

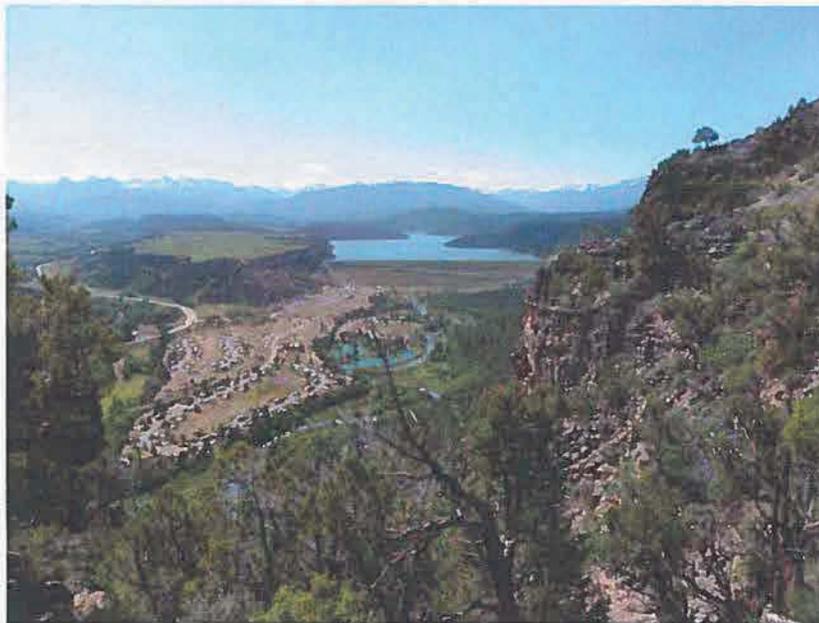
WaterSMART GRANT APPLICATION

**Drought Response Program
Drought Resiliency Projects for FY2019
FOA: BOR-DO-19-F003**

**Tri County Water Conservancy District
&
Dallas Creek Water Company**

Pipeline Interconnect

Ouray County, Colorado



**APPLICANT: Mike Berry, General Manager
Tri-County Water Conservancy District
647 N. 7th Street
Montrose, CO 81401**

Phone: (970)-249-3369

Table of Contents

Acronyms	ii
1 Technical Proposal and Evaluation Criteria	1
1.1 Executive Summary	1
1.2 Background.....	2
1.2.1 Applicant Information	2
1.2.2 Project Facilities/Water Rights	2
1.3 Location Maps	4
1.4 Project Description and Milestones.....	5
1.5 Performance Measures	6
1.6 Evaluation Criteria	6
1.6.1 Criterion A - Project Benefits.....	6
1.6.2 Criterion B – Drought Planning and Preparedness.....	7
1.6.3 Criterion C – Severity of Drought.....	8
1.6.4 Criterion D – Project Implementation	10
1.6.5 Criterion E – Nexus to Reclamation	12
1.6.6 Criterion F – Department of Interior Initiative.....	12
2 Budget	13
2.1 Funding Plan	13
2.2 Budget Proposal.....	14
2.3 Budget Narrative	15
3 Environmental and Cultural Resources Compliance	17
4 Required Permits and Approvals	19
5 Drought Plan	19
6 Letters of Support	19
7 Official Resolution	19
8 Appendix-Attachments	20

Acronyms

Name	Acronym
Acre Feet	AF or Ac-Ft
Tri-County Water Conservancy District	District
Dallas Creek Water Company	Company
Cubic Feet per Second	CFS or cfs
Colorado Division of Water Resources	CDWR
Funding Opportunity Announcement	FOA
National Environmental Policy Act	NEPA
Operation and Maintenance	O&M
United States Bureau of Reclamation	Reclamation
Supervisory Control and Data Acquisition	SCADA
Western Colorado Area Office	WCAO

1 Technical Proposal and Evaluation Criteria

1.1 Executive Summary

Date:	March 27, 2019
Applicant Name:	Tri-County Water Conservancy District
City:	Montrose
County:	Montrose/Delta/Ouray
State:	Colorado
Estimated Project Start:	October 2019
Project Length:	24 Months Duration
Estimated Project Completion:	October 2021
Federal Facility:	Serves a Reclamation Project
Amount Requested:	\$ 106,000
(Funding Group I)	

Project Summary: The Project Sponsors comprised of the Dallas Creek Water Company (**Company**) and the Tri-County Water Conservancy District (**District**) plan to install an Interconnect Pipeline to enable them to provide emergency supply of treated domestic water in the event of drought, hazardous material spill, wildfire or other disaster that would impact their ability to provide water service to their customers. The main focus of the Interconnect is the installation of approximately 5,500 linear feet of 6" diameter pipeline. It will also include pump upgrades to six District pump stations, and construction of two new pumps needed to lift the new water supply to the Company's facilities. The supply of emergency water would be for household use and fire suppression only for either long or short-term periods, in the event of a water supply shortage for either entity. The District will be the Grant Applicant on behalf of both Project Sponsors.

Total estimated cost: \$551,674

Eligibility: This project falls within this FOA's Section C.3.1.1 Task A, providing increased flexibility of water conveyance and deliveries and facilitate access to existing water supplies in times of drought by constructing an intertie between water conveyance systems.

1.2 Background

1.2.1 Project – Applicant Information

The **Dallas Creek Water Company (Company)** has determined that if flows in Dallas Creek were to be reduced for an extended period of time due to drought or contamination of their raw water, the Company may not be able to meet the minimum daily demand and/or the minimum daily peak demand of its customers. The nearest source of treated water is the District's distribution system, on Log Hill Mesa on County Road 1 and just downhill from the Company's service area. Both parties desire an interconnection that will provide flexibility and protection in case of drought or emergency.

The Company is a privately owned public water system that provides drinking water to approximately 1284 users on Log Hill Mesa near Ridgway, Colorado. The source water is a surface water intake from Dallas Creek. The Company owns and operates its own conventional rapid sand filtration treatment plant designed to treat and deliver up to 500,000 gallons per day. The Company has 430,000 gallons in treated water stored in tanks, which meets and exceeds the Uniform Fire Code.

Tri-County Water Conservancy District (District)– The District provides Irrigation, Municipal, and Industrial (M&I) water to areas in and around the Uncompahgre Valley. The District is the contracting entity for the Dallas Creek Project, Contract No. 7-07-40-L0273, with the U.S. Department of the Interior, Bureau of Reclamation, dated January 14, 1977. The contract also describes the Project Works (Ridgway Dam and Reservoir), the use and allotment of Project water and other terms and conditions. In addition, the District installed and now operates and maintains an 8 MW hydropower plant operating with releases from Project Works.

1.2.2 Project Facilities/Water Rights

The **District** operates and maintains Ridgway Dam, a Reclamation Project. Ridgway Reservoir was constructed and came on line in the spring of 1989. The storage capacity for Ridgway Reservoir is 84,410 acre-feet. Of the 84,410 acre-feet of water stored in Ridgway Reservoir, 25,000 acre-feet is inactive storage for recreation and sedimentation in the reservoir. The active storage is 55,000 acre-feet with 39,400 acre-feet allocated for project contracts. The unallocated 20,110 acre-feet is considered a "firm yield pool" by the Bureau of Reclamation and use of the pool is at the Bureau's discretion. Currently 28,100 acre-feet in Ridgway Reservoir is contracted M&I uses, 11,200 acre-feet is contracted for irrigation, and 100 acre-feet

is contracted for use at the recreation area. The M&I water allocation is held by six water providing entities: The District is allocated 12,860 acre-feet, City of Montrose 10,000 acre-feet, City of Delta 3,700 acre-feet, Town of Olathe 300 acre-feet, Menoken Water District 640 acre-feet, and Chipeta Water District 600 acre-feet. The Irrigation pool of 11,200 acre-feet is allocated to the Uncompahgre Valley Water Users Association. All allocated pools are purchased on an annual basis by the respective entities through contracts with the District.

In Water Court Case 94CW052, the District received an absolute storage decree for 84,602 acre-feet in Ridgway Reservoir. In Water Court case 96CW140, the District filed for a conditional refill right of 84,602 acre feet. Water Court case 96CW139 granted a conditional decree for a direct flow right for hydropower, which is being made absolute. All other conditional water rights have been continued and are in good standing.

The Company operates a community water supply system that supplies drinking water to approximately 1284 residents located within Ouray County, Colorado. The Company obtains their drinking water from one surface water intake in the Dallas Creek Watershed. The Company's source water supply comes from Dallas Creek and its tributaries; East & West Fork(s) of Dallas Creek, Beaver Creek and Pleasant Valley Creek. Stream water is diverted through a head gate structure located approximately 300' W/NW of Pump Station1 (38 degrees 10' 20.28" N, latitude and -107 degrees 47' 28.60" W longitude at elevation of 7131 ft). Two adjacent settling basins allow for natural sedimentation of debris and sediment prior to raw water pumping. Raw water flows from the settling basins through a 6" PVC pipe and self-cleaning intake screen. Optional subsurface flow is through a washed gravel infiltration gallery before filling a raw water vault beneath Pump Station 1. Raw water travels through two pump stations and 3875' of 6" diameter ductile iron pipe in the 1000' ascent to Log Hill Mesa. Water can be dual-stage pumped at a max flow rate of 750 GPM utilizing Simflo vertical turbine pumps equipped with 75 Hp Variable Frequency Drive (VFD) motors and Supervisory Control and Data Acquisition (SCADA) controls. Raw water is deposited into a 1.2 MG settling pond at the top of the Mesa that supplies the treatment plant. Supply can also be diverted ahead of the settling pond to Pump Station 3 where it can be used to supplement local golf course irrigation needs.

The Company's current 0.35 MGD (0.7 MGD max) treatment plant utilizes a conventional rapid sand filtration process. The plant is operated in both manual and automated modes, with the aid of SCADA controls and computer software. The storage tanks provide 430K gallons of treated water storage. An older smaller tank (refurbished in 2015) has a capacity of 150K gallons, while a newer larger tank constructed in 2003 has a capacity of 280K gallons. The distribution system consists of 25 miles of ductile iron and PVC pipe and includes diameters of 4", 6", 8", & 10". Eleven Pressure Reduction Vaults (PRV's) are located throughout the distribution system to reduce and moderate higher pressure zones.

1.3 Location

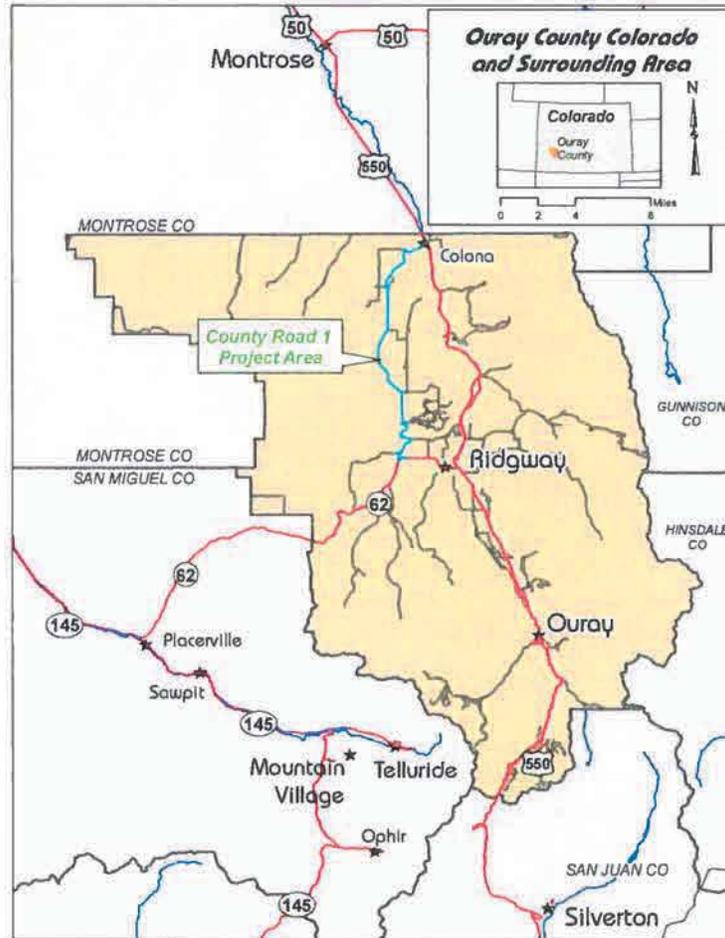


Figure 1 Project Location Map

The Pipeline Interconnect Project is located along County Road 1 approximately 6 miles north-northwest of Ridgway, Colorado in Ouray County at 38° 13' 29.16"N, 107° 49' 5.30" W.

1.4 Project Description and Milestones

1.4.1 The project is comprised of the following specific tasks:

- Complete design of pipeline interconnection, and pump station upgrades: Preliminary design work has been completed. Final design should be completed within 6 months of grant approval.
- Complete Archeological Review and other NEPA compliance: These processes will begin immediately upon grant approval and should be complete within 6 months.
- Install 5,500 linear feet of 6" diameter, class 200 PVC pipe and needed appurtenances within the county road right-of-way connecting one end to District facilities and the other to Company facilities.
 - Applicant's contractor will use backhoes (track and rubber tire) plus a rock trencher required for excavation of the pipeline route. The rock trencher should provide adequate bedding material for installation of the pipe, all to industry and District standard guidelines.
 - Applicant's contractor with pipeline experience will perform the installation of the pipe. They will install valves and related fittings per the plans and specifications. Hydrostatic pressure testing and disinfection will be accomplished per specifications upon completion of backfill and related compaction of the trenches.
- Install two stationary booster pumps to deliver water to the Company's tanks. The booster pump design will meet flow requirements of 35 gallons per minute minimum for long term sustained time periods in delivering water from the District to the Company. Conversely, the pipeline is sized to accommodate flows up to 240 gpm in delivering water from the Company down gradient to the District, or as pumps are upgraded to meet future demands. Flow meters will be installed to quantify flows in both directions, as well as measure instantaneous rate of flow.
- Pump and pipeline upgrades will be required on six (6) existing pump stations currently owned and in use by the District. The upgrades will be necessary to deliver a minimum of 35 gallons per minute to the Company. These six pump stations currently serve residential customer within the District boundary on lower Log Hill Mesa, southwest of Colona.
 - The District will make modifications to 6 existing pump stations on route to the new water line extension. Several pumps will be upsized to increase the flow to provide up to 35 gallons per minute to the Company. Pump controllers

and wiring will be replaced as needed to operate the pump stations.

1.5 Performance Measures

- The quantifiable performance measure for this project is simply the amount of water that can be transferred between the two entities. This amounts to a minimum net increase of **35 gpm** of treated water that can be delivered in times of drought or other shortage to the Company from the District with the planned pumps. In addition, the Interconnect will allow the Company to provide up to **240 gpm** to the District in the event of an emergency situation within the District. These quantities can be verified with the flow meters to be installed as part of the project.

1.6 Evaluation Criteria

1.6.1 Criterion A – Project Benefits

- How will the project provide long-term resiliency to drought?
How many years will the project continue to provide benefits?
 - This project provides a permanent long-term safeguard for both entities by ensuring safe potable drinking water and provides a new drought/emergency water supply for customers of both entities in the event either needs assistance.
- Will the project make additional water supplies available?
 - This project will initially make **35 gpm** of treated water available for the Company from the District. Conversely, since the District's distribution system is down-gradient from the Company, up to **240 gpm** water could be made available to the District for domestic use or fire suppression. Pipe sizing is such that future booster pump upgrades can deliver much larger flows .
 - The current average daily demand for the Company is about 70,000 gallons/day. A 35 gpm addition provides a potential increase in capacity of about 72%. Assuming no flows in Dallas Creek due to adverse conditions, 35 gpm would allow approximately 72% of current average flows and 45% flows in May, June, July and August.
 - A 35 gpm emergency supply for a small domestic water supply can extend the water supply for weeks or months depending on the restrictions the Company puts in place. In addition, it provides an added buffer for fire protection.
- Will the project improve management of water supplies?
 - The project will improve the operational flexibility of both entities by allowing the potential for **35 gpm** of exchange

and extended usage in times of drought or emergency to the Company and up to **240 gpm** for the District.

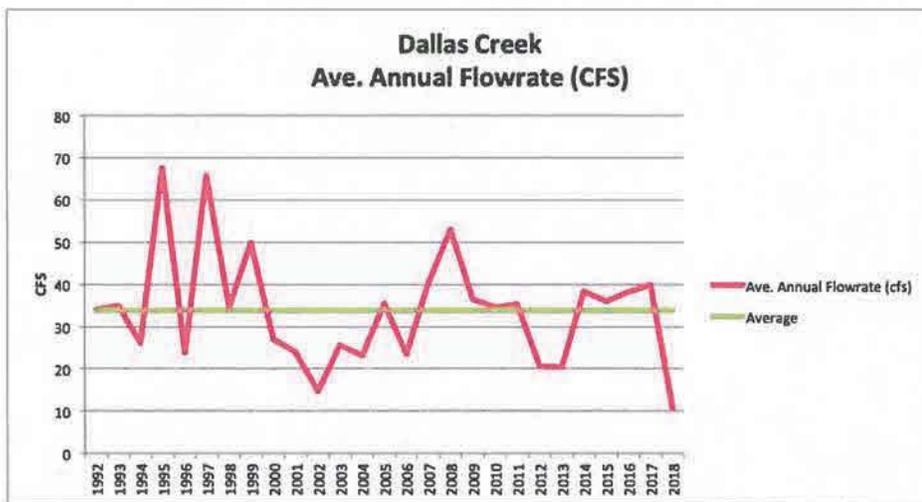
- Quantity of water better managed can be found in the bullet above.
- Although 35 gpm or 240 gpm does not seem like a large flowrate compared to an irrigation system, for a treated domestic system it is tremendously significant. The addition of this interconnection provides the ability to maintain service in this semi-remote location during times of extreme drought or emergency.

1.6.2 Criterion B – Drought Planning and Preparedness

- The Company's drought plan and District's drought statement can be found in the appendix.
- Explain how the drought plan addresses drought for the Company.
 - The Drought Response Plan references the Company's Source Water Protection Plan (SWPP) which is designed to create awareness of the community's drinking water sources and potential risks to water quality within the watershed; encourages education and voluntary solutions to alleviate pollution risks; promotes management practices to protect and enhance the raw water supply; and provides for an action plan in case of emergency that threatens or disrupts the community water supply. The SWPP includes an emergency notification plan that is referenced in the drought plan. The first 12 pages of the SWPP can be found in the Appendix. A complete SWPP can be obtained by contacting the Company directly.
 - The Drought Response Plan was developed to specifically focus on response to the severity of the drought stage and how it will affect customers. The stage is determined by the Company's Water Operator's data for storage and streamflow projections, County and State information and regional requirements and other available resources to best protect the water supply.
- Describe how the project is supported by an existing drought plan
 - Both the SWPP (see page 12 in the SWPP) and the Drought Response Plan (pages 2 and 4) identify the Project Interconnection with the District as an important drought response component in order to fill the need of an emergency or drought response water source.

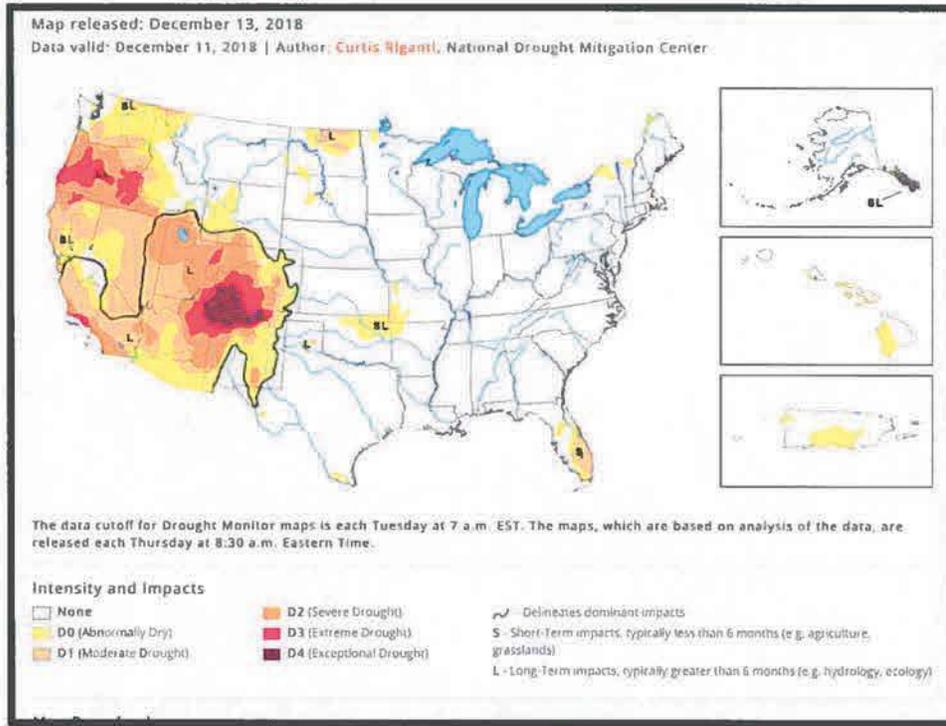
1.6.3 Criterion basis C: Severity of Actual or Potential Drought Impacts

- Runoff in Dallas Creek during Water Year 2018 yielded the least since the gaging station was installed in 1992. Since 1992 the average annual flowrate is 33.8 cfs. In Water Year 2018 the average flowrate was 10.7 cfs, or 31 percent of average.
- The gaging station registered less than 1cfs on a continual daily basis throughout the summer months in 2018. The United States Drought Monitor from December 13, 2018 shows the project area in southwest Colorado included in the Exceptional Drought Area, however conditions have shown some improvements as of late. Climate Change models predict southwest Colorado to be one of the most impacted areas due to Climate Change.



- Similar runoff conditions in the future will compel the Company to impart usage restrictions to its customers commensurate with the attached Drought Response Plan. Depending on the severity and length of the drought, without this project, water would need to be hauled via truck from other unknown sources. This could impact the ability to fight house fires (**safety**) and create other **health concerns** relative to the need to provide clean water on demand.

December 2018 Drought Monitor



The months of May through August of 2018 required daily monitoring of streamflow on Dallas Creek by the Company. Taking into consideration the low flow history of 2018 gaging station strongly suggests (pre-warning) implementation for a backup water supply for future emergency situations for customers in need of domestic water supply.

1.6.4 Criterion D: Project Implementation

- Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.
 - Once grant funding is secured the final engineering tasks will be initiated and completed. These include the development of final design, specifications and contract documents for installation of the Interconnect Pipeline.
 - Concurrent with the design work, applicable NEPA and Cultural work will be initiated. Reclamation’s WCAO has agreed to complete the NEPA portion while a local contractor will be engaged to complete the Cultural Survey.
 - The pipeline and pump station installation and upgrades are best completed during the Fall and Winter months due to working conditions, crew availability and budget. The pipeline installation can be completed during the Fall-Winter of 2020-2021, while the pump station upgrades will likely require two seasons to complete, again due to crew availability, scheduling and budget.
 - Pump station upgrades will, for the most part, be completed with District in-house, engineering, construction and maintenance crews.

Below is an estimated Timeline for the project:

DCWC-TCW INTERCONNECT - ANTICIPATED PROJECT SCHEDULE

Item	Description	Anticipated Timeline	
		Start	End
1	GRANT APPROVAL	Oct-19	
2	Complete Final Engineering	Oct-19	Jan-20
3	NEPA and Cultural Survey	Oct-19	Apr-20
4	Pipeline Construction	Aug-20	Jan-21
5	Pumping Station Improvements	Aug-20	Oct-21
6	Grant Closeout		Oct-21

- **Describe any permits that will be required, along with the process for obtaining such permits.**

Ouray County will require permits for the installation of the proposed pipeline. These permits will be acquired through the normal application process with the County. Since the ownership of the newly constructed pipeline will be the District's, the District will handle the permitting process.

- **Identify and describe any engineering or design work performed specifically in support of the proposed project.**

The Company and the District will supply the drawings, specifications and details in accordance with their specifications to the contractor prior to a notice-to-proceed.

Temple Construction of Fort Collins, Colorado has performed preliminary engineering and cost estimates for the pipeline portion of the project. Both entities have also used internal engineering staff to complete preliminary engineering and cost-estimates for pump station upgrades and additional pumps.

- **Describe any new policies or administrative actions required to implement the project.**

The Company and District will execute an agreement addressing the ownership, operation, and maintenance of the interconnect. No other new policies or administrative actions are required to implement the project.

- **Describe how the environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation Office?**

Yes, environment needs have been discussed with Reclamation's, Western Colorado Area Office (WCAO) Environmental compliance costs were estimated based on the fact the disturbed area will be located in the County Road Right-of-Way. Although NEPA cannot be predetermined, Reclamation believes that a simple EA or CE is appropriate for this project. WCAO has indicated they would perform this task if the grant is awarded and provided a ballpark estimate of \$12,000 for NEPA and Cultural Resource Survey.

1.6.5 Criterion E – Nexus to Reclamation

- **Is the proposed project connected to a Reclamation project or activity? If so, how? Please consider the following:**

Yes. The District is the contracting entity for operation and maintenance of Reclamation's Ridgway Dam and Reservoir. None of Reclamation's tribe trust responsibilities will be helped/impacted with implementation of this project.

- **Is the project on Reclamation project lands or involving Reclamation facilities?**

The proposed project is not on Reclamation project lands and does not involve Reclamation facilities.

- **Is the project in the same basin as a Reclamation project or activity?**

Yes. The project is located about 3 miles west of Reclamation's Ridgway Reservoir and upstream of Reclamation's Uncompahgre Project.

- **Will the proposed work contribute water to a basin where a Reclamation project is located?**

The proposed project is within the Dallas Creek Project area, however no new water will be contributed to the basin. The water in the basin will be used more efficiently as a result of this project.

1.6.6 Criterion F – Department of Interior Priorities

- The project falls within the category of *Modernizing Our Infrastructure*
 - It is a private sector effort to construct new infrastructure that will improve the operational capabilities of existing infrastructure and improve the use and efficiency of water resources.

2 Budget

2.1 Funding Plan and Letters of Commitment

- The Company and the District have applied for and been awarded other grants through the State of Colorado in the amount of \$75,000 to help cover the non-federal costs for the project. (See Appendix for Funding Approval Letter). The District and Company have committed sufficient funds to cover the balance of non-federal cash needs of the project. (See Appendix). Annual audit and financial reports are available, if required.
 - Non-Federal Costs: \$75,000 to be provided through CWCB and Basin Roundtable Grants.
 - Non-Federal Costs: \$370,674 to be provided by Cash and In-Kind Service from District and Company.
 - Amount Requested from Reclamation: \$106,000
 - Total Project Costs: \$551,674

Funding Plan			
	Total Costs	Federal Costs	Non-Federal Costs
Cash and In-Kind			\$370,674
Non-Federal Grant			\$ 75,000
WaterSmart Grant		\$106,000	
Total	\$551,674	\$106,000	\$445,674

2.2 Budget Proposal

- The table below comprises the proposed budget for the project:

Budget Table						
Budget Item Description	\$ Unit	Quantity	Quantity Type	Total Cost	Federal	Non-Federal
Salaries and Wages						
Contract Administration	\$20.73	40	Hr	\$829		\$829
Engineering	\$36.00	100	Hr	\$3,600		\$3,600
Office Overhead	\$18.00	140	Hr	\$2,520		\$2,520
		Subtotal		\$6,949		\$6,949
Contractual/Construction						
Pipeline Interconnect						
6" Pipeline Provide and Install	\$23.00	5,500	lf	\$126,500	\$100,000	\$26,500
Rock Exc. Contingency	\$11.50	2,750	lf	\$31,625		\$31,625
6" Pipe Tie-Ins	\$2,500	2	ea	\$5,000		\$5,000
Pipeline Pad Preparation and Reclamation	\$20,000	1	Lump Sum	\$20,000		\$20,000
Pipeline Mobilization	\$7,000	1	Lump Sum	\$7,000		\$7,000
Pipeline Contingency	\$50,000	1	Lump Sum	\$50,000		\$50,000
		Subtotal		\$240,125	\$100,000	\$140,125
Pump Station Upgrades						
Pump Replacements Stations 4, 5, 6, 30, 31	\$3,500	6	ea	\$21,000		\$21,000
Pump Replacements Station #32	\$2,500	2	ea	\$5,000		\$5,000
VFD Drives	\$1,200	10	ea	\$12,000		\$12,000
Mag Starters	\$500	4	ea	\$2,000		\$2,000
Misc. Electrical	\$13,000	1	Lump Sum	\$13,000		\$13,000
Misc. Plumbing	\$36,000	1	Lump Sum	\$36,000		\$36,000
Misc. Equipment Use	\$33,600	1	Lump Sum	\$33,600		\$33,600

New Hydro Vaults	\$6,000	3	ea	\$18,000		\$18,000
Labor (Crew Rate \$250/hr)	\$250	408	Hr	\$102,000		\$102,000
		Subtotal		\$242,600		\$242,600
New Booster Pump Stations	\$25,000	2	ea	\$50,000		\$50,000
NEPA/CULTURAL						
NEPA/Cultural	\$12,000	1	Lump Sum	\$12,000	\$6,000	\$6,000
Total Cost				\$551,674	\$106,000	\$445,674

2.3 Budget Narrative

- The following is an explanation of proposed costs for the project:
 - Personnel and Fringe – Kathleen Margetts, District Assistant Manager, will be the contract administrator of the Project. She will oversee the installation of the project, file the necessary reports, and pay invoices. It is estimated that these tasks will require 40 total man-hours at \$20.73 per hour. These are the actual labor rates of the actual personnel.
 - No Travel or Equipment purchase will be necessary.
 - Contractual/Construction –
 - Pipeline Interconnect - Temple Construction of Fort Collins, Colorado, has performed preliminary engineering and quoted the pipeline costs. The current plan is for the Pipeline Interconnect to be accomplished through a construction contract. The pipeline route entails some difficult terrain excavation in rocky conditions.
 - Provide and install 5,500 linear feet of 6" Class 200 PVC Pipeline to industry standards at a cost of \$23.00 per foot.
 - This area may be underlain with rock or bedrock so a contingency for rock excavation is included at \$11.50 per foot for 2,750 linear feet.
 - Various fittings and valves will be necessary where the new pipe interconnect attaches to existing lines owned by the Company and the District. Each tie-in is estimated to cost \$2,500 each.
 - In order to excavate a trench on uniform grade, a pipe pad is necessary. This involves clearing and

- grubbing and smoothing a right-of-way for the pipeline. Once the work is completed, the area must be reclaimed for erosion control. \$20,000 lump sum.
- Mobilization - Bringing necessary equipment on-site for construction.
 - In order that the District provide additional flow to the Company in a reliable long-term fashion, upgrades are necessary for 6 existing pump stations. The current plan is for this work to be accomplished with in-house crews and equipment. This work includes:
 - New pumps
 - Variable Frequency Drives (VFD's)
 - New pump starters
 - Miscellaneous plumbing and electrical
 - Heavy equipment use for excavation around the pump stations for plumbing replacement
 - Hydro vaults for plumbing access
 - Labor – In-House labor is estimated at a "Crew Rate" of \$250 per hour. A crew is comprised of 4 to 6 workers depending on the required tasks and skill levels necessary to perform the various projects related to excavation, plumbing, electrical etc.
 - So that the Company can utilize the water delivered by the District, two additional pump stations are necessary at the estimated cost of \$25,000 each. This will be accomplished with a construction contract.
 - NEPA/Cultural – Although NEPA cannot be pre-determine, since most of the project is located in a county road right-of-way, it is expected to be comprised of a Categorical Exclusion or simple Environmental Assessment. Reclamation's WCAO has indicated they will perform the NEPA work at an estimated cost of \$7,000. It may be necessary to conduct a cultural resource survey. A separate entity will be engaged via contract to undertake this task. - \$5,000
 - Contingency – A \$50,000 contingency to cover other unexpected costs is included in the budget.

3 Environmental and Cultural Resources Compliance

- **Will the proposed project impact the surrounding environment?**

Any impact would be only to the degree that the road right-of-way is disturbed for construction. There will be no impacts to endangered species or further water depletions.

- **Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area?**

The District is not aware of any threatened or endangered species, proposed or listed, in the project area.

- **Are there wetlands or other surface waters inside the project boundaries that potentially fall under Clean Water Act (CWA) jurisdiction as "Waters of the United States?"**

No: There are not any wetlands or other surfaces waters inside the project boundaries.

- **When was the water delivery system constructed?**

The **Company** system began construction in 1975. Additions to the system have continued over several years with the latest pipeline section added in 2005 and extending to the most northerly district boundary. The Company completed its rapid sand filter treatment plant in 2002 and added increased treated storage capacity in 2003. Then added treated storage meets the Uniform Fire Code standard.

The **District's** system on Log Hill Mesa was constructed in the 1980's and early 1990's. Subsequent additions or extension have been made for land subdivisions. The system consists of approximately 29 miles of 6" PVC pipe distribution system, 8 pump stations and 3 storage tanks (30K, 150K, and 500K gallons). That portion of the District's system that connects the source of the water which is the Gunnison River to Log Hill Mesa was constructed starting in 1970 and has been expanded over the years to reach its current location at McKenzie Creek.

- **Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.**

No. The project is for a domestic water supply system. No headgates, canals, or flumes will be modified.

- **Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.**

A Class III cultural resource inventory will likely be done on the project area, however no structures fall into this category.

- **Are there any known archeological sites in the proposed project area?**

There are none known at this time.

- **Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?**

The total project cost is about \$551,000 and should not affect low income or minority populations.

- **Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?**

No. The project is not situated near any tribal lands.

- **Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?**

During the construction process, Best Management Practices will be utilized to minimize the spread of weeds from the project area.

4 Required Permits and Approvals

The County will require a permit for installation of the pipeline and appurtenances. The District and Company will provide specifications for installation. The Company and the District currently comply with this process and will assume the duties during this project.

5 Existing Drought Plan

The Company's latest Drought Response Plan and Source Water Protection Plan can be found in the Appendix.

6 Letters of Support

The project has received letters of support and commitment from the Company and District. The project has also received letters of support from the Fairway Pines Estates Owners Association, Log Hill Village Home and Property Owners Association, and Ouray Board of County Commissioners. These letters can be found in the Appendix.

7 Official Resolution

- The District Board has executed a resolution committing District resources to the project. It can be found in the appendix.

8 APPENDIX - Attachments

- A Board Resolution**
- B Source Water Protection Plan**
- C Drought Response Plan**
- D Letters of Support/Commitment**

APPENDIX – Attachments

Board Resolution

Resolution
Board of Directors
Tri-County Water Conservancy District



Whereas, the Tri-County Water Conservancy District (District) is a water conservancy district organized and existing pursuant to the laws of the State of Colorado;

Whereas, the Dallas Creek Project was authorized as a participating project of the Colorado River Storage Project (70 Stat. 105); subsequent authorization for the construction, operation and maintenance of the Dallas Creek Project was authorized by Title V of the Colorado River Basin Project Act of September 30, (82 Stat. 896). The District is the contracting entity for the Dallas Creek Project, Contract No. 7-07-40-L0273, with the United States Department of the Interior, Bureau of Reclamation, dated January 14, 1977;

Whereas, the U.S. Bureau of Reclamation finished construction of the Dallas Creek Project in the spring of 1989;

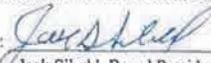
Whereas, the District and Dallas Creek Water Company (Company) desire to install an interconnection pipeline between the systems that would provide emergency supply of treated domestic water in the event of drought, hazardous material spill, wildfire or other disasters that would impact the District's or Company's individual ability to provide water service to customers, and are seeking grant funding to do so;

NOW THEREFORE BE IT RESOLVED that the Tri-County Water Conservancy District Board of Directors hereby:

- ✓ Designates the President of the District, Jack Sibold, as the legal authority/representative to enter into agreements related to the acquisition of grant funding for the above stated purpose.
- ✓ Verifies the application for grant funding has been reviewed to the Board's satisfaction and supports the application submitted.
- ✓ Commits the necessary in-kind and cash contributions necessary to complete the proposed project as outlined in the project funding plan.
- ✓ Pledges to work with Reclamation as necessary to meet established deadlines for entering into necessary funding agreements.

ADOPTED this 20th day of February, 2019 by unanimous vote:

TRI-COUNTY WATER CONSERVANCY DISTRICT

By: 
Jack Sibold, Board President

647 NORTH 7TH STREET MONROSE, COLORADO 81401
(970) 249-3369 TRICOUNTYWATER.ORG

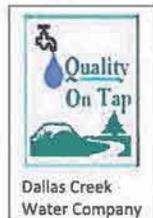
Source Water Protection Plan

Dallas Creek Water Company Source Water Protection Plan

Ouray County, Colorado

Original Publish date:
Revised:

August 2016
December 16, 2016



Written by: Kimberly Mihelich
Source Water Specialist
Colorado Rural Water Association
For the Community Water Provider:
Dallas Creek Water Company, PWSID# 0146485

Primary Contact Information for Dallas Creek Water Company

PWS Name	Dallas Creek Water Company
PWSID #	CO-0146485
Name	Pam Mencimer
Title	Administrator
Address	334 S. 5 th Street; Montrose, CO 81401
Phone	(970) 240-8123
Website	https://www.dallascreekwater.com/

The cover photo is a view of Dallas Creek where we have our infiltration gallery and pump station. The beautiful mountain range in the background is the San Juan Mountain Range.

This Source Water Protection Plan is a planning document and there is **no legal requirement to implement the recommendations herein**. Actions on public lands will be subject to federal, state, and county policies and procedures. Action on private land may require compliance with county land use codes, building codes, local covenants, and permission from the landowner. This SWPP for the Dallas Creek Water Company was developed using version 16.01.04 of the Colorado Rural Water Association's Source Water Protection Plan Template.

This page intentionally blank.

INDEX OF REVISIONS:

1. December 16, 2016:

- Changed Colorado Rural Water Association's logo on front cover to reflect updated version.
- Changed text page 11-12 – **Water Supply Demand Analysis**

Original text:

However, based on the demand estimates above, the Dallas Creek Water Company has determined that if Dallas Creek would become disabled for an extended period of time due to contamination, Dallas Creek Water Company may not be able to meet the average daily demand of its customers. And in the event that Dallas Creek would become disabled for an extended period of time, Dallas Creek Water Company may not be able to meet the average peak daily demand of its customers.

Revised text:

However, based on the demand estimates above, the Dallas Creek Water Company has determined that if Dallas Creek would become disabled for an extended period of time due to contamination, Dallas Creek Water Company may not be able to meet the **average daily demand and/or the average daily peak demand of its customers.**

New Text Added: As a component of this Source Water Protection Plan, we researched alternate sources of temporary emergency water. The nearest source of treated water is Tri-County Water Conservancy District. Both parties are open to the possibility of an emergency connection but the configuration and cost has not been determined. We are not actively pursuing this source because we continue to believe the risk of being unable to restore water service beyond our storage capacity is highly unlikely. However, Tri County has agreed to work with Dallas Creek in an extreme emergency and be considered a possible alternative supply as part of this Source Water Protection Plan.

TABLE OF CONTENTS

COMMON ACRONYMS..... v

LIST OF TABLES..... vi

LIST OF FIGURES..... vii

EXECUTIVE SUMMARY 1

INTRODUCTION..... 3

 Purpose of the Source Water Protection Plan 5

 Background of Colorado’s SWAP Program 5

 Source Water Assessment Phase 6

 Source Water Protection Phase 6

SOURCE WATER SETTING..... 8

 Location and Description..... 8

 Hydrologic Setting 8

DRINKING WATER SUPPLY OPERATIONS 10

 Water Supply and Infrastructure..... 10

 Water Supply Demand Analysis..... 11

SOURCE WATER PROTECTION PLAN DEVELOPMENT 13

 Stakeholder Participation in the Planning Process..... 13

 Development and Implementation Grant..... 15

 Source Water Assessment Report Review 15

 Defining the Source Water Protection Area..... 15

 Inventory of Potential Contaminant Sources and Other Issues of Concern..... 18

 Priority Strategy of Potential Contaminant Sources and Other Issues of Concern..... 18

DISCUSSION OF POTENTIAL CONTAMINANT SOURCES AND ISSUES OF CONCERN 22

 Sediment/Turbidity..... 22

 Sediment/Turbidity Best Management Practices Recommendations..... 22

 Over-spraying Pesticides/Herbicides..... 22

 Over-Spraying Pesticides/Herbicides Best Management Practices Recommendations..... 23

 Livestock & Wildlife Over-Grazing 23

 Livestock & Wildlife Over-Grazing Best Management Practices Recommendations 23

 Accidents & Chemical Hazards on Highway 62 24

 Accidents & Chemical Hazards on Highway 62 Best Management Practices Recommendations..... 24

 Road Maintenance..... 25

 Chemical Applications 25

 Dust Abatement on Roads 25

Road Maintenance Best Management Practices Recommendations	25
Flooding/Runoff.....	25
Flooding/Runoff Best Management Practices Recommendations	26
Wildfire/Storms/Aftermath.....	26
Wildfire/Storms/Aftermath Best Management Practices Recommendations	26
Abandoned Mines	27
Abandoned Mines Best Management Practices Recommendations.....	28
Recreation on US Forest system lands	29
Recreation Best Management Practices Recommendations.....	29
Security.....	29
Security Best Management Practices Recommendations	29
Septic Systems	29
Septic Systems Best Management Practices Recommendations	30
SOURCE WATER Best Management Practices	31
Evaluating Effectiveness of Source Water Protection Plan	36
REFERENCES.....	37
APPENDICES	38
Appendix A – Dallas Creek Water Company Source Water Assessment Report.....	39
Appendix B – Dallas Creek Water Company Emergency Notification Plan	40

COMMON ACRONYMS

BMP	Best Management Practice
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CDWR	Colorado Division of Water Resources
CRWA	Colorado Rural Water Association
CSFS	Colorado State Forest Service
CWCB	Colorado Water Conservation Board
CWPP	Community Wildfire Protection Plan
DCWC	Dallas Creek Water Company, Inc.
GIS	Geographic Information System
ISDS	Individual Sewerage Disposal Systems
MGD	Million Gallons per Day
NOAA	National Oceanic Atmospheric Administration
NRCS	Natural Resource Conservation Service
OWTS	Onsite Wastewater Treatment System
PSOC	Potential Source of Contamination
SWAA	Source Water Assessment Area
SWAP	Source Water Assessment and Protection
SWPA	Source Water Protection Area
SWPP	Source Water Protection Plan
TCW	Tri County Water Conservancy District
USFS	United States Forest Service

LIST OF TABLES

Table 1: Surface Water Supply Information..... 11

Table 2: Planning Meetings..... 13

Table 3: Stakeholders and Steering Committee Members 14

Table 4: Potential Contaminant Sources and Issues of Concern Prioritization Table..... 21

Table 5: Source Water Protection Best Management Practices..... 32

LIST OF FIGURES

Figure 1: Schematic drawing of the potential source of contamination to surface and groundwater 3

Figure 2: Location of Dallas Creek WC within Ouray County, Colorado 4

Figure 3: Source Water Assessment and Protection Phases 6

Figure 4: Beaver Creek-Dallas Creek, Pleasant Creek, & West Fork Dallas Creek Sub-watersheds within the Uncompaghre Basin..... 9

Figure 5: Pump Station No. 1 on Infiltration Gallery Pond (Left); Intake Head Gate on Dallas Creek (Right) 11

Figure 6: Dallas Creek Water Company Source Water Protection Area 16

Figure 7: Dallas Creek Water Company Source Water Protection Area 17

Figure 8: CRWA’s SWAP Risk Assessment Matrix 19

Figure 9: Historical mine openings and tailing piles within Dallas Creek WC’s SWPA..... 28

Figure 10: Schematic of a septic system 30

EXECUTIVE SUMMARY

There is a growing effort in Colorado to protect community drinking water sources from potential contamination. Many communities are taking a proactive approach to preventing the pollution of their drinking water sources by developing a source water protection plan. A source water protection plan identifies a source water protection area, lists potential contaminant sources and outlines best management practices to reduce risks to the water source. Implementation of a source water protection plan provides an additional layer of protection at the local level beyond drinking water regulations.

Dallas Creek Water Company values a clean, high quality drinking water supply and decided to work collaboratively with area stakeholders to develop a Source Water Protection Plan. The source water protection planning effort consisted of public planning meetings with stakeholders including local citizens and landowners, private businesses, water operators, local and state governments, and agency representatives during the months of October 2015 through January 2016, at the 4H Events Center in Ridgway, CO. Colorado Rural Water Association was instrumental in this effort by providing technical assistance in the development of this Source Water Protection Plan.

Dallas Creek Water Company obtains their drinking water from one surface water intake in the Dallas Creek Watershed, which includes the Beaver Creek-Dallas Creek, Pleasant Creek, and West Fork Dallas Creek Watersheds. The Source Water Protection Area for this water source is comprised of the Beaver Creek-Dallas Creek, Pleasant Creek, & West Fork Dallas Creek watershed boundaries. This Source Water Protection Area is the area that Dallas Creek Water Company has chosen to focus its source water protection measures to reduce source water susceptibility to contamination. The Steering Committee conducted an inventory of potential contaminant sources and identified other issues of concern within the Source Water Protection Area.

The Steering Committee developed several best management practices to reduce the risks from the potential contaminant sources and other issues of concern. The best management practices are centered on the themes of building partnerships with community members, businesses, and local decision makers; raising awareness of the value of protecting community drinking water supplies; and empowering local communities to become stewards of their drinking water supplies by taking actions to protect their water sources.

The following list highlights the highest priority potential contaminant sources and/or issues of concern and their associated best management practices.

Sediment/ Turbidity – High Priority

1. Identify areas of Dallas Creek watershed that have high erosion
2. Work w/ National Resource Conservation Service (NRCS) or other funding entities such as Trout Unlimited, Colorado Division of Water Resources (CDWR), Colorado Water Conservation Board (CWCB) and private landowners to identify funding opportunities for erosion mitigation strategies
3. Perform streambank erosion mitigation.

Spills/Accidents & on Highway 62 – High Priority

1. Share copies of Dallas Creek Water Company's Source Water Protection Plan (SWPP), GIS shapefiles and maps of the Source Water Protection Assessment (SWPA) with CDOT, Ouray County Sheriff Dept., Colorado State Patrol, Ouray County Office of Emergency Management, Ouray County Road & Bridge and other emergency responders.
2. Gather contact information and create a mailing list for distribution;
3. Utilize CRWA's "SWPP Distribution Letter" template to develop a cover letter for SWPP distribution.
4. Print or make CD copies of the SWPP and print CDs with SWPA GIS shapefiles for distribution.
5. Mail SWPP Distribution Cover Letter along with copy of Dallas Creek Water Co. SWPP and SWPA GIS shapefiles to stakeholders and other interested persons.

Flooding / Runoff – High Priority

1. Enroll in Code Red using treatment facility and pump station addresses.
2. Monitor weather forecasts and other hazardous weather outlooks from NOAA.
3. Explore opportunities for watershed health improvement grant funding; Such as Colorado State Forest Service (CSFS) Health Forest Restoration Grant.

Wildfire / Storm Aftermath – High Priority

1. Explore opportunities for watershed health improvement grant funding- (CSFS – Health Forest Restoration Grant., etc.
2. Share a copy of the SWPP and GIS shapefiles of the SWPA with Ouray County, USFS, CSFS and West Region Wildfire Council
 - a. Work with USFS, CSFS, West Region Wildfire Council, and Ouray County to educate homeowners about creating and maintaining defensible space on private lands.
3. Share a copy of the SWPP with Ouray County Sheriff's Department as it pertains to fire bans and restrictions. Encourage collaboration with Sheriff's office in reviewing fire prevention measures.
4. Evaluate fuels conditions to develop fuels mitigation or treatment projects and fire response plans for the Source Water Protection Area with USFS, CSFS, Division of Fire Prevention and Control (DFPC), Log Hill Fire Protection District and Ridgway Fire Protection District.

The Steering Committee recognizes that the usefulness of this Source Water Protection Plan lies in its implementation and will begin to execute these best management practices upon completion of this Plan.

This Plan is a living document that is meant to be updated to address any changes that will inevitably come. The Steering Committee will review this Plan at a frequency of once every 2-4 year or if circumstances change resulting in the development of new water sources and source water protection areas, or if new risks are identified.

INTRODUCTION

Source water protection is a proactive approach to preventing the pollution of lakes, rivers, streams, and groundwater that serve as sources of drinking water. For generations water quality was taken for granted, and still today many people assume that their water is naturally protected. However, as water moves through and over the ground, contaminants may be picked up and carried to a drinking water supply.

While a single catastrophic event may wipe out a drinking water source, the cumulative impact of minor contaminant releases over time can also result in the degradation of a drinking water source. Contamination can occur via discrete (point source) and dispersed (nonpoint source) sources. A discrete source contaminant originates from a single point, while a dispersed source contaminant originates from diffuse sources over a broader area. According to the US Environmental Protection Agency, nonpoint source pollution is the leading cause of water quality degradation (Ground Water Protection Council, 2007).

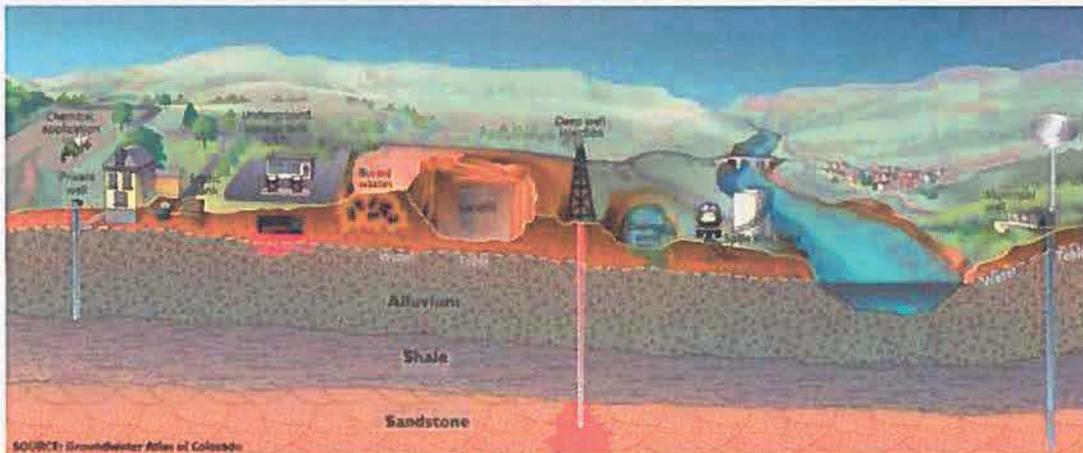


Figure 1: Schematic drawing of the potential source of contamination to surface and groundwater

Dallas Creek Water Company recognizes the potential for contamination of their drinking water source, and realizes that the development of this Source Water Protection Plan is the first step in protecting this valuable resource. Proactive planning is essential to protect the long-term integrity of the drinking water supply and to limit costs and liabilities. This SWPP demonstrates the Dallas Creek Water Company's commitment to reducing risks to their drinking water supply.

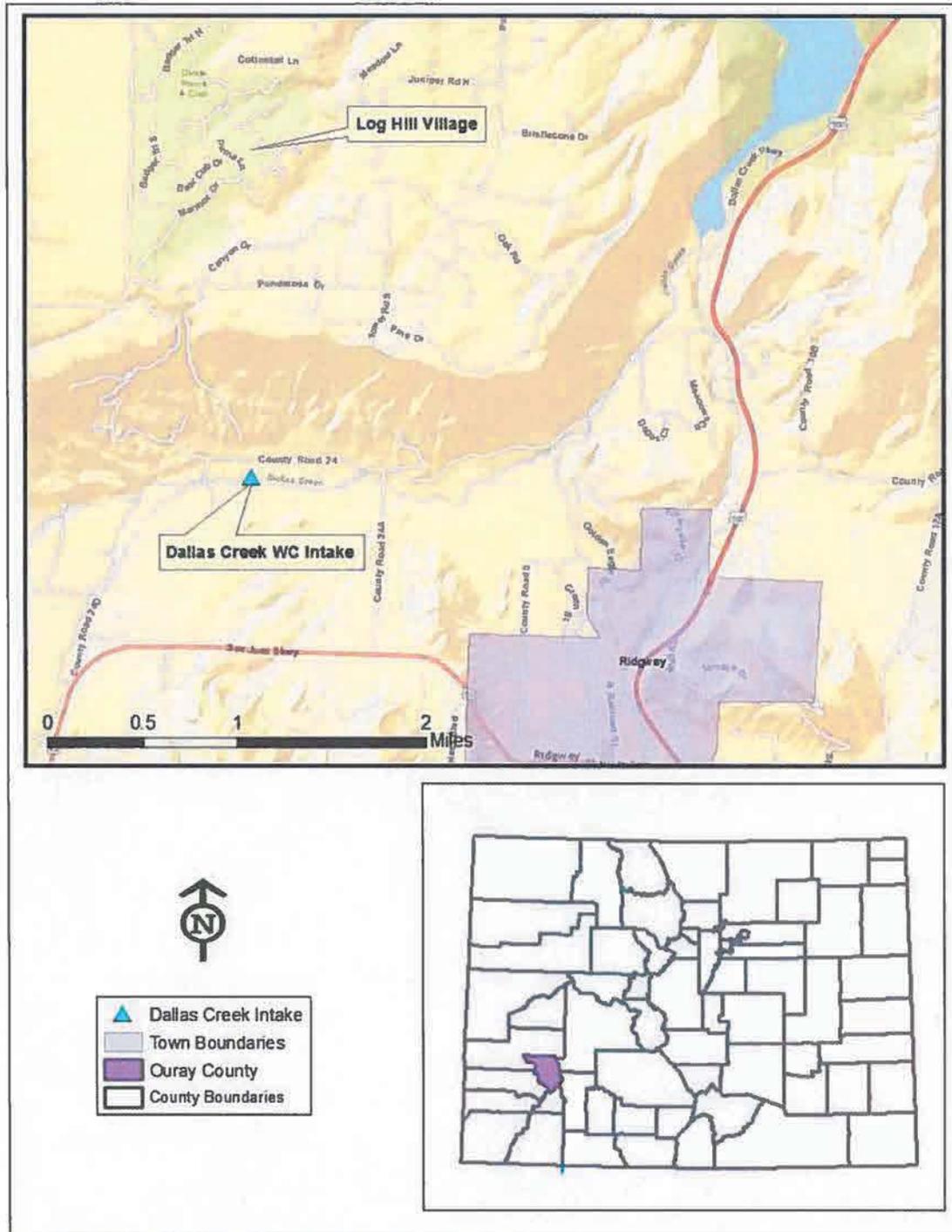


Figure 2: Location of Dallas Creek WC within Ouray County, Colorado

Purpose of the Source Water Protection Plan

The Source Water Protection Plan (SWPP) is a tool for the Dallas Creek Water Company to ensure clean and high quality drinking water sources for current and future generations. This Source Water Protection Plan is designed to:

- Create an awareness of the community's drinking water sources and the potential risks to surface water and/or groundwater quality within the watershed;
- Encourage education and voluntary solutions to alleviate pollution risks;
- Promote management practices to protect and enhance the drinking water supply;
- Provide for a comprehensive action plan in case of an emergency that threatens or disrupts the community water supply.

Developing and implementing source water protection measures at the local level (i.e. county and municipal) will complement existing regulatory protection measures implemented at the state and federal governmental levels by filling protection gaps that can only be addressed at the local level.

Background of Colorado's SWAP Program

Source water assessment and protection came into existence in 1996 as a result of Congressional reauthorization and amendment of the Safe Drinking Water Act. These amendments required each state to develop a source water assessment and protection (SWAP) program. The Water Quality Control Division, an agency of the Colorado Department of Public Health and Environment (CDPHE), assumed the responsibility of developing Colorado's SWAP program and integrated it with the Colorado Wellhead Protection Program.

Colorado's SWAP program is an iterative, two-phased process designed to assist public water systems in preventing potential contamination of their untreated drinking water supplies. The two phases include the Assessment Phase and the Protection Phase as depicted in the upper and lower portions of Figure 3, respectively.



Source: CDPHE - WOOD

Figure 3: Source Water Assessment and Protection Phases

Source Water Assessment Phase

The Assessment Phase for all public water systems was completed in 2004 and consisted of four primary elements:

1. Delineating the source water assessment area for each of the drinking water sources;
2. Conducting a contaminant source inventory to identify potential sources of contamination within each of the source water assessment areas;
3. Conducting a susceptibility analysis to determine the potential susceptibility of each public drinking water source to the different sources of contamination;
4. Reporting the results of the source water assessment to the public water systems and the general public.

A Source Water Assessment Report (Appendix A) was provided to each public water system in Colorado in 2004 that outlines the results of this Assessment Phase.

Source Water Protection Phase

The Protection Phase is a non-regulatory, ongoing process in which all public water systems have been encouraged to voluntarily employ preventative measures to protect their water supply from the potential sources of contamination to which it may be most susceptible. The Protection Phase can be used to take action to avoid unnecessary treatment or replacement costs associated with potential

contamination of the untreated water supply. Source water protection begins when local decision makers use the source water assessment results and other pertinent information as a starting point to develop a protection plan. As depicted in the lower portion of Figure 3 on page 9, the source water protection phase for all public water systems consists of four primary elements:

1. Involving local stakeholders in the planning process;
2. Developing a comprehensive protection plan for all of their drinking water sources;
3. Implementing the protection plan on a continuous basis to reduce the risk of potential contamination of the drinking water sources; and
4. Monitoring the effectiveness of the protection plan and updating it accordingly as future assessment results indicate.

The water system and the community recognize that the Safe Drinking Water Act grants no statutory authority to the Colorado Department of Public Health and Environment or to any other state or federal agency to force the adoption or implementation of source water protection measures. This authority rests solely with local communities and local governments.

The source water protection phase is an ongoing process as indicated in Figure 3. The evolution of the SWAP program is to incorporate any new assessment information provided by the public water supply systems and update the protection plan accordingly.

SOURCE WATER SETTING

Location and Description

Dallas Creek Water Company is a privately owned public water system that provides drinking water to users on Loghill Mesa near Ridgway, Colorado. Their drinking water source is a surface water intake off the Dallas Creek. The source waters for this intake, which includes the Dallas Creek watershed, lie within both public and private lands. The private land includes within the unincorporated areas of Ouray County. The public lands include Grand Mesa, Uncompahgre and Gunnison (GMUG) National Forest Lands, managed by the Ouray Ranger District. Land use on private land consists of agricultural and rural residential development.

The source water area includes two distinct Common Resource Areas (CRA); Southern Rocky Mountains, characterized by steep high mountain ranges and associated mountain valleys, and Southwestern Plateaus, Mesas, and Foothills characterized by higher elevation mesas and foothills that represent a transition to the Southern Rocky Mountains. Vegetation ranges from alpine, subalpine, tundra and coniferous and mixed forests in the higher elevations to grass dominated and irrigated agriculture in the lower elevations of the source water area. The climate varies widely within the source water area. Average annual rainfall ranges from 38 inches in the highest elevations to 19 inches per year at lower elevations. (USDA Natural Resource Conservation Service, December 2009).

Hydrologic Setting

Dallas Creek is the principal source of drinking water for Dallas Creek Water Company. Pleasant Creek, West Fork Dallas Creek and Beaver Creek all drain into Dallas Creek, which eventually makes its way to the Uncompahgre River. The EPA Watershed Quality Assessment Report for the Uncompahgre Watershed Basin does not list any stream segments that feed into Dallas Creek as impaired (United States Environmental Protection Agency, 2012).

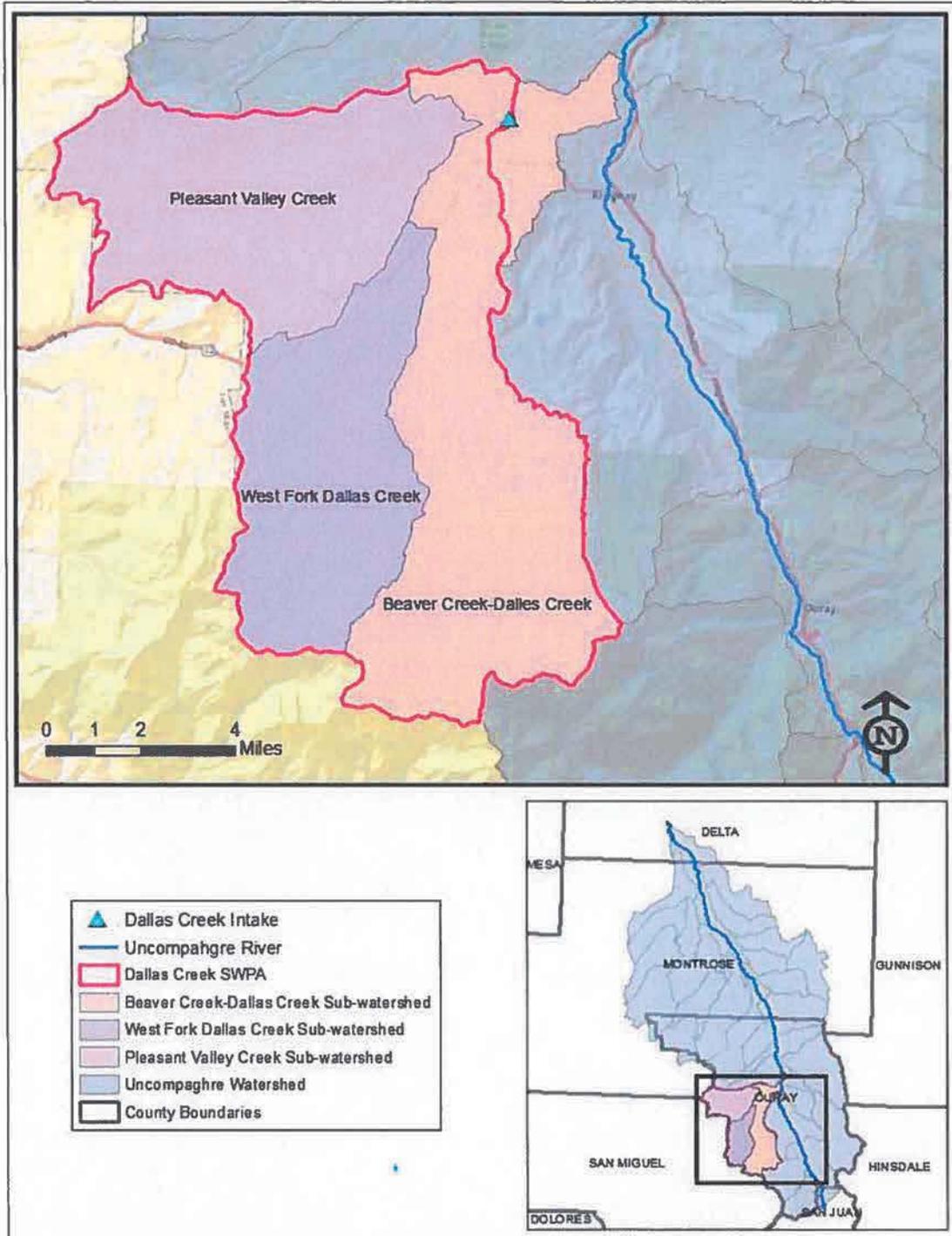


Figure 4: Beaver Creek-Dallas Creek, Pleasant Creek, & West Fork Dallas Creek Sub-watersheds within the Uncompahgre Basin

DRINKING WATER SUPPLY OPERATIONS

Water Supply and Infrastructure

Dallas Creek Water Company operates a community water supply system that supplies drinking water to 764 residents located within Ouray County, Colorado. The Dallas Creek Water Company obtains their drinking water from one surface water intake in the Dallas Creek Watershed.

Dallas Creek Water Company's source water supply comes from Dallas Creek and its tributaries; East & West Fork(s) of Dallas Creek, Beaver Creek and Pleasant Creek. Stream water is diverted through a head gate structure located approximately 300' W/NW of Pump Station 1 (38 degrees 10' 20.28" N, latitude and -107 degrees 47' 28.60" W longitude at elevation of 7131 ft). Two adjacent settling basins allow for natural sedimentation of debris and sediment prior to raw water pumping. Raw water flows from the settling basins through a 6" PVC pipe and self-cleaning intake screen. Optional subsurface flow is through a washed gravel infiltration gallery before filling a raw water vault beneath Pump Station 1.

Raw water travels through two pump stations and 3875' of 6" diameter ductile iron pipe in the 1000' ascent to Log Hill Mesa. Water can be dual-stage pumped at a max flow rate of 750 GPM utilizing Simflo vertical turbine pumps equipped with 75 Hp Variable Frequency Drive (VFD) motors and Supervisory Control and Data Acquisition (SCADA) controls. Raw water is deposited into a 1.2 MG settling pond at the top of the mesa that supplies the treatment plant. Supply can also be diverted ahead of the settling pond to Pump Station 3 where it can be used to supplement local golf course irrigation needs.

Dallas Creek Water Company's current 0.35 MGD (0.7 MGD max) treatment plant utilizes conventional filtration. The plant is operated in both manual and automated modes, with the aid of SCADA controls and computer software. Plant instrumentation includes both raw and finished online turbid meters, an online chlorine analyzer, and auto-dialer to alert the operator of specific alarm conditions.

Raw water entering the treatment plant is flash mixed with a Nalco 8157 polymer for coagulation, then passes through a 3-stage flocculation basin before sedimentation (utilizing inclined plate settlers), and is filtered through a dual-media sand filter. Filtered water is disinfected with 10% sodium hypochlorite, metered, pumped into 2' x 440' PVC contact chamber to meet contact time (CT) requirements, and continues into the distribution system where it supplements demand while also filling two steel water storage tanks. The storage tanks (on the hill above Inspiration Point) provide 430K gallons of treated water storage. An older smaller tank (refurbished in 2015) has a capacity of 150K gallons, while a newer larger tank constructed in 2003 has a capacity of 280K gallons.

The distribution system consists of 25 miles of ductile iron and PVC pipe and includes diameters of 4", 6", 8", & 10". Eleven Pressure Reduction Vaults (PRV's) are located throughout the distribution system to reduce and moderate higher pressure zones.

Table 1: Surface Water Supply Information

Water System Facility Name	Water System Facility Number	Surface Water Source	Constructed Date
Dallas Creek Intake	0146485	Dallas Creek	1979



Figure 5: Pump Station No. 1 on Infiltration Gallery Pond (Left); Intake Head Gate on Dallas Creek (Right)

Water Supply Demand Analysis

The Dallas Creek Water Company serves 406 connections and approximately 764 residents and other users in the service area annually. The water system has the current capacity to produce 350,000 gallons per day. Current estimates indicate that the average daily demand is approximately 70,000 gallons per day, and that the average peak daily demand is approximately 100,000 gallons per day. Using these estimates, the water system has a surplus average daily demand capacity of 280,000 gallons per day and a surplus average peak daily demand capacity of 250,000 gallons per day.

The ability of Dallas Creek Water Company to meet either of these demands for an extended period of time is also affected by the amount of treated water the water system has in storage at the time the water source(s) becomes disabled. Our current storage capacity of treated water is 430,000 gallons held in two storage tanks on Tower Road. Based upon average demand this would provide 6 days of demand without implementing any water use restrictions. Based upon peak demand of 100,000 per day, the 430,000 gallons of stored treated water would provide 4.3 days of demand without implementing water use restrictions.

In addition to the 430,000 gallons of treated water storage, we have 1.2 M gallons of raw water at the water treatment plant at the top of Loughill Mesa. This water has passed all of the pumping stations and is available for treatment even if the pumps were not operating. This increases average demand capability to 23.8 days and peak demand to capability to 16.4 days in the event Dallas Creek Water Company supply is disabled. We are confident that any emergency situation could be resolved within this timeframe.

However, based on the demand estimates above, the Dallas Creek Water Company has determined that if Dallas Creek would become disabled for an extended period of time due to contamination, Dallas

Creek Water Company may not be able to meet the average daily demand and/or the average daily peak demand of its customers.

The potential financial and water supply risks related to the long-term disablement of one or more of the community's water sources are a concern to the Steering Committee. As a result, the Steering Committee believes the development and implementation of a source water protection plan for Dallas Creek Water Company can help to reduce the risks posed by potential contamination of its water source(s).

As a component of this Source Water Protection Plan, we researched alternate sources of temporary emergency water. The nearest source of treated water is Tri-County Water Conservancy District. Both parties are open to the possibility of an emergency connection but the configuration and cost has not been determined. We are not actively pursuing this source because we continue to believe the risk of being unable to restore water service beyond our storage capacity is highly unlikely. However, Tri County has agreed to work with Dallas Creek in an extreme emergency and be considered a possible alternative supply as part of this Source Water Protection Plan.

Additionally, Dallas Creek Water Company has developed an emergency notification plan (Appendix B: Emergency Notification Plan) to coordinate rapid and effective notification of any emergency incident that threatens or disrupts the community water supply.

Drought Response Plans

Drought Response Plan

**Dallas Creek Water Company, Inc.
334 S. 5th Street
Montrose, CO 81401**

**DCWC Water District is located on
Log Hill Mesa, Ridgway, CO**

Developed May 2018

Page 1 of 4

C

Introduction

Drought is a prevalent natural phenomenon in Colorado. Single season droughts over some portion of the State are common. Prolonged periods of drought develop slowly over several years and are cyclical in nature. With Colorado's semiarid and variable climate, there will always be a concern for water availability within the State. (Information from Colorado Water Conservation Board)

Dallas Creek Water Company, Inc. (DCWC) is a privately owned public water system that provides drinking water to users on Log Hill Mesa, near Ridgway, CO. DCWC has committed to servicing 861 water taps of which 421 active meters are installed to date. Ouray County has approved DCWC to serve an additional 300 units in the Divide Ranch Golf Course Planned Unit Development. Their drinking water source is a surface water intake off Dallas Creek. DCWC treats then stores water in two storage tanks. Based upon average demand, this would provide enough water for six days without implementing any water use restrictions. In addition, DCWC has a raw water reservoir at the water treatment plant. This increases the water supply availability to almost 24 days. During peak summer months of June and July, DCWC could supply homes for about 12 days, using both treated and the raw storage water. DCWC is actively pursuing a pipeline connection with Tri-County Water Conservancy District (TCW) in the event of an emergency water situation such as drought, wildfire or a hazardous situation.

DCWC developed a Source Water Protection Plan (SWPP) which is designed to:

- Create an awareness of the community's drinking water sources and the potential risks to surface water and/or groundwater quality within the watershed;
- Encourage education and voluntary solutions to alleviate pollution risks;
- Promote management practices to protect and enhance the raw water supply;
- Provide for a comprehensive action plan in case of an emergency that threatens or disrupts the community water supply.

This tool is to ensure clean and high-quality drinking water sources for current and future generations and reduce source water susceptibility to contamination. DCWC worked with area Stakeholders to develop and implement the SWPP.

Drought Response plan

In the course of developing the SWPP, DCWC also developed an Emergency Notification Plan designed to provide immediate information to our customers. The plan is structured in two parts: Non-Urgent Notification and Urgent Notification. Priority phone numbers and contact information have been provided by our customers and is continually updated upon notification. Drought, wildfire and hazardous situations are included in the Emergency Notification Plan.

DCWC has developed this Drought Response Plan to specifically focus on our response to the severity of the drought stage and how it will affect our customers. The drought stage will be determined by DCWC Water Operator's data for storage and stream flow projections, County and State information and regional requirements, and all other available resources to best protect our water supply.

Stage 1 Drought

Some voluntary water use reductions are anticipated. DCWC will contact high water use customers and request a reduction in usage. All metered customers will receive information on how to best reduce their local water usage. They will receive website information and/or brochures with water conservation information. In addition, there may be local community meetings on the area drought conditions and what they can further do for basic water conservation.

- **Non-Urgent Notification**
DCWC will notify all residential, commercial and utility customers within our service area regardless of being connected to the water distribution system. Notification will include the same customers identified in the Urgent Notification section as well as residential standby customers who own a water tap on vacant lots within the service area.

Stage 2 Drought

Mandatory water usage restrictions will be in effect when water storage and/or stream flows are requiring water conservation. Water restrictions will include water use only for: drinking, cooking and bathing. No outside irrigation is allowed. No other uses such as car washing or recreation. Water usage may be restricted to 80 gallons of water per day, per household. This amount of water is considered to be more than adequate for household supply in an emergency situation and is considered an industry standard.

- Urgent Notification
 - DCWC will notify all residential and commercial customers that are connected to the water distribution system through metered service of treated water as well as commercial customers that receive untreated irrigation water. These include:
 - Residential metered customers
 - Commercial customers
 - Public Service Companies
 - Utility Companies
 - Homeowners within the service area
 - Divide Ranch & Golf Clubhouse and Golf Course
 - Log Hill Mesa Fire Authority
 - Fairway Pines Sanitation District

Summary

In conclusion, DCWC is taking measures to provide continuous water to our customers in the event of a drought or other emergency situation. A defined plan for Non-Urgent and Urgent Notification as mentioned above will be utilized. In addition, if the pipeline connection with TCW comes to fruition, it would be a benefit to both parties should an emergency arise in either water district, as each would be drawing water from an additional source.

Tri-County Water Conservancy District - Drought Response Statement

Tri-County Water is a rural domestic water distributor to 7,600 taps in the Uncompahgre Valley in western Colorado. Our service area covers approximately 350 square miles and we serve our customers around 800 million gallons or 2,500 acre feet (AF) per year.

Tri-County is a partner and contracting entity with the Project 7 Water Authority which provides regional water treatment services to 6 major domestic water distributors. These distribution entities also contract with Tri-County for an allocation of our water rights stored in Ridgway Reservoir. Tri-County operates and maintains Reclamation's Ridgway Dam under contract and has committed to repay Reclamation for the perpetual opportunity to store its water rights in Ridgway.

The source of supply for Project 7's treatment operation is the Gunnison River. Raw water is delivered to Project 7 by the Uncompahgre Valley Water Users Association (UVWUA), a local irrigation company, through an irrigation diversion to the Gunnison Tunnel which is a component of the Uncompahgre Project, one of Reclamation's first irrigation projects. The UVWUA stores their water rights in Taylor Park Reservoir which is in the upper Gunnison River water shed. Taylor Park contains approximately 106,000 AF of storage. When water is released from Taylor Park, it travels down the Taylor River to the Gunnison River then through Reclamation's Curecanti Project (Blue Mesa, Morrow Point and Crystal Reservoirs) to eventually reach the Gunnison Tunnel diversion. In addition to Taylor Park Reservoir on the Gunnison, Blue Mesa stores approximately 900,000 AF of water of which Reclamation controls a significant portion of the storage. UVWUA deliveries to Project 7 are exchanged for our M&I rights water in Ridgway Reservoir which is then delivered to their irrigation diversions from the Uncompahgre River. Ridgway Reservoir contains approximately 84,000 acre feet of water.

Current domestic water demands for all Project 7 entities typically total approximately 10,000 AF per year. The Uncompahgre River yields between 50,000 and 60,000 AF annually in the two of the worst years on record (2002 and 2018). With 1,000,000 AF of storage available in Ridgway, Taylor Park, and Blue Mesa Reservoirs to potentially provide Project 7 entities with the raw water necessary to meet our annual domestic water demands, Tri-County believes we have adequate protection from even the severest, long term drought. It is highly unlikely that the domestic water demands of the Project 7 entities could not be met with either left over stored supplies or direct diversions from either the Gunnison or Uncompahgre Rivers. Therefore, Tri-County does not believe that it is necessary to prepare a drought response plan given the relatively low demand with ample storage to protect those demands. We also believe that due to the amount of dependable water storage available, we are able to contract with the Dallas Creek Water Company to supply emergency water supplies when requested.

Letters of Support/Commitment

From: Vigil - DNR, Dori [<mailto:dori.vigil@state.co.us>]
Sent: Monday, September 24, 2018 12:51 PM
To: mike@tricitywater.org; kathleen@tricitywater.org; Joanne Fairchild
Cc: Godbout - DNR, Craig; Pittinger - DNR, Rachel
Subject: WSRF Grant Contracting Information- Tri-County Water Conservancy District - Emergency (Drought/Wildfire/Hazmat) Domestic Water Supply

Congratulations! On September 19, 2018 the Colorado Water Conservation Board (CWCB) approved your grant application for funding from the Water Supply Reserve Fund.

Next Steps:

I will need the following information in order to begin the contracting process for your project: (Note: Work can not begin on the WSRF portion of funding until a official Notice to Proceed and PO has been issued).

- Confirmation of the WaterSmart Grant match.
- A current/signed W-9 Form - (Request for Tax Payer Identification Number and Certification). Please use the form provided even if you have already submitted a W-9 (attached). This information must match what the Internal Revenue Service (IRS) has on record for your company and must be signed. (See attached).
- EFT - Direct Deposit - Optional (attached).

The start date for your grant will depend on the receipt of the above documents in addition to any revisions to the current detail. CWCB's required approval period after all requirements have been met is up to 30 days.

As the contracting process moves forward Craig Godbout, Project Manger and/or I may have additional questions or need additional information. Craig can be reached at [303.866.3441](tel:303.866.3441) or at Craig.Godbout@state.co.us.

I am also available for any questions.

Thank you.

Doriann Vigil
Program Assistant II
O 303-866-3441 x3250 | F 303-866-4474
1313 Sherman St., Rm. 718, Denver, CO 80203
dori.vigil@state.co.us | cwcb.state.co.us



DON BATCHELDER
JOHN E. PETERS
BEN TISDEL

BOARD OF COUNTY COMMISSIONERS

541 4th Street • P.O. Box C • Ouray, Colorado 81427 • 970-325-7320 • FAX: 970-325-0452

May 1, 2018

Dallas Creek Water Company, Inc.
Attn.: Bobbi Rouse, Administrator
334 S. 5th Street
Montrose, CO 81401

RE: Emergency Domestic Water Supply

Dear Ms. Rouse:

The Ouray County Board of County Commissioners ("Board") is in support of the connection of the domestic water supply between Dallas Creek Water Company ("DCWC") and Tri County Water Conservancy District ("TCW"). The Board feels that this connection is a valuable asset in the event of a drought, wildfire or other emergency situation in the Log Hill area.

Like many rural counties in Colorado, Ouray County is facing the possibility of a drier future, with the added restrictions of increased calls for service and a growing population. This underscores the need to not only encourage, but to strongly support and seek out emergency water supply provisions such as the proposed connection between DCWC and TCW. The collaboration between DCWC and TCW demonstrates the providers' commitment to continue to serve the Log Hill area, with an eye to serving emergency needs in the future.

The Board of County Commissioners strongly supports this project and urges favorable consideration and award of grant funding.

Sincerely,

Don Batchelder
Chair, Ouray County Board of County Commissioners

April 20, 2018

Dallas Creek Water Company
Att: Bobbi Rouse, Administrator
334 S 5th St.
Montrose, CO

Re: Emergency Domestic Water Supply

Dear Ms. Rouse:

The Board of Directors of Log Hill Village Home and Property Owners Assoc. has met and considered the connection of the domestic water supply between DCWC and TCW.

We are in support of this connection as we are well aware that this would be a valuable asset in the event of an emergency such as extreme drought, wildfire or hazmat situation in the Log Hill areas.

Please keep us update on the progress of this project.

Sincerely,
James McCarthy, President LHV H&PO ASSOC,

LETTER OF SUPPORT FOR DCWC/TCW EMERGENCY INTERCONNECT

Letter of Support by the Fairway Pines Estates
Owners Association for a Grant to Provide an
Emergency Water Interconnect Between the
Systems of Dallas Creek Water Company and Tri
County Water Conservancy

April 18, 2018

Dallas Creek Water Company, Inc.
Attn: Bobbi Rouse, Administrator
334 S. 5th Street
Montrose, CO 81401

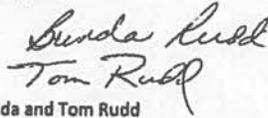
RE: Emergency Domestic Water Supply

Dear Ms. Rouse:

My wife and I are members of the Fairway Pines Estates Owners Association (FPEOA) and own a home in Fairway Pines. We are very pleased to see a water security solution is near and wish to express our support for a grant and the related project constructing an emergency water interconnect between the Dallas Creek Water Company (DCWC) and Tri-County Water Conservancy (TCW) systems.

The project proposed by DCWC and TCW is one of the options mentioned in the above-mentioned report to the CPUC. We believe the project proposed by DCWC and TCW would be a valuable asset as an alternative/emergency water source in the event of an emergency such as drought, wildfire or a hazmat situation in the Log Hill area. We fully support the project to construct an emergency interconnect and join with DCWC and TCW in requesting grant support.

Best Regards,



Brenda and Tom Rudd
43 Black Bear Way
Ridgway, CO

May 16, 2018

Mr. Tom Alvey
Chair, Project Screening Committee
Gunnison Basin Roundtable
11685 3100 Road
Hotchkiss, CO 81419



Re: Letter of Support -
Tri-County/Dallas Creek Water Company Emergency Interconnection Project

Dear Tom -

Tri-County Board of Directors strongly supports continuing the joint effort of establishing an emergency interconnection between Tri-County and Dallas Creek Water Company for the benefit of our community.

This project provides a safeguard for Tri-County and Dallas Creek Water by making it possible to insure safe potable drinking water and to provide emergency water supplies for the customers of both entities in the event that either needs assistance. This project is especially important given our somewhat remote location and service challenges.

We appreciate the opportunity the Gunnison Basin Roundtable provides and its consideration of our grant application.

Sincerely,

A handwritten signature in black ink, appearing to read "MB", is written over a light blue horizontal line.

Mike Berry
General Manager

cc: Ms. Bobbi Rouse, Administrator, Dallas Creek Water Company

970.249.3369
TRICOUNTYWATER.ORG

Waters
GENERATION
POWERING THE FUTURE

647 N. 7TH STREET
MONTROSE, CO 81401