UTILITIES COMMITTEE MINUTES
OF FEBRUARY 10, 2020

Municipal Council of the City of Vermilion
Municipal Complex, 685 Decatur Street, Vermilion, Ohio 44089

In Attendance: **Vermilion City Council:** *Monica Stark, Council at Large; Emily Skahen, Ward One; Frank Loucka, Ward Two; Steve Holovacs, Ward Three; Barb Brady, Ward Four; Brian Holmes, Ward Five; Gwen Fisher, Certified Municipal Clerk. ABSENT: Steve Herron, President of Council*

Administration: *Jim Forthofer, Mayor; Amy Hendricks, Finance Director; Chris Howard, City Engineer; C. Hartung, Police Chief; Tony Valerius, Service Director*

Call to Order: Frank Loucka, Chairman, RESOLVED THAT this Utilities Committee comprised of the committee of the whole does now come to order.

TOPIC ONE: **Review of City-Wide Water Meter Replacement Project (Ord. 2020-6)**

F. Loucka conveyed that late last year the Mayor gave a presentation regarding the condition of the City's 6,350 water meters that serve residential and commercial customers. He noted that $432,000/year in unbilled water is the estimated loss due to old meters, which is revenue loss to the water enterprise fund. There is approximately 74% of the city's water meters that are more than 15 years old and they have a 15-year manufactured life.

C. Howard said the city had a bid opening for the City-Wide Water Meter Replacement Project and received one bid from Neptune Equipment Company. He asked their representative Kelly Byrd to give Council an overview of the project.

K. Byrd explained the City would get all new meters and each meter will have a radio on it – those radios can be picked up by a drive-by system or a fixed base system. Once you put the radios in you can get those reads either way. The bid was for a fixed base system, which means there will be data collectors all around town that will listen to these meters every day. There will be ongoing data every hour, every day, for every meter, and they will also manage this project – everything from setting up a warehouse with all their equipment to making appointments for getting into homes. They will take the data from the old meters and will register all that data so the City gets a final read, then they will register the new meter number and the radio number which will be fed back to the City and the City would have all this information in a database, which will used for billing ongoing. He said this is a turn-key system. They might ask for help from the City in locating some pits they can't find or help with turning damaged valves. This will all be worked out in a pre-construction meeting.

S. Holovacs said in past years a company came in to determine leakage, so what happens in a pit in a residential area that fills with water. Does this affect the equipment that Neptune has in the pit? K. Byrd said there are two types of equipment – one is waterproof, and one is not. Their waterproof pit rated equipment is IP rated, which means it can be under water, under a meter of water indefinitely. They will do the installation with an antenna coming off the meter, which will come up above the pit lid, which is exposed to air – this way it's up out of the

water. He said this is what's happening currently because the signal gets killed because it's under water. However, their signal will be above water – above pit.

B. Brady said one constant debate they have had is doing all the meters or some of them. It looks like part of their problem is the $21,000 and the $7,000 for the monitoring part of this system as opposed to the individual, so this is a fixed cost whether they do two or 5,000. K. Byrd confirmed her statement. B. Brady said if the City decides not to go with the full project and maybe just do the commercial meters, would the City's cost change dramatically on the individual units? Is this bid out as a $2 million project or is it bid out as individual units? K. Byrd said it was bid as an entire project, so if they did a large meter project – first they would have to mobilize their folks and do the execution as if they did everything, but only they would do a part of it. They would have to charge more for this because with commercial meters they usually can't get in until the weekend – three weeks out because they're a hospital or whatever; they can't be down. So, they usually can't schedule big meters to go one after another. So, the City would still have to pay for their time, the set up and project management. However, the problem becomes they now would have two different software's. You would have one software that runs all the old stuff and a different software that runs the new stuff.

S. Holovacs asked if the software would be tied into the city's current billing software. K. Byrd said currently the City has billing software and meter reading software – they will change this meter reading software to his software, which will talk to the billing software just as it does now. They will do all the computer integration for the City as well. A. Hendricks said she has had preliminary conversations with Software Solutions and their VIP Program, and they have done these types of conversions in other communities. K. Byrd said they're very familiar with S.S.I. and have worked with them for years. B. Holmes asked if there will be annual software updates. K. Byrd said the software is an online subscription – web-based in the cloud, so there are no update versions. When it gets upgraded the City gets it automatically at no additional cost.

M. Stark asked for clarification on the two types of meters; one being waterproof and the other not. She asked if the City's quote is for the waterproof meters. K. Byrd said the City has a quote that covers both as some meters are indoors. They won't charge the City for waterproof meters when it's not necessary. M. Stark understands the meters are in the front yard and questioned if the antenna will stick out of the cover. K. Byrd said the cover has a hole already in it and through the hole there is a plug, so theirs would replace that. M. Stark wanted to make sure there wasn't nothing coming out of the cover that would get hit by a mower. K. Byrd said it's low profile (1/4").

B. Brady asked how long the system is warrantied for. K. Byrd said there are different pieces to the system, so the meter itself (brass body of a meter that has a bottom plate which is made to break out if it freezes, but the body itself is warranted for life). He said they make these meters themselves in Alabama and it's a good product. If it ever cracks, breaks, or leaks the City will get a new one. The other components are the register that goes on top of the meter, and for an indoor unit that's registered it will have a wire that will go to a box outside. The box is the radio and the registers are on the meters. The register is a 10-year full warranty. The radio is 10-year full warranty, plus another 10 years per radio warranty, so expect it to last 20 years. B. Brady asked about the plate that breaks off if it freezes. K. Byrd said this is a normal thing and the meter is built so that the bottom will break if the water inside freezes. Otherwise, the

whole thing breaks, and you must buy a new meter. B. Brady asked what will happen if it breaks – is this something the City can handle in-house? K. Byrd said the City can take the meter out and put another one in and take the broken meter and put a new bottom on it, which then can be reused. B. Brady asked if the City will have spare parts. K. Byrd said if the City chooses to buy spares – they weren't in the bid, but they're not expensive - $5 each.

F. Loucka asked if they will be using the same type of meter that Elyria installed. K. Byrd said it's the same system. F. Loucka said their website states they have a dozen different meters, so it this a flow surge or HB turbine. K. Byrd said in every home the City will have their positive displacement T10 meter, which is the oldest style of meter made – they have been making these the same way for 125 years. The big meters are turbine/compound meters, but the same style that Elyria received.

T. Valerius said something the City would like to accomplish in changing all the meters at the same time is consistency. This way everybody has new meters, and everybody is paying the same rate for their water, whereas right now, they have patchwork meters. He conveyed that everyone is paying the same rate, but everybody's water is not being measured the same because of the age of the meters and the inconsistencies, so this will bring everybody back to zero with all new meters.

Mayor Forthofer asked how long it will take for the installation of the meters. K. Byrd said they bid the spec as written and they can do it by November 1 if they get the go-ahead soon. They could probably do the project in two or three months if they brought more guys, but they want to be careful on how fast they do this too because there is a lot of data transfer.

Mayor Forthofer asked who handles the communication with the residents. K. Byrd said they will handle this by getting with the City to preparing a letterhead with their logo and the City's logo, so people know it's legit and from the City. They will send out at least two notices and tell the residents and businesses the schedule and for them to contact them. The next letter will state that they were supposed to contact them. They will advise the City of any troubled sites. This communication is only for pits meters, they will just do the outdoor meters by generally knocking on the door to advise the residents to make sure nobody is using water at that time. If no one answers, they will proceed in changing out the meter, which goes quickly. They will take a bunch of pictures and will send the data back to the headquarters which is audited daily.

B. Holmes asked what happens if the pits are damaged. K. Byrd said this wasn't in the bids, so this would be an extra cost to the City. He said the City might have a supply they can use.

B. Brady asked if the warranty includes labor. K. Byrd said this is something he will need to check on but noted they will stand behind their work as they are a 90-year family-owned business. B. Brady said it worries her spending $2 million by doing everything at one time because it means that everything might go bad again at the same time, which is uncomfortable to her. She would like to see them stagger the meters instead of doing them all at once. K. Byrd understood her concerns and as an analogy they would never replace two of their eight spark plugs – you would do all eight because the set runs better. Also, it's not fair to one neighbor if their meter is old and his meter is running slow, when the other guy has a brand-new meter who is paying 100% of his bill, so you get into these types of things. He said it's also

cost effective; once you set up a program to run you don't want to turn it off two or three times to try and redo all of this. He said their company is planning to work with the City for the next 30 years, so whether they do it piece by piece or all at once, it really doesn't matter to them, but the more volume you do the better deal you get.

Amy Hendricks said another thing her and B. Brady discussed was the financing if they do it in phases. Currently, there is some cost effectiveness of being able to do the bonds for $2 million. She would have concern if they were paying it in cash as they went along – saying they divided the $2 million by five years at $400,000 a year is double what the City's debt service is intended to be, but the other part of that would be if they were only phasing them in 20% at a time as an example, instead of having that much additional revenue from having all the meters being replaced – they may be having $75,000 to $100,000 in increased revenue in those first couple of years to make those payments. This would put a burden on the water and sewer funds.

B. Brady said the City is counting on finding some of the water they're losing by doing this. She asked K. Byrd how confident he is in the new meters by generating the money they need to pay for this. K. Byrd said the only way to know for sure is to test every single meter and find out what the rate is and how much the City would get if they were 100%. He's 100% sure their meters will be 100%; new out of the box they will be very efficient, and they will last a long time. He said the City can ask other communities. In fact, Erie County has had their meters for many years, and they tested theirs and didn't change any of them. He said you must know upfront how bad every meter is. He said 15-20-year-old meters are slow and they only get slower. With 15-year-old meters or more they typically see an eight to 15% return in higher revenue.

TOPIC TWO: **Report of Observations Vermilion-on-the-Lake Sanitary Sewer System Flow Meters**

C. Howard distributed the Report of Observations to City Council and summarized the Project Description. He said the City placed eight Hach Flow Meters on Rowland Road, Aldrich Road, Harcourt Road, Woodridge Road, Fairfax Road, Parkland Blvd, Cummings Road, and Overlook Road. Data Collection at the sanitary manholes was collected from May 16, 2019 to October 22, 2019 (160 days). The City's contract with Hach was for four months, but because of them moving the meters, the City received a couple extra months of free metering. The Hach Flow Meters collect data on the rate, depth, and velocity of the sanitary flow through the manholes. The flow rate is expressed in Million of Gallons per Day (MGD) and it was recorded every 15 minutes. The Ohio EPA design standards establishes a base flow and the base flow is based on the number of residential, commercial, and industrial users on that street. Using the data of the EPA standards they established a base flow for each street. In addition, they accounted for peak flow, which is also required by the EPA. This peak flow is based on the number of type of facilities contributing to the flow. In Appendix "A" they have a breakdown of every street of what the design flow is. As an example, he reviewed the NOAA Daily Rainfall Depth Compared to Metered Flow Data on Rowland Road. The actual meter flow is above the design flow, so obviously there is a lot of I&I getting in on Rowland. The number of infiltration events that exceed the Calculated Peak Base Flow for Rowland is 151 out of 160 days. Table No. 1 lists for every street the Calculated Peak Base Flow and the Number of

Infiltration Events, the Average Percent Increase over Calculated Peak Base Flow, and the Maximum Percent Increase over Calculated Peak Base Flow.

He said knows the area was relined 10+ years ago and the City made a conservative effort to do a removal of any illegal connections, so this is either from cracked laterals or some illegal connection because this is a lot of storm water getting in there. He asked Council to review the report and they can go over it some more next month.

B. Brady confirmed that the flow on the individual streets is not affected by Edgewater; you're only measuring what's coming down the street, not what's coming east and west. C. Howard said this is correct – just the north/south. C. Howard said the sanitary sewers were designed for the capacity of an 8' based on the slope of the pipe and obviously you have pipe sized changes, and Edgewater collects everything and will surcharge onto the side streets. The flow meters were not impacted by surcharges.

S. Holovacs said the City has moved the flow meters to new locations and asked if they were all in the VOL area. C. Howard said there are two meters on Liberty Avenue and three in the Morton and Erie area. He believed there was one on the east side of the pump station on Claremont. He will get Council a list of the all new locations.

B. Brady pointed out that during this period they had no major overflow. They didn't have manholes coming 2 – 3' off the pavement during the time the flow meters were in. C. Howard said they didn't have a rain event where they had 3' or 4" of rain.

Homer Taft of 3972 Edgewater asked if the significant infiltration of storm water on all streets is the conclusion. C. Howard said yes from laterals or illegal connections. F. Loucka felt Rowland was the highest from all the streets that were measured. B. Brady said Rowland has the least number of houses. C. Howard said this is disturbing because you only have 12 homes. B. Brady said you have the YMCA there too. B. Holmes said you also have Edison Estates to the west and he knows there is a tile that runs in back behind all those houses. B. Brady said there is a black pipe that runs at the end of Rowland and noted that most of those houses are newer, so it's ironic that this would happen.

F. Loucka adjourned the meeting after no further discussion came before the committee.

The next meeting is scheduled for March 9, 2020 at 7:00 p.m.

Gwen Fisher, Certified Municipal Clerk