COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Donala Water and Sanitation District
Name of Water Project	Donala Water and Sanitation District Aquifer Storage and Recovery Pilot Study
Grant Request Amount	**$2,363,500.00**
Primary Category	$2,363,500.00
Water Storage & Supply	
Total Applicant Match	**$2,363,500.00**
Applicant Cash Match	$2,363,500.00
Applicant In-Kind Match	$0.00
Total Other Sources of Funding	**$0.00**
Total Project Cost	**$4,727,000.00**

Applicant & Grantee Information

Name of Grantee: Donala Water and Sanitation District
Mailing Address: 15850 Holbein Dr. Colorado Springs CO 80921
FEIN: 840,659,878

Organization Contact: Jeff Hodge
Position/Title: General Manager
Phone: (719)488-3603
Email: gm@donalawater.com

Grant Management Contact: Jeff Hodge
Position/Title: General Manager
Phone: (719)488-3603
Email: gm@donalawater.com

Description of Grantee/Applicant

Utility - Water utility associated with a municipal government

Type of Eligible Entity

- [x] Public (Government)
- [ ] Public (District)
- [ ] Public (Municipality)
- [ ] Ditch Company
- [ ] Private Incorporated
- [ ] Private Individual, Partnership, or Sole Proprietor
- [ ] Non-governmental Organization
- [ ] Covered Entity
- [ ] Other

Category of Water Project

- ☐ Agricultural Projects
  Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ☐ Conservation & Land Use Planning
  Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
  Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ☐ Watershed Restoration & Recreation
  Projects that promote watershed health, environmental health, and recreation.
- ■ Water Storage & Supply
  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.

Location of Water Project

Latitude	40.012000
Longitude	120.321000
Lat Long Flag	Precise coordinates: Project coordinates are readily definable and precisely define the location of the project
Water Source	Water treated to drinking water standards by Colorado Springs Utilities (CSU).
Basins	Arkansas
Counties	El Paso
Districts	10-Fountain Creek

Water Project Overview

Major Water Use Type	Municipal
Type of Water Project	Construction / Implementation
Scheduled Start Date - Design	10/13/2023
Scheduled Start Date - Construction	1/1/2025

Description

Donala Water and Sanitation District (DWSD, “Donala”) is located in Northern El Paso County and has historically relied significantly on its non-renewable Denver Basin groundwater to meet demands. Looking ahead, Donala intends to transition from non-renewable groundwater supplies to renewable surface water supplies. However, in order to use the renewable surface water supplies the District already owns, they must develop long-term storage solutions; DWSD has identified aquifer storage and recovery (ASR) as a critical piece of this plan. ASR enables DWSD to manage the timing of its supplies and demands at various points throughout the year and capture their surplus surface water supplies for storage on an inter-year or multi-year timeline. Their hope is that a successful pilot will be a catalyst for regionalization where they can bring on partners following the findings of the Collaborative ASR Study.

This pilot project aims to retrofit Donala’s Denver Basin Well 9A into an ASR well to demonstrate the feasibility of storing their renewable water supplies in the Arapahoe aquifer conveyed, treated, and delivered by CSU. Feasibility will be demonstrated through ASR cycle testing over a six- to twelve-month pilot period. Injection and recovery will occur through one two-way well which enables storage and recovery through the same structure.

Measurable Results

800	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
800	Existing Storage Preserved or Enhanced (acre-feet)
800	New Storage Created (acre-feet)
	Length of Stream Restored or Protected (linear feet)
	Length of Pipe, Canal Built or Improved (linear feet)
$1,000	Efficiency Savings (dollars/year)
	Efficiency Savings (acre-feet/year)
	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
8,200	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
	Number of Coloradans Impacted by Engagement Activity

Other

While not directly quantifiable at this time, volumes stored using ASR preserve storage space in Pueblo Reservoir. Additionally, there are efficiency savings associated with the decreased evaporation as a result of that preserved storage.

Water Project Justification

The Colorado Water Plan (CWP) identifies four interconnected action areas for water projects and development: vibrant communities, robust agriculture, thriving watersheds, and resilient planning. These action areas help guide the focus of new projects throughout the State. Donala Water and Sanitation District's (DWSD, Donala) proposed Aquifer Storage and Recovery Pilot Project (ASRPP) aims to address primarily the Vibrant Communities and Resilient Planning action areas (Colorado Water Plan Executive Summary, pgs 13-18, 2023):

Vibrant Communities: The CWP's vision for vibrant communities focuses on holistic water management and sustainable landscapes. Specific actions identified for water projects include developing strategically located storage projects that meet multiple needs, optimizing investments in infrastructure and increasing efficiency and conservation, investing in One Water and reuse, and planning for and creating low water use landscapes. The ASRPP is one such storage project that is positioned to meet multiple needs for the greater El Paso County community. This pilot project plans to demonstrate the feasibility of aquifer storage and recovery (ASR) for Donala at present; however, a main goal of this project is to similarly demonstrate the opportunity for regional collaboration through the sharing of existing infrastructure and resource pooling. This would not only address the need for storage but build a broader community around the possibility of shared resources rather than framing the water rights landscape as one of strict competition in El Paso County.

Resilient Planning: The CWP's vision for resilient planning looks toward water security, system adaptability, and drought resilience. Specific actions identified for water projects include protecting storage infrastructure from the effects of wildfire, flooding, and debris flow; conducting integrated planning that considers uncertainty and drought; and providing conservation-oriented outreach and education. One of the major benefits of the ASRPP is its focus on underground water storage. Storage in the aquifers below-ground automatically provides a level of protection from impacts at the surface by minimizing the footprint of above-ground infrastructure and moving the resource itself out of harm's way. Alongside the physical benefits at the present moment, aquifer storage and recovery allows Donala to capture its surface water supplies when they are available during high-flow years and store it for use in years to come. Deep bedrock aquifers are less susceptible to year-to-year variability and drought; with wise management, they can be used to temper the higher variability of surface water systems. This directly improves DWSD's ability to prepare for the ways in which climate change and drought may influence long-term water availability.

While less extensive in its impact, the ASRPP also positively impacts the surrounding watershed environment and ecosystem. By storing water underground, ASR significantly decreases surface disruptions that may be caused by the construction of above-ground storage infrastructure. Underground storage also provides benefits for water quality by creating a buffer of treated water around the injection well. The Arapahoe aquifer in the region is known to have locally-elevated Radium levels and utilizing ASR may improve the water quality of pumped water and allow for greater well utilization in the District.

Agricultural communities also act as a stakeholder in underground storage as many proposed reservoir developments have large land footprints, most commonly found in historical agricultural areas. In the past, Donala has acquired and changed agricultural water rights for municipal uses as a way of generating new water supplies to meet its growing demands. Developing water storage underground maximizes the District's existing water rights and decreases the need to look toward agriculture for future development transactions, supporting the continuation of a robust agricultural community.

In addition to the goals outlined in the Colorado Water Plan, the proposed ASRPP also meets several of the targets outlined in the Arkansas Basin Implementation Plan (ABIP). The ABIP identifies five main categories for water projects: storage, municipal and industrial (M&I), agriculture, environment and recreation (E&R), and watershed health. ASRPP is most applicable to the goals concerning storage and municipal and industrial goals. The bullet points below identify the categories, goals, and specific impacts the ASRPP will have on future development (Arkansas Basin Implementation Plan, Volume 1, pg 14-22, January 2022):

Storage - Continue to develop storage opportunities to support Arkansas Basin needs: The ABIP explicitly notes that "increasing available storage and preserving existing storage are critical" for future basin development and sustainability. The ASRPP emphasizes this concept by demonstrating a way to use existing underground storage space as a new source of storage. While the act of storing in the Arapahoe aquifer is not actively conducted in the area, it doesn't come with the same infrastructure requirements that above-ground storage solutions bring. ASR will provide DWSD with increased flexibility for storing its fully consumable water. This flexibility is discussed in conjunction with the M&I goal of bridging the municipal supply gap.

Storage - Promote multiple uses at existing and new storage facilities: Among the actions identified by the ABIP, the ASRPP is a project that "[works] with stakeholders in the Arkansas Basin to identify and encourage opportunities to create storage for multiple purposes and participants." As discussed in conjunction with the CWP goals, the anticipated feasibility of ASR as a regional aquifer sustainability management tool demonstrated by this project has grand implications not just for Donala but for the greater Northern El Paso County area. Regional collaboration would enable a larger pool of existing infrastructure to facilitate ASR and further close the gap between municipal supplies and demands by creating a more fluid transfer of water resources.

M&I - Meet the project municipal supply gap in each Arkansas Basin subregion: As referenced above, ASR provides greater flexibility for DWSD by allowing them to inject their existing surface water supplies at times when there is greater supply than demand rather than giving up critical acre-feet. This similarly provides resiliency in Donala's system by increasing the available water supply at later times when shifting hydrological conditions may reduce that surface water availability.

M&I - Reduce municipal users' groundwater dependence on unsustainable aquifers: By storing water into the Arapahoe aquifer, the ASRPP will decrease dependence on nonrenewable Denver Basin aquifers and extend the sustainable life of the aquifer.

In the Arkansas Basin, there is significant opportunity for groundwater projects to have a major impact on water supply and storage. Currently, groundwater projects make up the second smallest category of Arkansas Basin water projects. Storage, particularly groundwater storage that minimizes evaporative loss and utilizes existing water supplies, is a critical component of every ABIP growth scenario; as such, ASRPP is ideally positioned to positively influence the overall water landscape. Specific to the proposed ASRPP, the close proximity and access

to both the proposed storage location, i.e., aquifer, and existing infrastructure enhances the efficiency of the proposed system for Donala and potential future partners.

Related Studies

“Well 2A Aquifer Storage and Recovery Pilot Study” prepared for Donala Water and Sanitation District and prepared by Leonard Rice Engineers, Inc. (now LRE Water) in July of 2011. This study documented a nine week ASR pilot study performed on Donala’s Well 2A and demonstrated the successful storage and recovery of 1 acre-ft/day of treated groundwater.

“Donala and Triview Collaborative ASR Design” prepared for Donala Water and Sanitation District and prepared by LRE Water in July of 2021. This study examined and demonstrated the feasibility and viability of collaborative aquifer storage through the use of various models and on-site sampling and testing.

"CO Energy Office and Industrial Efficiency Improvements" - It is also notable that one of the results of the above-referenced Collaborative ASR Design study was a calculation of the potential energy demand reduction as a result of ASR operations. In that study it was estimated that for a 20-ft rise in water level, a cost savings of approximately $1,000 per year per well is possible assuming current electric power rates. The potential for additional cost savings would scale with additional wells equipped for ASR within Donala’s service territory or with regional partners, and potentially ‘accelerate’ with anticipated increases in electric power prices. These sorts of improvements alongside Donala’s investments in variable frequency drives for their wells and well pumping optimization studies are consistent with the findings and recommendations of the CO Energy Office’s Industrial Energy Efficiency and Distributed Generation Opportunities in Colorado (June, 2017).

Taxpayer Bill of Rights

Following review of TABOR and Referendum C, there are no anticipated issues that would limit the amount of grant money Donala may receive.