

Water Efficiency Grant Program Fund Application: Center for ReSource Conservation (CRC)

Applicant: Center for ReSource Conservation (CRC)

Project Name: Slow the Flow Indoor Water Audit Program

Goal: Develop and implement a large-scale residential indoor water audit program in partnership with water utilities.

Funds Requested: \$34,020

Matching Funds: \$25,017

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Project Background and Overview

The Center for ReSource Conservation (CRC) is a 501(c)(3) nonprofit organization that empowers our community to conserve natural resources. Formerly the Boulder Energy Conservation Center, the CRC was founded in 1976 by a group of community-minded citizens seeking ways to help reduce our dependence on non-renewable resources. The organization has developed extensive expertise in the areas of water conservation, energy efficiency, waste reduction, green building, and renewable energy.

In partnership with local municipalities, the CRC runs several successful water conservation programs. Through the CRC's flagship conservation program, Slow the Flow Colorado, the CRC works with fifteen Front Range water providers to offer free irrigation inspections to their customers, as has performed over 7,000 inspections since 2004. In 2009, the CRC partnered with four water providers to sell 500 low-cost, pre-planned xeric gardens through the Garden-In-A-Box program. Through the Water-Wise Landscape Seminar Program, the CRC partnered with six water providers to teach over 500 people the ins and outs of water-wise landscaping in 2009.

Based on feedback from partner water utilities and an analysis of organizational strengths, the CRC has decided that one of the next steps is to develop an indoor water audit program.

Indoor water audits present a unique opportunity for water savings. Approximately 40-50% of residential water on the Front Range is used indoors. Indoor audits will help educate customers about their overall water use, which fixtures in homes use large amounts of water, and the benefits of replacing fixtures with low-flow options. Additionally, data collected from indoor audits will help inform utilities about current fixture types in their service area and the conservation potential of further fixture replacements. According to Colorado WaterWise representatives, indoor water audits are currently included as a proposed best practice for water conservation in Colorado.

The CRC plans to structure the program very similarly to the successful Slow the Flow Colorado Irrigation Inspection program. The program will be very close to a 'turn-key' program for partner utilities: they will be responsible for the marketing of the program to their customers, paying a program fee, and providing water-use data for participating customers while the CRC handles all other aspects of the program. Audits will be provided free of charge to their customers. The CRC will provide an annual report to each utility containing data collected during the program.

The CRC asks the CWCB for this grant in order to bring this program to a self-sufficient level. We anticipate that with this request and a smaller request in the 2011 calendar year for program analysis, we will turn this into a completely self-sufficient program by 2012. This follows a similar model as the Slow the Flow Colorado Irrigation Inspection program. That program was partially funded by the CWCB from 2004 to 2006. This funding helped the program become self-sufficient; the program continues to grow in 2010 and is poised to perform a record number of inspections this year.

The CRC has signed or verbal agreements with three utilities for the program in 2010. The CRC has signed a contract with the City of Thornton to perform 161 indoor water audits this year, and agreed with the City of Lafayette to perform 25 indoor water audits. Letters of support from both utilities are attached with this grant request. The CRC has a verbal agreement with the City of Longmont to participate in the program in 2010, although exact audit amounts are not yet determined. The CRC is confident in our ability to deliver 225 audits with these agreements.

This grant request includes 42% matching funds, well above the CWCB's 25% requirement. The creation of a 'turn-key' indoor water audit program will be a valuable addition to the Colorado water conservation world and will continue to help the CWCB add to the breadth and depth of conservation efforts at the local level.

Audit Details

Each indoor water audit will last for approximately one hour, and will contain the following steps:

- Meet with homeowner
- Water bills assessment
- Home walk through and fixture tests*
 - Bathrooms
 - Kitchen
 - Appliances
- If applicable, fixture retrofits
- Calculation of water use and potential savings
- Walk through results with homeowner

*Fixture tests include both use and leak tests

Audits will serve as a catalyst for the replacement of high water use fixtures with low flow options. CRC auditors will make program participants aware of high-use fixtures, provide them with customized water and money savings amounts for each recommended fixture replacement, and provide them with all applicable rebate information. Additionally, the simple act of having a trained technician recommend a fixture replacement will spur action.

The CRC plans to include some on-site fixture retrofits in the program. In 2010, the CRC will offer low-flow showerheads (2.0 GPM), and bathroom faucet aerators to customers. Most showerheads used in 2010 will be Niagara Conservation Earth Massage 2.0 GPM showerheads. Most faucet aerators used in 2010 will be Niagara N3210N Dual-Thread 1.0 GPM faucet aerators. In future years, the CRC hopes to include low-cost leak fixes, toilet flapper replacements, and toilet replacements in the program. As the EPA WaterSense specifications continue to evolve, the CRC intends to prioritize the use of WaterSense fixtures for future years.

The CRC will include the option of fixture use stickers and shower timers for customers as a way of encouraging behavior change. Some studies have shown significant water savings when people are reminded of water use and the value of water each time they use a water fixture. The CRC will offer these items to each audit customer.

Partner utilities on the project have expressed a variety of intentions with regards to the audience for the program. Some utilities wish to market to the program to all of their residents. Others intend to market the program only to areas of older housing stock, or with historically high indoor water use. For example, the City of Lafayette intends to target marketing for the program towards its Old Town neighborhood, and use the results from the first year of the program to examine if there is a need for more in-depth intervention in that area. The CRC will work with utilities on both types.

In 2011, the CRC would like to perform a study of participants' water use changes to further assess the impact of the program.

Project Scope of Work

The goal of the project is to create and implement an indoor water audit program that can be brought up to a large scale. The scope of work includes five tasks, described below, that will lead the CRC and its partners to that goal. The tasks, deliverables, and deadlines are summarized in Table 1 below.

Task 1: Develop the Indoor Audit Program

Task 1 includes everything required for the program to bring it from an idea into a program that is ready to be advertised and ready to hire and train an auditor. These include:

- Develop auditor training agenda and presentations
- Perform test audits to test procedures and systems
- Build a database for audit information
- Create scheduling systems for audits
- Purchase equipment and materials for the auditor

Task 1 includes the following deliverables:

- A training agenda
- Audit database
- Online scheduling tool

The CRC anticipates Task 1 will be completed by July 15th, 2010.

Task 2: Market and Advertise the Program

In order for an indoor audit program to be successful, potential participants need to be aware of and excited by the program. In task 2, the CRC will develop marketing materials for the program and will work with partner utilities to advertise the program to their customers. Steps involved include:

- Design marketing materials
- Design an indoor water audit section of the CRC's website
- Coordination between the CRC and partner utilities to facilitate advertising
- Advertising of the program by partner utilities to their customers

Task 2 includes a deliverable of 225 audit requests. While the bulk of the work for Task 2 will occur in May through July of 2010, the CRC anticipates final completion of the task by October 1st, 2010; some utilities may do a final round of marketing in the early fall of 2010.

Task 3: Hire and Train Program Staff

In this task, the CRC will hire and train staff for the program. These staffers include a water conservation technician to perform the audits and a conservation associate to schedule the audits. Technician training will be one to three days long. CRC staff will conduct most of the training, but the CRC may bring in outside experts to assist with certain topics.

Task 3's deliverables include one staffer who is trained and capable of performing high-quality irrigation audits and one staffer hired and trained to schedule audits. The CRC anticipates that Task 3 will be completed by July 22nd, 2010.

Task 4: Perform Audits

Task 4 involves several mini-tasks:

- Recording requests for audits
- Contacting customers to schedule audits
- Gathering water use information from utilities for each customer
- Performing audits on-site with customers
- Collecting audit data
- Managing program staff

Task 4's deliverable includes 225 completed indoor water audits. The CRC anticipates that this task will be complete by November 15th, 2010.

Task 5: Data Analysis and Reporting

The Slow the Flow Indoor Water Audit program includes a significant data collection component to aid partner utilities in understanding the customers and targeting conservation programs. In Task 5, the CRC will compile and analyze data collected during audits, perform a customer feedback survey, and write program reports based on this data. The CRC anticipates providing one report to each partner utility containing data from their customers for each year that the program is performed and one general report containing all data collected during the program. The CRC will make the general report available to the water conservation community and will make efforts to present its findings.

The CRC anticipates that the data collected and analyzed will include the following:

- Basic demographic data about each home
- Number, type, and flow rate of fixtures found at each home

- Water savings potential from fixture replacements at each home
- Fixture replacements performed on-site at each audit
- In partnership with staff at some partner utilities, rebates applied for by indoor water audit customers
- Leaks and other problems found at each home
- At the end of the first year of the program, results of a follow-up survey of audit customers

The follow-up survey will consist of a phone survey of indoor audit customers conducted after audits are completed for the year. The survey will include customer satisfaction questions and questions related to the impact of the program.

Task 5's deliverables include a completed customer survey, a program report provided to each partner utility, and a program report made available to the CWCB and the general public. The CRC anticipates that Task 5 will be complete by December 15th, 2010.

The CRC anticipates providing the CWCB with the 50% progress report by August 1st, 2010 after Task 3 is complete, and the 75% progress report by November 30th, 2010 after Task 4 is complete. The CRC will provide the final report to the CWCB by December 31st, 2010.

Table 1: Summary of Tasks, Deliverables, and Deadlines, and Cost

| Task | Deliverables | Deadline | Cost |
|--|---|------------|----------|
| Task 1: Develop the Program | Audit database and online scheduling system. Complete training agenda. | 7/15/2010 | \$8,160 |
| Task 2: Market and Advertise the Program | 225 indoor water audit requests. | 10/1/2010 | \$9,780 |
| Task 3: Hire and Train Program Staff | Audit staff hired and trained. | 7/22/2010 | \$3,952 |
| Task 4: Perform Audits | 225 indoor audits performed. | 11/15/2010 | \$24,540 |
| Task 5: Data Analysis and Reporting | Customer survey completed. Program reports provided to partner utilities and the general public. | 12/15/2010 | \$12,605 |

Project Budget

Table 2 details the project's budget. The CRC is requesting \$34,020 from the CWCB to fund the development of the program. The CRC anticipates a total of \$25,017 in matching funds for the program: \$13,992 in audit fees from partner utilities, \$8,525 in in-kind support (marketing, advertising, providing water use data for participants, and some low-flow fixtures) from partner utilities, and \$2,500 of in-kind support from the CRC.

Under each task the CRC has detailed the time required for the task, the hourly rate for that time, the cost of items associated, and the source of the funds. Hourly rates are detailed in the project team and partners section below.

Table 2: Program Budget

| Program Budget | | | | Funding Source | | | |
|---|-------|------|----------|----------------|-----------------------|-------------------------|-------------|
| Task 1: Develop the Program | Hours | Rate | Total | CWCB | Partner Utility Funds | Partner Utility In-Kind | CRC In-Kind |
| CRC Water Staff | 122 | \$40 | \$4,880 | \$4,530 | | | \$350 |
| CRC Deputy Director | 8 | \$75 | \$600 | \$600 | | | |
| CRC Business Director | 4 | \$75 | \$300 | \$300 | | | |
| CRC Executive Director | 2 | \$90 | \$180 | \$180 | | | |
| Online Scheduling System | | | \$1,200 | \$1,200 | | | |
| Database Design | | | \$1,000 | \$1,000 | | | |
| Total for Task 1 | | | \$8,160 | \$7,810 | \$0 | \$0 | \$350 |
| Task 2: Market and Advertise the Program | Hours | Rate | Total | | | | |
| CRC Water Staff | 32 | \$40 | \$1,280 | | | | \$1,280 |
| Graphic Design | | | \$2,000 | \$2,000 | | | |
| Web Design | | | \$1,500 | \$1,500 | | | |
| Partner Utility Marketing and Advertising | | | \$5,000 | | | \$5,000 | |
| Total for Task 2 | | | \$9,780 | \$3,500 | \$0 | \$5,000 | \$1,280 |
| Task 3: Hire and Train Program Staff | Hours | Rate | Total | | | | |
| CRC Water Staff | 68 | \$40 | \$2,720 | \$2,720 | | | |
| CRC Program Staff | 24 | \$18 | \$432 | \$432 | | | |
| CRC Business Director | 2 | \$75 | \$150 | \$150 | | | |
| CRC Deputy Director | 2 | \$75 | \$150 | \$150 | | | |
| Guest Trainers | | | \$500 | \$500 | | | |
| Total for Task 3 | | | \$3,952 | \$3,952 | \$0 | \$0 | \$0 |
| Task 4: Perform Audits | Hours | Rate | Total | | | | |
| CRC Water Staff | 156 | \$40 | \$6,240 | \$3,120 | \$3,120 | | |
| CRC Program Staff | 550 | \$18 | \$9,900 | \$1,800 | \$8,100 | | |
| CRC Deputy Director | 15 | \$75 | \$1,125 | \$563 | \$562 | | |
| CRC Business Director | 10 | \$75 | \$750 | \$150 | \$600 | | |
| Mileage | | | \$1,200 | \$240 | \$960 | | |
| Printing | | | \$800 | \$150 | \$650 | | |
| Partner Utility Water Records | | | \$1,600 | | | \$1,600 | |
| Low flow fixtures | | | \$2,925 | \$1,000 | | \$1,925 | |
| Total for Task 4 | | | \$24,540 | \$7,023 | \$13,992 | \$3,525 | \$0 |
| Task 5: Data Analysis and Reporting | Hours | Rate | Total | | | | |

| | | | | | | | |
|------------------------|-----|------|------------|----------|-----------------------|-------------------------|-------------|
| CRC Water Staff | 180 | \$40 | \$7,200 | \$6,480 | | | \$720 |
| CRC Program Staff | 135 | \$18 | \$2,430 | \$2,430 | | | |
| CRC Business Director | 5 | \$75 | \$375 | \$375 | | | |
| CRC Deputy Director | 20 | \$75 | \$1,500 | \$1,350 | | | \$150 |
| CRC Executive Director | 10 | \$90 | \$900 | \$900 | | | |
| Printing | | | \$200 | \$200 | | | |
| Total for Task 5 | | | \$12,605 | \$11,735 | \$0 | \$0 | \$870 |
| | | | | | | | |
| Summary | | | Total Cost | CWCB | Partner Utility Funds | Partner Utility In-Kind | CRC In-Kind |
| Project Cost | | | \$59,037 | \$34,020 | \$13,992 | \$8,525 | \$2,500 |

Project Team and Partners

This program represents a partnership between the CRC and partner utilities. The CRC will have a full list of participating utilities for 2010 at the completion of Task 1 of the grant; however the CRC anticipates that three utilities will participate in 2010. CRC staff members who will work on the project are listed below.

Executive Director
Keith Frausto
\$90 per hour billing rate

Keith Frausto is a management professional with extensive experience in designing, implementing and managing development programs in the United States, Africa and Asia. With a lifelong commitment to quality of life issues, Keith's diverse professional experience includes community development, public health, agriculture, irrigation, food security, water/sanitation, and micro-enterprise programs throughout the world. Keith began his career as a Peace Corps Volunteer in southern Africa and then served with the United Nations, World Food Programme, International Rescue Committee, and International Development Enterprises. As Administrator with Adams County Community Development, Keith established programs for low-income families. He leveraged resources and partnerships in the housing, neighborhood, economic development, food assistance, and transportation sectors to assist the poor. Keith has a Masters Degree in Community Development and looks forward to developing community alliances on behalf of sustainability issues, where CRC can better design and measure its programmatic impacts.

Deputy Director
Spenser Villwock, MA, LEED AP
\$75 per hour billing rate

Spenser Villwock is the Deputy Director of the Center for ReSource Conservation. Spenser was raised in Iowa and has lived in Portland, Oregon, rural Japan, and Baltimore, Maryland prior to relocating to Boulder in mid-2007 with his wife, Amy. Spenser holds a master's degree in non-profit management, a LEED-AP (Existing Buildings) Accredited Professional, and an undergraduate in English literature. With professional experience in community organizing on environmental issues, population-based philanthropy, leadership development, organizational capacity building, and running two start-up companies, Spenser focuses his current efforts at the CRC on maximizing

conservation program impact. A strong advocate of sustainable communities and green building, Spenser is the President of Board of Directors for the Boulder Green Building Guild (www.BGBG.org), and an active member of the Colorado Association for Recyclers (www.cafr.org).

Director of Business Operations
Cliff Clusin
\$75 per hour billing rate

Cliff has been the Director of Business Operations for the Center for ReSource Conservation since February of 2003. Prior to his work with the CRC, he worked as the Business Manager for the Association for Experiential Education. Prior to that, his work included time as Emergency Family Assistance Association's Finance Director and in Eco-Cycle's Finance Department. Cliff brings over 15 years of experience doing business management in the nonprofit arena to the organization.

Water Division Director
Jeff Woodward

\$40 per hour billing rate

Jeff is a non-profit professional with experience in program management, program development, political organizing, and data analysis. Born and raised in Boston, he has worked on all aspects the CRC's water conservation programs since 2007. Prior to that, he worked with the Oregon Student Public Interest Research Group (OSPIRG), organizing students for environmental and public interest campaigns. Jeff graduated from Dartmouth College with degrees in Mathematics and Environmental Earth Sciences. Jeff brings a passion for environmental issues and the outdoors to his work and life. As well as his work with the CRC, Jeff volunteers with and serves on the Board of Colorado WaterWise.

Jeff is the primary contact and point person for the execution of this program.

Water Programs Manager
Kate Gardner
\$40 per hour billing rate

Kate joined the CRC in June of 2009. Kate comes from the Colorado Alliance for Environmental Education, where she coordinated the Colorado Environmental Film Festival and gained an understanding of the power of education to empower a community to make sustainable choices. Kate has a degree from the University of Colorado Boulder in Business Administration.

Water Conservation Technician
TBD
\$18 per hour billing rate

The water conservation technician will be responsible for performing indoor water audits. He or she will be required to prove responsibility and proficiency in conducting a high-quality indoor water audit and working with customers.

Water Conservation Associate
TBD
\$18 per hour billing rate

The water conservation associate will be responsible for coordinating with customers to schedule indoor water audits. He or she will be required to demonstrate exceptional customer service and organizational skills in order to schedule audits effectively.