

WATER POLLUTION CONTROL AUTHORITY
REGULAR MEETING
NOVEMBER 9, 2016

The Regular Meeting of the Water Pollution Control Authority was called to order by Commissioner at 7:00 P.M. in the Shelton City Hall, 54 Hill Street, Shelton, CT. 06484, on November 9, 2016.

The following Commissioners were present to constitute a quorum:

Commissioner Stephen Morse
Commissioner Joseph Frolish
Commissioner Donald Ramia
Commissioner Todd Dowty
Commissioner Steve Chuckta

Also in attendance were:

Thomas Sym, Sewer Administrator
Pete Pavone – Asst. Sewer Administrator
Edward Comboni - WPCP
Garritt Ogden- WPCP
Matthew Jermine- Fuss & O'Neill

1. THE PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited by all.

2. PUBLIC PARTICIPATION

No one from the public wished to be heard.

3. APPROVAL OF MINUTES OF REGULAR MEETING OF OCTOBER 12, 2016

A motion was made by Commissioner Frolish to approve the following meeting minutes:

Regular Meeting of October 12, 2016

Seconded by Commissioner Ramia. A voice vote was taken and motion passed unanimously.

4. COMMUNICATIONS

A. ASSISTANT TO WPCA REPORT

Pete Pavone: Looking at the FOG Report in October, we had 24 inspections that were due. There were 39 that were completed; out of that total: 36 passing establishments and 3 failures. One of the failures have already been fixed. The high school is waiting for a part; the grease trap is working, but it is just the blade where the grease gets caught is old and worn.

Gourmet Express: It was an issue of pumping frequency, and that will be resolved now that they are pumping every three months.

We have closed an open ticket for Aromas Restaurant; the AGRU was not working. What was done in the process was moving the AGRU in the basement because of a better setup.

Howe Grille: The motor is now working.

I had mentioned that Chili's will be pumping every two months. Overall, the trend line from 2010 has declined.

B. SUPERINTENDENT'S REPORT

The average daily flow was 1.8 MGD; the peak flow for the month of October was 1.7 MGD.

Our effluent total nitrogen was 28 pounds per day. The limit was 106 pounds per day. We pumped out 78,000 gallons of sludge to Hartford.

We now have had 65 months free from any accidents.

Our safety/training: Fire Extinguishers/Safety

Our chemical consumables were approximately the same.

The grease removal for Upper Route 8 was 80 pounds, Lower Route 8 was 120 pounds, River Road was 110 pounds, Ladas Place was 90 pounds and Meadowlark was 80 pounds, for the month of October.

Comparing October 2015, the total was 490 pounds, and in October 2016, the total amount of grease was 480 pounds.

We have had 0 complaints this month, making it a total of 50 months free of noise complaints.

We have had 0 odor complaints, which brings us to 41 months of no state-issued odor complaints.

The daily maintenance was basically the same. The corrective maintenance included installing new wier plates on aux effluent chamber, replaced gasket and sealed cabinet to prevent leaking on bar screen, replaced O2 sensors on two handheld gas meters, Neuros report, replaced back pressure valve on disinfection system and cleaned and flushed Cl2 system.

The future work includes replace seal on #1 Main pump, potable water line replacement, SCADA upgrade (ongoing), rebuild #2 motive pump, rebuild #1 and #2 pump at Bridgeport Avenue Station, and pull pump at Meadowlark Station to verify numbers.

Overtime Management for the same was the approximately the same as usual.

C. BUDGET WORKSHEET

Commissioner Morse: We just received the budget worksheet, and I think it is missing information on it.

D. WPCA MEMBER LIST

Tom Sym noted that on the WPCA listing, Chairman DeAngelis no longer has a home contact number, so that number on the listing should be removed.

There is currently one vacancy on the WPCA commission, noted Commissioner Chuckta.

Commissioner Frolish updated his contact information, as well as Commissioner Dowty.

5. OLD BUSINESS

A. WPCA MEETING SCHEDULE 2017

A motion was made by Commissioner Ramia to follow the meeting schedule for 2017, as submitted.

Seconded by Commissioner Morse. A voice vote was taken and motion passed unanimously.

WPCA 2017 Meeting Schedule:

January 11, 2017

February 8, 2017

March 8, 2017

April 12, 2017

May 10, 2017

June 14, 2017

July 12, 2017

August 9, 2017

September 13, 2017

October 11, 2017

November 8, 2017

December 13, 2017

B. TURBO BLOWER CORE

Discussion:

Tom Sym: We should go with Matt's recommendation to use Neuros, as the sole bidder of the turbo blowers.

Matt Jermine: I will try to summarize the recommendations from Neuros:

In the Teardown Inspection Results, the Rear Foil Journal Bearing was found as damaged; that was the part that failed on the unit. During the inspection, Neuros noticed a lot of dust on some of the different components of the unit. With the filtration system, they do not expect to see dust especially the quantity and thickness that was found inside the unit.

Commissioner Ramia: In that type of environment, how do they qualify dust as a problem?

Matt Jermine: The main point is that you need to keep those filters clean. This site is next to the rock crushing, so because of that we are going to need to make some upgrades to the filtration system. What is happening is that those filters are getting overwhelmed by the dirt that gets sucked in. The dust might also include mosquitoes, which the filters do a great job capturing them. Some of this fine dust breaks down into talcum powder consistency. You use the most aeration during the day, which is also when the rock crushing is also happening. If there is not rock crushing, there are dump trucks and loaders driving around the yard picking up orders. Then, you get all of the dust flying around from the trucks driving around. I would say all of that dust is coming

from over there.

There is also some corrosion that is happening on the part, as well. This is a stainless steel alloy that they use. Stainless steel does not corrode unless it is contaminated with iron. My theory is that the soil in CT is iron-rich, based on my septic system situation. So you get this iron-rich soil that is floating around as a powder in the part, and that is the corrosion that you are seeing. It is that rust color that you get from iron.

Commissioner Dowty: Is it the theory that the bearing seized because of the dust?

Matt Jermine: If you had a big enough clump of dust in there, that could be a problem. The root cause of this is the dust. There are some pictures of the foil bearings; the front one came apart pretty nicely and everything is in tact. If you look at the rear journal bearing, as it was basically welded together and they had to cut it to get it out. That is how they knew where the problem was: the clearance where the air is supposed to go through got clogged up with dust. The part then overheated and seized.

Basically, the way that the whole unit works is you have the shaft, a motor sitting in the middle, and the impeller on the end. The shaft and the impeller floats on this thin cushion of air that self-generates once it gets up to speed, so there is no friction because of this air bearing. Once you get debris in there, you no longer have that air bearing, and that is when you get the friction which causes the bearing to seize up.

In the root cause analysis, they are saying that "there are traces of dust and rust from corrosion within the core, including on the bearings. As these substances accumulate inside the bearing over time, they impede the air gap of the bearing, causing the core shaft to rub onto the bearing at a significantly high speed. In turn the friction from rubbing causes intense heat, damaging the bearing".

We had a conference call with Neuros where they went over this report, and basically they said you had to figure out what the root cause is and how to solve it. The question is not if this happens again, it is a question of when this will happen again. Until you solve the problem with the dust, you are going to get more dust inside the unit.

They offered to have one of their techs come down to take a look at the units for no charge, because they do not want to have a black eye either. We need to schedule some time to get them down here. They need to step back to take a look at the whole unit, walk outside of the building to see what is out there. The problem is with the filters is, they are expensive filters that we get from Neuros. They are changing these filters all of the time. It is hard for them to stay on top of the filters because it depends how dry it is- how dry it is affects how much dust is coming off of the rock crushing. By comparison, the turbo blower that aerates the primary sludge tank only runs during the over night hours. We opened it up and looked inside the filters, and it was very clean. The one that failed runs during the day when the rock crushing happens. The one that

looks great runs at night, when the rock crushing is shut down so that is a nice comparison to say, yes it is further evidence that it is caused by the soil that gets into the air.

Tom Sym: May be the dry weather also has something to do with it?

Matt Jermine: It certainly does not help.

Commissioner Dowty: Is there any type of pre-filter that can go on it?

Matt Jermine: Yes there is. You can go and report them to the DEEP and say he is having an air quality discharge with all of this dust that is effecting all of our expensive equipment.

Commissioner Dowty: In a normal construction zone if there is excessive dust, the construction company is responsible for watering down on a regular basis to keep the dust down. Is there any type of restriction on him, as far as watering his lot?

Matt Jermine: Yes there is.

Commissioner Dowty: Does he adhere to it?

Commissioner Morse: What is in his operating permit?

Matt Jermine: I am not in a position to comment on his operating permit.

Commissioner Dowty: There is a certain responsibility as a neighbor because as I know from building, there is a certain responsibility to keep the dust down and to maintain the site.

Garritt Ogden: The corrosion is from the ore in the dirt.

Commissioner Morse: It is concentrating and it spins around into the adjacent parts. Now you have a seizure on the air.

Garritt Ogden: The corrosion is happening inside the blower because of the iron ore.

Commissioner Morse: Can that be flushed?

Matt Jermine: Let's prevent the dust from getting into the machine to begin with. Once we do that, then we can go in and vacuum out the inside of the machine.

Commissioner Morse: Is there something that we can measure or watch before this part seizes?

Matt Jermine: I would like to implement a solution now, to put some pre filtration on the turbo blowers. I do not want to recommend to you to purchase brand new ones and installing them, and being in an identical situation until we get a handle on this. What I would like you to consider is doing that project right now. We looked at a couple of alternative, so that is why I passed this out.

I contacted one vendor that does industrial air cleaning; they have cyclonic grit separators and scrubbers. I described it to them as cement dust particles, and they recommended going with the scrubber. That is 2,000 CFM which was one blower; the unit has to get installed inside and it is gigantic. We would need a bunch of these for all of the blowers. They gave me a cost of \$93,000 for one of these units. It has a 25 horsepower motor to help the air go through.

Commissioner Morse: Think about the electric bill.

Matt Jermine: As an alternative, I think a good solution would be to do the second option, which is a pleated filter. We would put a really fine, 1-micron filter in front of the air inlet to each blower. We would oversize these as big as we can; we would vastly oversize the air intake so you would be able to handle 6,000 to 8,000 CFM per air filter, and we would have one on each blower. That minimizes your pressure loss into each blower, but also has a high filtration surface area so you do not need to change the filters weekly. The expectation is that these could go on for a month before having to be changed. We go with the paper filter because it has the finest filtration down to 1-micron.

Commissioner Dowty: It would provide enough airflow for the blower? You would size it to accommodate that?

Matt Jermine: I would size it as big as I could to get it in the door.

Commissioner Dowty: What would the maintenance schedule be on it?

Commissioner Morse: I would think a pressure switch on there to give you an idea of when it will get clogged.

Matt Jermine: They have an optional filter restriction gauge. If you are going this route, you might as well put it on there.

Garritt Ogden: We would have to formulate a plan because we have a digital pressure drop indicator on the blower, but to add this filter is going to change the number that we use now. We would visually need to keep an eye on it; we check the reading daily so we would know the difference.

Matt Jermine: You have two turbo blowers in there right now, so putting these two

filters on the inlet and there is a different type of filter that we would mount on the secondary inlet, which is more of a square filter. I think that would be much less than the first quote. From Neuros, we need to get an inlet adapter box. Neuros also upgraded their filter design; they have a newer two stage filter for their turbo blower. By putting in this box, we should be able to use the new two stage filter from them.

Now, we have this really big pre-filter, we are going to get an upgraded filter by Neuros. The consumable part is going to be the big, round filter which is fairly inexpensive. It would be a lot less than what Neuros is charging. That would help with the filtration costs, because replacing those old style filters were running up a tab for you. The difference between that really expensive solution with the colored picture and this is you have to replace the filter. The other is that you need to maintain a mechanical equipment, so I think working on this filter would be a much simpler design. What I would recommend to you is get the price together for what this retrofit would be, and figure out if that is something that the guys at the plant can do or if you need someone from the outside to do it. We can ask Neuros if they can install it when they come down.

They may not want to install this round filter because it is not from their company.

Commissioner Dowty: Do we know if this is acceptable by them, do you know? So it won't void any kind of warranty by them.

Matt Jermine: Once I told them we were thinking about doing a pre filtration, they seemed optimistic and pretty on-board with it. I am trying to start a solution with the lowest cost option. I think it is the best solution to start with.

Tom Sym: Do we have any pricing on the pleated filters?

Matt Jermine: Not recently. These are the filters that were most recently used in the past, but what you had said there was never a problem to get these round filters ordered. Neuros tends to have a pretty long lead time for that.

Commissioner Dowty: So we need to get some pricing together.

Commissioner Morse: What about the idea of anything that we could do to look inside this blower, to see whether they are coming apart?

Matt Jermine: I think one of the recommendations that Neuros is going to have is that you take the other blower unit offline, and have the core taken out to get sent to get inspected and cleaned. That seems like a reasonable thought. To do this tear-down, they take it off site. There is a couple of parts that they do not reuse, like the foil bearing. When this core gets repaired and sent back, assuming that you pay for, that core would probably go into the blower that did not fail. As well, you would have the

pre filters on them.

A motion was made by Commissioner Morse to modify the existing Purchase Order to have the damaged core repaired and returned, along with the two-stage filter adapters.

Secondly, to task Neuros to repair the damaged core and return at sole source, at a cost not to exceed a total of \$30,000.00

Seconded by Commissioner Dowty. A voice vote was taken and the motion passed unanimously.

C. FUSS & O'NEILL STATUS REPORT

1. SEWER CONNECTION APPLICATION

Discussion:

Matt Jermine: The application was for 96 hotel rooms, 60 seat restaurant on site. In terms of flow allocations to that area, Sewer shed #10, you had sufficient capacity. The applicant had contacted me about 2 months before, about unit flow rates so I gave them some guidance on that. The state public health code uses 150 gallons per day, which has a factor safety built into it because it is designed to go to a septic system. This is going to a sewer, so it does not need the factor safety built into it. we brought that number down from 150 to 100 gallons per day.

Fuss & O'Neill recommendations:

- Applicant should downsize the service connection to a standard 6-inch diameter pipe based on the pipe capacity requirements if technically feasible.
- Connect the new service connection to the existing 6-inch service lateral at the property boundary.
- Only if the service connection cannot be discharged into the existing 6-inch gravity sewer lateral:
 - a. Use service saddle when connecting the new service connection into the existing 10-inch asbestos cement pipe on Bridgeport Avenue.
 - b. The applicant will need to create a round cutout and install the appropriate watertight service saddle.
- Locate the existing service connection(s) to be abandoned and cap at the curb line.
- Follow the directives of the Sewer Administrator during construction.

A motion was made by Commissioner Morse to accept the sewer connection application for Philken Hotels, LLC., to also amend Fuss & O'Neill's recommendations, to add outdoor grease interceptor.

Seconded by Commissioner Frolish. A voice vote was taken and the motion passed unanimously.

2. TURBO BLOWER PRE-FILTRATION – previously discussed

3. SPORTSMAN DRIVE SEWER EXTENSION

➤ Developing budget (will have for next meeting)

4. CENTER STREET RELIEF SEWER

➤ Starting as part of on-call

5. HIGH EFFICIENCY AERATION TO REDUCE SEWAGE TREATMENT

➤ Ongoing

6. FY 16-17 MONTHLY BUDGET SHEET

Matt Jermine: We hit our initial \$20,000 budget last month. The new work will be put on a new task.

Commissioner Morse: Let's come up with a new numbering system for F& O budget items D-J.

Matt Jermine: So you want them on a separate piece of paper.

Commissioner Morse: Yes, but make it numbered 1,2,3,4, etc...

Commissioner Dowty: What is the purpose of that?

Commissioner Morse: It is going to be City money, because we want to keep it separate.

Matt Jermine: What if we keep these designations because I think that helps Mike and I. We will break this out as a separate set of invoices, which will be on a separate set of books. When it totals up, it will only total up those items and not everything else.

6. NEW BUSINESS

A. BILLS RENDERED

1. FUSS & O'NEILL \$4,023.06

Fuss & O'Neill invoice, in the amount of \$4,023.06, to be withdrawn.

2. FUSS & O'NEILL \$9,947.07

A motion was made by Commissioner Dowty to pay Fuss & O'Neill \$9,947.07.

Seconded by Commissioner Frolish. A voice vote was taken and the motion passed.

B. SEWER ADMINISTRATOR'S REPORT

Tom Sym: The cleaning and televising team is in town. They have around 35,000 linear feet of sewer that has been televised. They brought it to my attention that the two interceptor lines, which are RCP pipe and it is corroding and flaking. The manholes are also flaking, and they are in pretty bad shape. I'm going to go for putting in the liner in both of these interceptor lines- one of them goes from Hawk's Ridge, down to the Bridgeport Avenue pump station. Then it goes from Big Y to Center Street, so before they start to build this other parcel on the bottom of the crossroads and before they start building in this other area of Hawk's Ridge, I think it would be a good idea to be over and done with. These are very active lines; a lot of flow coming through there and they have the bypass pump when they do this. We do not want to do this in front of 150 apartments, and a hotel that is proposed in another parcel. Also the one on River Road is the same situation; the stuff is peeling off, the concrete is coming in and you can see the rebar. Before it gets any worse and with all of the flow that is coming through that line, I would recommend that we get a liner on it. We have to come up with the footage and the cost from Insituform.

We will have to see how much money is left in our referendum budget. I think after this year it is going to be around \$100,000. We will come up with a cost for this, and then we will have to ask the administration to add to that fund to cover the cost of this.

In other news, I received an email from Tom Welch that he sent out the attorney, dealing with the Consent Decree. He said it looks pretty good so we could probably sign off on that by the end of the year.

We did some rehab work, we had a problem with a business on Progress Drive. They

were having odor problems and they are blaming it on the manholes being paved over, which I do not believe that is causing it. I had guys go down into the right-of-way and put in a venting manhole cover. It looks like a little green box that sits on top of the manhole. When the sewer gas goes up, a ball goes up to release the gas, so I think they are still having a problem after we have done that. Then they installed their own vent pipe; they put in an 8-inch, 10-foot vent pipe in front of the building to try to get the gas out of the sewer line; it did not do it. They hired their own engineer that recommended to install the vent pipe in front of the building.

We have an issue with the state vehicle that we purchased a couple of years ago, for \$850. I am looking to go to bid up to \$10,000 to get another vehicle. I talked to the Purchasing Agent, and I mentioned a figure of \$5,000 but I do not think \$5,000 will get us too far. How much do you want to go for?

Commissioner Morse: I would say \$10,000.

Tom Sym: The mechanic said it will cost \$2,200 for a new transmission, but we only paid \$850 for the van. The mechanic said it would not be cost efficient to replace this with a new transmission.

A motion was made by Commissioner Ramia to spend up to \$10,000 on another vehicle for the Sewer Department.

Seconded by Commissioner Morse. A voice vote was taken and motion passed.

8. ADJOURNMENT

A motion was made by Commissioner Morse to adjourn the November 9, 2016 Regular WPCA meeting at 8:30 P.M.

Seconded by Commissioner Chuckta. A voice vote was taken and motion passed.

Respectfully submitted,

Brittany Gannon

Brittany Gannon, WPCA Clerk

