



Legislative Water Commission

Barb Huberty, Director

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October 17, 2017

Meeting Minutes

Members Present:

House

Representative David Bly
Representative Peter Fischer
Representative Clark Johnson
Representative Paul Torkelson
Representative Glenn Gruenhagen

Senate

Senator Charles Wiger
Senator Rich Draheim
Senator Jason Isaacson
Senator Bill Weber

Members Excused:

Representative John Poston

Senator Paul Anderson
Senator Kent Eken

Stakeholders Present:

Organization

Barr Engineering
Chamber of Commerce
Coalition of Greater MN Cities
League of MN Cities
Metropolitan Council
MN Center for Environmental Advocacy
MN Environmental Partnership
MN Environmental Science and Economic Review Board
MN Pollution Control Agency
MN Public Facilities Authority
MN Rural Water Association
University of MN
Tonka Water

Representative

Nick Nelson
Tony Kwilas
Marty Seifert
Craig Johnson
Sam Paske
Mark TenEyck
Sara Wolff
Elizabeth Wefel
Rebecca Flood
Jeff Freeman
Tim Hagemeyer
Laura Babcock
Ryan Godfrey

Stakeholders Absent: Freshwater Society, Carrie Jennings

A quorum being present, Chair Torkelson called the meeting to order at 9:35 a.m. on October 17, 2017. Sen Weber moved approval of the 8/15/17 and 9/20/17 meeting minutes. THE MOTION PREVAILED.

Rep Torkelson welcomed everyone to the meeting and asked the stakeholders to introduce themselves, sharing their name and the organization they represent.

Kris Van Amber (Sr. Management Consultant with the MN Management and Budget Office, Management, Analysis and Development Department) explained the meeting's format, purpose and expected outcomes, and the ground rules. Director Huberty explained that the provided matrix of wastewater issues was compiled from reports and input received earlier and was not an inclusive list or intended to preempt stakeholder input received today. It was created to facilitate tracking stakeholder input as it was presented so that a concise summary of wastewater issues and their priorities can be recorded.

Each stakeholder was then asked to provide testimony about what they viewed as the most pressing wastewater issues with potential legislative remedies.

- Tony Kwilas, Chamber of Commerce. The catch phrases shown on the table that are important to the business community are: economic development, permit processing, regulatory certainty, peer review, cost vs environmental benefit, and effluent reuse.

Looking at the recommendations of the water reuse workgroup's recent draft report and working through the regulatory barriers to see if graywater can be used for agricultural irrigation or other uses is a need.

Consistency is also an issue. For example, if municipalities are granted a variance fee waiver of \$10,800, then industries should receive that same benefit (e.g., as it applies to MPCA's forthcoming wild rice and sulfate standard). In 2017, the legislature gave cities 16 years of regulatory certainty once they made significant wastewater capital investments; the same principle should be applied to industrial wastewater treatment plants.

- Sarah Wolff, MN Environmental Partnership. As shown in MPCA's 2016 Future Wastewater Infrastructure Needs and Capital Costs Report, aging infrastructure is a problem. Over 40% of the wastewater need is for sanitary sewers (\$1.7B) and 30% of the need is for secondary treatment. The metro area has a planned replacement program, but it is more difficult for smaller communities. They support using bonding as the traditional funding mechanism for wastewater infrastructure. They also support grants over loans for communities that lack capital or enough population to make the cost affordable.

Would also like to address contaminants of emerging concern, like pharmaceuticals, that have unknown effects and are accumulating in species. Would like to see a statewide prescription takeback program (that would also address opioid abuse and public safety).

- Marty Seifert, Coalition of Greater Minnesota Cities. Compliance is extremely expensive and external and independent peer review of MPCA rules and permits would help identify what's necessary and not necessary. They appreciate MPCA's new peer review directive prepared after session. Three handouts were given in support of this issue:
 - The Mankato letter regarding the River Eutrophication Standard and phosphorus limits; they feel that using the long term average would have been more appropriate than the one time/15 years worst case situation and a peer review would have identified this
 - The Rochester letter estimates that their cost of compliance to meet water quality standards will be over \$200M in capital costs and \$23M in annual operations and maintenance

- The Osakis synopsis shows that small communities will incur a large expense to meet more stringent rules with a minimal environmental improvement; their reduction in phosphorus will only be <0.001%

They are also concerned about agency use of unadopted rules and introduced legislation last year to address that. They shared a handout with 2 examples of unadopted rules being put into guidance.

They agree with the use of bonding and general fund and any other type of funding being used for wastewater infrastructure, but also want to examine a pilot trading program to address nonpoint source pollution. They supplied a handout describing the Oregon Freshwater Trust trading program that is run by a not for profit organization.

- Jeff Freeman, Public Facilities Authority (PFA). There are huge wastewater needs: the 5-year Project Priority List shows \$1.5B in need, while the 20-year need is estimated to be \$4.5B. The largest share of this need is for aging infrastructure (both pipes and plants are major shares). The upgrades needed to meet more stringent limits is a smaller share, but still significant. Wastewater systems are capital intensive and require significant investment for both small and large cities. The financial challenges are especially difficult for small cities with smaller user base to spread the cost. Last session, bills were passed that increased water infrastructure funding and changed PFA programs. Those changes have established a solid framework, using broadly available low interest loans, targeted WIF grants based on affordability criteria, and Point Source Implementation Grants targeted to meet water quality goals. All programs follow a project priority list that objectively rank projects based on infrastructure age and condition and environmental and public health factors. Some cities are only eligible for loans. Those cities that receive grants are also given loans. Funding for all three programs need to be balanced. Grant funding helps move loans forward. Total appropriations last session (primarily through bonding, but also some clean water legacy funding) was about \$121M, the most PFA has ever received in one year. A lot of this funding has already been awarded and construction is underway. Some is in the pipeline with construction slated to start this fall or next spring; projects are able to use the money quickly. Even with the large appropriation, all programs have more demand than money. These are complicated projects that take 2-3 years to go through the planning and engineering process. The legislature can provide consistent long term funding, so cities can plan and invest the money in design engineering to move their projects ahead. Without predictability, it is hard for cities to have projects ready to go.
- Ryan Godfrey, Tonka Water (now merged with U.S. Water Services, a subsidiary of Allele Energy). MN cities work hard but need state help to offset the resource and skill gaps they face. Infrastructure costs are staggering. From an industry perspective and business mindset, we need to think about what is the most sustainable and economical path forward to solving this problem.

Focus on opportunities to drive the costs down. Reduce the costs by driving more efficiency into the processes used to design, build, install, and maintain infrastructure and leverage them at scale. State level policy and strategies are needed, not just individual solutions. As an example, because some cities struggle with basic skills for operations and maintenance, Tonka Water is often pulled back to their customer base to help them get their systems back online and perform basic, routine maintenance. At scale, we can help small cities that struggle to get qualified operators and don't know best practices, by leveraging the expertise from small and large communities into one knowledge base and resource pool that can be used around the state.

Life cycle cost is critical to maximize investment dollars. Purchasing processes focus on lowest cost procurement, not best value procurement. Look at [USTDA international recommendations for global procurement practices](#) that focuses on best value determination

that looks at total life cost of both capital and operational expenses and build that into the system of funding grants and incentives.

Develop a new economic model of how to move forward as a state when thinking about water infrastructure investment. Decision making processes have moved away from technical oriented decisions; for example non-technical city officials or general contractors are making technical decisions that should be moved back into the hands of consulting engineers having appropriate technical expertise.

The adoption of innovation needs to be enhanced. USDA rural development is an example of anti-innovation because their funding requirements for loans do not allow innovative proprietary technologies, which is a disincentive for industry to develop and promote new technologies.

With limited funding, investments need to be made where they are most impactful. Consider a credit swap system between urban and rural partners who invest where it makes the most sense; an economic model could support this. Decisions made on the water side impact wastewater; source water is impacted from both quality and quantity perspectives.

- Craig Johnson, League of Minnesota Cities. We have made significant progress: more bonding money (continue this), policy changes (more can be spent on a project, cost shares were increased & grant funding was increased), and regulatory certainty has improved (if a plant is upgraded to meet current standards, additional pollution control won't be needed for 16 years so bonds can be paid off).

Trading is an essential need, but it is complicated to show environmental protection and pollutant reduction. Compliance risk resides with the municipality, not the landowner where a trading practice may be employed.

Up to 10% of the cost of a facility is the cost of O & M for it. For example, if it costs \$2M to build a plant, about \$200K may be needed for O & M and staffing to keep it running. There is no funding for that; it is all on the rate payer. The cost is significant and as the plants become more complex, those costs increase and the availability of qualified staff becomes a challenge. It is hard to keep certified individuals available and willing to work in small communities and once they are trained, it is hard to afford them anymore. Cities sometimes have to pool their staff resources.

A number of new regulations will be impossibly expensive to meet: chlorides and sulfate. The new variance system and waived variance application fee is much more workable. This model currently exists as a commissioner's order and this group could look at making it more permanent.

- Tim Hagemeyer, Minnesota Rural Water Association. He comes from the small systems, operational perspective.

When looking at water system upgrades, consider how it will affect wastewater.

Skilled operators are hard to find, particularly where upgrades require a higher operator classification.

Small systems need grants to fix aged infrastructure that has a lot of water coming in, which is hard on the infrastructure and overloads the plants.

Consider phosphorous trading between point and nonpoint sources and make it as easy as possible.

Asset management is a good tool, but small systems lack staff and expertise to deal with it. They developed a template to help. When building a system, small towns are not looking at long term care.

- Laura Babcock, University of Minnesota. They have several wastewater stakeholders across the U. Wastewater systems are highly diverse across the state, so a one-size-fits-all solution will not

serve everyone's needs. Increasing requirements are based on citizen use as well as regulations; these require different operating schemes.

Continue building centers of excellence around water management systems, not just wastewater; need to integrate water supply and wastewater treatment facilities. Look at long and short term efforts to support investment and that maintain/improve health, support economic development, provide for resource recovery, and build the workforce pipeline for both research and development, as well as operations.

Take advantage of Minnesota's strong private sector and develop public-private partnerships. Attract advanced knowledge about the underlying science and treatment systems to provide predictable and optimal performance.

Develop new, more effective wastewater treatment processes to enable water reuse, removal of contaminants of emerging concern, and to promote energy conservation and generation. Understand the benefits and consequences of different treatment choices and promote resource recovery. Also understand the economic and policy decisions around enabling those new technologies, to be utilized, flourished and tested.

Support educational processes that will prepare our leaders to create integrated water management systems, through cutting-edge research and experiential opportunities. Get students into facilities to see challenges and opportunities first-hand to help spur their new ideas for the next generation of invention.

Assist facilities across the state to optimize their current systems; look at effluent quality coming into the plant and upstream opportunities for pollutant reductions, as well as considering energy use and investment prioritization. Centers of excellence do not need to be in one location or just at the UMN.

- Sam Paske, Metropolitan Council. Met Council is the wastewater service provider for the 7 metro counties, serving more than half of MN's residents. The solution is the people and the generations to come. Wastewater treatment is the most important development in the history of mankind – millions of lives are saved because we are treating wastewater today. One hundred years ago, there were only 3 fish found in the Mississippi River between the twin cities and Red Wing. A driver for creating a regional wastewater system was the fact that cattle were dying from drinking river water. Economic development, growth and public health are the mission of the Met Council's Environmental Services (MCES) Division.

MCES manages the largest system in the state; a proactively managed asset that is worth >\$7B. They use asset management and preservation principles to maintain those assets. MCES has 7 wastewater treatment plants, ranging in size from very small plants (like some of the small cities) to the 10th largest plant in the nation. The conveyance system consists of 610 miles of large-diameter, collector pipes owned by Met Council, 5,000 miles of community-owned pipes, and 7,500 miles of privately owned pipes that serve individual properties. They spend over \$100M/year to maintain the effectiveness of their system, independent of new construction/capabilities. Improvements rely on low interest rate PFA loans to preserve the system at a cost the region can afford. Their rates are in the lowest quartile in the nation, but they like to think their performance is in the upper national quartile. This has been an enabler for economic development and growth in the region. MCES uses about \$40M/yr of PFA funding and it is essential to maintaining a reliable, cost-effective, regional wastewater treatment system. This is how they stay ahead of the aging infrastructure problem.

Better operating their system in partnership with their local communities is a goal. Inflow and infiltration (I/I) is an issue. By funding I/I, they can recapture lost system capacity, but I/I in the private part of the system is a struggle; need to look at how can homeowners be helped to restore their pipes to keep clear water out of the system and extend asset life. MCES customers

have been working with them to offer some potential solutions in the area of private I/I mitigation.

Reclaimed wastewater is an initiative of their but there are barriers because it is new and more expensive to distribute reclaimed water. Financial incentive assistance programs are needed for water quantity as well as water quality projects.

- Rebecca Flood, Minnesota Pollution Control Agency. Will share the concerns they heard from wastewater listening sessions.

Regarding funding, grants, not loans are needed. Of the \$4.5B 20-year need, 75% is needed to replace aging infrastructure, 15% is needed to meet growth and development (i.e., new pipes and plant expansions), and 5% is needed to address new water quality standards (based on biennial wastewater infrastructure needs surveys) so there are ongoing bonding needs. Some cities have trouble meeting their O & M costs (e.g., 1,700 people in Wakefield Township spend \$200K/yr on O & M).

MPCA gets more requests for technical assistance, so they hired a municipal liaison to help them better understand municipal issues and jointly craft solutions.

An optimization pilot project is under consideration by the Legislative-Citizens Commission on MN Resources (LCCMR) for 2018 funding to optimize nutrient removal.

More tools in the tool box are needed to deal with local issues, such as personal care wipes labeling changes (clogs are expensive to address). Have recent regulatory certainty to maximize treatment investments. Water quality trading would be useful. Asset management planning is costly (will be included in the LCCMR proposal). Cities want more help on education about water conservation, water reuse, and chloride reduction. Training/retaining certified operators is a challenge; small cities feel like they are training grounds for operators and, once trained, they leave for other cities that pay more.

Impact of debt service on annual operating budgets is a concern. For small cities with small/declining tax bases, seniors on fixed incomes, and people earning at the poverty level, the impact is greater and it is difficult to raise rates.

- Mark TenEyck, Minnesota Center for Environmental Advocacy. It is important to keep an eye on water from the larger context; there is a relationship between wastewater, water supply, stormwater, and nonpoint source runoff. The big picture includes water quality, public health, outdoor recreation opportunities, support for businesses and industries, and healthy aquatic ecosystems.

Funding to address aging infrastructure is needed and a new funding source should be considered to replace lost federal contributions. There is a Chesapeake Bay model that created a new funding source (a small user fee of \$2.50/month) to initially address wastewater facilities and then septic systems and nonpoint sources. Over the 25 year program, all their wastewater facilities are compliant. MCEA supports having more bonding money and there should not be a new focus on raiding Clean Water Funds or LCCMR funds because they aren't large enough and they have different purposes.

Source reduction is a place to make progress (e.g., chlorides).

Planning/life cycle/costs asset management is key.

MCEA worked on the first point source-nonpoint source Rahr Malting trade and looks forward to working on the trading piece.

- Elizabeth Wefel, Minnesota Environmental Science and Economic Review Board. MESERB is made up engineers and operators who work on the front line and they have collectively invested more money than anyone else to clean and protect state waters. They have a genuine concern

that, going forward, invested state resources address the actual water quality problems. There are many significant challenges.

The process to develop water quality standards uses ultraconservative assumptions and, as a result, standards are more restrictive than necessary to protect water.

With limited funding to clean water, spend it where it most effectively cleans water.

The current approach may be too “silo-ed”. Rather than proceeding individual permit by individual permit, the collective effect of all these permits on water quality should be understood. For example, Osakis is being asked to make a \$10M investment for very little impact on algal growth. A paradigm shift is needed; step back to look at the most effective use of state resources to address existing and emerging problems.

Both point source to point source and point source to nonpoint source trading options need to be considered. Even though there are a few trades in place, the challenge is that the responsibility is on each city at the time a permit is reissued. Looking more globally would be advantageous; e.g., fund a pilot point source to nonpoint source program for the entire MN River basin. Agriculture is missing from this table and they should be involved in the trading discussion.

Flushable wipes is being ignored and needs to be addressed.

Consistent stable funding for PFA is needed; last year’s amount should be a baseline and should continue.

- Neither representative from the Freshwater Society was able to attend, so their input was read into the record by Director Huberty.

Communities face uncertainty financing maintenance and upgrades of aging plants; USDA rural development funding is uncertain; expenses are difficult to absorb; the burden will fall on the state. Help communities plan for how to finance plant maintenance and upgrades.

Communities face regulatory uncertainty on what to treat because standards vary and new contaminants emerge. It is hard to know when to act or how to make plants adaptable. Guidance is needed to determine cost-benefit ratio for point source vs nonpoint source treatment. A study is needed to explore effluent reuse to enhance aquifer recharge.

The meeting was recessed for a 10 minute break. Upon returning, the audience members were asked to introduce themselves, after which a roundtable discussion ensued.

Rep Gruenhagen started the discussion by stating that everyone wants clean water. There is a need to emphasize peer reviewed science, noting that he appreciated MPCA Commissioner Stine’s new approach for using an independent council to review new regulations, but also feels existing regulations should be reviewed to determine their cost-benefit and whether they produce better water quality. He asked who gets appointed to the panel and how will independence be insured. He also said regulations need to be streamlined, giving an example of a MN dam that needed over 70 permits to be updated. He also expressed concern about the variability between MN and ND timelines. He would like to see more dams and holding ponds built to hold water to offset subsidized tile drainage; these can also produce electricity. MPCA goals keep getting more stringent over time, creating a moving target. Cost-benefit and return-on-investment analyses are needed. Given our changing demographics (over 50% of the population will be over 55 years old in 10 years or less), artificial inflation of costs will be unaffordable. MN has the 4th highest prevailing wage, another law that artificially inflates costs, and this should be waived as a way to make wastewater upgrades more affordable. He doesn’t want to see businesses forced to relocate out of the state. Higher taxes won’t solve the problem, the system needs to be reformed. Ms Flood responded to the peer review panel question indicating that the process has not been designed yet, but they intend to solicit qualified, scientists that are subject matter experts for

the standard in question so they will be truly independent. Rep Gruenhagen does not want the majority of panelists to be from environmental advocacy groups.

Sen Isaacson wondered whether MN has an overarching, integrated water plan at this time. If not, he felt this should be a priority so there are big picture principles to protect water as a precious commodity to guide decisions. Mr Johnson responded saying we are in today's situation because issues come forward separately and are staggered over time. The stormwater program began in 2003 and is very new. Cities struggle with how to balance wastewater, stormwater and water supply issues. For example, to control stormwater volume, cities consider stormwater infiltration, but they don't want to contaminate an aquifer. As they find solutions to various requirements, cities don't want to create unintended consequences so they must evaluate site-specific conditions. As another example, some wastewater treatment plants are struggling with chloride limit in places where natural groundwater hardness drives water supply softening. Sen Isaacson feels we need a big picture understanding with over-arching principles to be able to solve problems with partners in real time. Kris reminded members that the issue table has places to mark whether an issue is a short, mid, or long-term problem. Mr Kwilas noted that in the 1990's the U of MN led an effort to develop a 25 year water management framework plan. Over 14 state and federal agencies regulate water. The LWC could help plan for the next 5 to 15 years to integrate the issues. Mr Paske said all water is "One Water" and everyone needs to be in the room to discuss shared solutions. It harnesses local people to find optimal choices to meet local values that are developed with local engagement. Sustainable water will take collaborations in all water areas. There needs to be a common vision developed and work efficiently.

Sen Weber agrees that having a big picture is extremely important, as it relates to consistency and how the current system hampers innovation. In 1980's, Luverne was looking at a \$13M wastewater treatment upgrade, which was unaffordable. Eventually they found a cheaper alternative but they couldn't use state money for that. MPCA can't keep switching paths; businesses must be considered; everyone is in this together and we must treat everyone that way. It may require new thinking on the part of the legislature and the agencies.

Sen Draheim said workforce development in the rural area should be a priority. Mr Johnson said this issue is not limited to wastewater facilities. Perhaps the loan forgiveness model used for rural professionals might be a solution.

Rep Fischer, in thinking about water reuse and where the reuse source water comes from and the contaminants it contains, should we be focusing on the reuse options that give us the biggest bang for the buck, rather than spending a lot of money on a small part of the issue. Can we hold more water back in agricultural areas where nonpoint source control is needed to create more reuse opportunities without creating liability issues for cities? How can we do these cross-overs, multiple-benefit projects efficiently? Mr Johnson said that regarding source water types vs use options, not all reuse has to meet drinking water standards. Different types of water can be used for different things; find the places in MN that can be done most effectively and put the resources to work in a few pilot areas. There is no one-size-fits all for reuse.

Rep Gruenhagen said that non-peer reviewed science will artificially inflating Glencoe's wastewater plant by \$5M, when it is not necessary. People are being hurt by this added expense.

Mr Godfrey felt that the private sector can help with the labor issues. Service needs vary widely. He thinks a new service model for customers is evolving to provide a range of services, from supplemental skill set training to full operational service contracts that serve multiple cities. The growing skill gap and

turnover issues are being recognized by the private sector. Mr Johnson responded that the wastewater and water licensing and certification systems would need to change to allow job sharing.

Sen Wiger said, fundamentally, we are here to protect public health and he wondered if MN's public health is at high risk now and if so, why. Ms Flood indicated that wastewater treatment works and it is not a problem overall. There are some small systems or unsewered or undersewered communities that pose some concern. There is a growing health concern from eutrophication and harmful algal blooms. Mr Paske said that is true, except when system capacity is overwhelmed, mostly by wet weather, and sanitary sewage bypasses occur. Mr Godfrey feels the infrastructure system is in a fragile state. Also the health effects of contaminants of emerging concern are unknown, so facility flexibility is needed. Failure to take action on aging infrastructure will create a deteriorating situation that may create a public health crisis of our own making. Public health is only half the equation. MN's quality of life and economic strength and state vitality also depend on a good infrastructure system. Our crisis is much more subtle and not as extreme yet; do we take action now or wait until it has deteriorated?

Rep Torkelson noted that all issues can't be tackled at one time and, given recent and pending municipal legislative initiatives, the municipal aspect was selected as the first focus. However, the interrelationship between the issues is understood and deciding how to move forward legislatively is difficult. So the legislators are here to listen. He asked Mr Freeman if we are behind in the PFA programs and, if so, why. Mr Freeman said infrastructure wears out over time and periodic reinvestment is needed to maintain existing infrastructure. The needs numbers don't seem to go down because everyone's sewers are 50-80 years old and many communities have been putting off replacement. In many cities, the replacement can't be put off anymore. Also, more projects are being applied for (on the PPL list) now that more financing is available. Rep Torkelson asked if the pipe replacement was a more critical issue. Ms Flood indicated that, according to the WINS report, 75% of the \$4.5B, 20-year wastewater need is with the collection system (there is a \$7B need for drinking water infrastructure). 15% of the need is for future growth and 5% of the need is to meet regulatory standards. Rep Torkelson asked if those percentages vary much depending on the size of the community and Ms Flood said they do not. Rep Torkelson responded that what he hears about most is expensive, unaffordable plant upgrades. Mr Hagemeyer indicated that old clay tile and orangeburg pipes are failing and addressing I/I only on public sewer mains doesn't address private service line I/I. Dealing with private I/I is difficult to deal with. Aging sewers leak, increasing I/I, which increases flows of clear water to treatment plants, reducing their treatment capacity and increasing the risk of sewage bypasses.

Ms Flood indicated that the Rochester letter shows that the majority of costs are to manage chloride. MPCA expects to use different implementation approaches for chloride so their costs likely won't be up to \$200M. Ms Wefel said that this is not an "either-or" problem, it is both an aging infrastructure and regulatory problem. She believes cities are underestimating the costs of meeting new regulations in the WINS report and this conclusion is supported by the higher costs shown in MMB's report by Barr. It is easier to estimate aging infrastructure costs than regulatory costs. Better cost estimates to meet new regulations and integrated management is needed.

Rep Fischer asked what point source to nonpoint source trading might look like. Will it be the same for every community? Is it one-for one? How much monetary relief would it provide? Could those savings then be used to pay for pipe replacement? Mr Nelson said that addressing the large cost of treatment needs integrated planning so there is balance between source reduction and wastewater treatment. Those conversations don't happen until a city is met with the requirement. Mr Seifert said the costs of new regulations aren't known yet because all the rules haven't been adopted. Therefore, the WINS data doesn't reflect the true cost of regulations vs benefits. Such an analysis could be done by an

independent organization (not MPCA). He agrees that aging infrastructure represents the majority of costs, but thinks the regulatory costs exceed 5% of the total. He urged consideration of the Oregon trading approach as a pilot and agricultural groups should be at the table when this is discussed. There is distrust in the farming community about environmental regulations. Ms. Huberty noted that MDA was invited to participate in this process. They opted out, but they may not have understood the possible trading connection between agriculture and wastewater. Agricultural groups can certainly be invited to future stakeholder meetings once the solution areas are better defined. Mr Seifert said communities in the Mankato area are not getting enough credit for pollutant reductions made over the last 30 years; the base keeps changing. Rep Fischer is concerned about long-term liability protection for cities that use nonpoint source practices and who tests the accuracy of success when. Mr Johnson said there are a lot of unknowns with the trading system, which is why it hasn't been fully embraced. For instance, there is uncertainty associated with short term trades because the price of credits can escalate and facilities face the possibility of extortion. An organized credit banking system that treats both sides fairly is needed.

Mr TenEyck said there is little information available about the value of environmental benefits when looking at cost/benefit ratios. He is not advocating that the group take this on, but if they do, perhaps the U of MN would have the necessary expertise. Rep Torkelson said if we don't know the benefits of regulations, why are we imposing them? If there are benefits, we should be able to quantify them. Mr TenEyck said a compilation of that data is not in front of us. Ms Flood said benefits are quantified during the individual rule making processes. Each Statement of Need and Reasonableness looks at the cost to implement the standards, as well as the benefits, but the benefits of all the standards are not quantified together. We should also look at the economic benefit of having water resources that are fishable, swimmable. If a cost-benefit analysis is done, then tourism and economic development benefits should be evaluated, not just the cost-benefit for the individual or grouped facilities.

Rep Johnson said it is hard to quantify benefits. We need people to come to MN and we need clean water to attract them; how do you quantify that? He wants to know what other opportunities there are, such as more opportunities for communities to work together and alternative, emerging technologies to treat wastewater. Mr Hagemeyer said new technologies are always emerging from around the world, such as electrolysis, but they are not yet proven here and some technologies don't work here because of our cold climate.

Mr Seifert said we should understand what we are measuring (e.g., \$11M for P reductions of <0.001% at Osakis). What is an acceptable cost-benefit threshold? Look at the Morris-Chokio water supply example of cooperation. Have we exhausted all the opportunities to pair up rural cities?

Ms Wefel said the current permit by permit approach supports silos, not global solutions. When a facility is being upgraded in one place, where else in the watershed can communities tie in?

Mr Freeman said regionalization should always be considered and a lot has already been done. He thinks the distance factor is a barrier to much more physical regionalization, but it might be possible to develop cooperative agreements for sharing administrative duties (like billing) or to share operational costs. Rep Torkelson asked if it is feasible for smallest towns to truck their waste to larger towns for treatment, the way manure is hauled. Mr Freeman said that the state's funding structure is about providing funding for capital expenditures not operational costs. Rep Torkelson then asked if it is possible for small towns to pretreat their waste and then haul it? Mr Hagemeyer replied not really, since volume reduction would be necessary and trucking is expensive. Plus, there would be concerns with storing the waste, the possibility of freezing, and transporting a biohazard. Mr Nelson added that there

are limited locations where this could happen and salts in the wastewater are also a barrier. Mr Johnson said another factor is that plants would need to have excess capacity to be able to take someone else's waste.

Rep Torkelson mentioned the forthcoming sulfate standard to protect wild rice waters and wondered if that site-specific approach should be used for other standards, such as nutrients that cause harmful algal blooms. Ms Flood said that phosphorous regulations targeted to lakes were established based on ecoregion characteristics. Rep Torkelson then asked if receiving waters, like Lake Crystal, become less susceptible as loads are reduced. Ms Flood said that source control is key, not water sensitivity. Rep Torkelson asked whether that approach describes trading. Ms Flood replied that in this example there isn't a wastewater facility that has paid for reduction, so it is not technically a trade. Rep Torkelson said perhaps Lake Crystal is an example based on a social model. Ms Flood said she wouldn't characterize it as trading, rather it is water resource based conservation activities. Mr Johnson added that before the Clean Water Act, the TMDL approach identified shares and solutions for each type of impairment and local governments decide how to afford reaching the goals and who pays for what.

In closing, stakeholders and LWC members were asked identify their top two priorities based on today's discussion:

- Rep Torkelson: confidence that the bar is being set in the right place (are the rules appropriate?)
- Sen Wiger: appropriate rules
- Rep Bly: sorting out the short-term, mid-term, long-term issue so that we plan for the future
- Rep Johnson: aging infrastructure and how to pay for it
- Ms Wefel: appropriate rules and aging infrastructure
- Mr TenEyck: technology and source reduction to make the process cheaper and better
- Ms Flood: aging infrastructure, trading, workforce
- Mr Paske: continued funding, look at the whole system (e.g., I/I on private property, reuse, choices that deliver the best value)
- Ms Babcock: maximize current infrastructure performance today and strategy development for ultimate solutions
- Mr Hagemeyer: O & M – flushable wipes
- Mr Johnson: continued funding optimization of plants and regulatory gains
- Mr Godfrey: short-term acute strategy to fund aging infrastructure and long-term strategies/building blocks that realign us to a One Water approach (re-engineering the system for the future will need to be done at the state level)
- Mr Freeman: consistent long-term funding and O & M support (e.g. MPCA's optimization proposal to LCCMR and asset management to target and prioritize replacement)
- Mr Seifert: rules/standards/permits
- Ms Wolff: aging infrastructure (funded by bonding)
- Mr Kwilas: aging infrastructure (public-private partnerships)
- Sen Draheim: appropriate rules
- Rep Fischer: trading and sustainable long-term funding for infrastructure

These ideas are summarized below, presented in rank order according to the number people supporting each option:

- 10 - Develop an economic/funding plan to replace aging infrastructure
- 6 - Confidence in the appropriateness of rules, standards, permits

- 3 - Set short-term, mid-term and long-term goals for future (One Water) planning
- 2 - Maximize current performance of the whole infrastructure system (e.g., private I/I, reuse, where is best value)
- 2 - Operations and maintenance support (funding, flushable wipes labeling, asset management)
- 2 - Trading
- 1 - Workforce development
- 1 - Efficient technologies, source reduction

MS Huberty reminded people to look at the LWC Update Upcoming Events section for details on 2 wastewater events: the Freshwater Society FWS Moos Lecture in November will feature the Metropolitan Sewerage District's trading program and the US Alliance Summit will be in Minneapolis July, 10-12, 2018.

The meeting adjourned at 12:37 p.m.

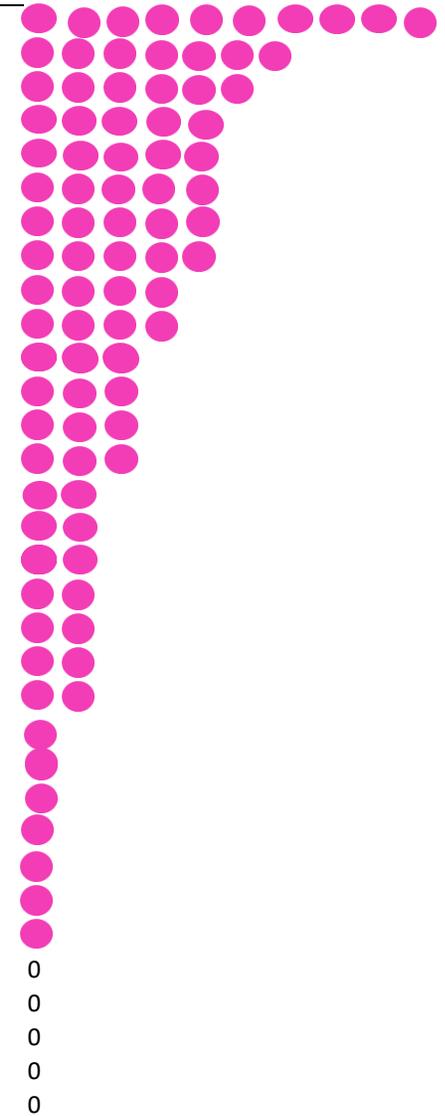
Since the intent of this meeting was to focus on issues and their priorities, a “solutions parking lot” was created to capture ideas for solutions that arose during the discussions. They are paraphrased and merged below; they are not listed in priority order.

SOLUTIONS PARKING LOT		
Financial	Environmental	Process/Regulations
Balance funding for PFA loans and grants, but increase money for grants	Help unsewered or undersewered communities	Provide equity in fee waivers and regulatory certainty for municipalities and industries
Consistently provide PFA funding (i.e., bonding); continue or increase the 2016 level (\$121M)	Use treated effluent for aquifer recharge	Develop a statewide prescription drug takeback program
Provide financial incentives for resource recovery (e.g., water reuse, energy generation, nutrient recovery)	Regionally review the collective effect of permits on water quality	Pilot a watershed-scale, water quality trading/credit banking program, possibly run by a nonprofit (like Oregon model); involve agriculture in the planning
Independent cost-benefit analysis of standards; set thresholds for cost of upgrades; develop guidance on C:B ratios for PS vs NPS treatment; develop better estimates of regulatory costs	Quantify health, environmental, and economic growth benefits	Develop operator workforce (resource pool of O & M expertise); also for research & development and leadership; loan forgiveness program; private sector services (with licensing changes)
Build USTDA best value procurement recommendations into grant/loan processes		Streamline the regulatory process, create appropriate and predictable standards that are consistent with border states
Develop an economic model that (1) uses technical expertise to make decisions, (2) changes funding criteria that restrict innovation, and (3) allows for credit swaps		For standards too expensive to meet, institutionalize in statute the simplified variance model, waived variance fee, and peer reviewed science process
Support asset management and long-term, capital planning using life cycle costs		Create centers of excellence for integrated water management across the state
Provide I/I funding for both public & private lines		Optimize plant O & M to increase efficiency & decrease costs (pilot project proposed to LCCMR)
Find a new funding source, such as the Chesapeake Bay model		Change the labels on personal care (flushable) wipes
Develop public-private partnerships		Educate consumers about water conservation, water/effluent reuse, & source reduction (e.g., chloride)
Consider using design/build options at a state scale		Spawn innovative technologies (better, cheaper, address CECs)
Eliminate the prevailing wage		Focus on people
		Identify opportunities for regionalization of plants, administration and O & M
		Develop a 5-15-year, statewide integrated water plan that meets local values and uses overarching principles and collaborative approaches

What municipal wastewater problems need solving?

from most to least, the pink dots show how often stakeholders raised each issue at the 10/17/17 LWC wastewater roundtable

- 1 funding for aging infrastructure:** sources of, program types, amounts of, consistency of, long-term, plan
- 6 availability of trading processes/partners** (PS and/or NPS)
 - facility cost vs environmental/health benefit** (use of metrics: cost/# of pollutant removed or cost/WLA share)
 - cost of compliance** to meet new/stricter effluent limits (e.g.: P, Hg, Cl, SO4, Cr, CECs, pharmaceuticals, NO3, NH4, TALU)
 - debt capacity** (grants over loans, no/minimal retained earnings, inadequate tax base: low/fixed income & small size)
- 7 skilled workforce** (recruitment incentives, competitive salary, ongoing training, pooled staff)
- 5 operation and maintenance:** cost increases with technical complexity, I/I, flusahble wipes
- 4 compliance tools:** tech assistance, variances, compliance schedules, fee waivers, optimization (with equity for businesses)
 - asset management** (need staff and expertise for long-range capital planning)
 - effluent reuse** (offset aquifer use or recharge aquifer)
 - economic development** (retain industry, population growth, border competition)
 - rate disparities** (due to population, industry contributions, level of [pre]treatment; cost/capita by treatment type)
(education re:) **pollution prevention/source reduction** (conservation, reuse)
 - regulatory certainty** (with equity for businesses)
- 8 affordability/availability of technologies** (existing, emerging, innovated, combined, hybrid, diverse)
 - engineering services** (system evaluation, design, alternate technologies review, compliance advice, optimization)
 - public-private partnerships** can reduce costs
 - design capacity needs can be unpredictable** & affect treatment options (growth, decline, reuse, I/I)
- 3 integrated water management planning** (avoid shifting the burden from wastewater to waters supply)
 - variability of effluent limits** (due to receiving water quality, water use classifications)
- 2 permitting** (appropriateness of stds, C:B assessments, peer review, cumulative effects, individual vs watershed approach)
 - grant and loan eligibility criteria and formula** (MHI for communities with older & poorer populations)
 - permit alignment with regulations** (vs use of guidance)
 - consistent, multiyear process**
 - best value procurement:** consider life cycle costs and avoid low bid
 - downstream benefits** of treatment (vs avoided costs to downstream users)
 - resource recovery:** nutrients, energy, water
 - unknown effects of CECs**
 - treatment chemicals effect on receiving water quality**
 - proportional pollutant reduction cost** for point source vs nonpoint source shares
 - timing of improvements** (e.g., condition, co-construction, funding availability, regulatory changes)
 - property value loss** & expense of centralized treatment in towns with failing septic-systems
 - waste hauling/disposal** (biosolids, brine, other filtration residues)



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