

Minutes Approved

9-27-10

Wastewater Advisory Board

Meeting: August 23, 2010

Location: Wastewater Plant Conference Room

Members: Chairman John Troy Present

Chair dismissed at 6:10 pm for another commitment and Vice Chair takes over meeting.

Vice Chair William Starr Present

Commissioner Sally Horak Present

Commissioner Todd Morris Present

Commissioner Paul Lorenzo Present

Village of McGraw Trustee Absent

Village of Homer Trustee Absent

Town of Cortlandville Trustee Absent

Harvey Davis, Plant Manager Present

Eric Pond, Barton and Loguidice Present

Dustin Clark, Barton and Loguidice Present

Call the meeting to order at 5:25 pm.

Minutes for July 26, 2010 for approval. **Motion** to approve the minutes for July 26, 2010 by Paul Lorenzo. Seconded by Sally Horak. **UNANIMOUS**

Plant Managers Report: Harvey Davis presents the Plant Managers Report: Barton and Loguidice has submitted the staffing study to the City. I have not seen the study but it obviously it says that we need more than 9 people. Mayor sent an email to Bryan stating that she would like him to review the staffing study and asking Bryan to make a recommendation to the personnel committee and they can make a recommendation to the common council to lift the hiring freeze. The Mayors intent is to lift the hiring freeze for September 7. One thing that happened this month, Shelley is here full time. She is no longer split between Waste Water and Fire Department. We now have a full time person. I have a huge back log in my office and I may barely get caught up with before I retire. There are EPA issues that I have to deal with and I don't want to leave them for the next Chief Operator. These include redoing the Enforcement Response Plan and rewriting Waste Water Discharge law to meet the new guidelines. The EPA told us to do this in 2006, the language was promulgated in 2007 and it has been sitting in my office for a long time. That is going to take a significant amount of work. It is something that once I get into it I can not be uninterrupted. We did get our landscaping done. The State Auditors wanted us to get bids for the work. We did that we just got that completed. One of our new employees passed his CDL and we have one more that needs to take the test. Both are going to be attending Morrisville. Jim in September and Phil in November.

We have had a lot of work in operations. Last week we had odors and after it was tracked down, it ended up being solids that the guys miss because they are busy doing other things. That was taken care of. I pressed everyone on the Marietta situation. A comment was made about what it costs the City and as I was preparing budget for next year I felt that no one realized at City Hall that because the issues with Marietta are unresolved that it is costing us \$200 a week in sampling costs that we still have to do because we are under a consent order since 2006. That is \$38,000 over the past 3 years from their procrastination. Marietta has not complied to the 2007 Administrative Order. They still owe the City \$100,000 in fines and there has been no attempt by the City to collect this. That will pay for two of our employees. This is the cost that rate payers are incurring and they should be Marietta's costs and they should be kept separate from operation costs. We caught up with back log of sludge. That takes a lot of time. We can move on to doing other things and our routine gets a little easier. It means less trips to landfill and we can focus on other maintenance projects. We have a list of projects for maintenance. We have some outstanding electrical work orders. I have talked to the staff about not sticking our hands in places they don't belong. We have 277 to 480 volts here. We need to be careful. It's a safety issue and we want a certified electrician on staff. We put money in the budget for next year to have an electrician. I do not want a shared electrician because I have enough work to keep him busy and the problem that comes along with sharing someone is that my work is a priority. The City has no one that can work on high voltage. Mr. Tobin says the work is beyond him. This is more than 110 volts, this is not his forte. We need a construction grade electrician. I have a budget done and I will send everyone a copy this week. I need to write a letter to submit with it. I am requesting an upgrade for Shelley to bring her title back to executive secretary. I don't know how the title remains where it is and it does not fit the duties that she does. I was not given input into that. This was done between Bryan Gazda, Wilma VanDee and Civil Service. Hopefully we can get this done and get back to a salary more suited to her abilities and much more in line with the duties that she does.

I wanted to thank you for sitting through Barton and Loguidice and I know it stretched our meeting out. It is good to hear directly from the firm. They have a great engineering department. It's a smaller firm and I think they will serve Cortland really well. They are looking beyond at what is going to be a reality in 10 to 15 years. They were the only company that did a preliminary investigation of the plant before they put in a proposal and they had ideas at the beginning. I am very happy with this firm.

Motion to accept the Plant Managers Report by Todd Morris. Seconded by Paul Lorenzo. **UNANIMOUS**

Approval of Bills: Discussion regarding the abstract done by the Finance Department. This is a bill for legal fees that Bryan Gazda paid out of our funds for the negotiations of the Waste Water Treatment Union.

Bills accepted

Motion to accept bills by Paul Lorenzo. Seconded by Sally Horak. **UNANIMOUS**

Financial Statements: Discussion regarding the quarterly billing that was done for the 2nd quarter for 2010. Financial statements have been accepted.

Motion to accept financial statements by Sally Horak. Seconded by Todd Morris.
UNANIMOUS

Sewer Grievance:

Sewer grievance application for Kay Scutt and her property at 76 ½ River Street. This came before the board last month and was denied and asked to resubmit with more information. Discussion regarding the plumbing problem. According to the information provided there has been no detection of the problem. They are still incurring high water bills and the bills have been high since 2003. They ask for our help in finding a solution and that is something that the Board can not assist them with. Compared to average use they are much higher but they have been dealing with this for 7 years. Board suggests that we deny the grievances based on the information submitted and if they can show us that the leak has been fixed by providing us a lower usage water bill they can resubmit.

Motion to deny this grievance at this time. A letter shall be sent explaining that they may resubmit when they can provide information proving that the leak has been fixed and also that the Board can not help them find a solution by Paul Lorenzo. Seconded by Sally Horak. **UNANIMOUS**

New Business:

Representatives from Barton and Loguidice are here to speak to the Board. Eric Pond speaks to the Board about the Chesapeake Bay schedule of compliance. He states that it is inevitable that it is coming to Cortland. All communities that are within the Chesapeake Bay Watershed need to reduce their nutrient load. Regulators are looking at total nitrogen and phosphorus and it has reached the City. As you can see from the schedule the first thing that the regulators are looking at what can the City of Cortland do without a major process upgrade to cut down on total nitrogen and phosphorus levels. That is essentially what we are calling phase 1. The phase 1 goal is to get down to 12 mg per liter of nitrogen and 2 mg per liter of phosphorus. Right now this plant is doing pretty good as far as phosphorus so the nitrogen is more of a concern. We have a plan for that. That is the first thing is what can we do to meet those limits. The second part is getting below 5 parts for nitrogen and below .5 of phosphorus. That is something the City may or may not be faced with. It all hinges on whether all the municipalities in the watershed can get the total nutrient loading to acceptable levels. Now we are at 22 for nitrogen effluent so we are not to far off, we just need a boost to reduce that. The DEC and regulators philosophy right now is lets grab the low hanging fruit first. Lets not force everyone into a double digit million dollar upgrade, lets do common sense upgrades to these plants combined with watershed management practices and see if we can reduce this nutrient loads. Phase 1 is doing what we can, cost effectively to bring total phosphorus and total nitrogen down. The second thing is that this plant is in need of an upgrade, specifically the digester complex. This plant just like every other plant goes through capital upgrades and this plant is in need of a capital upgrade. We

need to keep our eye on the overall nutrient load goals. We also need to keep in mind that meeting these requirements will produce more sludge. We need to look at the digester complex that is maxed out, we need to concentrate on what we can do to improve sludge processing, roofs on buildings, digester screens, capital plan and start budgeting for this equipment and this is what we are calling phase 2. Phase 2 will be overall plant improvements. And then phase 3 will be getting down to 5 nitrogen and .5 phosphorus. We don't know if that is going to be required but we want to keep an eye towards potential requirements because we don't want to have to reduce or redo the improvements we have already made. That is unknown at this point.

Dustin Clark speaks to the Board. The deadline for phase 1 is April 1, 2011 and that is going to be pushed back by DEC. Phase 1 is what we are dealing with first. Phosphorus removal and that is going to take place in the secondary settling tanks. We are looking at the addition of ferric chloride and possibly some polymer and that is an easy one. Facilities to incorporate that would be some chemical feed pumps which would be going in to the pump room where we have some similar equipment. The challenge with this is the storage of chemicals. We have some tanks in there now that are not in good shape. There are options we could look at-going outside, new tanks inside. Our recommendation is going to be to get rid of those tanks we have now because we don't know if they are safe. The staff wont step on the lids and that gives you an idea of what we are dealing with. Ferric chloride is corrosive and the liner is being corroded, which has let the chemical leak into the concrete. The structural soundness is probably ok but there is a membrane and then four inches of concrete. We are not sure if the membrane inside is ok. That opens a new spot for a new tank and that is the phosphorus removal. The nitrogen removal is the tricky one. Take place in the aeration basins. Right now we do the nitrification to reduce your nitrogen levels and then denitrification. We need an anoxic zone where there is no air but the mixed liquor is mixed. During this process you ultimately off gas the nitrogen and that is where we get the nitrogen removals. This plant is run very uniquely and Harvey has made very good use for what we have. We are having a hard time finding modeling software that will show us data that we are comfortable with. We are trying to have a final report and there are too many variables right now to do that. We are still working in this. The big deadline is CWSRF (Clean Water State Revolving Fund) intended use plan. Every year they put out funding for projects like these and we can look at this for grant money. Otherwise we are looking at bonding and due to the council bonding is not going to go over well. The deadline is September 3, 2010. With the BNR process this is going to be process where it alternates from an anoxic zone and an aerated zone. With the normal process you have ammonia in your waste water and that is how most of it starts. We want to convert that ammonia to nitrate and nitrate and off cast that nitrogen gas. We want to do this biologically because chemically it would cost a lot more in equipment. The goal is to take the complex we already have and 8 aeration cells. We are looking at taking two of those cells and make them anoxic zones with no air, just mixers. This would recirculate the flows in the existing tankage to affect the denitrification. We want to be below that 12 mg when we can because as temperatures get colder and the ability to nitrify slows down we wont be able to reach that 12. DEC is moving towards a mass loadings approach versus a concentration approach that is ok, we can do better some months and worse other months because it's the average we are looking at. The lower we can get it with the existing infrastructure- the better. We will be looking at process equipment

in the tankage. Right now we have high speed mixers but we would be looking at low speed mixers in each tank, aeration system improvements in the anoxic zones and recirculation refiguring. Because of the I&I improvements that the City has undertaken, it has cut down the flows to the plant and we have more opportunity to use the existing facility to meet these compliance requirements. The SRF funding opens up grant money for the capital project. There are green components and green incentive. Part of the phase 2 upgrades, potentially redoing the digester complex, will be installing a methane recovery, small co-gen unit so we are not wasting energy, improving the aeration system, installing a turbo blower versus multi stage centrifugal. We are looking at piloting one turbo blower unit in the secondary aeration complex. They are fantastic and have a higher output, more efficient and most importantly we can turn them down so we are not cycling. The IUP deadline is once a year so we are going to get a report in and it needs to have a basic overview of what the project is and what is going to cost and that is a place holder. EFC will work in conjunction with the DEC to hold that place and as you develop the project you can make changes to it. If you are not in the program now you have to wait until next year so we have to make sure we get the application in, secondary benefit to this is that it is a documented need, and if we don't document our needs to Washington DC, then money doesn't come to our state to allocate funds. Phase 1 is going to focusing on the ferric chloride, polymer enhancement and the BNR in terms of the anoxic phase and the internal recycling of the existing aeration process. That is the eye on the ball. We need to be cognizant of the phase 2. Phase 2 needs screen in screenings compactor and the primary screenings conveyer which leads to a higher roof but it needs a roof anyway. Added benefit being we will not need to have special order dump trucks. Replace all the rest of the blowers with turbo blowers, a new roof on the chemical feed building. Get rid of some of the process headaches and deficiencies in second settling tanks. They were not made for how they are being used. There are some after affects to that, which is concrete deterioration and flow restriction which is causing some process irritations. The biggest portion of phase 2 is going to be the digester. There are some other little things like an actuator, valves, pump changes and controls. The digester will be the biggest dollar portion which is approximately 7 to 8 million but the digester is green and that puts you in a position to get green EFC funds in addition to the four million CWSRF program. That is our approach, the digester is a huge need and when you implement the phase 1 improvements, the BNR has to go somewhere and that goes to more sludge. The digesters are already overloaded, add more sludge to those and we are going to be giving your operators one heck of a time. Another part of phase 1 is that we won't be able to treat all of the sludge through the digesters so we will have to liquid-lime stabilize some of the sludge so that we can legally take that to the landfill. The liquid-lime stabilizing will costs money. Its going to boil down to timing, the digester should have been swapped out ten years ago. We need to start planning and laying the ground work and we will blink it will be two years from now. The City is going to be up against a wall with increased nutrient removal and increased sludge and while we might have a stop gap measure in the liquid-lime stabilization, it is just that-a stop gap. We need to be actively moving towards phase 2 on that digester. We will still have to liquid-lime stabilize the sludge during construction. Facilities would be needed to do that. Any improvement we do today we want to keep our eyes on what potential requirements may be coming down the road. Phase 3 is the distant target of what might be required years from now. Some of the things will be a little difficult to achieve within this plants current footprint. All we can do is the best with

the existing facilities. This plant started as primary plant and then a physical chemical plant and now its an activated sludge process. The final clarifiers should be 20 feet deep and they are 17 to 9 to 8 feet not including the large pipe that sticks in that takes up a significant amount of space. We have issues with the velocity increase of water and that pulls up fine sludge particles which doesn't give us the cleanest effluent. We reutilized the existing tankage and it postponed the inevitable. This is not a conventional plant. We are reusing equipment which makes modeling this very interesting. In about a month we will have the actual back up calcs for the BNR and we are getting some more TKN readings to finish up the modeling. This plant, thanks to the I &I improvements we have 3.2 million gallons of aeration tank and 1.6 million in the final clarifiers- if we have at least 12 hours of retention time in your tank- 6 million gallons a day going through the plant then we can have a successful BNR process. We have a lot of flexibility how we can move flow from one tank to the next. That is an overview and we are working IUP submission. We are going to be continuing to work with the staff and cont to develop this report to submit to EEC. The next step is to present it to the council.

The next Advisory Board meeting will be on September 27, 2010 at 5:30 pm.

Motion to Adjourn at 6:33 pm by Todd Morris. Seconded by Paul Lorenzo.
UNANIMOUS

Minutes respectfully submitted by Shelley Knickerbocker
