

Advancing Stormwater Science, Technology, and Management in Minnesota

2020 Request for Proposals

This Request for Proposals (RFP) and supporting forms, documents and resources can be found online at www.wrc.umn.edu/projects/stormwater

The Water Resources Center (WRC) at the University of Minnesota, in cooperation with the Minnesota Stormwater Research Council (MSRC), is pleased to invite proposals to advance urban stormwater science, technology, and management in Minnesota. Funding is provided from the Clean Water Fund, as appropriated by the Minnesota State Legislature:

“... to evaluate performance and technology transfer for storm water best management practices, to evaluate best management performance and effectiveness to support meeting total maximum daily loads, to develop standards and incorporate state-of-the-art guidance using minimal impact design standards as the model, and to implement a system to transfer knowledge and technology across local government, industry, and regulatory sectors.” (Minnesota Minnesota Session Laws 2019. Chapter 2, article 1, section 10 (b))

Additional funds to support projects will be provided by the Minnesota Stormwater Research Council (MSRC), an independent organization of stormwater professionals, practitioners, managers, engineers, researchers and others. The Council’s goals include the following:

- 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, teaching institutions and others.

More information about the MSRC can be found online at www.wrc.umn.edu/msrc

Eligibility and requirements

Researchers and professionals from any academic institution, government agency, non-profit organization, or private entity are eligible to apply. Although this program is administered by the Water Resources Center at the University of Minnesota, eligibility is *not* limited to University of Minnesota employees. Staff affiliated with organizations that have contributed funds to the MSRC may submit research proposals; contributing funds to the MSRC does not make an organization ineligible. MSRC Advisory Board members who are included in any proposal as PI, co-PI or funded as part of the project must either resign from their role as a board member or excuse themselves of all Advisory Board functions related to the

proposal review and selection process. Projects must focus on urban stormwater management needs in Minnesota and benefit Minnesota waters.

Principal investigators of the chosen projects will enter into a contract with the WRC. Recipients will be announced via WRC communication channels including the WRC website, newsletters, social media, and news releases. Progress reports, final reports, and other project deliverables also will be posted on the WRC website. Each research team will be required to present project updates at the annual Minnesota Stormwater Research Council meeting and also present project findings to the Council upon project completion at times to be arranged.. Additional requirements are specified throughout this RFP.

Research Program Priorities

Proposals are sought to address specific research program priorities. Submitted proposals must select the one primary major research need category it best fits within and may identify up to two secondary research need areas if applicable.

- 1: Improve characterization of urban stormwater and watersheds**
- 2: Evaluate the efficacy of stormwater management practices at the watershed scale**
- 3: Inform effective pollution reduction at the source (*pollution prevention*)**
- 4: Improve design, construction, performance and reduce maintenance of structural practices (*temporary and permanent*)**
- 5: Determine the cost efficiency of stormwater practices**
- 6: Develop new and innovative stormwater management practices**
- 7: Improve education approaches to increase public perception and knowledge**
- 8: Evaluation of stormwater-related policies and identification and feasibility analysis of policy alternatives.**

Applicants are encouraged to review the Minnesota Stormwater Research Roadmap quick guide and full report available at www.wrc.umn.edu/stormwaterroadmap and to reflect on the Legislative funding and the purpose and goals of the Council both available referenced on page one of this RFP.

2020 Priority Focus Areas

Projects under any research need category above will be considered. Additional consideration will be given to project proposals that address one or more of the following needs. These may correspond with one or more of the research need categories above.

- Characterization of stormwater and/or stormwater management practices at the catchment, subwatershed or watershed scales.
- Characterization of winter stormwater runoff, bacteria in stormwater and speciation of phosphorus in urban stormwater runoff.
- Evaluation of stormwater reuse practices including characterization of water going into, residing in, and coming out of reuse practices and systems. Cost and benefits.
- Chloride/winter road salt research on alternatives to chloride or deicers and research on social science aspects to reducing use. *Investigators are encouraged to review all recently completed or on-going research on this topic to avoid duplication.*

- Pollution prevention with emphasis on social science aspects; changes in behavior or inspiring action in pollution prevention practices including nutrients, chloride and debris. Also effectiveness of street-wide, curb-side leaf-collection and adopt-a-drain strategies.
- Evaluation of stormwater practices interaction with or possible impacts to groundwater.
- Evaluation of the design, function, and performance of urban stormwater practices in respects to climate change and changing precipitation patterns.
- Stormwater ponds with emphasis on management techniques, retrofits to improve performance and policy revisions. *To complement and build upon past work and avoid duplication with ongoing efforts, investigators interested in projects on stormwater ponds are highly encouraged to visit with WRC staff, MSRC Board Members and staff from the Minnesota Pollution Control Agency before submitting a proposal.*

Proposal tracks

Proposals may be submitted under one of two tracks. Proposals must specify the track to which their submission will be considered. Projects can address any of the research program priorities.

Track 1: Rapid-Response Projects

Track 2: Discovery Projects

Track 1: Rapid-Response Projects

These projects will address topics of immediate need, quickly transferring cutting-edge research results to stormwater practitioners and managers. Applied rapid-response projects may include synthesis of existing research conducted in Minnesota or elsewhere, a focused extension of an existing study, or original research component with data collection on a short time frame. Outputs from these projects are expected to include reports, presentations, training materials, fact sheets, or other media. Outputs should be targeted to stormwater practitioners or integrated into technical design guides including the Minnesota Stormwater Manual and other technical and policy guidance documents as appropriate. Peer-reviewed publications may result from these projects but are not necessarily expected. These projects require education and technology transfer with specific activities to transfer the science or technology to the relevant groups of practitioners and managers in Minnesota.

Project duration: 12-21 months. Start date: April 1, 2020*. Completion date: December 31, 2021.

** Projects may begin earlier or later subject to having an executed (signed) agreement in place.*

Budget range: \$15,000 - \$75,000

Expected number of funded projects: 3-6

Track 2: Discovery Projects

Projects in this track will address one or more of the priority issues areas that are larger in scale and require more time to fully address. Discovery projects will generate new knowledge through original data collection and/or original analysis. Research outputs may include, but are not limited to, datasets, research protocols, models, and scientific publications. Projects in this track could include researchers from multiple

disciplines. These projects require a strong and comprehensive professional education and technology transfer component with specific activities to transfer the science or technology to the relevant groups of practitioners and managers in Minnesota. Project teams should include Extension educators or others with the appropriate expertise to develop and execute education and technology transfer activities. Outputs from these activities may include, but are not limited to, webinars and other educational materials, stand-alone course modules, training curricula, and changes to technical design guides including the Minnesota Stormwater Manual and other technical and policy guidance documents as appropriate. Projects in this track may include proposals for the first phase of a longer term study (+3 years). Discussion of future phases would need to be included in the description.

Project duration: Up to 33 months. Start date: April 1, 2020* Completion date: December 31, 2022

* *Projects may begin earlier or later subject to having an executed (signed) agreement in place.*

Budget range: \$50,000 - \$300,000

Expected number of funded projects: 3-6

Application instructions

Proposals are due by 5pm CDT on Friday, January 10, 2020.

New this cycle. All project proposals will be submitted online through a new WRC-CFANS online grant portal called WizeHive. Access to the portal can be found at www.wrc.umn.edu/projects/stormwater.

NOTE. The submission portal will not open until later in November. Everything applicants need to consider and begin preparing for is contained within this RFP.

The online grants submission process will require data entry by the investigator some of which may be accomplished by text entry, by copy and paste text into the online submission form and by submitting required uploads of specific documents or files. Investigators are required to prepare the six documents. File names for any upload documents should begin with the last name of the principal investigator. For example “LASTNAME-Project Summary”, “LASTNAME-Project Description”, “LASTNAME-Budget”

- Document #1 Project Summary Page (*PDF or Word accepted*)
- Document #2 Project Description (*PDF or Word accepted*)
- Document #3 Technology Transfer Plan (*PDF or Word accepted*)
- Document #4 Budget (*Excel file or PDF accepted*) Use template provided at <http://z.umn.edu/MSRCrfpBudget>.
- Document #5 Budget Justification (*PDF or Word accepted*)
- Document #6 Team Qualifications (*PDF or Word accepted*)

A complete proposal includes the following elements:

- **Project title, track 1 or track 2 designation, and principal investigator(s) and team members.** Includes full name, affiliation, and contact information for all team members. Identify the team member who will be the PI or project lead (primary point of contact). This information does not need to be formatted into a document for upload, but should be gathered for entry into the grants portal.

- **Project summary page** (1 page) Includes title, abstract (max 250 words), succinct bullet list of up to five projected outcomes, and a list of the project team members (name and organization only).
- **Project Description** (up to 5 pages, excluding references and assurances). It should include the following elements in order and with section headers accordingly. Review the evaluation criteria for proposals to guide the content of the project description.
 - **Objectives.** Clearly identify the research objectives of the project.
 - **Background and rationale.** Explain the problem you are addressing and how it responds to the priorities in this RFP. Clearly identify the value of the proposed work to stormwater practitioners and how the work benefits Minnesota waters. Also relate your project to previous work and explain how it builds upon it or will make new contributions to the existing knowledge base.
 - **Major research activities, tasks and procedures.**
 - Clearly explain how you will achieve the research objectives, identifying activities, tasks and procedures with enough detail for reviewers familiar with the nature of your work to understand and assess the scientific merit.
 - Identify the timeframe of each major task and activity, including the nature and timing of project outputs. Note that final reports are due on the project end date so project timelines should be constructed to allow adequate time for report preparation. Identify the roles and responsibilities of each project team member in relation to project tasks and outputs.
 - For projects that may be the first phase of a longer term study (3+ years), identify the likely next phase(s) of work that would build upon the work in the first phase.
 - **Deliverables.** Identify the project outputs. For all projects, one output must be a final report written for stormwater practitioners and managers.
 - **Assurances** (1 page). Include assurance that you are using good research practices as appropriate for your project. This will likely include quality assurance and quality control (QA/QC) and data management plans. If you are using a lab to test items, indicate that the lab you are using is certified (for whatever standards are appropriate to your work) and/or documentation or statement regarding how any instruments that are used have a calibration or maintenance schedule; a plan that includes blanks and duplicates for certain types of samples or at least some knowledge of the variability inherent in their sampling and evidence that they will collect sufficient samples to deal with this variability. A data management plan would specify how data are checked and backed up routinely so that they can't be lost in a computer hard drive failure or simply by losing a lab notebook, etc. This also includes acknowledging how your final report and data will be reported and available in the University of Minnesota Digital Conservancy and/or submit their final report and materials for inclusion to the Minnesota Water Research Digital Library within one month of completion.
 - **References cited** (no page limit).

- **Technology Transfer.** (1 page) Describe your plan to transfer the science and results (the deliverables) of your research project to urban stormwater practitioners, managers, and policy leaders. Include specific elements of education, training and outreach, identify desired outcomes, and the intended audiences.
- **Budget.** Use template provided at <http://z.umn.edu/MSRCrfpBudget>. Indirect costs are not an allowable expense for this program. Out-of-state travel will be scrutinized carefully and requires sufficient justification of how it benefits the project and the waters of Minnesota. International travel expenses are not allowed. Investigators who are awarded grant funds will be allowed to move up to 10% of the total award budget between major categories without prior approval. However, you may not add a budget category without prior approval. Inquire with the WRC for specific budget questions.
- **Budget justification.** Provide a budget narrative describing the expenses and connecting each expense to specific activities and objectives. In-kind and matching funds are not required but indicate if you have the opportunity to leverage other funds.
- **Team qualifications** (up to 2 pages per team member). Include a biosketch or abbreviated curriculum vitae for each team member, highlighting professional experience and qualifications related to the proposed work.
- **Peer expert and reviewer suggestions.** You are required to suggest at least three peer experts that may serve as reviewers (maximum is four) and must include at least one non-Minnesota expert. You do not need to contact your suggestions. Individuals must not have a conflict of interest with any project team member and will be asked to certify that no conflicts exist. Required information includes name, title, affiliation, email, phone and link to a webpage profiling the reviewers background, if available. This information does not need to be formatted into a document for upload, but should be gathered for entry into the grants portal.

Note to investigators from the University of Minnesota: Proposals should **not** be submitted through Sponsored Projects Administration (SPA). Grants will be awarded using internal account transfers. We recommend, however, that proposers notify their unit head(s) and finance professionals about their proposal prior to submission.

Review and selection process

Proposals will be subject to external review by peer scientists and other stormwater professionals and internal reviews by staff at the WRC and the MSRC Advisory Board. Proposals will be evaluated using the criteria noted in the next section. The review and selection committee will approach their decisions incorporating both scores on the evaluation criteria and discussions focusing on fulfilling applied urban stormwater research that benefits Minnesota waters, communities, and professionals in a timely, cost-efficient, and effective manner. The WRC and the MSRC reserves the right to request changes or alterations to the proposals. Researchers and investigators may be asked but not required to consider and respond to those changes or alterations.

Evaluation criteria

Proposals will be evaluated for the following:

- **Relevance** Does the proposed project relate to urban stormwater management or concerns in Minnesota? Does it benefit Minnesota waters? Is it applicable and does it have high value to Minnesota stormwater professionals, managers, engineers, and policy leaders? Does this project evaluate, improve, or innovate the performance and effectiveness of stormwater BMPs? Does the project evaluate or innovate standards and guidance? Does the work avoid duplicating previous efforts?
- **Priority research** Does the research examine specific ideas or concepts well-suited under the research need? Does the proposal address one of the more specific 2020 priority focus areas? Does the research and do the deliverables sufficiently address the priority research need identified?
- **Scientific merit** What is the quality of the research plan? Is the approach scientifically valid? Are the objectives and activities clearly explained? Will proposed activities achieve objectives? Will the research activities result in a significant advance in knowledge? Will this research provide us with new information needed by managers or stakeholders?
- **Technology Transfer** How strong is the technology transfer plan? Are audiences and objectives of education and outreach identified? Will the education and technology proposed lead to changes in learning or actions for an identified audience?
- **Capacity and collaboration** Do the personnel and institutions have the capacity and expertise to effectively complete proposed work? Are the budget and timeframe realistic and reasonable for completing activities and objectives? Does the proposal identify collaborations that strengthen the work? Does the proposal identify and discuss connections or communication with any of the major entities involved in urban stormwater management in Minnesota (PCA, MDH, METC and others)?
- **Cost** How does the proposed budget compare to the work proposed? Is the budget in-line with the specifications of track 1 or track 2? Is there specification of how the project could be phased?
- **Project timeline** Is the proposed timeline appropriate, with time allowed for completion of final reports? Are project benchmarks identified? Is there an indication of how the project could be phased?

Urban Stormwater Research Grant Program Timeline

- RFP released November 2019
- Proposals due by 5pm CST on Friday, January 10, 2020
- Review decision announced in March 2020
- Projects begin April 1, 2020. *Projects may begin earlier or later subject to having an executed (signed) agreement in place.*
- Rapid Response projects must be completed by and all funds expended by December 31, 2021.
- Discovery projects must be completed by and all funds expended by December 31, 2022.

- Final reports are due on the project end date.
- Final report and data are required to be deposited in the University of Minnesota Digital Conservancy and/or submitted for inclusion to the Minnesota Water Research Digital Library within one month of completion.

Requirements and contracts for chosen projects

Principal investigators and their organizations for chosen projects will be subject to an executed contract with the WRC. Requirements of the contract include but are not limited to the following:

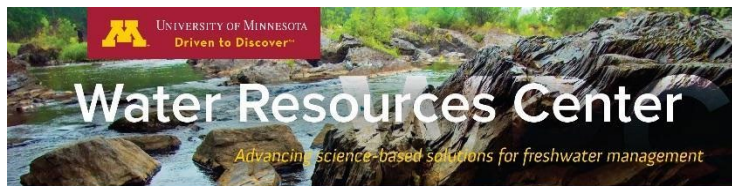
- Funding the project is contingent on signing an approved contract with the University of Minnesota Water Resources Center.
- A final work plan must be submitted that will be part of the contract. Your proposal may serve this purpose.
- Principal investigators are required to enter their final report and materials into the University of Minnesota Digital Conservancy and/or submit their final report and materials for inclusion to the Minnesota Water Research Digital Library by the project end date.
- Principal investigators and project teams may be required to participate in a pre-project kickoff meeting (*in-person, conference call, online TBD*).
- Principal investigators and team members must acknowledge the Center and the Minnesota Stormwater Research Council in any publicly distributed or displayed printed or electronic documents, reports and presentations. Materials and presentations must include the Water Resources Center and Clean Water Land and Legacy Amendment logos and acknowledgement text. Those will be available on the WRC website.

Inquire with the WRC for additional contract requirement questions.

Contacts

For questions about the submission process or the suitability of a proposed topic, please send an email to msrc@umn.edu. Your inquiry will be directed to the appropriate representative from the WRC or the Council that can best address it.

Alternatively, you may contact John Bilotta by phone 612-624-7708.



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