



## REQUEST FOR PROPOSALS (RFP)

### *Pipeline Infrastructure Replacement Costs Guide (5292)*

**Date Posted**

Monday, September 9, 2024

**Due Date**

Proposals must be received by 3:00 pm Mountain Time on Thursday, November 14, 2024

**WRF Project Contact**

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**Project Sponsors**

This project is funded by The Water Research Foundation (WRF) as part of WRF's Research Priority Program.

**Project Objectives**

- To provide the water community with reliable cost data that can be used to evaluate different technologies, different project alternatives, and set initial project budgets.
- To present the information in a readily understood format that can be adjusted for regional cost differences and inflation.

**Budget**

Applicants may request up to \$150,000 in WRF funds for this project.

**Background and Project Rationale**

Water utilities frequently make key infrastructure replacement (renewal or rehabilitation) decisions based on limited, inaccurate cost information. When little cost information is available, key decisions regarding which pipes to renew and how to renew them are more difficult to make. Asset managers are forced to apply assumed unit costs to a pipeline's diameter and length to develop a planning-level cost. These inaccurate estimates may produce incorrect decisions and the projects themselves may ultimately be underfunded.

Water utilities are exploring various alternatives to open-trench pipeline construction as the need for infrastructure renewal increases. Trenchless methods often promise lower costs and fewer community impacts, but information about their costs can be less certain. When a utility uses an uncommon renewal method, there may be no recent or local historical information for a reliable cost estimate. Engineers and asset managers often use incomplete and/or overly optimistic information provided by vendors.

This WRF study will assemble cost information from utilities across North America to develop planning curves for estimating the cost of rehabilitation or other pipeline replacement projects. Only pipeline renewal methods with a substantial history will be analyzed, such as open-trench replacement, structural lining, non-structural lining, pipe bursting, horizontal directional drilling, and jack and bore. New or emerging technologies with little cost information available should not be considered. However, relatively new technologies that have been successfully implemented by major utilities may be considered, as they may provide valuable insights for smaller utilities. Examples of the cost parameters include:

- Project size (footage)
- Project type (open-trench, pipe busting, lining, etc.)
- Pipe size and materials
- Other variables (depth of bury, traffic, region, etc.) to be identified in this study

This study will focus exclusively on pipeline-related costs (excluding the costs for other things involved in such projects, such as pump stations) and develop cost curves for utilities to use.

### **Research Approach**

Key project aspects would include:

- Enlist the participation of leading utilities from across North America, who represent various geographical regions and system sizes and have experiences in a diverse range of rehabilitation technologies.
- Convene an expert workshop to decide upon the technologies and parameters to be examined in the project.
- Collect relevant bid packages and results from utilities including change order costs (if available).
  - Exclude costs that are irrelevant to the analysis.
  - Normalize data in terms of region and translate to current dollars using the Engineering News Record (ENR) construction cost indices.
  - If appropriate, incorporate updated data from a similar 2003 study by the Trenchless Technology Center (TTC) of Louisiana Tech University.
- Compile and analyze the cost data.
  - Develop curves for determining appropriate planning level estimates.
  - Provide methodology for adjusting estimates to reflect regional differences and future inflation.
  - Provide relevant statistical parameters (e.g., R-square values) for each curve.
- Prepare Project Report.
  - Present this information in an easily understandable and user-friendly format.
  - Discuss background and bases for the data, and limitations.
  - Identify key data gaps.
  - Discuss potential future improvements, including concepts for a “living” database/estimating guide and need for ongoing utility involvement.

### **Expected Deliverables**

Final project report (and/or any template/suggestion for future improvements, e.g., an online cost estimating tool with up-to-date data).

### **Communication Plan**

Please review WRF's [Project Deliverable Guidelines](#) for information on preparing a communication plan. Conference presentations, webcasts, peer-reviewed publication submissions, and other forms of project information dissemination are typically encouraged.

### **Project Duration**

The anticipated period of performance for this project is 18-months from the contract start date.

### **References and Resources**

The following list includes examples of research reports, tools, and other resources that may be helpful to proposers. It is not intended to be comprehensive, nor is it a required list for consideration.

- Simicevic, J. and R. Sterling. 2003. *Survey of Bid Prices for Trenchless Technology Methods*, Trenchless Technology Center, Ruston LA.

### **Proposal Evaluation Criteria**

The following criteria will be used to evaluate proposals:

- Understanding the Problem and Responsiveness to RFP (maximum 20 points)
- Technical and Scientific Merit (maximum 30 points)
- Qualifications, Capabilities, and Management (maximum 15 points)
- Communication Plan, Deliverables, and Applicability (maximum 20 points)
- Budget and Schedule (maximum 15 points)

## **PROPOSAL PREPARATION INSTRUCTIONS**

Proposals submitted in response to this RFP must be prepared in accordance with WRF's [Guidelines for Research Priority Program Proposals](#) and [Instructions for Budget Preparation](#). The guidelines contain instructions for the technical aspects, financial statements, indirect costs, and administrative requirements that the applicant must follow when preparing a proposal.

Proposals that include the production of web- or software-based tools, such as websites, Excel spreadsheets, Access databases, etc., must follow the criteria outlined for web tools presented in the [Technology Deliverables Guidance](#).

### **Eligibility to Submit Proposals**

Proposals will be accepted from both U.S.-based and non-U.S.-based entities, including educational institutions, research organizations, governmental agencies, and consultants or other for-profit entities. (If there is any funding from non-WRF sources, staff should check with WRF Grants Management regarding possible eligibility restrictions that need to be included).

WRF's Board of Directors has established a [Timeliness Policy](#) that addresses researcher adherence to the project schedule. Researchers who are late on any ongoing WRF-sponsored studies without approved no-cost extensions are not eligible to be named participants in any proposals. Direct any questions about eligibility to the WRF project contact listed at the top of this RFP.

### **Administrative, Cost, and Audit Standards**

WRF's research program standards for administrative, cost, and audit compliance are based upon, and comply with, Office of Management and Budget (OMB) Uniform Grants Guidance (UGG), 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, and 48 CFR 31.2 Contracts with Commercial Organizations. These standards are referenced in WRF's [Guidelines for Research Priority Program Proposals](#) and include specific guidelines outlining the requirements for indirect cost negotiation agreements, financial statements, and the Statement of Direct Labor, Fringe Benefits, and General Overhead. Inclusion of indirect costs must be substantiated by a negotiated agreement or appropriate Statement of Direct Labor, Fringe Benefits, and General Overhead. Well in advance of preparing the proposal, your research and financial staff should review the detailed instructions included in WRF's [Guidelines for Research Priority Program Proposals](#) and consult the [Instructions for Budget Preparation](#).

### **Budget and Funding Information**

The maximum funding available from WRF for this project is \$150,000. The applicant must contribute additional resources equivalent to at least 33% of the project award. For example, if an applicant requests \$100,000 from WRF, an additional \$33,000 or more must be contributed by the applicant. Acceptable forms of applicant contribution include cost share, applicant in-kind, or third-party in-kind that comply with 2 CFR Part 200.306 cost sharing or matching. The applicant may elect to contribute more than 33% to the project, but the maximum WRF funding available remains fixed at \$150,000. Proposals that do not meet the minimum 33% of the

project award will not be accepted. Consult the [Instructions for Budget Preparation](#) for more information and definitions of terms.

### **Period of Performance**

It is WRF's policy to negotiate a reasonable schedule for each research project. Once this schedule is established, WRF and its sub-recipients have a contractual obligation to adhere to the agreed-upon schedule. Under WRF's [No-Cost Extension Policy](#), a project schedule cannot be extended more than nine months beyond the original contracted schedule, regardless of the number of extensions granted.

### **Utility and Organization Participation**

WRF encourages participation from water utilities and other organizations in WRF research. Participation can occur in a variety of ways, including direct participation, in-kind contributions, or in-kind services. To facilitate their participation, WRF has provided contact information, on the last page of this RFP, of utilities and other organizations that have indicated an interest in this research. Proposers are responsible for negotiating utility and organization participation in their particular proposals. The listed utilities and organizations are under no obligation to participate, and the proposer is not obligated to include them in their particular proposal.

### **Application Procedure and Deadline**

Proposals are accepted exclusively online in PDF format, and they must be fully submitted before 3:00 pm Mountain Time on Thursday, November 14, 2024.

The online proposal system allows submission of your documents until the date and time stated in this RFP. To avoid the risk of the system closing before you press the submit button, do not wait until the last minute to complete your submission. Submit your proposal at <https://forms.waterrf.org/cbruck/rfp-5292>.

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Dr. Jian Zhang at 303.347.6114 or [jzhang@waterrf.org](mailto:jzhang@waterrf.org). Questions related to proposal submittal through the online system may be addressed to Caroline Bruck at 303.347.6118 or [cbruck@waterrf.org](mailto:cbruck@waterrf.org).

## ***Utility and Organization Participants***

The following utilities have indicated interest in possible participation in this research. This information is updated within 24 business hours after a utility or an interested organization submits a volunteer form, and this RFP will be re-posted with the new information. **(Depending on your settings, you may need to click refresh on your browser to load the latest file.)**

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