

Raw Water Pipeline Project



La Plata West Water Authority

Building Momentum



DECEMBER 20

La Plata West Water Authority

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Executive Summary

The Raw Water Project began as what some called a ‘Pipe Dream’ and has been in the making for 3-4 decades. The entire raw water project is the effort of many entities but is based on one major accomplishment: The Animas La Plata Project (ALP). With final authorization of the project in the Colorado River Basin Project Act of September 1968, the project was incorporated into the 1988 Colorado Ute Indian Water Rights Settlement Act. The Colorado Ute Settlement Act Amendments act of 2000 provided for the implementation and completion of the ALP project. Initial site work began in April of 2002 and the reservoir filled for the first time on June 29, 2011.



Figure 1 Lake Nighthorse

The next accomplishment was the construction and completion of the Intake Structure, a subterranean portals structure that would allow the draw of raw water from the ALP reservoir now known as 'Lake Nighthorse' prior to it filling. This project's completion in September of 2009 was completed within two weeks of being submerged.

The project was the accomplishment of Tribal Resource Funds, Colorado Water Resource & Power Development Authority and CWCB's grant funds of \$1,100,000.



Figure 2: The intake Structure is below grade of concrete slab, which now has pumps mounted for Raw Water Pipeline Project

The La Plata West Water Authority's (LPWWA) Raw Water Pipeline project was designed and constructed to deliver water from the ALP project reservoir to Lake Durango and provide future options for delivery of raw water to points further west in La Plata County. While LPWWA was the managing entity for the \$4,773,000 project the only funds LPWWA had directly invested were the \$500,000 grant funds graciously supplied by Colorado Water Conservation Board. These funds were directly related to an upsize in a segment of pipeline known as the 125 pipeline, from an eight inch pipe to a sixteen pipe. As discovered during the design process for the raw water delivery system, an opportunity to upsize a portion of the raw water delivery system's pipelines became known. Building a small, 8-inch diameter pipeline in this section of the project will serve the immediate needs of LDWA and the first phases of the planned LPWWA rural domestic water system, it would not meet the needs of many people currently living in western La Plata County, and it would not meet the needs of either the SUIT or the UMUT. With the

securing of \$500,000 in grant funding we were able to increase this section of pipeline to a 16-inch pipeline. LPWWA is now be able to serve most of the anticipated domestic water needs in western La Plata County (for LPWWA, LDWA and Tribal partners).

The upsize to the pipeline segment allows for additional Storage Capacity, and provides alternate access to all entities with ALP water project allocations, enhancing access to a consistent raw water source. Higher utilization of existing storage capacity will be facilitated by the ability to transport water from the ALP Reservoir to Lake Durango reservoir also providing for enhancement, preservation, utilization of existing storage, and the ability to obtain raw water for Lake Durango. There is also a projected operating cost savings \$706,400.

The 16-inch pipeline for the 125 Pipeline segment of the project meets the project objectives while reducing operating costs and provides an avenue for future expansion of the 125 Pipeline to meet future LPWWA needs.

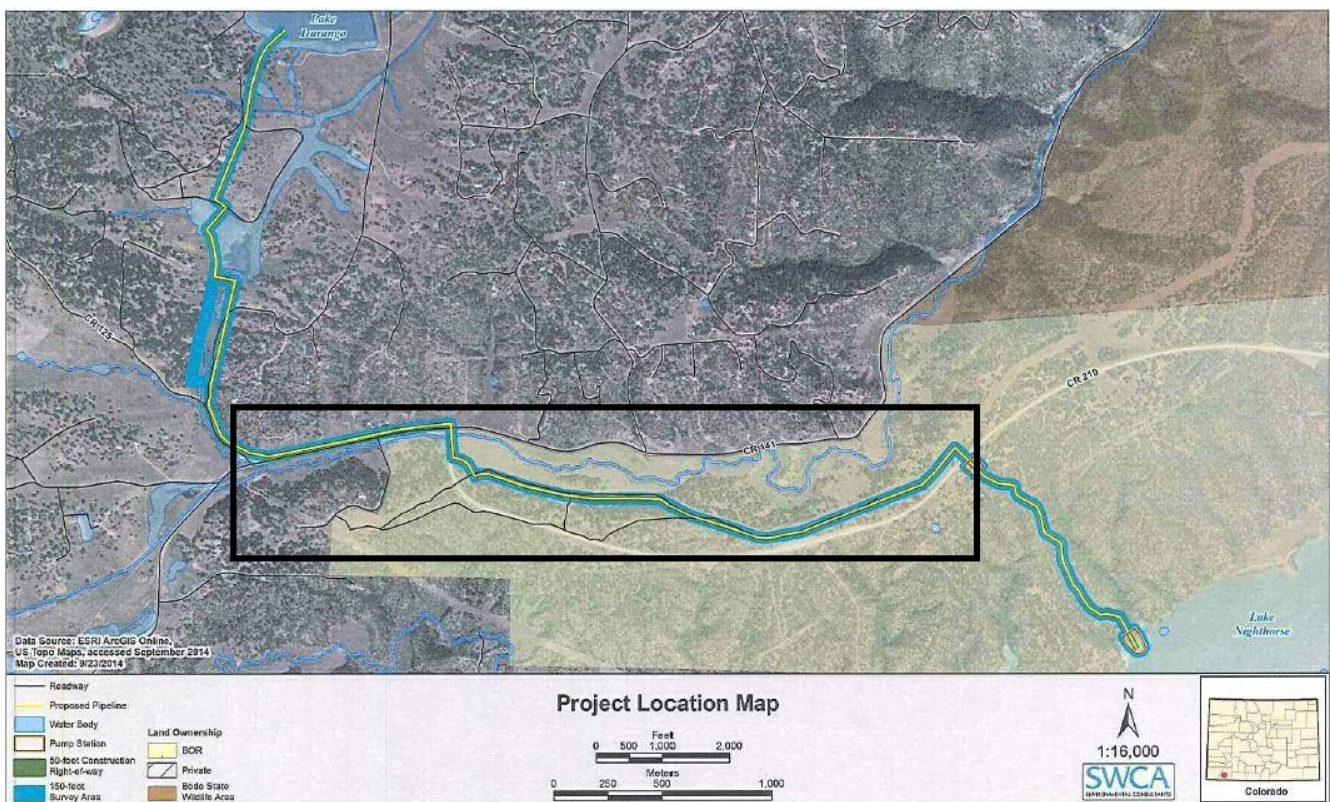


Figure 3 Pipeline Enlargement Segment Area

“This raw water delivery system is part of a broader effort by the LPWWA to design and construct a critically-needed rural domestic water system to serve residents in southwestern La Plata County, Lake Durango Water Authority (LDWA) to supplement its water supply, and the Southern Ute Indian Tribe (SUIT) and Ute Mountain Ute Tribe (UMUT) to develop water from the Animas-La Plata Project.” Roy Horvath

These grant funds also allow for our future needs in supplying raw water for LPWWA’s future treatment plant without having to come back to an already congested right-of-way area, repeat excavation, and install larger capacity piping with ultimate saving.



Figure 4: Installation of the 16" pipeline

Over the past couple of years, LPWWA has worked with the LDWA, the SUIT, and the UMUT to bring the a raw water delivery system to take water from the Animas-La Plata Project to Lake Durango. This raw water delivery system is part of a broader effort by the LPWWA to design and construct a critically-needed rural domestic water system to serve residents in southwestern La Plata County, LDWA to supplement its water supply, and the SUIT and UMUT to develop water from the Animas-La Plata Project.

LPWWA also has been able to accommodate some use of a 16-inch pipeline to the UMUT through their purchase of capacity in the 16’ pipeline. There was significant cost savings associated with upsizing this section of pipeline during the construction of the raw water delivery system. These savings include operational and cost savings associated with avoiding future pipeline construction to meet LPWWA’s needs.

Simultaneously, LPWWA also requested and received grant funds to support LPWWA’s ongoing efforts to provide domestic water in western La Plata County. LPWWA requested \$100,000 in pre-construction funds (\$50,000 from the Water Supply Reserve

Account), with a 50% match requested from the Animas La Plata Water Conservancy District. Both generous entities granted these funds.



Figure 5: Installation of 16" LPWWA-CWCB funded pipeline segment

Promotes cooperation and meets water management goals/needs:

The project addresses the issue of inadequate and unavailable access to any developable or available water rights within the La Plata River Drainage by providing access to ALP project water as a long-term domestic water supply for an area of La Plata County with significant need for domestic water. Water utilized through the project within the La Plata River drainage will help replenish ground water levels. Development of access to ALP source water provides an alternative to possible conversion of existing La Plata drainage agricultural water rights and could allow for diminished use of La Plata River water currently providing domestic water outside of the La Plata drainage, adding to La Plata River flow available to satisfy La Plata River compact requirements. The project supports access to ALP project water for multiple uses by current partners and provides by participation by additional entities by virtue of available LPWWA capacity in the intake structure.

Facilitates Water Activity Implementation:

The project builds on the initial investment made by the Southwest Basin and State Roundtable groups, which served as a basis for investment by LDWA and the Tribes to develop a singular infrastructure for the benefit of and use by multiple entities. Funds committed by the Roundtables to the overall project serve to leverage previous and requested funding by encouraged additional investment and participation by other entities. LPWWA has supported the construction of the intake structure and raw water pipeline project as the initiating and managing entity and had no other option for funding until it is able to start its domestic distribution system and become an operating entity. Subsequently, LPWWA has been able to secure funding and begin construction of its domestic water delivery system on November 2018 and is fund by an USDA loan/grant package, and Subscribers' Ownership contribution.



The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits:

In terms of statewide interests, the raw water project is the first project to utilize ALP project water. Although not anticipated to be needed for domestic water until late 2019, the LPWWA intake structure provides for potential delivery of state-acquired ALP project water to entities needing water in Western La Plata County. Any additional water diverted from the Animas drainage into the La Plata drainage could add to the output of the La Plata River drainage and possibly lessen amounts required to be delivered under the La Plata River Compact. LPWWA is utilizing the services of local professionals for legal, surveying, testing and engineering, including Bartlett & West, which is increasing its presence in Southwest Colorado.



Figure 6 Booster Pump Station

A Brief Overview

The engineering group of Bartlett & West was awarded the engineering contract for the project and supplied a Conceptual Design in May 2104 and Final Design in September 2015. The project was first put out to bid in November 2015. The bid responses were all above the project budget and the project design was modified to reduce costs and still

provide the needed capacity for raw water delivery for our partners. The project was rebid in May 2016. After cost negotiations, Canyon Construction was selected as the contractor for the project and Richard Phillips Marine (RPM) was awarded the contract for the installation of the underwater intake screens. RPM defaulted on the contact bond and after another bid process, Associated Underwater Services (AUS) was awarded the contract for the screen installation.

Below is a list of the major components of the Raw Water system:

- Intake building with pumping, instrumentation & controls system-1600 Sq Ft
- 4,000 linear feet of 30" diameter ductile iron pipeline
- Booster pump station with instrumentation & controls
- 12,200 linear feet of 16" diameter (CWCB _LPWWA) segment pipeline
- 7,220 linear feet of 8' (LDWA) pipeline
- 2 miles aboveground electric utility extension
- 1 mile underground electric utility extension
- 1 mile of gravel road access to intake structure

Canyon Construction began construction in September 2016 after resolution of environmental permitting. There were delays in construction in the winter of 2016/2017 due to weather and then in the spring/early summer from migratory bird issues and endangered species nesting, however this was cut short with a failed nest.

The first ALP Project water was pumped to Lake Durango in March of 2018. See below.



Canyon Construction substantially completed the project and completed a seven day pump performance test of the system in July 2018. AUS completed the screen installation in October 2018.



La Plata West Water Authority has submitted fourteen Pay Requests to CWCB for project expenses which also included status reports and supporting documentation.

Additional Project Improvements

While all project items are substantially complete, there are other improvements that are underway. These include: improvement to start-up, control, and having the ability for 'Time of Use' energy usage and an additional air evacuation device is being added to a location prior to the booster pump station as well as a flush hydrant being added after the booster pump station.

A Look at the Numbers

Project Title:			
CWCB WSRA Grant Contract Number:	CTGG1 2016-1416		
Project Start Date:	Sep-16		
Project Substantial completion Date:	Jul-18		
Funding Sources	Type	% of Total Funding	Funding Amount
Southern Ute Indian Tribe	Tribal	18.52%	\$1,000,000
Ute Mountain Ute Tribe	Tribal	18.52%	\$1,000,000
Sub-Total Tribal		37.04%	\$2,000,000
LPWWA via LDWA grant/loan CWCB	State	51.85%	\$2,800,000
Statewide Water Reserve Account	State	9.26%	\$500,000
Southwest Basin Round Table	State	0.93%	\$50,000
Animas La Plata Water Conservancy District	Local	0.93%	\$50,000
Sub-Total Non-Tribal		62.96%	\$3,400,000
Total Project Funding			\$5,400,000

EXPENDITURES			
	Expenditures of CWCB WSRA Funds		
	Other Expenditures		
LPWWA_CWCB Pipeline Enlargement			\$500,000
LPWWA_CWCB_ALPD Operations and Engineering			\$100,000
Total Funding for 16" Enlargement Project			\$600,000



Figure 7 La Plata West Water Authority Board of Directors, from left to right: Kevin Mallow-Southern Ute Representative, Mardi Gebhardt Treasurer, Roy Horvath past President, Barb McCall Secretary, Paul Gray Vice President, Deb Flick Director and Ken Spence President. Ribbon Cutting Ceremony, 7/25/2018

Our Pipe Dream became reality with the great support of Colorado Water Conservation Board, Southern Ute Indian Tribe, Ute Mountain Ute Tribe, Animas-La Plata Water Conservancy District, La Plata Water Conservancy District, Lake Durango Water Authority and the La Plata county community. LPWWA will continue with its momentum of bringing domestic water to SW La Plata County. Thank you for your support CWCB for the opportunity to serve our community!