

# SEWER ADMINISTRATORS REPORT LELAND TOWNSHIP SEWER SYSTEM SEPTEMBER 2023

Prepared by Steve Patmore, Sewer Administrator – October 9, 2023  
Updated for October Township Board Meeting

Influent and Effluent readings for September are normal.

The lagoon levels are slightly high, but stable. Current Freeboard = 2.0' (appears to be dropping)

Effluent flows are being maintained to keep lagoon levels within operational limits.

Quarterly Phosphorous Results in monitoring wells averaged 0.89 mg/l in August. (target is 0.5)

|                | <b>CURRENT YEAR 2023</b> |              | <b>LAST YEAR (2022)</b> |          |
|----------------|--------------------------|--------------|-------------------------|----------|
|                | September 2023           | 2023 YTD     | September 2022          | YTD 2022 |
| Influent Flows | <b>2.22</b>              | <b>18.36</b> | NA                      | NA       |
| Effluent Flows | <b>2.43</b>              | <b>18.90</b> | <b>2.52</b>             | NA       |

Flows in Millions of Gallons (MG)

## **ISSUES / PROJECT LIST**

- Drain beds (investigation, flushing, televising, jetting)  
On September 5<sup>th</sup>, Bed 8 was jetted and a camera sent in one lateral. Working much better. Performance of all the beds is being measured and monitored. A maintenance plan and schedule will be developed)
- Influent Manhole – scheduled for replacement.
- Dosing Pump #1 – was not functioning, was new in 2021-22 - Back in service – wiring issue.
- Influent Flowmeter – installed and connected - functioning
- Update – Sludge Pump required a re-build.
- Update – Hydrogen sulfide gas test results have been lower. Working on expanding the H2S reduction efforts.

## **SEWER OPERATIONS & CALL-OUTS (IAI report)**

- See IAI report for call-outs
- Significant work on the drain fields this month
- STEP pumps

## **SYSTEM ADMINISTRATION**

- Questions on connections and the sewer system in general, permits & building.
- Permits for home additions.
- Commercial Septic Tanks
- Miss Dig staking requests.
- Houses under constructions being reviewed and measurements.
- Several requests for connection information – new construction/additions
- Delinquent sewer account list sent to the Treasurer.



**INFRASTRUCTURE  
ALTERNATIVES, INC.**

## ***Monthly Operations & Maintenance Report***

**Oct 6, 2023**

**Report for Month:** October 2023  
**Location:** Leland Township  
**Facilities:** Leland Township Wastewater Treatment Plant  
**Certified Operator:** Mitchell Gawrysiak

### **Emergency Callouts/Customer Complaints**

- 9/2/23 Callout to 3148 N. Manitou Trail. The stop float was defective, start float intermittently failing. Replaced both floats.
- 9/4/23 Callout to 2296 N. Manitou Trail. The STEP chamber was full, and the pump was bad. Replaced the pump. I had to make fabrications to a new pump to fit the "old style" bulkhead. I also reinforced the bulkhead with a piece of wood. Eventually this bulkhead should be replaced.
- 9/19/23 Callout to 615 N. Lake The resident said she heard humming from her panel. When I got there the STEP chamber was full. The alarm was going but the buzzer was extremely quiet. The STEP pump worked in hand but not auto. There was a riser added to the STEP chamber and the original installation had been altered during a previous renovation. The H2s level was dangerously high. I had Williams and Bay pump the tank and I added 10 gallons of Calcium Nitrate to the tank, and chamber. After evaluating the condition of the electrical I found it was not worth trying to fix (due to all the incorrect work previously done). Trenched and ran new conduit. Pulled a new signal wire and power wire from the junction box by the chamber to the panel on the house. Removed and raised the float bracket to make the floats serviceable. I replaced all 4 floats (due to being buried they weren't salvageable). Replaced the malfunctioning buzzer and emergency light on the panel. Ben from Windemuller assisted with the electrical.

### **Significant Events:**

- 9/5/23 Worked with Williams and Bay televising lines, digging test holes. And jetting cleanouts. Upon inspection the drain aggregate was much cleaner on bed 8 than other beds. This points to insufficient drainage through the holes in the pipe. Jetted 12 of the 16 cleanouts on bed 8. Tested it and found it to be draining significantly faster. They are supposed to return for more jetting.
- 9/5/23 power outage at the plant.
- 9/7/23 Nick and John from IAI Mechanical came out to look at Dosing pump 1. They cleaned corrosion found on the pump after pulling it. They also stated that the polarity was reversed causing the motor to run backwards. After restoring the phases to the correct position and cleaning the pump it was put back in rotation. It has worked without issues since then.



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- 9/7/23 Worked with IAI mechanical rebuilding the Sludge pump. It was leaking excessively before it was rebuilt with new parts.
- 9/7/23 Worked with IAI wiring up and activating the influent meter.
- 9/7/23 Windemuller came out to fix the PLC. It was dosing to the same bed every time. Ben informed me that it has a counter on it, and it needed to be reset. He rewrote that part of the program to prevent this from happening in the future.
- 9/19/23 Installed grease fittings on the sludge pump. Added grease to the bearings to try and extend their life. Nick IAI mechanical assisted.
- Extended cleanouts on all 16 runs per bed on multiple beds multiple days assisted by different people from IAI.

**Preventive Maintenance:**

- Calcium Nitrate delivery to the Marina where it can be introduced into the system. Planning for additional locations or other means to reduce high hydrogen sulfide levels.
- Air relief valve inspections and cleaning to assess condition for future work to promote adequate operation.
- Rebuilding bulkheads to keep call outs down and the system operating smoothly.
- Routine maintenance and inspections on the lagoon and aerators.
- Valve exercise program to ensure operation, and document condition to keep an ongoing log of ones that need replacing.
- Thorough inspections and evaluations of the drain field condition and planning for future repair.
- Dosing valve inspection and repair as needed.
- Nova filter cleaning and inspections.

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**H2s      9/12/23, 9/26/23**

**Popp Rd 71 ppm, 10 ppm**

**Narrows 0 ppm, 0 ppm**

**Duck Lake 145 ppm, 0 ppm**

**Thompson St. 0 ppm, 0 ppm**

**Terrace Ln 200 ppm, 200 ppm**

**Marina 4 ppm, 0 ppm**

**Mill St 200ppm, 0ppm**

**Facilities Data for the Month**



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|                 | Aug 2023 | Sep 2023 | Year to Date | Units |
|-----------------|----------|----------|--------------|-------|
| Effluent        | 2.53     | 2.43     | 18.9         | MG    |
| Influent        | 2.9      | 2.22     | 18.36        | MG    |
| Ferric Chloride | 262.16   | 299.34   | 2,804.13     | GAL   |
| Freeboard (ft)  | 2.9      | 2.2      | -4.1         | FT    |