

## NLTUA Operations Report March 2022

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**FROM:** Mark Huggard, Jacobs

**DATE:** April 13<sup>th</sup>, 2022

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This report describes our activities during the month of March 2022. If you require additional information that would make these monthly reports more useful to you, please let us know. Permit compliance report data is submitted to the Department of Environment Great Lakes and Energy (EGLE) electronically.

### Treatment Plant

	March	Last Month	Last Year
Influent flow daily average, GPD	56,271	44,912	51,588
Monthly electrical usage, Kw Hrs	33,239	31,272	25,466

Landia mixer #1s replacement was ordered the expected delivery is 2-3 months.

On Thursday March 24<sup>th</sup>, during our daily plant checks we noticed the upper sand filter not pumping sand. The filter was removed from service and influent flow was diverted to storage while we attempted to free up the blockage. This took a few days to clear the significant amounts of thick solids that were compacted within the sand bed. On Friday March 25<sup>th</sup> we were able to return flow to the filter and confirm flow through the facility. On late Saturday afternoon March 26<sup>th</sup>, we responded to callout for a high reject chamber as a result of the sand filter again plugging. Due to the late hour and lack of daylight, influent flow was again diverted to the storage basin so we could address the issue the next day. On Sunday March 27<sup>th</sup> influent flow was diverted back to the treatment basin from the storage basin and effluent flow was directed to the lower sand filter while the upper filter was bypassed. On Monday March 28<sup>th</sup> we addressed the upper filter and were able to remove the solids allowing the sand bed to pump and turn over without issue. The filter was monitored that day and left to continue turning over and cleaning the sand until Wednesday when it was returned to service.

During our investigation on Monday, we also noticed the 3" flow meter would not exceed 48 gpm and was causing flow to back into the lower sand filter. The 3" flow meter was bypassed, and Northern A-1 was onsite on Friday to jet the 3" line clearing the restriction and allowing full flow to resume through the pipe. We've purchased a small sewer jet for our high-pressure washer and implemented a preventive maintenance procedure to perform this task annually.

We suspect a slug of thick solids entering the upper sand filter from upstream as the cause of this issue though we cannot be sure. Quarterly preventive maintenance on the sand filters was performed on

March 1<sup>st</sup> and no issues were noted at that time. The filters are also checked daily for proper operation which is why we suspect this was a sudden failure vs an ongoing undiagnosed problem.

The following summarizes the results of this issue related to plant equipment

- A significant amount of sand was lost to the reject chamber at the start of the issue causing not only loss of sand but the failure of one reject pump. A replacement pump was ordered knowing the lead time may be significant and we're in the process of acquiring sand replacement quotes.
- On Monday March 28<sup>th</sup> the facility exceeded its daily maximum total phosphorus limit of 0.5 mg/L with a result of 0.6 mg/L, returning to compliance on Tuesday March 29<sup>th</sup> with a result of 0.2 mg/L. EGLE was notified of both the effluent flow meter bypass and the total phosphorus exceedance.

To date the filters have operated without issue and effluent quality has remained well within compliance.

**Lift Stations / Collection System**

Delivery date for the main lift station pumps has been extended to July 7<sup>th</sup>, 2022. Supply chain issues are continuing to worsen resulting in extended lead times.

**Residential Grinder pumps**

As part of our due diligence to reduce repeat call outs to residential grinders we perform the following checks before leaving the site. Table 1 below details our grinder pump responses.

- ✓ Tighten all control connections within control cabinet.
- ✓ Remove grease and debris from grinder tank.
- ✓ Remove all grease buildup from float switches.
- ✓ Verify all float switches operate properly and are positioned properly.
- ✓ Confirm proper pump operation.
- ✓ Verify alarm light is operational and audible alarm, if applicable.
- ✓ Inspect wet well components.
- ✓ Replace both the start and run capacitor.
- ✓ Inform homeowner of findings and what not to put in their sewer.

**Table 1 Grinder Pump Responses**

Date	Location	Alarm/Issue	Resolution
None to Report			

**On the Horizon**

- Aeration blower #2 repair or replacement. NLTUA sent letter to Manufacturer to recoup cost.
- Fine screen brush replacement - 2022
- 7th St. station upgrade - 2022
- Repair utility sink cold water line - 2022
- Ferric Chloride room day tank relocation - 2022

- Hach SC 100 replacement - 2022
- Main lift station re-lining - 2022
- MBBR tank roof coating – 2022
- Settling basin engineering evaluation – 2022
- Capacity evaluation task 1 and 2 – 2022
- Low pressure force main cleaning – 2022

**Financial Report**

Current Reporting Month	Mar-22	Comments
Repairs Spending Treatment Plant Current Month	\$ -	
Repairs Spending Treatment Plant Year to Date	\$ -	
Repairs Spending Residential Grinder Pumps Current Month	\$ 481.91	Parts purchased to replenish grinder pump parts inventory.
Repairs Spending Residential Grinder Pumps Year to Date	\$ 962.45	
Repair Spending Collection System (lift stations/sewer) Current Month	\$ -	
Repair Spending Collection System (lift stations/sewer) Year to Date	\$ 25.35	
Repairs Hours Treatment Plant Current Month	32.25	
Repairs Hours Treatment Plant Year to Date	86.75	
Repairs Hours Residential Grinder Pumps Current Month	4.00	
Repairs Hours Residential Grinder Pumps Year to Date	18.00	
Repair Hours Collection System (lift stations/sewer) Current Month	-	
Repair Hours Collection System (lift stations/sewer) Year to Date	-	
Total Repair Hours Current Month	36.25	
Total Repair Spending Current Month	\$ 481.91	
Total Repair Hours Year to Date	104.75	
Repairs Hours Budget Remaining (Limit 300 Hrs)	195.25	
Total Repair Spending Year to Date	\$ 987.80	
Repair Spending Budget Remaining (Limit \$8,000)	\$ 7,012.20	
Total Repair Hours 2021	826.45	
Total Repair Spending 2021	\$ 16,154.42	

If you have any questions or concerns, please feel free to contact us.

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