

October 11, 2010

Township Supervisor
 12050 Old Belding Road
 Belding, MI 48809-9318

Grattan Township and Grattan/Vergennes Sewer Systems
September 2010 Monthly Operations Report

Dear Frank,

Attached please find the Grattan Township Wastewater Utilities Report and the Preventative/Corrective Maintenance Report for September 2010, and a report summary events effecting BPI-PS#2 following the DNRE's Big Pine Island Boat Launch Upgrade.

We are in need of vactoring BPI-PS #4, BPI-PS #6, ML-PS #9 and BCL-PS#17 as part of routine maintenance to ensure proper float actuation to operate the pumps and establish alarm notification.

In regards to capital improvements, we are researching the replacement options for the flow meter at the Grattan WWTP as this would accomplish one of Leslie Sorenson's evaluation requests. The 5.7HP Flygt grinders for RL-PS #15 and BPI-PS #6 have been installed. The table below shows these items:

Capital Improvement Task	Status	Budgeted Amount	Completed Amount
New Pump & Base Mounts at BCL-PS #1	Replaced (1) Pump Mount to observe any improvement – none. Scheduling CSE for both base replacements.	~\$6,000	
Replacement of the Grattan WWTF Flowmeter	Researching replacement costs	~\$2,000	
Replacing Hydromatic Pump #2 at BPI-PS #6	Pending trial with 5.7HP Flygt Grinder Pump	~\$6,000 (Not on AOF)	
Replacing Hydromatic Pump #2 at RL-PS #15	Pending trial with 5.7HP Flygt Grinder Pump	~\$6,000 (Not on AOF)	

As always I would be happy to elaborate on any of the submitted information or provide any additional information that would assist the township board. Please do not hesitate in contacting me.

Sincerely,



John Rydbeck
 (616) 890-5768

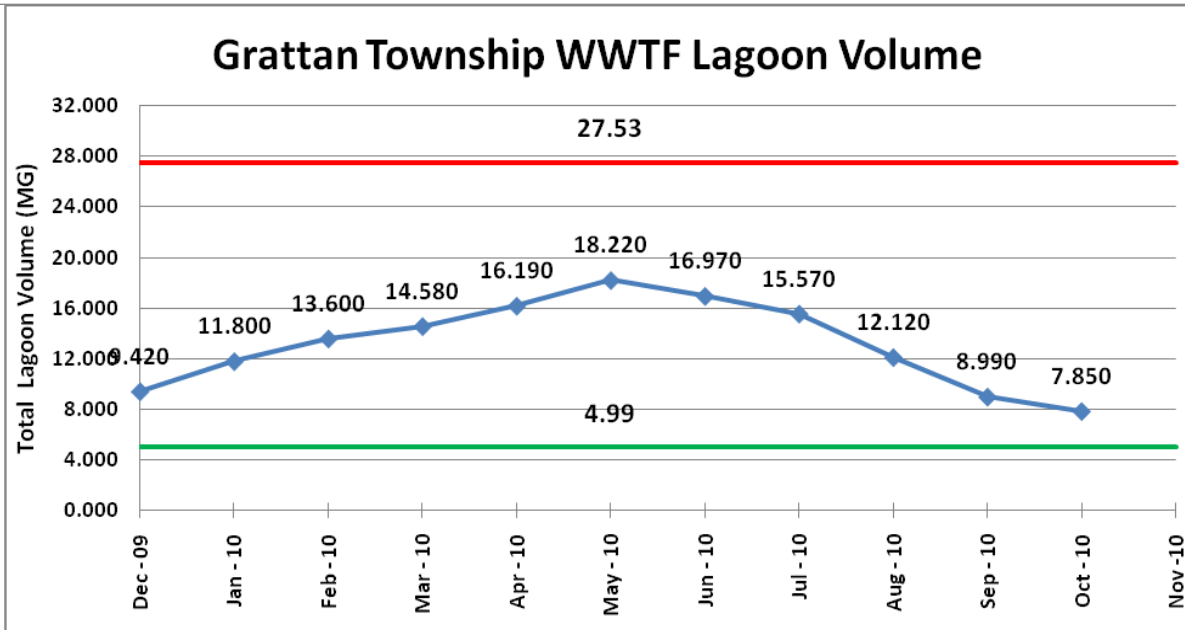
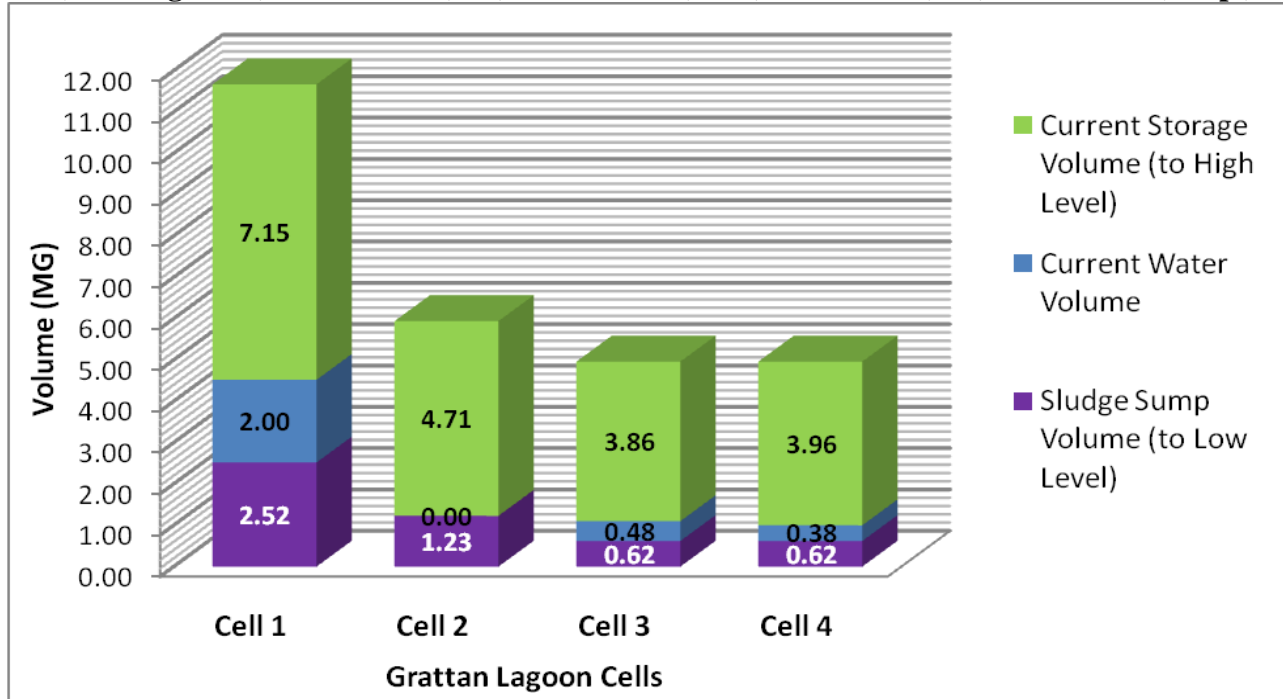
Infrastructure Alternatives - Grattan Township Sewer System Operations Manger

Attachments: September 2010 Preventative/Corrective Maintenance Report
 Summary of BPI-PS#2 Events from DNRE's Boat Launch Upgrade
 Pending Grattan Twp. Purchase Orders

Executive Summary:

A total of 2.756MG has been discharged through the irrigation system at the Grattan WWTF. The lagoons had a decrease of 1.14MG over the same period. The wastewater influent flow for the month was 0.823MG, with an additional 0.747MG from rainfall¹ (calculated from 4.28” rainfall over ~280,000ft² lagoon surface areas). With these variables we are able to estimate the total evaporation for the month using the simple equation:

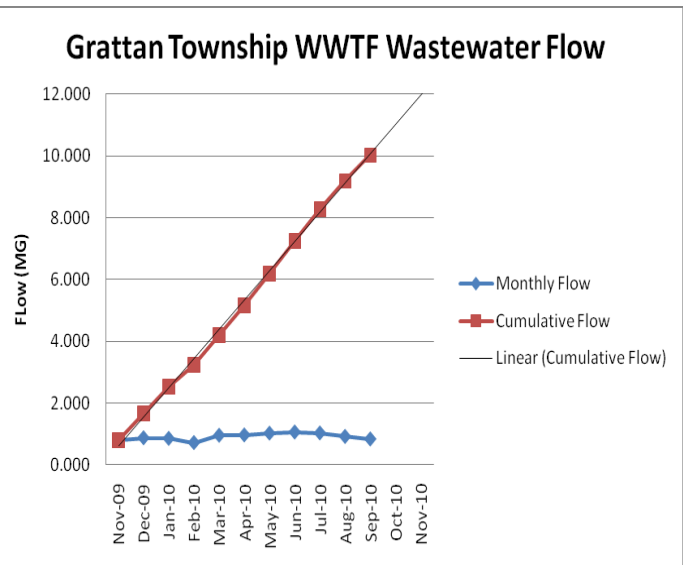
$$-1.14\text{MG (Tot. Lag. Dec.)} = 0.823\text{MG (Inf.)} + 0.747\text{MG (Rain)} - 2.756\text{MG(Irr.)} + 0.046\text{MG (Evap.)}$$



¹ Rainfall data taken from the National Weather Service Kent County Airport Station

In addition, the following data shows the wastewater flow into the lagoons:

Grattan Township WWTF Wastewater Flow		
Month/Year	Monthly Flow	Cumulative Flow
Nov-09	0.798	0.798
Dec-09	0.872	1.670
Jan-10	0.853	2.523
Feb-10	0.713	3.236
Mar-10	0.955	4.191
Apr-10	0.964	5.155
May-10	1.023	6.178
Jun-10	1.060	7.238
Jul-10	1.031	8.269
Aug-10	0.916	9.185
Sep-10	0.832	10.017
Oct-10		
	2009 Irrigation Season	
	2010 Storage Season	
	2010 Irrigation Season	



Emergency Call-Outs:

- Tuesday September 14, 2010 12:30 p.m. BPI-PS#2: IAI on-call operator, Robert Carlstrom, received a call from Cunningham Communication on informing of the buried power line and phone line that was hit servicing Township’s sewer pump station, BPI-PS#2. Upon arrival, it was found that the lines were severed by the excavator working on the DNRE’s Big Pine Island Lake’s boat launch upgrade. Please see Events Effecting BPI-PS#2 Following the DNRE’s Big Pine Island Boat Launch Upgrade Report for further details and estimated cost.
- Sunday September 19, 2010 4:00 p.m. Grattan WWTP LOW PRESSURE ALARM: IAI on-call operator, Robert Carlstrom, arrived on-site to find the Grattan WWTP tripped out. The alarm condition was reset and the plugged solenoid was found and unplugged during regular business hours.
- Tuesday September 21, 2010 9:30 p.m.-Thursday September 23, 2010 BPI-PS#2, BPI-PS#3, BPI-PS#3a, BPI-PS#4, BPI-PS#5 and BPI-PS#6 POWER OUTAGE: IAI on-call operator, Bob Stephens, received power outage alarm calls from the alarm telemetry systems starting at 9:30 p.m. A large wind storm hit the system causing many power lines to be knocked down by fallen trees. Additional IAI staff Russ Johnson, Kent Trierweiler, John Rydbeck, Robert Carlstrom, Ryan Moseley and Chris Chambers assisted during this long term power outage. Due to an estimated power restoration of Friday September 24, 2010 at 8pm generators we’re rented from Main-tech and AIS to help with the wide spread nature of the power outage. Full power was restored to all pump stations on Thursday September 23, 2010.
- Monday September 27, 2010 1:00 p.m. Grattan WWTP LOW WATER ALARM: IAI operator arrived on site to find the water level in the discharge chamber to be low. Due to the level of the lagoons the pumps can discharge at a greater rate than the head from the lagoons can replace it. The operator switched discharge lagoons.

General Operation Information / Housekeeping:

- The berms on the lagoons are being trimmed with a weed-whipper and brush-hog with the addition of vegetation control applications.

Preventative Maintenance:

- The preventative maintenance tasks have been completed for September 2010 and summarized in the attached report.

Corrective Action / Significant Tasks Completed:

- Wednesday September 8, 2010 BPI-PS#6: IAI staff installed a new 5.7HP Flygt grinder to replace an underperforming pump. This upgrade should prevent the station from becoming overwhelmed during peak flows. The pump increased its discharged capacity from 39 gpm to 69 gpm

Grattan/Vergennes Township Wastewater System

Executive Summary:

The WWTF drip-irrigated 4.805MG for the month of September.

Emergency Call-Outs:

- Wednesday September 1, 2010 @ 12:00 a.m. BCL-PS#1 PUMP TROUBLE: IAI on-call operator, Robert Carlstrom, received pump trouble alarm via Mission Dialer. Robert arrived on site and set the overloads. It was determined that the blow by from the pump caused the pump off float to chatter. When this occurs the pump will chatter on and off which will trip out the overloads.
- Saturday September 4, 2010 @ 8:30 p.m. - 9:15 p.m. ML-PS #11 ALARM "INPUT NOT USED": IAI on-call operator, Robert Carlstrom, received the alarm via Mission Dialer, stating "Input Not Used" exist. Robert arrived on site finding the station functioning properly. Through troubleshooting no problem was found to cause event and the event hasn't occurred since.
- Saturday September 4, 2010 @ 12:05pm RL-PS #15 HIGH LEVEL: Received high level alarm from the Mission Dialer. The pump alternating sequencer has already been turned "off" (i.e. both pumps turning on at the pump-on level) and the station continues to have difficulty in maintaining a proper level in the pump station during normal flows.
- Tuesday September 7, 2010 @ 9:45 p.m. – 10:35 p.m. ML-PS #11 POWER OUTAGE: Received AC power fault alarm from the Mission Dialer. The short term power outage was monitored via the mission website.
- Wednesday September 8, 2010 @ 11:45 a.m. and 4:10 p.m. ML-PS #11 POWER OUTAGE: Received AC power fault alarm from the Mission Dialer. The short term power outage was monitored via the mission website.
- Thursday September 9, 2010 @ 8:30 a.m. and 9:00 a.m. ML-PS #11 POWER OUTAGE: Received AC power fault alarm from the Mission Dialer. The short term power outage was monitored via the mission website.
- Tuesday September 21, 2010 @ 9:30 p.m. – Thursday September 23, 2010 BCL-PS#1, 5 Mile-PS#2, 5 Mile-PS#3, ML-PS#4, ML-PS#5, ML-PS#6, ML-PS#7, ML-PS#8, ML-PS#8a, ML-PS#9, ML-PS#10, ML-PS#11, ML-PS#12, ML-PS#13, BCL-PS#14, RL-PS#15, BCL-PS#17 POWER OUTAGE: IAI on-call operator, Bob Stephens, received power outage alarm calls. A large wind storm hit the system causing many power lines to be knocked down by fallen trees. Additional IAI staff Russ Johnson, Kent

Trierweiler, John Rydbeck, Robert Carlstrom, Ryan Moseley and Chris Chambers assisted during this long term power outage. Due to an estimated power restoration of Friday September 24, 2010 at 8pm generators we're rented from Main-tech and AIS to help with the wide spread nature of the power outage. Full power was restored to all pump stations on Thursday September 23, 2010.

- Friday September 24, 2010 @ 7:30 a.m. ML-PS#3 and ML-PS#4 POWER OUTAGE: IAI on-call operator Bob Stephens and IAI operator Robert Carlstrom placed the townships generators on-site to provide standby power the pump stations. A nearby tree fell on the power lines by ML-PS#3.
- Friday September 25, 2010 @ 10:00 p.m. – 4:00 a.m. ML-PS#8, 8a and 9 POWER OUTAGE: IAI on-call operator, Bob Stephens, arrived on-site with the townships generator to provide standby power to the three stations. Bob drove the generator around the causeway to pump down the station throughout the night as needed. A nearby tree knocked down the power line by ML-PS#9.

General Operation Information / Housekeeping:

- The berms on the lagoons are being trimmed with a weed-whipper and brush-hog with the addition of vegetation control applications.

Preventative Maintenance:

- The preventative maintenance tasks have been completed for September 2010 and summarized in the attached report.

Corrective Action / Significant Tasks Completed:

Wednesday September 8, 2010 RL-PS#15: IAI staff installed a new 5.7HP Flygt grinder to replace an underperforming pump. This upgrade should prevent the station from becoming overwhelmed during peak flows. The pump increased its discharged capacity from 24 gpm to 59 gpm.

Pending Projects:

- Awaiting the arrival of the used 50kw Kohler portable generator.