Environment and Natural Resources Trust Fund

2027 Request for Proposal

General Information

Proposal ID: 2027-101

Proposal Title: Loretto Water Treatment Pilot Study

Project Manager Information

Name: Mary Schneider

Organization: City of Loretto

Office Telephone: (763) 479-4305

Email: mschneider@ci.loretto.mn.us

Project Basic Information

Project Summary: This pilot study was recommended by city engineers to prepare for preliminary design of a water treatment facility that would account for elevated levels of iron, ammonia, and manganese.

ENRTF Funds Requested: $68,000

Proposed Project Completion: December 31, 2027

LCCMR Funding Category: Small Projects (G)

Secondary Category: Water (B)

Project Location

What is the best scale for describing where your work will take place?

Region(s): Metro

What is the best scale to describe the area impacted by your work?

Region(s): Metro

When will the work impact occur?

In the Future

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

The City of Loretto owns and operates a wellhouse with two public water system wells: Well 2 and Well 3 that supply drinking water to the city. Water is chemically treated at the wellhouse that serves Well 3 with chlorine (hypochlorite) and fluoride prior to distribution. Polyphosphate is also added for iron and manganese sequestration. The city is considering additional treatment for the removal of iron and manganese. After the completion of a feasibility study, it was determined that the goal of the water treatment facility would be to remove iron, ammonia, and manganese concentrations in the water supply. City engineers recommended a pilot study to study options for filtration. The study will look at conventional media filtration for iron and manganese removal and biological treatment of ammonia and iron. Funding the Pilot Study is challenging. Loretto is a very small city with a limited tax base and a long list of infrastructure projects that need to be completed. Funding this pilot study through user rates and/or tax levy is difficult in the current economic climate.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

A water treatment system with two vertical pressure filters is recommended by city engineers for preliminary design. The system will provide adequate treatment capacity for current and future demands. Additional improvements to the existing facility are required to provide a robust and energy efficient solution that will position the city for the next thirty years of reliable water treatment. After preliminary water quality sampling, it was determined that a pilot study is needed before preliminary design engineering. If this grant is awarded, the city will be able to proceed with the pilot study, which will inform decisions for the next step in the process: preliminary design engineering.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

After completion of the pilot study, consultants will review the analytical results and prepare a descriptive pilot study report that will inform decisions for design of the water treatment improvements. These water treatment improvements will provide the population of Loretto energy efficient and reliable water treatment for three generations.

Activities and Milestones

Activity 1: Setup and Training for Pilot Study

Activity Budget: $15,000

Activity Description:
The objective of this activity is to prepare the pilot study site and train personnel on equipment operation and procedures. Tasks include 1) setup the four media filtration columns according to project specifications; 2) calibrate instruments and sensors for accurate data collection; 3) conduct safety inspections and ensure compliance with regulations; 4) train staff on safety protocols, equipment operation, and data recording procedures. How the tasks will be accomplished: A team of technicians from the third-party vendor will assemble and install the media filtration columns, ensuring they meet the required specifications. Calibration of instruments and sensors will be performed to ensure accurate data collection. Safety inspections will be conducted by trained personnel to identify and address any potential hazards. Staff training will be conducted by the team of technicians for two days, covering all aspects of equipment operation, safety protocols and data collection procedures. Specific outcomes: 1) Fully assembled and calibrated media filtration columns and other necessary equipment for the pilot study; 2) Reviewed instructions from the third-party vendor for the appropriate operation of the equipment; 3) Trained personnel capable of operating equipment and following protocols; 4) Completed safety inspections and compliance checks.

Activity Milestones:

Description	Approximate Completion Date
Fully assembled and calibrated media filtration columns.	July 31, 2027
City staff reviewed instructions and trained in the appropriate operation of equipment.	July 31, 2027
Safety inspections and compliance checks are completed.	July 31, 2027

Activity 2: Pilot Testing for Biological Treatment Process

Activity Budget: $38,000

Activity Description:
The objective of this activity is to assess the effectiveness of both biological and conventional treatment processes in removing iron, ammonia, and manganese from the raw water. Tasks include 1) initiate biological treatment process in three media filtration columns; 2) implement additional media filtration column for conventional treatment process; 3) regularly sample, preserve and route the field tests to an independent laboratory for analysis; 4) record operational parameters and any observed anomalies; 5) adjust process parameters as necessary to optimize treatment efficiency. The biological treatment process will be initiated in three media filtration columns, while the conventional treatment process will be implemented in the additional column. Sampling of treated water will be conducted at regular intervals to monitor the effectiveness of each treatment method. Samples will be preserved and routed to an independent laboratory for laboratory analysis. Operational parameters will be recorded and any changes from expected performance will be noted. Process parameters will be adjusted as needed based on the collected data to optimize treatment efficiency. Specific outcomes: 1) sampling of treated water for laboratory analysis; 2) identification of any operational issues or challenges encountered during the testing phase; 3) documentation of optimal process parameters for each treatment method.

Activity Milestones:

Description	Approximate Completion Date
Initiation of the biological treatment process in three media filtration columns.	August 31, 2027

Implementation of the additional media filtration column for the conventional treatment process.	August 31, 2027
Field tests have been sampled, preserved and routed to the independent laboratory for analysis.	October 31, 2027
Operational parameters and observed anomalies have been recorded and processes have been adjusted accordingly.	October 31, 2027

Activity 3: Data Analysis and Reporting

Activity Budget: $15,000

Activity Description:

The objective of this activity is to analyze the collected data and prepare a comprehensive report detailing the findings of the pilot study. Tasks include 1) analyze the field test results and compile and organize data collected; 2) analyze the effectiveness and efficiency of each treatment method; 3) compare the performance of the biological and conventional treatment processes; 4) develop preliminary design assumptions based on the data analysis; 5) prepare a descriptive pilot study report summarizing the findings and recommendations. After received test results from the independent lab, the collected data will be compiled and organized systematically for analysis. Effectiveness and efficiency of each treatment method will be evaluated based on quantitative measurements and observations. A comparison of the performance of biological and conventional treatment processes will be conducted to identify strengths and weaknesses. Preliminary design assumptions will be developed based on the data analysis to inform future decision-making. Finally, a descriptive pilot study report will be prepared summarizing the findings and providing recommendations for further action. Specific outcomes include 1) comprehensive analysis report detailing the performance of each treatment method; 2) preliminary design assumptions for the full-scale treatment system; 3) descriptive pilot study report outlining findings and recommendations.

Activity Milestones:

Description	Approximate Completion Date
Analyze field test results, compile and organize data collected.	November 30, 2027
Completed analysis of the effectiveness and efficiency of each treatment method.	November 30, 2027
Preliminary design assumptions developed based on the data analysis.	November 30, 2027
Descriptive pilot study report with recommendations completed and presented to the city council	December 31, 2027

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.
The city of Loretto will publish the results of the Pilot Study on its website and will include acknowledgement of the Environment and Natural Resources Trust Funding for the project through use of the trust fund logo and attribution language.

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?
The results of the pilot study will inform decisions for preliminary design of the water treatment facility. The city will likely seek grant funding for the design engineering. If that is not successful, the project may be delayed as the city works the project into the capital improvement plan. Once design engineering is completed, the city intends to apply for funding for construction of the water treatment improvements through the Clean Water Drinking Fund.

Project Manager and Organization Qualifications

Project Manager Name: Mary Schneider

Job Title: City Clerk Treasurer

Provide description of the project manager's qualifications to manage the proposed project.
I am the head of the city's Administration Department and have been the project manager for many grant projects over my ten + years in this role with the city. I collaborate well with our internal team including the Public Works Director and our contracted engineers. I also collaborate well with the many county and state agencies needed to keep the city in compliance with all regulations. I am very organized, detail oriented, and responsible and take pride in my work as it benefits the city of Loretto.

Organization: City of Loretto

Organization Description:
The City of Loretto is a small political subdivision located on the western edge of Hennepin County with a population of 637. Loretto is a quarter square mile city that is almost fully built out.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
public works staff - 1		Daily monitoring of 12-week pilot study			0%	0.02		$2,000
							Sub Total	**$2,000**
Contracts and Services								
Stantec Consulting Services	Service Contract	Engineering support, plan review, evaluation of data/results and presentation to city council.				0.1		$15,000
TonkaWater	Service Contract	Set up the pilot equipment; train city staff in the operation of the process, operating procedures, and data collection; review the analytical results and prepare a descriptive pilot study report.				0.1		$45,000
							Sub Total	**$60,000**
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Equipment								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
							Sub Total	-
Travel Outside Minnesota								

							Sub Total	**-**
Printing and Publication								
							Sub Total	**-**
Other Expenses								
		Contingencies 10%	To support contingencies if the project goes over budget.					$6,000
							Sub Total	**$6,000**
							Grand Total	**$68,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	**-**
Non-State				
			Non State Sub Total	**-**
			Funds Total	**-**

Total Project Cost: $68,000

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: a4deb39c-63b.pdf

Alternate Text for Visual Component

Flow chart of skid-mounted biological treatment study for filtration of iron, ammonia and manganese removal....

Financial Capacity

Title	File
2025 FINAL Annual Financial Report	60af2b30-b41.pdf

Board Resolution or Letter

Title	File
Resolution 2026-07	378cfcbb-413.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Do you understand that travel expenses are only approved if they follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

N/A

Does your project have potential for royalties, copyrights, patents, sale of products and assets, or revenue generation?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No

Does your project include the pre-design, design, construction, or renovation of a building, trail, campground, or other fixed capital asset costing $10,000 or more or large-scale stream or wetland restoration?

No

Do you propose using an appropriation from the Environment and Natural Resources Trust Fund to conduct a project that provides children's services (as defined in Minnesota Statutes section 299C.61 Subd.7 as "the provision of care, treatment, education, training, instruction, or recreation to children")?

No

Provide the name(s) and organization(s) of additional individuals assisting in the completion of this proposal:

Ash Hammerbeck, Stantec Consulting Engineer.

Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements

Yes, I understand