

**Water Supply Reserve Fund
Water Activity Summary Sheet
March 10-11, 2021
Consent Agenda Item 2(m)**

Applicant & Grantee: Town of Erie

Water Activity Name: Horizontal Well Pilot Project

Water Activity Purpose: Education & Outreach, Municipal/Industrial - Study & Implementation

County: Weld

Drainage Basin: South Platte

Water Source: Boulder Creek

Amount Requested: \$25,000 South Platte Basin Account
\$50,000 Statewide Account
 \$75,000 Total Request

Matching Funds: Basin Account Match = \$25,000

- 50% of statewide request (meets 10% min)

Applicant & 3rd Party Match = \$1,800,000 (cash)

- 36 times of the statewide request (meets 10% min)

Total Match (Basin request & Applicant Match) = \$1,825,000

- 36.5 times the statewide request (meets 50% min)

Staff Recommendation:	
Staff recommends approval of up to \$25,000 from the South Platte Basin Account and \$50,000 from the Statewide Account to help fund the project: Horizontal Well Pilot Project	

Water Activity Summary: The Town of Erie is planning the construction and pilot testing of a Horizontally Directionally Drilled (HDD) well to divert Boulder Creek water while gaining water quality improvements through riverbank filtration (RBF) processes. HDD wells are innovative alternatives to vertical wells that address operational and maintenance challenges associated with thin alluvial aquifers in areas impacted by upstream discharge of wastewater treatment plant effluent. Horizontal wells typically have much higher yields than vertical wells in these conditions, which are common in the South Platte and Arkansas basins. Erie will initially put the water to beneficial use by pumping raw water augmented with Windy Gap effluent into a non-potable water pipeline for municipal use. Water rights and augmentation plan applications have been submitted, and a Substitute Water Supply Plan will be obtained to initiate the project.

If approved, the WSRF Grant funding would be used for partial funding of the study portion, Task 3, which includes pilot operations, the development of a best practices public document and a community workshop. (This request is in addition to a previously approved Water Plan grant the Board for the same task back in November 2019.)

Discussion: This project aligns with the South Platte Basin Implementation Plan focus on improving water efficiency, sustaining irrigated agriculture, and promoting education. As stated in the Roundtable approval letter, this proposal can also advance the Water Plan's objectives of meeting water gaps, developing efficiency, agricultural viability and encouraging reuse.

Issues/Additional Needs: No issues or additional needs have been identified.

Eligibility Requirements: The application meets requirements of all eligibility components.

Evaluation Criteria: Staff has determined this activity satisfies the Evaluation Criteria.

Funding Sources/Match	Cash	In-Kind	Total	Status
Town of Erie	\$1,800,000	\$0	\$1,800,000	Secured
Sub-Total	\$1,800,000	\$0	\$1,800,000	
WSRF Metro Basin Account	\$25,000	\$0	\$25,000	Secured
WSRF Statewide Account	\$50,000		\$50,000	
Sub-Total	\$75,000	\$0	\$75,000	
Total Project Costs	\$1,875,000	\$0	\$1,875,000	

CWCB Project Manager: Cole Bedford



Last Update: September 18, 2020

Colorado Water Conservation Board
Water Supply Reserve Fund Grant Application

Instructions
<p>All WSRF grant applications shall conform to the current 2020 WSRF Criteria and Guidelines.</p> <p>To receive funding from the WSRF, a proposed water activity must be recommended for approval by a Roundtable(s) AND the approved by the Colorado Water Conservation Board (CWCB). The process for roundtable consideration and recommendation is outlined in the 2020 WSRF Criteria and Guidelines. The CWCB meets bimonthly.</p> <p>If you have questions, please contact the WSRF Grant Program Manager (for all Roundtables) or your Roundtable Liaison:</p> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> <p>Ben Wade ben.wade@state.co.us 303-866-3441 x3238 (office)</p> </div> <div style="text-align: center;"> <p>Sam Stein Sam.stein@state.co.us 303-866-3441 (office)</p> </div> </div>

WSRF Submittal Checklist (Required)
<p>YES <input type="checkbox"/> NO <input type="checkbox"/> This request was recommended for CWCB approval by the sponsoring roundtable.</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> I have read and understand the 2020 WSRF Criteria and Guidelines.</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> Grantee will be able to contract with CWCB using the Standard Contract.¹</p> <p style="text-align: center; margin-top: 20px;">Application Documents included:</p> <p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Exhibit A: Statement of Work² (<i>Word – see Template</i>)</p> <p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Exhibit B: Budget & Schedule² (<i>Excel Spreadsheet – see Template</i>)</p> <p>YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Letters of Matching and/or Pending 3rd Party Commitments²</p> <p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Map²</p> <p>YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Photos/Drawings/Reports</p> <p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Letters of Support</p> <p style="text-align: center; margin-top: 20px;">Contracting Documents³</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> Detailed/Itemized Budget³ (<i>Excel Spreadsheet – see Template</i>)</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> Certificate of Insurance⁴ (<i>General, Auto, & Workers' Comp.</i>)</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> Certificate of Good Standing⁽⁴⁾</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> W-9 Form⁴</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> Independent Contractor Form⁴ (<i>If applicant is individual, not company/organization</i>)</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> Electronic Funds Transfer (ETF) Form⁴</p>

¹Click "Grant Agreements". For reference only/do not fill out or submit/required for contracting

² Required with application if applicable.

³ Additional documentation providing a Detailed/Itemized Budget maybe required for contracting. Applicants are encouraged to coordinate with the CWCB Project Manager to determine specifics.

⁴ Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.



Last Update: September 18, 2020

Schedule		
CWCB Meeting	Application Submittal Dates	Type of Request
January	October 1	Basin Account
March	December 1	Basin/Statewide Account/Water Plan Grant Match ¹
May	February 1	Basin Account
July	April 1	Basin Account
September	June 1	Basin/Statewide Account
November	August 1	Basin Account

¹ If either the basin or statewide match includes matching funds from a pending Water Plant Grant, both must be submitted by December 1st deadline for March Board meeting review.

Water Activity Summary		
Name of Applicant	Town of Erie	
Name of Water Activity	Horizontal Well Pilot Project	
Approving Roundtable(s)		Basin Account Request(s) ¹
South Platte		\$25,000
Basin Account Request Subtotal		\$25,000
Basin Account Request Subtotal Approved by Roundtable		\$
Statewide Account Request ⁽¹⁾		\$50,000
Total WSRF Funds Requested (Basin & Statewide)		\$75,000
Total Project Costs		\$2,000,000 minimum

¹ Please indicate the amount recommended for approval by the Roundtable(s)

Grantee and Applicant Information	
Name of Grantee(s)	Town of Erie
Mailing Address	645 Holbrook Street P.O. Box 750, Erie, CO 80516



Last Update: September 18, 2020

Grantee and Applicant Information	
FEIN	84-0198350
Grantee's Organization Contact¹	Todd Fessenden
Position/Title	Public Works Director
Email	tfessenden@erieco.gov
Phone	303-926-2895
Grant Management Contact²	Tyler Buhren
Position/Title	Civil Engineer
Email	tburhenn@erieco.gov
Phone	303-926-2798
Name of Applicant (if different than grantee)	
Mailing Address	
Position/Title	
Email	
Phone	

¹ Person with signatory authority

² Person responsible for creating reimbursement invoices (Invoice for Services) and corresponding with CWCB staff.

Description of Grantee
Provide a brief description of the grantee's organization (100 words or less).
<p>Erie is located in the heart of Colorado's major economic and population centers. Located in both Boulder and Weld Counties, Erie's planning area spans 48 square miles, extending from the north side of State Highway 52 south to State Highway 7, and between US 287 on the west and Interstate 25 to the east. Besides its thriving economy, Erie offers a progressive civic vision, and a sense of community which recognizes the importance of conserving and enhancing its historic small town character, and preserving the natural environment in which it resides.</p>

Type of Eligible Entity (check one)	
<input checked="" type="checkbox"/>	Public (Government): municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
<input type="checkbox"/>	Public (Districts): authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises



Last Update: September 18, 2020

Type of Eligible Entity (check one)	
<input type="checkbox"/>	Private Incorporated: mutual ditch companies, homeowners associations, corporations
<input type="checkbox"/>	Private Individuals, Partnerships, and Sole Proprietors: are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
<input type="checkbox"/>	Non-governmental organizations: broadly, any organization that is not part of the government
<input type="checkbox"/>	Covered Entity: as defined in Section 37-60-126 Colorado Revised Statutes

Type of Water Activity (check one)	
<input checked="" type="checkbox"/>	Study
<input checked="" type="checkbox"/>	Implementation

Category of Water Activity (check all that apply)		
<input type="checkbox"/>	Nonconsumptive (Environmental)	
<input type="checkbox"/>	Nonconsumptive (Recreational)	
<input type="checkbox"/>	Agricultural	
<input checked="" type="checkbox"/>	Municipal/Industrial	
<input type="checkbox"/>	Needs Assessment	
<input checked="" type="checkbox"/>	Education & Outreach	
<input type="checkbox"/>	Other	Explain:

Location of Water Activity	
Please provide the general county and coordinates of the proposed activity below in decimal degrees . The Applicant shall also provide, in Exhibit C, a site map if applicable.	
County/Countries	Weld
Latitude	40.098043
Longitude	-105.0496301

Water Activity Overview
<p>Please provide a summary of the proposed water activity (200 words or less). Include a description of the activity and what the WSRF funding will be used for specifically (e.g. studies, permitting, construction). Provide a description of the water supply source to be utilized or the water body affected by the activity. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, area of habitat improvements. If this project addresses multiple purposes or spans multiple basins, please explain.</p> <p>The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, and Schedule.</p>



Last Update: September 18, 2020

Water Activity Overview
<p>The Town of Erie is planning the construction and pilot testing of a Horizontally Directionally Drilled (HDD) well to divert Boulder Creek water while gaining water quality improvements through riverbank filtration (RBF) processes. HDD wells are innovative alternatives to vertical wells that address operational and maintenance challenges associated with thin alluvial aquifers in areas impacted by upstream discharge of wastewater treatment plant effluent. Horizontal wells typically have much higher yields than vertical wells in these conditions, which are common in the South Platte and Arkansas basins. Erie will initially put the water to beneficial use by pumping raw water augmented with Windy Gap effluent into a non-potable water pipeline for municipal use. Water rights and augmentation plan applications have been submitted, and a SWSP will be obtained to initiate the project.</p> <p>The WSRF Grant funding would be used for partial funding of the study portion, Task 3: Pilot Operations, Reporting and Community Workshop. This task will serve as a demonstration project for other entities that may benefit from improved alluvial groundwater supply development. If approved, this grant application would partially fund an HDD pilot facility operation, development of a best practices public document, and a community workshop to share information.</p>

Measurable Results		
To catalog measurable results achieved with WSRF funds please provide any of the following values.		
	New Storage Created (acre-feet)	
Up to 2,000 acre-feet of annual new consumptive water supplies	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive	
	Existing Storage Preserved or Enhanced (acre-feet)	
	Length of Stream Restored or Protected (linear feet)	
	Efficiency Savings (indicate acre-feet/year OR dollars/year)	
	Area of Restored or Preserved Habitat (acres)	
	Length of Pipe/Canal Built or Improved (linear feet)	
	Other	Explain:

Water Activity Justification
<p>Provide a description of how this water activity supports the goals of Colorado's Water Plan, the most recent Statewide Water Supply Initiative, and the respective roundtable Basin Implementation Plan and Education Action Plan ⁽¹⁾. The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers).</p> <p>For applications that include a request for funds from the Statewide Account, the proposed water activity shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan criteria for state support (CWP, Section 9.4, pp. 9-43 to 9-44;) (Also listed pp. 4-5 in 2020 WSRF Criteria and Guidelines).</p>



Last Update: September 18, 2020

Water Activity Justification

The Erie HDD Well Pilot Project will support the following State and basin planning goals:

- Colorado Water Plan
 - Meet Colorado's Water Gaps – The development of this water supply to meet municipal demands will help to sustainably satisfy a portion of the State's supply gap.
 - Protect and Develop Conservation and Efficiency – This water supply project will increase Erie's yield efficiency of new water rights and Windy Gap water.
 - Integrate Land Use and Water Planning – Erie is integrating this new water supply project into Town wide planning for both non-potable and potable water uses.
 - Maintain Agricultural Viability – This water supply project will offset the need to obtain other water rights, such as those from agricultural "buy and dry".
 - Encourage Reuse – This HDD Pilot project will increase Erie's ability to leverage existing use of Windy Gap effluent supplies for augmentation to meet municipal demands. The Pilot project will also provide Best Practices information to other entities who would benefit from HDD wells within their reuse infrastructure.
- South Platte Basin Implementation Plan
 - Improve municipal and industrial water efficiency – HDD wells provide increased yields and water quality improvements to indirect potable reuse systems. This project will maximize the use of existing transmountain supplies and South Platte supplies and will offset needs for additional transmountain diversions.
 - Sustain irrigated agriculture – This water supply project will offset the need for obtaining other water rights, such as those from agricultural "buy and dry".
 - Promote education and outreach that emphasizes the South Platte Basin Implementation Plan priorities.– This Pilot project will provide research into the optimal design and operation of HDD wells. HDD wells provide increased yields and water quality improvements to indirect potable reuse systems. This Pilot project and community workshop will demonstrate this and provide Best Practices for other water users across the Basin and the State.

¹ Access Basin Implementation Plans or Education Action Plans from Basin drop down menu.

Matching Requirements: Basin Account Requests

Basin (only) Account grant requests require a 25% match (cash and/or in-kind) from the Applicant or 3rd party and shall be accompanied by a **letter of commitment** as described in the [2020 WSRF Criteria and Guidelines](#) (submitted on the contributing entity's letterhead). Attach additional sheet if necessary.

Contributing Entity	Amount and Form of Match (note cash or in-kind)
Town of Erie	Cash in excess of \$1,800,000



Last Update: September 18, 2020

Matching Requirements: Basin Account Requests	
Total Match	\$1,800,000
If you requested a Waiver to the Basin Account matching requirements, indicate the percentage you wish waived.	

Matching Requirements: Statewide Account Requests	
Statewide Account grant requests require a 50% match as described in the 2020 WSRF Criteria and Guidelines . At least of 10% of the required Statewide Account Grant request match shall be cash from Basin Account funds whether that is from one or multiple basins; and the remaining 40% of the required match may be provided from any source, including other grants, cash from the Basin Account, or any combination of cash, in-kind services, or in-kind materials.and shall be accompanied by a letter of commitment . Attach additional sheet if necessary.	
Contributing Entity	Amount and Form of Match (note cash or in-kind):
Town of Erie	Cash in excess of \$1,800,000
South Platte Basin Roundtable	\$25,000
Total Match	\$1,825,000
If you requested a Waiver to the Statewide Account matching, indicate % you wish waived. (Max 50% reduction of requirement).	

Related Studies
Please provide a list of any related studies, including if the water activity is complimentary to or assists in the implementation of other CWCB programs.



Last Update: September 18, 2020

Related Studies

No related studies have been identified.

Previous CWCB Grants

List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order

Town of Erie
Horizontal Well Pilot Project
State Water Plan Grant approved at the December, 2019 CWCB board meeting.
CWCB Grant Award Letter No. CTGG12021-2281
Contract CMS No. 163996

Tax Payer Bill of Rights

The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.

The Town does not currently have any TABOR issues that would affect this application.



Last Update: March 17, 2020

<https://cwcb.colorado.gov/>

<u>Colorado Water Conservation Board</u>	
Water Supply Reserve Fund	
<u>Exhibit A - Statement of Work</u>	
Date:	October 20, 2020
Water Activity Name:	Horizontal Well Pilot Project
Grant Recipient:	Town of Erie
Funding Source:	Self Funded, CWCB CWP Grant, WSRF Grants (this application)
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). Many water wells in Colorado are in shallow alluvial aquifers, some downstream of wastewater effluent discharges. These conditions present yield and water quality issues that are challenging for conventional vertical wells. Horizontal wells have been used extensively in other fields (oil and gas, dewatering, environmental), but have yet to be used extensively in water resources. This project involves the design, construction, and operation of a horizontal directionally drilled (HDD) well near the Town of Erie's North Water Reclamation Facility (NWRf). The Town is developing an indirect potable (and non-potable) system capable of maximizing the efficient use of their new and existing Boulder Creek water rights through reuse of its Windy Gap water for augmentation purposes. The HDD well will be designed to maximize yield while also providing riverbank filtration (RBF) water quality improvements that will act as water pre-treatment, reducing water treatment plant upgrades. The Town will use the HDD Well Pilot results to improve designs for the rest of the system, which may ultimately include five (5) more HDD wells. The HDD Well Pilot results will also be distributed to other entities considering water supply development in shallow alluvial aquifers. The project will include three tasks: <ol style="list-style-type: none">1. Design Hydrogeology and Engineering2. HDD Well Construction and Development3. Pilot Operations, Reporting and Community Workshop Task 3 is the only task that Erie is requesting CWCB-SWP grant funds for. The facility will be constructed regardless of funding, but the grant funding would allow for enhanced Pilot facility operations, the development of an HDD Well Best Practices document, and facilitation of the community workshop.	
Objectives: (List the objectives of the project. (PLEASE DEFINE ACRONYMS)).	



Last Update: March 17, 2020

<https://cwcb.colorado.gov/>

The project objectives include:

1. Design and construct an HDD well near the NWRF.
2. Operate a pilot facility that diverts Boulder Creek water through the alluvial aquifer.
3. Install and operate advanced monitoring and sampling systems that can quantify the yield and water quality improvements from the HDD well.
4. Summarize the Pilot results in a public HDD Wells Best Practices document.
5. Coordinate a community workshop to disseminate the Pilot study results to entities interested in developing alluvial aquifer water supplies.

Tasks

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

Task 1 - Design Hydrogeology and Engineering

Description of Task:

This task will collect new and existing site data for design of an HDD well and pilot facility. Field investigation will include site survey and monitoring well drilling. Additional planning will include Division of Water Resources permitting and well construction variance applications. The HDD Well Pilot facility design will include:

- An HDD well, approximately 850 feet long, with a 600 foot screen, crossing under Boulder Creek
- Pipelines allowing for discharge water to be pumped back to Boulder Creek (approximately 300 foot pipeline) or to an existing water reuse pipeline south of the NWRF treatment plant (approximately 3,400 foot pipeline)
- Four (4) new monitoring wells near the HDD well
- Hydrologic and water quality monitoring/ sampling equipment
- A building for well controls, electrical, and communications equipment
- A Boulder Creek stream gage installed upstream of the NWRF Facility

Method/Procedure:



Last Update: March 17, 2020

<https://cwcb.colorado.gov/>

Tasks
Task 1 methods and procedures will include: <ul style="list-style-type: none">• Sonic drilling for monitoring well installation and lithologic logging of the subsurface• Land survey of the pilot facility and surrounding area• Hydrogeologic, civil, and geotechnical design
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
HDD well design and permitting.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
HDD well design and permitting.

Tasks
Provide a detailed description of each task using the following format: (PLEASE DEFINE ACRONYMS)
<u>Task 2 - HDD Well Construction and Development</u>
Description of Task:



Last Update: March 17, 2020

<https://cwcb.colorado.gov/>

Tasks
Task 2 will include the construction of the HDD Well Pilot facility, contractor management, and project coordination.
Method/Procedure: Task 2 will include construction (underground and aboveground), construction oversight, and project management.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task) Task 2 will result in HDD Well Pilot facility as-built drawings and system operations manuals.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task) HDD Well Pilot facility as-built drawings and system operations manuals.

Tasks
Provide a detailed description of each task using the following format: (PLEASE DEFINE ACRONYMS)
<u>Task 3 - Pilot Operations, Reporting and Community Workshop (Study)</u>
Description of Task:



Last Update: March 17, 2020

<https://cwcb.colorado.gov/>

Tasks
<p>Task 3 will include the following sub-tasks:</p> <ul style="list-style-type: none">• Development of a pilot operations/testing plan• HDD well start-up, testing, and operations for 6-12 months• Hydrologic system monitoring (surface water flow, groundwater levels, well pumping, etc.)• Water quality monitoring (surface water and groundwater: temperature, specific conductivity, other parameters)• Water quality sampling (surface water and groundwater)• Pilot test data analysis
<p>Method/Procedure:</p> <p>Task 3 will begin with the development of a Pilot operations and testing plan. The goal will be to observe system performance under seasonally varying creek flow and water quality. The HDD well will be operated at different flow rates to determine maximum yields and water quality improvements under different creek conditions.</p> <p>Field data collection will include use of data logging pressure transducers/meters to monitor hydrologic system and water quality parameters. Flow meters will monitor well yield, with discharge samples collected through an automated water sampling device. Water quality samples will be collected from Boulder Creek and monitoring wells. Samples will sent to an analytical laboratory for full drinking water parameter analysis or a subset of indicator analytes that can characterize RBF water quality improvements.</p>
<p>Grantee Deliverable: (Describe the deliverable the grantee expects from this task)</p> <p>An HDD Well Best Practices report will be prepared that summarizes initial field investigation, HDD well design, pilot facility infrastructure, Task 3 monitoring observations, and the results of well yield and water quality optimization. Conclusions and recommendations will be made to help aid future HDD well planning and design.</p> <p>A community workshop will be prepared and advertised for water supply entities interested in developing alluvial aquifer water supplies. The workshop will be publicized through the South Platte, Metro, and Arkansas Basin Roundtables. Other entities known to be working in alluvial aquifers will also be contacted directly. The workshop will present the results of the HDD Well Pilot and the best practices report. The workshop will facilitate sharing of information between alluvial aquifer groundwater users.</p>
<p>CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)</p> <p>An HDD Well Best Practices report will be prepared that summarizes initial field investigation, HDD well design, pilot facility infrastructure, Task 3 monitoring observations, and the results of well yield and water quality optimization. Conclusions and recommendations will be made to help aid future HDD well planning and design.</p> <p>A community workshop will be prepared and advertised for water supply entities interested in developing alluvial aquifer water supplies. The workshop will be publicized through the South Platte, Metro, and Arkansas Basin Roundtables. Other entities known to be working in alluvial aquifers will also be contacted directly. The workshop will present the results of the HDD Well Pilot and the best practices report. The workshop will facilitate sharing of information between alluvial aquifer groundwater users.</p>



Last Update: March 17, 2020

<https://cwcb.colorado.gov/>

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 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.



Last Update: March 17, 2020

<https://cwcb.colorado.gov/>

Performance Requirements

(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.

Last Update: December 17, 2019



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Supply Reserve Fund

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

Date: October 20, 2020

Water Activity Name: Horizontal Well Pilot Project

Grantee Name: Town of Erie

<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 Funds</u> (Basin & Statewide combined) ⁽³⁾	<u>Total</u>
1	Design Hydrogeology and Engineering	8/1/2020	12/31/2020	\$148,452	\$25,000	\$173,452
2	HDD Well Construction and Development	1/1/2021	3/1/2021	\$1,005,503	\$25,000	\$1,030,503
3	Pilot Operations, Reporting and Community W	3/1/2021	12/31/2021	\$20,135	\$25,000	\$45,135
Total				\$1,174,090	\$75,000	\$1,249,090

(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) Round values up to the nearest hundred dollars.

• Additional documentation providing a Detailed/Itemized Budget may be required for contracting. Applicants are encouraged to coordinate with the CWCB Project Manager to determine specifics.

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

November 20, 2020

Ben Wade
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

Re: South Platte Roundtable support for WSRF Basin Funds for the Town of Erie - *Horizontal Well Pilot Project*

Dear Ben,

The South Platte Roundtable underwent an evaluation and approval process and voted to support the Town of Erie's Horizontal Well Pilot project. The vote took place at the November 10, 2020 South Platte Basin Roundtable meeting and passed unanimously. This project involves the design, construction, and operation of a horizontal directionally drilled (HDD) well near the Town of Erie's North Water Reclamation Facility (NWRP). The Town is developing an indirect potable (and non-potable) system capable of maximizing the efficient use of their new and existing Boulder Creek water rights through reuse of its Windy Gap water for augmentation purposes. The HDD well will be designed to maximize yield while also providing riverbank filtration (RBF) water quality improvements that will act as water pre-treatment, reducing water treatment plant upgrades. The Town will use the HDD Well Pilot results to improve designs for the rest of the system, which may ultimately include five (5) more HDD wells. The HDD Well Pilot results will also be distributed to other entities considering water supply development in shallow alluvial aquifers.

The Town of Erie's WSRF application fully meets the South Platte Basin Roundtable WSRF Guidelines and WSRF Grant Program Criteria. The project will help advance the South Platte Basin Implementation Plan's focus on improving water efficiency, sustaining irrigated agriculture, and promoting education as outlined in the application. It will also further advance Colorado's Water Plan conservation measurable objectives of meeting Colorado's water gaps, developing efficiency, water planning, agricultural viability, and encouraging reuse as outline in the application.

Upon review and consideration of the Town of Erie's proposal, the South Platte Basin Roundtable unanimously voted to approve \$25,000 of the \$50,000 Basin WSRF funds requested by the applicant at the November 10, 2020 Roundtable meeting.

Sincerely,



Garrett Varra, Chair
South Platte Basin Roundtable

Department of Public Works



November 24, 2020

Ben Wade
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

Re: Letter of Commitment for the Town of Erie – *Horizontal Well Pilot Project*

Dear Ben,

This letter is to inform the CWCB that the Town of Erie has the available and designated funding to match the statewide account grant and basin account grant as outlined in the submitted application for the WSRF grant application. The Town of Erie also meets the criteria for matching the statewide account funds as outlined in the WSRF grant application.

Sincerely,

DocuSigned by:

9F0EF90F4D29421...

Todd Fessenden
Public Works Director
Town of Erie, Public Works