

Minnesota Stormwater Research Council

June 27, 2018

2018 Applied stormwater research project funding request

The Minnesota Stormwater Research Council (Council) in partnership with the University of Minnesota Water Resources Center (WRC) is requesting funds to complete collaborative applied research to address priority stormwater management needs for Minnesota.

Pooled funds from watersheds, cities, and other organizations will be used to complete applied research in the following areas:

- Stormwater reuse including research on suitability of application, characterization of the water within systems, treatment options and effectiveness analysis for cost, pollution, and volume reduction
- Chloride use and effectiveness, deicing alternatives, and advances in application that could include research on changing applicator behaviors.
- Development of or evaluation of stormwater practices and technologies including temporary, permanent and pre-treatment BMPs for new development and retrofit applications.

Your organization's financial contribution to the Council directly supports research important to you. Furthermore, your organization's financial support leverages funds from the Clean Water Fund allocated for stormwater research and technology transfer.

Two ways to provide financial support to the Council to fund applied stormwater research

- Use the online form: [2018 Minnesota Stormwater Research Council](#) to indicate your organization's financial support
- Request an invoice by sending an email to msrc@umn.edu

To help us select this year's research proposals, your support is appreciated before August 31, 2018, but welcome at any time during the year.

Management and use of funds

The use of pooled applied research funds will be managed by the Council in partnership with the WRC. Submissions and projects will be reviewed, ranked, and awarded as determined by the Council and the WRC. Any and all researchers, professionals, and experts will be invited to submit proposals. Organizations and their staff that contribute funds are eligible to apply. The Council has a process to manage conflicts of interest in its review, ranking, and awarding of projects.

Building from success in 2017

In 2017, the Council pooled approximately \$94K in funding from watershed districts, cities, and through the Minnesota Cities Stormwater Coalition. Thirteen applied research proposals were received and two were funded demonstrating the need for more funding and effort to address unanswered questions related to more efficient and effective stormwater management. The two 2017 funded projects were:

- Field performance assessment of sediment and gross solids removal from surface inlet pretreatment practices for bioretention
- Determining which iron minerals in iron-enhanced sand filters remove phosphorus from stormwater runoff

More information about these projects can be found on the website wrc.umn.edu/msrc

About the Minnesota Stormwater Research Council

Learn more about how cities, watersheds, consultants, state agencies, and research institutions are coming together to guide stormwater research in the [Minnesota Stormwater Research Council Framework](#) (also available at wrc.umn.edu/msrc).

We want to hear from you. Please contact one of the following representatives to provide input or for more information:

Ross Bintner, RBintner@edinamn.gov or 952-903-5713

Bob Fossum, bob@capitolregionwd.org or 651-644-8888

Cliff Aichinger, cliff6450@q.com or 651-238-4448

John Bilotta, jbilotta@umn.edu or 612-624-7708

Ann Lewandowski alewand@umn.edu or 612-624-6765

This letter is distributed on behalf of the Minnesota Stormwater Research Council Board.

Minnesota Stormwater Research Council

Framework | April 2018

Executive Summary: About the Minnesota Stormwater Research Council (MSRC)

The Minnesota Stormwater Research Council is an organization established in 2016 to

- Facilitate the completion of needed applied research that enables more informed decisions about the use, management and protection of our water resources in urbanized areas.
- Periodically assess the status of research, identify consensus research priorities, and communicate these to Minnesota's public and private research agencies and organizations.
- Promote coordination of research goals, objectives and funding among the research agencies and organizations.
- Facilitate technology transfer of stormwater research to practitioners, agencies, organizations and others. For the Council, technology transfer includes support for and facilitation of education, outreach and training and translation of research results into related manuals and policies.

Statement of Need

Minnesota is the land of nearly 12,000 lakes and 63,000 miles of rivers and streams. Minnesota has more freshwater than any of the country's other contiguous 48 states. Water is part of Minnesota's identity and a defining force in our state's history, heritage, environment, and quality of life. At the headwaters of three of the largest river basins in North America, Minnesota receives 99% of its water from rain and snow—consequently, most of our water quality problems originate right here in our own state. While this means we are not forced to clean up water problems originating elsewhere, it also means we have a responsibility to take care of our waters for our sake and for all those downstream. (Minnesota Water Sustainability Framework, 2011).

The management of these resources is closely regulated by the Minnesota Pollution Control Agency and the U.S. Environmental Protection Agency. Current water quality standards demand a response by local governments to meet these standards through TMDL implementation plans, MS4 permits and individual permits and local water management plans. How to best respond to meet clean water goals in urbanized areas requires information on alternative Best Management Practices (BMPs), their potential clean water benefit, cost and maintenance requirements.

Major identified problems include:

- Local governments and watershed organizations spend significant funds on planning, design, and construction of stormwater BMPs to meet water quality standards and implement MS4 and TMDL requirements. Current implementation is resulting in significant expense without clear service expectations. Private construction is being required to comply with stringent permit requirements that may be inefficient and costly with unknown outcomes.
- Stormwater research funding is limited and not coordinated.
- There is a current lack of efficient information/technology transfer.
- Maintenance of BMPs is required and is often not provided efficiently by existing Public Works operations. New skills, personnel, equipment, and training are needed along with proven practices and procedures.
- Current Federal and State rules require maintenance of stormwater ponds to maintain BMP performance. However, disposal of the dredge material is cost prohibitive. The impact of nutrients, contaminants, and thermal pollution from ponds requires more study.
- Local governments, watershed districts, universities, and other US research organizations are completing research. However, these research reports, findings, and recommendations are not communicated efficiently to local implementing agencies that need the information.

Purpose of the Minnesota Stormwater Research Council:

The MSRC will facilitate relevant, applied stormwater research and support education and technology transfer to connect water managers, practitioners, and other professionals to actionable research that is responsive to their needs, to benefit Minnesota and its public waters through the following efforts:

- Coordinate and build partnerships at local, regional, state, and federal levels to leverage stormwater research resources (personnel and funding).
- Provide a clear process for identifying research needs, prioritizing, soliciting, submitting, approving and implementing stormwater-related research proposals.
- Find solutions that improve the design, constructability, maintainability, cost effectiveness, hydraulic performance, and treatment efficiency of stormwater facilities, as well as stormwater management operations and maintenance practices.
- Improve the compilation, tracking, and dissemination of stormwater research findings.
- Facilitate a collaborative approach that ensures the involvement of stakeholders in identification, prioritization, and implementation of stormwater research.
- Provide a sustainable source of funding and a process that insures independent, unbiased, and objective research.

Council Structure, Governance, and Process

The MSRC is an organization of stormwater professionals, practitioners, managers, engineers, researchers and others. Coordination of MSRC activities, including administration and fiscal management, is provided by University of Minnesota Extension and the Water Resources Center (WRC).

Council Membership

Participation and membership is free and open to anyone showing an interest in stormwater research and the technology transfer of stormwater related information and research results. Members may include but are not limited to stormwater practitioners, managers, consultants, builders, engineers and organizations including cities, watersheds, counties, state agencies, research institutions, NGOs, and vendors. Individuals can join by submitting their name, role, organization, and contact information to msrc@umn.edu

Governance

The MSRC Board is the decision-making body choosing research priorities, funding options, and guiding other Council activities. The Board will consist of a diverse set of twenty individuals from the following:

- Cities
- Watershed districts or organizations
- Consultants
- Research institutions
- State agencies
- NGOs
- Counties/SWCDs
- Builders
- Vendors
- Others at-large or tbd

Board 2016--18

Eventually the list of Board members will be removed from the framework document and kept separate so that we do not have to update it annually.

1. Cliff Aichinger (*watershed rep*)
2. Bob Fossum (*watershed rep*)
3. John Loomis (*watershed rep*)
4. Mike Isensee (*watershed rep*)

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| 5. Udai Singh (<i>watershed rep</i>) | 13. David Fairbairn (<i>agency rep</i>) |
| 6. Erik Anderson (<i>SWCD rep</i>) | 14. Joe Mulcahy (<i>agency rep</i>) |
| 7. Ross Bintner (<i>city rep</i>) | 15. Brad Wozney (<i>agency rep</i>) |
| 8. Steve Gurney (<i>city rep</i>) | 16. Greg Wilson (<i>private consultant rep</i>) |
| 9. Sharon Doucette (<i>city rep</i>) | 17. TBD (<i>city rep</i>)_____ |
| 10. Dr. Valerie Brady (<i>research institution rep</i>) | 18. TBD (<i>city rep</i>) |
| 11. Jeff Peterson (<i>research institution rep</i>) | 19. TBD_____ |
| 12. Richard Strong (<i>research institution rep</i>) | 20. TBD_____ |

Coordination, fiscal and administrative functions are performed by University of Minnesota Extension and the Water Resources Center.

Financial Structure

- An annual request for funding to a broad range of public agencies and organizations and private entities will be issued.
- Entities can support the MSRC by contributing through a process established by the WRC. The Board will oversee allocation of the funds annually.
- Funds acquired will be used to support applied research submitted through a request for proposal process established by the Board and administered by the WRC.
- A portion of the core funding (10%-15%) will be used to fund the coordination, administrative and financial roles of the WRC and Extension. A level of in-kind service will be provided by the WRC and University of Minnesota Extension.
- Additional financial support and grants will be pursued to fund priority research projects.

Responsibilities of the Board

- Identify stormwater research needs and contribute to and review the Stormwater Research Roadmap (SWRR) project led by the WRC in 2016-18.
- Identify and prioritize research needs including the following subtasks:
 - Soliciting input from a broad-base of stakeholders
 - Identify ranking criteria
 - Confirm priorities established
 - Prepare biennial reports of needs
 - Disseminate report of needs
- Develop, request, and solicit funding from MSRC members and organizations to support priority research needs including:
 - Increases to dedicated stormwater research funding
 - Funding for technology transfer
 - Identify leveraging opportunities
- Develop annual budget
- Develop and implement a MSRC RFP process for awarding research funds to needs including:
 - Review, submittal, ranking, and selection process
 - Contribute ideas to strengthen research proposals
- Develop a QA/QC process for both
 - The data collected during research projects
 - For centralized reporting of results
- Establish a not-for-profit organization (or other organizational structure as determined by the Board). Fulfill annual obligations as required.

- Serve in an advisory role for the WRC and Extension stormwater related efforts in research, education and technology transfer including but not limited to providing input, review, and ranking of proposals.

WRC and Extension Leadership and Administrative Roles and Responsibilities

- Coordinate the MSRC Board
- Serve as the liaison between the Board and Members, the University, and other stakeholders
- Identify additional funding opportunities and support grant writing
- Lead and coordinate the (annual/biennial) plan to identify stormwater research needs
- Develop processes and documents in coordination with the Board
- Manage the RFP process
- Financial management to facilitate
 - Applying for grants (as directed by Board)
 - Managing incoming sources of funds for stormwater research
 - Overseeing financial reporting of awarded projects
 - Developing an annual budget for the program housed within the WRC.
- Log stormwater research projects into Department of Ag research database (or equivalent – tbd)
- Disseminate and communicate research results
- Provide communication support
 - Updates on Board activities for Council Members, newsletters to stakeholders and others on a regular basis
 - Website