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Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Rachel Pittinger, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: November 17-18, 2021 Board Meeting

AGENDA ITEM: 11d. Water Project Loans
Trinchera Groundwater Management Subdistrict – Augmentation Pipeline

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Staff Recommendation for Loan

Staff recommends the Board approve a loan not to exceed $986,770 ($977,000 for Project costs and $9,770 for the 1% service fee) to the Groundwater Management Subdistrict of the Trinchera Water Conservancy District, acting by and through its water activity enterprise, for costs associated with the Augmentation Pipeline, from the Construction Fund. The loan term will be 30 years at an interest rate of 1.40% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Additionally, staff recommends the following loan contract conditions:

1. Obtain an executable agreement between the Subdistrict and the well owner and submit to CWCB a copy of the agreement prior to any disbursement of loan funds.

Introduction

The Groundwater Management Subdistrict of the Trinchera Water Conservancy District (Subdistrict), is applying for a CWCB blended interest rate loan for the Augmentation Pipeline (Project). The Project includes 9 wells in the unconfined aquifer that will be used to deliver water to the Rio Grande via the pipeline. The Project is located in the southern portion of the San Luis Valley in Costilla County. The majority of wells within the Subdistrict are located primarily in the unconfined aquifer. Under the Rules Governing the Withdrawal of Groundwater in Water Division 3, the rules will have a direct impact on the future use of groundwater in the Subdistrict. The Subdistrict must provide a sufficient water source to replace stream depletions from groundwater withdrawals. If the Subdistrict is unable to replace stream depletions, then all of the Subdistrict's 174 wells may be forced to shut off until the depletions are remedied. The Project cost is estimated at $977,000. The Subdistrict is requesting a loan for 100% of Project costs. See attached Project Data Sheet for a location map and Project summary.

Borrower – Groundwater Management Subdistrict of the Trinchera Water Conservancy District
The Subdistrict is within the San Luis Valley that encompasses about 3,200 square miles of land in southern Colorado including Alamosa, Rio Grande, Conejos River, and Trinchera Creek within the Rio Grande basin.

The Trinchera Water Conservancy District (District) services the northern portion of Costilla County known as the Trinchera Creek Drainage. The District was formed by decree of the District Court in 1968. The Board of Directors are appointed by the District Judge for Costilla County. The Subdistrict was established within the District for the purpose of conserving and stabilizing the water supply and groundwater storage within the District.

The Subdistrict was organized on September 3, 2008 by the District Court for Costilla County. The District Court for Water Division No. 3 confirmed the ability of the Subdistrict to pursue a Ground Water Management Plan. In February 2017, the Subdistrict established a water activity enterprise to be known as the Trinchera Groundwater Management Subdistrict Water Activity Enterprise. The Subdistrict's revenue is primarily from assessments. The 5-member Board of Directors of the Subdistrict act as the governing body of the Enterprise and has the power to borrow and commit to repayment of funds.

Background
The groundwater wells within the Subdistrict are required to replace injurious depletions to the Rio Grande River, Conejos River, and Trinchera Creek. The depletions to Trinchera Creek have been addressed through the use of forbearance and no call agreements with the surface water right holders on Trinchera Creek. The Subdistrict continues to look for reliable sources of replacement water to replace the 3,531 AF average depletions occurring on the Rio Grande and Conejos Rivers. The total historic consumptive use associated with all of the irrigation wells is 20,888 AF. A dry-up of wells will be used to provide replacement water for the Rio Grande and Conejos Rivers.

Members of the Subdistrict are landowners within the District who rely on groundwater for all or part of their commercial, industrial and/or irrigated agricultural practices within the area defined by the Rio Grande Decision Support System (RGDSS) Groundwater Model and the Rules Governing the Withdrawal of Groundwater in Water Division 3, District Court, Water Division No. 3, Decree 15CW3024. The RGDSS Groundwater Model has calculated stream depletions occurring to surface water streams caused by wells withdrawing water from the groundwater system that may cause injury to senior surface water rights or unreasonably interfere with the state's ability to fulfill its obligations under the Rio Grande Compact. The State Engineer has promulgated Groundwater Rules that will have a direct impact on the future use of groundwater within the Subdistrict. Under the Groundwater Rules non-exempt wells can only continue groundwater withdrawals if they have either: an individual Plan for Augmentation, a Substitute Water Supply Plan, or their well is included in a Groundwater Management Plan and Annual Replacement Plan. The Subdistrict's Annual Replacement Plan must demonstrate there is a sufficient source of replacement water available to replace injurious stream depletions resulting from groundwater withdrawals.

The physical water source for this Project will come from nine separate irrigation wells which have historically irrigated acres under center pivot sprinklers. The irrigation under the center pivots will cease, acres will be dried up, and the historical consumptive use from the center pivots will be used to remedy depletions from the Subdistrict wells. The crops under the irrigated ground will be dried up. It is anticipated that the combined total irrigated area under the center pivots will yield an annual

average historical consumptive use of approximately 880 AF. A total annual amount of 880 AF is expected to be available to remedy depletions to the Rio Grande and Conejos Rivers.

Ultimately, the District intends to proceed in Water Court to obtain a water right and change the wells use to augmentation. In the near-term, the District will prepare and submit a Substitute Water Supply Plan upon approval of the loan and once the agreement with the landowner is finalized.

Loan Feasibility Study
Mr. Monty Smith, District President, with assistance from Mr. Jason Lorenz, P.E., Agro Engineering, Inc. prepared the Loan Feasibility Study titled, "Feasibility of Construction of Trinchera Unconfined Augmentation Well Pipeline," dated September 2021. The feasibility study was prepared in accordance with CWCB guidelines and includes preliminary engineering, an analysis of alternatives, and costs. Audited financial statements were provided by the District and were prepared by Wall, Smith, Bateman and Associates, CPA.

Water Rights
The primary source of water for conveyance through the Project will be the unconfined wells in the basin that have historical consumptive use that can be changed from irrigation to augmentation. The physical source of water will be nine wells connected together in a system. The wells included with the Project are listed in Table 1.

TABLE 1: WELLS ASSOCIATED WITH PROJECT

Name	WDID	Decree
Permit No. 18652-F	3505022	W3272
Permit No. 46210-F	3505621	10CW0008
Permit No. 46211-F	3505606	10CW0008
Permit No. 18647-F	3505016	W3272
Permit No. 18660-F	3505030	W3272
Permit No. 45646-F	3505586	10CW0008
Permit No. 46212-F	3505584	10CW0008
Permit No. 18659-F-R	3505585	10CW0008
Permit No. 18651-F-R	3505593	10CW0008

Project Description

The purpose of the Project is to provide a sufficient water source to replace stream depletions resulting from groundwater withdrawals and comply with the State Engineer's Office Rules in Water Division No. 3.

Alternative 1 – No Action: This alternative would result in an unreliable supply of replacement water that would result in the Subdistrict wells being forced to cease pumping, when sources of replacement water available are insufficient to replace depletions. The economic impact would be devastating to the area, so this is not the preferred alternative.

Alternative 2 – Surface Water Rights Purchase and Well Injury Payment Agreements: The surface water rights could be purchased, and the irrigated land could be dried up. The historical consumptive use would be changed to augmentation through water court. The Subdistrict has not found surface water rights for sale with enough historical consumptive use to fully replace the depletions to the Rio

Grande and Conejos Rivers. Also surface water rights are dependent on stream flows and the amount of water available fluctuates from year to year placing some uncertainty how much water will be available in a given year relative to the replacement need. The timing of the water right coming into priority may not match the timing of depletions to the streams. To address the fluctuation of supply and timing storage must also be procured. The Subdistrict continues to evaluate surface water rights as they become available and suitable for replacement of Subdistrict depletions. To date, the amount of consumptive use available is not sufficient to replace depletions.

Selected Alternative 3 – Augmentation Pipeline: This alternative considers the use of augmentation wells that will pump water directly to the Rio Grande and Conejos River through a pipeline. The augmentation wells will pump the historical consumptive use from irrigated land. The pipeline will consist of approximately 5.5 miles between the selected wells and the Rio Grande River. A 10-inch diameter pipeline one half mile long will be required to complete the manifold tying the supply wells together. The pipeline will be buried approximately four feet deep. Augmentation wells pumping water to the Rio Grande will provide a source to the Rio Grande and Conejos to ensure the Subdistrict can replace injurious depletions in time, place, and amount, as required by the Groundwater Rules. By using unconfined wells to supply the augmentation water there is sufficient dry up available through the Subdistrict's allocation process to supply depletions on the Rio Grande and Conejos Rivers and be a benefit to all the Subdistrict members. The use of unconfined aquifer wells also provides a conduit for the use of surface water through recharge as a source of augmentation water to the streams. The Project is estimated at $977,000 and is shown in Table 2.

TABLE 2: ESTIMATED PROJECT COSTS

Tasks	Cost
Construction	
PIP 15", 80 psi	$606,356
Trench, Install, backfill 40" cover over pipe	$138,230
PIP 10", 80 psi	$37,035
Trench, Install, backfill 40" cover over pipe	$12,529
Subtotal	$794,150
Contingency (20%)	$158,830
Subtotal	$952,980
Engineering/Project Management/Legal Contingency	$24,020
TOTAL	**$977,000**

Permitting: The Subdistrict plans to temporarily change the water use from irrigation to augmentation through the Substitute Water Supply Plan process for the first five years. After this time, the Subdistrict plans to obtain a water right through water court for well augmentation use. County easement approval/permit will be required to install a small portion of the pipeline within the county road right-of-way.

Schedule: The Subdistrict will begin replacing depletions for the 2022 Annual Replacement Plan on May 1st 2022. The project will need to be completed by that date. It is anticipated bid documents will be prepared by November 2021. The bid would occur immediately after that with a contract selected December of 2021. The contractor will be selected not only on cost but also on availability and the proposed schedule to complete the Project. Construction of the Project is anticipated to begin March 2022.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Subdistrict qualifies for a blended interest rate of 1.40% for a 30-year term (Ownership: 91% Agricultural, 2% Low-Income Municipal, 7% Commercial).

TABLE 3: FINANCIAL SUMMARY

Project Cost	$977,000
CWCB Loan Amount	$977,000
CWCB Loan Amount (Including 1% Service Fee)	$986,770
CWCB Annual Loan Payment	$40,508
CWCB Annual Loan Obligation (1st Ten Years)	$44,559
Administrative Assessment per Well	$500
Current Average Variable Assessment per Well[1]	$2393
Estimated Future Variable Assessment per Well	$2393

[1] *The Subdistrict has a variable fee that is assessed per AF. The variable fee rate is based on its use and may range from $1082 per well to $5,060 per well.*

Creditworthiness: The Subdistrict has no debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past Years	Future[1] w/ Project
Operating Ratio (revenues/expenses) weak: <100% | average: 100% - 120% | strong: >120%	n/a	102% (average) $503K/$495K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% | average: 100% - 120% | strong: >120%	n/a	120% (average) ($503K-$450K) $45K
Cash Reserves to Current Expenses weak: <50% | average: 50% - 100% | strong: >100%	n/a	131% (strong) $650K/$45K

[1] *Ratios are based on the projected Subdistrict's Water Activity Enterprise budget for 2022.*

Collateral: Security for this loan will be a pledge of the revenues backed by a rate covenant. This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Monty Smith, President, Groundwater Management Subdistrict of the Trinchera Water Conservancy District
Jennifer Mele, Colorado Attorney General's Office

Attachments: Water Project Loan Program – Project Data Sheet

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Augmentation Pipeline

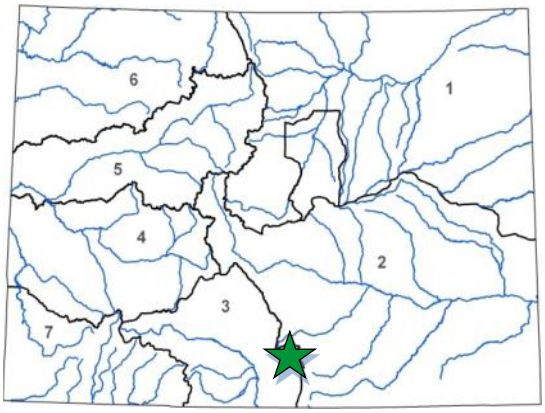
Trinchera Groundwater Management Subdistrict

November 2021 Board Meeting

LOAN DETAILS	
Project Cost:	$977,000
CWCB Loan (with 1% Service Fee):	$986,770
Loan Term and Interest Rate:	30 Yrs @ 1.40%
Funding Source:	Construction Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
91%	2% Low - 0% Mid - 0% High	7%

PROJECT DETAILS	
Project Type:	Augmentation Pipeline
Average Annual Consumptive Use:	24,888 AF



LOCATION			
County:			Costilla
Water Source:			Groundwater: Rio Grande
Drainage Basin:			Rio Grande
Division:	3	*District:*	35

The Trinchera Groundwater Management Subdistrict (Subdistrict) acting by and through its Water Activity Enterprise was formed in 2018 as a Subdistrict of the Trinchera Water Conservancy District in order to pursue a Ground Water Management Plan as an alternative to individual augmentation plans. The Subdistrict consists of 174 wells used located in the confined and unconfined aquifers.

The project will construct an augmentation pipeline and associated infrastructure to pump water from 9 irrigation wells within the unconfined aquifer 5.5 miles to the Rio Grande. The wells historically irrigated 780 acres with center pivot sprinklers. The augmentation pipeline will use these wells to offset the Subdistrict's stream depletions. This will allow the Subdistrict to protect existing wells and continue groundwater withdrawals for irrigation within its boundary. The Project is expected to begin in November 2021 and complete by May 1, 2022 when the Subdistrict anticipates the need to replace depletions.