COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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Robert Randall, DNR Executive Director

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TO: Colorado Water Conservation Board Members

FROM: Brent Newman, Interstate, Federal, and Water Information Section

DATE: September 20-21, 2017 Board Meeting

AGENDA ITEM: 7 a-c. Water Plan Grants – Agricultural Viability
Initial Consideration

This item is for consideration only. No action is required at this time

Introduction

The agricultural viability category has $1 million in available funds. In the first round of applications, the CWCB received three applications totaling $402,000 and five Intents to Apply totaling $3,650,000. Staff is supporting all three applications as noted in the table below. This will leave $598,000 remaining in the fund for upcoming rounds of applications.

Applicant	Project Name	Request	% of Project	Staff Support
Fruitland Irrigation Company	Fruitland Irrigation Renovation Project	$350,000	3.3%	$350,000
La Plata Water Conservancy District	Bobby K. Taylor Reservoir Recharge Pits	$35,000	50%	$35,000
Treanor Enterprise Ditch Company	Treanor Ditch Lining Project	$17,000	57%	$17,000

Staff Review and Comments

a. Fruitland Irrigation Company – Fruitland Irrigation Renovation Project

The two rock wall tunnels of the Gould Canal were constructed over 100 years ago, and have eroded to the point that collapse is threatened. If either of these tunnels collapse, water delivery out of Gould Reservoir will be obstructed, prohibiting irrigation water delivery to the service area after their direct flow diversion right is out of priority, typically by mid-June. This project plans to install 2 miles of pipe from the reservoir outlet through the two tunnels. Cellular concrete will be injected between the pipe and rock walls to stabilize the tunnel and protect the pipe. Another 10.3 miles of earthen delivery ditches will be improved with PVC-geotech liner covered with shotcrete. CWP funding will contribute to financing piping the upper portion of this project.

This project meets multiple goals of Colorado's Water Plan and advances the measurable objectives as identified in the Critical Action Plan. In particular, this project meets goals related to improvement of agricultural infrastructure, while incorporating multiple benefits related to endangered species and water quality. The project seeks to leverage significant federal funding from the Colorado River Basin

Salinity Control Program, through the 2017 Funding Opportunity Announcement. Also, the applicant has submitted a CWCB loan request to be considered at the September 2017 CWCB Board meeting. The project is supported by the Gunnison Basin Roundtable financially, through approval of a WSRF grant application on June 5, 2017, to be reviewed by the CWCB at the September 2017 meeting.

This project will also provide aquatic habitat benefits from reduced salinity and selenium contributions, which have negative impacts to endangered fish species in the Gunnison and Colorado Rivers. These benefits will accrue to in-state water users, supporting the goals of the Gunnison Selenium Management Program, and downstream water users in the Colorado River basin.

See attached Data Sheet for a location and summary.

b. La Plata Water Conservancy District – Bobby K. Taylor Reservoir Recharge Pits.

LPWCD will divert available water in-priority from the La Plata River through existing agricultural ditches and percolate those supplies into the aquifer for natural and delayed conveyance to BKT Reservoir. This project would consist of constructing three recharge pits atop the Red Mesa aquifer, each approximately 50 ft. x 50 ft. x 5 ft., with 3:1 side slopes. In addition, a total of 11,020 linear feet across six laterals, each approximately 2 ft. x 2 ft., with 2:1 side slopes, would be constructed from existing ditches to the new recharge pits. This project would also include the installation of six headgates and fourteen measurement structures for LPWCD operation and CDWR administration.

This projects meets goals identified in Colorado's Water Plan relating to "updating agricultural infrastructure, especially where improvements provide multiple benefits." (Chapter 10, Measurable Objective D, Action 3) The applicant and their engineer worked closely with CWCB staff, DWR staff, and CPW staff to ensure that this application articulated the multiple benefits of this project, including La Plata River Compact compliance, and benefits to native fish in the La Plata River. A letter of support from the Division 7 Engineer is included with the application, describing the benefits to the DWR's Compact Pool in BKT Reservoir, and the partnership between LPWCD and DWR in administration of this compact.

See attached Data Sheet for a location and summary.

c. Treanor Enterprise Ditch Company – Treanor Ditch Lining Project

This project will line a 1,000-foot section of this ditch where seepage losses are greatest. The ditch will be lined with soil amendments (bentonite and lime) and mixed with existing soils. Bentonite is commonly used during well construction forming a seal between the casing and the native formation, and has proven to be a cost-effective ditch lining solution to reduce seepage in the La Plata River Basin with measured water savings of up to 25 percent per mile.

Any water supplies delivered through the Treanor Ditch to the BKT Reservoir during the non-Compact season will result in the storage of water that can be used for additional irrigation supplies, meeting Compact requirements, as well as to provide water during low flows to support the native fisheries in the La Plata River, per the 2007 Memorandum of Understanding

with the LPWCD, Colorado Department of Natural Resources, Colorado Division of Parks and Wildlife, and the Division of Water Resources. This MOU in included in the application package, as well as letters of support from the Division Engineer, describing how this project will work in concert with the LPWCD BKT Reservoir Recharge Pits project discussed in item B.

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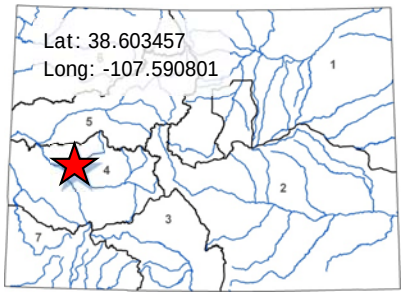
Fruitland Irrigation Renovation Project
Fruitland Irrigation Company

September 2017 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION	
County/Counties:	Delta, Montrose
Drainage Basin:	Gunnison

DETAILS	
Total Project Cost:	$10,455,554
Water Plan Grant Request:	$500,000 ($350,000 Ag, $150,000 Env/Rec)
Other CWCB Funding:	$900,000 (WSRF Sept 2017 CWCB meeting) $1,729,000 (CWCB Loan, Sept 2017 meeting)
Other Funding Amount:	$7,451,349
Applicant Match:	$1,514,205
Project Type(s): Construction	
Project Category(Categories): Agricultural, Environmental & Rec	
Measurable Result: 10,000 AF existing storage preserved, 1,856 af/yr efficiency savings, 5790 tons of salt/yr 460 lbs of selenium/yr removed from Gunnison/Colorado River system	

Fruitland Irrigation Company (FIC) is a mutual ditch company and a non-profit corporation, established in 1901. There are currently 130 shareholders of FIC stock. The FIC operates and maintains the Fruitland Highline Canal - 17.7 miles of earthen ditch; the Gould Canal – 22 miles of earthen ditch, including 0.8 miles through two rock tunnels; and the Gould Reservoir with 10,168 acre-feet of decreed storage. Water is delivered via this system to irrigate an estimated 5900 acres on Fruitland Mesa, southwest of the town of Crawford, primarily used for cattle ranching and hay production.

The two rock wall tunnels of the Gould Canal were constructed over 100 years ago, and have eroded to the point that collapse is threatened. If either of these tunnels collapse, water delivery out of Gould Reservoir will be obstructed, prohibiting irrigation water delivery to the service area after their direct flow diversion right is out of priority, typically by mid-June. This project plans to install 2 miles of pipe from the reservoir outlet through the two tunnels. Cellular concrete will be injected between the pipe and rock walls to stabilize the tunnel and protect the pipe. Another 10.3 miles of earthen delivery ditches will be improved with PVC-geotech liner covered with shotcrete.

CWP funding will contribute to financing piping the upper portion of this project. As a substantial agricultural infrastructure renovation project, the CWP funds requested are an essential, though minor portion of project funding (< 5%). These state funds will assist Fruitland Irrigation Company to compete for major project funding through the Colorado River Salinity Control Program administered by the Bureau of Reclamation.

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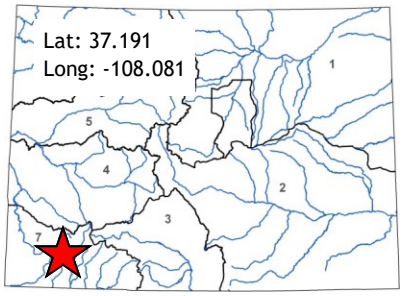
Bobby K. Taylor Reservoir Recharge Pits
La Plata Water Conservancy District

September 2017 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION	
County/Counties:	La Plata
Drainage Basin:	Southwest

DETAILS	
Total Project Cost:	$70,000
Water Plan Grant Request:	$35,000
Other CWCB Funding:	$0
Other Funding Amount:	$0
Applicant Match:	$35,000
Project Type(s): Construction	
Project Category(Categories): Agricultural, Supply and Demand	
Measurable Result: 250-500 AF new annual water supplies developed, 11,020 linear feet of laterals installed	

La Plata Water Conservancy District (LPWCD), located in southwest La Plata County, was formed in 1944 by area irrigators and continues to be run by a volunteer Board. LPWCD has been working with irrigators, ditch companies, and the Colorado Division of Water Resources (CDWR) to monitor and help solve water shortage and allocation issues. LPWCD works with a range of water users to achieve water conservation, storage within Bobby K. Taylor (BKT) Reservoir for irrigation supplies, La Plata River Compact compliance, and native fish protection.

The BKT Reservoir is located on Long Hollow just above its confluence with the La Plata River. The primary water sources for the BKT Reservoir include: natural drainage and groundwater irrigation return flows from Long Hollow and Government Draw, along with precipitation. LPWCD obtained a final decree in Division 7, Case No. 00CW49 that grants storage rights for the filling of BKT Reservoir through recharge to the Red Mesa aquifer by means of seepage from ditches and percolation through recharge pits. Practically speaking, LPWCD would divert available water in-priority from the La Plata River through existing agricultural ditches and percolate those supplies into the aquifer for natural and delayed conveyance to BKT Reservoir. This project would consist of constructing three recharge pits atop the Red Mesa aquifer, each approximately 50 ft. x 50 ft. x 5 ft., with 3:1 side slopes. In addition, a total of 11,020 linear feet across six laterals, each approximately 2 ft. x 2 ft., with 2:1 side slopes, would be constructed from existing ditches to the new recharge pits. This project would also include the installation of six headgates and fourteen measurement structures for LPWCD operation and CDWR administration.

The BKT Reservoir Recharge Pits project will provide an estimated average of 250-500 AF per year of new water supply development, depending on the type of water year, to further enhance the inflows into BKT Reservoir. The Southwest Basin Roundtable specifically addressed these BKT Reservoir recharge pits in its Basin Implementation Plan. The La Plata River Basin is over-appropriated, under strict administration by the Division of Water Resources, and is bound by the 1922 La Plata River Compact. The BKT Reservoir stores water during the non-Compact season for multiple uses, including: the exchange of stored supplies for 23 irrigation ditches, whose combined service area is approximately 21,000 acres; supplemental water supply to meet the La Plata River Compact; and to provide water during low flows to support the native fisheries in the La Plata River, per the 2007 Memorandum of Understanding with the LPWCD, Colorado Department of Natural Resources, Colorado Division of Parks and Wildlife (CDPW), and the Division of Water Resources. LPWCD is able to fund half of the project and will employ a local contractor who is experienced in ditch work and maintenance. This project is technically and fiscally feasible and shovel ready.

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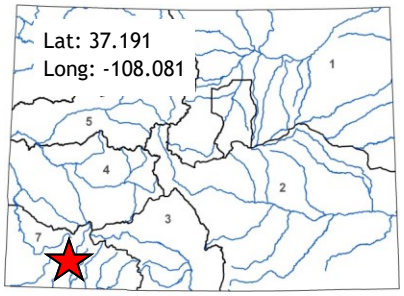
Treanor Ditch Lining Project
Treanor Enterprise Ditch Company

September 2017 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION	
County/Counties:	La Plata
Drainage Basin:	Southwest

DETAILS	
Total Project Cost:	$30,000
Water Plan Grant Request:	$17,000
Other CWCB Funding:	$0
Other Funding Amount:	$13,000
Applicant Match:	$8,000
Project Type(s): Construction	
Project Category(Categories): Agricultural	
Measurable Result: 385 af/yr efficiency savings, 1,000 linear feet of ditch lining	

The Treanor Enterprise Ditch Company is located in the La Plata River Basin and was incorporated in 1968. The Treanor Ditch owns three surface water rights totaling 67.00 cfs of diversions from the La Plata River, which are junior to the 1922 La Plata River Compact. The La Plata River is over appropriated, and under strict administration by the Division of Water Resources. Therefore, the Treanor Ditch rarely receives a fully irrigation supply. The Treanor Ditch is a participant in the La Plata Water Conservancy District (LPWCD) and its Bobby K. Taylor (BKT) Reservoir exchange.

The Treanor Ditch diverts irrigation supplies from the La Plata River approximately 6.5 miles to the southwest of the Hesperus Gage. A recent ditch loss study estimated this earthen ditch loses as much as 40 percent of river diversions due to seepage. This project will line a 1,000-foot section of this ditch where seepage losses are greatest. The ditch will be lined with soil amendments (bentonite and lime) and mixed with existing soils. Bentonite is commonly used during well construction forming a seal between the casing and the native formation, and has proven to be a cost-effective ditch lining solution to reduce seepage in the La Plata River Basin with measured water savings of up to 25 percent per mile.

This work will increase irrigation water supplies to individual farmers under the Treanor Ditch who irrigate approximately 2,832 acres to grow alfalfa, brome grass, and other pasture grasses. In addition, the Treanor Ditch can also be used to indirectly convey non-irrigation season deliveries to BKT Reservoir, which once stored in the reservoir increases irrigation exchange supplies, provides Compact storage water, and provides bypass flows below the reservoir for the support of the native fish species (roundtail chub, bluemouth sucker, and flannelmouth sucker).

Any water supplies delivered through the Treanor Ditch to the BKT Reservoir during the non-Compact season will result in the storage of water that can be used for additional irrigation supplies, meeting Compact requirements, as well as to provide water during low flows to support the native fisheries in the La Plata River, per the 2007 Memorandum of Understanding with the LPWCD, Colorado Department of Natural Resources, Colorado Division of Parks and Wildlife, and the Division of Water Resources.