Minutes of the

REGULAR MEETING OF THE METROPOLITAN AREA WATER SUPPLY ADVISORY COMMITTEE

Committee Members Present:

Sandy Rummel, Chair, Patty Acomb, Jeffrey Berg, Randy Ellingboe, Glen Gerads, Dean Lotter, Susan Morris, Michael Robinson, Steve Schneider, Jamie Schurbon, Barry Stock

Committee Members Absent:

Julie Ekman, Georg Fischer, Todd Gerhardt, Katrina Kessler, Mark Daleiden, Lisa Volbrecht

CALL TO ORDER / INTRODUCTIONS

A quorum being present, Committee Chair Sandy Rummel called the regular meeting of the Council's Metropolitan Area Water Supply Advisory Committee to order at 9:05 a.m. on Wednesday, June 8, 2016.

APPROVAL OF AGENDA AND MINUTES

It was moved by Glen Gerads seconded by Barry Stock to approve the agenda of the June 8, 2016 meeting. **Motion carried.**

It was moved by Jamie Schurbon, seconded by Steve Schneider to approve the minutes of the March 23, 2016 meeting. **Motion carried.**

Southeast Wastewater Reuse Study – Deborah Manning, Environmental Services

MCES has been evaluating region-wide opportunities for wastewater reuse. In the Southeast Metro area, MCES developed a reuse scenario and has been working with local communities to further develop potential opportunities. One possibility, also mentioned in the Master Water Supply Plan, is to use reclaimed water (wastewater that has received additional treatment consistent with the intended use) for infiltration and groundwater recharge. Drawing on work done by the Southeast Water Supply Work Group and others, MCES has begun an evaluation of the hydrologic impacts of this infiltration & recharge. Stakeholder input about the criteria for assessing impacts is being sought.

Deborah Manning, Principal Engineer presented a summary of the Metropolitan Council's wastewater reuse initiative and introduced a study in the Southeast Metro regarding wastewater reuse and groundwater infiltration.

MCES has had a wastewater reuse initiative in place for a number of years. Drivers for this program include to alleviate interceptor capacity constraints, conserve and supplement groundwater and surface water, and help meet receiving water waste load allocations. An LCCMR-funded, statewide industrial reuse study was done in 2007. The East Bethel Water Reclamation Facility began operation in July 2014. Currently, water reuse and conservation initiatives are underway at MCES wastewater treatment plants (leading by example). Progress is also ongoing with sub-regional reuse studies and collaborations with cities such as Eagan and Rosemount.

The groundwater component of the East Bethel Water Reclamation Facility consists of two sites for rapid infiltration basins. Highly treated effluent is applied via subsurface pipes and infiltrates to the surficial sand aquifer and eventually augments Crooked Brook. In the Southeast Metro (Dakota County) we are doing modeling and collaborating with the City of Rosemount to determine how infiltrating reclaimed water may supplement groundwater and surface water. Tasks identified for this study includes identifying evaluation criteria. Staff is reaching out to different stakeholders to get feedback on the criteria and what specific questions stakeholders believe need to be evaluated. Staff is developing and calibrating a sub-regional model that should be ready sometime in August 2016. By using the model staff will be able to evaluate impacts of infiltration with reclaimed water on surface water and groundwater. A finalized reports is anticipated in late 2016.

Evaluation criteria are built on previous studies and include changes in water tables, impacts on bedrock aquifers, travel time to wells, change in flow at fens and springs, changes in baseflow and lake water-balance, and travel time to trout streams. Other considerations include effect on existing

groundwater contamination and the effect within existing drinking water supply management areas (DWSMAs).

Metro Model 3 is being refined. The model is being used to simulate infiltration of water at many sites, drawing on a previous infiltration site screening study. Evaluation criteria are being quantified at each infiltration location with results processed to assess sites with the best potential for success. Modeling results for different criteria can be shown individually or combined to produce an aggregate score.

Staff is seeking feedback on the evaluation criteria and is drawing on the Master Water Supply Plan and the Dakota County Water Supply Profile. Feedback is desired on time of travel to groundwater or surface water, stream baseflow, lake water balance, groundwater flow at calcareous fens, water table mounding, change in water level in aquifers, DNR observation wells, areas of projected aquifer drawdown, aquifer level and direction in delineated DWSMAs and designated special well and boring construction areas (SWBCAs).

Comments or questions can be sent to Deborah Manning or Lanya Ross.

Committee feedback and discussion included:

- Reclaimed water (wastewater treatment plant effluent that would receive additional treatment to a level suitable for groundwater infiltration) would be discharged from the treatment plant to potential infiltration areas. Modeling is being done to determine how much discharged water could be infiltrated.
- The footprint from the two sites at East Bethel takes up the space equivalent to approximately two football fields. Determination of the site size depends on the amount of infiltration.
- The Southeast Metro study will assume that the source of the reclaimed water to be infiltrated is the Empire Wastewater Treatment Plant. In other areas of the Metro, satellite treatment plants are being studied.
- The amount of additional treatment needed to produce reclaimed water depends on the use. The Southeast Metro study will not assess water quality, but rather quantity issues. However, in developing reuse scenarios for the Southeast Metro, we have assumed that the additional treatment would include more nutrient reduction, particularly for nitrates, as well as chloride reduction for a number of potential uses.
- Estimates of cost for wastewater reuse in the Southeast metro were developed on a conceptual level in previous analyses and will continue to be refined. Estimating costs in not directly included in the Southeast Metro groundwater infiltration study.
- Staff stated comments regarding the criteria are appreciated and will present the project to other stakeholders, including Dakota County and the Vermillion River Watershed Joint Powers Organization in order to solicit comments.
- Individual analysis for each of the evaluation criteria will be done as part of the study to determine the impacts of infiltration.
- Committee member suggested the Technical Advisory Committee (TAC) evaluate and make recommendations. The first meeting of the TAC is scheduled for July and is being considered.
- Staff stated water quality issues related to groundwater infiltration will be evaluated a future phase. However, Metro Model 3 is not set up to evaluate water quality.
- Staff stated the Empire plant effluent is currently treated for pathogen removal and that additional treatment, likely using chlorine, would be needed for groundwater infiltration.

- The study is currently focusing on modeling as a pre-requisite before additional cost estimating can be completed. The modeling study is an initial step to get the information needed to estimate groundwater infiltration costs in the future.
- How is this different from a septic system drain field? Staff stated the regulatory requirements for individual septic systems have not been compared to those for larger-scale groundwater infiltration at this point. Staff will in to this and report back to this committee.

Freshwater Society Report – The Water Underground – Steve Woods, Freshwater Society

Freshwater Society has published reports on Minnesota's groundwater supply issues for over four decades. The latest report (March 2016) focused on public water suppliers and takes a decidedly bottom-up approach designed to equip public works staff with information they can use to show their councils they are doing what it takes to have a sustainable supply that will attract industry, minimize surprises, and keep their system under local control.

Steve Woods, Executive Director of the Freshwater Society provided a summary of a report prepared. Copies of the report were mailed to Committee members prior to the meeting.

He stated water is less healthy today because everything we do on the land affects the water. Dig a hole, it affects water. Pave a street, build a house along a street, drop litter on a street, fertilize the lawn at your house, forget to pick up your pet's poo, it all affects water. Till a farm field, dig a ditch, it all affects water. The Root River Valley has a lot of agricultural acreage. That color in the water is soil washing down the river.

Big conversions to row crops affect water quality. The distribution of what crops are planted has changed since the 1920's. There has been a decrease in the planting of alfalfa, small grains and hay, soybeans have been increasing, corn has steadily been increasing. Corn and beans leave bare ground to erode and when they are not growing, nitrates run off and more water runs off the land.

Farmers need to control the amount of water in the soils in their fields, so the plants don't drown with too much water in the root zone. The primary management tool they have is drain tile.

In the city, everything that is on the surface of the land runs off into rivers. On farm fields, everything in the soil runs off into drain tile, then ditches, then lakes and rivers. If there is nitrogen left after the corn plants use all they need, that, too runs off into public waters.

Too much nitrogen in water makes it unfit for human consumption. With more than half of the state of MN in row crop production, the state of MN recently did a very large study and looked at nitrogen pollution in our lakes and rivers.

The World Resource Institute determined subsurface tile drainage is concentrated in the Midwest.

Annual reported groundwater use has been increasing; 75% of the state's drinking water comes from groundwater. It's going right on up with the population.

On average we are using about 75 billion gallons more groundwater per year than we were 25 years ago, growing at about 3 billion gallons per year. Our water use fluctuates depending on the amount of summertime precipitation, because a large fraction of the water we use is for irrigation (including residential lawns, golf courses, crop and non-crop irrigation).

We know that in some parts of Minnesota, levels are falling steadily over a period of 60 years…

A hydrograph from one of our longest running monitoring wells depicts the concern about overuse. This is a bedrock aquifer underlying the western suburbs of Minneapolis and St. Paul, in Orono.

It also shows the value of long term data. If you pick any 5 year period on this graph you get a very limited and inconclusive picture.

Ask any city engineer to list the primary goals they have for their city's public water supply system, and their overwhelming answer comes back as "safe and reliable". Pushed for a third goal they would likely add "and under local control."

When discussing water supply goals and issues, ask your staff:

Can you show me the long-term trend in our groundwater level? If it is declining, it needs to be addressed.

Ask your staff: does our water rate cover the basics plus increased coordination, efficiency programs, loss reduction, and meter upgrades?

Ask your staff: will the rates yield enough once the efficiencies kick in and we sell less water?

Committee feedback and discussion included:

- Farmers don't like buffer zones. They are costly to convert. The information it is hitting at a hard time because crop prices have gone down. Need more education, as it will take a while to change culture.
- The report is appreciated. It appears to target the municipal level. Examples are helpful as we learn from neighboring communities. Suggestion to get word out more and have more outreach to the communities, maybe through the League of MN Cities, media, newspapers, etc. An abstract has been submitted to AWWA local and national, city engineers for fall conference, League of MN Cities will be targeted for 2017.
- Amendments provided as part of the report to address errors.
- If the correct data is used, it can help educate and convince people of the future impact.
- Appreciate the work being done. It is going to be important to bring attention to the issues.

TAC Charter Discussion – Lanya Ross, Environmental Services

The Council staff would provide draft TAC charter for review and discussion. The staff would like to receive MAWSAC member's feedback on draft charter document and incorporate changes for approval."

Lanya Ross, presented a draft charter for discussion by MAWSAC. Discussion began with an update on the purpose of the Technical Advisory Committee (TAC). As stated in MN Statute 473.1565 Subdivision 2A the Water Supply Technical Advisory Committee purpose is to inform The Metropolitan Area Water Supply Advisory Committee (MAWSAC) work by providing scientific and engineering expertise necessary to provide the region an adequate and sustainable water supply.

The Committee consists of 15 members appointed by the policy advisory committee with the majority of members representing single-city and multicity public water support systems in the metropolitan area and includes experts in water resource analysis and modeling, hydrology, and the engineering, planning, design, and construction of water systems or water systems finance.

TAC scope will be designed to create an open and collaborative environment for the exchange of water supply technical information and to fully explore the technical aspects of water supply-related issues raised by MAWSAC. It will provide ongoing advice for MAWSAC in its water supply planning activities and serve as a liaison or conduit for communication between technical water supply stakeholders and MAWSAC.

Current deliverables include:

- An approved and supported committee charter
- An annual work plan
- Input to MAWSAC regarding five year reports to the MN Legislature
- Regular input in MAWSAC on water supply related developments and opportunities
- Recommendations to MAWSAC for improving key technical aspects of regional water supply planning
- An annual evaluation of committee effectiveness.

Milestones and Schedule

- First committee meeting to be convened July 20, 2016
- Team charter approval, deadline to be determined
- A developed work plan, deadline to be determined
- Committee meetings scheduled on a least a quarterly basis with a schedule to be determined
- Provide briefing to MAWSAC on at least a quarterly basis
- Provide input to MAWSAC regarding 2017 report to the Minnesota Legislature with a deadline is February.

Roles and Authorizations:

There is an expectation of regular participation by committee members. A process will be developed to replace members who, due to a variety of reasons, may be unable to attend regularly.

The list of approved committee members includes:

Name	Role	Responsibilities
Ali Elhassan, MCES	MC Liaison	Provide staff support
Kristin Asher, City of Richfield	Member	Share expertise
Robert Cockriel, City of Bloomington	Member	Share expertise
Klayton Eckles, City of Woodbury	Member	Share expertise
Dale Folen, City of Minneapolis	Member	Share expertise
Jennifer Levitt, City of Cottage Grove	Member	Share expertise
Mark Maloney, City of Shoreview	Member	Share expertise
Chris Petree, City of Lakeville	Member	Share expertise
Lon Schemel, City of Shakopee	Member	Share expertise
Bruce Westby, City of Ramsey	Member	Share expertise
John Dustman, Summit Envirosolutions	Member	Share expertise
G. H. Crystal Ng, University of Minnesota	Member	Share expertise
Lih-in Rezania, Minnesota Department of Health	Member	Share expertise
James Stark, U.S. Geological Survey	Member	Share expertise
Jamie Wallerstedt, Minnesota Pollution Control Agency	Member	Share expertise
Ray Wuolo, Barr Engineering Company	Member	Share expertise

Committee feedback and discussion included:

- Technical water supply stakeholders are the more technical staff the TAC members work with on a daily basis. May want to provide an example.
- The evaluation of the committee effectiveness pertains to the TAC's evaluation of its effectiveness.
- Committee member believes TAC was created for opportunities and constraints. Need to be aware of constraints that could delay our work and help us strengthen our voice to the legislature.
- A recommendation had been made that TAC take care of infiltration support. Would this fall under regular input to MAWSAC? Do we need to add requests from MAWSAC to the TAC for specific deliverables? Could fall under technical aspects of regional water supply planning.
- Under deliverables, Met Council staff will provide support.
- Important for the technical group to bring in ideas for the work plan. Need some balance and may need to be reflected in the wording.

- Considering the report due to the legislature in February need to think about:
    - Think about timing
    - TAC may need to meet every two months initially to get up and running. Alternating MAWSAC and TAC meetings makes sense and then evaluate after 6 months.
- Draft charter will be presented to this Committee in August for the TAC. Input will be compiled from the TAC and shared with this committee.

MAWSAC Members Roles for Incorporation into MAWSAC Charter – Lanya Ross, Environmental Services

The Council staff would provide background information to support MAWSAC members' effort to establish roles and responsibilities for the committee members reflecting changes made to statute in 2015. The staff would like to receive MAWSAC member's feedback on proposed items to prepare a draft charter document for future approval.

Questions to think about:

In your own words, what does success look like for MAWSAC and what do you want MAWSAC to help achieve? How do you see yourself, as a MAWSAC member, helping that to happen?

- 2017 report to legislature
- Sustainability in Water Supply:
    - with measurable outcomes
    - with TAC input on metrics
    - with best practices (including resiliency)
- Education:
    - Create a direction
    - Create a shared understanding of issues
    - Serving as a direct channel of communication
    - Share financial implications
- Be more proactive:
    - Tell the legislature what we need and what we want
- ID & Support financial incentives
- Creating thresholds / targets to identify when action is needed
    - Different in each area / community
- Appropriate action in all parts of the metro, supporting local leadership & action
- Tools for god discussions
    - Planning function
- Participation in planning / policy work
- Checklist of what of include in rate structure to support sustainable water supplies
- Help communities to understand the return on investment (making the economic argument)
- Addressing resiliency in conjunction with sustainability:
    - Resiliency = Ability to deal with issues and Anticipate change
- Providing a shared understanding / coordinating information
- Financial report cards that are community specific
- Relevant facts that are community specific
- Provide information for short-term (resiliency) and long-term (sustainability) of community water supplies
- Supporting collaboration between communities
    - Sub-regional working groups

Two members of the Committee have stepped down. Chuck Haas and Katrina Kessler. Replacements are being sought.

MAWSAC / TAC Liaison Selection – Lanya Ross, Environmental Services

Select a MAWSAC member to act as a liaison between MAWSAC and TAC and to co-chair TAC meetings.

MAWSAC is in need of a regular representative to serve as the liaison to the newly formed TAC committee. A TAC member could serve as the chair. Dean Lotter offered to attend as his schedule has flexibility for that date. A long-term solution will need to be discussed at a future meeting.

MAWSAC Meeting Schedule – Lanya Ross, Environmental Services

The morning time slot has been difficult for some to attend regularly. After discussion, those present agreed the 4th Wednesday, every other month, from 1:00 to 3:00 p.m. would work.

ADJOURNMENT

Business completed, meeting adjourned at 10:55 a.m.

Susan Taylor
Recording Secretary