

**Borough of Chatham**

**Annual Report**

**2013**

**Madison-Chatham Joint  
Meeting**

**MADISON-CHATHAM JOINT MEETING  
SUPERINTENDENT'S ANNUAL REPORT  
JANUARY 2013**

**DEAR MEMBERS:**

Happy New Year!!! 2012 has come to an end. I have been able to run the facility in an efficient, cost effective, and environmentally sound manner. The operation of the facility in 2012 has met all permit limits and requirements.

There are three new capital projects for 2013. The first is rehabilitation of the belt filter press that was installed in 1988. The second is taking the pond/lagoon out of service. The third is designing for replacement of the two final clarifier mechanisms that were installed in 1988. The funds for these capital projects are coming from funds left over from completed capital projects, DEP mandate funds kept in reserve and capital projects that we know are coming in below the original budgeted amount, i.e., the belt filter press polymer unit and energy audit improvements.

I have attached two pages of the plant operation data summary for 2012. The data reflects the facility's operation efficiency and our permit limits. The facility produced an average of approximately 20,450 cubic feet of methane gas daily in 2012. The methane gas is utilized as fuel for the digester boilers and caterpillar engines. The heat generated from the boilers and engines are used solely for heating the two primary digesters. The engines power centrifugal blowers that are also used to provide diffused air for the aeration tanks, saving electricity by not running the electric blowers.

**ENERGY UPGRADES**

This is a budgeted capital line item. The initial scope of the work is 100% complete as we received the completion letter from the NJ Office of Clean Energy. We are holding another \$15,000 to continue installing energy improvement measures throughout the facility.

**FACILITY IMPROVEMENTS 2009**

The project is 99% complete. The heat exchanger was delivered and should be installed within 2 weeks.

**BELT FILTER PRESS POLYMER SYSTEM**

The unit has been ordered. We will be going with a liquid polymer unit, which is substantially less money due to not needing several parts associated with dry polymer. The liquid polymer reacted much better with the sludge than it's dry powder counterpart.

**ASSET MANAGEMENT PLAN**

This is a budgeted capital project that is 100% complete. We have a list of equipment due through 2023. The board will be looking at how to fund this during 2013.

**MADISON-CHATHAM JOINT MEETING  
SUPERINTENDENT'S ANNUAL REPORT  
JANUARY 2013**

**PUMP REPLACEMENTS**

This is a budgeted capital project. We are in the process of installing one of the pumps in-house. This will be an ongoing project. We saved a considerable amount of money doing the engineering and installation ourselves.

**OTHER ISSUES:**

We have counted the **Canadian geese** nests at the facility. As of April 11, 2012, we have 3 nests with a total of 15 eggs, which were addled. Addling includes oiling, shaking, or puncturing. Since we only addle eggs, a goose depredation permit is no longer needed. Instead we just need to register on the state website for addling.

I will be attending the **NJWEA annual conference** at Bally's in Atlantic City from May 14<sup>th</sup> to the 17<sup>th</sup>, 2012. I am on the Program Committee and head moderator of my session, "Wastewater Treatment Operator's Program." I was responsible for finding speakers and scheduling their presentations.

Morris County Improvement Authority engineers and solar installer have denied the MCJM's request to have **solar panels** installed at MCJM. After a thorough concept plan was completed, they said the entire site was shaded too much. Jim Cosgrove of Omni Environmental took a look at their determination and did not agree with it. Mr. Cosgrove did say, that if the lagoon is removed from service, the three acres there would not be shaded and would provide enough energy for the MCJM.

The Madison-Chatham Joint Meeting supports any operator that would like to take wastewater classes in preparation for taking any of the **wastewater licenses** available to them. Frank Fabrizio has submitted his application to take the S-2 license examination, but due to Super-storm Sandy, it was postponed. Cristian Campos is taking the Introduction to Water and Wastewater classes. He is doing very well.

The Joint Meeting, as well as three other treatment facilities, has litigation pending against the NJDEP regarding **seasonal phosphorus limits** vs. year round phosphorus limits. There is still no final word on this matter.

We are still working on the damages from **Super-storm Sandy**. The JIF has given us the okay to have the HVAC units repaired. We are in the process of receiving prices on minor roof and fence damage. The trees that damaged the fence, and three others that were in imminent danger of falling have been removed.

It has been determined that it is feasible to **remove the lagoon** from service. There will be huge economical, energy and process savings. The engineer is working on the final report that we will submit to NJDEP for their approval before the work to remove the lagoon goes forward.

**MADISON-CHATHAM JOINT MEETING  
SUPERINTENDENT'S ANNUAL REPORT  
JANUARY 2013**

I would like to take this opportunity to invite any interested council members down to the plant for a tour.

**RESPECTFULLY SUBMITTED,**

**CHRISTOPHER MANAK  
SUPERINTENDENT**

**2012 OPERATIONS DATA**

<b>Month</b>	<b>Plant Flow (MGD)</b>	<b>Precip. Rain inches</b>	<b>Influent BOD mg/L</b>	<b>Effluent BOD mg/L</b>	<b>% Removal</b>	<b>Influent S.S. mg/L</b>	<b>Effluent S.S. mg/L</b>	<b>% Removal</b>	<b>Effluent NH3-N mg/L</b>	<b>Effluent TPO4 mg/L</b>	<b>Effluent D.O. mg/L</b>	<b>Fecal Coliform #/100 ml</b>
<b>January</b>	2.344	2.5	182	5.0	97.3	207	9.0	95.7	0.3	3.5	9.0	10.0
<b>February</b>	2.043	0.7	172	2.3	98.6	228	10.2	95.5	0.3	3.5	10.0	6.0
<b>March</b>	2.094	1.9	174	1.9	98.9	178	3.0	98.3	0.3	3.6	9.0	10.0
<b>April</b>	2.124	6.8	220	5.0	97.2	226	6.8	96.2	0.4	3.9	9.0	10.0
<b>May</b>	2.331	5.5	143	1.5	99.0	174	2.8	98.4	2.9	3.9	8.0	22.0
<b>June</b>	2.101	4.4	182	3.1	98.3	193	6.3	96.8	0.4	4.1	8.0	25.0
<b>July</b>	1.952	2.6	162	3.5	97.8	220	3.0	98.6	0.2	4.4	7.0	7.5
<b>August</b>	1.990	7.8	168	2.2	98.7	277	3.4	98.8	0.1	3.5	6.0	8.0
<b>September</b>	2.043	3.4	186	3.0	98.3	276	3.5	97.7	0.2	4.0	6.0	36.3
<b>October</b>	2.122	6.6	133	1.6	98.8	184	2.0	98.9	0.2	3.8	8.0	18.6
<b>November</b>	2.076	0.6	143	1.5	99.0	172	2.8	98.4	0.9	3.6	8.0	11.9
<b>December</b>	2.474	7.9	164	3.0	97.8	206	6.7	94.5	0.2	3.6	8.0	13.2
<b>Total</b>	N/A	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Average</b>	2.141	4.2	169	2.8	98.3	212	5.0	97.3	0.5	3.8	8.0	15
<b>Permit Limits</b>	3.5	NONE	NONE	8	Min 85	NONE	30	Min 85	2.0 Sum 7.0 Wint	4.4 Sum 4.0 Wint	Min 6	200

**Notes:** Summer is defined as May 1 - Oct 31, Winter is Nov 1 - April 30

**2012 OPERATIONS DATA - SLUDGE**

<b>Month</b>	<b>GPD of Sludge Pumped to Primary Digester</b>	<b>Sludge Removed From Plant Per Month - C.Y.</b>	<b>Sludge Removed From Plant Per Month - GAL.</b>	<b>Methane Gas Produced Per Month - C.F.</b>
<b>January</b>	14,866	180	0	888,204
<b>February</b>	14,996	200	0	707,809
<b>March</b>	14,819	220	0	828,654
<b>April</b>	15,339	200	0	691,420
<b>May</b>	15,692	220	0	624,530
<b>June</b>	15,809	220	0	574,249
<b>July</b>	17,725	200	0	474,210
<b>August</b>	24,268	440	0	498,022
<b>September</b>	17,688	280	0	553,684
<b>October</b>	19,080	180	0	592,131
<b>November</b>	16,811	180	0	513,995
<b>December</b>	20,421	180	0	517,889
<b>Total</b>	N/A	2700	0	7,464,797
<b>Average</b>	17,293	225	0	622,066