

Middle Fork Crow River Watershed District Meeting Minutes
November 12th, 2024 at 6:30 pm at the Spicer Dethlefs Community Center,
217 Hillcrest Avenue, Spicer MN

Board of Managers Present: Ruth Schaefer, Jay Hedtke, Jeff Gertgen, Shane Braegelman, Amanda Toutges.

Staff & Guests Present: Dan Coughlin – District Administrator; Andy Johnson – Project Manager; Jon Morales – Program Manager; Leah Melges – Office & Finance Manager; Chris Meehan – District Engineer; and John Kolb – District Attorney; Chris Stephan – Moleaer Inc; Denise Devotta – Moleaer Inc.

1. President Schaefer called the meeting to order at 6:30 p.m.
2. President Schaefer recited the District’s mission statement: “We exist for the protection and preservation of water quality in the Middle Fork Crow River Watershed District.”
3. Additions / Corrections to the Agenda: **Unanimous consent to proceed unobjected.**
4. Public Hearing: Diamond Lake, In-Lake Water Quality Project
 - a. The regular Board of Managers meeting was recessed, and a public hearing regarding the Diamond Lake, In-Lake Water Quality Project to establish a basic water management project was opened at 6:31 p.m.
 - b. Presentation on Proposed Resolution and Related Project Elements
 - i. Introductions
District Administrator Dan Coughlin welcomed the public and introduced presenters: Jon Morales, MFCRWD; Chris Stephan, Moleaer, Inc; Dr. Denise Devotta, Moleaer, Inc.
 - ii. History and Data Regarding Diamond Lake – Jon Morales, MFCRWD Program Director
Program Director Jon Morales began with a broad overview of what a watershed is and the history of how our watershed district was formed back in 2005. The Middle Fork Crow River Watershed District extends from Belgrade, MN to Manannah, MN and we do monthly sampling from various locations throughout the District from May – September of each year. One monitoring location has focused on Diamond Lake, which is the most impaired body of water in our watershed and is currently on the impaired waters list for phosphorus and higher than average levels of chlorophyll-A. In 2010, a TMDL (Total Maximum Daily Load) study was conducted to determine how many nutrients the lake can naturally take care of on its own without external help. The TMDL study found that the largest contributor of the phosphorus entering Diamond Lake came from the Hubbard, Schultz, Wheeler (HSW) chain of lakes. As a result, the HSW Project was developed to artificially draw down and drain these lakes out towards CD-28. Best Management Practices (BMP’s) were

also implemented such as cattle exclusion, tile intakes, wetland restorations, stormwater practices and various other BMP's through willing landowner partnerships. To address the vegetation management of Diamond Lake for Curly Leaf Pondweed, DLARA established their Aquatic Plant Management Workplan, which assesses their own lakeshore owners based on tiers to fund chemical lake treatments. Due to internal loading, alum treatments were not feasible and were cost prohibitive.

- iii. Overview of Nanobubble Technology – Chris Stephan, Moleaer Inc.
Moleaer's global director, Chris Stephan, introduced the topic of nanobubble technology and stated that effectiveness of the technology is in correlation to scientifically prescribing an appropriate solution for each individual body of water. Nanobubble technology is Moleaer's patented technology, which works in conjunction with a water pump and air compressor to pull water out of the lake, infuse it with nanobubbles and then return it back into the lake. The nanobubbles are neutrally buoyant and can remain within the water column rather than rise to the surface. This is how it infuses the body of water with oxygen to improve it.
- iv. Tadd Lake (Atwater) Nanobubble Demonstration Project Report – Dr. Denise Devotta, Limnologist, Moleaer, Inc.
Dr. Denise Devotta is a limnologist from Moleaer Inc. who worked with the MFCRWD on the Tadd Lake Pilot Project. She began by explaining that a body of water becomes impaired when excess nutrients enter the lake which feeds algae growth. When temperatures increase in the summer it exacerbates the algae growth, and when the algae die it consumes oxygen which results in phosphorus being released from the sediments. Undecomposed algae create a muck layer at the bottom of the lake potentially resulting in muck accumulations and possibly even fish kills. Nanobubbles help stop the release of phosphorus when it infuses the water with oxygen. When less nutrients are in the water, it starves the algae and results in increased water clarity. Nanobubbles help improve the lake in two main ways: increasing both dissolved oxygen and oxidation reduction potential. Dr. Devotta explained the Tadd Lake Pilot Project, which is simply a trailer system with intake and discharge hoses. The goal in Tadd Lake was to improve water clarity while decreasing nutrients in the water column and decreasing blue-green algae, as well as muck. The nanobubble system ran from July 3rd – October 24th, 2024. The four-month treatment period resulted in: increased water clarity, increased oxygen throughout the water column and reduction in phosphorus and blue-green algae. Sediment hardness mapping also showed that there was hardening of the sediment at the bottom of the lake. Global Director, Chris Stephan compared the Tadd Lake Project to a similar nanobubble installment in Lake Elsinore, California, that is currently using the

technology. He also explained that the potential nanobubble unit on Diamond Lake would be placed at the county park, due to accessibility of 3-phase power and physical space for the unit. This potential plan has been approved by the DLARA Board. Buoys would be deployed to monitor alternate locations on the lake, similar to Tadd Lake, and sediment hardness mapping would be completed to obtain a baseline, and again a year later to highlight where improvements are made.

v. Project Cost Estimates, Financing, Levy Impacts – Dan Coughlin, MFCRWD Administrator

District Administrator Dan Coughlin clarified that the draft project order being presented tonight simply creates the formal framework for an activity or plan to potentially be created and funded. It is not the consideration of approving any plan, purchase or agreement; and that any financial information shared is only good faith estimates available at present. The purpose of this public hearing is to share information with the public about what is being considered to address ongoing Diamond Lake impairments. DLARA approached MFCRWD to potentially partner on funding a nanobubble unit for Diamond Lake. The cost estimate is approximately \$1,000,000. DLARA proposed that if MFCRWD purchased the equipment, then DLARA would finance operational costs of running the unit. If MFCRWD takes on debt service to fund the purchase of the nanobubble unit, the impacts would depend on the amount of financing, terms, structure of the repayment schedule and interest rate.

MPCA Clean Water Fund: 7 year term, 1.5%, \$150,000/yearly.
Tax Exempt Bonds: 15 year term, 3.98%, \$92,000/yearly.
Tax Exempt Bond / Modified Schedule: 15 year term,
4-4.75%, flexibility in setting repayment schedule.

The MPCA Clean Water Fund option would result in a 19.7% increase on the watershed special taxing district amount, not an overall property tax increase. Temporarily suspending the levy amount for HSW would also decrease the overall levy impact. Administrator Coughlin shared comparisons on various property values within the district to demonstrate the potential tax impact on those properties to give perspective of what the dollar amount per year may look like.

c. Public Comments (*Public comments with no name did not state their name before speaking.*)

- i. Public comment: Will the cost of equipment change with the tariffs beginning on the first of the year? No. Any adjustment to overseas tariffs would not impact the equipment costs because the systems are manufactured in the United States.

- ii. Public comment: Why should someone on Green Lake pay for something on Diamond Lake? Another guest responded that those on Diamond Lake also help those on Green Lake and the goal is to help improve water quality on all lakes, as is our mission statement.
- iii. Ann Latham: This sets a precedent and opens the District to funding a single lake. Administrator Coughlin responded that the HSW project and other such projects previously reviewed by the attorney and approved by the Board of Managers in years past already established the precedent for district-wide project levies.
- iv. Public comment: Other people will also benefit from improving Diamond Lake, not just lake homeowners. Many people come from outside of the county and state to stay at locations around the lake.
- v. Public comment: There's no one project that will help the 4 county area, individual projects will help areas within the district.
- vi. Public comment: Nest Lake was green over the summer as well, and some lakes on the graph presented appeared worse off than Diamond in a couple categories, we should just start in one direction and move across the district.
- vii. Ann Latham: There are 10 lakes recorded in the District and 5 could use remediation. Can the District absorb more single-lake projects? If you do that for one, you're setting a precedent for other lakes to come in and ask for the same treatment. The TMDL on Diamond is unlike any other lake and DLARA approached the District to partner on the project. If you are going to focus on one, are you going to let the others go bad so they can get a TMDL and be treated as well? Have you applied for the MPCA loan? District Administrator Coughlin responded that we have completed the application process but we are not obligated to accept it even if approval is received; he also explained that part of the due diligence is to get all pertinent information out to the public regarding this proposed project. Ann then commented that since you have already applied for the loan, when do you expect to have all this due diligence take place? Administrator Coughlin said that the Board directed staff to begin the application process at the beginning of their discussions because they understood that applications to state programs typically take considerable time to review and process.
- viii. Public comment: Are we currently in the public hearing portion of the meeting? Board President Ruth Schaefer confirmed that this is the public hearing. The commenter asked for clarification on what the question that is before the board: is it how the dollars are going to be assessed or is it just to have a good feeling about what you all are doing? District Administrator clarified that this allows for the potential of a district-wide levy if the Board deems it appropriate, but does not authorize any particular project. That would be a process that would take place in the future
- ix. Public comment: You guys did a hell of a job, and I appreciate you for doing this for us.
- x. Bob Hodapp: What else are you doing to reduce external loading in the lake? This is treating internal loading, but also you have a problem because a large amount of nutrients is running into the lake. Administrator Coughlin noted that the Board had also created another project focused on the entire

subwatershed area that drains into Diamond Lake directly or indirectly and that undertaking mitigation of nutrient loads from external sources is still a vital part of addressing lake health. He noted that virtually all of the district's programs and projects focus on slowing down external loading into water bodies where the nanobubble aeration deals more with internal legacy nutrients that already made their way into lakes like Diamond.

- xii. Public comment: How much of the problem is internal loading? Program Manager Morales reviewed that alum is a treatment for that based on the Wenck study, which would only address a small percentage of the legacy nutrient loading in the lake and was deemed cost prohibitive at the time of the study.
- xiii. Public comment: The money you are spending on Diamond Lake already, you could just stop HSW and put that money towards the nanobubble project. Administrator Coughlin mentioned that he had made that recommendation to the Board for their consideration.
- xiv. Public comment: What procedures do you have to do to incur debt or bond, and what kind of approval process do you have to go through? District Administrator replied the approval process is through the Board of Managers and the issuance of debt would require another public hearing.
- xv. Brian Weist: We will support other lakes with their projects, we believe in a cooperative effort, have spent half a million dollars over past 7 years on weed treatment and the lake conditions are still declining. He said he wanted to clarify that DLARA had approached the MFCRWD board to partner with them on this project so this was not a project proposed by the district or its staff.
- xvi. Jeff Johnson from New London: I am not opposed to the project but I agree with Ann, if this becomes precedent today, then tomorrow there's another one, it seems like the watershed district may have the opportunity to assess the entire watershed. The value of my home in New London will not go up and Diamond Lake homeowners will directly benefit from increased property values.
- xvii. Public comment: If you let one lake fail, then you might as well let all the lakes fail and set a precedent for the whole county.
- xviii. Brian Weist: The projects the district is paying in New London don't increase the value of my home on Diamond. I am ok with helping with other projects because it helps water quality in the area.
- xix. Public comment: This must be a community helping each other, because if we're fighting each other, no one will win.
- xx. Dan Tate: I am very concerned about the quality of Diamond Lake and I am not on the lakeshore. Something needs to be done.
- xxi. Public comment: What happens if it doesn't help Diamond Lake? What if it doesn't work? For a period, in Tadd Lake the blue-green algae substantially increased during the treatment time. It was noted that algae proliferation
- xxii. Lee Thompson: I heard we may be paying up to 25 years, does that mean that Diamond Lake will own the unit? Others mention what a value the unit is to the county, it's also a value to the DNR as well, have we explored other funding issues including those other organizations? Administrator Coughlin responded that the proposal suggested by DLARA was for MFCRWD will own

the asset itself and they would cover ongoing operational and maintenance costs. He said that he probably spends 20% of his time writing grants but seeking after grants to deal with a lake with blue green algae blooms is a challenge given the number of impaired lakes there are in the state and country.

- xxii. Public comment: For those who don't live on the lake, when Green Lake put in the sewer system, I had to put a grinder in and it cost me \$18,000 personally.
- xxiii. Public comment: I want to highlight the difference in interest payments between the 3 different funding options, one being significantly higher.
- xxiv. Public comment: Is this about taking weed money and putting it toward the nanobubbler? Administrator Coughlin responded saying that the aquatic plant management project levy is set by DLARA to address aquatic plant issues in the lake including algae. DLARA has proposed that some of their levy be dedicated to ongoing maintenance and operations of a treatment system if the district would be agreeable to assisting with the equipment purchase. He said the draft resolution that the Board will potentially consider tonight opens the door to borrowing the money to purchase the asset and begins the process to draft an agreement with DLARA to spell out their responsibilities and commitment to the operation and maintenance costs. Only once all those things have been done then a formal project.
- xxv. Public comment: You established that the benefit-cost ratio of alum was bad, do you know what the benefit cost ratio is for the nanobubble? Administrator Coughlin responded that a past study determined it would have limited impact and would be cost prohibitive, but a direct cost comparison between those findings and the nanobubble system costs have not been done at present. It would be done as part of the analysis phase of the project development if the board gives such direction.
- xxvi. Jon Kolb: Prior to final establishment of this project, we will have to hold another public hearing. We will also prepare a technical analysis for the DNR and BWSR.
- xxvii. Public comment: I see the word potential in the project order a lot. I certainly hope you're not going to spend money on "potential". Nothing in nature can be guaranteed. District Attorney John Kolb responded that he used the word potential because at the time the order was written we did not have the Tadd Lake project report.
- xxviii. Public comment: What is MN DNR's opinion on the technology? Moleaer's Chris Stephan replied that they are working on their own project with the DNR and were given permits for both New London Mill Pond and Tadd Lake.
- xxix. DLARA Board Member Tom Hayden: We have been paying taxes into the District for 14 years before we've ever requested financial help from them.
- xxx. Public comment: If we improve Diamond Lake, everyone below it benefits as well.
- xxxi. Ann Latham: DLARA and MFCRWD both deserve a lot of credit for the work they have done and their interest in wanting to make improvements to water quality.

- xxxii. Public comment: In last 6 years the water quality on Diamond Lake decreases as summer goes on, but by June 1 it was bad this last summer. It's time we must do something, we can't let it keep deteriorating.
- xxxiii. Public comment: Did you have issues with the Tadd Lake trailer? Program Manager Jon Morales replied: Yes, the intake screen had issues at one point when floating weeds blocked the intake but that was quickly remedied with a secondary screen fence. This screen was temporary, but the system being contemplated for Diamond Lake has a self-cleaning mechanism. MFCRWD Board President Ruth Schaefer asked: how will the intake handle zebra mussels? Moleaer's Chris Stephan answered: The copper components of the intake screen will keep the zebra mussels from attaching and the self cleaning design uses water jets to clear the screens. Because the intake screen would be pulled in the wintertime, any unlikely accumulations of buildup such as zebra mussels would be cleaned seasonally so it would not become a cumulative issue one way or the other.
- xxxiv. Project Manager Andy Johnson: The nanobubbler is just one tool in the tool box, part of what we do as a watershed district is look for areas we can improve all over the district. This tool gives us the control to literally flip a switch to turn it on rather than waiting for nature to take its course.
- xxxv. Public comment: What happens when we are a few years into this project and Diamond Lake isn't reaching their benchmarks. Is there a point where DLARA could decide to discontinue the project and save their money? District Administrator Dan Coughlin replied that there would need to be an agreement as well as ongoing conversations regarding the project. District Attorney John Kolb responded: If DLARA decided that they didn't want to continue to fund the project, the District could move the unit to another body of water.
- xxxvi. Public comment: If this project moves forward, how far down the road before the unit would be installed? Could it happen in 2025? Administrator Coughlin replied that it will take as long as it needs to take. Coughlin thinks that in the absolute best case scenario where all the stars align it could be installed summer of 2025. That said, the process involves working with state and regional entities and timelines would largely be tied to the processes of those groups and individuals so odds of deployment in 2025 would not be particularly good.
- xxxvii. Public comment: Is there anyone else who makes these nanobubblers? Moleaer's Chris Stephan replied that there are 50 companies in the world, however Moleaer is the only one in the United States and the only one that makes systems that are scalable for whole-lake applications like the one being proposed.
- xxxviii. Ann Latham: Can you winterize it and are there any statistics on a unit similar to the potential Diamond Lake unit in a freezing climate? Chris Stephan replied: Yes, the hoses come out of the water and you can winterize the container. A Michigan lake has one that has been running for 3 years. Ann asked: How many yards out will this unit go out into the lake? Chris Stephan responded that the impact will be on the whole lake. Ann recommend to the Board to not approve project.

- d. Submitted Written Comments
 - i. Written comments attached as an appendix to these minutes.
- e. President Schaefer asked if there were any other public comments related to the proposed project. No additional commentary was offered. President Schaefer declared the public hearing closed at 9:16 p.m. and reopened the regular meeting. Close Public Hearing / Reopen Regular Meeting at 9:16 p.m.

5. Consent Agenda

- a. Financial Report
 - i. Finance Report
 - ii. Approval of Payables / Expenditures

Motion by Manager Toutges, seconded by Manager Hedtke to approve the Consent Agenda. The motion passed unanimously.

6. Discussion / Business Items

- a. Consideration of Resolution 2024-22, Order Initiating Diamond Lake In-Lake Water Quality Project

Prior to the start of discussions, Board Manager Jeff Gertgen presented a disclaimer disclosing that he owns property and a recreational resort on Diamond Lake and that he will act objectively and impartially on this matter.

Board President Ruth Schaefer sought clarification on a few of the findings in the proposed project order: this is not an obligation to purchase, the term of useful life, the ability to allow us to validate the viability and effectiveness of the technology, as well as development of the agreement between the APM and this project which will detail out obligations for funding with DLARA and allows us to detail out what the funding source will be. Agency reviews will also need to be completed. President Schaefer reiterated: if we suspend the 7 years of ad valorem HSW levy, it reduces overall levy tax burden, and this needs to be determined yet. We also need to identify the benchmarks we will be looking for, based on Program Manager Morales's data, to determine how we will measure success.

Board Manager Shane Braegelman stated, as the Stearns County representative, based on the comments he heard tonight he leaned towards not favoring moving forward with the project. President Schaefer clarified that this isn't voting on the funding of the project but rather to establish the framework. District Attorney John Kolb outlined that if this proposed project order doesn't pass, the placeholder in the 2025 budget either gets cancelled or is allocated into general fund somewhere, and next step would be to notify DLARA that their request was denied by the board at this time.

Manager Gertgen expressed concern that the validity of the technology was being questioned, but District Attorney Kolb clarified that this is not a debate about the technology. Board President Schaefer concurred and reiterated

that this is to determine if the Board wants to pass this proposed project order to do further studies without committing the District to the project. Manager Braegelman expressed that a levy increase to fund this project is not supported by the constituents of Belgrade. Braegelman stated that he is not disputing continued research of this project implementation, however his vote will be in opposition to funding this project. Manager Amanda Toutges questioned what the environmental impact is to having electricity run the nanobubble unit. Chris Stephan stated that the unit uses approximately 65-75 kilowatts, but he would need to more research on what the impact would be. Most clients receive carbon credits for methane reduction. County Commissioner Dale Anderson reported that Kandiyohi Power Cooperative purchases considerable wholesale power from renewable sources so a fair amount of any electricity utilized with the system would already have carbon offsets factored into the mix. He did say that one factor that should be considered is that electric rates are predicted to rise approximately 5% increase per year.

Motion by Manager Gertgen, seconded by Manager Hedtke to approve Resolution 2024-22, Order Initiating Diamond Lake In-Lake Water Quality Project. Motion passed unanimously 5-0.

- b. Further Review & Discussion of Tadd Lake Nanobubble Project – Denise Devotta
No further report.
- c. Consideration of Resolution 2024-23, Extension of District Engineer Contract with Stantec, Inc.
MFCRWD staff presented a 1-year contract extension to the personnel committee. The contract would keep the same language and simply extend the terms of the contract.

Motion by Manager Toutges, seconded by Manager Braegelman to approve Resolution 2024-23, Extension of District Engineer Contract with Stantec Inc. Motion passed unanimously.

- d. Agenda Additions / Other Matters
2024 MN Watersheds Annual Conference and Resolution Delegates:
Motion for Manager Gertgen and President Schaefer to vote at the MN Watersheds Annual Conference.

Motion by Manager Toutges, seconded by Manager Hedtke that J. Gertgen and R. Schaefer will be the delegates representing the District at the 2024 MN Watersheds Annual Conference.

7. Reports & Updates

- a. Administrator – Dan Coughlin:
Defers to written reports and updates.

- b. Program Manager – Jon Morales:
No further report.
 - c. Project Manager – Andy Johnson:
No further report.
 - d. Finance Manager – Leah Melges:
No report.
 - e. District Engineer – Chris Meehan:
No report.
 - f. District Attorney – John Kolb: No report.
No report.
 - g. Other Reports from Managers / Staff: Board President Schaefer stated that she has received reports that the county board was feeling left out and did not get much information on tonight’s public hearing. Schaefer encouraged Coughlin to share more information with the County Board.
8. Public Access Forum: DLARA President Brian Weist congratulated the District on their 20 year anniversary. He also asked if DLARA could receive information on what the objections to the nanobubble unit are to see if they can find some creative solutions to allow the partnership to occur.
9. Adjournment: Motion made by Manager Braegelman, seconded by Manager Toutges to adjourn the meeting was made. Motion passed unanimously.

The meeting declared adjourned by President Schaefer at 9:46 pm.

Submitted by,

Leah Melges
Recording Secretary
Office & Finance Manager