



## **REQUEST FOR PROPOSAL**

### **DUAL PLUMBING COSTS FOR BUILDINGS UTILIZING NON-POTABLE WATER REUSE (RFP 5000)**

#### **Objective**

This project will determine dual plumbing costs for various building typologies (buildings unique in physical characteristics, form and use) that are representative of recent urban and suburban development. The project is a collaboration between Austin Water and The Water Research Foundation (WRF).

#### **Budget**

Proposals requesting WRF funding in the range of \$50,000 or less will be considered for this effort. Total funds requested from WRF will be taken into consideration in the final proposal selection process. Austin Water will provide an in-kind contribution estimated at \$25,000.

#### **Background**

An understanding of the range of dual plumbing costs in new buildings is critical for the development of effective water reuse incentives and ordinances. These costs are site- and building-specific; however, creating a database or “building library” that contains these costs for common urban and suburban building typologies will assist any utility or community that is considering implementation of non-potable reuse in buildings. Such a database does not currently exist, but would be useful to utility subscribers, regulators, and public stakeholders to understand the costs associated with water reuse in buildings. The growing interest in water reuse and the continuing drought in much of the southwest, as well as the possible “shortages” that might be declared on the Colorado River, make this an important and time critical project.

Austin Water is currently working to develop a long-range Integrated Water Resource Plan called Water Forward, which is expected to go before Austin City Council for adoption in late 2018. As part of the plan, Austin Water has identified a preliminary 2040 target of implementing approximately 20 MGD of additional non-potable water reuse through a mix of incentives and ordinances targeted at various types of development.

The scope of this project is partly informed by earlier WRF research, especially Project 4632, *Risk-Based Framework for the Development of Public Health Guidance for Decentralized Non-Potable Water Systems*. Austin Water is a member of the National Blue-Ribbon Commission for Onsite Non-Potable Water Systems, and the suggested work fits well with Commission objectives as well as planned WRF research on integrated water management.

## Research Approach

Austin Water will provide architectural plans for 25 building typologies (single family, multi-family, commercial and mixed-use) that have been developed using recent City of Austin building permit and site plan data.

Austin Water and WRF are soliciting a suitable candidate to design a dual distribution plumbing system to supply non-potable water to all applicable fixtures within each of the building typologies, and in a few buildings, a dual drainage system to separate graywater and blackwater. The candidate will provide costs for each of these dual plumbing systems (incremental costs compared to a single distribution and drainage system for each building typology), as well as a description or basic metric for the biggest driver of cost for each building typology. The candidate will also provide an Excel-based costing tool for use at other utilities, including approaches to address regional differences in construction costs. Each work product should be submitted in a form that can be readily incorporated into a WRF report using standard business software (e.g., Microsoft Word/Excel, Adobe PDF). The successful candidate is expected to begin work on this project before the end of 2018.

Austin Water and WRF will compile a final report for this project that includes a library of building typologies and their associated dual plumbing costs.

## Proposal Submittal Instructions

Proposals should be submitted to [EmOpp@waterrf.org](mailto:EmOpp@waterrf.org) by 3PM MT on October 24, 2018. For proposal submittal questions please contact Caroline Bruck, Senior Administrative Assistant, at [cbruck@WaterRF.org](mailto:cbruck@WaterRF.org) (303-347-6118). For technical questions about the RFP, please contact Mary Messec Smith at [msmith@waterrf.org](mailto:msmith@waterrf.org) (303-347-6134). Proposals must be submitted in Adobe Acrobat (.pdf) format in one file. The Emerging Opportunities Program has unique proposal requirements. Please follow the submission instructions below and do not reference requirements of other research programs. Proposals not adhering to the restrictions below will not be accepted.

The entire proposal, excluding the proposal cover worksheet, resumes, budget form, budget narrative, co-funding support form (when applicable), schedule, and references, should **not exceed six pages in length**. Proposals must include the following components.

- **Proposal Cover Worksheet** - See the Emerging Opportunity Program Worksheets section at: <http://www.waterrf.org/funding/Pages/proposal-guidelines.aspx>
- **Background and Statement of Need** – Provide a summary of the current state of knowledge for the issue that the proposed research will help address, and the drivers for the proposed research. This section should clearly articulate:
  - 1) How this work compares to past or ongoing related research.
  - 2) If the proposed work is duplicative of past research efforts, why this additional work is needed.
- **Objectives** – The proposed research objectives should be clearly identified in one or two sentences.
- **Technical Approach** – Describe how the proposed research will be conducted and the tasks necessary to accomplish the objectives.

- **Benefit to WRF Subscribers** – Identify the practical benefits of the proposed research to water utilities and the water community.
- **Research Team and Other Participants** – Identify the key members of the research team and provide brief statements of their qualifications to conduct the proposed research. Identify any other organizations that have committed to collaborate on the proposed research. Curriculum vitae or resumes for research team members are required.
- **Budget**– A detailed budget is required. The researcher should identify the amount of WRF funds requested and any other cost-share, in-kind, or cash support for the proposed research. The following items will need to be included with the budget. They can be found in the Emerging Opportunities Research Program Worksheets section at <http://www.waterrf.org/funding/Pages/proposal-guidelines.aspx>
  - Budget Form for Proposals
  - Budget Narrative
  - Emerging Opportunities Co-Funding Support Form (when applicable): Each co-funding organization providing cash to the project payable directly to WRF must complete a separate Emerging Opportunities Co-Funding Support Form and include it with the proposal package.
- **Schedule** - A detailed schedule is required.
- **References** (optional) – detailed citations are not required in the proposal but may be provided at the discretion of the researcher.

### **Proposal Review and Funding Decision**

WRF will form a Project Advisory Committee (PAC) composed of volunteer professionals with expertise in the research subject area to oversee the project(s) funded through this solicitation. Proposals will be reviewed by WRF staff and the PAC against established evaluation criteria. WRF may request additional information from the researcher based on this review, and interviews may be conducted for the top three proposals. Proposals are treated confidentially and will not be shared outside of WRF.

The proposal review and selection process, from initial submittal through final decision, generally will not exceed 3-4 weeks.