

LA PLATA WATER CONSERVANCY DISTRICT
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April 7, 2021

Colorado Water Conservation Board
Alexander Funk, Agricultural Water Resources Specialist
1313 Sherman St, Room 718
Denver, CO 80203
e-mail: alexander.funk@state.co.us

RE: Water Plan Grant Funding Final Report – La Plata River Basin
BKT Reservoir Recharge Pits (AG BKT RES STORAGE)
Order No. POGG1, PDAA, 201800000919

Dear Mr. Funk:

The La Plata Water Conservancy District (LPWCD) was awarded grant funding by the Colorado Water Conservation Board (CWCB) under the Colorado Water Plan supplemental funding program for the Bobby K. Taylor (BKT) Reservoir Recharge Pits project. The purpose of the project was to construct groundwater recharge facilities within the La Plata River Basin. The grant was approved in November 2017 for the amount of \$35,000. The grant period was extended through the end of 2020 due to initial challenges in establishing agreeable easements with the landowners of the proposed pit location and a subsequent redesign of the project. An additional extension was approved in December 2020 due to social distancing requirements associated with the COVID-19 pandemic and the additional challenges to working with landowners. This report is the final report summarizing the work completed using the grant funds. A detailed budget summary is attached.

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 precipitation and drainage and groundwater irrigation return flows from Long Hollow and Government Draw. LPWCD will divert available water in-priority to the recharge pits for groundwater percolation. The water will provide recharge to the Red Mesa aquifer and will subsequently increase inflows into the BKT Reservoir. LPWCD has 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.

Approval to proceed with the project was received from the CWCB in early 2018. Jacob Bauer with Leonard Rice Engineers, Inc. was retained to complete a change model to estimate the timing of return flows from the proposed recharge pits to Long Hollow and its perennial tributaries. The work plan for the construction of the proposed recharge pits was developed using the modeling results. The project, as initially proposed, involved the construction of three recharge pits, each approximately 463

cubic yards in size (approximately 0.9 acre-feet total), and approximately 11,020 linear feet of new ditch leading from existing ditches to the new recharge pits. Six headgates and 14 measurement structures were also proposed. Additional grant funding for the project was requested from the Southwestern Water Conservation District (SWCD) and approved in February 2019.

Easement agreements could not be established with the two original property owners, so the project design was revisited in 2019 and a new location for the recharge pits was identified. Two test pits were dug on the Jensen Revocable Trust Property in November 2019. Mostly gravel and cobble with sand was encountered in the pits. The larger particle sizes were a positive sign since the goal is a high infiltration capacity.

The project will receive water through the East Lateral of the Joseph Freed Ditch. The East Lateral flows approximately 5,057 feet from the Joseph Freed Ditch on the Dart Properties, LLC & Taylor Made Farms parcel, across the Rhien Trust parcel, to the recharge pits project area on the Jensen Revocable Trust parcel. Easements for the lateral and recharge pits have been established with the three property owners. In addition, a carriage easement was obtained from the Joseph Freed Ditch Company. Figure 1 shows the BKT Reservoir Recharge Pits Project Area.

Once the legal easements had been approved by the landowners, construction of the project began in December 2020. Work was performed on the Dart Properties, LLC & Taylor Made Farms parcel to improve the diversion from the Joseph Freed Ditch. Two new 24" headgates were installed to control water flow to the lateral and a new 32" culvert was installed where the lateral crosses under an access road. A 24" Parshall flume was installed downstream of the culvert to measure water flow. The length of the East Lateral from the diversion point to the recharge pit project area was improved for the project.

On the Jensen property, construction activities included new drainage channels, a sedimentation pond, and two recharge pits. The existing lateral was redirected approximately 133 feet after crossing under Highway 140 on the Jensen property to a new 0.04-acre sedimentation pond. A 24" Parshall flume was installed on the lateral above the pond. Two recharge pits were constructed downstream of the sedimentation pond. The first recharge pit measured approximately 209 feet x 105 feet x 3.5 feet (2,844 cubic yards). The second recharge pit measured approximately 162 feet x 136 feet x 3.5 feet (3,272 cubic yards). A new 70-foot channel flows between the two pits. From the second recharge pit, an approximate 125-foot outflow channel directs any potential overflow water to an existing ditch. Approximately 1 acre of total recharge pit area was created, 5,057 feet of existing lateral improved, and 128 feet of new ditch constructed as part of this project.

Once the recharge pit construction was complete, the pit banks and disturbed areas were reseeded in January 2021. The location of the final pits and drainage ditches was mapped using a survey grade GPS. This information was used to define the easement location on the Jensen property. The attached Figure 2 shows the layout of the constructed recharge pits.

During high flows, water will be diverted from the La Plata River, through the Joseph Freed Ditch, and then to the BKT Reservoir recharge pits. The additional water infiltration to the aquifer will help to provide recharge to the BKT Reservoir. The water stored in the reservoir helps Colorado meet the demands of the New Mexico Compact and provides irrigation water by exchange to agriculture. The

Alexander Funk
Colorado Water Conservation Board

LPWCD appreciates the grant funding you have provided and the opportunity to improve water supply and management conditions in Southwest Colorado.

Sincerely,



Dan Huntington, President
LA PLATA WATER CONSERVANCY DISTRICT

Tables: Budget Detail

Figures: Figure 1. BKT Reservoir Recharge Pits Project Area
Figure 2. Recharge Pits – Jensen Revocable Trust

Cc: Eric Bikis, SGM
Robin Walsh

**La Plata Water Conservancy District
Bobby K. Taylor Reservoir Recharge Pits
Final Budget Detail**

Contractor	Task Description	Actual Cost	LPWCD Funding	CWCB Grant Funding	SWCD Grant Funding
Construction					
Tony Meador	Construct two recharge pits (6,344 yards ³)	\$36,936.00	\$11,996.25	\$13,701.75	11,238.00
	Detention pond construction (55 yds)	\$333.00	\$0.00	\$333.00	\$0.00
	Ditch Construction (~5,057 ft)	\$7,585.50	\$0.00	\$7,585.50	\$0.00
	2 Headgates (24") and 1 Culvert (36" x 15')	\$7,000.00	\$0.00	\$7,000.00	\$0.00
	2 Parshall Flumes (24")	\$4,200.00	\$0.00	\$4,200.00	\$0.00
	Reclamation and Seeding (1.2 acres)	\$1,650.00	\$0.00	\$1,650.00	\$0.00
Subtotal		\$57,704.50	\$11,996.25	\$34,470.25	\$11,238.00
Project Administration					
SGM	Project management, field work, and reporting	\$15,599.00	\$15,307.25	\$291.75	\$0.00
Maynes, Bradford, Shipps, & Sheftel (MBSS)	Legal easement review and support	\$11,562.95	\$11,524.95	\$38.00	\$0.00
Robin Walsh	Administrative matters	\$200.00	\$0.00	\$200.00	\$0.00
Subtotal		\$27,361.95	\$26,832.20	\$529.75	\$0.00
TOTAL		\$85,066.45	\$38,828.45	\$35,000.00	\$11,238.00

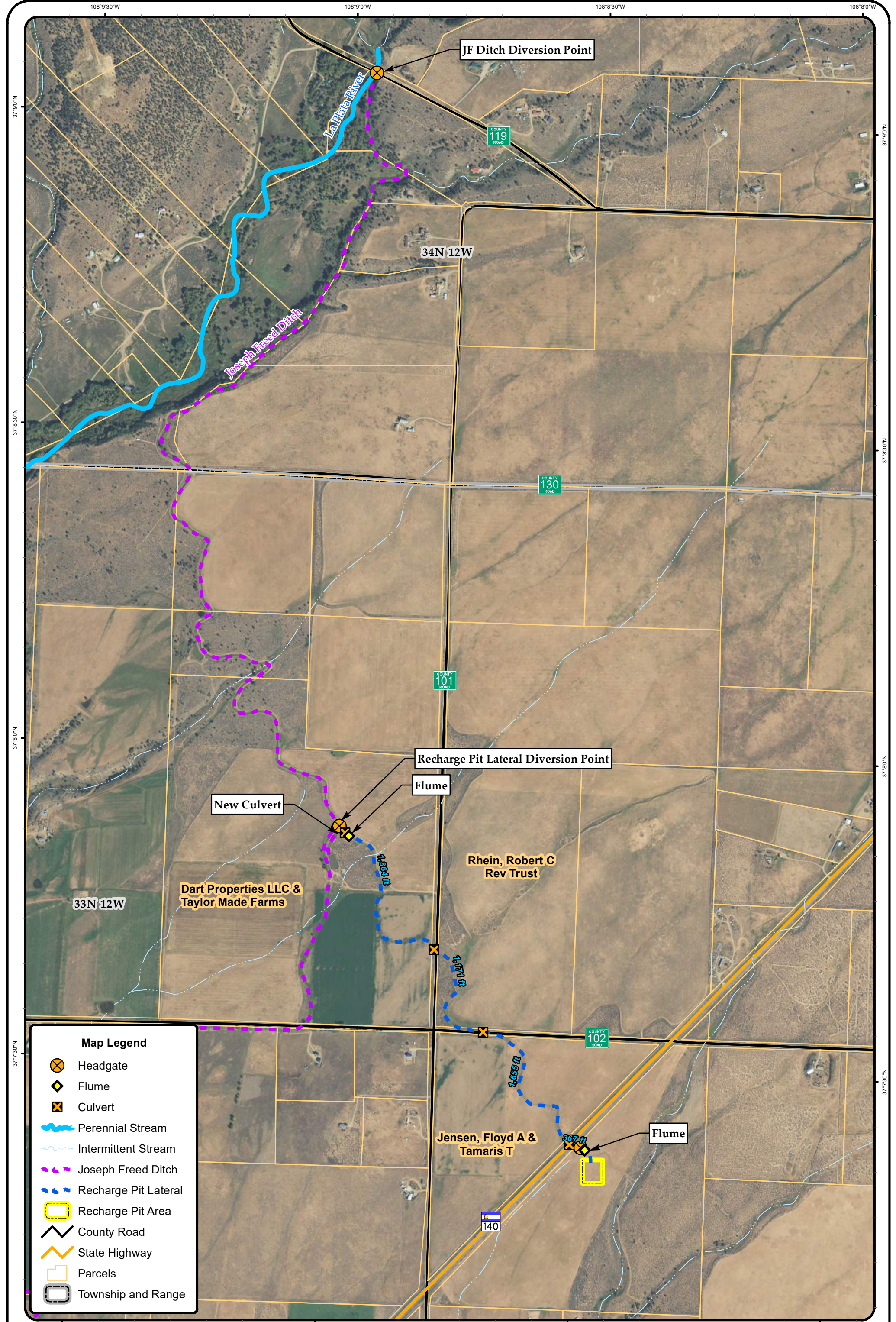


Figure 1
**BKT Reservoir Recharge
Pits Project Area**
LPWCD

Date: 4/7/2021 | Job No. 002.06.13J1 | Map by: ANW | Checked by: EAB | Scale: 1:9,600
Data Sources: NAIP 2017 Aerial Imagery, La Plata County GIS, Norwest Corps, San Juan RC&D,
and CDSS PLSS Division 7
File: P:\Project Files\002-06 LPWCD\Mapping\ArcMap_files\2020\Figure1-BKTRes.RechargePitArea.mxd
The information displayed above is intended for general planning purposes. Refer to legal documentation/data sources for descriptions/locations.

0 800 1,600 Feet
1 inch = 800 feet



