PUBLIC SERVICE COMMITTEE MINUTES

JULY 19, 2010

The meeting was called to order by Chairman Reams at 7:00 p.m.

MEMBERS PRESENT: Mark Reams, Deborah Groat EXCUSED: Dan Fogt

OTHERS PRESENT: Henk Berbee, Scott Sheppeard, John Mitchell, Valerie Klingman, Jeremy Hoyt, Ryan Horns (Journal Tribune)

AGENDA:

1) 208 Planning for Wastewater

Mr. Mitchell reported that the first draft of Phase 1 of the current 208 Plan is being finalized. There are two phases. Phase 1 is basically an inventory taking of the existing communities out there and what they have as far as wastewater treatment or non-treatment and where they go with that. Some of those communities include Marysville, the County, Richwood, Plain City and some of the township areas. Phase 2 is the facility planning area. They will lay out those areas where we can service. This is a joint effort between the County and the City. The County is the designated sewer management, so they would have to name the city as treatment alternative if we go outside of our existing area. Part of that is for the agreement and the contract with the county, from the 2006 Purchase Agreement. That will probably be finished in the next 2/3 months. Phase 1 should be finalized within the next week or two.

Mr. Reams asked what action would be required by Council. Mr. Mitchell didn't know if Council would have to take action, maybe just acknowledge the report. He'll check and get back with the Committee.

2) Project Updates

- Sanitary Projects

Industrial Parkway – Sanitary sewer main is completely installed. Testing is complete; restoration is ongoing. Final completion should be within the next three weeks. It's flowing now and is actually being used. This is located down by Rt.

42. This "Missing Link" will open up a lot more territory down south. It will bypass New California. Will now have additional capacity, all the way down to 161, including Hall's Corner. This is a gravity main.

K-mart lift station removal – This will be a gravity sanitary main installation. It's about 80% complete. Substantial completion should be in about 3 / 4 weeks. After testing, restoration will be done. Project should be completed in the next six weeks. The lift station will be taken off line making everything gravity, which will cut costs. This project is 50% Stimulus money.

Third and Main Street lift station removal. - Will bid this out in October, 2010 and open bids in December in hopes to have a contractor on board either December or January. It will take 5 or 6 months to finish the project. City will be careful not to interrupt harvest season at Landmark.

Mr. Berbee noted an odor along Jim Simmons Trail at various times where the escape valves are located. Mr. Reams said that he hasn't noticed an odor for a while.

- Water Projects

Ninth and Cherry Street water mains – Both water lines are installed, tested and in service. Restoration work, asphalt, concrete and yard restoration, is being completed. All of the patching asphalt work is done. Need to mill a section of 9th Street and the northbound lane on Cherry Street. That should be done next Monday. Project should be wrapped up in the next two to three weeks. Paving should be done middle to end of next week, weather permitting.

Scottslawn water line main. - All is installed, tested and has been in service for three to four weeks. Yard restoration yet to be completed. Project should be completed in the next week or two.

In-house water line projects – Preparing for streetscape uptown, which goes in line with our Master Water Treatment Plan and distribution system. That was the work done at 5th and Plum. In-house crews did that work. The section going down 5th Street that goes underneath Town Run was actually abandoned and separate laterals were run to the businesses from both directions, so we don't have to worry about a main breaking underneath Town Run. Mrs. Groat noted that she had reason to be in that area while the work was going on and she commended the work crews. They were extremely kind and polite to pedestrians.

Mr. Berbee commented that water rates were discussed at the Finance Committee. He said that the last water rate increase came into effect the first of this year. There are no more increases in water rates. Mr. Mitchell added, "For now." Regarding the sewer, Mr. Berbee mentioned the deduction of 33% during the summer time. Mr. Reams said it's 30% and if you exceed your average usage by 30%, at that point, there is a credit for the additional usage on the sewer side. The computer monitors this. The timeframe for this credit is October through March. For the next six months, the summer period, if you exceed that by 30%, everything after that you don't pay sewer.

Water Treatment Plant - Have been working with Burgess & Niple, the design engineering firm for this project. They were selected to design the new water treatment plant. From the beginning, started looking at the Water Master Plan and the twelve (12) variations of treatment types. From those twelve, the team chose three different treatment types: Alternative 1A is a conventional treatment, Alternative 7A is a split treatment and Alternative 12 is Integrated Membrane Treatment. The team held a one-day study group with B&N to clarify the direction. At that time is was narrowed down to Alternative 1A and Alternative 7A. After a lot of investigation, background and cost analysis, they came up with a recommendation that was discussed with B&N, and they made a recommendation to the City. Mr. Sheppeard has a letter from B&N and Alternative 7A-3, which is a hybrid of 7A, only on the concentrate side, which is the disposal of the filtered water, the reject water, was recommended.

Alternative 7A-3– Mr. Sheppeard explained reverse osmosis/nano filtration. The only difference is that a reverse osmosis system has higher operating pressures. The well water is pushed through a membrane at 120 PSI. The clean water will pass through to the inside, the dirty or reject water stays on the outside. It gets concentrated as it goes through the process. The clean water is channeled off into the next process of blending back with the surface water. The RO water is almost ultra pure water. It's really too soft. That's why it's blended back with surface water. The surface water does not require to be softened, but will take a bit of the hardness in the surface water, blend it back with the ultra pure water and bring our water back to 140 mg per liter, which is a bit softer than what the water is today. The interesting part of this process is getting rid of the concentrate water. Because Mill Creek has limited flow in it at times, the Ohio EPA doesn't want you to put the concentrate water in the creek, just for water quality issues. As long as the creek is up and water is flowing, it's not that big of an issue.

A couple of alternatives looked at when the creek level is low is we can blend water from the reservoir back into the creek and another option is deep-well injection. Deep well injection is not new to Ohio, but it is new to municipalities in the state of Ohio. There are four facilities that are permitted to deep-well inject, but they are pretty much private industries/companies, and they're putting some pretty nasty stuff in the ground. There is an area in the ground, about 3500', which would be discharging to what is called the Mt. Simon area. We would be improving the water quality in that area because the known TDS (total dissolved solids) in that area is over 35,000 in total dissolved solids. We're looking at putting water that's 5800 TDS. Mr. Sheppeard added that some people have a concern about deep-well injections and the water taken out of the eco system. It's not a new technology, but rather new to Ohio. There are a few plants that are doing RO/nano filtration. It's coming on so quickly to the Ohio EPA that they're having trouble finding ways to deal with it. Marysville is way ahead of the curve as far as trying to reach the highest quality of water to supply to our customers.

Mrs. Groat asked if Mr. Sheppeard could project how many times we would have to deep-well inject in a 12-month period. He said it just depends on how much Mother Nature puts down to keep water flowing in Mill Creek. Just relying on Mill Creek's flow in the summer months, it gets too low. We really don't want to utilize the reservoir too much because that's our drinking water source. It's really hard to tell. They're estimating on total build-out a half million gallons per day at full capacity. We're quite a few years out of our capacity. He added that another thing on our radar is the Ohio EPA has a limit of how much TDS you can put in rivers, creeks and streams. Currently it's at 1500 mg per liter, so if we trying to put 5800 out there, we have to do quite a bit of diluting. Ohio is one of the more lenient states as far as totals. Some of the other states are at 750, so they're talking about cutting back on that. Mr. Sheppeard said we didn't want to go into this with blinders on, on just dilution to Mill Creek. We want to be able to have another alternative. He feels the earlier we get into the system with having deep-well injection; we'd be ahead of the game. Some of these injection wells you can put 100 gallons a minute down, and some say it's an endless supply.

Mr. Reams asked what kind of volume of water are we talking about needing to get rid of on a daily basis. Mr. Sheppeard said based on our average of 2.2M production per day, you're looking at about 385 gallons a minute, so around a half million gallons. Mr. Mitchell said it depends on how tight our membranes are. We're typically getting 85% finished water. That might improve over the next few years as technology continues to improve. Mr. Reams said so if we're at 85%, then that would mean only 15% of that would be concentrate, so out of 2M gallons

a day, we should be only looking at 300,000/350,000. Mr. Sheppeard said that also depends on our blend ratio with the surface water. Mr. Mitchell said it won't be quite that high. It will be 70% of that 85%. Mr. Reams asked the question because he was thinking that we could put it in a retention pond and when the water flows higher, then pump it into the creek; otherwise collect it in a retention pond, but it sounds like the volume is too high. Mr. Sheppeard agreed. They thought about that, but thought that would be another reservoir to some degree.

Mr. Berbee asked without diluting it, more pure, could it be sent to wastewater treatment. Mr. Mitchell said they looked at that, but it would be very expensive to get it there, and it would also create a TDS problem with their affluent going out. It raises theirs so high that it would not be within their permits, and also, it takes up capacity at the plant. Mr. Sheppeard said they do not remove TDS at the wastewater plants.

Mr. Berbee said if you were to push it down 3500', at a different layer,(inaudible) aquifers that you draw from, how deep is the well that you draw out of. Mr. Sheppeard said anywhere from 150 to 200 feet. From history, they have actually gone well behind any water aquifer because they want to look for a barrier later. Just above this Mt. Simon area there is 100-200' of solid rock that water is not going to come back up to get into a water table. Mr. Mitchell said production wells are no more than 400' deep. Home wells are anywhere from 60-100' deep, so it's well outside of that region and well protected. Mr. Sheppeard said as part of the program, monitoring wells would be set up at the deepest point of any drinking water aquifer and they would be monitoring that constantly to see if there was any migration. There are strict guidelines with it.

Mr. Mitchell compared the reverse osmosis to the current method, lime soda softening. The reverse osmosis membrane takes pretty much everything out of the water. It ensures in the future any other constituents that might come into the well water system would be removed by the membranes. It doesn't guarantee everything would be, but from what they know from history, arsenic, lead and copper is removed from the membranes, where as lime soda softening doesn't not take care of those or remove all those other items either.

Mrs. Groat asked if staff is talking about softening every drop that is delivered into the pipes in Marysville. Mr. Mitchell said we currently do now to a level of 180-190. Want to move to 140. Mr. Sheppeard collected data from surrounding communities. The data shows the average is around 120-130 mg per liter of hardness in the water. He added that the level of hardness, 180-190 is a bit higher

than what's considered softer water. Mrs. Groat noted that people have brought these concerns to Council in the past. Mr. Mitchell said they're going to start bringing those numbers down. They've held off in order to get some history using reservoir water as opposed to creek water. Will start within the next month to bring it down over the next six months to 140.

Mrs. Groat asked if there is a separate measurement for the solids that leave water spots on cars. Mr. Sheppeard said that would be calcium hardness. Mr. Mitchell said they deal with two issues, iron removal and hardness. He said iron in the finished water is not an issue at all. There is no iron leaving the plant. If anything, we have a lot of old cast iron pipes in the system. Mr. Mitchell added that the old cast iron pipes didn't have a cement lining like the ductile iron, which is stronger and safer to use. All the ductiles are cement lined so you don't have the rust pick-up. Mr. Sheppeard said surface water by nature carries no iron, because all the iron comes from under the ground.

Mr. Mitchell said with selecting the 7A-3, which is the hybrid of three different types of concentrate disposal, there will be additional testing. One set of tests will be on the membranes, so they know which one to utilize or purchase, which brand and which type as far as how tight the membranes are. That's called a pilot test, which takes 1,000 hours of continuous running, so about 2 or 3 months of time. Will get to that point in the next six months, maybe sooner. Another set of tests will require some seismic studies for the deep-well injection, then an actual test well for the deep-well injection. That will be turned into an actual finished well once the tests prove that it's all good to go. The well will be drilled either at the water plant or at the reservoir site. Mrs. Groat asked if this type of well is more expensive to get down that far. Mr. Sheppeard said it's definitely more expensive than a traditional production well. Size wise, it's 8" casing as opposed to 3 or 4" for a home well. Costs are being obtained. Mrs. Groat asked if there is any danger of this kind of drilling creating dangerous seismic stresses. Mr. Sheppeard said that's why the seismic study is required prior to drilling.

Mr. Berbee asked what the current capacity is per day. Mr. Sheppeard said it is 4MG per day. Mr. Berbee said he was previously told that even though 2.2MG is used on average, you still need to allow for (inaudible) capacity. Something of this nature, how large would you intend to go? Mr. Sheppeard said it's intended to be built to 7.5M, which gives you an average daily flow of 4/4.5/5M. They try to build them to 1.5X their max daily flow.

Mr. Sheppeard mentioned total trihalomethanes (TTHM). It's a bi-product that's produced from treating surface water. The organics in that water with the combination of chlorine and time in the system will create these TTHM's. EPA has ratcheted down on the city on those requirements. City will be either right at the limit or exceed it because of this new rule they've imposed. City has been monitoring for TTHM's for years. The way the rule was laid out, it was an arrhythmic average and we were okay, but they've changed the way you calculate the arrhythmic average, and now it has put us over, which will be in violation. He's not sure when they are going to require the city to meet those standards. The current plant will not do it. If you look at any of these GAC, Granular Activated Carbon filters in any of the surface water treatment trends, that's what would be required for the city to add, which would be very difficult and very expensive. When that time comes, Mr. Sheppeard will ask them to understand that the city is being very diligent about engineering a new state-of-the art treatment plant as opposed to putting $50,000/$100,000 in the existing plant. Give us a year or two to meet these requirements. Mrs. Groat asked if they would fine the city. Mr. Mitchell said they can, but as with the Wastewater Treatment Plant, they gave directives and orders on that. We were in violation but city had a plan in place and was working on it, so there were no fines.

Mrs. Groat said the point has to be made that the water is no less safe this year than it was two years ago, but the method of testing is going to account for some appearances.

Mr. Berbee noted the pollution in Lake St. Mary and asked Mr. Sheppeard if he had noticed anything in the pond yet? He said there is some real light algae growth on just the rocks. The big difference between our reservoir and Lake St. Mary's is we're 40' deep and it gets there quick. These lakes have very shallow areas that photosynthesis takes place rapidly because of the shallow waters and warm temperatures. City has treated the reservoir three times with copper sulfate and what little algae is there, dissipates very quickly. They test the water as they're doing that to make sure they are not overdosing. They have never seen a sign of copper increases in the production water. They're being very diligent and cautious and trying to stay on top of it. They are sending one of their operators to an algae identification school for two days up on Lake Erie. It's a new process for everyone, so they're educating themselves as best they can.

Next step: Identifying to B&N the selection of alternatives. Moving ahead with those two different tests, pilot testing for the membranes and seismic geology

testing for the deep-well injection. Testing will be done through Burgess & Niple. End product should be state of the art.

Do not hesitate to contact Mr. Mitchell or Mr. Sheppeard with any questions.

- Paving Projects

Ms. Klingman reported on the Scotts entrance widening project. Have been working with our consultant, and they will be getting final plans for review at the end of this week. Will be meeting with Scotts in the coming weeks to get them up to speed. Will start to advertise bid in two weeks. Will hopefully go to construction yet this fall before the asphalt plant shuts down. Funded by Ohio Department of Development. Work will be done at the Kelly Schwartz Center to add a left turn lane in each direction to make those entrances safer with the increased amount of cars going there.

Fifth Street Streetscape project. Final plans are here but not yet reviewed. Should be able to get that project bid soon. Because of the funding thru OPWC and CDBG Tier II, project must be completed by the end of the year. Mr. Mitchell said the traffic signal, which is through the OPWC, does not have to be complete by the end of the year, however, would like the whole project to be done by the end of the year.

Mrs. Groat asked for the status of Collins Avenue. She noted at one point there was some decaying/deterioration and staff was going to go back to the manufacturer. Ms. Klingman has been talking to Savco, who is the contractor and is trying to arrive at a solution that is satisfactory to both parties. Have told the contractor that a resolution is needed within the next week or so. If anything is to be done, we want to get it done this year. Mr. Mitchell said the contractor originally stated they would resurface it, but their supplier of the asphalt backed away from it. Staff agreed to wait until this spring to see what the deterioration was. Staff feels it's been experiencing rapid deterioration compared to what the norm is and the standard for that type of pavement. Staff still believes it needs to be milled and resurfaced and is working hard to get it done. There is definitely an issue there compared to other streets in Marysville.

- Traffic Studies

Still have to go through all the completed traffic studies to pull stuff out for CIP.

Still hoping to put the Milford/Maple project out for a design contract later this fall and hopefully through the budget process, be able to put enough money in to get the construction dollars in next year.

Mr. Fogt had asked about the adjacent roadway there. It's still on the city's radar, but there is no funding mechanism for that right now.

Mr. Reams said the point is, we need to select an alternative for the Maple/Milford intersection that is in alignment with our future strategy. Ms. Klingman agreed. Mr. Reams said we need to select which of those roads we plan on doing what with and what's the best solution at Maple/Milford. Ms. Klingman said we're already there. Ms. Klingman misunderstood Mr. Fogt's question.

- Storm Water

Industrial Parkway Culvert Replacements – Looking to get that out to bid in October, under contract by mid December this year with construction starting next February. Will have to coordinate that project with traffic. Will most likely be using the temporary signals as used on the Main Street project.

Mr. Berbee asked about the lack of water pressure and the possible location of a new water tower. Believe on the map it would be located near the new Wastewater Treatment Plant.

With the design of the water treatment plant, part of that design is to look at our distribution system, and with the Water Master Plan, there were several sections of street that were identified as needing replaced because of the old cast iron line. There is also an issue with low water pressure. We're looking at two different pressure zones.

Within that design, it will include a new water tower. Currently looking at four locations for that water tower. Nothing has been finalized yet. Some of it has to do with elevations; some of it has to do with where it's located. You don't want it in a residential area. Where the water tower is located isn't going to change the pressure as much. Just depends on how high we build it, where we build it and why.

Mr. Sheppeard explained where the higher pressure zone is. We're going to try to split the system from about Grove Street south into part of the Barr addition. It will then go out to 38 and basically where the south tank is, will go just past that.

Anything to the east will be the current pressure and anything west will be on the new pressure zone 2, or the higher pressure system. We're looking at increasing the pressure in those needed areas from 45 to around 65. There are old mains in the older parts of town. Mr. Sheppeard would like to isolate it away from the old mains until the old mains are changed out, then we'll slowly make the pressure system a little larger.

Mr. Berbee mentioned a chunk of the dam was taken out to ease the flow. He asked if the city crews were going to take out the rest. Mr. Sheppeard said his crew would not be able to dismantle that large of a structure. He has two quotes to remove the dam for the EPA. It is a budgeted item. Removal of the rest of the dam should happen within a month.

Mr. Berbee asked if water had been taken out of Mill Creek for the Water Treatment Plant. Mr. Sheppeard said they have not used that since the reservoir was put on line in March. The motor and all electricity have been taken out of the intake structure. He said it will be a new look. Some areas will only be 10' wide. That dam had 6,000 feet of water backed up.

Mrs. Groat asked if it would change the flood plain usage of Schwartzkopf and that area. Mr. Sheppeard doesn't think so because the water is flowing over the dam at all times, so then it rains, now the water is 3 or 4' higher than the dam. It's not like it drops over the dam. It's the same level all the way across. From what people are telling him, the water is not running through Mill Creek; it's coming through Schwartzkopf Park, bypassing the dam and going under the bridge.

The meeting adjourned at 8:10 p.m.