES attended the May 2020 Lewes BPW monthly meeting remotely via Zoom.

- Permission was given by BPW to remove and dispose of a dryer located in BPW garage. Disposal is based on recommendation from Connor Strong report.
- BPW to remove and dispose of old Kubota Membranes and associated materials.
- BPW board member Tom Panetta requested a modification of the presentation of trending reports provided by WMES. Darrin Gordon from BPW met with Paul Peris from WMES and provided guidance on the BPW request.

Open Items

No open items at this time.

Attachments

- May 2020 Influent and Effluent Report
- May 2020 TMP chart for Kubota Digester Membranes
- May 2020 graph of Influent Flow vs. Rainfall
- May 2020 TMP and Permeability charts for Zeeweed Membranes
- May 2020 Membrane Turbidity Trend report
- May 2020 Sussex County pumpage numbers to Lift Station #4
- May 2020 E-DMR
- May 2020 MLSS Report
- May 2020 WWTP Monthly Operation Report
- May 2020 Nutrient Offset Report
- Corrective Action Items Summary
- Connor Strong Safety Analysis Report Update