COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Last Update: October 20, 2017

Colorado Water Conservation Board

Water Efficiency Grant Fund
Grant Application

Instructions

All WEGF grant applications shall conform to Grant Guidelines. Please do not recycle previously used applications; download a current version directly from CWCB.

If you have questions, please contact CWCB staff:

Ben Wade
Ben.wade@state.co.us
303-866-3441 ext 3238

WEGF Submittal Checklist (Required)

	I acknowledge I have read and understand the WEGF Criteria and Guidelines.
Attachments	
	Scope of Work(1) *(Word – see Template)*
	Budget & Schedule(1) *(Excel Spreadsheet – see Template)*
	Letters of Support (For Public Education/Outreach Grants)
Contracting Documents (For Public Education/Outreach Grants)	
	W-9(2)
	Certificate of Insurance(2) (General, Auto, & Workers' Comp.)

(1) Required with application if applicable.
(2) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

CWCB Board Meeting Schedule (only IF grant request is $50,000 or more):

CWCB Meeting	Application Submittal Dates
January	December 1
March	February 1
May	April 1
July	June 1
September	August 1
November	October 1

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Water Efficiency Project Summary	
Name of Applicant	Denver Water
Name of Grant Project	Pure Water Colorado Potable Reuse Demonstration Project
WEGF Grant Request Total	$48,000
In-Kind Match	$47,187
Cash Match	$154,579
Total Project Costs	$249,766

Applicant Information	
Name of Applicant	Denver Water
Mailing Address	1600 W. 12th Avenue, Denver CO 80204
Applicant's Organization Contact(1)	Mike King
Position/Title	Chief of External Affairs
Email	Mike.king@denverwater.org
Phone	303 628 6203
Grant Management Contact(2)	Abigail Antolovich
Position/Title	Water Efficiency & Reuse Leader
Email	Abigail.antolovich@denverwater.org
Phone	303 598 7743
Name of Consultant (if applicable)	John Rehring
Mailing Address	390 Interlocken Crescent Suite 800
Position/Title	Vice President, Project Manager
Email	jrehring@carollo.com
Phone	303-404-6309

(1) Person with signatory authority

(2) Person responsible for creating reimbursement invoices (Invoice for Services) and corresponding with CWCB staff.

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Organizations & Individuals Assisting on the Project
A list of the organizations and/or individuals including those hired or otherwise retained by the entity that will assist in the project, and a written statement of their role and contributions
• Denver Water: Denver Water will serve as the host facility for the demonstration project, and will provide staff and utilities necessary for operation of the equipment. Denver Water will provide in-kind staff time and cash contributions toward the project. • Carollo Engineers: Carollo will serve as the project's consulting engineer, providing technical advice and operational support to the demonstration project. Carollo will also serve as the lead interface between this project and the WateReuse Colorado Direct Potable Reuse Project's outreach tasks (Task 2.5 of the Water Supply Reserve Account-funded project titled "Advancing Direct Potable Reuse to Optimize Water Supplies & Meet Future Needs"). • Xylem, Inc., Calgon Carbon, and Pall: These equipment manufacturers will provide pilot equipment and materials as in-kind contributions toward the project. • WateReuse Colorado: The regulatory and outreach workgroups from the WateReuse Colorado Direct Potable Reuse Project (as noted above) will be apprised of the project's progress and, contingent on project timing and sequencing, may advise on the use of the demonstration project to help advance regulatory and public acceptance of direct potable reuse in Colorado.

Type of Eligible Entity (check one)	
	Covered Entity: as defined in Section 37-60-126 Colorado Revised Statutes **Public**
	Non-covered Entity
x	**State or Local Governmental Entity**
	Public or Private Agency: entity whose primary purpose includes the promotion of water resource conservation. Please disclose your organizational structure and charter (or equivalent)

Type of Project (check one)	
	Drought Management Plan
	Drought Management Implementation
	Water Efficiency Plan
	Water Efficiency Implementation
x	Public Education & Outreach

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Location of Entity	
Please provide the county and applicants (if needed) location identified by SWSI (Statewide Water Supply Initiative)	
Basin	Metro Basin*

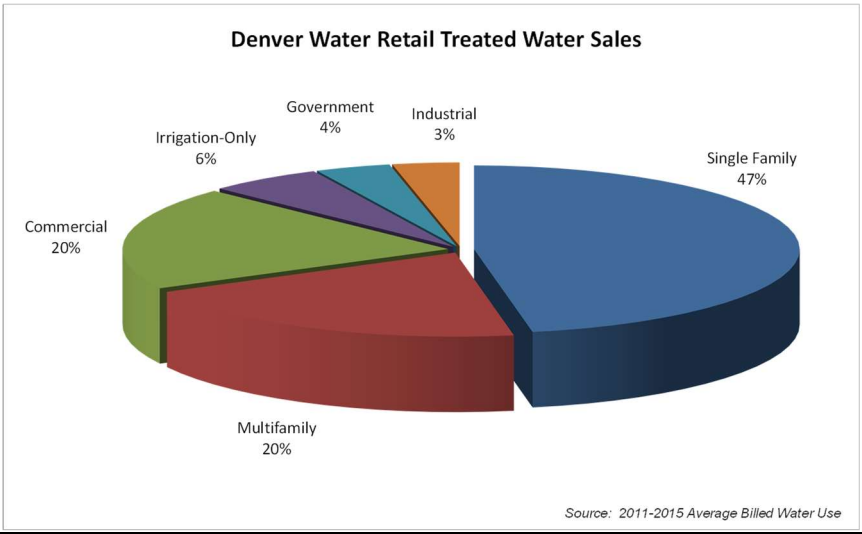
** While the project will be physically located in Denver (Metro Basin), its educational reach and benefits extend statewide. Leveraging the WateReuse Colorado DPR Project's Outreach Task will help accomplish this goal.*

Retail Water Delivery over Past 5 Years

Please identify retail water delivery by the entity for each of the past five years (in acre feet) and additional information characterizing past water use by sector (e.g., residential, commercial, industrial, irrigation) and source (e.g., surface water, groundwater, etc.).

Denver Water's supplies are 100% sourced by surface water. A five-year history of water deliveries is shown in the table below, and the pie chart that follows demonstrates the most recent available breakdown of treated water use by customer category. While year-to-year water use varies depending on annual weather conditions, long-term trends show that water use has dropped over the past several years, despite an increase in service area population, reflecting Denver Water's significant efforts and successes in water conservation. Denver Water is committed to continue advancing the implementation of alternatives to new surface water supplies and this project will help support long-term planning for the use of reclaimed water, a substantial contributor to long-term alternative supply strategies.

Year	Demand (AF)
2012	220,000
2013	180,000
2014	190,000
2015	180,000
2016	200,000



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Projections of Future Annual Retail Demand

A reasonable estimate must be submitted with detailed projections of future annual retail demand for the next five years based on predicted population (provide source of data), building permits, expected new taps, and/or some other credible information

Based on growth estimates from DRCOG and Denver Water's ongoing water efficiency program, water use is expected to stay flat over the next five years. This is consistent with the previous five years' demand trend. Efforts to update demand projections and water supply management are underway with Denver Water's ongoing update to its Integrated Water Resource Plan.

Background Characterizing the Water System

Current and past system wide and single family residential per capita water use for the last five years, and the basis for those calculations.

Denver Water calculates per-capita demands in gallons per capita per day (gpcd) on a system wide basis by totaling water production and dividing it by the total service area population. The residential gpcd is estimated by separating out residential demands from billing records and dividing that water use by the service area population. Results are shown below.

System-wide gpcd (2012-2016 avg.) = 147
Residential gpcd (2012-2016 avg.) = 90

*Note – residential gpcd includes single family and multifamily households

Potential Growth – Population

Provide population for the past five years, current year and 10 year population projection served by the entity and the source of this information

Denver Water service area population has experienced a high growth rate over the past several years. The service area population from 2012 through 2016 is tabulated below. However, given long-term averages, Denver Water expects its service area population to grow by approximately 1% per year over the next 10 years through both redevelopment and new development.

Year	Population
2012	1,147,000
2013	1,161,000
2014	1,172,000
2015	1,210,000
2016	1,249,000

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Estimated Water Savings Goals

Estimate water savings goals to be achieved through implementation of the Plan in acre feet and as a percentage.

Denver Water has recently completed an aggressive 10-year program to reduce customer use by 22% on a per capita basis. We are currently monitoring use to ensure that the savings are permanent and launching the next five-year plan at the beginning of 2018 to achieve additional savings.

The Pure Water Colorado Potable Reuse Demonstration Project supports long-term strategic planning of reclaimed water, which represent a significant alternative source of supply to traditional surface water sources. This project is part of local and statewide efforts to increase awareness and acceptance of potable reuse that will be a critical element of efficiently meeting the state's water needs, as specifically identified in the State Water Plan.

Estimated Water Savings Goals - Monitoring

Indicate how the activities will be monitored to estimate actual water savings during Project implementation (Implementation & Public Education/Outreach Projects)

Denver Water has an extensive water efficiency monitoring process. Each customer that goes through the program is monitored for water savings over a period of years to ensure that they are lasting. Water use is also tracked at a customer group level and full system level to measure overall changes in water use.

This project will be used to evaluate long-term planning estimates of potable water yield from reclaimed water sources. More broadly, outreach efforts associated with the Pure Water Colorado Potable Reuse Demonstration Project will be geared toward increasing awareness and acceptance of potable reuse, including the use of onsite tours, informational materials, and tastings of water produced at the demonstration facility and engagement with beverage producer(s) to create a product for consumption. Long-term offsets in surface water supplies to meet growing population demands are expected to be supported by this work.

Drought Impacts (Drought Management Planning Grants Only)

Description of the impacts experienced by the covered entity, or state or local governmental entity, during the 2000-2003 & 2012-2014 drought including a breakdown by water use sector (e.g. municipal, commercial, industrial, irrigation, etc.) of those adverse impacts and steps taken to address 2002- 2003 drought impacts to date. Include short term and long term impacts, as well as social and economic impacts where applicable and as feasible.

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Drought Impacts (Drought Management Planning Grants Only)

Denver Water enacted mandatory drought restrictions in both of the droughts mentioned above and specifically in 2002, 2003, 2004 and 2013. Denver Water customers did experience some amount of damage and loss to landscapes in the 2002 drought.

Denver Water begin serving non-potable recycled water in the early 2000s, which also helped offset the demand on the potable water system and ultimately surface water supplies.

Denver Water has adopted an incident command structure for drought preparedness. We review and revise the drought response plan annually and hold routine exercises regardless of water availability conditions.

Wastewater is a reliable, drought resistant source for drinking water, as during drought, more water is brought from the western slope. These supplies are usually reusable and putting them to indoor uses maximizes the yield by minimizing evaporation and also minimizes the issues surrounding timing of supply availability and outdoor demands. This study will help support the technical and non-technical validation needs to advance potable reuse in the state, thus making available a substantial and reliable source of supply to water providers state-wide

Adequacy, Stability, and Reliability

Explain the adequacy, stability, and reliability of the entity's water system and provide the entities location with respect to areas of current and future water needs as identified by the Statewide Water Supply Initiative (SWSI).

Denver Water maintains a stable and reliable system for its customers. It has been aggressively developing new resources through water use efficiency, reuse and new supplies.

We have adopted a scenario planning approach to ensure that our system and planning can meet the changing needs of our customers and growth in the region. This approach is being used to develop near- and long-term strategies for water efficiency and supply in the development of Denver Water's Integrated Resource Plan, of which water reuse is a key element.

Outreach Goals & Efforts

Identify the groups, individuals, organizations and/or institutions that will be included within the education and outreach efforts to be proposed as the Project.

Identify the specific goals of the Project (e.g., identify target audience(s) to reach, policy changes, outcomes of educational efforts, etc.) with respect to promoting the benefits of water resource conservation and water efficiency through education and outreach activities. Make note of how the goals of the Project tie to the mission and objectives of the CWCB and its programs (Colorado Water Plan/Basin Implementation Plans), as appropriate.

Identify in detail the specific activities and tasks to be funded with the Water Efficiency Grant Program monies, including all meetings, workshops, fairs, printings, mailings and all other tasks and activities that will be used to promote the benefits of water resource conservation and water efficiency.

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Outreach Goals & Efforts

The project will benefit directly from a partnership with the WSRA-supported WateReuse Colorado DPR Project, which specifically contemplated a DPR Demonstration Project and included a task that provides outreach support for a DPR Demonstration Project, but has not had such a project to support.

Denver Water has a long history of evaluating advanced treatment trains for potable reuse, including an advanced, 1 MGD facility that was operated during the 1980s. This project will progress that work and create additional support for this application state-wide. This project specifically is designed to conduct outreach to stakeholders involved in expanding reuse in Colorado to direct potable reuse and to engage the public. The project will accomplish the goals as follows:

- Enhanced regulatory acceptance of direct potable reuse, using the pilot facility to demonstrate the effectiveness of newer technologies to reliably treat reclaimed water to potable water standards without the use of reverse osmosis-based systems that generate brine waste streams.
- Increased public acceptance of potable reuse via onsite tours with targeted audiences and engagement with beverage producers to create a product for consumption.
- Creation of outreach materials for all stakeholders in Colorado with an interest in direct potable reuse, using the demonstration facility to provide physical context and meaningful results to show the feasibility of treating reclaimed water to potable water standards in Colorado, and gaining regulatory support to endorse the process used for potable water production.

Signature of an individual with the authority to commit the resources of the entity seeking Water Efficiency Grant program monies.

Name/Title Date

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Water Efficiency Grant Fund	
Scope of Work	
Date:	**12/28/17**
Project Name:	**Pure Water Colorado Potable Reuse Demonstration Project**
Grant Applicant:	**Denver Water**

The scope of work shall state the purpose and primary features of the project, end products to be delivered, clear timelines and provide a detailed narrative of all tasks to be performed for completion of plan. (Timelines must include 50 and 75% progress reports and final plan submission.) Each task within the scope of work must:

- Be numbered
- Contain a detailed description of work to be performed
- Identify those responsible for performing the task
- Identify funding sources, such as; grant monies, entity funds, in-kind services, and cash contributions, necessary to complete the task.

Objectives: (List the objectives of the project)

The project objective is to demonstrate on pilot scale advanced technologies to produce drinking water directly from a reclaimed water source. This project will engage regulators, utility providers, policy makers, and the general public by providing an opportunity to increase understanding of reuse treatment technologies and introducing a creative public outreach initiative. This project will be conducted in conjunction with the existing WateReuse Colorado project for direct potable reuse that was supported by a CWCB Water Supply Reserve Account Grant. The current project is developing a regulatory framework in close coordination with CDPHE Water Quality Control Division staff, who will be engaged in the water quality aspects of this pilot demonstration. The current project also includes a task for outreach support for a potable reuse demonstration facility that can be directly applied to this proposed project.

Potable water reuse treatment approaches have traditionally included reverse osmosis (RO). While effective to meet water quality goals, RO creates challenges such as brine reject management, high energy requirements, and other waste by-products such as consumable membrane elements and cleaning chemicals. For these reasons, alternative approaches have recently been investigated and one option is to use a combination of ozone and biologically active filtration (O_3/BAF) rather than RO.

This project will be on a pilot scale and use treated wastewater effluent as the source water. The water will be treated by ozone/biologically active filtration (O_3/BAF), microfiltration (MF), granular activated carbon (GAC) and an advanced oxidation process (AOP) before being delivered to a storage tank to await analytical analysis (Figure 1).

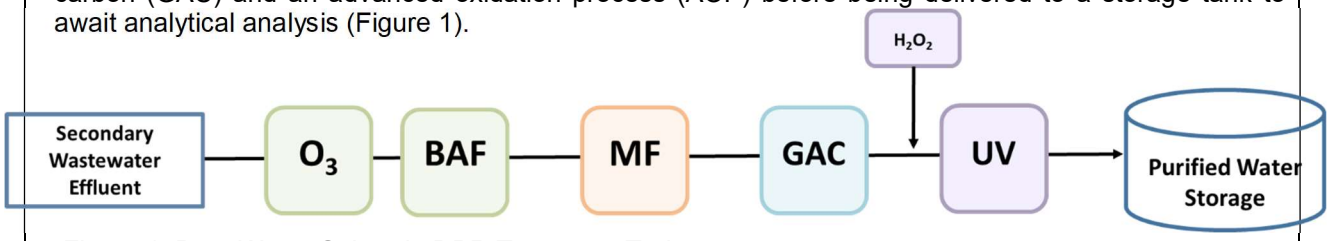

Figure 1. Pure Water Colorado DPR Treatment Train

Purified water from the pilot will be tested to ensure all drinking water standards as set forth in the Safe Drinking Water Act are met. This water will then be delivered to one or more local beverage manufacturers (e.g., brewers, distilleries) for limited production of beverages at these facilities.

This project will ultimately demonstrate that clean, safe drinking water can be produced from alternative sources, provide a holistic view of water's intrinsic value to commonplace products. The project will provide opportunities for media outreach, targeted onsite tours, and for invited members of the public to sample water and beverages produced from the project. These activities will help support framework, approach, and public support for potable reuse in Colorado to help meet the State Water Plan goals to mitigate the projected water supply gap through increased water reuse statewide.

The Pure Water Colorado DPR Demonstration Project will be a true collaborative effort, with total matching contributions of $201,766 from Denver Water, Carollo Engineers, Inc., Xylem, PALL, Calgon Carbon, WateReuse Colorado, and beverage production partners. The total project value is anticipated to be $249,766, and will cover all equipment, labor, outreach, and other direct costs associated with the demonstration project. This grant application is requesting funds in the amount of $48,000 (19.2%) from CWCB, with the remaining $201,766 (80.8%) funded by a combination of cash and in-kind matching contributions.

Tasks

Provide a detailed description of each task using the following format:

Task 1 – Equipment Installation and Project Kickoff

Description of Task:

Denver Water and Carollo will coordinate with equipment manufacturers to deliver all equipment to the Denver Water site to be ready for water production in early 2018. All commissioning, hydraulic, and functional testing to be completed under this task by the equipment manufacturers with Denver Water and Carollo oversight. Denver Water, Carollo, and other project team members will hold a kickoff meeting to discuss operations schedules, water quality analysis reporting procedures, and QA/QC.

Task 1 Schedule: January 22, 2018 – January 26, 2018
Task 1 Funding Breakdown:

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Tasks					
	Lead	**Labor and Other Direct Costs**	**In-Kind Contribution**	**Cash Contribution**	**Cash Need**
Ozone/BAF and UV AOP	Xylem	$134,500	$ -	$114,300	$20,200
UF	PALL	$32,600	$ -	$24,000	$8,600
BAC for BAF and GAC Unit	Calgon Carbon	$3,580	$ -	$3,250	$330
Test Plan, Equipment Coordination	Carollo	$10,664	$6,765	$ -	$3,899
Equipment Installation	Denver Water	$5,000	$ -	$5,000	$ -
Total		$186,344	$6,765	$146,550	$33,029
Cost Allocation					
CWCB Grant Cash Award					$25,000
Cash Contributions					$146,550
In Kind Contributions					$6,765
Additional Denver Water Cash Match					$8,029
Task 1 Cost					**$186,344**

Method/Procedure:

Deliver, connect, and perform hydraulic testing to ensure the utility connections support pilot equipment operation. During connection and hydraulic testing, pilot equipment will be checked for functionality with control systems. Carollo to create a draft test plan for review by Denver Water and CDPHE that includes operations schedule and water quality analysis to be completed.

Applicant Deliverable: (Describe the deliverable the applicant expects from this task)

Pilot equipment is commissioned and ready for purified water production. Final operations and analytical test plan complete.

CWCB Deliverable: (Describe the deliverable the applicant will provide CWCB documenting the completion of this task)

Commissioning and test plan report complete.

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Tasks

Provide a detailed description of each task using the following format:

Task 2 – Pure Water Production and Pilot Operation

Description of Task:

Operate pilot plant for a duration of 10 weeks, including equipment acclimatization (4 weeks), optimization (2 weeks), and steady state operation for purified water production (4 weeks). Individual batches of water will be tested for water quality parameters and stored separately for consumption when all analytical requirements have been met. A final batch of water will be produced during the 4 weeks of pilot operation. Once water quality testing is complete demonstrating compliance with drinking water requirements, the water will be available for either consumption at the site during stakeholder tours and/or sent to a beverage production partner.

Task 2 Timeline:

Operations Schedule		
Week	Date Range	
1	22-Jan-18	Commissioning - BAF startup
2	29-Jan-18	Biofilter Acclimation
3	5-Feb-18	Biofilter Acclimation
4	12-Feb-18	Biofilter Acclimation
5	19-Feb-18	AOP Verification and Biofilter Acclimation, IF biofilter is at steady-state, sample finished water
6	26-Feb-18	Standard Operation, waiting for data results
7	5-Mar-18	Standard Operation, waiting for data results
8	12-Mar-18	Pure Water Operation
9	19-Mar-18	Pure Water Operation
10	26-Mar-18	Pure Water Operation
11	2-Apr-18	Pure Water Operation
12	9-Apr-18	Decommissioning

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Tasks

Task 2 Funding Breakdown

	Lead	Labor and Other Direct Costs	In-Kind Contribution	Cash Need
Operations Assistance and Water Quality Analysis	Carollo	$18,184	$12,029	$6,155
Pilot Operation	Denver Water	$10,000	$10,000	$ -
Analytical Analysis	Denver Water/ Outside Lab	$17,950	$ -	$17,950
Total		$46,134	$22,029	$24,105
Cost Allocation				
CWCB Grant Cash Award				$23,000
Matching Contributions				$23,134
Task 2 Cost				**$46,134**

Method/Procedure:

The pilot equipment will be commissioned and operated to meet target water quality parameters. The pilot will operate for 10 weeks, four of which will be at steady state optimized operation. Tours for stakeholders and other target audiences for other educational outreach activities will be conducted at the site during this time.

Applicant Deliverable: (Describe the deliverable the applicant expects from this task)

Purified water is produced.

CWCB Deliverable: (Describe the deliverable the applicant will provide CWCB documenting the completion of this task)

Pilot operation report and visual inspection of purified water production via storage tank viewing.
A summary document detailing water quality results will be provided following each batch of water produced.

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Tasks

Provide a detailed description of each task using the following format:

Task 3- Facility Tours with Target Stakeholders and Policy Makers

Description of Task:

Facility tours for stakeholders and policy makers will be conducted. This will not be open to the general public. Tours will occur during the 4 weeks of Pure Water pilot operation, after batch water samples have been verified to meet water quality targets.

Task 3 Schedule: February 26, 2018 – April 6, 2018
Task 3 Funding Breakdown:

	Lead	Labor and Other Direct Costs	In-Kind Contribution	Cash Need
Facility Tours	Denver Water	$6,280	$4,396	$1,884
Total		$6,280	$4,396	$1,884
Cost Allocation				
CWCB Grant Cash Award				$ -
Matching Contributions				$6,280
Task 3 Cost				**$6,280**

Method/Procedure:

Target stakeholders will be invited for tours and given educational materials.

Applicant Deliverable: (Describe the deliverable the applicant expects from this task)

Support from target attendees to the facility.

CWCB Deliverable: (Describe the deliverable the applicant will provide CWCB documenting the completion of this task)

Report of who attended tour and feedback from stakeholders.

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Tasks
Provide a detailed description of each task using the following format:
Task 4 – Outreach
Description of Task:
Outreach activities associated with the demonstration project will be provided separately via Task 2.5 of the WateReuse Colorado DPR Project, titled "Advancing Direct Potable Reuse to Optimize Water Supplies & Meet Future Needs." Because this is a CWCB Water Supply Reserve Account grant-funded project, it is not counted as an in-kind contribution toward this project.
Method/Procedure:
The scope of work for Task 2.5 of the WateReuse Colorado ("WRCO") project specifies the following: *"Develop materials to support public outreach associated with a DPR demonstration facility in the Front Range, with access provided to all Colorado residents to extend messaging regarding DPR's water security benefits and public health and regulatory protections. Develop educational materials including signage to highlight key features of the facility, and provide training of staff (and potentially WRCO volunteers) for providing tours. WRCO members may offer their time as in-kind contributions to provide scheduled tours."* Because of site security restrictions and the limited duration of the demonstration, access cannot be provided to all Colorado residents. Instead, targeted tours will be established (e.g., media, utility managers, legislators, etc.), and educational materials referencing the pilot will be made available on the WateReuse Colorado website. Additional outreach vehicles will also be investigated.
Applicant Deliverable: (Describe the deliverable the applicant expects from this task)
Outreach materials will be produced in conjunction with the WateReuse Colorado DPR Project.
CWCB Deliverable: (Describe the deliverable the applicant will provide CWCB documenting the completion of this task)
Outreach materials will be produced in conjunction with the WateReuse Colorado DPR Project.

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Tasks

Provide a detailed description of each task using the following format:

Task 5 – Beverage Production

Description of Task:

Purified water will be provided to one or more beverage producers to make limited edition product(s).

Task 5 Schedule: February 26, 2018 – April 30, 2018
Task 5 Funding Breakdown:

The cost for beverage production is estimated to be $2500. All work completed in this task will be provided in-kind by the beverage manufacturer and the manufacturer will execute public outreach initiatives to support the DPR project.

	Lead	Labor and Other Direct Costs	In-Kind Contribution	Cash Need
Beverage Production	Manufacturer	$ -	$2,500	$ -
Total		$ -	$2,500	$ -
Cost Allocation				
CWCB Grant Cash Award				$ -
Matching Contributions				$2,500
Task Cost				**$2,500**

This work will be conducted in conjunction with the outreach activities described in Task 4 toward public outreach and acceptance of potable reuse, demonstrating that water produced using advanced water treatment technologies is capable of being used in the same way as drinking water produced from traditional sources.

Method/Procedure:

A beverage manufacturer will use the purified water that meets all targets required for consumption.

Applicant Deliverable: (Describe the deliverable the applicant expects from this task)

Beverage production complete.

CWCB Deliverable: (Describe the deliverable the applicant will provide CWCB documenting the completion of this task)

Documentation of beverage production being complete and used for outreach efforts, which will serve as the 50% progress report.

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Tasks
Provide a detailed description of each task using the following format:
Task 6 – Decommission Pilot Equipment
Description of Task:
Decommission pilot system and prepare equipment for return shipping to equipment vendors; restore pilot site. Task 6 Schedule: April 9, 2018 – April 16, 2018 Task 6 Funding Breakdown: All costs associated with pilot decommissioning are included as a lump sum equipment cost in Task 1.
Method/Procedure:
Shut down and decommission equipment to prepare for removal from site.
Applicant Deliverable: (Describe the deliverable the applicant expects from this task)
N/A
CWCB Deliverable: (Describe the deliverable the applicant will provide CWCB documenting the completion of this task)
Documentation of pilot system decommissioning, which will serve as the 75% completion milestone.

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Tasks

Provide a detailed description of each task using the following format:

Task 7 – Project Management and QA/QC

Description of Task:

Overall project coordination and QA/QC procedures will be managed by Carollo. Carollo will develop a final report summarizing the activities completed and key project outcomes. No estimate of water savings is anticipated; however, this project will service to support future water reuse across the state, as described in the State Water Plan.

Task 7 Schedule: January 22, 2018 – May 31, 2018
Task 7 Funding Breakdown:

	Lead	Labor and Other Direct Costs	In-Kind Contribution	Cash Need
Project Management and QA/QC	Carollo	$8,508	$5,956	$2,552
Total		$8,508	$5,956	$2,552
Cost Allocation				
CWCB Grant Cash Award				$ -
Matching Contributions				$8,508
Task 7 Cost				**$8,508**

Method/Procedure:

Carollo will submit all required documentation for invoicing to CWCB as required. Carollo will develop a final report and submit it to CWCB.

Applicant Deliverable: (Describe the deliverable the applicant expects from this task)

CWCB grant requirements fulfilled.

CWCB Deliverable: (Describe the deliverable the applicant will provide CWCB documenting the completion of this task)

Invoicing documentation and final project summary report.

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Budget and Schedule

Budget: This Scope of Work and Schedule shall be accompanied by a Budget that reflects the Tasks identified in the Scope of Work and Schedule and shall be submitted to CWCB in an excel format.

Schedule: This Scope of Work and Budget shall be accompanied by a Schedule that reflects the Tasks identified in the Scope of Work and Budget and shall be submitted to CWCB in an excel format.

Reporting Requirements

Reporting: The applicant shall provide the CWCB a Progress Report at 50% & 75% completion of the project. The Progress Report shall address the following:

- the success of meeting previously identified goals and objectives
- obstacles encountered
- preliminary findings or accomplishments
- potential need for revisions to the scope of work and timelines

(The CWCB may withhold reimbursement until satisfactory Progress Reports have been submitted.)

Final Deliverable: At the completion of the project, the applicant shall provide the CWCB a final report on the applicant's letterhead including a review of the activities completed, an estimate of actual water savings realized (for covered entities), and other information that is relevant to the Board's record of the Project and future use of the Project outcomes.

The CWCB will withhold the last 10% of the grant request until the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or contract will be closed without any further payment.

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COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Water Efficiency Grant Fund

BUDGET & SCHEDULE

Date: December 28, 2017

Project Name: Pure Water Colorado Potable Reuse Demonstration Project

Applicant: Denver Water

Task No.	Description	Start Date[1]	End Date	Consultant Senior Professional (Hours)	Consultant Senior Professional ($237/hr)	Consultant Project Professional (Hours)	Consultant Project Professional ($186/hr)	Consultant Clerical (Hours)	Consultant Clerical ($104/hr)	Total Consultant Labor Cost	Equipment, Analytical, and Other Dierct Costs	Total Cost	Matching Funds (cash & in-kind)2	WEGF Grant Request	Total
1	Equipment Installation and Project Kickoff	January 22, 2018	January 26, 2018	14	$ 3,318	33	$ 6,138	2	$ 208	$ 9,664	$ 176,680	$ 186,344	$ 161,344	$ 25,000	$ 186,344
2	Pure Water Production and Pilot Operation	January 29, 2018	April 6, 2018	16	$ 3,792	72	$ 13,392	0	$ -	$ 17,184	$ 28,950	$ 46,134	$ 23,134	$ 23,000	$ 46,134
3	Facilty Tours with Target Stakeholders and Policy Makers	February 26, 2018	April 6, 2018	16	$ 3,792	8	$ 1,488	0	$ -	$ 5,280	$ 1,000	$ 6,280	$ 6,280	$ -	$ 6,280
4	Outreach	January 22, 2018	April 30, 2018	0	$ -	0	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Beverage Production	February 26, 2018	April 30, 2018	0	$ -	0	$ -	0	$ -	$ -	$ 2,500	$ 2,500	$ 2,500	$ -	$ 2,500
6	Decommission Pilot Equipment	April 9, 2018	April 16, 2018	0	$ -	0	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	Project Management and Final Report	January 22, 2018	May 31, 2018	16	$ 3,792	22	$ 4,092	6	$ 624	$ 8,508	$ -	$ 8,508	$ 8,508	$ -	$ 8,508
			Total	62	$14,694	135	$25,110	8	$832	$40,636	$209,130	$249,766	$201,766	$48,000	**$249,766**

(1) Start Date for funding under $50K - 30 Days from Application Submittal; Start Date for funding over $50K - 30 Days from Board Approval.

(2) Please insert additional columns if needed for additional staff working on project.

Project may begin as soon as the grantee enters contract/purchase Order

CWCB will withhold the last 10% of the entire grant budget until the Final Report (Deliverable) is completed and accepted (WEGF Criteria & Guidelines).