

Larsen Winchester Sanitary District

Meeting Minutes

Location: Winchester Town Hall, 8522 Parkway Lane, Larsen
Date/Time: Monday, July 11, 2023—4:00 p.m.

I. Call to order

1. Verification of Notice
2. Roll Call

Chair Scott Reif	PRESENT
Vice Chair Rob Nelson	PRESENT
Commissioner Connie Kreutzberg	PRESENT
Commissioner Adam Blackburn	EXCUSED
Commissioner Jeff Guth	PRESENT
Plant Operator Mike Pfankuch	PRESENT
M & E Engineer Mary Jo Miller	PRESENT
Secretary/Treasurer Cori Thomas	PRESENT
Billing Clerk Holly Stevens	PRESENT

Also present was one local resident.

II. Approval of Minutes

1. June 26, 2023 Meeting Minutes

MOTION:

Motion by Commissioner Guth

Second by Commissioner Kreutzberg

Motion to approve the June 26, 2023 Meeting Minutes as presented.

Motion carried by unanimous voice vote.

III. Business

1. Lemtech System

- Lemna Environmental Representative, Jim Martin
- ICS Group Representative, Paul

Jim Martin provided a brief summary of Lemna Environmental which was founded in 1982. They developed what was, at that time, a very innovative product for waste treatment lagoon systems. He said that technology was very successful and since its development and implementation, they have introduced dozens of different technologies for use with the lagoon systems. He explained their entire focus is serving small communities offering systems which are easy to operate, that keep up with the times, and most importantly are affordable. He said it is wholistic, small town, wastewater treatment.

Mr. Martin said he started in Lemna in 1999 in a technical role and in 2014 he purchased the company. He said he is still very involved in many areas including Wisconsin. He noted they currently have a plant under construction in Thorpe, Wisconsin. He noted they also just completed a sizable system in Koshkonong, Wisconsin last year. He said they are always working on new projects and the focus is to keep lagoon-based systems a current and viable technology. He said this is all they do—they are the experts in this area.

Chair Reif noted the DNR had indicated there was an issue with the Cascade plant, as well as Forest Junction which exceeded allowable phosphorous levels a couple times. He said the DNR had concerns based on those systems. He asked Mr. Martin to discuss those issues.

Jim Martin said the Cascade system was upgraded in 2007/2008. He said when the system was designed, the engineer requested two configurations and the community leaders chose to go with the less expensive option. He said that was the start of the challenge with that plant. He said the system they installed was not designed to take any type of industrial waste whatsoever, but they began taking the significant cheese plant waste load into the facility anyway. He noted they also incorporated an add-on phosphorous treatment system which was not part of the system design. He said, to give an idea of the significance of the industry and the amount of concentration of waste, the town has a municipal flow of about 120,000 gallons per day and the cheese plant added about 10,000,000 gallons per day. He said they spent many years with them trying to steer them in the right direction, but they were not receptive to it. He said he is still working with them to get things corrected including moving the phosphorous treatment to the correct location and to get them back in line. He said they were hoping, during the DNR meeting a few weeks ago, to share the actual data but they were not given that opportunity. He recommended the Board members call the operator of the Cascade system. He said he can provide you a lot of good insight. Mr. Martin also noted that the Cascade system had been offline for about 10 years but now have a pretreatment system in place for the cheese plant and Lemna has a proposal for a change to the system which will cost about \$27,000 to get it back where it needs to be.

Mr. Martin said he was not aware of any issues with the Forest Junction. He said the facility is run by contract operators who also engineered the system, so it is hard for him to get an understanding of, and it is hard to believe there are operational issues. He said every he has spoken with either of the operators, all he hears is that everything is great. He said the DNR has not given him any information regarding issues.

Chair Reif said it sounded like the phosphorous issues were with a springtime reading or something and may have been a seasonal exceedance.

Chair Reif said he would also like Mr. Martin to discuss the tertiary treatment system. He said the Board has discussed it many times and decided to possibly not do that because they have a five-year variance for phosphorous. Chair Reif said it just seems that there are many different tertiary systems all of which are relatively new. He said the Board does not want to make an \$1 million investment in new technology only to find out later that a different system would be better. He noted with the five-year variance, it makes sense to wait to see if the technology develops or changes before installing. He said for a small town, \$1 million is a big investment and to make a decision between the three or four options would just be a “roll of the dice.” They don’t know if they would be doing the right thing.

Jim Martin explained that the waste treatment industry is a very slow-moving market with incremental changes made over time. He said there is hard to develop new technology when there is no one around to buy it or install it. No one can make the continual investment simply because it is new. He said the technology begins to develop as the needs begin to come into play. He said what Chair Reif is saying is correct—the technology has begun to develop, but many changes will develop during the first five to ten years of use. He said when they first started doing cold-weather systems,

their first ammonia removal system went in Brownsville, Wisconsin in 1998. He went all over the country meeting with engineers about this new technology. He said they were not receptive and rejected the idea. He said now, 25 years later, there are several companies all over the country like Lemna and that system is a standard offering in the lagoon system designs. He said the tertiary removal systems will go through the same process over the next few years. He also noted that Wisconsin is also a bit of an island because there are very few places outside of Wisconsin that have the phosphorous limits that Wisconsin has. So, the systems have not been tested across the country like other systems have been. He said the lion's share of the technology that has been considered have been piloted here in Wisconsin. He said taking that pragmatic approach from the technology standpoint is realistic. He also noted that when the temporary conditions are put in place for a certain period of time, it often gets extended so five years often turns into another five years because the numbers haven't changed and then suddenly you are twenty-five years later with the same numbers. He said you don't want to pay for a system that is not needed now or in five years or even longer.

Mike Pfankuch noted the DNR has told the district they will not get another variance. Mary Jo Miller confirmed the DNR said it is highly unlikely they would get an extension on phosphorous variance. She said it depends on where the numbers come in will determine that—she said it is based on the median household income so it will depend on how the requirements affect the rates has a bearing on the variance. She said if those numbers are there, she does not know how they couldn't give them a variance.

Mr. Martin asked if the district had to reach a concentration and a load. Mary Jo Miller explained it is a TMDL in pounds per day which is another factor. She said the plan was to install the treatment plant first and then expand to some of the unsewered areas, specifically the commercial area at the bottom of the hill. She said the plant is being designed larger than it needs to be in anticipation of that expansion. She said because the flows will be lower until the expansion occurs, they may be able to meet their limits with a chemical treatment system. Mr. Martin said that is correct and it is a lot easier to meet the pounds per day limit than the concentration limit if the flows are lower. He said he was not sure if the DNR didn't understand that aspect or didn't hear it or didn't care, he was unsure.

Mary Jo Miller said the DNR had made the comment in the meeting that the district is going to have ultra-low phosphorous limits. She said when she calculated it using current and projected flows it ranged from 0.1 mpl to 0.9 mpl. She asked Mr. Martin how low he thinks they can get using a chemical treatment method. Mr. Martin said it would be about a 0.2 to 0.3 mpl. Mary Jo Miller said they are already planning on adding the chemical feed system as part of the treatment plant without the tertiary treatment to bring down the phosphorous levels. She said that will help the meet the limits that are set in their variance. She said the tertiary treatment would bring it down even further. Mr. Martin confirmed that. He said with the current systems which are up and running, it is all based on the amount of chemical feed being used. He said the amount used is based on the limit which is trying to be met. He said if you wanted the levels lower, you would simply use more chemical feed. He said the tertiary system is simply filtration which filters whatever does not settle out in the lagoon—it takes out that last bit of chemical that has the phosphorous attached to it.

Mary Jo Miller clarified that the filtration is some sort of disc filter with a fabric membrane. Mr. Martin said that is the most common process that has been used in Wisconsin.

Commissioner Guth asked how many tertiary systems they have installed. Mr. Martin explained they do not handle the tertiary systems because the market is so small—it's Wisconsin. He said there are many companies that make that technology that would go on the back end of the Lemtech System.

Paul from ICS explained there are different types of technology that can be used but for what the district is looking at the disc system is the most effective. He said, depending on the hydraulics, you can probably get it by gravity, so you won't have to pump it into the system. He said a disc filter would be a very small footprint and probably the most cost effective. He noted they also have an all-stainless-steel filter which does a really good job. He said he has always wondered why anyone would put fabric in the liquid, so the stainless-steel filter makes more sense to him. He said there are options for the district to look at but based on what he is hearing, chemical feed will probably get them to the 0.2 range. He said if you have to go further, that is when you would start looking at a tertiary system.

Mary Jo Miller asked Mr. Martin to discuss the operational requirements of the Lemtech System along as well as the Lemtech with the tertiary system.

Mr. Martin explained the operation of the Lemtech System, which is the lagoons with the chemical feed, etc. includes two pieces of mechanical equipment—one operating and the other on standby. He said it only requires changing the air filter and oil in those in scheduled intervals (every 2,000 hours). He said the issues relating to facilities not meeting their limits are caused by equal parts of lack of maintenance and lack of data collection. He said the DNR does not do themselves any favors by the way they write their permits—he said they do not require you to sample for very much. He said they do not require you to test the influent and the amount of ammonia coming in; you are not required to test for dissolved oxygen—he said there is a lot of missing data. He said plants can run for years and years with missing data. He said it results in trends in the system like solids in the lagoon which is the most common. He continued if the diffuser membrane is not changed (every seven years) can really affect how the facility is performing. He said the DNR is usually only looking at two or three variables and not the big picture. He said Lemna encourages their operators not only to diligently perform the maintenance which takes about two or three hours a week, but to also complete comprehensive data collection so you can make informed operational decisions before issues arise. He said the main cost to the systems is the electrical costs to run the blowers. He said many operators will lower the blowers until they are just meeting the limits. He said people start turning the energy down to save on the electricity used and then they stop meeting the limits. He said if you are collecting data along the way, those adjustments can be made affectively. He said the Lemna Systems are meant to be hands-off. They are not meant to be interacted with daily. They are designed so the operators do not have to make sophisticated wastewater treatment decisions. He said it is a mechanical process which produces the results needed. The data collection gives the information needed for the checks and balances of the system.

Mary Jo Miller asked what the tertiary system adds to the operations. The ICS rep explained it is the peristaltic pump and ferric in typically before the feed into the filter. He said there is a single drive with a bearing that will occasionally need attention. He added that depending on the filter used there will be a back wash system which uses a small pump which will need maintenance and a cartridge

filter which would need to be changed periodically. He said the stainless-steel disc is very forgiving and requires less maintenance. He said it is unattended operation for the most part.

Mike Pfankuch asked if there is a SCADA system with it. Mr. Martin said there normally is not. He said you can put in some sort of alert system which would alarm is something shutdowns. He said you can put in a SCADA system, but he doesn't think it is worth the money. He said there are not enough failure points to make that type of system necessary.

Mike Pfankuch asked Mr. Martin how he would respond to the DNRs statement that they want to get rid of all lagoon systems. He noted he was not in the meeting, but he was told that when the DNR was asked for an alternative, they had no response. He asked Mr. Martin if he has ever considered going to the DNR and proposing to be a pilot program to make these systems viable.

Mr. Pfankuch noted that the DNR is pushing for regionalization after they have already approved the Lemna Plan. He said regionalization would require five- or six-mile force main and then gravity feed after that. He said there are many places in Wisconsin where it would require all force main. He said he feels like the Lemna System is better.

Mr. Martin explained there are many places across the country which are just getting ammonia limits and they are just hearing about the advanced technologies. He said the state agencies' understanding of lagoon systems does not include the advanced systems. He said they often reject the idea based on the outdated understanding lagoons. He said they are in constant communication with the DNR. He said the gentleman that made the comments on the phone during the meeting with the district sat through his presentation during the last Wisconsin Rural Water show and came to him afterward and said it was a really good discussion and we have to be sure to keep these lagoons functioning. He said it surprised him to hear him speak against the system. He said you never really know who you are talking to—the DNR has an agenda which currently is to get rid of wastewater permits. He said if LWSD regionalizes, it would get rid of one permit.

Mr. Martin said there are lagoons being updated all over the place in Wisconsin. He said they have plants that are under construction right now that are identical to the Larsen-Winchester plant. He said they have finished construction within the last year for many. He said there are many plants that have been approved recently through the DNR that are identical to LWSD. He said they are reaching out to the DNR to have a sit-down meeting to try to find out exactly what is happening. He said most of the time, it is a regional person who is pushing for things. He said they are constantly trying to be in front of the DNR to keep them informed and educated. He said they understand the importance of keeping the technology current because if it fails, they are out of business.

Chair Reif clarified that the only two options he has ever heard about from the DNR are Lemna or regionalization and now they are pushing for regionalization.

Matt Olson, 8303 Sauby Road, asked Mr. Martin to provide insight into why the DNR would have approved the Lemna Plan but then come back and push for regionalization—is it because of logistics which make it viable; is it a personal agenda against the Lemna-type systems—why would they be doing this. He said he finds it useful to understand what they are thinking.

Mr. Martin said the regional administration is over the people who review the plans and issue the approvals—he said the reviewers may have gotten ahead of themselves—he does not know.

Secretary Stevens asked if Mr. Martin knew if she understands the systems or if she is purely administrative.

Mr. Martin said he does not think she understands or knows the systems—she doesn't care about the system. He said she has an agenda and does not want to see wastewater permits. He said if you look at the amount of money, they are willing to spend on principal forgiveness for regionalization, you have to also think about what that could be spent on—there is clearly an agenda. He noted that the district will also have to write a check every month for conveyance fees, and you lose control over rates and operating costs.

Mike Pfankuch noted that the Village of Fox Crossing may or may not have the capacity in their pipes to take our waste. They may have to construct another line—that is additional cost. He also noted that if they run the line, there is the option to pick up a lot of Clayton customers and to expand the district that way. Mary Jo Miller added that it is an entirely different study which would have to consider various flows and pipe sizes and collections, etc. which could take years to figure out. She said there are many variables that have not been thought out.

Commissioner Kreutzberg asked if the other facilities in the state which are going to the Lemna systems are getting push back from the DNR. Mr. Martin said he has never seen a situation where they have an approved plan which is going into the design where the DNR has come back and pushing for another option. He said that he felt like they backpaddled a little at the end of the meeting when they said if the district is going to go with the system, they want to talk about the maintenance and operations. He said he felt like they want to put caveats on the system, but they are not sure what those caveats are.

Secretary Stevens asked what those caveats could be other than expanded testing and operational procedures. Mr. Martin explained that in reality, the testing is not more, it is what you should do to maximize operations to its highest potential.

Mike Pfankuch said that is how he maintains the other plant that he manages. He said diligent maintenance minimizes potential problems.

Mary Jo Miller asked how the differences between the LWSD design, and the Forest Junction design will affect the operations.

Mr. Martin explained it will depend on how it is designed—there are choices which have to be made based on what you are trying to accomplish which will could impact operational procedures. He said the nice thing is that lagoon systems provide a lot of capacity to store your mistakes while you are correcting them. He said a lot of the choices are personal preference.

Mr. Martin discussed the system installed in Wittenberg, Wisconsin noting that it is different than the local system because they have the influent from the casino. He noted their retention time is very short and their system is more advanced than the one proposed for LWSD. He said they have been very happy with the system components installed to deal with their wastewater.

Secretary Stevens asked how many systems Lemna has installed in Wisconsin. Mr. Martin said there are probably about twenty-four various facilities. He noted that they all are a little different than the others because each has unique circumstances such as treatment requirements, etc.

Jim Martin discussed the covered systems and how it helps to keep the temperature up allowing the bugs to stay alive and do their work. Mike Pfankuch asked about the Forest Junction plant and the weeds growing on the covers—is that a problem. Mr. Martin said it is just a lack of maintenance. It is not an issue; the weeds should just be removed a couple times a year to prevent that.

Chair Reif said that was a question he had after their most recent visit to Forest Junction. He also asked about adding additional doors to the covers for sludge judging, etc. Mr. Martin said that is certainly possible. Chair Reif also confirmed that it is relatively simple to roll back the covers for sludge removal when needed. Mr. Martin confirmed that.

Chair Reif asked if they should visit additional facilities. Mr. Martin said that is certainly an option. He said what would be more important is simply calling the operators to get their insight into their systems. He said he would provide names and phone numbers for several.

Chair Reif said the current situation has slowed their progress and they are likely to miss some deadlines. He noted the DNR said they are willing to work with them on that, but he was hoping to start construction next year, but that is now unlikely. He said he would keep Mr. Martin updated. Chair Reif said they are trying to schedule another meeting with the DNR.

Mr. Martin said they are also trying to meet with the DNR as well. They were also going to request that they meet them at the Cascade plant, but he is not sure if they will be willing to do that.

Commissioner Guth said while it is important for the Board to get accurate and up-to-date numbers together, it is just as important to deal with this DNR issue. He said we could have the best system that works great, but if the DNR is on us every month would not be good. He said he knows he would like to go with the Lemtech System, but they have to get the DNR issues out of the way first before they can make those decisions.

Chair Reif noted they only have one chance to do this, and they do not want to get it wrong.

Mary Jo Miller noted the design of this system is for a higher flow rate and capacity which would eventually include the Angoli lift station flows. She asked if Mr. Martin had any concerns about building a plant for the larger capacities and then operating it on lower flows until the development actually occurs.

Mr. Martin said he had no concerns about that. He said the only time you would have an issue is if there was no flow at all—that would be a problem, but the lower flows are not an issue. He explained that their design process looks at conditions with five times the average flow and a fifth of the average flow. He said he designs these systems for the worst day of the year. He said you have to plan for the maximum amount of wastewater coming in at the coldest temperature it is going to be in the third week of January. He said that is what it is designed for, but those circumstances rarely if ever align. He said the DNR does not understand the levels of over-design that these systems have incorporated into the process before determining the final result. He said they also provide continued operational support after the systems are constructed.

Chair Reif confirmed the system is easily expanded for larger capacity. Mr. Martin confirmed it is possible to expand.

2. Facility Plan – System Options

3.

Mary Jo Miller explained she has not been able to get the information needed to update costs. She said she wasn't able to get specific numbers for the development of the facility plan and she is facing the same struggles to get numbers again. She suggested to wait until after the Board meets with the DNR. She said there are a lot of decisions which need to be made before solid numbers could be determined.

She said she also looked at the forgiveness funding which is available from the DNR for both the options the district is looking at. She said with the forgiveness available, the cost of the two options ends up being relatively close.

Secretary Stevens noted that the initial cost is not the only factor. She noted that regionalization results in loss of control over rates, conveyance fees, and proportional share of operational costs such as plant upgrades. She said the backend costs for regionalization are very significant.

Chair Reif noted that the district gets permitted every five years, so we could get this permit but in five years, they could then require regionalization. He said there is no guarantee either way.

Matt Olson said he cannot believe the DNR can force all the lagoon systems out there to discontinue—it is not possible. He said it seems that it would be beneficial to get this plant up and running as soon as possible because then you have a working system.

Chair Reif said that was the plan and they were headed that way when the DNR threw a wrench in the works. He said the DNR has asked them to take another look at regionalization and so that is what they are doing. He noted they only have one chance to get this right and they have to do the homework.

The Board discussed the three-phase power and the cost to get it down to the ponds. Mary Jo Miller said it was estimated at about \$225,000. Mike Pfankuch said he and Jim Emmons had gotten a price a while back and it was only \$125,000. He said \$225,000 seems like a lot.

4. Engineering Report

Mary Jo Miller said she did receive proposed effluent limits from Mark Stanek so they must be continuing the permit renewal process. She said the limits are all based on the controlled release system. She said the limits seem to be based on the current system without any plant upgrades.

Mary Jo Miller said she is also trying to schedule another meeting with the DNR and the Board. The Board requested she try to work with Mark Stanek's schedule, so it isn't delayed. They also determined it would be beneficial for the meeting to be in person at the town. Mary Jo Miller said she would reach out and see what she can arrange.

They also discussed the fact that during the first zoom meeting with the DNR, their staff seemed very uninformed—like they hadn't even read the facility plan.

Secretary Stevens suggested the Board meet with the DNR and then take the time to develop a written document which specifies the details about each option and why the Board is making whatever decision they make. She said if the pros and cons are presented in writing, it will have a

stronger impact. Everyone agreed it would be a good idea to hear them out and then give them a written explanation for the reasons behind whatever decision is made.

5. Chairman's Report

Chair Reif said he didn't have anything to report but he had a concern about the lateral issues and the status of those. Mike Pfankuch reported that all but two have been or are in process of being repaired. He said he would provide a report at the next meeting.

6. 2023 Q2 Billing Report

Holly Stevens provided the billing report as follows:

Meter Issues

7 No Reads—1 Repeats/6 new (Report attached)

1 Zero Consumption Accounts (35+ days) without explanation (i.e. snowbirds, etc.)

4 Meter Accounts with 35+ days Continuous Leak Reporting (Report Attached):

Meter Replacements Status Report

2007 Installation – 18

2008 Installation – 11

2013 Installation – 2

All others have been installed from 2017 to 2023.

Revenue Report

2023 Q2 Usage and Fees total of \$38,946.92

Past Due: \$10,733.21

Usage Report

2023 Q2 Usage: 2,794,977

2023 Q1 Usage: 2,602,812

2022 Q4 Usage: 2,618,588

2022 Q3 Usage: 2,716,053

2022 Q2 Usage: 3,696,007

7. Financial Report / Bills

Treasurer Cori Thomas provided the accounts payable to the Board. The Board members questioned the charges submitted by TreeOs for mowing—it doesn't make sense that they mowed so often with the drought conditions we have. They asked Ms. Thomas to hold that payment until a discussion with them is held. Mike Pfankuch said he would call them.

MOTION:

Motion by Commissioner Guth

Second by Vice Chair Nelson

Motion to approve and pay the bills as presented with the exception of the TreeOs mowing charges.

Motion carried by unanimous voice vote.

Treasurer Thomas also provided a year-to-date budget summary for operations. She said it is informational only because she felt it made sense to review the numbers since the year is half over.

IV. Public Comment and Requests for Future Agenda Items—NONE.

V. Next Meeting

The Board determined to plan the next meeting for August 1, 2023 and also plan to meet with the DNR if and when they are available to do so.

VI. Adjournment

MOTION:

Motion by Vice Chair Nelson

Second by Commissioner Guth

Motion to adjourn at 5:49 p.m.

Motion carried unanimously.