

**Water Supply Reserve Fund  
Water Activity Summary Sheet  
March 11-12, 2020  
Agenda Item 23(v)**

**Applicant & Grantee:** Colorado Department of Water Resources

**Water Activity Name:** Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)

**Water Activity Purpose:** Agricultural/M&I - Implementation

**County:** Multiple in SP Basin (see map)

**Drainage Basin:** South Platte

**Water Source:** South Platte and tributaries

**Amount Requested:** \$100,000 South Platte Basin Account  
\$190,000 Statewide Account  
\$290,000 Total Request

**Matching Funds:** Basin Account Match = \$100,000

- 52% of statewide request (meets 10% min)  
Applicant Match & 3rd Parties = \$179,610
- 94% of the statewide request (meets 10% min)  
Total Match (Basin & Applicant) = \$279,610
- 147% of the statewide request (meets 50% min)

**Staff Recommendation:**

Staff recommends approval of up to \$100,000 from the South Platte Basin Account, and \$190,000 from the Statewide Account to help fund the project: Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1).

**Water Activity Summary:** WSRF Funds, if approved will assist the Division 1 of the Colorado Dept. of Water Resources to install stage sensors, recorder and/or telemetry on 114 sites where measurement of water stage and discharge is needed to determine either In-Stream Flow or diversions into or out of a ditch, canal or reservoir. The locations of these structures include those on the main stem of the South Platte and its tributaries including Districts 1, 2, 3, 4, 5, 6, 7, 8, 9 and 80. Data loggers and telemetry have been set up on many major diversion structures downstream of Denver in prior cooperative projects between Northern Water, Lower South Platte Water Conservancy District, St. Vrain and Left Hand Water Conservancy District and the Division of Water Resources (DWR).

Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of administrative staff resources. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool.

The installation of this equipment will be of great benefit to water commissioners by allowing more efficient administration due to more timely availability of information on diversions and In-Stream Flow sites.

Installation of this equipment allows near real time accounting to occur for augmentation of wells and direct diversions for augmentation and recharge. This is critical for augmentation plans as real time information is necessary to determine recharge and direct flow credits to assure there is no injury to senior water rights. Real time data also helps the water commissioner make a faster response regarding exchange potential at various points on the river to water users who wish to operate an exchange.

Maximizing the use of existing water supplies within the South Platte basin for decreed purposes with existing infrastructure is the first step in meeting the future needs of users along the South Platte and its tributaries. The increase in the use of data loggers and telemetry has improved administration by allowing DWR staff to administer water rights real time. The use of data loggers also allows data to be made available in a timely manner.

**Discussion:** This effort will assist the South Platte Basin Roundtable meet the Goals and Measurable Outcomes, as identified in Sections 2.3,3.1.1, 3.1.3, 3.1.8, 3.2.1.2, 4.3.3.2 and 5.0, and in the SPBRT Chair’s Recommendation Letter. This effort will also further the Goals of Colorado’s Water Plan as called for in Section 4.9.

**Issues/Additional Needs:** None

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

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

<b>Funding Sources/Match</b>	<b>Cash</b>	<b>In-kind</b>	<b>Total</b>	<b>Status</b>
DWR	\$37,210	\$7,052	\$44,262	Secured
Xcel	\$0	\$46,000	\$46,000	Secured
City of Boulder Open Space & Mtn Parks	\$10,000	\$31,400	\$41,440	Secured
Boulder Ditch Companies	\$0	\$45,000	\$45,000	Secured
City of Boulder Public Works	\$0	\$2,948	\$2,948	Secured
Sub-total	\$47,210	\$132,400	\$179,610	
WSRF South Platte Basin Account	\$100,000	\$0	\$100,000	Secured
Sub-total	\$147,210	\$132,400	\$279,610	
Statewide Account	\$190,000	n/a	\$190,000	
<b>Total Project Costs</b>	<b>\$378,210</b>	<b>\$132,400</b>	<b>\$469,610</b>	

**CWCB Project Manager:** Craig Godbout

South Platte Basin Roundtable  
Garrett Varra, Chair  
January 27, 2020

Craig Godbout  
Water Supply Planning Section  
Colorado Water Conservation Board  
1313 Sherman Street, Room 718  
Denver, CO 80203

**\*\*Via email to craig.godbout@state.co.us\*\***

RE: Letter of Support for the "Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)" grant application.

Craig,

We submit recommendation for full approval for the Water Supply Reserve Fund grant application submitted by the Colorado Division of Water Resources in the amount of \$100,000.00 from the South Platte Basin account and \$190,000.00 from the Statewide account. We believe the program fits well within the Colorado Water Plan and South Platte Basin Implementation Plan in numerous ways. This application was recommended for approval at the January 14, meeting of the SPBRT. A quorum was present and all members voted in support of the application. It is our hope that this program will become a model for further efforts across the state.

Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of water within the South Platte basin. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool (ADAT) program which previously received a WSRA Statewide Grant.

The installation of this equipment will be of great benefit to water commissioners and water users by allowing more efficient administration due to more timely availability of information on diversions and In-Stream Flow sites. This is also critical for augmentation plans as real time information is necessary to determine recharge and direct flow credits to assure there is no injury to senior water rights. Real time data also helps the water commissioner make a quicker response regarding exchange potential at various points on the river to water users who wish to operate an exchange.

Maximizing the use of existing water supplies within the South Platte basin for decreed purposes with existing infrastructure is the first step in meeting the future needs of users along the South Platte and its tributaries. The increase in the use of data loggers and telemetry has improved administration by allowing DWR staff to administer water rights real time. The use of data loggers also allows data to be made available in a timely manner which also helps support Colorado's interstate water compact compliance efforts (CWP SEC. 4, 9; SPRT BIP 2.3, 3.1.1, 3.1.3, 3.1.8, 3.2.1.2, 4.3.3.2, 5.0. measurable outcomes 3, 7, 8).

The South Platte Basin Roundtable is in full support of further funding of the Data Logger/Telemetry Installation project and see the continued benefits this program has to offer our basin with possible benefits throughout Colorado. We recommend approval of their application.

Sincerely,



Garrett Varra



Last Update: July 31, 2018

<b>Colorado Water Conservation Board</b>
<b>Water Supply Reserve Fund Grant Application</b>

<b>Instructions</b>
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All WSRF grant applications shall conform to the current [2016 WSRF Criteria and Guidelines](#).

To receive funding from the WSRF, a proposed water activity must be approved by a Roundtable(s) **AND** the Colorado Water Conservation Board (CWCB). The process for Roundtable consideration and recommendation is outlined in the 2016 WSRF Criteria and Guidelines. The CWCB meets bimonthly according to the schedule on page 2 of this application.

If you have questions, please contact the current CWCB staff Roundtable liaison:

<b>Arkansas</b>  Ben Wade <a href="mailto:ben.wade@state.co.us">ben.wade@state.co.us</a> 303-866-3441 x3238	<b>Gunnison   North Platte   South Platte   Yampa/White</b>  Craig Godbout <a href="mailto:craig.godbout@state.co.us">craig.godbout@state.co.us</a> 303-866-3441 x3210	<b>Colorado   Metro   Rio Grande   Southwest</b>  Megan Holcomb <a href="mailto:megan.holcomb@state.co.us">megan.holcomb@state.co.us</a> 303-866-3441 x3222
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<b>WSRF Submittal Checklist (Required)</b>
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	I acknowledge this request was recommended for CWCB approval by the sponsoring roundtable.
x	I acknowledge I have read and understand the <a href="#">2016 WSRF Criteria and Guidelines</a> .
x	I acknowledge the Grantee will be able to contract with CWCB using the <a href="#">Standard Contract</a> . <sup>(1)</sup>
Application Documents	
x	Exhibit A: Statement of Work <sup>(2)</sup> ( <i>Word – see Template</i> )
x	Exhibit B: Budget & Schedule <sup>(2)</sup> ( <i>Excel Spreadsheet – see Template</i> )
x	Letters of Matching and/or Pending 3 <sup>rd</sup> Party Commitments <sup>(2)</sup>
x	Map <sup>(2)</sup>
	Photos/Drawings/Reports
	Letters of Support
Contracting Documents <sup>(3)</sup>	
	Detailed/Itemized Budget <sup>(3)</sup> ( <i>Excel Spreadsheet – see Template</i> )
	Certificate of Insurance <sup>(4)</sup> ( <i>General, Auto, &amp; Workers' Comp.</i> )
	Certificate of Good Standing <sup>(4)</sup>
	W-9 Form <sup>(4)</sup>
	Independent Contractor Form <sup>(4)</sup> ( <i>If applicant is individual, not company/organization</i> )
	Electronic Funds Transfer (ETF) Form <sup>(4)</sup>

(1) Click "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.



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

Desired Timeline	
Desired CWCB Hearing Month:	March
Desired Notice to Proceed Date:	April 2020

Water Activity Summary	
Name of Applicant	Colorado Division of Water Resources
Name of Water Activity	Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)
Approving Roundtable(s)	Basin Account Request(s) <sup>(1)</sup>
South Platte	\$100,000.00 – Recommended by SPBRT
Basin Account Request Subtotal	\$100,000.00
Statewide Account Request <sup>(1)</sup>	\$190,000.00
Total WSRF Funds Requested (Basin & Statewide)	\$290,000.00
Total Project Costs	\$479,650.00

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

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<b>Grantee and Applicant Information</b>	
Name of Grantee(s)	Colorado Division of Water Resources, Division One
Mailing Address	810 9 <sup>th</sup> St. Ste 200, Greeley, CO. 80631
FEIN	84-0644739 (Tax Exempt)
Grantee's Organization Contact <sup>(1)</sup>	Corey DeAngelis
Position/Title	Division Engineer
Email	Corey.deangelis@state.co.us
Phone	970-352-8712 x 1204
Grant Management Contact <sup>(2)</sup>	Brent Schantz
Position/Title	South Platte River Operations and Compact Coordinator
Email	Brent.schantz@state.co.us
Phone	970-352-8712 x 1217 , cellular 970-381-8159
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.

<b>Description of Grantee</b>
Provide a brief description of the grantee's organization (100 words or less).
<p>The Contracting Agency for this project will be the Colorado Division of Water Resources. DWR is a state agency in the Department of Natural Resources. Division One encompasses the South Platte, Republican, and Laramie drainages within the state, approximately the northeast quarter of the state. Among other responsibilities, Division One has been given the responsibility for administration of water rights in these basins under the prior appropriation doctrine. This doctrine can be found in the State constitution along with statutes. The key statutes under which administration authority has been given to DWR may be found in Article 80 and Article 92.</p> <p>For this application, the applicants are also acting on behalf of various water users along the main stem of the South Platte and its tributaries. As described further in the application, both the water users and DWR will be the beneficiaries of the project installations resulting from grant funds. DWR is a small government agency that receives the bulk of its funding from the General Fund. This funding goes toward operating costs such as mileage for Water Commissioners and there is no excess that could be applied to the project to install data-loggers and telemetry as described further in the application.</p>

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Type of Eligible Entity (check one)	
x	<b>Public (Government):</b> 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.
	<b>Public (Districts):</b> authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises
	<b>Private Incorporated:</b> mutual ditch companies, homeowners associations, corporations
	<b>Private Individuals, Partnerships, and Sole Proprietors:</b> are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
	<b>Non-governmental organizations:</b> broadly, any organization that is not part of the government
	<b>Covered Entity:</b> as defined in <a href="#">Section 37-60-126 Colorado Revised Statutes</a>

Type of Water Activity (check one)	
	Study
x	Implementation

Category of Water Activity (check all that apply)		
	Nonconsumptive (Environmental)	
	Nonconsumptive (Recreational)	
	Agricultural	
	Municipal/Industrial	
	Needs Assessment	
	Education & Outreach	
x	Other	Explain: Structural Project

Location of Water Activity	
Please provide the general county and coordinates of the proposed activity below in <b>decimal degrees</b> . The Applicant shall also provide, in Exhibit C, a site map if applicable.	
County/Countries	Multiple Counties and location throughout the SP basin; See map
Latitude	
Longitude	



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### Water Activity Overview

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. The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, and Schedule.

This project would allow for the installation of a stage sensor, recorder and/or telemetry on 114 sites where measurement of water stage and discharge is needed to determine either In-Stream Flow or diversions into or out of a ditch, canal or reservoir. The locations of these structures include those on the main stem of the South Platte and its tributaries including Districts 1, 2, 3, 4, 5, 6, 7, 8, 9 and 80. Data loggers and telemetry have been set up on many major diversion structures downstream of Denver in prior cooperative projects between Northern Water, Lower South Platte Water Conservancy District, St. Vrain and Left Hand Water Conservancy District and the Division of Water Resources (DWR). The South Platte Basin Roundtable previously approved WSRA funding requests for \$48,800, \$46,000 and \$89,205 and the SPBRT, Metro and Statewide Account funded \$309,648 for data loggers and cellular telemetry. All equipment secured with this funding has been installed and is in successful operation. This application for funding is a continuation of the project started with this previous funding.

The costs associated with this grant are to purchase equipment and materials to install stage sensors and/or Telemetry on the identified structures. As in-kind service, equipment will be installed in coordination with the various water users (Ditch Companies, Augmentation Plans, and Municipalities) and DWR. There are several sites where water users will be required to install infrastructure; these costs range from \$1000 - \$40,000. In addition, DWR will work with the respective Water Commissioners to display current data on the DWR FTP site for sites without telemetry as requested by water users. Telemetry sites will be available for viewing on the DWR website with water users outside paying the \$6-\$10 monthly fee per site for cellular service.

Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of administrative staff resources. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool (ADAT) program which previously received a WSRA Statewide Grant.

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<b>Measurable Results</b>			
To catalog measurable results achieved with WSRF funds please provide any of the following values.			
	New Storage Created (acre-feet)		
	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		
x	<table border="1" style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;">Other</td> <td>Explain: Availability of real time discharge data to assist with timely water rights administration of ditch diversions, in-stream flow rights and identify the amount of unappropriated water available during periods of no Call thus maximizing basin supplies.</td> </tr> </table>	Other	Explain: Availability of real time discharge data to assist with timely water rights administration of ditch diversions, in-stream flow rights and identify the amount of unappropriated water available during periods of no Call thus maximizing basin supplies.
Other	Explain: Availability of real time discharge data to assist with timely water rights administration of ditch diversions, in-stream flow rights and identify the amount of unappropriated water available during periods of no Call thus maximizing basin supplies.		



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**Water Activity Justification**

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](#) <sup>(1)</sup>. 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).

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 [2016 WSRF Criteria and Guidelines](#)).

**Section 4 (Water Supply) and 9 (Protecting the South Platte Compact) of Colorado's Water Plan.**

**Section 5.5.3 of the South Platte Basin Implementation Plan: *Maximizing Basin Supplies.***

This project has impact as real time data available from recorders and telemetry installed with previous Grants has helped identify areas where there are available unappropriated in-basin water supplies that may result in multi-purpose projects which can take advantage of these available supplies. The South Platte Storage Study and the NE Colorado Water Cooperative have benefited from the data made available from those sites providing near real time data and future projects may also benefit from better data for diversions from the river. In order to implement projects like the NE Colorado Water Cooperative or new storage projects real time measurement data is imperative to their success in diverting unappropriated, fully consumable or changed while assuring that no injury is caused to existing water rights. To maximize available unappropriated water (**Section 3.2.1.2 of SPBIP**) we must be able to quantify and divert water during those periods when available as the period of availability might be of short duration. Reusable Supplies are also dependent on reliable measurement and reporting as are ATMs (**Section 4.3.3.2)c**

**Section 2.3 of the SP-BIP: *Environmental and Recreational Needs.***

Installation of measurement and telemetry on identified site will help protect ecologically and economically important habitats and stream flows on Boulder and South Boulder Creeks

**Section 5 of the SP-BIP: *Implementation Strategies for Projects and Methods:***

This project would increase the ability to track and administer in real time the following points under the *Eleven Key elements of the South Platte Basin Implementation Plan*:

- 3. Maximize use and effectiveness of native South Platte River Basin supplies including new storage, systems integration and conjunctive use of surface and groundwater supplies to extend use of both the Denver Basin Aquifers and the foothills/ mountain crystalline rock aquifers as well as make better use of the South Platte River alluvial system
- 7. Manage the risk of increased demands and reduced supplies due to climate change
- 8. Promote multi-purpose storage projects that enhance other South Platte Basin Solutions

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



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<b>Matching Requirements: Basin Account Requests</b>	
<p><b>Basin (only) Account</b> grant requests require a 25% match (cash and/or in-kind) from the Applicant or 3<sup>rd</sup> party and shall be accompanied by a <b>letter of commitment</b> as described in the 2016 WSRF Criteria and Guidelines (submitted on the contributing entity's letterhead). Attach additional sheet if necessary.</p>	
Contributing Entity	Amount and Form of Match (note cash or in-kind)
Xcel Energy	\$5,000.00 – in-kind/Cash
City of Boulder Public Works	\$2,948.00 – in-kind/Cash
City of Boulder Open Space and Mountain Parks	\$5,000.00 – in-kind/Cash
Colorado Division of Water Resources	\$7,052.00 – in-kind/Cash
Boulder Ditch Companies(Anderson and Farmers)	\$5,000.00 – in-kind/Cash
<b>Total Match</b>	<b>\$25,000.00</b>
If you requested a Waiver to the Basin Account matching requirements, indicate the percentage you wish waived.	

<b>Matching Requirements: Statewide Account Requests</b>	
<p><b>Statewide Account</b> grant requests require a 50% match as described in the 2016 WSRF Criteria and Guidelines. A minimum of 10% match shall be from Basin Account funds (cash only). A minimum of 10% match shall be provided by the applicant or 3<sup>rd</sup> party (cash, in-kind, or combination). The remaining 30% of the required match may be provided from any other source (Basin, applicant, or 3<sup>rd</sup> party) and shall be accompanied by a <b>letter of commitment</b>. Attach additional sheet if necessary.</p>	
Contributing Entity	Amount and Form of Match (note cash or in-kind):
Xcel Energy	\$41,000.00 – in-kind/Cash
City of Boulder Open Space and Mountain Parks	\$36,440.00 – in-kind/Cash
Colorado Division of Water Resources	\$37,210.00 – in-kind/Cash
Boulder Ditch Companies(Anderson and Farmers)	\$40,000.00 – in-kind/Cash
Basin Account Funds	\$100,000.00 - Cash
<b>Total Match</b>	<b>\$164,650.00</b>
If you requested a Waiver to the Statewide Account matching, indicate % you wish waived. (Max 50% reduction of requirement).	



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**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.

In Stream Flow Program on South Boulder and Boulder Creeks, We will be working with City of Boulder Open Space and Public Works to install measurement and telemetry equipment on 10 existing or proposed ISF sites.

**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

- A. 1) Colorado Division of Water Resources 2) Water Supply and Environmental Projects 3) SPBRT 4) March 2013 5) CMS#55017, \$88,958.00
- B. 1) Colorado Division of Water Resources 2) Water Supply and Environmental Projects-Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) 3)SPBRT, METRO-RT, Statewide Account 4) March 2015 5) March 2015, CWS#78815 \$309,648.00

**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.

None.



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<b>Colorado Water Conservation Board</b>	
<b>Water Supply Reserve Fund</b>	
<b><u>Exhibit A - Statement of Work</u></b>	
<b>Date:</b>	<b>01/31/2019</b>
<b>Water Activity Name:</b>	<b>Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)</b>
<b>Grant Recipient:</b>	<b>Colorado Division of Water Resources</b>
<b>Funding Source:</b>	<b>WSRF - South Platte Basin RT/Statewide Account</b>
<b>Water Activity Overview:</b> (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.	
<p>This project would allow for the installation of a stage sensor, recorder and/or telemetry on 114 sites where measurement of water stage and discharge is needed to determine either In-Stream Flow or diversions into or out of a ditch, canal or reservoir. The locations of these structures include those on the main stem of the South Platte and its tributaries including Districts 1, 2, 3, 4, 5, 6, 7, 8, 9 and 80. Data loggers and telemetry have been set up on many major diversion structures downstream of Denver in prior cooperative projects between Northern Water, Lower South Platte Water Conservancy District, St. Vrain and Left Hand Water Conservancy District and the Division of Water Resources (DWR). The South Platte Basin Roundtable previously approved WSRA funding requests for \$48,800, \$46,000 and \$89,205 and the SPBRT, Metro and Statewide Account funded \$309,648 for data loggers and cellular telemetry. All equipment secured with this funding has been installed and is in successful operation. This application for funding is a continuation of the project started with this previous funding.</p> <p>Funds from this grant will be used to purchase equipment, materials and tools to install stage sensors and/or Telemetry on the identified structures. This equipment includes Logger, sensor, solar panel, antenna, modem, voltage regulator, battery, enclosure, wire, ground rod, concrete, and mast and all mounting brackets and necessary nuts, bolts, etc. As in-kind service, equipment will be installed in coordination with the various water users (Ditch Companies, Augmentation Plans, and Municipalities) and DWR. There are several sites where water users will be required to install infrastructure or provide modification of the site or ditch to guarantee accurate measurement; these costs range from \$1000 - \$40,000. In addition, DWR will work with the respective Water Commissioners to display current data on the DWR FTP site for sites without telemetry as requested by water users. Telemetry sites will be available for viewing on the DWR website with water users outside paying the \$6-\$10 monthly fee per site for cellular service.</p> <p>Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of administrative staff resources. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool (ADAT) program which previously received a WSRA Statewide Grant.</p>	



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<p><b>Objectives:</b> (List the objectives of the project)</p> <p>The objectives of the Data Logger/Telemetry Installation Project:</p> <p>Install sensors, recorders and telemetry on in-stream flow and measurement sites to allow near real time access to data. This will help with timely administration of water rights and assist with maintaining required flow through decreed in-stream flow sections of streams and exchange potential.</p> <p>This data will be available on the Colorado Division of Water Resources website and available to water managers and the general public.</p> <p>Near real time data will help identify the quantity of water during periods when unappropriated water is available and therefore help with maximizing the use of this water.</p>
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Tasks
Provide a detailed description of each task using the following format:
<b><u>Task 1 - Order Equipment and Materials</u></b>
Description of Task:
There are many individual parts and pieces involved with installing a data-logger/telemetry package with several different vendors involved. Orders for parts will be placed with several vendors out of State and local. Parts and tools will be ordered as needed to complete the tasks. This task may require using the State bidding process and also requesting a "Sole Source" designation for certain vendors. This process could take several months.
Method/Procedure: Order, invoicing delivery of equipment and materials following the State process.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Receipt of parts and equipment
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)



Last Update: January 9, 2018

Tasks
Copies and documentation of invoices received for payment and request for payment will be submitted as required.

Tasks
Provide a detailed description of each task using the following format:
<b><u>Task 2 - Build Telemetry Box Enclosures</u></b>
Description of Task:
This work will include installing all equipment needed in the enclosure. This includes installing backing panel then installing modem, voltage regulator and battery. Installing strain relief fitting trough the enclosure and building the wiring harness, including installing terminal ends. This requires attention to detail and is time consuming. Modems will have SIM cards installed and be programmed before deploying to the field for installation. This will require coordination with water users to purchase and activate the Sim card, collecting the SIM card, installing and programming.
Method/Procedure:
Once equipment is received equipment will be installed into the telemetry enclosure making them ready for field installation. This will be done evenings and weekend until complete.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Telemetry boxes ready to be installed in the field and modems programmed (if applicable) data loggers will be programmed and readied for installation in the field.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)



Last Update: January 9, 2018

Tasks
Photographs of each completed box to be included in 6 month progress report.

Tasks
Provide a detailed description of each task using the following format:
<b>Task 3 - Build Structures to mount field equipment</b>
Description of Task:
<p>This work will include building masts out of 2" galvanized pipe. This mast will hold the solar panel, antenna and enclosure and be set in concrete on site. A 10 foot section of pipe will be threaded on one end and a reducer installed to reduce the 2" pipe to 1", an 8 ' nipple will be installed with a cap on the top end. This will allow installation of the antenna. 90 of these need to be built.</p> <p>Cantilever will be built out of 2" square tubing to allow for a radar sensor to be installed and mounted at the in-stream flow monitoring sites. This tube will be cut and welded to length and reach needed for each specific site. An enclosure mounting bracket will be fabricated and install and all will be painted.</p>
Method/Procedure:
<p>Once materials is received production of these will begin. The building of the masts and cantilevers will require pipe threading, cutting and welding of numerous parts. This will be done evenings and weekend until complete.</p>
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Masts and cantilevers completed for field installation.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)



Last Update: January 9, 2018

Tasks
Photographs and documentation of completion to be included in 6 month progress report.
Tasks
Provide a detailed description of each task using the following format:
<b><u>Task 4 - Install equipment in Field</u></b>
Description of Task: This work will include installing all equipment in the field to include masts set in concrete, cantilevers set in concrete and installation of recorders, sensors, solar panels, antennas. Modems will be activated and set up to be polled by DWR software and added to our website.
Method/Procedure: Once equipment prep is complete, field installation will begin.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task) Completed and active telemetry sites installed and data available on our website.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)



Last Update: January 9, 2018

<b>Tasks</b>	
Photographs of each completed site to be included in 6 month progress report.	
<b>Tasks</b>	
Provide a detailed description of each task using the following format:	
<b><u>Task 5 - City of Boulder Open Space site work</u></b>	
Description of Task:	
This work will include cleaning of ditches and modifying approaches and stream riffles to assure accurate measurements.	
Method/Procedure:	
Boulder will have site work completed.	
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)	
Good approach conditions and stream measurement site conditions to assure accurate rating and measurement,	
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)	



Last Update: January 9, 2018

<b>Tasks</b>
Photographs of completed sites to be included in 6 month progress report.
Provide a detailed description of each task using the following format:
<b><u>Task 6 - City of Boulder Public Works/ Ditch Company Flume Work</u></b>
Description of Task:
This work will include installation of a new measurement structure on both the Anderson and Farmers Ditch.
Method/Procedure:
Contractor will install new flumes.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
New measurement structure to assure accurate measurement. Telemetry equipment will be installed once flume installation is complete.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Photographs and documentation of completion in 6 month progress report.



Last Update: January 9, 2018

<b>Tasks</b>	
<b><u>Task 7 - Xcel Energy Site work</u></b>	
Description of Task:	
<p>This work will include removal and then installation of a measuring flume on the Lower Welman site. This will require substantial work, It will also include cleaning and contouring of the outlet to Leggett reservoir which will also require substantial excavation work.</p>	
Method/Procedure:	
<p>Xcel will have site work completed.</p>	
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)	
<p>Good approach conditions and stream measurement site conditions to assure accurate rating and measurement,</p>	
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)	
<p>Photographs of completed sites to be included in 6 month progress report.</p>	

**Budget and Schedule**



Last Update: January 9, 2018

### 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:

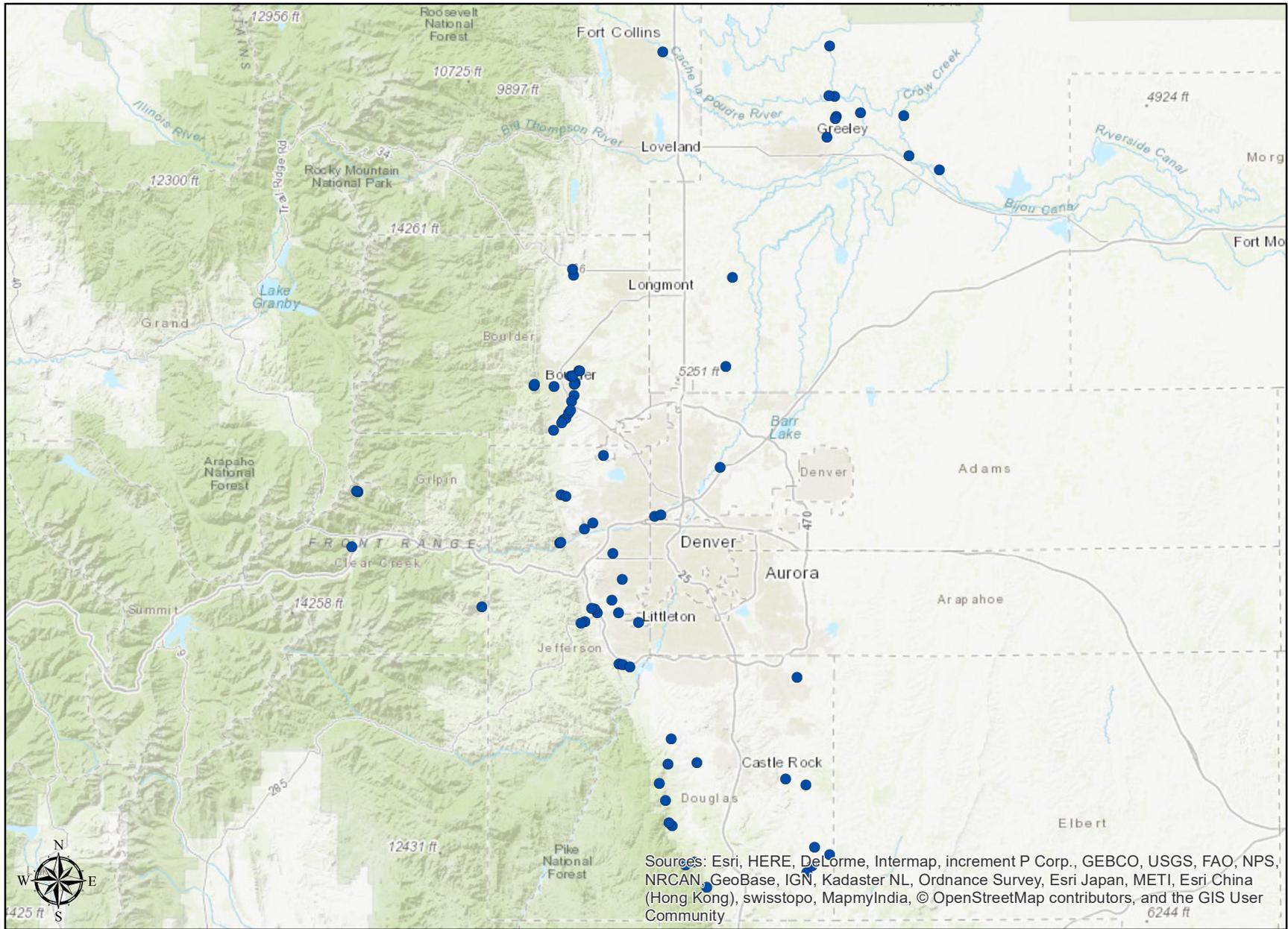
(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Grant Guidelines, the CWCB 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.

(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.





● Structures

**South Platte Basin**  
Created on January 26, 2020



**COLORADO**  
**Division of Water Resources**  
Department of Natural Resources



## City of Boulder Open Space & Mountain Parks

January 21, 2020

Colorado Water Conservation Board  
Craig Godbout – SPRT Staff Liaison  
1313 Sherman Street, Room 718  
Denver, CO 80203

### **RE Water Supply Reserve Fund Grant Application for Data Logger/ Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support**

Dear Craig,

The City of Boulder Open Space and Mountain Parks program is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/ Telemetry Installation Project.

The project will have many benefits. To name a few: The addition of telemetry will be incredibly useful to the water commissioners to understand flows available on a real-time basis to make better informed and more efficient administration decisions. Telemetry will help the various shareholders and managers of the ditch companies use and distribute their water rights to beneficial use more effectively. Remote locations will be tracked more effectively, and we are also excited about the prospect that we will be better able to track in-stream flows to help maintain the natural environment.

The City of Boulder Open Space and Mountain Parks Department is pledging the following in-kind and cash support for this project in 2020-2021:

#### IN-KIND

- S. Boulder Creek- Shearer Ditch – Backhoe work to remove sediment from approach channel and headgate. Staff
  - **\$960.00**
- S. Boulder Creek - Shearer Ditch – Cleanout of vegetation growing into flume and clearing upstream and downstream sections. Staff
  - **\$ 1,500.00**
- Coal Creek- Eggleston 4 – Significant Backhoe work down ditch to alleviate and assure no backwater and flume submergence. Contractor
  - **\$6,500.00**
- Coal Creek- Eggleston 4 – Brush removal down ditch of piped section to assure no backwater. Staff
  - **\$2,880.00**
- Coal Creek - Eggleston 1 – Clearing of sediment from section downstream of flume to mitigate backwater flows. Staff
  - **\$400**
- S. Boulder Creek- Multiple in-channel gages – Rating curves for new gaging sites. Staff
  - **\$19,200**
- **TOTAL IN-KIND = \$31,440.00**

#### CASH MATCH

- 2020 - \$5,000
- 2021 - \$5,000
- **TOTAL CASH MATCH = \$10,000**

We look forward to working with Brent Schantz and DWR on this project.

If you have any questions, please reach me using the contact information provided below.

Sincerely,



Amy Willhite  
Water Resources Administrator



**City of Boulder**  
**Open Space & Mountain Parks**

C: 720-591-5037

[WillhiteA@bouldercolorado.gov](mailto:WillhiteA@bouldercolorado.gov)

2520 55<sup>th</sup> St | Boulder, CO 80301

[bouldercolorado.gov](http://bouldercolorado.gov)



## City of Boulder Public Works – Utilities Division

January 24, 2020

Colorado Water Conservation Board  
Craig Godbout – SPRT Staff Liaison  
1313 Sherman Street, Room 718  
Denver, CO 80203

### **RE Water Supply Reserve Fund Grant Application for Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support**

Dear Craig,

The City of Boulder Public Works-Utilities division is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/Telemetry Installation Project. The project will have many benefits to Utilities. The addition of telemetry to several of the Instream Flow Program gages that we maintain will help us to understand flows on a real-time basis and inform our coordination with the Water Commissioner and other water users in an efficient manner. Adding telemetry to the diversion structures on ditches with which we work frequently will help us to understand impacts to the creek informing instream flow administration, as well as potential maintenance responsibilities for our stormwater crews who share maintenance with ditch companies.

Utilities is pledging the following in-kind support:

- Boulder Creek at Broadway - \$2,948 for contractor maintenance of existing sensor and telemetry (assumes that this gage would continue to use existing telemetry and that data would be transmitted to the state website as part of this project).
- Utilities staff maintain rating curves at all five Boulder Creek instream flow gages, some of which are identified for upgrades under this grant application, and collaborates with Open Space and Mountain Parks on maintenance of rating curves at South Boulder Creek instream flow gages. Those in-kind contributions of staff time are shown in Open Space and Mountain Parks' letter of support.

We look forward to working with Brent Schantz and DWR on this project.

A handwritten signature in blue ink that reads "Kim Hutton".

Kim Hutton, Acting Water Resources Manager, City of Boulder Public Works - Utilities



January 28, 2020

Colorado Water Conservation Board  
Craig Godbout – SPRT Staff Liaison  
1313 Sherman Street, Room 718  
Denver, CO 80203

**RE Water Supply Reserve Fund Grant Application for Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support**

Dear Craig,

The Farmers Ditch Company is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/Telemetry Installation Project. The addition of a Sutron Stage Discharge Recorder and Telemetry Equipment to the flume will help us to understand flows on a real-time basis and inform our operations, coordination with the Water Commissioner and deliveries to our shareholders in an efficient manner.

Anderson is pledging the following in-kind support:

- \$20,000 for flume upgrades. This work is currently scheduled to occur during winter 2020. We expect the work to be complete by the time the telemetry project would be ready to begin installation.

We look forward to working with Brent Schantz and DWR on this project.

Sincerely,

A handwritten signature in black ink that reads 'Joanna M. Bloom'. The signature is written in a cursive style with a long horizontal flourish extending to the right.

Joanna Bloom  
President  
Farmers Ditch Company  
PO Box 119 Longmont, CO 80501  
303-441-4251  
farmersditchmaintenance@gmail.com





Water Resources  
1800 Larimer St, STE 1300  
Denver, CO 80202

January 21, 2020

Mr. Craig Godbout  
South Platte Basin Roundtable Liaison  
Colorado Water Conservation Board  
1313 Sherman Street, Room 718  
Denver, Colorado 80203

**RE: Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)**

Dear Craig,

Xcel Energy is working with the Division 1 Engineer's Office (DEO) to implement real-time flow measurement on several of its facilities in Water District 6 to support the DEO's initiative to extend this capability further throughout the South Platte Basin. Specifically, Xcel Energy intends to make repairs and to work with the DEO to install measurement equipment, data loggers, and make necessary repairs or improvements to existing, Company-owned measurement structures in support of this project in the estimated amount of at least \$46,000 as an in-kind contribution to the State's grant requests.

- Replacement of the Lower Wellman measurement structure (\$40,000)
- Rehabilitation of Valmont Reservoir's Leggett Outlet (\$5,000)
- Improvements to the existing measurement structure at Valmont Reservoir's Leggett Inlet (\$1,000)

These costs are presently included in Xcel Energy's capital budget and we anticipate that they will be completed within the next 3 years.

Please let me know if you need additional information.

Sincerely,

Richard L. Belt, P.E., P.H.  
Water Resources Team Lead

Direct Line: 303.294.2198  
[Richard.L.Belt@xcelenergy.com](mailto:Richard.L.Belt@xcelenergy.com)

# ANDERSON DITCH COMPANY

1739 BROADWAY, SECOND FLOOR, BOULDER, CO 80302 · 303-441-4334

January 24, 2020

Colorado Water Conservation Board  
Craig Godbout – SPRT Staff Liaison  
1313 Sherman Street, Room 718  
Denver, CO 80203

**RE Water Supply Reserve Fund Grant Application for Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support**

Dear Craig,

The Anderson Ditch Company is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/Telemetry Installation Project. The addition of telemetry to Anderson's flume will help us to understand flows on a real-time basis and inform our operations, coordination with the Water Commissioner and deliveries to our shareholders in an efficient manner.

Anderson is pledging the following in-kind support:

- \$25,000 for flume upgrades. This work is currently scheduled to occur during winter 2020. We expect the work to be complete by the time the telemetry project would be ready to begin installation.

We look forward to working with Brent Schantz and DWR on this project.

Sincerely,



Kim Hutton  
President  
Anderson Ditch Company