

Grant Application Staff Report

Date: May 15, 2025
To: Douglas County Board of County Commissioners
Through: Douglas J. DeBord, County Manager
From: Terence T. Quinn, AICP, Director of Community Development *TQ*
CC: Lauren Pulver, Planning Supervisor
Kati Carter, AICP, Assistant Director of Planning Resources
Subject: **Water Supply Reserve Fund Grant Application for the 2050 Comprehensive Douglas County Water Plan in the amount of \$125,000 and a County contribution of \$54,783**

Board of County Commissioners Meeting:

May 27, 2025 @ 1:30 p.m.

I. EXECUTIVE SUMMARY

Staff is requesting approval to apply for a Water Supply Reserve Fund (WSRF) grant to complete the Water Supply and Demand Analysis phase of work of the 2050 Comprehensive Douglas County Water Plan (Douglas County Water Plan) in the amount of \$125,000 and a cash match from the County of \$54,783. The application is due June 1, 2025.

II. REQUEST

A. Request

This is a request for approval of a \$125,000 WSRF grant application for the Water Supply and Demand Analysis phase of work of the Douglas County Water Plan. The County's cash match to cover the remaining estimated cost of this phase of work will be \$54,783. Per the required state process, the project has been reviewed for initial support by the Colorado Water Conservation Board (CWCB) Metro Roundtable and received a recommendation of support.

III. BACKGROUND

The Douglas County Board of County Commissioners (Board) established the Douglas County Water Commission (Water Commission) through Resolution in November 2023. The Water Commission was established with the purpose of developing a Douglas County Water Plan that will identify strategic policies addressing water infrastructure and storage, supply acquisition, reclamation, and conservation practices.

The County issued an RFP in October 2024 to solicit a consultant to develop the Douglas County Water Plan. A contract with Forsgren Associates was approved by the Board in January 2025. The Forsgren Associates consulting team consists of Forsgren as project managers, LRE Water for water supply and groundwater analysis, and Michael Baker International for public engagement and land use policy analysis. This consulting team’s prior work includes the Arapahoe County Water Supply Study and the El Paso County Water Master Plan.

The Douglas County Water Plan will include the following phases of work, Public Engagement and Outreach, Water Supply and Demand Analysis, Land Use Policy Analysis, and Development of the Water Plan. The Water Supply and Demand Analysis phase of work will include gathering supply and demand information from County water providers, a gap analysis of supply and demand for 2030, 2040, and 2050, and a review of all publicly available information to compile a groundwater analysis. This portion of the Douglas County Water Plan qualifies for WSRF grant funds as it is a component of a plan or study that will inform the South Platte Basin’s water demand and supply profile, a priority of the Metro Roundtable WSRF grant.

Staff discussed grant funding opportunities with the Water Commission at its February 24, 2025, meeting. The Commission members supported staff pursuing grant funds to fullest extent possible. Staff plans to also apply for funding for additional phases of work through the CWCB Water Plan Grant. Staff has identified that the Water Supply and Demand phase of work is most applicable to the WSRF grant and the additional phases of work are most applicable to the Colorado Water Plan grant.

IV. RECOMMENDED ACTION

The WSRF grant application for the Water Supply and Demand Analysis phase of work for the Douglas County Water Plan in the amount of \$125,000, with a County contribution of \$54,783, may be approved for submission by the Board as it complies with County approval standards and policies. Technical corrections may be made to the application prior to the June 1, 2025, submittal deadline.

<u>ATTACHMENTS</u>	<u>PAGE</u>
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Colorado Water Conservation Board

Water Supply Reserve Fund - Basin

Water Project Summary

Name of Applicant	Douglas County	
Name of Water Project	Douglas County 2050 Comprehensive Water Plan	
Basin Account Request Subtotal		\$125,000.00
Applicant Cash Match		\$54,783.00
Applicant In-Kind Match		\$4,612.00
Basin Requests		
<i>Metro</i>		\$125,000.00
Sources of Funding		

Grant Details

Water Project Justification

This request is for a grant to fund the Water Supply and Demand Analysis portion of the Douglas County 2050 Comprehensive Water Plan. Douglas County does not currently have a comprehensive collection of data from all 30+ water providers in the County and information on the production and use of groundwater wells in the Denver Basin. The Vibrant Communities section in Chapter 6 of the Colorado Water Plan indicates that, "Colorado communities need resilient water supplies, water-conscious and attractive urban landscapes, planning that integrates land use and water solutions, and residents who understand the importance of water to their lives and economy." The gap analysis produced from the Water Supply and Demand Analysis will be used to inform the larger County Water Plan which will provide information to help ensure long term water supplies for the County, identify areas of risk, and include land use policy analysis based on anticipated population growth and water supply and demand through 2050.

The Resilient Planning section of Chapter 6 emphasizes thoughtful planning by local governments to address future needs. The Water Supply and Demand Analysis is a critical piece for the County to make informed decisions in planning for future population growth. This analysis will produce a current state and future state at increments of 10 years to assess changes to water supplies and demand as well as reliability of supplies. The gap analysis can be used by decision makers in determining where and how development should occur in the County. This analysis will inform the larger County Water Plan which will include policy recommendations such as conservation measures, land use policy, or other strategies such as increasing storage or opportunities for interconnected systems to reduce risks in times of drought or other uncertainty.

The Resilient Planning section also highlights the need for public education and outreach. The County Water Plan includes multiple opportunities for public participation in the development of the Plan. The public will have access to the data collected from the Water Supply and Demand Analysis as well as the maps produced that will portray a detailed look at the health of groundwater wells in the County. This will help property owners make educated decisions.

South Platte BIP

The South Platte BIP, Volume 2 Section 4 identifies Additional Use of Denver Basin Aquifer System Water as a challenge for the region. The Water Supply and Demand Analysis phase of the County's Water Plan will provide valuable data and information on the state of the Denver Basin aquifers in Douglas County, helping to identify

specific areas where the Basin has more robust or limited groundwater supplies.

South Platte BIP Strategy 3E encourages the integration of land use and water resource planning. The County's Water Plan may include land use policy recommendations to increase water efficiency based on the findings of the Water Supply and Demand Analysis.

Applicant & Grantee Information

Name of Grantee: Douglas County

Mailing Address: 100 Third Street Castle Rock CO 80104

Organization Contact: Lauren Pulver

Position/Title:

Email: lpulver@douglas.co.us

Phone: 720-415-9170

Organization Contact - Alternate: DJ Beckwith

Position/Title:

Email: dbeckwith@douglas.co.us

Phone:

Grant Management Contact: Lauren Pulver

Position/Title:

Email: lpulver@douglas.co.us

Phone: 720-415-9170

Grant Management Contact - Alternate: DJ Beckwith

Position/Title:

Email: dbeckwith@douglas.co.us

Phone:

Agency Information

Agency Type

Other

Current Assessment

Number of Shareholders or Customers

Number of Shares

Number of Taps

Average Monthly Water Bill

Annual Water Delivery (acre-feet)

Description of Grantee/Applicant

No description provided

Location of Water Project

Latitude 39.372200

Longitude -104.862490

Lat Long Flag Default/Proponent headquarters: If the location cannot be defined with flags above, use location of project proponent headquarters

Water Source

Basins Metro

Counties Douglas

Districts 2-South Platte: Denver Gage to Greeley; 8-South Platte Cheesman to Denver Gage

Water Project Overview

Major Water Use Type

Municipal

Type of Water Project	Study
Scheduled Start Date - Design	2/24/2025
Scheduled Start Date - Construction	

Description

The County has contracted with Forsgren Associates, Inc. to develop a 2050 Comprehensive Douglas County Water Plan. The goal of the 2050 Comprehensive Douglas County Water Plan is to inform long-term strategic water planning for Douglas County, its municipalities, special district partners, and rural individual well owners. The project phases include public engagement, water supply and demand analysis to include groundwater analysis, and land use policy analysis. The WSRF grant request is to fund the Water Supply and Demand Analysis phase of work which will include a survey of water supply and demand for all 30+ water providers in the County and a review of all publicly available documents to develop an assessment of groundwater use in the Denver Basin aquifers. This analysis will ultimately produce a gap analysis based on anticipated population growth and water supply/demand.

Douglas County will be applying for a Colorado Water Plan Grant for the additional phases of work for the County Water Plan.

Measurable Results

- New Storage Created (acre-feet)
- New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
- Existing Storage Preserved or Enhanced (acre-feet)
- New Storage Created (acre-feet)
- Length of Stream Restored or Protected (linear feet)
- Length of Pipe, Canal Built or Improved (linear feet)
- Efficiency Savings (dollars/year)
- Efficiency Savings (acre-feet/year)
- Area of Restored or Preserved Habitat (acres)
- Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
- Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
- 383,911 Number of Coloradans Impacted by Engagement Activity

Other

The Water Plan's Water Supply and Demand Study will impact the greater South Platte Basin as it will provide the region with groundwater data for the Denver Basin.



Last Update: January 10, 2022

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Colorado Water Conservation Board	
Water Supply Reserve Fund	
<u>Exhibit A - Statement of Work</u>	
Date:	04/17/2025
Water Activity Name:	Water Supply and Demand Analysis for Douglas County Water Plan
Grant Recipient:	Douglas County
Funding Source:	WSRF Metro Roundtable
Water Activity Overview: (Please provide brief description of the proposed water activity (no more than 200 words). Include a description of the overall water activity and specifically what the WSRF funding will be used for. (PLEASE DEFINE ALL ACRONYMS).)	
<p>The County has contracted with Forsgren Associates, Inc. to develop a 2050 Comprehensive Douglas County Water Plan. The goal of the 2050 Comprehensive Douglas County Water Plan is to inform long-term strategic water planning for Douglas County, its municipalities, special district partners, and rural individual well owners. The project phases include public engagement, water supply and demand analysis to include groundwater analysis, and land use policy analysis. The WSRF grant request is to fund the Water Supply and Demand Analysis phase of work which will include a survey of water supply and demand for all 30+ water providers in the County and a review of all publicly available documents to develop an assessment of groundwater use in the Denver Basin aquifers. This analysis will ultimately produce a gap analysis based on anticipated population growth and water supply/demand.</p> <p>Douglas County will be applying for a Colorado Water Plan Grant for the additional phases of work for the County Water Plan.</p>	
Objectives: (List the objectives of the project. (PLEASE DEFINE ACRONYMS).)	
<ul style="list-style-type: none">• Develop a comprehensive water supply and use profile for County water providers• Develop a comprehensive mapping and data system.• Develop an assessment of planned and projected water demands in the County.• Forecast future consumption by groundwater wells in the County.• Identify areas of the County where physical supply of groundwater does not meet expected allocation as well as areas where water quality may be a concern.	

Tasks
Provide a detailed description of each task using the following format: (PLEASE DEFINE ACRONYMS)



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Tasks
<u>Task 1 - Water Supply Information Collection</u>
Description of Task: <p>The Consultant will prepare a comprehensive water supply and water use profile for Douglas County water providers through use of a survey. Some of this data will be available from the State's database. From this data, the Consultant will tabulate water resource supplies and reliability and source of supply use data including tributary, non-tributary, not non-tributary, alluvial water (well), surface water, water rights, water storage rights, contracts, or commitments of water providers and transfer of water from providers external to Douglas County.</p> <p>The Consultant will also develop a comprehensive mapping and data system to assist the County in decision-making regarding the use of groundwater to support new development and growth and as a tool for the public to understand groundwater resources.</p>
Method/Procedure: <p>This process begins by collecting, reviewing, and evaluating water supply plans from all water providers (including municipalities, water districts, special districts, water companies, and community well systems) and regional entities that extend into the county such as the South Metro Water Supply Authority. The Consultant will reference the Colorado Water Plan, the Basin Implementation Plans, and their provisions that apply to Douglas County and its water providers. The Consultant will assess raw water storage by tabulating available reservoir capacities and mapping storage locations available to water providers, noting other water information, as applicable, including current and projected water conservation efforts by County water providers to extend supplies and serve new growth through 2050.</p> <p>The Consultant will first collect digital and other publicly available data and organize it into a geodatabase and interactive GIS map. This mapping will also incorporate data developed during the groundwater analysis to provide further value.</p>
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Tabulated average annual yield and safe yield of the surface and groundwater water rights identified above and extrapolated in 10-year increments through 2050.
GIS mapping that can be publicly available for use by County decision makers and the public.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Tabulated average annual yield and safe yield of the surface and groundwater water rights in the County and extrapolated in 10-year increments through 2050.
GIS mapping that can be publicly available for use by County decision makers and the public.



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Tasks
Provide a detailed description of each task using the following format: (PLEASE DEFINE ACRONYMS)
<u>Task 2 – Water Demand Projection Analysis</u>
Description of Task: The Consultant will analyze currently planned and projected development through 2050, as well as projected water demands by water providers compared to current water supply and demands. This will include analyzing land within existing water provider service areas and areas expected to develop with individual wells. The Consultant will then use this analysis to develop a countywide gap analysis between water supply and demand.
Method/Procedure: Using the DWR well database, the Consultant will catalogue the location of Denver Basin wells and assign an estimated production level to approximate the total, current supply from these sources to support the gap analysis. The Consultant will also develop and distribute a survey to collect water supply and demand information from water providers serving Douglas County. The Consultant will forecast future consumption by assuming wells currently in production will continue to produce at the current rate (with decline curves by aquifer) and by adding the anticipated consumption from future wells. The Consultant will use the County's growth analysis to project a new well count in rural areas. The intent is to account for the current and future production for this sector in the gap analysis through 2050.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Data from each water supplier will be aggregated, tabulated, and presented graphically for the county or regions within the county. The Consultant will also analyze supply and demand for current conditions on individual rural wells and use the County's growth analysis to project demands through 2050.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Aggregated summary of water demand from water providers in the County and demand for individual rural wells.

Tasks
Provide a detailed description of each task using the following format: (PLEASE DEFINE ACRONYMS)
<u>Task 3 – Groundwater Analysis</u>
Description of Task:



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Tasks

The groundwater analysis is an integral part of the Water Plan and will be accomplished concurrently with the rest of the Plan, by the same team. The focus of this analysis will be to identify those areas where the physical supply of Denver Basin groundwater does not meet the expected allocation.

Method/Procedure:

Map unincorporated lands within the county and prepare a water inventory of these lands

- Compile alluvial water rights, exempt and non-exempt well permits (including pre-213 wells), and Denver Basin groundwater data from DWR
- Compile decrees/determinations regarding Denver Basin groundwater in unincorporated areas
- Collect a representative sample of geophysical logs, raster logs, and Colorado Energy & Carbon Management Commission logs to evaluate the Dawson and Denver aquifers across the county, with a primary focus on unincorporated areas
- Utilize the State groundwater allocation calculations to evaluate the Arapahoe and Laramie-Fox Hills aquifers across the county
- Use the PETRA model, with State groundwater allocation calculations, and other regional data sets to estimate physically available groundwater in the county. Using the water rights and well permit data, the Consultant will compare the PETRA estimated physical availability in the Dawson and Denver aquifers to the groundwater volume allocated by state regulations for these aquifers
- Total the amount of alluvial groundwater being withdrawn based on DWR well permit records
- Estimate current Denver Basin water level trends (collected from public resources) to evaluate changes that will influence future availability of Denver Basin supplies
- Review county regulations pertaining to groundwater development and county data associated with subdivisions approved in unincorporated areas
- Analyze and extrapolate conditions expected through the year 2050 in 10-year increments
- Review and analyze current and potential future water statutes and regulations affecting groundwater use, such as the “Slow Sip” case before the Colorado Supreme Court
- Review areas of the county where County staff have identified complaints or evidence of significant groundwater declines and reductions in available supply. Assess construction of existing wells in these areas and whether the reductions result from well construction issues or localized zones of low well productivity and/or significant declines in aquifer water levels
- Evaluate aquifer declines regionally and locally upon review of publicly available data
- Collect data on water quality from USGS, EPA, CDPHE, or Douglas County Health, where available, and map areas with potential water quality issues
- Identify and recommend strategies to address data gaps, including a possible Denver Basin aquifer monitoring



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Tasks

Grantee Deliverable: (Describe the deliverable the grantee expects from this task)

A technical Task Memorandum documenting the PETRA analysis, data development, groundwater withdrawal computations and assumptions, water quality information, and water level information and groundwater data incorporated into mapping from prior task.

CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)

A technical Task Memorandum documenting the PETRA analysis, data development, groundwater withdrawal computations and assumptions, water quality information, and water level information and groundwater data incorporated into mapping from prior task.

Budget and Schedule

Exhibit B - Budget and Schedule: This Statement of Work shall be accompanied by a combined [Budget and Schedule](#) that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format. A separate excel formatted Budget is required for engineering costs to include rate and unit costs.

Reporting Requirements

Progress Reports: The grantee shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues. The CWCB may withhold reimbursement until satisfactory progress reports have been submitted.

Final Report: At completion of the project, the grantee shall provide the CWCB a Final Report on the grantee's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

Payments

Payment will be made based on actual expenditures, must include invoices for all work completed and must be on grantee's letterhead. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the water activity and purchase order or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to CWCB within 90 days of the expiration of a purchase order or contract may be denied consideration for future funding of any type from CWCB.

Performance Requirements

Performance measures for this contract shall include the following:

- (a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if



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Department of Natural Resources

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Performance Requirements

applicable) per the budget in Exhibit B. Per Grant Guidelines, the CWCB will pay out the last 10% of the budget when the final deliverable is completed to the satisfaction of CWCB staff. Once the final deliverable has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

(b) Accountability: Per the Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per the Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

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Water Supply Reserve Fund

EXHIBIT B - BUDGET AND SCHEDULE - Direct & Indirect (Administrative) Costs

Date: 04/17/2025

Water Activity Name: Water Supply and Demand Analysis for Douglas County Water Plan

Grantee Name: Douglas County

<u>Task No.</u> ⁽¹⁾	<u>Description</u>	<u>Start Date</u> ⁽²⁾	<u>End Date</u>	<u>Matching Funds</u> (cash & in-kind) ⁽³⁾	<u>WSRF</u> <u>Funds</u>	<u>Total</u>
<u>1</u>	Water Supply Information Collection	2/24/2025	12/1/2026	\$10,000	\$25,000.00	\$35,000
2	Water Demand Projection Analysis	2/24/2025	12/1/2026	\$4,783	\$10,000	\$14,783
3	Goundwater Analysis	2/24/2025	12/1/2026	\$40,000	\$90,000	\$130,000
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
Total				\$54,783	\$125,000	\$179,783

(1) The single task that include costs for Grant Administration must provide a labor breakdown (see Indirect Costs tab below) where the total WSRF Grant contribution towards that task does not exceed 15% of the total WSRF Grant amount.

(2) Start Date for funding under \$50K - ~ 45 Days from Director Approval; Start Date for funding over \$50K - ~90 Days from Board Approval.

• Reimbursement eligibility commences upon the grantee's receipt of a Notice to Proceed (NTP)

• **NTP will not be accepted as a start date.** Project activities may commence as soon as the grantee enters contract and receives formal signed State Agreement.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of the CWCB staff project manager. Once the Final Report has been accepted, the final payment has been issued, the water activity and purchase order (PO) or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to the CWCB with 90 days of the expiration of the PO or contract may be denied consideration for future funding of any type from the CWCB.

• Additionally, the applicant shall provide a progress report every 6 months, beginning from the date of contract execution

• Standard County Commissioners shall state that the Expiration Date of the contract shall be 5 years from the Effective Date.