LAKE DURANGO WATER AUTHORITY

Source Water Supply Project

Final Report

COLORADO WATER CONSERVATION BOARD

Loan Contract Number C150317

Grant Contract Number C150548

December 12, 2018

Lake Durango Water Authority Source Water Supply Project

Funding Summary

CWCB Loan Contract # C150317	$	2,500,000.00
CWCB Grant Contract # C150548	$	500,000.00
Lake Durango Water Authority Cash	$	22,732.28

Project Summary

In response to inadequate water supply and poor treated water quality the Lake Durango Water Authority (Authority) was established in 2008 to purchase and assume operation of the Lake Durango Water Company (Company) system assets. The Authority completed the acquisition of the Company in July of 2009. In 2010 the Authority commissioned a Water Facilities Master Plan which included an evaluation of existing water rights (safe yield analysis) and new source water supply alternatives. The safe yield analysis determined that in drought years the existing water rights were not sufficient to supply the system demands. The source water evaluation determined that Animas – La Plata Project (ALP) water pumped from Ridged Basin Reservoir (Lake Nighthorse) to Lake Durango using an 8 inch diameter waterline was the most reliable and cost effective solution for current and future Authority water demands.

The Authority applied for $1,000,000 Colorado Water Conservation Board (CWCB) Water Supply Reserve Account (WSRA) Grant funding for project infrastructure and ALP Project water purchase in December 2010 which was presented to the CWCB Board January 2011. In May 2011 the CWCB Board approved award of $450,000 statewide grant funds for the project contingent upon award of $50,000 of Southwest Basin Roundtable grant funds. CWCB also awarded a $2,500,000 loan to the Authority. The Southwest Basin Roundtable approved the award of $50,000 Basin funds at their September 2011 meeting contingent upon resolution of legal issues concerning the purchase of ALP water and the use of the ALP intake structure.

In order to pump from Lake Nighthorse to Lake Durango it was necessary to enter in to agreement with the La Plata West Water Authority (LPWWA) for the use of the intake structure that was built prior to the filling of the Lake. LPWWA and its partners, the Southern Ute and Ute Mountain Ute Tribes, entered into a three-party agreement in August 2013. The agreement allowed for the upsizing of a portion of the pipeline (referred to as the 210 pipeline) to 30 inch diameter and participation in a second portion of the pipeline (125 pipeline). The 210 pipeline and a portion of the 125 pipeline are located on Bureau of Reclamation Lands. The Authority and LPWWA entered into agreement in March 2014 which allowed the Authority capacity in the intake structure, the 210 and the 125 pipelines and allowed LPWWA capacity in a third pipeline section (Lake Durango pipeline.) Each tribe contributed $1,000, 000 for the 210 pipeline and LPWWA received a $500,000 WSRA grant to upsize the 125 pipeline. LPWWA was selected to manage the project

Bartlett and West Inc. was awarded the engineering contract for the project. A Conceptual Design was completed in May 2014 and Final Design in September 2015. The project was first put out for bids 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 to Lake Durango. The project was rebid in May 2016. After cost negotiation, Canyon Construction was selected to as the contractor for the pipeline project and Richard Phillips Marine (RPM) was awarded the contract for the installation of the underwater intake screens. RPM defaulted on the contract bond and, after another bid process, Associated Underwater Services (AUS) was awarded the contract for the screen installation.

The major components of the system are:

- Intake building with pumping, instrumentation and control systems.
- 4,000 feet 30” diameter (210) pipeline.
- Booster pump station with instrumentation and controls.
- 12,200 feet 16” diameter (125) pipeline.
- 7,220 feet 8” diameter (Lake Durango) pipeline.

- 2 miles aboveground electric utility extension.
- 1 mile underground electric utility extension.
- 1 mile gravel road access to intake structure.

Canyon Construction began construction in September 2106 after resolution of environmental permitting. There were delays in construction in the winter of 2016/2017 due to weather and then in the spring and early summer 2017 due to migratory bird issues. The first ALP Project water was pumped to Lake Durango In march 2018. Canyon Construction substantially completed the pipelines and pumping infrastructure in July 2018 and completed a seven day performance test of the system. AUS completed the screen installation in October 2018.

The Authority entered in to an agreement to purchase 200 acre-feet depletion of ALP Project water with the Animas - La Plata Water Conservancy District in February 2017.

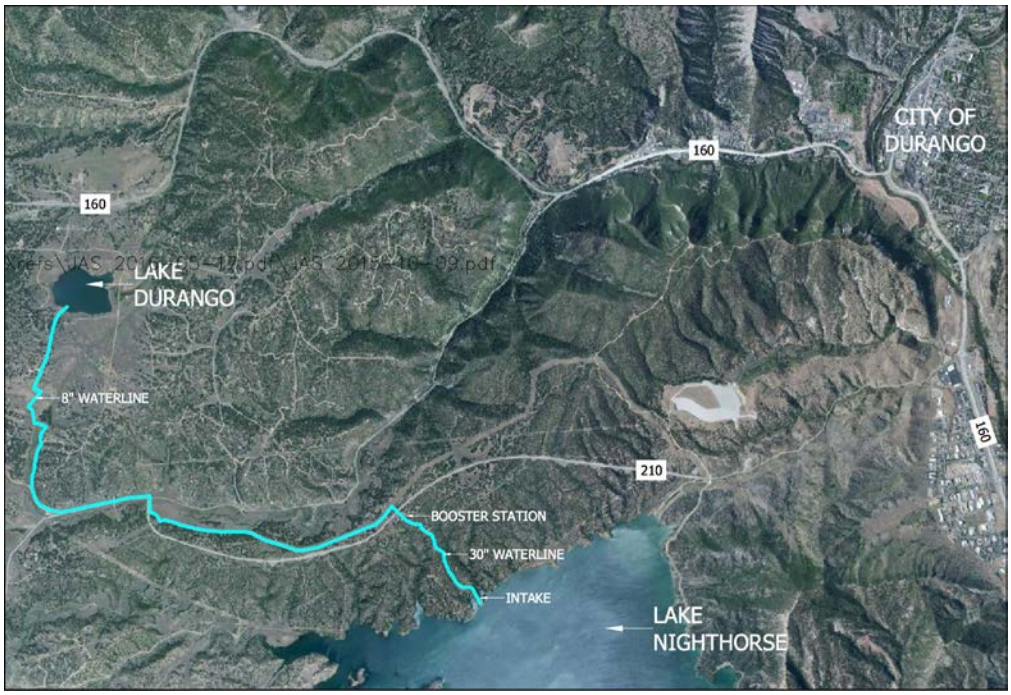
The Authority has submitted nineteen pay requests to CWCB for project expenses. Each pay request includes a project status report and supporting documentation.

Additional Project Improvements

Although all project items are substantially complete there are improvements that are underway. To improve start up, control, and allow future time of use energy usage an additional air evacuation is being added prior to the booster pump station and a flush hydrant is being added after the booster pump station.

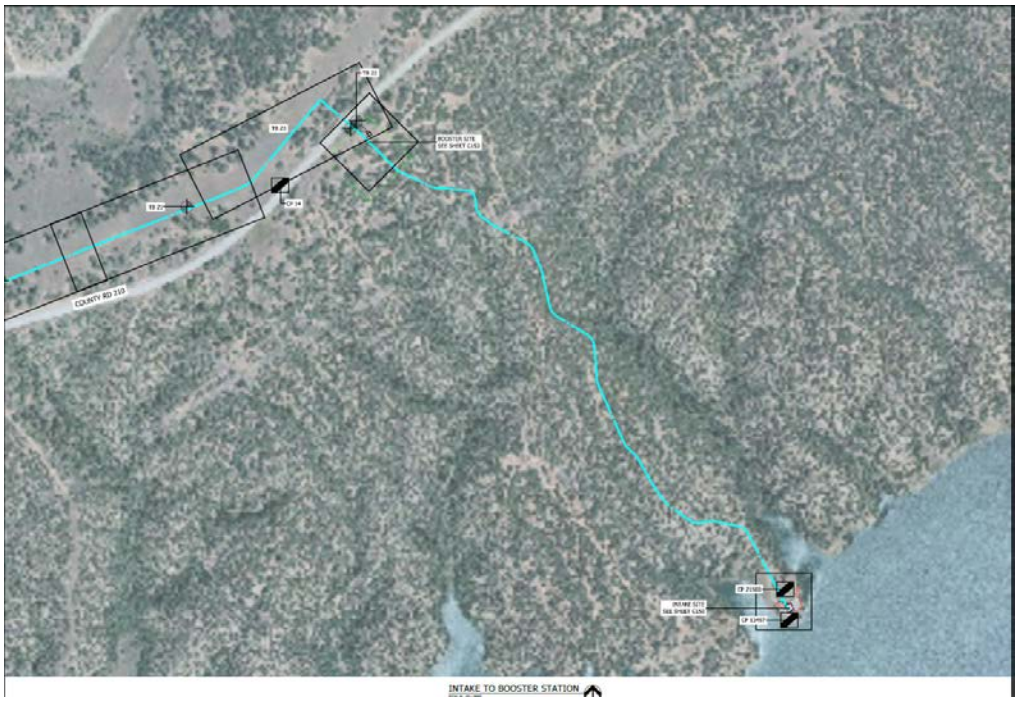
Project Expenses	
Engineering, Design, Permitting	$483,080.23
Electric Line Installation	$243,410.99
Water Purchase	$244,434.97
Infrastructure Construction	$1,955,711.50
Underwater Screen Installation	$38,033.50
Legal and Bond Counsel	$53,627.79
Total	$3,018,298.99

Pipeline Route from Lake Nighthorse to Lake Durango

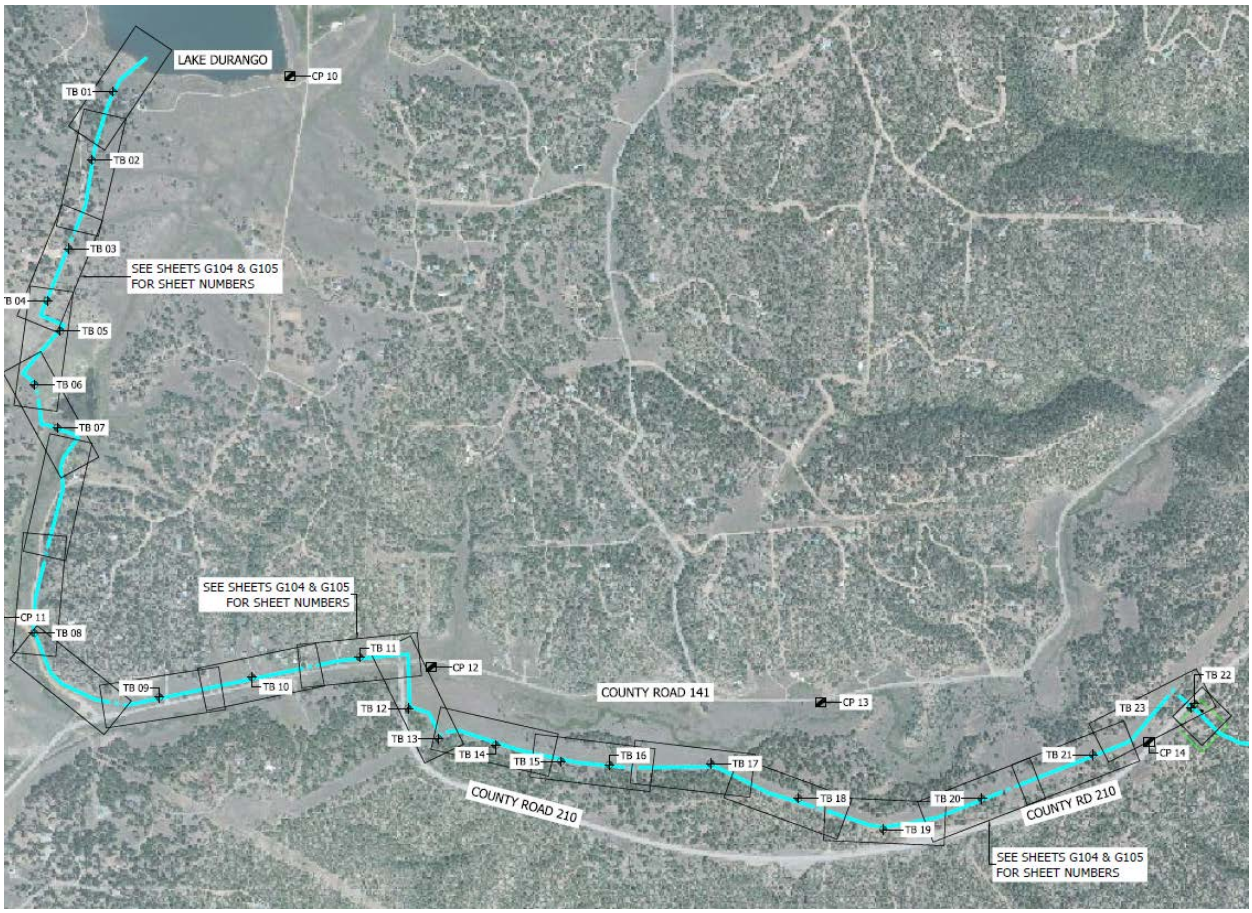


210 Pipeline and Access Road from Intake Structure to County Road 210

The 210 pipeline 30” Ductile Iron Pipe is 4000’ in length and has an elevation gain of 290’. The route was selected to avoid sensitive cultural sites and navigate varied terrain.



125 and Lake Durango Pipelines



The 125 pipeline 16” diameter C-900 PVC pipe is 12,200’ in length and has an elevation gain of 35’. The Lake Durango 8” pipeline is 7,220’ in length and has an elevation gain of 135’.

Intake Structure Building

Booster Pump Station

First ALP Project Water Pumped for Beneficial Use