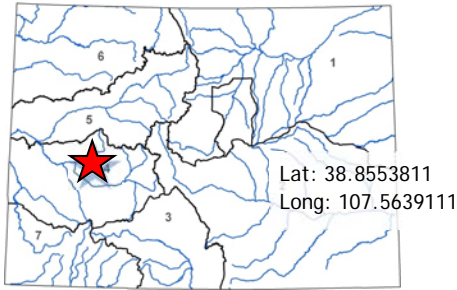




Water Plan Grant Application

May 2019 Board Meeting



L O C A T I O N	
County/Countries:	Delta
Drainage Basin:	Gunnison

D E T A I L S	
Total Project Cost:	\$6,131,136.47
Water Plan Grant Request:	\$200,000
Recommended Amount:	\$200,000
Other CWCB Funding:	\$175,000
Other Funding Amount:	\$5,556,136.47
Applicant Match:	\$200,000
Project Type(s):	Construction
Project Category(Categories):	Agricultural
Measurable Result:	1604 AF-year efficiency savings, 1757 ac-ft water conserved, 1000 ft stream restored, 5 acres of habitat restoration, water quality benefits

Salinity-caused impacts have long been a major concern in the Colorado River Basin. The salinity in the river increases as it flows downstream and has significant economic effects on agricultural, municipal, and industrial water users. In December 1974, the Environmental Protection Agency set forth a basin-wide salinity control policy for the Basin to reduce these impacts. Since then multiple Federal, state, and local public entities have developed various salinity control measures to reduce salinity impacts to water users across the Colorado River Basin.

The Turner and Lone Cabin Ditch systems collectively serve 62 farms and 1,000 irrigated acres in Delta and Gunnison Counties through two separate delivery systems that access the same reservoir. The Turner and Lone Cabin Ditch Salinity Reduction Project proposes to combine these irrigation systems into a single closed, pressurized delivery system. This would include the decommission of 9.5 miles (out of 25 miles total) of open earthen ditches and replacing the remaining 15.5 miles of existing open ditch with HDPE or PVC plastic pipe. Other project components include construction of a new diversion structure and pressurizing the combined system to encourage the replacement of flood irrigation with more efficient sprinkler systems. Altogether, the project is estimated to control 3324 tons of salt annually, achieve 1604 acre-feet in efficiency savings through the elimination of ditch seepage, and promote the adoption of on-farm efficiency practices.

CWP funds would be utilized, along with previously awarded WSRF funds, to leverage a larger Bureau of Reclamation Basinwide Salinity Control Program award through the upcoming Funding Opportunity Announcement (FOA). The Basinwide Salinity Control Program uses a competitive process to implement a variety of effective salinity control measures, with the majority of projects concentrating on improving the efficiency of off-farm irrigation delivery systems. Reclamation solicits applications through a FOA for projects that reduce the salinity of the Colorado River. This FOA is anticipated to be released by June 10, 2019. Reclamation evaluates and ranks each application according to set criteria including cost effectiveness and enabling on-farm salinity control features. The Turner and Lone Ditch Cabin project is anticipated to score highly on these criteria.

Staff recommends Board approval of the full grant amount requested on the condition that applicants receive funding through Reclamation's FOA process. This project furthers several of Colorado's Water Plan critical action goals relating to agriculture including encouraging agriculture efficiency and resiliency while promoting agricultural productivity. This project will provide multiple benefits including reducing salinity impacts to other water users, improving water quality, and furthering interstate objectives associated with salinity reduction in the Colorado River Basin.

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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

Anna.Mauss@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	Turner Ditch Company, Paonia, Colorado [Turner Ditch Company is the designated incorporated entity representing both Turner Ditch Company and Lone Cabin Ditch and Reservoir Company]	
Name of Water Project	Turner and Lone Cabin Ditch-Combination Salinity Reduction Project	
CWP Grant Request Amount		\$200,000.00
Bureau of Reclamation 2019 FOA		\$5,556,136.47
Gunnison Basin WSRF		\$50,000.00
Statewide WSRF		\$125,000.00
In-Kind Funds from Turner Ditch Company		\$200,000.00
Total Project Cost		\$6,131,136.47

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Applicant & Grantee Information	
Name of Grantee(s):	Turner Ditch Company
Mailing Address:	12552 Roeber Road, Paonia, CO 81428
FEIN:	84-0339510
Grantee's Organization Contact:	Steven J. Kossler
Position/Title:	Turner Ditch Company President
Email :	cowkoss@gmail.com
Phone:	970-216-5578
Grant Management Contact:	Paul J. Maudlin
Position/Title:	Turner Ditch Company Board Member, Project Manager
Email:	excelsior@paonia.com
Phone :	970-333-2190
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).	

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Grantee: Turner Ditch and Lone Cabin Ditch and Reservoir Companies (Ditches Located SE of Paonia)

Turner Ditch Company is the designated entity representing both Turner Ditch Company and Lone Cabin Ditch and Reservoir Company, Presidents: Steven J. Kossler and James R. Briscoe, respectively. MOA available upon request.

The Turner Ditch system serves 47 farms with 9 miles of open unlined ditch where crossings of unstable Mancos Shale hillsides in the Minnesota Creek drainage have been problematic. Irrigation operations include one diversion structure on Minnesota Creek, three lateral ditches on Lamborn Mesa and 55 user take-outs.

The Lone Cabin Ditch system serves 15 farms with 17.2 miles of open unlined ditch which includes two water intake diversions on Minnesota Creek's Lake Fork, three lateral ditches on Lamborn Mesa and 15 user take-outs. The system also includes a Trade/Transfer Ditch (24,171 feet in length) and a secondary collection ditch called the Highline Ditch (14,250 feet) above and to the southeast of Lone Cabin Reservoir.

The above ditch systems both access Beaver Reservoir (700 ac-ft of storage) and irrigates a total of approximately 1000 acres of farmland.

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.
X	Private Incorporated: Mutual ditch companies, homeowners associations, corporations.
	Private Individuals, Partnerships, and Sole Proprietors: Private parties may be eligible for funding.
	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)	
	Study
X	Construction
	Identified Projects and Processes (IPP)
	Other

Category of Water Project (check the primary category that applies and include relevant tasks)	



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	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>	
	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):</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>	
X	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:

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. **see site Maps A.1.1, A.1.2, A.1.3**

County/Countries	Mostly Delta County but also Gunnison County
Latitude	38.85538111°
Longitude	107.5639111°

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.

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Our Salinity Control Project proposes to *combine* the irrigation operations of Turner Ditch, Lone Cabin Ditch and Reservoir, and Sweezy-Turner Ditch all Ditches located in the Minnesota Creek and/or Reynolds Creek drainages into a closed, pressurized delivery system. The project objectives are to:

- (1) Decommission the use of 9.5 miles (out of 25 miles total) of open earthen ditches and their implied easements and associated structures;
- (2) Replace the remaining 15.5 mi of existing open ditch with HDPE and/or PVC plastic pipe;
- (3) Construct a new Turner diversion structure at the existing Sweezy-Turner diversion;
- (4) Pressurize the resulting combined system in excess of 50 psig;
- (5) Allow the new Lone Cabin system to directly access their Beaver Reservoir water (300 ac-ft) without water trades via a “connection” to the new Turner system;
- (6) Clean the irrigation water of vegetable matter down to 25 mesh (about 1 mm) using wedge screen at all head-gates.

This Project will eliminate delivery system losses (approximately 40%) and encourage on-farm sprinklers via pressure as a high efficiency replacement for flood irrigation in both the Reynolds and Minnesota Creek drainages. Irrigation water will be “geologically detained” of alkalinity and selenium.

CWP funding (plus match) will be focused on diversion and piping of Lake Fork water located on the upper reach of Lone Cabin Reservoir, leveraging a larger Bureau of Reclamation (BoR) FOA Project.

Also see Exhibit C, Fig. 7: Letters of Support

Measurable Results	
To catalog measurable results achieved with the CWP Grant funds, please provide any of the following values as applicable:	
No new storage constructed	New Storage Created (acre-feet)
1757 ac-ft via sprinklers made feasible by a pressurized closed system	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive [80%UF⁽²⁾ x (85% - 32%) x transported volume 4142 ac-ft⁽¹⁾]
Beaver and Lone Cabin Reservoirs better managed: 150 ac-ft + 1604 ac-ft	Existing Storage Preserved or Enhanced (acre-feet) [Half of Lone Cabin's share of Beaver Reservoir storage 300 ac-ft is lost in the trade ditch]. Also elimination of seepage loss (calculated below as 1604 ac-ft) represents a virtual reservoir to better manage Beaver Reservoir by delaying its usage to late season.
1000 ft stream protected using BoR Habitat Replacement funds	Length of Stream Restored or Protected (linear feet)
1604 ac-ft via elimination of ditch seepage	Efficiency Savings (indicate acre-feet/year OR dollars/year) [transported volume 4011 ac-ft x 40%⁽³⁾]
5 acres of habitat replacement land + 32 acres of ditch right-of-way remediated	Area of Restored or Preserved Habitat (acres) [5ac + ((26mi⁽⁴⁾ x 5280) x 10ft) / 43560]
2560+1034+548=4142 ac-ft	Quantity of Water Shared through Alternative Transfer Mechanisms [sum of water volumes (three ditches) moved during the irrigation season]

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62 farm families + employees, say 150 Coloradans	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning	
	Number of Coloradans Impacted by Engagement Activity	
3324 tons of salt detained per year, proportional quantity of Se	Other	Explain: Water Quality improvements (via detention of salinity and selenium) [2017 BoR assigned salt load]

(1) State database seasonal flow volume summed for the three ditches Turner, Lone Cabin, Sweezy-Turner

(2) Roughly 80% of irrigated acres currently use Unimproved Flood (UF) irrigation

(3) Average BoR estimated open-ditch loss

(4) Total length of open ditch associated with current system

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;)

The Turner and Lone Cabin Ditch-Combination Salinity Reduction Project is consistent with the following goals of the Colorado Water Plan (CWP Section 10, pgs. 3-4):

- Improves the local agricultural economy with increased crop production
- Greatly improves the efficiency of off-farm water delivery systems and on-farm crop irrigation
- Promotes a healthy environment by improving water quality in the Colorado River Basin

This project supports the Colorado Water Plan's identified Agricultural Critical Actions to (CWP Section 10, pg.10):

- Maintain and increase agricultural viability
- Support agricultural water conservation and efficiency. The Project objective to construct a closed, pressurized system reduces delivery losses by 40%, and with increased sprinkler use over flood irrigation reduces by 50% the water needed for on-farm crop production

By reducing salinity and selenium contributions to the North Fork of the Gunnison River, this project supports Watershed Health, Environment and Recreation critical actions (CWP Section 10, pg. 12):

- Recover Imperiled Species by improving water quality in aquatic habitats that may be occupied by endangered species
- Promote Protection and Restoration of Water Quality

Renovation of the Turner, Lone Cabin and Sweezy-Turner irrigation delivery systems helps meet the

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following water supply gaps identified in SWSI 2010:

- Current Agricultural Demand gap of 128,000 AFY in the Gunnison Basin, (SWSI 2010 ES-19)
- Projected 2050 Agricultural Demand gap of 116,000 AFY in the Gunnison Basin, (SWSI 2010 ES-22)

This project also meets the following draft Vision Goals identified in SWIS 2010 (ES-28):

- Meet agricultural demands
- Optimize existing and future water supplies by - Minimizing non-beneficial consumptive use, e.g., overuse of water supplies by flood irrigation
- Promote cost-effectiveness by: -Achieving benefits at the lowest cost, by leveraging state contributions to secure significant federal funding

This project supports the following Gunnison Basin Roundtable goals, (GBRT BIP pg 2):

- Primary Goal: Protect existing water uses in the Gunnison Basin
- Discourage the conversion of productive agricultural land to all other uses
- Improve agricultural water supplies via efficiency to reduce shortages
- Improve water quality

CWP funding for this project would complement BoR FOA salinity and other CWCB programs.

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.

The engineering feasibility and cost effectiveness of the Turner and Lone Cabin Ditch-Combination Salinity Reduction Project has been studied in four previous BoR FOA proposals (2010, 2012, 2015 & 2017), the most recent of which has both a cost analysis and construction gantt chart included in Exhibit C Figs. 3 and 4. The 2017 Project Proposal was submitted November 2017 as a 2017 BoR FOA Salinity Detention Project.

A comprehensive geology survey of the Minnesota Creek and Reynolds Creek drainages was published in 2015, i.e., the Open File Report 15-07, Geological Map of the Paonia Quadrangle, by D. Noe, Colorado Geological Survey David Noe, Colorado Geological Survey, 2015.

A recent environmental assessment (EA) was performed in support of the Minnesota Canal BoR FOA Project (2012 study). This EA studied the same two drainages (Minnesota and Reynolds Creek drainages) as those containing the proposed Turner and Lone Cabin Ditch-Combination Salinity Reduction Project.

Previous CWCB Grants, Loans or Other Funding

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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.

Lone Cabin Ditch and Reservoir Company currently has two outstanding CWCB loans (Contract numbers C153517 and C150361), both of which are associated with reservoir repairs. The Gunnison Basin Round Table approved these grant/loan projects.

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.

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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⁾ See Gantt Chart Exhibit C Fig. 3]
x	Engineer's statement of probable cost (projects over \$100,000) [2017 BoR Salinity Project, Exhibit C, Fig. 3]
x	Letters of Matching and/or Pending 3 rd Party Commitments ⁽¹⁾ [Letters from 2017, Exhibit C, Fig. 6]
Exhibit C	
x	Map (if applicable) ⁽¹⁾
	Photos/Drawings/Reports
x	Letters of Support (Optional) [See Letters from 2017, Exhibit C Fig. 7. Also Gunnison Round Table WSRF Grant request was approved Jan 2019]
	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:	November 30, 2017
Name of Grantee:	Turner and Lone Cabin Ditch-Combination Salinity Reduction Project
Name of Water Project:	Turner Ditch Company
Funding Source:	Bureau of Reclamation, 2019 Salinity FOA
Water Project Overview:	
<p>Our Salinity Control Project proposes to <i>combine</i> the irrigation operations of Turner Ditch, Lone Cabin Ditch and Reservoir, and Sweezy-Turner Ditch located in the Minnesota Creek and Reynolds Creek drainages into a closed, pressurized delivery system (please see Maps A.1.1 thru A.1.3 for the existing system ditching and Maps A.2.1 thru A.2.3 for the new pipeline routes). The project objectives are to:</p> <ol style="list-style-type: none"> (1) Decommission the use of 9.5 miles (out of 25 miles total) of open earthen ditches and their implied easements and associated structures; (2) Replace the remaining 15.5 mi of existing open ditch with HDPE and/or PVC pressure rated pipe; (3) Construct a new Turner diversion structure at the existing Sweezy-Turner diversion; (4) Pressurize the resulting combined system in excess of 50 psig; (5) Allow the new Lone Cabin system to directly access their Beaver Reservoir water (300 ac-ft) without water trades via a “connection” to the new Turner system; (6) Clean the irrigation water of vegetable matter down to 25 mesh (about 1 mm) using wedge screen at all head-gates. <p>This Project will eliminate delivery system water losses (approximately 40%) and encourage on-farm sprinklers via pressization as a high efficiency replacement for flood irrigation in both the Reynolds Creek and Minnesota Creek drainages. Irrigation water will be detained of alkalinity and selenium.</p> <p>CWP funding will be focused on diversion and piping of intake water located on the upper reach of Lone Cabin Reservoir, leveraging a larger BoR FOA Project, i.e., buying down the larger BoR Project.</p>	
Project Objectives:	

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See the Objectives in above Water Project Overview

Tasks
Task 1 – Environmental, Legal and Pipeline Routing [Subtasks 1, 2, 3, 4, 5 from Fig. 4, Exhibit C]
Description of Task:
<ul style="list-style-type: none"> • Begin efforts focused on NEPA surveys and reports, and then complete an Environmental Assessment document • Select a Habitat Replacement Project (required by BoR) local to our project area [we have two candidates at the present time] • Procure legal/fiscal services and begin field surveying of pipeline easements and structure siting • Identify routing complications: elevation drops, unstable geology, creek crossings, road crossings • Acquire new private land easement and negotiation of easement changes with FS and BLM <p>Easement needed for the proposed pipeline route has been identified and includes existing Turner Ditch recorded easement, existing Sweezy-Turner Ditch implied easement, existing Lone Cabin implied easement, Delta County road easement along Minnesota Creek Road (already secured in writing from Delta County), new private land easement verbally secured from the landowners at no expense to the Project, and public land easement. Contact has been initiated with the BLM and the Forest Service regarding possible changes to existing Ditch easements on public lands; these contacts have been favorable. Turner Ditch has also retained a water attorney to oversee the easement changes and new acquisitions associated with the proposed route.</p>
Method/Procedure:

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Tasks
<p>The Turner and Lone Cabin Ditch Companies have stockholders with legal and engineering expertise (and in-kind man-hours available) to administrate the above subtasks. Their duties would include managing and coordinating the subtasks, contracting with third parties and performing the needed “groundwork.”</p>
<p>Deliverables:</p>
<ol style="list-style-type: none"> 1. Environmental Assessment (EA) document 2. Final pipeline route identified 3. Easements surveyed and mapped 4. Easements legally described and filed 5. Habitat Replacement Area identified <p>Six-month status reports of subtasks, and copies (if applicable) of associated above deliverables.</p>

Tasks
<p>Task 2 – Engineering Design and Construction Preparation [Subtasks 6, 7, 8, 9, 10 from Fig. 4 Exhibit C]</p>
<p>Description of Task:</p>

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Tasks
<p>Subtasks:</p> <ul style="list-style-type: none"> • Contract and complete the final engineering design of the Pipeline Project • Contract and complete the final engineering design of the Habitat Replacement Project • Oversee the preparation of the plans and specifications for both projects • Search for and select construction contractors (via a bidding process) • Begin material procurement, and stockpiling and staging (mostly plastic pipe and fittings) as budget allows
<p>Method/Procedure:</p> <p>The Turner and Lone Cabin Ditch Companies have stockholders with legal and engineering expertise (and in-kind man-hours available) to administrate the above subtasks. Their duties would include managing and coordinating the subtasks, contracting with third parties and performing the needed “groundwork.”</p>
<p>Deliverable:</p> <ol style="list-style-type: none"> 1. Engineering Design report 2. Engineering Design report for the Habitat Replacement 3. Preparation of Plans and Specifications documents 4. Construction Contractor selected <p>Periodic status reports of subtasks, and copies of above associated deliverables.</p>

Tasks
<p>Task 3 – New Turner System Construction (see Maps A.2.2 & A.2.3) [Subtasks 11,12,13,14 from Fig. 4, Exhibit C]</p>
<p>Description of Task:</p>

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Tasks

A new Turner irrigation water diversion will be constructed at the existing location of the Sweezy-Turner diversion (see Map A.2.2). The increased elevation of this new diversion will allow the Turner system to equalize pressures with the Lone Cabin system on Lamborn Mesa. Pipeline construction proceeds as shown on Maps A.2.2 and A.2.3, from the new diversion to the connection points (about 9 mi), which are valves between the systems located close to the end of Lone Cabin Lateral #2 or near the end of the Turner South Lateral. This connection enables the transfer of Lone Cabin's 3/16ths Beaver Reservoir water using the new Turner System (Item 5 in the Objectives above), thus eliminating the need for the water trade/transfer ditch east of Lone Cabin Reservoir. The new pipeline will provide pressurized water to all Turner stockholders in excess of 50 psig. The water right of Michael and Sue Spurlock will also be assimilated into the Turner Ditch Company and System as part of our proposed Project (see Map A.2.2 for location). Also of note is that three existing diversion structures on the Minnesota Creek, i.e., the Turner, Sweezy-Turner and Spurlock structures will be consolidated into one new diversion structure.

As mentioned above, this combination project assimilates the unincorporated Sweezy-Turner Ditch (Sweezy) which diverts water from the Minnesota Creek approximately one mile to the east of the current Turner diversion, and then routes the flow westward to the existing Turner Ditch easement at Apricot Hill (see Map A.2.2). The Sweezy currently utilizes 2.68 miles of open ditch which supports two water right users irrigating a total of 110 acres. Integration of Sweezy into the Turner Ditch Company enables the move of the Turner diversion to the current Sweezy diversion location at an elevation of 6,436 feet; the Turner gravity head over the entire system will increase to 266 vertical feet realizing 116 psi of static pressure (once in plastic pipe). This combination would increase the irrigation water carried by the Turner to 21 cfs, and increase the total irrigated acreage to 680 acres.¹

Project construction of the habitat replacement is initiated in this task, with a second construction phase scheduled during Task 4. The budget for a Habitat Replacement Plan consistent with 2017 BoR FOA assumes 5% of the total construction cost will be used to construct this Replacement. An ideal location for such a Replacement has already been identified on the eastern side of Spurlock's property in the Minnesota Creek drainage as indicated on Map A.2.2. This is a small natural wetlands area, full of wildlife, that can be expanded and improved, and is already part of a private conservation easement monitored by Rocky Mountain Elk Foundation. This organization has in-house engineering staff that can design our Replacement Plan, and the current Landowners are supportive (i.e., no land purchases necessary).

Method/Procedure:

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Tasks
<p>A construction engineering firm will be under contract to perform subtasks 11 and 12 focused on the installation of the new Turner system. Another construction engineering firm will be under contract to perform Subtask 13 focused on the installation of the Replacement Habitat. Oversight of the installations will be provided by the design engineering firms. Administration and technical oversight will be provided by Turner Ditch Company Board members.</p>
<p>Deliverables:</p> <ul style="list-style-type: none"> • Completed construction of the Turner System (capped at the lower end near the Lone Cabin connection point) • Partial construction (say 50%) of the Replacement Habitat completed. • Testing of the Turner stand-alone system completed and documented <p>Six-month status reports of subtasks, and copies of associated deliverable documentation.</p>
<p>Task 4 – New Lone Cabin System Construction (see Maps A.2.2 & A.2.3) [Subtasks 15,16,17,18,19 from Fig. 4, Exhibit C]</p>
<p>Description of Task:</p> <p>Starting with the replacement of Lake Fork headgate structure (see Map A.2.2), irrigation water is piped 1.5mi down into the Lone Cabin reservoir, dissipating velocity (dynamic pressure) as the input water jets into the reservoir water. Pressure develops at the dam outlet structure as the piping route drops from the reservoir (7,368 feet) to the highest user tap at roughly 6670 feet (i.e., 304 psi static pressure), most of this pressure must be dissipated with pressure regulation valves. As an alternative to three staged pressure-regulation vaults, a small-hydro site can be located near the Paonia domestic water tank at an approximate elevation of 6,500 feet. This hydro-electric facility can be utilized to dissipate much of the excess pressure and produce electricity, potentially up to 200 kW.</p> <p>West of the highest water user the piping splits into two laterals and taps 15 farms all located on Lamborn Mesa. Connection of the Turner and Lone Cabin Systems occurs at the end of the southern lateral (see Map A.2.3 for route and connection detail). A major improvement for Lone Cabin water users will be the delivery of their 3/16th share of Beaver Reservoir water via these <i>bottom</i> connections to the new Turner system on Lamborn Mesa; pressure at this connection point is sufficient to push Beaver Reservoir water up to the higher Lone Cabin system farms.</p> <p>A large impact on Lone Cabin irrigation operations is the remediation (abandoned, filled and planted) of</p>

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Tasks
<p>9.5 miles of open ditch (Item 1 in the Summary). The current effort required to maintain this 9.5 miles of open ditch will be eliminated, including 5.4 miles of the Transfer ditch and Highline ditch east and south of Lone Cabin reservoir (see Map A.2.1), as well as the attendant open ditch water loss.</p>
Method/Procedure:
<p>A construction engineering firm will be under contract to perform Subtask 15 focused on the installation of the new Lone Cabin System. Another construction engineering firm will be under contract to perform Subtask 16 focused on the completion of the Replacement Habitat. Oversight of the installations will be provided by the design engineering firms. Administration and technical oversight will be provided by Turner Ditch Company Board members.</p>
Deliverable:
<ul style="list-style-type: none"> • Completed construction of the Lone Cabin System capped at the lower end at the Lone Cabin connection points) • Completed construction of the Replacement Habitat • Testing of the Lone Cabin stand-alone system, completed and documented • Testing of the Turner Lone Cabin connection points, completed and documented <p>Six-month status reports of subtasks, and copies of associated deliverable documentation.</p>

Budget and Schedule
<p>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.</p>

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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.

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.

Last Updated: November 2018

Performance Measures

CWP Grant - Exhibit B

CWCB BUDGET AND SCHEDULE (EXCEL SPREADSHEET)

CWP Grant - Exhibit C

PROJECT MAPS

FIGURE A.1.1 EXISTING TURNER DITCH SYSTEM

FIGURE A.1.2 EXISTING LONE CABIN SYSTEM

FIGURE A.1.3 EXISTING SWEEZY-TURNER SYSTEM

FIGURE A.2.1 PROPOSED IMPROVEMENTS FOR TURNER, LONE CABIN & SWEEZY-TURNER

FIGURE A.2.2 NEW SYSTEM EAST SIDE OF PROJECT

FIGURE A.2.3 NEW SYSTEM WEST SIDE OF PROJECT

OTHER FIGURES

3. BoR PROJECT ENGINEERS ESTIMATE OF PROBABLE COSTS (EXCEL SPREADSHEET)

4. BoR PROJECT GANTT CHART (EXCEL SPREADSHEET)

5. BLANK

6. Letters of Matching Third Party Financial Support (2017)

7. Letters of Support (2017)



Water Plan Grant - Exhibit B

Budget and Schedule

Project End Date: Jan 2022

For more detail see: Engineers' Estimate of Probable Costs in Fig. 3 and Gantt Chart in Fig. 4, both in Exhibit C



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

P (303) 866-3441
F (303) 866-4474

John Hickenlooper, Governor

Robert Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

Paul Maudlin
Turner Ditch Company

Re: Colorado's Water Plan Implementation Grants

Dear Paul:

In response to your inquiry, here is some information regarding the current status of the Colorado's Water Plan Implementation Grant application from Turner Ditch Company.

The Colorado Water Conservation Board will hear a presentation on the grant application for the Turner and Lone Cabin Ditch-Combination Salinity Reduction Project at the November Board meeting in Broomfield, CO. The recommendation from CWCB staff is for approval of a grant in the amount of \$175,000, as reflected in the attached Board memorandum.

A final decision on the grant approval will be made at the upcoming Board meeting in January of 2018. Approval of the grant is recommended by staff and the review committee. No issues are anticipated with the Board's approval of the grant.

Let me know if I can provide any more information or assistance.

Sincerely,

Brent Newman
Chief, Interstate, Federal, and Water Information Section
Colorado Water Conservation Board





COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

1313 Sherman Street, Room 721
Denver, CO 80203

September 8, 2017

Paul Maudlin, Bord Member
Turner Ditch Company
P.O. Box 1553
Paonia, CO 81428
970-333-2190
excelsior@paonia.com

RE: Colorado Water Conservation Board Loan Consideration
Turner Ditch Company / Lone Cabin Ditch and Reservoir Company
Turner Ditch Project

Dear Mr. Maudlin:

I am writing to inform you that the Turner Ditch Company & Lone Cabin Ditch and Reservoir Company - Turner Ditch Project fits the initial project criteria for the Colorado Water Conservation Board's (CWCB) Water Project Loan Program.

The CWCB funds raw water projects with low-interest loans. Loan approval is also subject to a financial review of the borrower's ability to repay debt. The \$350,000 potential loan request from the Turner Ditch Company is well within the lending ability of the CWCB.

In order to receive a loan, Turner Ditch Company must submit a completed Loan Feasibility Study for review by CWCB staff. That information will then be presented at a future CWCB meeting for Board approval of the loan.

If you have any questions regarding the CWCB Water Project Loan Program, please feel free to contact me at 303-866-3441 x 3224 or at anna.mauss@state.co.us.

Sincerely,

Anna Mauss, P.E.
Finance Section
Colorado Water Conservation Board



RECLAMATION

Managing Water in the West

**Salinity Control Program
State Representative Review
For Bureau of Reclamation 2017
Funding Opportunity Announcement
BOR-UC-17-F003**

(THIS LETTER IS RECOMMENDED, BUT NOT REQUIRED)

Project Name: Turner and Lone Cabin Ditch Combination Project

Sponsor Submitting Proposal: Turner Ditch Company

Date of Review: 10/12/17

I, [Brent Newman-CO, Robert King-UT, Keenan Hendon-WY or Paul Harms-NM] Brent Newman have reviewed the proposed salinity project referred to me by the sponsor and find that:

1. The project meets the objectives of the Colorado River Basin Salinity Control Program.
2. The project is consistent with the State's goal to maximize the efficient beneficial use of water.
3. The sponsor has been provided with information about additional sources of funding that are available to support the project.
4. I concur in the sponsor submitting this application under the USBR's Funding Opportunity Announcement.



Signature of State Representative

11/3/17

Date



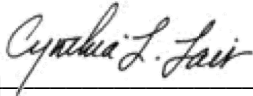
Colorado State Conservation Board

**Colorado Department of Agriculture
State Conservation Board
Salinity Control Program Concurrence Letter
For Bureau of Reclamation
2017 Funding Opportunity Announcement
BOR-UC-17-F003**

Project Name: Lone Cabin/Turner/Sweezy

Sponsor Submitting Proposal: Turner Ditch Company

The Colorado State Conservation Board has reviewed the proposed salinity project and finds that it concurs with the conservation objectives of the State of Colorado and its local governmental entities.


Signature State of Colorado Salinity Coordinator

10/12/17
Date

Comments from Colorado Department of Agriculture: