



**CITY OF DULUTH  
REQUEST FOR PROPOSALS FOR**

**Lakewood Filter Rehabilitation  
Design and Bidding Phase**

**Project No.: 2329**

**RFP NUMBER 25-99622**

**ISSUED July 21, 2025**

**PROPOSALS DUE Thursday, August 14, 2025**

**SUBMIT TO**

**CITY OF DULUTH  
ATTN: PURCHASING DIVISION  
CITY HALL, ROOM 120  
411 WEST 1ST STREET  
DULUTH, MN 55802**

## PART I - GENERAL INFORMATION

**I-1. Introduction and Project Summary.** The City is seeking proposals from Consulting Engineering Firms for design and bidding services for the construction of one new filter and rehabilitation of five existing filters at the Lakewood Water Treatment Plant. The Consultant will also, to the extent necessary to provide a well-considered filter design, evaluate the treatment processes immediately upstream and downstream of the filters and advise the City with a holistic view of treatment process needs and design implications. The new and rehabilitated filters will ensure needed operational capacity is met and will optimize the efficiency of treatment plant operations. Additional detail is provided in **Part IV** of this RFP.

**I-2. Calendar of Events.** The City will make every effort to adhere to the following schedule:

Activity	Date
Pre-proposal site visits tentatively available beginning:	07/22/2025
Deadline to submit Questions via email to purchasing@duluthmn.gov	08/07/2025
Answers to questions will be posted to the City website no later than this date.	08/11/2025
Proposals must be received in the Purchasing Office by 3:00 PM on this date.	08/14/2025
Interviews tentatively scheduled the week of:	08/18/2025

**I-3. Pre-proposal Site Visits.** Site visits to the facility by interested bidders are encouraged and will be scheduled upon request, pending availability of City staff. To schedule a site visit, please contact Michael Latvala at 218-730-5025 or [mlatvala@duluthmn.gov](mailto:mlatvala@duluthmn.gov).

**I-4. Questions & Answers.** Any questions regarding this RFP must be submitted by e-mail to the Purchasing Office at [purchasing@duluthmn.gov](mailto:purchasing@duluthmn.gov) **no later than** the date indicated on the Calendar of Events. Answers to the questions will be posted as an Addendum to the RFP.

**I-5. Addenda to the RFP.** If the City deems it necessary to revise any part of this RFP before the proposal response date, the City will post an addendum to its website <http://www.duluthmn.gov/purchasing/bids-request-for-proposals/>. Although an e-mail notification will be sent, it is the Bidder's responsibility to periodically check the website for any new information. Any addenda issued must be acknowledged on the Proposal Sheet attached as Appendix A.

**I-6. Interviews.** The City reserves the right to request interviews with proposers in support of technical submittal content.

**I-7. Rejection of Proposals.** The City reserves the right, in its sole and complete discretion, to reject any and all proposals or cancel the request for proposals, at any time prior to the time a contract is fully executed, when it is in its best interests. The City is not liable for any costs the Bidder incurs in preparation and submission of its proposal, in participating in the RFP process or in anticipation of award of the contract.

**I-8.Small Diverse Business Information.** The City encourages participation by minority, women, and veteran-owned businesses as prime contractors, and encourages all prime contractors to make a significant commitment to use minority, women, veteran-owned and other disadvantaged business entities as subcontractors and suppliers. A list of certified Disadvantaged Business Enterprises is maintained by the Minnesota Unified Certification Program at <http://mnuccp.metc.state.mn.us/>.

**I-9. Agreement.** The awarded proposer will be required to sign the agreement attached as Appendix B. Questions about the agreement should be submitted to [purchasing@duluthmn.gov](mailto:purchasing@duluthmn.gov) by the question deadline in the schedule above.

**I-10. Award.** The agreement award amount will be based on the time and materials submitted in the proposal, but will be a lump-sum, not-to-exceed agreement.

**I-11. Term of Contract.** The term of the contract will begin once the contract is fully executed and is anticipated to end by September 30, 2026. The selected Bidder shall not start the performance of any work nor shall the City be liable to pay the selected Bidder for any service or work performed or expenses incurred before the contract is executed.

**I-12. Mandatory Disclosures.** By submitting a proposal, each Bidder understands, represents, and acknowledges that:

- A. Their proposal has been developed by the Bidder independently and has been submitted without collusion with and without agreement, understanding, or planned common course of action with any other vendor or suppliers of materials, supplies, equipment, or services described in the Request for Proposals, designed to limit independent bidding or competition, and that the contents of the proposal have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder.
- B. There is no conflict of interest. A conflict of interest exists if a Bidder has any interest that would actually conflict, or has the appearance of conflicting, in any manner or degree with the performance of work on the project. If there are potential conflicts, identify the municipalities,

developers, and other public or private entities with whom your company is currently, or have been, employed and which may be affected.

- C. It is not currently under suspension or debarment by the State of Minnesota, any other state or the federal government.
- D. The company is either organized under Minnesota law or has a Certificate of Authority from the Minnesota Secretary of State to do business in Minnesota, in accordance with the requirements in M.S. 303.03.

**I-13. Notification of Selection.** Bidders whose proposals are not selected will be notified in writing.

## **PART II - PROPOSAL REQUIREMENTS**

**II-1. Proposal Submission.** To be considered, hard copies of proposals must arrive at the City on or before the time and date specified in the RFP Calendar of Events. The City will not accept proposals via email or facsimile transmission. The City reserves the right to reject or to deduct evaluation points for late proposals.

Proposals must be signed by an authorized official. If the official signs the Proposal Cover Sheet attached as Appendix A, this requirement will be met. Proposals must remain valid for 60 days or until a contract is fully executed. Terms of the awarded proposal as stated must be valid for the project length of time.

Please submit five (5) paper copies of the Technical Submittal and five (5) paper copies of the Cost Submittal. The Cost Submittal shall be in a separate sealed envelope.

All materials submitted in response to this RFP will become property of the City and will become public record after the evaluation process is completed and an award decision made.

### **II-2. Proposal Content.**

The Proposal shall consist of a Technical Submittal and a Cost Submittal, with contents as follows:

#### Technical Submittal Contents

The technical submittal shall be submitted in the following format broken into the 7 sections identified below. Technical submittals not following the specified format will not be reviewed. No additional sections or appendices are allowed. The technical submittal shall be limited to 20 pages plus a cover letter (The page limit includes all resumes. Submittals that exceed this limit will not be reviewed. Dividers and covers are not included in the page limitation). The Consultant must not include any cost

information within the body of the technical submittal. The technical submittal format shall be as follows:

1. Goals and Objectives

A restatement of the goals and objectives and the project tasks to demonstrate the responder's view and understanding of the project.

2. Experience

An outline of the responder's background and experience with similar projects. Project descriptions shall include a list of key staff and their role. Within the experience, the Consultant should demonstrate and provide proof of competency in the following areas:

- Surface water treatment plant new build and retrofit projects, especially in cold climate, cold water settings.
- Multi media filtration projects.
- Construction sequencing ensuring continuous operations through retrofit projects.
- Knowledge of laws, regulations, and standards pertinent to Water Supply Systems in Minnesota, including addressing non-conforming features during rehabilitation projects.

3. Personnel

Identify personnel to conduct the project and detail their training and work experience Identify how personnel proposed for this project were involved with the projects listed as experience. Identify a professional engineer registered in the State of Minnesota who will oversee the overall project. No change in personnel assigned to the project will be permitted without approval of the City.

4. Knowledge of Applicable Regulatory Requirements

Include a description of the firm's knowledge of the city, state, regional, and national standards, laws, and regulations to which the City of Duluth's water utility shall comply.

5. Work Plan

Include a detailed work plan identifying the work tasks to be accomplished and the budget hours to be expended on each task and subtask. The work plan shall be in spreadsheet format and shall list each task and the number of hours for each staff person on that task. The work plan shall also identify the deliverables at key milestones in the project as well as any other services to be provided by the City. The City staff intends to be actively involved with the project; therefore, the work plan should include a kickoff meeting, routine progress meetings, plus three (3) in-depth review meetings at City Hall at 30%, 60%, and 90% design completion, in addition to any data collection or input/review meetings. Do NOT include any costs in the work plan.

6. Work Schedule

An anticipated work schedule shall also be provided. The work schedule shall identify all key milestone dates. The milestone dates provided below are a tentative outline of the City's goals for the total project. The Consultant's anticipated work schedule shall be realistic and feasible based on their understanding of the scope of work. Any extension(s) of dates from the City's tentative outline should be justified within the proposed Work Plan and Work Schedule.

August 28, 2025	Selection of Consultant by City
September 8, 2025	City Council approval to award Contract
October 2, 2025	Notice to Proceed sent to Consultant
November 3, 2025	Technical Report submitted for City review
December 1, 2025	Plans submitted for initial City review
July 1, 2026	Plans and Specifications complete and submitted to MDH
August, 2026	Advertise for Construction bids
September, 2026	Receive & Award Construction bids* *(End of RFP Scope)
November, 2026	Start Construction (Not in RFP scope)
June, 2028	Construction completion (Not in RFP scope)

7. References

A listing of names, addresses, and telephone numbers of at least three (3) references for whom the respondent has performed similar water treatment plant design services.

Cost Submittal Contents

The Consultant must include a not to exceed total project cost, as well as subtotals for design services and bidding and any sub-Consultant fees. The cost submittal shall include all of the following:

- A cover/transmittal letter
- A breakdown of the hours by task for each employee. This shall be in the same format as the work plan in the technical submittal with the addition of costs.
- Hourly rates for each specific employee proposed. (not general rates by category)
- Identification of anticipated direct expenses and rates for miscellaneous charges such as mileage and copies.
- Identification of any assumption made while developing this cost proposal.
- Identification of any cost information related to additional services or tasks. Include this in the cost submittal, but identify it as additional costs and do not make it part of the total project cost.
- The Consultant must not include any cost information within the body of the RFP technical submittal.

### **PART III - CRITERIA FOR SELECTION**

The proposals will be reviewed by City Staff. The intent of the selection process is to review proposals and make an award based upon qualifications as described therein. A 100-point scale will be used to create the final evaluation recommendations. The factors and weighting on which proposals will be judged are:

Goals and Objectives	5%
Relevant experience	15%
Personnel	20%
Knowledge of applicable regulatory requirements	5%
Work Plan	30%
Work Schedule	10%
References	5%
Project costs/fees	10%

Proposals will be evaluated on a best value basis with 90% from the technical submittal and 10% from the cost submittal. The review committee will not open the cost submittal until after the technical submittal points have been awarded. Cost submittals will only be opened from the firms with the top three highest scored technical submittals.

### **PART IV – PROJECT DETAIL**

#### **BACKGROUND**

The City of Duluth’s Lakewood Water Treatment Facility is a conventional surface water treatment facility, drawing from Lake Superior. The facility comprises the Pump Station, originally constructed in 1895, and the Treatment Plant, originally constructed in 1976. It is the sole municipal water source to the cities of Duluth, Hermantown, Proctor, and Rice Lake. The plant’s design capacity is 37 MGD, with current average daily demand of about 13 MGD and typical peak demand of about 24 MGD.

Lake Superior raw water is generally low in turbidity, though weather and seasonal patterns cause substantial spikes, conditions often changing markedly within hours. The raw water is very soft with low alkalinity, and high in dissolved oxygen. The raw water temperature varies seasonally, approaching freezing in winter conditions, and rising to 50s and 60s Fahrenheit in summer conditions.

The treatment process includes: pre-chlorination, coagulation with rapid mixing, flocculation, and sedimentation; gravity filtration; and post-chlorination, ammoniation, fluoridation, and pH adjustment. In the existing plant configuration, both pre-chlorination and post-chlorination are required to meet the disinfection CT requirement. The plant has five gravity filters in operation; of these, one has dual media, and four have multi-media. Four filters are original to the 1976 construction, and the fifth filter is of similar design, built in 1992. Additionally in 1992, the empty concrete structure for future

completion of a sixth filter was constructed, in anticipation of demand increases that did not materialize. The five operating filters are equipped with surface wash, clay tile underdrains, and the media includes anthracite, silica sand, and - in four of five filters - garnet sand. The original plant design incorporated provisions to optionally run in direct filtration without flocculation or sedimentation, and the plant has been periodically operated in direct filtration to accommodate flocculation/sedimentation basin cleanouts. However, Minnesota Department of Health (MDH) does not currently recognize the facility as authorized for direct filtration.

The filters are controlled through a SCADA system with PLCs. Filter parameters being monitored are head loss, effluent turbidity, flow, and run time. Backwashes are performed manually by Operators. The current backwash triggers are headloss, turbidity, or run time. Spent backwash water is reclaimed. The intermediate capacity for processing spent backwash water for reclaiming is relatively small, only handling about one backwash every 3 hours. During difficult raw water conditions, the need for consecutive backwashes is an operational challenge. The existing filters do not have provisions for filter-to-waste, and MDH requires that this be added during the next upgrade or rehabilitation, which will further strain the capacity of the reclaim system. Overall reductions in backwashing frequency and volume will be beneficial in terms of energy consumption, chemical use, operational flexibility, and equipment life.

The condition of the filters and their state of optimization are of pressing concern for the City. The media in all five filters is largely original, though some anthracite has been added to replace media that had been lost over time. Past evaluation of media by Treatment Plant Operators found it to be degraded in size and shape. While there has not been an engineering evaluation of the filters, the media has been in service at least 30 - and most of it approaching 50 - years. As such, the media is far past expectations of useful service life (typically considered to be 10-20 years.) Maximum filter runtimes are short, considering the generally good raw water quality and available filter surface area relative to average flow rates. Lost garnet media has been observed in the post-filter clear wells, indicating likely underdrain failure(s) in one or more filters; for clay underdrains of such age, failures are not unexpected. A report from 2011 indicates the possibility of cracking in the exterior concrete structure of filter(s), which would require patching if present. A preponderance of information indicates the existing media and underdrains should be replaced.

The existing flocculation and sedimentation equipment and process will have direct implications to the filter design. EPA has identified that the flocculation and sedimentation equipment lacks required redundancy. The existing flocculation and sedimentation equipment needs rehabilitation, and it is unclear how effectively it is performing. The flocculators have not been operated in many years, and direct filtration may be the de facto mode of current operation, albeit with a very long detention time between rapid mix and filter. Sludge is reportedly removed from the sedimentation basin only once every year or two; the relatively low necessity for frequent solids removal may indicate only limited settling in the basin. The effectiveness of the existing flocculation and sedimentation process must be evaluated to the extent necessary to properly

execute filter design. The flocculation and sedimentation basin is also a key component to achieve the required disinfection CT for the plant. The technical, financial, and regulatory feasibility of achieving accreditation for direct filtration capability shall be addressed as one point of this project. Additionally, the new/rehabilitated filter design shall fully consider the potentially disparate influent water quality possible under the conditions of direct filtration, processing through the existing flocculation/sedimentation basin, and/or through a hypothetical future optimized flocculation/sedimentation process. The Consultant shall estimate and provide comparison of total estimated capital expenditures to accommodate these scenarios – incorporating both this planned filtration project as well as opinion of potential paths to rehabilitate, replace, or abandon the existing flocculation and sedimentation process. The City will make decisions on the direction of filter design considering this evaluation.

Still another factor directly impacted by filter design is the spent backwash reclaim and solids handling system downstream of the filters. Experience has shown this equipment is marginally sized for current operations. Any changes in backwashing procedures, including new provisions for filtering to waste will impact future capital needs for this system as well. Anticipated changes in loading volumes and timing shall be quantified, and conceptual infrastructure changes that may be required to the backwash building to allow optimized filter operation shall be identified. The Consultant shall provide an estimate of capital investment needed in the reclaim system to accommodate anticipated backwashing and filtration to waste from the new and rehabilitated filters.

Filtration technologies have advanced substantially in the half century since the Lakewood Treatment Plant was first designed. Equipment that has now exceeded its useful life and become obsolete should be replaced with current technology to the extent feasible. Average and peak water demands on the system have also changed over the years, generally decreasing in recent decades. The new filtration design(s) will incorporate current demand projections to optimize for typical operations while maintaining design capacity. The design phase will consider that the performance of new/rehabilitated filters will exceed that of the existing filters and may obviate the need for a total of six filters to be completed by the end of the project. Included in the design phase, the Consultant shall advise the number of new/rehabilitated filters expected to meet plant performance and redundancy needs, and a sequencing plan provided for the City that will quantify sufficient performance and redundancy, and inform responsible decision making as to the ultimate number of filters rehabilitated. Should any of the filters be deemed superfluous for current needs, the Consultant shall also provide in the design a layup process for any unused infrastructure to be preserved for future reuse.

The City's goals for this project are to:

- Ensure continuity of safe drinking water to all customers.
- Comply with regulatory requirements.
- Improve efficiency and optimization of the existing five filters.
- Complete the sixth filter within the existing structure using the best feasible technology.

- Update obsolete equipment with current treatment technologies where applicable.
- Consider future-proofing in the design wherever advisable, positioning the plant to cost-effectively address contaminants of emerging concern (e.g. PFAS, HABs, microplastics, etc.), should any of these become an impact to the system in later years.
- Efficiently use funding to invest in a robust design that will provide long, reliable service.
- Provide for realistic execution of necessary routine maintenance.
- Reduce ongoing costs and environmental impact through reduction of water, chemical, and energy use.

The City of Duluth will provide the following:

- All available relevant drawings from previous projects.
- Assistance in obtaining other related information in City files pertaining to the project.

## GENERAL PROJECT SCOPE

Consulting Engineering Services are expected to include all work necessary to evaluate the current filter design, advise the City of recommended design options for the new and rehabilitated filters, to provide final design including plans, specifications, and recommended filter operation procedures, and to provide services in support of construction contract bidding. The design will carefully consider upstream and downstream infrastructure and processes that are relevant to the filter design, including evaluation of said processes as needed. The design will include all aspects of filtration equipment and appurtenances, including mechanical, electrical, structural, and controls.

All work shall be performed in accordance with applicable industry and regulatory standards including the most recent version of the City Standard Specifications and Engineering Guidelines (available on the City of Duluth website <https://duluthmn.gov/engineering/>.)

## SCOPE OF SERVICES

### 1. Initial Site Visit and Consultations

- a. The Consultant shall meet with City of Duluth representatives to review project scope and complexity, design criteria, related requirements, view existing conditions, gather data from the City engineering files and previously prepared reports. Additional consultations shall, where necessary, clarify the technical requirements and objectives of the contract and may be in the form of site visit(s), letters, emails and/or telephone conversations.

- b. The Consultant shall provide documentation of meetings and data provided.
- c. The Consultant shall ascertain the applicability of information provided, review data for completeness, and notify the City of any additional data required. If information is found to be missing, the City will determine if this information should be collected as additional work.

## 2. Report of Technical Justification for Intended Design

- a. The Consultant shall, with City staff input, prepare a report providing technical justification for the intended filtration design. The report will discuss the current state, design options, and key assumptions. The report will discuss expected filter performance following construction. Integral to the technical justification, the report will include the Consultant's opinion regarding the adequacy of and possible future alternatives for the flocculation and sedimentation process, as well as for the backwash reclaim process.
- b. The technical justification should address at a minimum, though not be limited to, these areas:
  - a. Filter influent conditions and variations
  - b. Plant capacity
  - c. Treatment efficacy
  - d. Operations and maintenance considerations
  - e. Potential infrastructure cost for this filter project, as well as potential costs for the related processes
- c. The intended design must address at a minimum, though not be limited to:
  - a. Media and underdrain design intent
  - b. Surface wash and/or air scour implementation intent
  - c. SCADA control and instrumentation strategy
  - d. Incorporation of filter-to-waste

## 2. Plans and Specifications

- a. The Consultant shall prepare construction drawings as necessary to provide for the new buildout of filter six, and complete rehabilitation of filters one through five. If advising rehabilitation of fewer than five existing filters, the Consultant shall provide clear documentation to justify the recommendation and elucidate plans for the layup of any unrehabilitated filter(s). A project schedule, including planned construction sequencing of the filter rehabilitations to ensure continuous operation of the facility, is required. A commissioning plan for the new and rehabilitated filters will be provided. Any temporary process facilities or necessary interim operations procedures will be included in the design. General operational procedures

and metrics for the new and rehabilitated filters will be provided. Drawings shall include all details, plans and specifications necessary for all work as required by appropriate approval agencies.

- b. The specification preparation shall also include appropriate sections for bidding, bonding, agreements, general and special provisions, technical specifications, and other appropriate contract provisions as well. These sections shall be developed in accordance with the City standards, which shall be made available to the Consultant.
- c. The drawings shall include all necessary site maps, plans, elevations, sections, details, and notes as needed or necessary to adequately show, explain or describe all features of the project.
- d. Provide support to City during regulatory review of plans and specifications.
- e. The contract drawing sequence shall follow the standard City of Duluth format.

3. Cost Estimate

Following the completion of the plans and specifications a quantity takeoff and a detailed itemized construction cost estimate for each individual phase of the project shall be provided.

4. Project Bidding

Upon completion of plans and specifications, the Consultant shall provide all documents and services to provide for bidding and award for construction. The Consultant shall answer any questions brought up during bidding and attend a pre-bid conference. This design phase shall be considered complete upon award of the project following bidding.

5. Construction Administration

Construction Administration is not included in this proposal.

6. Construction Inspection

Construction Inspection is not included in this proposal.

**APPENDIX A - PROPOSAL COVER SHEET  
CITY OF DULUTH  
RFP# 25-0622**

<b>Bidder Information:</b>	
Bidder Name	
Mailing Address	
Contact Person	
Contact Person's Phone Number	
Contact Person's E-Mail Address	
Federal ID Number	
Authorized Signature	
Name & Title of Authorized Signer	
Email of Authorized Signer	

**ACKNOWLEDGMENT OF ADDENDA**

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