Town of Middlebury
Infrastructure Committee
Thursday, January 12, 2023
Meeting Minutes

Members Present: Heather Seeley, Candy McLaughlin, Judy Wiger-Grohs, Erik Remsen, Luther Tenny, Gary Baker and Alternate Jef Bratspis.

Staff Present: Town Manager Kathleen Ramsay, Directors of Public Works Planning Emmalee Cherington, Director of Public Works Operations Bill Kernan and Wastewater Superintendent Bob Wells.

Others Present: Energy Committee Members Howard Widelitz, Ross Conrad and Richard Hopkins.

1. Call to Order

The meeting was called to order at 9:00 a.m. by Chair Heather Seeley.

2. Approval of Agenda

Wiger-Grohs moved to approve the agenda and Baker seconded the motion. Cherington recommended they switch the discussion of the Chipman Hill water storage tank discussion with the GIS mapping update scheduled last on the agenda, since she feels that the tank discussion will warrant more time. The agenda was approved as amended with 7 in favor. **MOTION PASSED**

3. Approval of Minutes

Baker moved to approve the minutes of December 1, 2022, and Wiger-Grohs seconded the motion. The minutes were approved as presented with 6 in favor, 1 absent (McLaughlin left the meeting briefly). **MOTION PASSED.**

4. Citizen Comments

There were no citizen comments.

5. Project Updates

South Street - Cherington said Landmark Engineering has been working on the construction bid documents that will go out to bid on January 23rd, with bids due February 17th. She said that would allow the Committee to look at the bids on March 2nd and send to the Selectboard to approve on March 14th.

Bakery Lane – Cherington met with Otter Creek Engineering earlier this week to look at the 60% design phase plans. She said they will be looking for both a temporary and permanent easement from one of the property owners for the parking spots that are near the pump station, and she thought in lieu of payment for the easement the Town could pave and stripe the parking areas that are private which might potentially increase the parking, but we don't have enough easement details to go to the property owner yet. She said we had allotted $350,000 for this project, but it came in at $944,771. She said that would be divided up 53% to wastewater, 28% highway, and just under 20% for water. She said this means this project won't be on the schedule as soon as we'd anticipated. She thinks we should invest heavily in engineering, so we have multiple shovel-ready projects lined up so we're ready for any available grants and any additional ARPA funds that might be coming to municipalities from the State.

Colonial Drive – She said the final walkthrough was done with the engineer and contractor and there is a punch list of items to be done in the spring, but otherwise that project is complete.

Wastewater Treatment Plant Upgrade – Cherington said they'd met with the engineers Hoyle Tanner and Associates on scheduling and design goals, and they'd like to apply for construction level funding in February of 2024. She said they're working now on the contract agreement with Hoyle Tanner so they can begin working on the addendum to the current preliminary engineering report and then move into the design phase, with the goal to have the design at 90% by this coming December to be able to apply for the State revolving loan funds, as well as other funding sources.

Stormwater Permitting – Cherington said we have received requests from co-applicants Mary Hogan and Woodland Park. She said she has applied for the (TAP) grant and we should hear on that in March, and the plan is to do a townwide stormwater requirements plan and bring our permits to the design plan to 30%. She said Woodland Park is already working with Trudell Engineering, and she is meeting today with some UVM students studying Natural Resources on the Mary Hogan design that she feels is a student level project. She said Otter Creek Engineering is also working with UVM engineering students, so she's asked Brent Rakowski to have the students look at the grass swales in the Seymour Street project we're working on.

6. Halladay Road Pump Station

Cherington said there were two bids received for this project: Beldon Construction for $844,000 and Champlain Construction for $710,291.75, both of which are over the engineering estimate of $650,000 which was based on an almost identical design for the Seminary Street Extension pump station constructed a few years ago for $407,000. She said they had already pulled the generator out of the project, and that had come in at $28,000, so when you add that into the low bid from Champlain Construction it comes in at $738,027. She said they are proposing to use the ARPA funds allocated to wastewater and tap into Capital Improvements for a small portion of the cost, so she

requests the Committee recommend the Selectboard award the bid to Champlain Construction.

Cherington said Champlain had also been able to find a generator that meets all the specs, and they can get it in 16 weeks while the generator the Town had found for $28,000 was going to take 36 weeks. She said the generator Champlain found will be an additional $2,000, but she recommends going with that generator since the liability would then be on the contractor.

Cherington said construction would be July to October and the only remaining obligation the Town has is to complete the boundary line adjustment for the easement, but Otter Creek Engineering has someone coming to do the boundary survey. Ramsay said we're only waiting for the survey, since the negotiations with the landowner have been completed.

Bratspis moved to recommend the Selectboard award the bid for the Halladay Road Pump Station to Champlain Construction for a bid not to exceed $742,000. Remsen seconded the bid. The motion carried with 7 in favor. **MOTION PASSED.**

7. Police Station Storage Building

Cherington said the former storage building at the Police Station, a portion of which is now being used by the department as a gym, has ventilation and moisture problems. She said there is moisture coming into the basement where a fuel tank had been located earlier, so they've requested quotes for HVAC improvements and Northern Basement has looked into doing French drains around the foundation to connect to the existing drainage system. She said Newton Electrical provided a quote of $46,200 to improve the HVAC system and the Northern Basement's quote is $5,402.22.

Wiger-Grohs asked if the moisture issue was impacting air quality in the building. Cherington said she didn't know the answer to that, but these improvements are intended to help take care of the moisture and they've also ordered doors to enclose the bays where the vehicles go and to block off the basement, so that should help as well.

Seeley asked if there were still enough funds in the budget from this project to cover these expenses, and Cherington said she believed there was $64,000 to $68,000 remaining so there should be enough to cover these two items and the doors.

Seeley moved to recommend the Selectboard approve the quote from Northern Basement for $5,402.22. Wiger-Grohs seconded the motion. The motion carried with 7 in favor. **MOTION PASSED.**

Wiger-Grohs moved to recommend the Selectboard approve the quote from Newton Electrical for $46,200. Remsen seconded the motion. The motion carried with 7 in favor. **MOTION PASSED.**

8. GIS Mapping Update

Cherington went over a preliminary map she'd prepared to show what their new mapping software can do. So far she's entered the roads and their conditions based on the road inventory done recently, and the areas with water breaks in years past. She said some areas that show breaks have since been replaced, such as Court St and Washington Street, and as water lines are repaired they can update those areas. She noted the Gorham Lane area that has multiple water breaks, and they are moving ahead with engineering for that area so they'll have the project shovel-ready should funding become available.

She said the crews all have access to the maps and they have it available on their phones soon so they can pull the maps up out in the field to help locate such things as curb stops. She said another piece of the app is loading surveys that will come in handy when the water staff is installing water meters, they can load the GIS location onto the map.

The Committee had some questions on the maps. Seeley said she thought this map would help them prioritize projects. Tenny said if available, it would be helpful when prioritizing road projects to have vehicle-trips-per-day data. Cherington said that was a good idea and she'd look into gathering that data.

Baker asked about people who were color blind. Bratspis asked about the accessibility of the software to citizens for reporting problems, and Wiger-Grohs asked about adding the tree data. Cherington said she has the tree data entered, and she would look into other ways of showing data other than by color. As far as using the data for reporting problems, she said the software has that capability if the Town wants to spend the money, but at this time we just have a very introductory software package. Wiger-Grohs also said she'd like to see the greenspace areas in town to see how it relates to air quality.

9. South Street Waterline Pre-purchase

Cherington said this project is going out to bid shortly and will be awarded some time in March. She said because this project has 1,900' of 12" pipe and 1,200 feet of 6" and 8" pipe, they are considering having the Town pre-purchase the pipe due to the 20-week delivery time on ductile iron pipe. She said another town they know of is going to bid on a project needing over 5,000' of ductile iron pipe, so if they order from a local distributor before we do, then our order would go behind them in priority and increase the lead time.

She said unfortunately ductile iron pipe is extremely expensive right now and the quotes she is getting for 12" pipe are $75-$76/linear foot, so it would be $144,000 and we would need to find a place to store it until the work began. She said they are talking with Middlebury College on the southern end of the campus. Tenny said the College most likely will be able to provide a place for storage, but they need to reach out to

Encore Renewables to make sure they don't need that area for their solar project, but he feels the College will be able to accommodate the Town.

Cherington said the biggest concern is the 12" pipe, but we also need 1,200 feet of 8" pipe and that is $46.05/linear foot for a total of $55,000, and only 100' of 6" pipe for 32.63/linear foot, for a total cost for all the pipe of $226,796.13 that would be paid for with ARPA funds. She said these costs are all from one supplier so they can check with others, and the cost of the pipe would also need to be pulled from bids that are submitted.

Ross Conrad said there is usually a cost reduction when you buy in large quantities, so would it be cheaper to join together with this other municipality to purchase the pipe. Cherington was afraid there would be complications with delivering it to two places, and Seeley felt dividing up the payment would be a problem as well.

Bill Kernan asked if there had ever been any thought to using PVC. Cherington said it had been discussed, but she's not a big fan of it and there are so many unknowns about the safety of it for drinking water and what the health impacts are. Seeley said historically the Town has used ductile iron. Tenny said also PVC is fairly brittle so it isn't as durable.

Tenny said if the bids come back on this project and they're way too high and we're not able to proceed with it, is there a clause that we can opt out of the order for the pipe. Cherington said she can look into that, but since this project will be using ARPA funds, she really wants to get it moving along since so many other municipalities also have ARPA projects that need to be completed in a certain time frame, so she isn't sure we can push the ARPA project timelines out too much.

Seeley moved to recommend the Selectboard approve pre-purchasing the ductile iron pipe for the South Street waterline project at an estimated cost of $226,800, with provisions for discussion with the supplier for cancellation clause. Baker seconded the motion.

Tenny asked if this also included the fittings, elbows, and T sections of the piping since the lead time on those can be quite lengthy as well. Cherington said it didn't, just the stick pipe, but she can ask the engineer about those as well. She said there is also a wait time for valves as well. Seeley said she's still uneasy about the Town having to take the responsibility for purchasing this but feels it will be okay as long as the order is based on the engineer's design.

The motion carried with 7 in favor. **MOTION PASSED.**

10. Energy Committee Presentation on Anaerobic Digester

Richard Hopkins said several months ago he had presented the report received from the firm hired by Vermont Gas Company and was asked to return with greenhouse gas considerations for the Wastewater Plant upgrade.

He said we're trying to reduce our release of greenhouse gases and the Town committed itself to an 80% reduction in carbon dioxide by 2030, but so far all the progress we've made is because Green Mountain Power (GMP) has cleaned up the electricity we use.

Hopkins said Vermont Gas is also under pressure to clean up their product, just like GMP had to clean up their electricity, so Vermont Gas would like to acquire more renewable natural gasses that are not derived from fossil natural gas. He said the sources of these renewable natural gasses come from landfills, dairy farm waste and wastewater facilities.

He said the current WWTP uses over $20,000 worth of electricity each month and replacing the current system for drying sludge with an anaerobic digester could save enough money to pay for the construction and equipment cost in just a few years. He said the WWTP also uses over 600 tons of quicklime per year, and this would not be needed with an anaerobic digester.

Hopkins said the Middlebury Energy Committee (MEC) found some issues with all four options in the Forcier report commissioned by Vermont Gas, and the MEC would like to urge the Town to investigate options for upgrading the WWTP that do not have adverse greenhouse gas consequences.

Hopkins reviewed the four options:

1. Use the methane to generate electricity to operate the WWTP and heat its buildings and sell the remainder to GMP.

2. Clean up the methane and sell it to VGS to distribute it to customers as renewable natural gas.

3. Use the methane to operate the plant and flare off the excess.

4. Combine 2 and 3 - use the methane to operate the plant, clean up the excess, and sell it to VGS.

He said the MEC came up with three additional options:

1. What are the current system implications for greenhouse gases;
2. Release all the methane straight to the atmosphere without using it beneficially (not realistic)

3. What if all the methane is just flared-off without using it beneficially or selling it.

Hopkins went over a chart showing the tons of Co2 released each year for each scenario and the savings and they don't always line up. He said MEC urges the Infrastructure Committee and Town staff actively explore options for drying and sterilizing sludge that do not create new greenhouse gas emissions.

Wiger-Grohs asked about the biosolids at the plant. Wastewater Superintendent said they sample their biosolids once a year and the numbers haven't been high. He said right now Vermont doesn't limit biosolids, but if they lower the limit we wouldn't have a place for them, so it's one of the reasons they looked at a dryer so then we'd have a smaller amount to deal with for either land application or to ship to a landfill. He went on to explain the process involved when using the digester.

Remsen said he appreciated the work done by the Energy Committee, but he wasn't sure there was anything the Infrastructure Committee could do with the information other than to indicate we want the engineer to take this information and make use of it and come back with a design.

Jennie Auster, PE and Project Manager for Hoyle Tanner and Associates who are designing the WWTP upgrade, said this information will be helpful when putting together the scope of their project. She said there is a lot of information needed to make a decision, such as environmental life cycle assessment of the biosolids process, cost, and risk. She said their goal is to put together a scope that covers all these factors to allow the Town to make an informed decision. Hopkins offered to go over their thinking behind their chart, and Auster said that would be good, because there are so many factors when doing a greenhouse gas assessment.

Baker asked if there was a process for the biosolids that would allow the product to be sold for some use, and Wells said maybe, but he wasn't sure. Seeley said she is concerned that if we needed to take the biosolids to a landfill when there are already problems with landfills, where does that leave us. Cherington said this is for a 20-year permit, which is another part of the discussion, we're really looking at the best practices at the plant for the next 20 years.

Ross Conrad said another potential consideration to address the biosolid issue that he's spoke to Wells about, is the use of a constructed wetland or "living machine" where the wastewater is run through plants. He said this has been used on different scales to take care of wastewater and from what he understands it's low maintenance and low cost and has a large environmental benefit from the growth of plants that take carbon out of the air. He said it's not as commonly used, and Wells thought perhaps they could upgrade the plant and install the digester, but also put this constructed wetland, or "living machine", next to the wastewater plant on land currently owned by Middlebury College. He said if it worked well, then when it's time for an upgrade in 20 years we can expand the "living machine". He said he's talked to a couple of companies that construct these wetlands and they have Vermont connections, so if this is an option

they'd be interested in, what questions would they like answered to see if it was something to be considered. He said it would take care of the waste sludge problem because there would be none. Seeley said the Town is trying to reach a design completion goal to apply for funding, so is concerned introducing new ideas would delay that.

Auster said the Sharon rest area on I-89 has a "living machine" wastewater system and is enclosed and inside. She said she wouldn't see this as being feasible for the current flows at the plant, but nothing precludes from further investigation by the Town in the future and do a small experimentation project. She said the other thing is the funding agency, in this case DEC, and when you move into something that is more of a demonstration project, you would have to demonstrate it would meet the effluent requirements before they'd approve funding. She doesn't think a conventional design precludes this for a small stream, but she thinks the weather extremes would impact the results. She said you'd also have to look at effluent limits, mainly phosphorus, that would be a challenge, but she recommends moving forward with the conventional design to meet the timeline.

Wiger-Grohs asked about a "living machine" in South Burlington. Auster said there had been a demonstration project there, but it has not been in operation for a longtime. Cherington said it was enclosed in a greenhouse for a controlled environment, and it didn't last long.

Cherington said the other major concern is that you need to have a very consistent flow for a "living machine" and we have inconsistent flows from places like AgriMark that could completely wipeout the wetland because it couldn't handle a spike in flow. She said that's why it works well at the rest area because of the consistent flows, and even there they had to close because of some large spike that killed off all the vegetation.

Seeley said it's something to look at as we go forward right now, but maybe in another 10 years we could look into it for the next upgrade in 20-years.

Widelitz said from an Energy Committee point of view, there is a life-cycle analysis that has to be done to fully understand the greenhouse gas emissions for the Town to make an informed decision.

Hopkins said we have a framework for assessing greenhouse gas emissions for the various design decisions that need to be made, and with input from Auster we can improve the framework to assess future designs against the existing system and they're pleased to be able to assess this. He stressed we're in a climate emergency and we should do whatever we can to reduce greenhouse gas emissions. He said their job as MEC is to advocate for steps to eliminate greenhouse gas emissions and is looking forward to working with the engineer on scoring future proposals.

11. Chipman Hill Water Storage Tank

Cherington has been working with our engineer and we need to do some soil borings and have received a proposal from DeBisschop Excavating to create an access point for the Geotech team to come get the borings, and at the same time do some tree clearing to meet our deadline of April 1st so the contractor can get in to do the work. She said DeBisschop's proposal is for $21,925 to perform those services over the next month or two.

Seeley pointed out DeBisschop's proposal says "estimate", so it could be more, and where is the money coming from to do this work. Cherington said it would come out of the Water Capital Budget.

Bratpsis moved to recommend the Selectboard approve DeBisschop Excavating's estimate for $21,925. Baker seconded the motion. The motion carried with 6 in favor, 1 absent (Tenny).

Cherington said the Drinking Water State Revolving Fund (DWSRF) application is due March 1st and we plan to submit an application for the construction phase of this project. She said to boost our chances of securing those funds we need to prove community support in the form of a bond approval, so she's proposing to put this up for a bond vote at the Town Meeting in March. She said these funds can either be a loan or a grant, but she thinks it might be more likely to see it as a loan, somewhere in the $3.5 to $4 million range, but will have more details from the engineer next week.

Ramsay said she was hoping to have the Town Meeting Warning approved at the January 24th meeting, but the absolute deadline to post the Warning is the first Saturday in February.

Cherington said we're likely looking at the Wastewater Treatment Plant going for bond vote at the 2024 Town Meeting.

Baker moved to recommend the Selectboard place the bond vote for the Chipman Hill Water Storage Tank on the 2023 Town Meeting Warning. Bratspis seconded the motion.

Seeley said this was a priority on the list of identified projects in the hydrological report, so there needed to be a strong presentation to voters to remind them of the priority of this project. Bill Kernan said the water tank was listed as a major deficiency by the State and the only reason this has been removed from the list is because we were moving ahead with this project. Ramsay said this needed to be ready soon, because absentee voters will begin voting in early February.

The motion carried with 6 in favor, 1 absent (Tenny). **MOTION PASSED.**

12. Setting the Next Meeting Date

Seeley said the next meeting would be February 9th, and the next meeting will be March 2nd.

13. Committee Concerns

Given the late time of the meeting, concerns were postponed to the February meeting.

14. Adjournment

The meeting adjourned at 10:56 a.m. upon motion by Wiger-Grohs, seconded by Baker.

Respectfully submitted,
Beth Dow