COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Western Resource Advocates
Name of Water Project	Reducing Non-Functional Turfgrass in New Development Through Smart Land Use Planning
Grant Request Amount	**$125,462.00**
Primary Category	$125,462.00
Conservation & Land Use Planning	
Total Applicant Match	**$0.00**
Applicant Cash Match	
Applicant In-Kind Match	
Total Other Sources of Funding	**$89,738.00**
Lincoln Institute-Babbitt Center for Land and Water Policy	$60,000.00
Raftelis Financial Consultants, Inc	$10,000.00
New Belgium Family Foundation	$19,738.00
Total Project Cost	**$215,200.00**

Applicant & Grantee Information

Name of Grantee: Western Resource Advocates
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Description of Grantee/Applicant

Western Resource Advocates (WRA) protects the West's land, air, and water to ensure vibrant communities exist in balance with nature.

Type of Eligible Entity

- ☐ Public (Government)
- ☐ Public (District)
- ☐ Public (Municipality)
- ☐ Ditch Company
- ☐ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ■ Non-governmental Organization
- ☐ Covered Entity
- ☐ Other

Category of Water Project

- ☐ Agricultural Projects
  Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ■ Conservation & Land Use Planning
  Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
  Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ☐ Watershed Restoration & Recreation
  Projects that promote watershed health, environmental health, and recreation.
- ☐ Water Storage & Supply
  Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	39.999733
Longitude	-105.263979
Lat Long Flag	Default/Proponent headquarters: If the location cannot be defined with flags above, use location of project proponent headquarters
Water Source	
Basins	Arkansas; Colorado; Gunnison; Metro; Yampa/White/Green; Rio Grande; South Platte; Southwest; Nort...
Counties	
Districts	

Water Project Overview

Major Water Use Type	Municipal
Type of Water Project	Planning
Scheduled Start Date - Design	4/1/2023
Scheduled Start Date - Construction	
Description	

Water wise landscape transformation in Colorado communities is essential to meeting the state's water conservation goals and ensuring a resilient and reliable future. This transformation occurs in two ways: 1) replacing existing high water-use landscapes with water-efficient ones (i.e., turf replacement), and 2) reducing or eliminating high water-use landscapes from being installed in new developments and properties. Progress at both the local and state levels have been made on the former, but less attention has been given to the latter. WRA will provide direct technical assistance, resources, and education to help communities develop water wise landscaping standards and conservation-oriented system development charges that will serve to reduce the amount of non-functional turf installed in new development, while still ensuring these landscapes provide the essential social and environmental benefits upon which Colorado communities rely.

To support communities installing more water wise landscapes from the start, WRA will complete the following tasks: (1) Engagement, Education & Resource Development on Water Wise Landscaping Standards; (2) Direct Community Assistance for Water Wise Landscaping Code Adoption; (3) Update WRA's Conservation-Oriented System Development Charges Guide & Case Studies; and (4) Outreach & Education on Conservation-Oriented System Development Charges.

Measurable Results

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
	Existing Storage Preserved or Enhanced (acre-feet)
	New Storage Created (acre-feet)
	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (dollars/year)
400,000	Efficiency Savings (acre-feet/year)
	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
750,000	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
750,000	Number of Coloradans Impacted by Engagement Activity

Other

No additional measurable results provided

Water Project Justification

Based on the Water Plan Framework for State of Colorado Support, this project fully meets all of the criteria for demonstrating a commitment to collaboration, addressing an identified water gap, demonstrating sustainability, and establishing the technical feasibility of water-efficient landscape regulation implementation. The project helps meet Colorado's Water Plan (CWP) conservation and land use planning goals, avoids adverse environmental impacts, and maximizes the use of water resources.

Integrated water and land use planning strategies—key among them being water-efficient landscaping for new development—can make a significant difference in the water "footprint" of Colorado's growing population. One of the primary causes of the projected gap between Colorado's future water supply and demand is the projected population growth from 5.4 million people to as many as 8.5 million by 2050 (CWP Analysis & Technical Update; xxvii). How this growth occurs is of utmost importance in managing future water supply and demand. The CWP (both the current version and the new 2023 draft Plan), the Analysis and Technical Update to the Water Plan, and nearly all of the Basin Implementation Plans (BIPs) emphasize the role of improved water efficiency and water conservation as important components to reduce the municipal and industrial (M&I) gap. The plans recognize that integrating water with land use planning is critical to ensuring that any future growth occurs as

water-efficiently as possible, particularly when it comes to outdoor landscapes and irrigation practices and incentivizing water-efficient development.

Governor Priorities
This project helps address one of Governor Polis' stated priorities—the integration of water into land use as Colorado's population grows. In an interview with Colorado Public Radio published on October 4, 2022, Governor Polis stated, "We have to tie our water policy to our land use policy. When you look at what's happening with the Colorado River compact, when you look at the climate change that's occurring with the hotter, drier climate, we can't simply allow these things to exist in silos."

The Governor has further committed to addressing sustainable land use in his second term, and the integration of water into land use planning is a top priority for sustainability.

Colorado Water Plan
This project is specifically designed to advance two of the CWP's measurable objectives: 1) "to achieve 400,000 acre-feet of municipal and industrial water conservation by 2050", noting "Every acre-foot of conserved water used to meet new demands is an acre-foot of water that does not need to come from existing uses" and 2) "that by 2025, 75 percent of Coloradoans will live in communities that have incorporated water-saving actions into land-use planning" (CWP, p. 10-5).

Related to the water conservation measurable objective, an action identified in the CWP is to: "Support local water smart ordinances: Over the next two years, the CWCB will provide trainings that support local regulatory efforts that shape the ways in which new construction interacts with water use. For example, local jurisdictions could craft landscape and irrigation ordinances, tap fees that reflect actual water use, education or certification for landscape professionals, green infrastructure ordinances, and more stringent green construction codes that include higher-efficiency fixtures and appliances and water-wise landscapes" (CWP, p. 6-73).

This project will provide communities—that may otherwise lack the capacity or expertise—with resources, direct assistance, and education for updating and/or implementing water-efficient landscaping and irrigation standards to ensure that new development is occurring as water efficiently as possible. This project will also provide an update to Western Resource Advocates' (WRA) "tap fee guide" and workshops to help support communities in the tap fee adoption or update process.

Related to the land use measurable objective, the CWP states: "Encourage the use of local development tools: Through voluntary trainings in 2016, the CWCB and DOLA will encourage local governments to incorporate best management practices for water demand management, water efficiency, and water conservation into land-use decisions". A specific training topic included is "Introducing landscape and irrigation ordinances" (CWP p. 6-89).

A key component of this project will be voluntary trainings and other educational opportunities for water utility professionals, land use planners, elected/appointed decisionmakers, and others on adopting water wise landscaping standards in their communities. WRA will also provide one-on-one technical assistance to communities in need of additional support to adopt and implement landscaping standards. In addition, WRA will update its tap fee guide and conduct workshops to help communities as they consider updates to their tap fee structures.

An additional land use action described in the Plan is to: "Strengthen partnerships: To be successful in integrating land-use and water planning, the CWCB will need to partner with many different agencies and groups. Within the next year, the CWCB will establish meetings with various agencies to map out ways in which the CWCB and other agencies can work together on these issues. Non-governmental organizations, such as

Keystone Center, Alliance for Water Efficiency, Western Resource Advocates, American Planning Association, and economic development councils, can advance land-use and water integration innovation and research" (CWP p. 6-90).

CWCB and the Department of Local Affairs (DOLA) have partnered to create the Water and Land Use Planning Alliance—a consortium of NGOs, municipalities, utilities, academics, and state agencies—and WRA is an active participant. We will leverage the expertise and connections within this group to garner feedback on the model ordinance and tap fee guide, identify relevant resources, and conduct outreach to the water conservation and planning community.

In addition, WRA has previously, and will continue to, partner with additional key groups identified by the CWCB, including water providers, Colorado Municipal League, American Planning Association, DOLA, green industry groups, Colorado WaterWise and other NGOs (CWP Section 10.2, pp. 10-5). We will collaborate with this network of partners to share resources developed to support water wise landscape code adoption and the updated tap fee guide and to assist communities with implementation.

Analysis and Technical Update to the Water Plan
The 2019 Analysis and Technical Update to the Water Plan (Technical Update) states "per capita baseline system demand has decreased from 172 to 164 gpcd – a 5 percent reduction in demands between 2008 and 2015. However, even the Technical Update's lowest water demand estimations under a "Weak Economy" scenario predict increased water usage of 35 percent. While efforts to date to increase municipal conservation are laudable, given the State's expected population growth of 63.5% – from 5.4 million people in 2019 to 8.5 million by 2050- in order to achieve the CWP's conservation objectives, communities will need to take far more significant action and invest further in their water efficiency and integrated planning efforts (CWP Technical Update, p. xxvii). This project will provide communities with the tools and resources they need to significantly reduce landscape water demand in new development and re-development.

Draft 2023 Water Plan Update
In addition to meeting the original CWP goals, this project also meets priorities and actions outlined in the 2023 Draft CWP update. The draft CWP acknowledges that "water efficiency and conservation programs, reuse, and rate structures that encourage water savings are strategies that will help communities stretch their water supplies and be more resilient in the future." (p.6-8). The plan also highlights that a "Colorado-specific landscape standard" can reduce water demands while still providing important co-benefits such as stormwater management, temperature control, fire resilience, and ecosystem opportunities (p.6-16).

This project will help meet action 1.7 identified in the Vibrant Communities section to support transformative landscape change (p.6-16). Landscape ordinance assistance will help communities transition away from the use of non-functional turf, and toward a more Colorado-appropriate, water-efficient landscape. The 2023 Draft Water Plan also highlights tap fees on p.6-57 as an important strategy for water use reduction in new development, stating, "tap fees and development incentives can be encouraged that promote water savings and smart growth.". The tap fee guide update and workshops included in this project will provide an important tool for communities as they develop new conservation-oriented tap fees, or improve existing fee structures.

Basin Implementation Plans
While the project is statewide, it emphasizes smart growth in the fast-growing Front Range; thus, we have included Basin Implementation Plan (BIP) goals, as they relate to landscape efficiency, from the South Platte and Arkansas Basin Implementation Plans below.

The 2022 South Platte BIP (SPBIP) includes a goal to "maintain and promote municipal and industrial

conservation and efficiency" (SPBIP p.27), which includes an action step to "promote and encourage implementation of wise land use planning strategies… while minimizing the demand for water for existing and new development (SPBIP p.28). The SPBIP projects supply gaps for different growth scenarios and states on p.65 that more aggressive water conservation will be needed to help water providers meet growing needs. The SPBIP acknowledges that a promising water conservation strategy is "integrating land use planning with water conservation and efficiency" (SPBIP p.66). Water efficiency and conservation is a prominent theme throughout the South Platte BIP.

The 2022 Arkansas BIP includes a goal to improve water management and planning, because new sources of supply are not available in the basin. In order to meet this goal, the BIP states the basin will "support projects that increase the efficient use of current supplies" (2022 Ark BIP p.17).

While the 2022 Arkansas BIP did not focus on water and land use planning integration, it is important to note the previous 2015 BIP did. For example, the previous Arkansas BIP lists Landscape Management as a key component of Local Conservation Planning, stating "improved landscape design, installation (including soils and irrigation), and maintenance can effectively reduce outdoor demand as turf grass expanses are replaced with engineered and managed native plantings and natural landscapes." (2015 Ark BIP p.192). The BIP also included tap fees as an effective water reduction strategy, highlighting that "a noteworthy component of landscape management involves providing incentives and rebates to customers to either upgrade existing automated sprinkler systems and/or remove turf grass in favor of native plant materials and/or Xeric plantings. These incentives can take many shapes. For example, the City of Fountain provides reduced tap fees for home builders that adhere to restrictions in turf grass areas." (2015 Ark BIP p. 193)

Colorado's Water Plan Framework for State of Colorado Support
This project meets all of the Criteria for State Support listed in Colorado's Water Plan as detailed below.

Does the project proponent demonstrate a commitment to collaboration?
Yes. The proposed project is grounded in a commitment to collaboration with Colorado communities, water utilities, state agencies, water providers, green industry representatives, and other stakeholders as demonstrated by the following elements:

· WRA will collaborate with numerous organizations as we develop resources and a widespread education and outreach campaign to support increased adoption of water wise landscaping standards. These entities will include, but are not limited to, Northern Water Conservancy District, the Department of Local Affairs, numerous municipal partners, the CO Water & Land Use Planning Alliance, Colorado WaterWise, Sonoran Institute, WaterNow Alliance, American Planning Association Colorado Chapter, landscape design firms, landscape and irrigation professionals, developers, and others. We will work with many of these same stakeholders to provide direct, hands-on assistance to those interested in implementing the standards.

· WRA will seek feedback from the stakeholders listed above on the updated tap fee guide and will provide workshops for water utility staff and managers, land use planners and community development directors, local elected and appointed leaders, and other interested parties on how to implement conservation-oriented tap fees in their community.

Does the project proponent address an identified water gap?
Yes. The project will help address the State's projected M&I gap from as much as 560,000 acre-feet to zero acre-feet by 2030 (CWP, measurable objectives). A key tactic for closing this gap is enhanced water conservation methods, and in particular, water-efficient community development.

· One primary driver for the M&I gap is population growth, which means addressing demand in new development is critical for reducing this gap. Given that more than 50% of municipal water use in Colorado is typically used for outdoor landscaping, implementing water-efficient local landscaping regulations and encouraging the implementation of conservation-oriented tap fee structures has the potential to significantly reduce municipal water demands.

· In particular, the South Platte Basin Implementation Plan, projects M&I gaps by 2050 ranging from 6,000-161,000 acre-feet per year under different demand scenarios, and has identified “integrating land use planning with water conservation and efficiency” as a promising strategy to close this gap (SPBIP, p. 65-66).

Does the project proponent demonstrate sustainability?
Yes. The objective of this project is to support cities to grow more sustainably and to develop community resiliency in the face of population growth and climate change. By doing so, communities reduce their need for new water supplies and protect other water users including the environment, recreation, and agricultural users. This project:

· Helps avoid adverse impacts on environmental and recreational interests, and may support these interests by reducing water demand;

· helps avoid adverse impacts on agricultural and rural communities, and may support these interests by reducing water demand and the pressure to transfer water supplies;

· provides local governments with best practices, techniques, and tools necessary to integrate water and land use planning, which reduces vulnerability to drought and climate change; and

· reduces the overall risk of non-compliance with interstate compacts by reducing the need for additional water supplies by new development.

Does the project proponent establish the fiscal and technical feasibility of the project?
Yes. WRA has the technical expertise and experience to successfully carry out this project, and the requested grant funds will allow us to fully achieve the stated project objectives.

· WRA has been engaged with water and land use integration work in Colorado since 2013. This has included developing and facilitating the Land Use Leadership Alliance training program (LULA), publishing the “Integrating Water Efficiency into Land Use Planning in the Interior West: A Guidebook for Local Planners”, which includes a section of water-efficient landscape ordinances, publishing the “Guide to Designing Conservation-Oriented Water System Development Charges”, publishing “The State of Water and Land Use Planning Integration: Learning from Colorado Communities” and organizing and facilitating several workshops and numerous panels and presentations on integrated planning, including a Colorado Municipal League sponsored water and land use workshop for decisionmakers, and conservation-oriented system development charges workshops for Front Range communities.

· WRA has provided direct assistance around integrated water and land use planning in Colorado since 2018. We have specifically supported numerous Colorado communities, including the City of Golden, Summit County, Town of Severance, the City of Centennial and the Town of Frederick, along with several communities in Utah to develop water-efficient landscape and irrigation standards.

· WRA will engage a consultant firm, Raftelis Financial Consultants, who partnered with WRA on our original tap fee guide and workshop series to support us in updating the tap fee guide and hosting the tap fee workshops.

Raftelis is very experienced in supporting communities to study, design, and adopt conservation-oriented tap fee structures.

· Installing water-efficient landscapes in new development is significantly more cost-effective than retrofitting landscapes after construction is complete. Accordingly, this project will help communities be fiscally efficient in reducing water demands.

· The project will also save municipalities significant time and money in researching, developing and implementing landscape standards, especially in communities that are limited in technical and staff capacity.

· This project leverages existing funding resources and exceeds the 25% match requirement.

· This project is ready to proceed upon receipt of funding.

Related Studies

• Blanchard, Jennie and C. Nolon, 2018, Western Resource Advocates, Integrating Water Efficiency into Land Use Planning in the Interior West: A Guidebook for Local Planners.
• South Metro Water Supply Authority, 2017, Model Regional Water Efficient Landscape and Irrigation Ordinance.
• Colorado Department of Local Affairs, 2004, WaterWise Model Landscaping Ordinance.
• O'Cain, Kim, 2015, California Department of Water Resources, Model Water Efficient Landscape Guidebook.
• Castle, A. Rugland, E., 2019, Best Practices for Implementing Water Conservation and Demand Management Through Land Use Planning Efforts. Addendum to 2012 Guidance.
• Western Resource Advocates and Raftelis Financial Consultants, Inc., 2018, A Guide to Designing Conservation-Oriented Water System Development Charges.
• Western Resource Advocates and WaterNow Alliance, 2022, Financing the Future: How to Pay for Turf Replacement in Colorado.

Taxpayer Bill of Rights

No Tax Bill of Rights provided