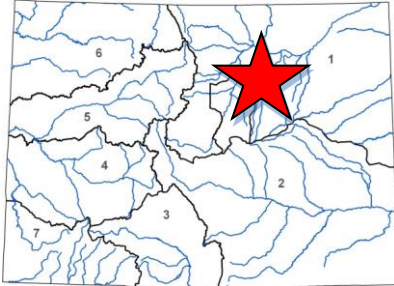




Enabling Large-Scale Replacement of Non-Essential Turf Western Resource Advocates

March 2021 Board Meeting

Water Plan Grant Application



L O C A T I O N
County/Countries:
Drainage Basin: Metro/South Platte

D E T A I L S	
Total Project Cost:	\$519,878
Water Plan Grant Request:	\$259,887
Recommended Amount:	\$259,887
Other CWCB Funding:	\$25,000
Other Funding Amount:	\$97,975
Applicant Match:	\$137,016
Project Type(s): Study; IPP	
Project Category(Categories): Conservation and Land Use	
Measurable Result: progress towards 400KAF goal	

The primary objective of this project is to work with communities to develop case studies and analyses of a wide variety of finance mechanisms that can be utilized to advance the implementation of largescale non-essential turf replacement programs to help meet the conservation measurable objectives identified in the Water Plan. Non-essential turf is defined as irrigated, non-native turf that receives little, if any, use (i.e. the only person who walks on those areas is the person maintaining the turf).

The project team will achieve this by:

- (1) Undertaking research and analysis on a suite of finance mechanisms that can be utilized to fund large turf replacement projects;
- (2) Working with partner communities to undertake research and analysis on specific potential pilot projects that include estimated water savings and associated implementation and maintenance costs based on acreage of turf converted to water efficient landscapes, and also conducting a community-wide non-essential turf assessment so each partner community will have estimates for potential savings;
- (3) Working with the partner communities to identify implementation challenges and pathways, including any legal, policy, and other barriers that may arise with partner communities turf projects and related financing;
- (4) Sharing the report results with other communities looking to implement similar projects through targeted education and outreach activities, including the importance of landscape professional certification and water efficient land use codes; and
- (5) If requested, supporting partner communities in pursuing state and federal loans or grants to further their turf replacement efforts.

Specific objectives of the work include analyzing a suite of finance mechanisms available to communities to implement such projects, as well as to provide a more detailed and targeted analyses of the potential water and cost savings that can be achieved through the application of such approaches.



Enabling Large-Scale Replacement of Non-Essential Turf

Western Resource Advocates

March 2021 Board Meeting

Additional support will be provided to project partners to overcome implementation challenges and ensure pathways for success are identified. This may include, but is not limited to, conducting focus groups, convening stakeholders, educating elected officials, and identifying policy hurdles and solutions.

The objective of education and outreach component is to share the information developed through this project broadly with communities across Colorado to encourage the implementation of large-scale programs. Further, the information will be used to replicate such approaches in new developments to support integrated water and land use planning strategies in Colorado communities. This will include education on landscape professional certification and water-efficient landscape regulations, both of which are essential for the water savings from turf replacement projects to be sustained indefinitely.



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Colorado Water Conservation Board

Water Plan Grant Application

Instructions

To receive funding for a Water Plan Grant, applicant must demonstrate how the project, activity, or process (collectively referred to as “project”) funded by the CWCB will help meet the measurable objectives and critical actions in the Water Plan. Grant guidelines are available on the CWCB website.

If you have questions, please contact CWCB at (303) 866-3441 or email the following staff to assist you with applications in the following areas:

Water Storage Projects
Conservation, Land Use Planning
Engagement & Innovation Activities
Agricultural Projects
Environmental & Recreation
Projects

Matthew.Stearns@state.co.us
Kevin.Reidy@state.co.us
Ben.Wade@state.co.us
Alexander.Funk@state.co.us
Chris.Sturm@state.co.us

FINAL SUBMISSION: Submit all application materials in one email to

waterplan.grants@state.co.us

in the original file formats [Application (word); Statement of Work (word); Budget/Schedule (excel)]. Please do not combine documents. In the subject line, please include the funding category and name of the project.

Water Project Summary

Name of Applicant	Western Resource Advocates	
Name of Water Project	Enabling Large-Scale Replacement of Non-Essential Turf	
CWP Grant Request Amount		\$259,887
Other Funding Sources: South Platte BRT WSRF		\$12,500
Other Funding Sources: Metro RT WSRF		\$12,500
Other Funding Sources: In-kind matches		\$87,975
Other Funding Sources: Northern Water		\$10,000
Applicant Funding Contribution (secured)		\$115,657
Applicant Funding Contribution (pursuing)		\$21,359
Total Project Cost		\$519,878



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Applicant & Grantee Information
Name of Grantee(s): Western Resource Advocates (WRA)
Mailing Address: 2260 Baseline Rd. Boulder, CO, 80302
FEIN: 84-1113831
Organization Contact: Rick Trilsch
Position/Title: Vice President of Finance and Administration
Email: rick.trilsch@westernresources.org
Phone: 720-763-3723
Grant Management Contact: Laura Belanger
Position/Title: Senior Water Resource Engineer and Policy Analyst
Email: laura@westernresources.org
Phone: 303-215-9122
Name of Applicant (if different than grantee)
Mailing Address
Position/Title
Email
Phone
Description of Grantee/Applicant
Provide a brief description of the grantee's organization (100 words or less).
<p>For more than 30 years, Western Resource Advocate's mission has been to protect the West's land, air, and water to ensure vibrant communities exist in balance with nature. Our team of economists, engineers, attorneys, and policy experts work with partners and stakeholders across the Interior West to address climate change and craft innovative solutions to the most pressing conservation issues in our seven-state region.</p> <p>Western Resource Advocates will serve as is the grantee for the proposed project. Our Project Team also includes the WaterNow Alliance, Headwaters Corporation, Ecoscape Environmental Design, Resource Central, and the University of Colorado, Denver Department of Planning and Design.</p>



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Type of Eligible Entity (check one)	
	Public (Government): Municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
	Public (Districts): Authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises.
	Private Incorporated: Mutual ditch companies, homeowners associations, corporations.
	Private Individuals, Partnerships, and Sole Proprietors: Private parties may be eligible for funding.
X	Non-governmental organizations (NGO): Organization that is not part of the government and is non-profit in nature.
	Covered Entity: As defined in Section 37-60-126 Colorado Revised Statutes .

Type of Water Project (check all that apply)	
X	Study
	Construction
X	Identified Projects and Processes (IPP)
	Other

Category of Water Project (check the primary category that applies and include relevant tasks)		
	Water Storage - 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. <i>Applicable Exhibit A Task(s):</i>	
X	Conservation and Land Use Planning - Activities and projects that implement long-term strategies for conservation, land use, and drought planning. <i>Applicable Exhibit A Task(s): 1, 2, 3, 4, 5, 6</i>	
	Engagement & Innovation - Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website. <i>Applicable Exhibit A Task(s):</i>	
	Agricultural - Projects that provide technical assistance and improve agricultural efficiency. <i>Applicable Exhibit A Task(s):</i>	
	Environmental & Recreation - Projects that promote watershed health, environmental health, and recreation. <i>Applicable Exhibit A Task(s):</i>	
	Other	Explain:



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Location of Water Project

Please provide the general county and coordinates of the proposed project below in **decimal degrees**. The Applicant shall also provide, in Exhibit C, a site map if applicable.

County/Countries	This project has broad statewide applicability. Specific case studies for pilot turf replacement projects and economic analyses will involve several partner communities in the South Platte Basin and Metro regions. The financing mechanisms research and broad educational outreach will be tailored to reach—and be appropriate for—communities around the state (i.e., both western and eastern slopes).
Latitude	
Longitude	

Water Project Overview

Please provide a summary of the proposed water project (200 words or less). Include a description of the project and what the CWP Grant funding will be used for specifically (e.g., studies, permitting process, construction). Provide a description of the water supply source to be utilized or the water body affected by the project, where applicable. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, and area of habitat improvements, where applicable. If this project addresses multiple purposes or spans multiple basins, please explain.

The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, Other Funding Sources/Amounts and Schedule.

The requested Water Plan Grant will support our project designed to enable large-scale turf replacement projects that otherwise face an economic barrier to implementation. Project results and information – developed working with South Platte and Metro region project partners – will be applicable and disseminated to communities and others throughout these basins and Colorado more broadly.

We will achieve this by: (1) conducting research and analysis on a suite of finance mechanisms that can be utilized to fund large turf replacement projects; (2) working with partner communities in the South Platte and Metro regions to undertake research and analysis on specific potential pilot projects that include estimated water savings and associated implementation and maintenance costs based on acreage of turf converted to water efficient landscapes, and also conducting a community-wide non-essential turf assessment to give each partner community estimates for potential savings; (3) working with partner communities to identify implementation challenges and pathways, including any legal, policy, and other barriers that may arise with turf projects and related financing; (4) sharing project results with other communities looking to implement similar projects through targeted education and outreach activities, including the importance of landscape professional certification and water efficient land use codes; and (5) if requested, supporting partner communities in pursuing state and federal loans or grants to further their turf replacement efforts.



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Measurable Results		
To catalog measurable results achieved with the CWP Grant funds, please provide any of the following values as applicable:		
	New Storage Created (acre-feet)	
X	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive	
	Existing Storage Preserved or Enhanced (acre-feet)	
	Length of Stream Restored or Protected (linear feet)	
The project will help meet Colorado's Water Plan goal of conserving 400,000 acre-feet/year	Efficiency Savings (indicate acre-feet/year OR dollars/year)	
	Area of Restored or Preserved Habitat (acres)	
	Quantity of Water Shared through Alternative Transfer Mechanisms	
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning	
	Number of Coloradans Impacted by Engagement Activity	
X	Other	Explain: ~1,200,000 million Coloradans live within the communities interested in partnering on this project

Water Project Justification
Provide a description of how this water project supports the goals of Colorado's Water Plan , the most recent Statewide Water Supply Initiative , and the applicable Roundtable Basin Implementation Plan and Education Action Plan . The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers).
The proposed water project shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan Framework for State of Colorado Support for a Water Project (CWP, Section 9.4, pp. 9-43 to 9-44;)



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This project will help meet the conservation goals and measurable outcomes identified in the BIPs, meets an identified need, demonstrates a commitment to collaboration, addresses an identified water gap, demonstrates sustainability, and is designed to establish fiscal feasibility of turf replacement projects. It is identified as part of the no- and low-regrets scenario planning process. The project is sustainable and helps meet CWP conservation goals, avoids adverse environmental impacts, and maximizes the use of water resources.

Colorado's Water Plan, Statewide Water Supply Initiative (SWSI), and nearly all of the BIPs emphasize the role of improved water efficiency and water conservation as important components to reduce the municipal and industrial (M&I) gap. The role of outdoor landscapes and irrigation, including turf retrofits, is specifically called out in many instances.

Colorado's Water Plan (CWP) recognizes that "water conservation activities and water reuse will play an important role in balancing the need for additional water supply with strategies to lessen that need" (CWP p.6-59). Table 5-1 (CWCB p. 5-8) includes the conservation strategy "landscape transformation of some high-water requirement turf to low-water requirement plantings." Examples of "best efforts" of conservation to date include:

- turf conversion by Aurora Water, Castle Rock and Denver Water (CWP p. 6-62); the IBCC goal to "reduce Colorado's 2050 municipal water demands by 400,000 acre-feet statewide" (CWP p. 6-65); and
- the State Agency Conservation action that "the CWCB will provide grants and technical support to state agencies for the installation of high-efficiency toilets and urinals, replacement of turf grass with plants that use less water, and improvement of cooling towers." (CWP p. 6-113).

Regarding potential funding resources, the Water Plan includes "Investigate the use of conservation tax credits as a potential funding source. This could support efficient outdoor irrigation systems and replacement of residential outdoor turf with plants that use less water." (CWP p. 9-17). Section 6.3.1. Municipal Conservation includes, among others, actions to:

- adopt conservation incentives, support water management activities for all water providers;
- explore incentives for outdoor water conservation measures, water conservation education and outreach;
- strengthen partnerships; and
- explore expanding conservation funding (CWP p. 6-73).

"Conservation: Colorado's Water Plan sets a measurable objective to achieve 400,000 acre-feet of municipal and industrial water conservation by 2050", noting "Colorado must address projected gaps between future water needs and available water provisions from both the supply side and the demand side. 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." (CWP p. 10-5). While the range of AF has been provided as part of the Technical Update, WRA's project aims to build towards meeting this deliverable. WRA's proposed project does not require permitting to be implemented, but conforms to the CWP framework (CWP p.9-43 to 9-44).

SWSI 2010 says "providing an adequate water supply for Colorado's citizens, agriculture, and the environment will involve implementing a mix of local water projects and processes, conservation, reuse, agricultural transfers, and the development new water supplies, all of which should be pursued concurrently" (SWSI p.1-1). It includes the Landscape conservation savings and measure "landscape transformation of some high-water requirement turf to low water requirement plantings" (SWSI p. 7-9). SWSI identifies 2050 conservation savings of between 154,000 acre-feet for passive conservation to 615,300 acre-feet for high levels of conservation, including turf replacement.

The South Platte BIP (SPBIP) includes a solution to "maintain leadership in conservation and reuse and implement additional measures to reduce water consumption rates" (SPBIP p.S-12), and calls for



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“enhancing water use efficiencies (conservation and reuse)” (SPBIP p. S-10). The SPBIP’s vision for meeting the east slope municipal gap includes “reaching enhanced levels of municipal conservation and reuse” (SPBIP p.1-20). The SPBIP includes 415,000 acre-feet of conservation savings between 2000 and 2050 (SPBIP Table 4-9, p.4-22). Water efficiency and conservation is a prominent theme throughout the South Platte BIP.

The Arkansas BIP lists Landscape Management as a key component of Local Conservation Planning, stating “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” (Ark BIP p.192).

The Colorado BIP theme four is to “encourage a high level of basin-wide conservation” stating “although many stakeholders within the Basin have begun to embrace the importance of conservation, more conservation, efficiency and reuse efforts are needed” (COBIP p. 16). An example of how water providers are accomplishing this includes “adoption of plans that require more xeriscaping, using plants that don’t require irrigation, and reducing irrigation of remaining turf” (CO BIP p. 60).

The Gunnison BIP Principle 5 is “water conservation, demand management, and land use planning that incorporates water supply factors should be equitably employed statewide” with an Implementation Step to “promote programs that encourage drought tolerant vegetation and discourage lawn irrigation” (Gun BIP p. 43). Regarding the development of new Colorado River supplies, the BIP includes a criterion that “entities should first reach high levels of municipal and industrial water conservation as defined in SWSI 2010 prior to further development of Colorado River System water” (Gun BIP p. 42).

The Southwest BIP includes a goal to “promote wise and efficient water use through implementation of municipal conservation strategies to reduce overall future water needs” (SWBIP Table 1, p. 14). It also states “the Roundtable continues to firmly believe that conservation and reuse must be a major means to reduce demand and address future gaps and that no TMD should proceed unless high level conservation goals are achieved” (SWBIP p.102). “Recognizing that municipal demand is one of the driving forces behind agricultural dry-up and that outdoor urban irrigation is one of the highest consumptive uses of municipal water. The Roundtable agrees that before it will consider a new TMD, outdoor irrigation by water providers using agricultural buy-up and dry-up and/or pursuing a TMD should meet the higher goal of 70/30 ratio of inside to outside use of municipal water by the year 2030” (SWBIP p. 2).

The Yampa White Green BIP states that “water conservation efforts are also included as an important component of meeting municipal demands in the basin” with a related process to “encourage municipal entities to meet some future municipal water needs through water conservation and efficiency” (YWG BIP p. 1-10).

The North Platte BIP includes a goal to “support the equitable statewide application of municipal water conservation” (NPBIP p. 18) with a related process to “support the use of state funding to provide incentives for reaching municipal conservation and efficiency standards” (NPBIP p. 25). “The NPBRT supports a wide variety of water conservation methods including municipal conservation programs, strategic growth and development, and landscape limitations” (NPBIP p. 25).

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Related Studies

Please provide a list of any related studies, including if the water project is complementary to or assists in the implementation of other CWCB programs.

- Brombaugh, R., and J. Figuerora, 2015, *Tapping the Power of the Market: Energy Savings, Water Conservation, and New Revenue Streams through Performance Contracting in the Colorado River Basin States*, McKinstry and Western Resource Advocates.
- Blanchard, Jennie C. Nolon, 2018, *Integrating Water Efficiency into Land Use Planning in the Interior West: A Guidebook for Local Planners*. Prepared by Land Use Law Center for Western Resource Advocates.
- Koehler, C. and C. Koch, 2019, *Innovation in Action: 21st Century Water Infrastructure Solutions*. WaterNow Alliance

Previous CWCB Grants, Loans or Other Funding

List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order; 6) Percentage of other CWCB funding for your overall project.



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- 1) Applicant Name: Western Resource Advocates
Water Activity Name: Tap Fee Workshop Series in Colorado (2016)
Approving RT: n/a
CWCB board meeting date: n/a, it was approved through the Water Efficiency Grant Fund
PO: POGGI PDAA 2017000000000000044
Percentage of CWCB funding: 75%
- 2) Applicant Name: Western Resource Advocates
Water Activity Name: Best Practices for Water Meter Retrofit Projects Financed by State Performance Contracts in Colorado (2017)
Approving RT: n/a
CWCB board meeting date: n/a, it was approved through the Water Efficiency Grant Fund
PO: POGGI PDAA 20170000000000000521
Percentage of CWCB funding: 33%
- 3) Applicant Name: Western Resource Advocates
Water Activity Name: Conservation-Oriented Tap Fees: Guide & Workshop
Approving RT: n/a
CWCB board meeting date: May 2018
PO: POGGI PDAA, 2019000000019
Percentage of CWCB funding: 44%
- 4) Applicant Name: Western Resource Advocates
Water Activity Name: Best Practices for Water Meter Retrofit Projects Financed by State Performance Contracts in Colorado
Approving RT: n/a
PO: POGGI PDAA, 2019000000020
Percentage of CWCB funding: 34%
- 5) Applicant Name: Western Resource Advocates
Water Activity Name: Integrated Water & Land Use Planning in Colorado Communities: Direct Community Assistance
Approving RT: n/a
CWCB board meeting date: November 2019
PO: POGGI PDAA, 2019000000019
Percentage of CWCB funding: 44%
- 6) Applicant Name: Western Resource Advocates
Water Activity Name: Removing barriers: building capacity to implement critical water conservation and efficiency programs
Approving RT: n/a
CWCB board meeting date: November 2019
PO: POGGI PDAA, 202000002583
Percentage of CWCB funding: 46%

Taxpayer Bill of Rights

The Taxpayer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect your application.

N/A



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Submittal Checklist	
X	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract .
Exhibit A	
X	Statement of Work ⁽¹⁾
X	Budget & Schedule ⁽¹⁾
NA	Engineer's statement of probable cost (projects over \$100,000)
X	Letters of Matching and/or Pending 3 rd Party Commitments ⁽¹⁾
Exhibit C	
	Map (if applicable) ⁽¹⁾
	Photos/Drawings/Reports
X	Letters of Support (Optional)
	Certificate of Insurance (General, Auto, & Workers' Comp.) ⁽²⁾
	Certificate of Good Standing with Colorado Secretary of State ⁽²⁾
	W-9 ⁽²⁾
	Independent Contractor Form ⁽²⁾ (If applicant is individual, not company/organization)
Engagement & Innovation Grant Applicants ONLY	
	Engagement & Innovation Supplemental Application ⁽¹⁾

(1) Required with application.

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



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Colorado Water Conservation Board
Water Plan Grant - Exhibit A

Statement Of Work	
Date:	11/30/2020
Name of Grantee:	Western Resource Advocates
Name of Water Project:	Enabling Large-Scale Replacement of Non-Essential Turf
Funding Source:	Water Plan Conservation Grant
Water Project Overview:	
<p>The requested Water Plan Grant will support our project designed to enable large-scale turf replacement projects that otherwise face an economic barrier to implementation. Project results and information - developed working with South Platte and Metro region project partners - will be applicable and disseminated to communities and others throughout these basins and Colorado more broadly.</p> <p>Our project team (described below under “Objectives”) will achieve this by: (1) undertaking research and analysis on a suite of finance mechanisms that can be utilized to fund large turf replacement projects; (2) working with partner communities to undertake research and analysis on specific potential pilot projects that include estimated water savings and associated implementation and maintenance costs based on acreage of turf converted to water efficient landscapes, and also conducting a community-wide non-essential turf assessment so each partner community will have estimates for potential savings; (3) working with the partner communities to identify implementation challenges and pathways, including any legal, policy, and other barriers that may arise with partner communities turf projects and related financing; (4) sharing the report results with other communities looking to implement similar projects through targeted education and outreach activities, including the importance of landscape professional certification and water efficient land use codes; and (5) if requested, supporting partner communities in pursuing state and federal loans or grants to further their turf replacement efforts.</p>	
Project Objectives:	
<p>The primary objective of this project is to work with communities to develop case studies and analyses of a wide variety of finance mechanisms that can be utilized to advance the implementation of large-scale non-essential turf replacement programs to help meet the conservation measurable objectives identified in the Water Plan. We define non-essential turf as irrigated, non-native turf that receives little, if any, use (i.e. the only person who walks on those areas is the person maintaining the turf).</p> <p>Specific objectives of the work include analyzing a suite of finance mechanisms available to communities to implement such projects, as well as to provide a more detailed and targeted analyses of the potential water and cost savings that can be achieved through the application of such approaches. Additional support will be provided to project partners to overcome implementation challenges and ensure pathways for success are identified. This may include, but is not limited to, conducting focus groups, convening stakeholders, educating elected officials, and identifying policy hurdles and solutions.</p>	

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The objective of education and outreach component is to share the information developed through this project broadly with communities across Colorado to encourage the implementation of large-scale programs. Further, the information will be used to replicate such approaches in new developments to support integrated water and land use planning strategies in Colorado communities. This will include education on landscape professional certification and water-efficient landscape regulations, both of which are essential for the water savings from turf replacement projects to be sustained indefinitely.

Objectives will be achieved by Western Resource Advocates and the many experts on our project team, which include:

WaterNow Alliance (WaterNow or WNA) - WaterNow is a nationwide network of local water decision-makers dedicated to expanding sustainable, affordable and climate resilient water strategies in their communities. WaterNow provides water leaders with resources, direct technical assistance, and policy advocacy to advance innovative and environmentally sustainable management of water resources.

Headwaters Corporation - Headwaters Corporation specializes in water resources planning, which currently includes the management of Endangered species recovery projects, municipal water conservation studies, and water resource economics. Dr. George Oamek, who has 35 years of experience focused upon the economics of municipal and agricultural water supplies, will be on our project team.

Ecoscape Environmental Design (Ecoscape) - Since 2000 Ecoscape has strived to be a leading force in the sustainable landscaping movement. A complete design, build, and maintenance company, Ecoscape cultivates their passion of working the land by nurturing and educating their clients to be good stewards of the land and the ecosystems that surround us.

Resource Central - Founded in 1976, Resource Central's programs in water, energy, and waste have helped more than 600,000 people improve their homes, conserve natural resources, and save money. Resource Central is determined to make conservation so simple that people don't even realize they're doing it.

Department of Planning and Design, University of Colorado, Denver (CU) - The Department houses the only accredited graduate Architecture and Planning programs in the state. It also houses programs in Landscape Architecture, Urban Design, and Historic Preservation. Austin Troy is Chair of the Department of Urban and Regional Planning and is an expert in GIS and remote sensing and their application to planning and urban sustainability issues, including water use.



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Tasks
Task 1 – Large-scale turf replacement finance mechanisms white paper
<p>Description of Task:</p> <p>The project team will produce a white paper synthesizing research conducted to date in Colorado and nationwide identifying finance mechanisms most applicable to large-scale turf replacement projects. We will identify potential finance mechanisms through an in-depth literature review, speaking with communities, querying our network, and previous research and analysis conducted by the project team. Financing mechanisms to be reviewed may include, <i>but are not limited to</i>:</p> <ol style="list-style-type: none">1. Water provider, district, or other self-funded through rates/contract pricing/incentives2. Performance contracts3. Municipal bonds, including green bonds4. Environmental impact bonds5. Water leasing (self-funded upfront costs paid back through leasing conserved water)6. Developer funded retrofits to offset raw water requirements for new developments7. Customer funded (e.g., Parks Department, HOA)8. State and federal loan and grant programs9. Various incentives<ol style="list-style-type: none">a) Tax incentivesb) Municipal enterprise incentivesc) County incentivesd) Improvement grants <p>If a finance mechanism has been utilized in a community (both in Colorado and around the country), we will identify any lessons learned by speaking with those communities. Large-scale turf replacement, unlike conventional water infrastructure, can require partnering with private entities – businesses, residences, institutions, etc. This raises a unique set of key issues around financing, which the white paper will discuss at a high level, including legal, regulatory, and other implementation challenges.</p>
<p>Method/Procedure:</p> <ol style="list-style-type: none">1. Literature review of potential financing mechanisms and related legal, accounting, and policy challenges and strategies. The project team will review white papers, academic literature, government reports/documents, and other related literature from around the nation.2. Query our and our partners' networks through direct outreach (e.g., WaterNow's Tap into Resilience Toolkit, Alliance for Water Efficiency, AWWA Water Efficiency National ICI Survey).3. Integrate work previously conducted by the project team. For example, WRA has extensive experience with performance contracting and has a working relationship with the Colorado Energy Office which oversees the state's performance contracting program. Also, WaterNow recently issued a major white paper examining public financing mechanisms and related challenges associated with implementation of large-scale distributed water use efficiency. <p>Project team members involved in this task: Western Resource Advocates and the WaterNow Alliance.</p>



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Tasks
Deliverable:
White paper describing finance mechanisms appropriate to support large-scale non-essential turf replacement projects, their relative merits and limitations, and related legal, policy and other strategies for implementing these financing approaches.

Tasks
Task 2 – Partner community pilot turf replacement case studies and non-essential turf analysis
Description of Task:
<p>There are three goals for this task:</p> <ol style="list-style-type: none">1. Secure Community Partners: Identifying up to four communities interested in partnering to explore the feasibility of one or more turf replacement finance mechanisms.<ol style="list-style-type: none">A) The project team will develop a list of potential partner communities that are interested in large-scale, non-essential turf replacement based on our existing work and relationships. We will secure commitments to participate in parcel-specific case studies and community-wide non-essential turf analysis. Ideally, these communities will also participate in subsequent (outside the scope of this project) scalable phase II pilot implementation projects. We have already had initial conversations with several potentially interested communities including the City of Westminster, the City of Broomfield, the City of Aurora, the City of Greeley, as well as the Northern Colorado Water Conservancy District.B) We will focus on communities with large public, commercial, institutional, HOA, and similar properties with significant areas of turf that could be replaced with native grasses and/or other waterwise landscaping without impacting the area's use. Targeted outreach will be conducted with the communities' governing boards, city council members, utility executive management, and/or relevant water and community development staff members to explore their current turf replacement programs and existing goals, challenges, resource needs, and other barriers to the implementation of such. The project team will work with the communities to identify and secure buy-in for project participation for at least one parcel-specific landscape in each for financing and water savings case studies. Where possible, we will prioritize high visibility areas to help instill a conservation ethic in the community.2. Develop Parcel-Specific Case Studies: Working with partner communities to identify potential parcels for pilot turf replacement projects, ideally in highly visible areas.<ol style="list-style-type: none">A) Once a community has agreed to partner with the project team, we will work with them to identify potential large parcels for pilot turf replacement projects. This could include individual large parcels or multiple smaller parcels owned or managed by the same entity. Once those parcels are identified and buy-in from the parcel owner/manager is secured, the project team will develop case studies of each project. This will include mapping and completing audits of existing landscaping and irrigation systems, identifying landscape alternatives and associated irrigation system modifications, estimating costs and potential water and financial savings to the utility and property owner. Once the case studies are completed, the partnering communities and/or property owners will be encouraged to implement the project in a subsequent Phase II of this project. If the finance mechanism of most interest to the community



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Tasks

requires policy updates (e.g., new ordinance or regulation), the project team will work with those communities to pursue those changes in Task 3. If the community is seeking additional funding for implementation, the project team will provide assistance in pursuing state or federal grants or loans (see Task 5).

B) Specifically, each case study will include the following:

- i. With input from partner communities and parcel owner/managers, develop site-appropriate low- and no-supplemental irrigation water landscape alternatives for pilot parcels. Landscape alternatives may also include urban forests and/or urban agriculture which can have many potential community benefits.
- ii. Life cycle cost estimates of alternative landscape retrofits, irrigation system modifications, and ongoing maintenance.
- iii. Water use and cost estimates and comparisons under current conditions and with turf replacement and qualitative documentation of other benefits, such as local food production in urban gardens
- iv. An economic analysis consisting of one or more of the following metrics: benefit-cost analysis, net present value, payback period, internal rate of return, or any other metric.
- v. Growing communities' calculation of the benefits will include the cost of other representative new water supply alternatives. For built-out communities, benefits will be based upon the estimated replacement value of their water supply portfolio, on a per acre-foot basis.

3. Conduct Community-Wide Non-Essential Turf Assessments: Working with partner communities, conduct a community-wide analysis to estimate potential acreage of non-essential turf and associated water and financial savings estimates.

- A) In addition to the parcel-specific case studies described above, the project team will work with the communities to estimate the total acreage within each community of non-essential turf that could be replaced with more waterwise landscapes. This will be accomplished by developing a mapping toolbox using existing, publicly available imagery data (e.g., USGS National Atlas).
- B) The mapping toolbox will include regional turf evapotranspiration (ET) data and allow for communities to input more local water use data. Once the amount of acreage is estimated, we will also estimate the potential water savings and associated financial costs and savings through reduced or eliminated irrigation. A qualitative analysis of future scenario(s) will be developed including the implications of future water rates, potential stormwater impacts, staff resource needs, and higher ET rates resulting from climate change. Providing the communities with high-level estimates of the amount of water that could be saved will help with long-term water supply planning.
- C) We will also compare costs of water supplies, that could be made available through turf replacement, with high level cost estimates for equivalent volumes of new supply from other sources. Additionally, the project team will analyze three 20-year lifecycle scenarios comparing one-time and ongoing costs and water use: a) water efficient landscape installed from the start and left in place for 20 years, b) non-essential

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Tasks
turf installed and then replaced in 10 years with water efficient landscaping, and c) non-essential turf installed and left in place for 20 years.
<p>Method/Procedure:</p> <ul style="list-style-type: none"> • Secure partner community commitment to the project, which may include a memorandum of understanding (MOU). Community agreements may include commitments for things such as providing water usage and rate information, assistance identifying non-essential turf areas, reaching out to parcel owners/managers, providing input on financing mechanisms, identifying implementation next steps, and allowing project information to be shared broadly, among other things. • Regular meetings with water utility/community staff. • Work closely with partner communities to select the turf replacement finance mechanism options of greatest interest to them based on the white paper analysis. • Develop case studies evaluating potential finance mechanisms including pilot project specific landscaping alternatives, economic analyses, and potential water savings. • Review case studies with partner communities and pilot parcel owner/manager to select and pursue financing/funding for a subsequent phase II (beyond scope of this project proposal). • Develop turf identification and water use mapping and analysis toolbox. This will include the identification of large irrigated turf parcels located on commercial, industrial, and institutional (CII) developments. When appropriate, conduct additional screening for areas where turf is unnecessary. • Working with partner communities, use regional turf ET estimates and/or select and compile more localized ET water use data appropriate for parcel analysis. Also develop future ET estimates under climate change. Input all ET data into mapping toolbox and estimate savings from reduced or eliminated irrigation on those parcels. • Estimate one-time costs and impacts to O&M costs for reduced or eliminated irrigation on those parcels. <p>Project team members involved in this task: Western Resource Advocates, WaterNow Alliance, Ecoscape Environmental Design, Headwaters Corporation, Resource Central, and the DU Department of Planning and Design.</p>

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Deliverable:
<ul style="list-style-type: none"> • A list identifying up to four communities engaged and willing to partner on large turf replacement projects, including signed MOUs if appropriate. • Partner community case study report, which will include detailed descriptions of the following (to be utilized in Task 4): <ul style="list-style-type: none"> • Pilot non-essential turf replacement projects; • Community wide estimates of potential non-essential turf that could be replaced, associated water savings and cost estimates; and • Cost per acre-foot estimates of other new water supply options compared to turf replacement costs

Tasks
Task 3 – Identifying implementation challenges and pathways to success
Description of Task:
<p>1. The project team will work with partner communities to identify and evaluate potential legal, policy, and other implementation challenges that may arise in connection with partner communities' turf projects and related financing. If requested, we will help partner communities that have chosen such a finance mechanism to explore, identify, and pursue implementation pathways for creating and adopting any required new or modified policies, ordinances, or regulations. While we do not anticipate all communities to need this assistance, if needed we will prioritize assistance based on each communities' specific needs and staff capacity. Implementation assistance will also include identifying specific enabling conditions required for the finance mechanisms and turf replacement project to be successful. Enabling conditions may include political will, cost of raw water, availability of surface water supplies, and support from specific boards and commissions. Implementation pathways will be further identified through engagement with elected officials, relevant boards, committees, and commissions, and other stakeholder groups.</p>
Method/Procedure:
<ul style="list-style-type: none"> • Regular meetings with water utility/community staff. • Select potential financing options with partner communities for their particular turf replacement interests. • If requested and appropriate, convene one or more workshops or focus groups to explore implementation challenges, address municipal/utility questions, and determine specific enabling conditions needed. • Where necessary, work closely with partner communities to pursue changes necessary for implementation. This could include ordinance updates, land use code modifications, or working with a relevant board or commission. <p>Project team members involved in this task: Western Resource Advocates, WaterNow Alliance, Headwaters Corporation, and Resource Central.</p>

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Deliverable:
<ul style="list-style-type: none"> • Meeting notes and attendance lists from any workshops/focus groups. • Summary memo for one to two partnering communities detailing the implementation pathway for any policies required for large scale turf replacement. • If appropriate (and the community chooses to do so during this grant period), a memo detailing successful implementation of any policies required for the finance mechanism.

Tasks
Task 4 – Local and Colorado-wide education and outreach
<p>Description of Task:</p> <p>This task includes partner, community-level, Front Range, and broader statewide education and outreach to inform and encourage widespread, non-essential turf replacement.</p> <ol style="list-style-type: none"> 1. Local community education and outreach <ol style="list-style-type: none"> a. We will work assist partner communities in identifying opportunities for local community education to utilize the project to help further instill a conservation ethic. We will work closely with our partners to evaluate and develop plans to educate water planners, water utility staff, landscapers, other decision-makers, and the broader community about the project and to encourage more wide-spread non-essential turf replacement. Our partnership with Northern Water will also provide opportunities to share project information broadly among the many communities they deliver water to. 2. Statewide education and outreach <ol style="list-style-type: none"> a. We will share project findings, including the white paper from Task 1 and case study report from Task 2, broadly throughout Colorado to encourage other communities to evaluate and pursue turf replacement projects. This will be accomplished through a range of methods that may include, among other things: one-on-one meetings, workshops, webinars, conference sessions, basin roundtable presentations, social and traditional media, email, and targeted association newsletters. These outreach efforts will be focused on stakeholders throughout Colorado. 3. Landscape professional certification and water efficient land use codes <ol style="list-style-type: none"> a. Throughout both education and outreach efforts the project team will also focus on conveying the importance—and encouraging the implementation—of the following two related and critical components, as they will help ensure water savings associated with more waterwise landscaping are encouraged and sustained. <ol style="list-style-type: none"> 1. Landscape professional certification: We will inform communities about the importance having landscape professionals who are knowledgeable about water efficient landscapes and irrigation systems, as well as how those professionals can obtain the training and certification to do so. Knowledgeable and certified landscape professionals can improve the water efficiency of existing landscapes, but they can also ensure that any turf replacement projects are designed, installed, and maintained correctly. If a turf replacement project is done by



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someone who does not utilize water efficiency best practices (e.g., weather-based irrigation controllers, soil amendment), the full water savings may not be achievable. We will encourage and work with communities who are interested in landscape professional certification, including providing support in bringing a training program to that community if necessary. For example, WaterNow is an EPA-certified Professional Certifying Organization (PCO) for training landscape professionals in the Qualified Water Efficient Landscaper (QWEL) certification program and has a well-developed QWEL program in Colorado. One of our project partners, Northern Water, is also currently investigating facilitating QWEL training and certification, and is exploring the possibility of becoming a PCO.

2. Water efficient landscaping and irrigation system regulations: The project team will also discuss the importance and benefits of having water-efficient landscape and irrigation system regulations. Many communities have older land use codes that have become dated and do not require or encourage water efficient landscapes in new developments. While the focus of this project is replacing non-essential turf, it is important to help communities understand the importance of preventing non-essential turf from being installed in new developments. Avoiding high water use landscaping in the first place is easier and more cost effective. The project team has experience helping communities update their landscape regulations and can provide that information to interested communities.

This task will be initiated during the project but will continue after this project has ended.

Method/Procedure:

- Develop local-level and statewide education and outreach strategies identifying target meetings, workshops, webinars, conferences, basin roundtables, media outlets, association meetings and newsletters, among other opportunities.
- Initiate statewide education and outreach strategies, developing materials as needed (outreach and education will continue beyond the timeframe of this grant.)
- Work with communities interested in landscape professional certification and provide them with relevant information about certification programs.
- Work with communities interested in updating their land use code to require or encourage more water-efficient landscaping.

Project team members involved in this task: Western Resource Advocates and the WaterNow Alliance

Deliverable:

- Local-level, Front Range, and statewide education and outreach strategy document with list of outreach activities completed by the end of the project as well as upcoming outreach that has been scheduled.
- A list of communities interested in landscape professional certification training programs and/or land use code updates and a summary of any progress made towards adoption.



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Tasks
Task 5 – Partner Community Financing Assistance
Description of Task:
Should resources be required to implement pilot projects and/or large-scale turf replacement programs beyond any non-grant or loan finance mechanisms identified earlier in the project, if requested, we will assist our partner communities in pursuing funding through the Bureau of Reclamation’s WaterSMART program, CWCB grant programs, and/or other state and federal programs. Project team members have well-established programs for providing this support to utilities and communities in Colorado.
Method/Procedure:
<ul style="list-style-type: none">Once partner communities have made initial decisions about the scope and scale of their respective turf replacement programs and/or pilot projects, the project team will explore WaterSMART and/or other viable state and federal funding options if requested. This could include individual applications or possibly a group application to the extent allowable under the particular grant/loan programs involved.If the partnering communities decide to proceed, the we will provide technical assistance at the level required. This may include but is not limited to: explaining program requirements, facilitating calls with program staff, drafting and assisting with application(s), etc. <p>Project team members involved in this task: Western Resource Advocates and the WaterNow Alliance</p>
Deliverable:
Memorandum reporting on the partner communities’ decision-making process in seeking federal and/or state assistance, and steps taken to support them in these processes.

Tasks
Task 6 – Project management, invoicing, and reporting
Description of Task:
Western Resource Advocates (WRA) will be responsible for ensuring all project work is being completed in an efficient manner and consistent with the project budget. WRA will manage the project team and coordinate work with partner communities. We will work with subcontractors on our team to ensure all project invoicing and reporting (including six-month Progress Reports and a Final Report) are consistent with CWCB requirements.
Method/Procedure:

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- WRA will manage contractors and coordination with partner communities
- Project team contractors will provide invoices to WRA for review and approval
- WRA will develop and submit project invoices to the CWCB and will pay contractors
- WRA will provide the CWCB with a Progress Report every six months
- WRA will provide the CWCB, Metro and South Platte Basin Roundtables with a Final Report at the end of the project, including the Financing Mechanisms White Paper, Case Studies, and Memorandum on actions taken to pursue funding

Project team members involved in this task: Western Resource Advocates and the WaterNow Alliance

Deliverable:

- WRA will provide the CWCB with a Progress Report every six months
- WRA will provide the CWCB and Metro and South Platte Basin Roundtable with a Final Report at the end of the project, including the Financing Mechanisms White Paper, Case Studies, and Memorandum on actions taken to pursue funding.

Budget and Schedule

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

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when 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 grant will be closed without any further payment.

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Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to CWCB in hard copy and electronic format as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when 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 grant will be closed without any further payment.

(b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Exhibit B

Budget and Schedule

Prepared Date: 12.01.20

Name of Applicant: Western Resource Advocates

Name of Water Project: Enabling Large-Scale Replacement of Non-Essential Turf

Project Start Date: May 2021

Project End Date: May 2023

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request	WSRF Funds	Match Funding*	Total
1	Whitepaper of potential finance mechanisms	May-21	Dec-21	\$ 45,383	\$ 4,366	\$ 43,376	\$93,125
2	Partner community pilot turf replacement case studies and non-essential turf analysis	May-21	Aug-22	\$ 121,660	\$ 11,703	\$ 67,028	\$200,391
3	Implementation challenges and pathways	Jul-21	May-23	\$ 46,490	\$ 4,472	\$ 46,909	\$97,871
4	Local and Colorado-wide education and outreach	Sep-21	May-23	\$ 28,262	\$ 2,719	\$ 13,210	\$44,191
5	Grant application support	Aug-21	May-23	\$ 502	\$ 48	\$ 38,230	\$38,780
6	Project management	May-21	May-23	\$ 17,590	\$ 1,692	\$ 26,238	\$45,520
Total				\$259,887	\$25,000	\$234,991	\$519,878

*Includes \$87,975 of in-kind, \$10,000 cash match from Northern Water, \$115,657 of WRA funding, and \$21,359 unsecured (in discussion with funders)

Colorado Water Conservation Board

Water Plan Grant - Detailed Budget Estimate

Fair and Reasonable Estimate

Prepared Date: 12.01.20

Name of Applicant: Western Resource Advocates

Name of Water Project: Enabling Large-Scale Replacement of Non-Essential Turf

Item	Hourly Rate	# Hours	Sub-total	Direct Costs	Task Total	CWCB Water Plan Funds	Matching Funds (In-Kind)
Task 1 - Whitepaper of potential finance mechanisms							
Sub-tasks							
TASK 1.1 Community Identification							
Water Policy Analyst - WRA	\$ 118	50	\$ 5,900			\$ 2,950	\$ 2,950
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	50	\$ 6,650			\$ 3,325	\$ 3,325
Deputy Director - WRA	\$ 148	10	\$ 1,480			\$ 740	\$ 740
Colorado River Basin Program Manager - WNA	\$ 118	15	\$ 1,770			\$ 885	\$ 885
Colorado River Basin Program Manager - WNA	\$ 180	5	\$ 900			\$ 450	\$ 450
Project Manager - WNA	\$ 80	10	\$ 800			\$ 400	\$ 400
TASK 1.2 Finance Mechanisms							
Water Policy Analyst - WRA	\$ 118	210	\$ 24,780			\$ 12,390	\$ 12,390
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	105	\$ 13,965			\$ 6,983	\$ 6,983
Water Policy Specialist - WNA	\$ 140	200	\$ 28,000			\$ 14,000	\$ 14,000
Colorado River Basin Program Manager - WNA	\$ 118	60	\$ 7,080			\$ 2,360	\$ 4,720
Executive Director - WNA	\$ 180	10	\$ 1,800			\$ 900	\$ 900
SUBTOTALS:			\$ 93,125		\$ 93,125	\$ 45,383	\$ 47,743
Task 2 - Partner community pilot turf replacement case studies and non-essential turf analysis							
Sub-Tasks							
TASK 2.1 Secure Community Partners							
Water Policy Analyst - WRA	\$ 118	66	\$ 7,788			\$ 3,540	\$ 4,248
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	66	\$ 8,778			\$ 3,990	\$ 4,788
Colorado River Basin Program Manager - WNA	\$ 118	60	\$ 7,080			\$ 5,900	\$ 1,180
Water Policy Specialist - WNA	\$ 140	40	\$ 5,600			\$ 2,800	\$ 2,800
Executive Director - WNA	\$ 180	15	\$ 2,700			\$ 2,700	-
Communication and Outreach Manager - WNA	\$ 100	10	\$ 1,000			\$ 1,000	-
TASK 2.2 Develop Parcel-Specific Case Studies							
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	90	\$ 11,970			\$ 5,985	\$ 5,985
Water Policy Analyst - WRA	\$ 118	95	\$ 11,210			\$ 5,605	\$ 5,605
Water Policy Specialist - WNA	\$ 140	40	\$ 5,600			\$ 2,800	\$ 2,800
Executive Director - WNA	\$ 180	30	\$ 5,400			\$ 1,800	\$ 3,600
Colorado River Basin Program Manager - WNA	\$ 118	70	\$ 8,260			\$ 4,130	\$ 4,130
Project Manager - WNA	\$ 80	25	\$ 2,000			\$ 960	\$ 1,040
Landscape Designer/Installer/Maintainer - Ecoscape Env Design	\$ 100	200	\$ 20,000			\$ 20,000	-
Economist - Headwaters Corp	\$ 190	30	\$ 5,700			\$ 5,700	-
Program Staff - Resource Central	\$ 100	25	\$ 2,500			\$ 1,250	\$ 1,250
TASK 2.3 Community Wide Assessments							
Water Policy Analyst - WRA	\$ 118	80	\$ 9,440			\$ 4,720	\$ 4,720
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	80	\$ 10,640			\$ 5,320	\$ 5,320
Colorado River Basin Program Manager - WNA	\$ 118	100	\$ 11,800			\$ 5,900	\$ 5,900
Executive Director - WNA	\$ 180	20	\$ 3,600			\$ 1,800	\$ 1,800
Economist - Headwaters Corp	\$ 190	80	\$ 15,200			\$ 9,120	\$ 6,080
Field Staff - Resource Central	\$ 65	256	\$ 16,640			\$ 8,320	\$ 8,320
Program Staff - Resource Central	\$ 50	40	\$ 2,000			\$ 1,000	\$ 1,000
Professor - CU Denver	\$ 23	550	\$ 12,650			\$ 10,120	\$ 2,530
DU - Denver (professor)	\$ 150	60	\$ 9,000			\$ 7,200	\$ 1,800
Direct Cost Outreach Meetings	\$ 1,035	1	\$ 1,035			\$ -	\$ 1,035
Direct Cost Conferences	\$ 1,800	1	\$ 1,800			\$ -	\$ 1,800
Direct Cost Supplies	\$ 1,000	1	\$ 1,000			\$ -	\$ 1,000
SUBTOTALS:			\$ 200,391	\$ 3,835	\$ 200,391	\$ 121,660	\$ 78,731
Task 3 - Implementation challenges and pathways							
Water Policy Analyst - WRA	\$ 118	240	\$ 28,320			\$ 14,160	\$ 14,160
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	120	\$ 15,960			\$ 7,980	\$ 7,980
Colorado River Basin Program Manager - WNA	\$ 118	70	\$ 8,260			\$ 2,950	\$ 5,310
Water Policy Specialist - WNA	\$ 140	200	\$ 28,000			\$ 14,000	\$ 14,000
Executive Director - WNA	\$ 180	50	\$ 9,000			\$ 4,500	\$ 4,500
Communication and Outreach Manager - WNA	\$ 100	20	\$ 2,000			\$ 1,000	\$ 1,000
Economist - Headwaters Corp	\$ 190	10	\$ 1,900			\$ 1,900	-
Program Staff - Resource Central	\$ 100	25	\$ 2,500			\$ -	\$ 2,500
Direct Cost Outreach Meetings	\$ 1,931	1	\$ 1,931			\$ -	\$ 1,931
SUBTOTALS:			\$ 97,871	\$ 1,931	\$ 97,871	\$ 46,490	\$ 51,381
Task 4 - Local and Colorado-wide education and outreach							
Water Policy Analyst - WRA	\$ 118	90	\$ 10,620			\$ 4,956	\$ 5,664
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	90	\$ 11,970			\$ 5,586	\$ 6,384
Communication and Outreach Manager - WNA	\$ 100	20	\$ 2,000			\$ 2,000	-
Colorado River Basin Program Manager - WNA	\$ 118	40	\$ 4,720			\$ 4,720	-
Colorado River Basin Program Manager - WNA	\$ 118	50	\$ 5,900			\$ 5,900	-
Project Manager - WNA	\$ 80	30	\$ 2,400			\$ 2,400	-
Executive Director - WNA	\$ 180	15	\$ 2,700			\$ 2,700	-
Direct Cost Outreach Meetings	\$ 3,881	1	\$ 3,881			\$ -	\$ 3,881
SUBTOTALS:			\$ 44,191	\$ 3,881	\$ 44,191	\$ 28,262	\$ 15,929
Task 5 - Grant Application Support							
Water Policy Analyst - WRA	\$ 118	20	\$ 2,360			\$ 236	\$ 2,124
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	20	\$ 2,660			\$ 266	\$ 2,394
Deputy Director - WRA	\$ 148	50	\$ 7,400			\$ -	\$ 7,400
Colorado River Basin Program Manager - WNA	\$ 118	100	\$ 11,800			\$ -	\$ 11,800
Water Policy Specialist - WNA	\$ 140	60	\$ 8,400			\$ -	\$ 8,400
Project Manager - WNA	\$ 80	50	\$ 4,000			\$ -	\$ 4,000
Executive Director - WNA	\$ 180	12	\$ 2,160			\$ -	\$ 2,160
SUBTOTALS:			\$ 38,780		\$ 38,780	\$ 502	\$ 38,278
Task 6 -Project Management Activities							
Water Policy Analyst - WRA	\$ 118	60	\$ 7,080			\$ 3,540	\$ 3,540
Senior Resource Engineer and Policy Analyst - WRA	\$ 133	100	\$ 13,300			\$ 6,650	\$ 6,650
Deputy Director - WRA	\$ 148	100	\$ 14,800			\$ 7,400	\$ 7,400
Colorado River Basin Program Manager - WNA	\$ 118	30	\$ 3,540			\$ -	\$ 3,540
Project Manager - WNA	\$ 80	15	\$ 1,200			\$ -	\$ 1,200
Water Policy Specialist - WNA	\$ 140	10	\$ 1,400			\$ -	\$ 1,400
Executive Director - WNA	\$ 180	15	\$ 2,700			\$ -	\$ 2,700
Direct Cost Materials	\$ 1,500	1	\$ 1,500			\$ -	\$ 1,500
SUBTOTALS:			\$ 45,520	\$ 1,500	\$ 45,520	\$ 17,590	\$ 27,930
TOTAL			\$ 519,878	\$ 11,147	\$ 519,878	\$ 259,887	\$ 259,992



Letters of Matching 3rd Party Commitments

Western Resource Advocates (WRA) is providing a cash match of \$115,657. We have secured commitments of \$87,975 from our project partners through in-kind matches, a commitment of a \$10,000 cash match from the Northern Colorado Water Conservancy District, and \$25,000 from the Metro and South Platte Basin Roundtables (\$12,500 each) as described below. Additionally, we are in the process of securing additional commitments further explained below.

Committed Matching Funds

funds have been committed by the following organizations. Attached below this cover letter are the signed letters of commitment from:

- Metro Basin Roundtable
- South Platte Basin Roundtable
- WaterNow Alliance
- Department of Planning and Design, University of Colorado – Denver
- Northern Colorado Water Conservancy District
- Resource Central

Pending

WRA will be applying to several other funders to secure the remaining \$21,359 of matching cash funds needed for this project. We are in conversations with these entities and will be applying for funds by the end of 2020 or early 2021, in accordance with their application due dates. However, because we are still discussing this project and potential applications with funders we are unable to list them at this time.

November 16, 2020

Kevin Reidy
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: Metro Roundtable support for WSRF Basin and Water Plan Grants for Western Resource Advocates'
Enabling Large-Scale Replacement of Non-Essential Turf project

Dear Kevin,

At our November 12th meeting, the Metro Roundtable voted to approve a Metro WSRF Basin Grant of \$12,500 and to support a Water Plan Grant for Western Resource Advocates' (WRA) project which is designed to enable the replacement of existing large-scale non-essential turf with lower water use landscaping by identifying and piloting various finance mechanisms available to Colorado communities. The project will also work with communities to minimize the installation of new non-essential turf. As part of the project, WRA will evaluate finance mechanism options and develop water use, cost, and other data to evaluate and incentivize turf replacement projects. The overarching goal of the project is to reduce the amount of water used to irrigate non-essential turf throughout Colorado.

WRA's WSRF application fully meets the Metro Roundtable WSRF Guidelines and WSRF Grant Program Criteria. We also believe it meets the Water Plan Guidelines. The project will help advance the South Platte Basin Implementation Plan's focus on maintaining leadership in water conservation and reaching enhanced levels of municipal conservation. It will also further advance Colorado's Water Plan conservation measurable objective.

Upon review and consideration of WRA's proposal, the Metro Roundtable unanimously voted to approve the full \$12,500 of Basin WSRF funds requested by the applicant and to support their Water Plan Grant application.

Sincerely,



Barbara Biggs, Chair
Metro Roundtable

November 23, 2020

Ben Wade
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: South Platte Roundtable support for WSRF Basin Funds for Western Resource Advocates' *Enabling Large-Scale Replacement of Non-Essential Turf* project

Dear Ben,

The South Platte Roundtable underwent an evaluation and approval process and voted to support Western Resource Advocates' (WRA) project which is designed to enable the replacement of existing large-scale non-essential turf with lower water use landscaping by identifying and piloting various finance mechanisms available to Colorado communities. The project will also work with communities to minimize the installation of new non-essential turf. As part of the project, WRA will evaluate finance mechanism options and develop water use, cost, and other data to evaluate and incentivize turf replacement projects. The overarching goal of the project is to reduce the amount of water used to irrigate non-essential turf throughout Colorado.

WRA's WSRF application fully meets the South Platte Basin Roundtable WSRF Guidelines and WSRF Grant Program Criteria. The project will help advance the South Platte Basin Implementation Plan's focus on maintaining leadership in water conservation and reaching enhanced levels of municipal conservation. It will also further advance Colorado's Water Plan conservation measurable objective.

Upon review and consideration of WRA's proposal, the South Platte Basin Roundtable unanimously voted to approve the full \$12,500 of Basin WSRF funds requested by the applicant at the November 10, 2020 Roundtable meeting.

Sincerely,



Garrett Varra, Chair
South Platte Basin Roundtable



November 10, 2020

Rick Trilsch
Vice President of Finance and Administration
Western Resource Advocates
2260 Baseline Road, Suite 200
Boulder, CO 80302

Subject: Letter of In-Kind Match Commitment for Western Resource Advocates' *Enabling Large-Scale Replacement of Non-Essential Turf* Project.

Dear Mr. Trilsch,

On behalf of the Water Now Alliance, a project of Multiplier, I am pleased to affirm our support of and involvement in Western Resource Advocates' multi-pronged project to enable large-scale replacement of turf that isn't being utilized with more appropriate and water efficient landscaping. This project will provide important financing information and support for communities, will work closely with several pilot communities for case studies and will help share information with towns and cities and others throughout the state. To this end, the Water Now Alliance will commit \$76,645 in in-kind matching funds towards this important project.

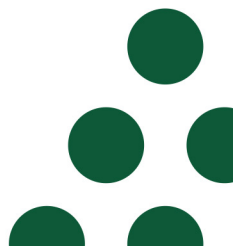
We look forward to working with you, project partners, Colorado communities and others on this project that will help Colorado achieve its conservation goals.

If you have any questions, please feel free to contact me at 415-458-3665 or kvetka@multiplier.org.

Sincerely,

Kvetka Smith
Grants and Contracts Director

People. Planet. Possibilities.





University of Colorado
Denver

College of Architecture and Planning

Campus Box 126 | P.O. Box 173364 | Denver, CO 80217-3364

P 303 315 1000 | F 303 315 1050

ucdenver.edu/cap

October 30, 2020

Rick Trilsch
Vice President of Finance and Administration
Western Resource Advocates
2260 Baseline Road, Suite 200
Boulder, CO 80302

Subject: Letter of In-Kind Match Commitment for Western Resource Advocates' Enabling Large-Scale Replacement of Non-Essential Turf Project

Dear Mr. Trilsch,

On behalf of the University of Colorado Denver, Department of Planning and Design, I am pleased to affirm our support of and involvement in Western Resource Advocates' multi-pronged project to enable large-scale replacement of turf that isn't being utilized with more appropriate and water efficient landscaping. This project will provide important financing information and support for communities, will work closely with several pilot communities for case studies and will help share information with towns and cities and others throughout the state. To this end, the University of Colorado will commit \$4,330 in in-kind matching funds towards this important project.

We look forward to working with you, project partners, Colorado communities and others on this project that will help Colorado achieve its conservation goals.

If you need any additional information please contact me at austin.troy@ucdenver.edu or 303-315-1006.

Sincerely,

Austin Troy
Professor
Chair of the Department of Planning and Design

November 23, 2020

Kevin Reidy
Colorado Water Conservation Board
1313 Sherman Street
Denver, CO 80203

Re: Letter of Support for Western Resource Advocates Colorado Water Plan Grant - 2020

Dear Kevin Reidy:

Northern Colorado Water Conservancy District (Northern Water) is pleased to provide a letter of support for Western Resource Advocates (WRA) Colorado Water Conservation Board Water Plan Grant application for the project, "Enabling Large-Scale Replacement of Non-Essential Turf". We fully support WRA's efforts to help determine financing formats and identify barriers and opportunities to large-scale turf replacement projects in Colorado. The project will develop and disseminate valuable statewide technical resources and will also tailor community-specific aspects of the project to the needs of the partner communities. WRA possesses the professional and technical expertise to accomplish these objectives. Further, WRA has pulled together a strong Project Team with the appropriate skill sets to successfully complete the overall project. For example, WRA would partner with WaterNOW Alliance to leverage their resources, experience, and personnel on the project, as well as landscape entities that practice transitions to ensure real-world applicability.

Northern Water has collaborated with WRA in a variety of ways including helping facilitate workshops, WRA presenting at our annual stakeholder meetings, and sharing resources important to our allottees. We intend to partner on this project, and believe they are the right organization to successfully collaborate with relevant stakeholders. We will support and facilitate their education and outreach capabilities to ensure this project proves beneficial to communities throughout Colorado. Northern Water commits to \$10,000 sponsorship if this grant is approved.

As described throughout Colorado's Water Plan, there is a strong need for growing communities to become more water efficient and irrigated non-native turf parcels represent a prime opportunity to use our water resources more efficiently. The efforts of WRA and the Project Team can help Colorado communities identify ways to pilot and scale projects. We see immense value in this, and Northern Water is looking forward to how it will help us understand and implement best practices when it comes to replacing unused turf in our communities.

Sincerely,



Frank Kinder
Water Efficiency Program Manager
Northern Water



2639 Spruce Street
Boulder, CO 80302
(303) 999-3820
ResourceCentral.org

November 25, 2020

Rick Trilsch
Vice President of Finance and Administration
Western Resource Advocates
2260 Baseline Road, Suite 200
Boulder, CO 80302

Subject: Letter of In-Kind Match Commitment for Western Resource Advocates' *Enabling Large-Scale Replacement of Non-Essential Turf Project*

Dear Mr. Trilsch,

On behalf of Resource Central, I am pleased to affirm our support of and involvement in Western Resource Advocates' multi-pronged project to enable large-scale replacement of turf that isn't being utilized with more appropriate and water efficient landscaping. This project will provide important financing information and support for communities, will work closely with several pilot communities for case studies and will help share information with towns and cities and others throughout the state. To this end, Resource Central will commit \$7,000 in in-kind matching funds towards this important project.

We look forward to working with you, project partners, Colorado communities and others on this project that will help Colorado achieve its conservation goals.

If you need any additional information please contact me at klarson@resourcecentral.org or 303-999-3820x214.

Sincerely,

A handwritten signature in black ink that reads "Kate Larson".

Kate Larson
Program Director: Water & Energy



Letters of Support

Western Resource Advocates is pleased to submit the following letters of support.

Attached

- Colorado Basin Roundtable
 - City of Westminster
 - City of Greeley
 - City of Broomfield
 - City of Aurora
-

THE COLORADO BASIN ROUNDTABLE
C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO
81602

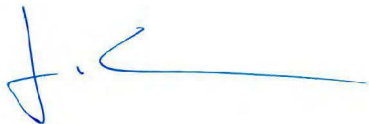
October 15, 2020

Kevin Reidy
Colorado Water Conservation Board
Water Supply Planning Section
1313 Sherman Street, Room 721
Denver, CO 80203
Kevin.reidy@state.co.us

Dear Kevin:

The Colorado Basin Roundtable voted unanimously on September 28, 2020 to support Western Resource Advocates' project *Enabling Large-Scale Replacement of Non-Essential Turf*. This project is designed to accelerate the large-scale removal of existing non-essential turf by identifying and piloting various finance mechanisms available to Colorado communities, as well as to prevent the installation of new non-essential turf. Western Resource Advocates is requesting \$25,000 of Metro Basin WSRF funds and a Water Plan Conservation Grant of \$264,000.

This project will advance the Colorado Basin Implementation Plan's (BIP) themes to "Encourage a High Level of Basinwide Conservation across all uses" and "Develop Local Water Conscious Land Use Strategies". The project will have statewide application and will include a strong focus on Front Range communities which will help advance the CBRT's interest in ensuring that "All Colorado River users need to assess in-basin solutions that use high conservation measures, reuse, land use and best-practice agricultural transfer methods before considering projects that increase diversions from the Colorado River Basin" [BIP p. 18]. The project will help meet state and individual communities' conservation goals through outdoor water savings by converting non-essential turf to lower water use landscaping. Therefore, we support this cross-basin effort to facilitate large-scale turf removal in Colorado.



Jason V. Turner
Chair, Colorado Basin Roundtable



WESTMINSTER

October 23, 2020

Mr. Kevin Reidy
Colorado Water Conservation Board
1313 Sherman St.
Denver, CO 80203

Re: Letter of Support for Western Resource Advocates' Colorado Water Plan Grant - 2020

Dear Kevin,

The City of Westminster is pleased to provide a letter of support for Western Resource Advocates' (WRA) Colorado Water Conservation Board Water Plan Grant application for "Finance Mechanisms for the Replacement of Large Scale Non-Essential Turf". We fully support WRA's efforts to help communities overcome financing and other barriers to large-scale turf removal projects in Colorado. The project will develop and disseminate valuable statewide resources. They will also tailor community-specific aspects of the project to the needs of the partner communities they will work with. WRA possess the professional and technical expertise to accomplish their objectives. Further, they have pulled together a strong Project Team with the appropriate skill-sets and expertise to successfully complete the overall project. The City actively works with both WRA and WaterNow Alliance (WNA) and greatly appreciates both of their resources, experience, and personnel that they will bring to the project.

As described throughout Colorado's Water Plan, there is a strong need for all communities to become more water efficient, and irrigated non-native turf parcels represent a prime opportunity to use our water resources more efficiently. We fully support the efforts of WRA and the Project Team to help Colorado communities identify ways to pilot and scale turf replacement projects. We see immense value in this and the City of Westminster is looking forward to how it will help us further implement large turf removal projects that our Parks, Recreation, and Libraries Department has already undertaken.

Sincerely,

Drew Beckwith
Water Resources Analyst
City of Westminster
dbeckwith@cityofwestminster.us
303-658-2386



November 3, 2020

Mr. Kevin Reidy
Colorado Water Conservation Board
1313 Sherman St.,
Denver, CO 80203

Re: Letter of Support for Western Resource Advocates' Colorado Water Plan Grant - 2020

Dear Kevin,

City of Greeley Water and Sewer Department is pleased to provide a letter of support for Western Resource Advocates' (WRA) Colorado Water Conservation Board Water Plan Grant application for their project, "Finance Mechanisms for the Replacement of Large Scale Non-Essential Turf". We fully support WRA's efforts to help communities overcome financing and other barriers to large-scale turf removal projects in Colorado. The project will develop and disseminate valuable statewide resources. They will also tailor community-specific aspects of the project to the needs of the partner communities they will work with. WRA possess the professional and technical expertise to accomplish their objectives. Further, they have pulled together a strong Project Team with the appropriate skill-sets and expertise to successfully complete the overall project. For example, we have worked with WaterNow Alliance (WNA) and greatly appreciate their resources, experience, and personnel they will bring to the project.

The city of Greeley has just begun a turf replacement program within the city in the last couple of years. Greeley did a pilot project in 2018-19 with a small number of homes and has rolled out a larger program 2020. Judging from the number of people that are interested in the 2021 program, we will again reach our maximum number of participants. This program is not only a conservation measure, but also a drought measure by helping the customer create an attractive xeric space that will be more resilient in years of drought. Although, it will take a few years of establishment and we don't have a lot of data yet, we hope to find that this program can not only assist the customer in removing turf and replacing it with more sustainable landscapes but also provide long term water savings. This program has a couple of side benefits in that it is providing technical and financial resources to customers who have been wanting to do this. It is a good face to face opportunity to help the customer with other conservation programs and create a good working relationship with them. As the cost of delivering water continues to escalate, it is important to offers ways to help the residents/customers save and this is a popular program.

As described throughout Colorado's Water Plan, there is a strong need for growing communities to become more water efficient and irrigated non-native turf parcels represent a prime opportunity to use our water resources more efficiently. We fully support the efforts of WRA and the Project Team to help Colorado communities identify ways to pilot and scale turf replacement projects. We see immense value in this and

Greeley is looking forward to how it will help us understand and implement best practices when it comes to replacing unused turf in our community.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sean P. Chambers", with a stylized, flowing script.

Sean Chambers
Director of Water & Sewer
City of Greeley
Sean.chambers@greeleygov.com
970-350-9815



PUBLIC WORKS: WATER RESOURCES

4395 W. 144th Ave. • Broomfield, CO 80023 • 303.464.5600 • www.Broomfield.org/Water

November 20th, 2020

Mr. Kevin Reidy
Colorado Water Conservation Board
1313 Sherman St.,
Denver, CO 80203

Re: Letter of Support for Western Resource Advocates' Colorado Water Plan Grant - 2020

Dear Kevin,

The City and County of Broomfield is pleased to provide a letter of support for Western Resource Advocates' (WRA) Colorado Water Conservation Board Water Plan Grant application for their project, "Finance Mechanisms for the Replacement of Large Scale Non-Essential Turf".

Broomfield supports WRA's efforts to help communities overcome financing and other barriers to large-scale turf removal projects in Colorado. We believe the project will help develop valuable statewide resources, as well as tailor community-specific aspects of the project to the needs of the partner communities they will work with. WRA possesses the professional and technical expertise to accomplish their objectives. Further, they have pulled together a strong Project Team with the appropriate skill-sets and expertise to successfully complete the overall project.

As described throughout Colorado's Water Plan, there is a strong need for growing communities to become more water efficient. Broomfield is committed to water efficiency and recognizes irrigated non-native turf parcels represent a prime opportunity to use our water resources more efficiently. Additionally, Broomfield's City Council has identified water as a foundational priority and encourages projects that promote water conservation and an ethos of sustainable water use throughout the community. For these reasons we fully support the efforts of WRA and the Project Team to help Colorado communities identify ways to pilot and scale turf replacement projects. We see immense value in this and the City and County of Broomfield is looking forward to how it will help us understand and implement best practices when it comes to replacing unused turf in our community.

Sincerely,

A handwritten signature in black ink that reads "Erin Messner".

Erin Messner
Water Resources Manager



Water Conservation
15151 E. Alameda Parkway, Ste. 3228
Aurora, Colorado 80012
303.739.7195

Worth Discovering • auroragov.org

11/17/20

Mr. Kevin Reidy
Colorado Water Conservation Board
1313 Sherman St.,
Denver, CO 80203

Re: Letter of Support for Western Resource Advocates' Colorado Water Plan Grant - 2020

Dear Kevin,

Aurora Water is pleased to provide a letter of support for Western Resource Advocates' (WRA) Colorado Water Conservation Board Water Plan Grant application for their project, "Finance Mechanisms for the Replacement of Large Scale Non-Essential Turf". We fully support WRA's efforts to help communities overcome financing and other barriers to large-scale turf removal projects in Colorado. The project will develop and disseminate valuable statewide resources. They will also tailor community-specific aspects of the project to the needs of the partner communities they will work with. WRA possess the professional and technical expertise to accomplish their objectives. Further, they have pulled together a strong Project Team with the appropriate skill-sets and expertise to successfully complete the overall project.

WRA is a recognized leader in water sustainability projects and resources in Colorado and we have appreciated their work in the state water plan, water-energy nexus and integrating water and land use planning.

As described throughout Colorado's Water Plan, there is a strong need for growing communities to become more water efficient and irrigated non-native turf parcels represent a prime opportunity to use our water resources more efficiently. We fully support the efforts of WRA and the Project Team to help Colorado communities identify ways to pilot and scale turf replacement projects. We see immense value in this and Aurora Water is looking forward to how it will help us understand and implement best practices when it comes to replacing unused turf in our community.

Sincerely,

Tim York
Water Conservation Supervisor
Aurora Water