

**Water Supply Reserve Account – Grant and Loan Program**  
**Water Activity Summary Sheet**  
**March 18-19, 2015**  
**Agenda Item 17(o)**

**Applicant & Program Sponsor:** Upper Yampa Water Conservancy District

**Water Activity Name:** Upper Yampa Water Conservancy District Master Plan Modeling

**Water Activity Purpose:** Study

**County:** Routt & Moffat

**Drainage Basin:** Yampa

**Water Source:** Yampa River Watershed

**Amount Requested/Source of Funds:** \$25,000 Yampa/White/Green Basin Account

**Matching Funds:** Applicant Cash Match (\$25,000) = 50% of total study costs (\$50,000)

**Staff Recommendation:**

Staff recommends approval of up to \$25,000 from the Yampa/White/Green Basin Account to help fund the study titled: Upper Yampa Water Conservancy District Master Plan Modeling.

**Water Activity Summary:** WSRA funds will be expended to fund further development of the Yampa River CDSS model used in the Roundtable’s “Projects and Methods (P&M) Study”. This is needed in order to refine proposed projects and their operations as discussed in the Draft Basin Implementation Plan (BIP). The Roundtable’s P&M study used StateMod/CDSS to evaluate river operations on the Yampa and White Rivers in order to increase the understanding of how the rivers might operate under various weather conditions, growth scenarios, and under strict administration. The current reports from the study make it clear that the hydrologic situation, water rights and their administration, proposed storage projects and their operation interact in complex ways to control the consumptive and non-consumptive uses of the rivers. In order to have the outcomes of proposed projects meet needs suggested in the draft BIP it will be important to develop local capacity to evaluate these operations. Developing this capacity locally, within the UYWCD, is the goal of this grant request.

**Discussion:** No further discussion is required

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

**Threshold and Evaluation Criteria:**

The application meets all four Threshold Criteria

**Tier 1-3 Evaluation Criteria:** n/a

**Funding Summary/Matching Funds:**

|  | <u>Cash</u>     | <u>In-kind</u> | <u>Total</u>    |
|--|-----------------|----------------|-----------------|
| WSRA Gunnison Basin Account            | \$25,000        | n/a            | \$25,000        |
| Upper Yampa Water Conservancy District | \$25,000        | n/a            | \$25,000        |
| <b>Total Project Costs</b>             | <b>\$50,000</b> | <b>\$0</b>     | <b>\$50,000</b> |

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

February 3, 2015

Craig Godbout  
Colorado Water Conservation Board  
1313 Sherman Street, Suite 721  
Denver, CO 80203

**RE: Water Information Dashboards**

Dear Craig,

The South Platte Basin Roundtable has approved the subject application for funding through our Basin's Water Supply Reserve Account (WSRA), and we are hereby recommending this application for funding from the State Account.

The proposed project will deliver individual Dashboards for five water users in the South Platte Basin, and the resulting toolbox of open-source water information management software modules will be made available to water users throughout Colorado. The functions of the proposed toolbox include water information import, processing, and delivery that could increase the water use efficiency of water users and administrators. Advantages of these tools include improved timing of water application, improved storage strategy and timing, more effective sharing and distribution of water, and improved operational efficiency. All of these would be benefits within the South Platte Basin water community and throughout our state.

During its January 13, 2015 meeting, the Roundtable members voted unanimously to allocate \$20,000 from the South Platte Basin Funds for this project and to recommend that the CWCB Board approve \$200,000 for the project from the Statewide Account at the March 2015 meeting.

Please don't hesitate to contact me if there are any additional questions. Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sean T. Cronin".

Sean T. Cronin  
Chair, South Platte Basin Roundtable

## **Exhibit C**

### **Letters of Support**

The partners in this project represent a significant interest among South Platte water users.

- Central Colorado Water Conservancy District
- Farmers Independent Ditch Company
- Greeley Irrigation Company
- Platte Valley Irrigation Company
- United Water and Sanitation District

This application has been approved by the South Platte basin roundtable. Letters of support may also be received from the Metro and Arkansas roundtables. Each of these roundtables will deliver these statements directly to the WSRA Program. The following letters of support are attached to this application:

- Chuck Mitisek, President, Redlands Power and Water Company, Grand Junction
- Dave Nettles, Division Engineer, DWR Division One
- Doug Stenzel, Chief of Water Information, DWR

REDLANDS WATER & POWER COMPANY  
2216 SOUTH BROADWAY  
GRAND JUNCTION, COLORADO  
81507  
970-243-2173  
e-mail [redlandswp@bresnan.net](mailto:redlandswp@bresnan.net)

December 10, 2014

Leonard Rice Engineers, Inc.  
1212 Auraria Parkway  
Denver, CO 80204  
Fax 303-455-0115

RE: Ditch Dashboard Grant Letter of Support

To Whom It May Concern,

We are aware of the WSRA grant application, through the South Platte River Basin, proposing creation of "Water Information Dashboards" for increased water use efficiency. The proposed project will deliver individual Dashboards for water users in that Basin. The resulting toolbox (or modules) of water information management tools will also be made available to other water users Statewide providing the building blocks for similar systems in other Basins.

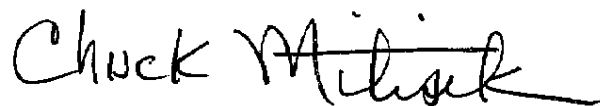
Redlands Water and Power Company has been approached by Leonard Rice Engineers for a letter of support for the proposed WSRA grant application for "Water Information Dashboards". Although, not a direct beneficiary of the Grant, we recognize that the development and use of universal tools and technology to operate our system more efficiently while meeting the increasing reporting requirements of State and Federal Agencies is critical.

The development of these tools is an economical solution that will provide a resource for the water community as a whole. In turn it could help to promote better and more accurate information for the management of each system. We believe this project would benefit the Gunnison River Basin water community and other Basins throughout the State.

As such, we hereby support approval of the WSRA grant application for Water Information Dashboards.

Thank you for including us in this project. We look forward to the results.

Sincerely,



Chuck Mitisek, Board President  
REDLANDS WATER AND POWER COMPANY



John Rodgers <[john.rodgers@lrewater.com](mailto:john.rodgers@lrewater.com)>

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## Water Information Dashboards

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**Nettles - DNR, David** <[david.nettles@state.co.us](mailto:david.nettles@state.co.us)>

Fri, Dec 19, 2014 at 7:13 AM

To: John Rodgers <[john.rodgers@lrewater.com](mailto:john.rodgers@lrewater.com)>

Cc: "Aguilar - DNR, Caren" <[Caren.Aguilar@state.co.us](mailto:Caren.Aguilar@state.co.us)>, "Flink - DNR, Louis" <[louis.flink@state.co.us](mailto:louis.flink@state.co.us)>, "Schantz - DNR, Brent" <[brent.schantz@state.co.us](mailto:brent.schantz@state.co.us)>

John,

Thank you for your presentation to me and my staff last week on the Water Information Dashboards and the WSRA Grant application you are pursuing.

I believe the Water Information Dashboards will be beneficial to South Platte water users by allowing them to quickly and easily view water information pertinent to their needs. This should greatly aid them in their decision making such that they can be more efficient and better optimize use of their available water supplies. It may also, to the extent allowed by law, facilitate water sharing within the South Platte water system as a whole by allowing users to more easily "see" opportunities to coordinate more efficient water operations with other water users that are otherwise not immediately apparent. To the extent that DWR personnel also have access to the information in the various Water Information Dashboards, it should allow us to be more efficient in meeting our goal of optimizing beneficial use within the priority system.

Regards,  
Dave

David L. Nettles, P.E.  
Division Engineer  
Water Division 1



**COLORADO**

Division of Water Resources

Department of Natural Resources

P [970.352.8712](tel:970.352.8712) x 1208 | F [970.392.1816](tel:970.392.1816) | C [970.590.1472](tel:970.590.1472)

810 9th Street, Suite 200, Greeley, CO 80631

[david.nettles@state.co.us](mailto:david.nettles@state.co.us) | [www.water.state.co.us](http://www.water.state.co.us)



## Arkansas Basin Roundtable

PLANNING OUR  
WATER FUTURE

Leonard Rice Engineers, Inc.  
c/o Mary Presecan  
1221 Auraria Parkway  
Denver, CO 80204

Re: WSRA grant application to build Water Information Dashboards

To Whom It May Concern,

We are aware of the WSRA grant application, through the South Platte River Basin Roundtable, proposing creation of "Water Information Dashboards" for increased water use efficiency. The proposed project will deliver individual Dashboards for water users in that Basin, and the resulting toolbox of open-source water information management software modules will be made available to water users throughout Colorado.

The functions of the proposed toolbox include water information import, processing, and delivery that could increase the water use efficiency of water users and administrators in Division 2. Advantages of these tools include improved timing of water application, improved storage strategy and timing, more effective sharing and distribution of water, and improved operational efficiency. All of these would be benefits within the Arkansas basin water community and throughout the State.

There is a separate scope of work with the CWCB and DWR Division 2 for an "Arkansas Basin Operational Tools Pilot" project. This Pilot project will use the same technology as the proposed Water Information Dashboard project, and thus the two projects would complement each other, and both would have enhanced outcomes by virtue of the other project.

As such, we hereby support approval of the WSRA grant application for Water Information Dashboards.

From: Arkansas Basin Roundtable



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

December 26 2014

John Rodgers  
Leonard Rice Engineers  
1221 Auraria Parkway  
Denver, CO 80204

**SUBJECT: WSRA grant application**

Dear Mr. Rodgers,

This letter is regarding your WSRA grant application in the South Platte River basin proposing the creation of "Water Information Dashboards" to support water use and operational efficiencies. The proposed project goals to provide water users with a set of reusable modules that can be combined to build customized Water Information Dashboards to affect more efficient operations, improve communication for better water sharing and collaboration complements the State's mission.

Specific advantages of improved and more real-time information management include better timing of water application, improved storage strategy and timing, more effective use of water, better water sharing practices, improved accounting and reporting, and greater operational efficiency. All of these would be benefits within the South Platte River basin water community and throughout the State.

As such, we support approval of the South Platte BRT WSRA grant application for Water Information Dashboards.

Sincerely,

Doug Stenzel  
Chief of Water Information





February 18, 2015

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

Re: *Water Information Dashboards*, WSRA Grant Application

Dear Mr. Godbout,

The Metro Roundtable has received a presentation regarding the WSRA grant application that proposes creation of "Water Information Dashboards" for increased water use efficiency. The proposed project will deliver individual Dashboards for water users in the South Platte River Basin, and the resulting toolbox of open-source water information management software modules will be made available to water users throughout Colorado.

The functions of the proposed toolbox include water information import, processing, and delivery that could increase the water use efficiency of water users in the Denver Metro area. Advantages of these tools include improved timing of water application, improved storage strategy and timing, more effective sharing and distribution of water, and improved operational efficiency. All of these would provide benefits to the Denver Metro area water community and throughout the State.

Upon review and consideration of this grant application by the Metro Roundtable, a motion was made and seconded to recommend that the CWCB approve funding from the WSRA Statewide account for this application. A quorum of the Metro Roundtable unanimously approved that motion at its February 11, 2015 meeting.

Please call if you have any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark K. Koleber".

Mark Koleber, Chair  
Metro Roundtable



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Ditch and Reservoir Company Alliance

January 2, 2015

John Rodgers  
Leonard Rice Engineers, Inc.  
1221 Auraria Parkway  
Denver, CO 80204

Re: Water Supply Reserve Account Proposal for Water Information Dashboards

Dear John:

The Ditch and Reservoir Company Alliance (DARCA) enthusiastically supports Central Colorado Water Conservancy District's application for its Water Information Dashboards proposal. Colorado's ditch and reservoir companies are always in need of appropriate technologies to help their systems become more efficient and to prosper in the years to come. DARCA's base of agricultural interests is constantly seeking ways to enhance the sustainability of irrigated agriculture.

Although ditch companies come in all shapes and sizes, we can foresee how different ditch companies across the state would have needs for the various modules outlined in the proposal. What is especially significant is that the proposal calls for the integration of these modules to be placed on a web platform.

DARCA is always willing to help in finding potential users among ditch companies and also to disseminate information from the project deliverables.

Please feel free to contact DARCA if you need any assistance.

Regards,

John D. McKenzie  
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|--|
| <p>1630A 30<sup>th</sup> Street, #431, Boulder, CO 80301<br/>Tel: (970) 412-1960 Fax: (303) 516-1202 - Email: <a href="mailto:john.mckenzie@darca.org">john.mckenzie@darca.org</a></p> |
|--|

February 3, 2015

Craig Godbout  
Colorado Water Conservation Board  
1313 Sherman Street, Suite 721  
Denver, CO 80203

**RE: Water Information Dashboards**

Dear Craig,

The South Platte Basin Roundtable has approved the subject application for funding through our Basin's Water Supply Reserve Account (WSRA), and we are hereby recommending this application for funding from the State Account.

The proposed project will deliver individual Dashboards for five water users in the South Platte Basin, and the resulting toolbox of open-source water information management software modules will be made available to water users throughout Colorado. The functions of the proposed toolbox include water information import, processing, and delivery that could increase the water use efficiency of water users and administrators. Advantages of these tools include improved timing of water application, improved storage strategy and timing, more effective sharing and distribution of water, and improved operational efficiency. All of these would be benefits within the South Platte Basin water community and throughout our state.

During its January 13, 2015 meeting, the Roundtable members voted unanimously to allocate \$20,000 from the South Platte Basin Funds for this project and to recommend that the CWCB Board approve \$200,000 for the project from the Statewide Account at the March 2015 meeting.

Please don't hesitate to contact me if there are any additional questions. Thank you for your consideration.

Sincerely,



Sean T. Cronin  
Chair, South Platte Basin Roundtable



# COLORADO WATER CONSERVATION BOARD



## WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

**Today's Date:** January 30, 2015

Water Information Dashboards for Improved Efficiency, South Platte Basin and Statewide

### Name of Water Activity/Project

Central Colorado Water Conservancy District (CCWCD)

### Name of Applicant

South Platte

**Amount from Statewide Account:** 200,000.00

**Amount from Basin Account(s):** 20,000.00

**Total WSRA Funds Requested:** 220,000.00

### Approving Basin Roundtable(s)

*(If multiple basins specify amounts in parentheses.)*

**FEIN**

### Application Content

|  |         |
|--|---------|
| Application Instructions                       | page 3  |
| Part I – Description of the Applicant          | page 5  |
| Part II – Description of the Water Activity    | page 7  |
| Part III – Threshold and Evaluation Criteria   | page 11 |
| Part IV – Required Supporting Material         |         |
| Water Rights, Availability, and Sustainability |         |
| Related Studies                                |         |
| Signature Page                                 |         |

### Required Exhibits

- Statement of Work, Budget, and Schedule
- Project Map
- Letters of support, schematic, image, project map

## Water Supply Reserve Account – Application Form

Revised October 2013

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### **Instructions**

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCBC). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCBC staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCBC website at: <http://cwcb.state.co.us> Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: <http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf>

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Craig Godbout - WSRA Application  
Colorado Water Conservation Board  
1580 Logan Street, Suite 200  
Denver, CO 80203  
[Craig.godbout@state.co.us](mailto:Craig.godbout@state.co.us)

If you have questions or need additional assistance, please contact Craig Godbout at: 303-866-3441 x3210 or [craig.godbout@state.co.us](mailto:craig.godbout@state.co.us).

## Water Supply Reserve Account – Application Form

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### Part I. - Description of the Applicant (Project Sponsor or Owner);

|    |                    |   |                 |                    |
|----|--------------------|---|-----------------|--------------------|
| 1. | Applicant Name(s): | Central Colorado Water Conservancy District     |                 |                    |
|    | Mailing address:   | CCWCD<br>3209 W 28th Street<br>Greeley CO 80634 |                 |                    |
|    | FEIN #:            |   |                 |                    |
|    | Primary Contact:   | Randy Ray                                       | Position/Title: | Executive Director |
|    | Email:             | rray@ccwcd.org                                  |                 |                    |
|    | Phone Numbers:     | Cell:   | Office:         | 970-330-4540       |
|    | Alternate Contact: | Lynn Kramer                                     | Position/Title: | Contracts Manager  |
|    | Email:             | lkramer@ccwcd.org                               |                 |                    |
|    | Phone Numbers:     | Cell:   | Office:         | 970-330-4540       |

### 2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

- ☐ Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
- ☒ Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.
- ☐ Private Incorporated – mutual ditch companies, homeowners associations, corporations.
- ☐ Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
- ☐ Non-governmental organizations – broadly defined as any organization that is not part of the government.

## Water Supply Reserve Account – Application Form

Revised October 2013

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3. Provide a brief description of your organization

The Central Colorado Water Conservancy District, in the South Platte Basin, was formed to develop, manage and protect water resources in northeast Colorado. CCWCD currently provides water augmentation and decree administration for over 1100 irrigation wells within the district. District boundaries cover land from Brighton north to Greeley, and east to Fort Morgan, encompassing parts of three different counties. The main District and two Subdistricts own an extensive portfolio of water rights, including ditch, river and reservoir shares. We administer dozens of water management sites, covering reservoirs to recharge ponds.

The home office is located in Greeley, though field staff can be found anywhere from Wiggins to Denver. Central has a court appointed Board of Directors, currently at 15 members. Board of Director meetings are held the third Tuesday of every month and are open to the public.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

CCWCD shall act as the Project Sponsor

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.



The Applicant will be able to contract with the CWCB using the Standard Contract



The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. 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.

N/A

## Water Supply Reserve Account – Application Form

Revised October 2013

### Part II. - Description of the Water Activity/Project

1. What is the primary purpose of this grant application? (Please check only one)

☐

Nonconsumptive (Environmental or Recreational)

☒

Agricultural

☐

Municipal/Industrial

☐

Needs Assessment

☐

Education

☐

Other

Explain:

2. If you feel this project addresses multiple purposes please explain.

The tools developed by this project will be available to help future municipal and industrial users achieve water use efficiency improvements. As instruments of information collection and transfer, the products of this project may support Needs Assessment activities. Recreational and environmental benefits are realized from this project in the form of improved reservoir and streamflow operations.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

☐

Study

☒

Implementation

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

New Storage Created (acre-feet)

New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)

Existing Storage Preserved or Enhanced (acre-feet)

Length of Stream Restored or Protected (linear feet)

Length of Pipe/Canal Built or Improved (linear feet)

Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)

Area of Restored or Preserved Habitat (acres)

Other -- Explain:

This project supports improved storage and streamflow quality and operational efficiency.



## Water Supply Reserve Account – Application Form

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4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude:

see Exhibit B map

Longitude:

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

Among the goals in the South Platte and Metro Basin Implementation Plan are to “develop new voluntary measures to sustain irrigated agriculture”, to establish “systems where farmers can decide for themselves how to manage their water rights while...offering potential new transactional methods to help lessen the associated impacts on others”.

To support these goals, the range of needs for water information and operational management tools, in the South Platte Basin and throughout Colorado, is incredibly broad. However, by commercial software standards, it is not a large user community and individual needs are complex and diverse. Historically this has made it difficult for traditional software development projects to successfully meet the needs of Colorado water entities. This project proposes to leverage free technology and build on existing tools to assemble a platform and toolbox of reusable Water Information modules that belong to the Colorado water community and will continue to be updated and extended collectively over time.

This project will begin with a Statewide Needs Assessment in coordination with the DWR. The project will deliver “Water Information Dashboards” to the cash-matching partners to integrate separate data management and analysis tools, or “modules,” into a single, web-based interface, to support more efficient operations, transparent communication and better water sharing and collaboration. Dashboard “modules” are the reusable programs and functions that can be combined in different ways to make unique Dashboards from a common set of tools. Modules will share a fundamental code base, be based on the same technology, and be non-proprietary. Examples of module functions include:

1. Web pages that combine live data from multiple sources;
2. Web map interfaces for data access and system management;
3. River call data feeds that users can tailor to specific administrative locations;
4. Collaborative water exchange and sharing forums;
5. Mobile device friendly tools for field data entry or system operations;
6. Automated reporting for stakeholders and administrators;
7. Web-based spreadsheet water accounting that links to real-time data sources.

This project will include updating previously developed tools and creating new tools, and delivering a suite of modern, web-based Dashboard modules in a common technology framework. All of the modules created in this project will be made available to users statewide in an open-source repository. A comprehensive “wish list” of additional Dashboard modules will be developed from a series of working meetings around the state to lay the groundwork for future development to meet the needs of users, various interests and other Basins not directly benefited from this initial project.

The project long term vision includes a wide range of module functions to support a variety of local, regional and Statewide challenges. This project will focus on meeting current needs of the cash-matching partners in the South Platte Basin, and will capitalize on work already in progress and existing tools in Divisions 1 and 2. As leaders in sustainable water management practices, this work in the South Platte and Arkansas basins can serve as a template for further work. With up-front investment by the CWCB, water users throughout Colorado can have access to custom water management tools that fit very their very specific needs, built from a common store of modular and reusable components.

## Water Supply Reserve Account – Application Form

Revised October 2013

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### Part III. – Threshold and Evaluation Criteria

1. Describe how the water activity meets these **Threshold Criteria**. (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

- a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.<sup>1</sup>

The proposed activities support water administration in accordance with existing decrees, and do not impair, limit or otherwise affect existing decrees or other water rights. No new diversions or allocation of existing diversions is proposed. This project shall conform to the requirements and language of the above Statute. We affirm the prior appropriation doctrine and water rights adjudication system as presented in C.R.S. 37-75-102.

- b) The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRT's evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

This application was approved for funding by the South Platte Basin Roundtable. No minority opinions were expressed in their approval. The Chairman of the South Platte Roundtable will send their letter of approval directly to the WSRA Program coordinator.

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<sup>1</sup> 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

## Water Supply Reserve Account – Application Form

Revised October 2013

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- c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.<sup>2</sup> The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

This proposed water activity will engage a wide range of stakeholders, to develop information management tools useful to a variety of Colorado water entities, for improvements in efficiency and efficacy of their water use and sharing operations. The products delivered to individual water users within the South Platte Basin and to the State will promote more efficient water operations and water sharing intra-Basin, as well as information sharing and collaboration inter-Basin and with the State.

- d) **Matching Requirement:** For requests from the **Statewide Fund**, the applicants will be required to demonstrate a 25 percent (or greater) match of the total grant request from the other sources, including by not limited to Basin Funds. A minimum match of 5% of the total grant amount shall be from Basin funds. A minimum match of 5% of the total grant amount must come from the applicant or 3rd party sources. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

The following is the high level summary regarding matching funds:

|  |           |
|--|-----------|
| WSRA Statewide Account, proposed request:          | \$200,000 |
| WSRA South Platte Basin account, proposed request: | \$20,000  |
| Matching contributions, cash and in-kind:          | \$112,200 |

These proposed matching amounts satisfy the percentage requirements stated above, and demonstrate the commitment to these collective project goals, unattainable without grant support. The budget in exhibit A provides further details of proposed project costs, matching contributions, and grant requests.

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<sup>2</sup> 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

## Water Supply Reserve Account – Application Form

Revised October 2013

2. For Applications that include a request for funds from the **Statewide Account**, describe how the water activity/project meets all applicable **Evaluation Criteria**. (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

**Evaluation Criteria** – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three “tiers” or categories. Each “tier” is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

### Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

- a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).
- b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.
- c. The water activity helps implement projects and processes identified as helping meet Colorado’s future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable’s basin-wide water needs assessment.

### Tier 2: Facilitating Water Activity Implementation

- d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).
- e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

### Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

- f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.
- g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.
- h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.
- i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.
- j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

## Water Supply Reserve Account – Application Form

Revised October 2013

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Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria**.

**Please attach additional pages as necessary.**

See attached pages.

## Water Supply Reserve Account – Application Form

Revised October 2013

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### Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

Water supplies for the proposed project originate from groundwater and surface water flows within the South Platte Basin. This project does not propose the development of any new water right or diversion, nor does it propose the re-allocation of any existing diversion. This project promotes more efficient operational use of existing water rights, which increases the agricultural and other values realized from existing water resources, and enhances sustainability of those resources.

2. Please provide a brief narrative of any related studies or permitting issues.

There are no permitting requirements associated with this project. Related studies and activities, which this project will coordinate with and complement, include the following: the water administration and information management tools and other activities of the Lower South Platte Water Conservancy District; Division 1 DWR Data Loggers installation; the Alluvial Aquifer Accretion Depletion Analysis Tool; and others to be identified in the project discovery stage.

3. Statement of Work, Detailed Budget, and Project Schedule

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement.** All WSRA funds are disbursed on a reimbursement basis after review invoices and appropriate backup material.

**Please provide a detailed statement of work using the template in Exhibit A.** Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

## **REPORTING AND FINAL DELIVERABLE**

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion 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.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## **PAYMENT**

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

## Water Supply Reserve Account – Application Form

Revised October 2013

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The above statements are true to the best of my knowledge:

**Signature of Applicant:**

**Randy W. Ray**

Digitally signed by Randy W. Ray  
DN: cn=Randy W. Ray, o=CCWCD,  
ou, email=rray@ccwcd.org, c=US  
Date: 2015.01.30 12:47:00 -07'00'

**Print Applicant's Name:** Randy Ray, Executive Director CCWCD

**Project Title:** Water Information Dashboards

**Return an electronic version (hardcopy may also be submitted) of this application to:**

Craig Godbout – WSRA Application  
Colorado Water Conservation Board  
1580 Logan Street, Suite 200  
Denver, CO 80203  
[craig.godbout@state.co.us](mailto:craig.godbout@state.co.us)



## **Tier 1 - Promoting Collaboration / Cooperation and Meeting Water Management Goals and Identified Water Needs**

- a. *The water activity addresses multiple needs or issues, including consumptive needs, or the needs and issues of multiple interests or multiple basins.*

Water Information Dashboard “modules” will support different water management needs, including things like real-time data publishing, aggregation and visualization of data from multiple sources, and automated calculation of values key to efficient water management such as daily effective precipitation or availability of water under right with volumetric limits. The purpose of an implemented Dashboard is to bring different functions together for groups of users in ways that create new collaboration, cooperation and coordination opportunities currently missing or difficult to achieve with existing resources. Since each Dashboard implementation is unique, the range of needs, uses and interests supported can be defined for that Dashboard and then met by assembling the required modules.

The initial project deliverables will primarily support agriculture and water use efficiency primarily. Municipal users will also benefit in terms of water efficiency and operational cost savings. Environmental and Recreational benefits will be realized in terms of improved stream and ditch management, and more effective reservoir management.

Multiple interests will benefit from the implementation of these Water Information Dashboards. Colorado water users will ultimately include Water Districts, municipalities, ditch and reservoir companies, and any other water users and administrators within the Basin who will benefit from accurate real-time data and information for efficient water management.

Water Information Dashboards can promote water management efficiency for individual water users, among water users within a Basin, and ultimately between Basins and across the State, wherever efficient water information management or sharing is desired.

- b. *The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intra-basin or interbasin needs or issues.*

We propose focusing a significant portion of this effort on identifying and developing Dashboard functions that support Division 1 and 2 water management needs and on the implementation of three to four Dashboards that support specific South Platte water users and administrators. To set the stage for larger scale benefits, we want to also include meetings with water users and DWR staff in every other Colorado Division to 1) identify additional functions or tools that would be uniquely supportive of those areas and 2) note functions being developed for Division 1 that would also be useful in other divisions. These

discussions will help prioritize development under this scope and begin defining where it would be most beneficial to focus efforts next.

- c. *The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.*

Water Information Dashboards will enhance the efficiency of water management, reduce system losses, optimize timing and collaboration, improve storage efficiency, and other benefits to address future supply gaps. The modules developed under this activity will be non-proprietary and based on open source technology. Other water information management and collaboration projects being conducted concurrently with this work may be supported and enhanced by this effort, even as the work is progressing. With open discussions among developers and the sharing of intermediate deliverables, these CWCB funded tools can add value to projects funded by other sources.

## **Tier 2: Facilitating Water Activity Implementation**

- d. *Funding from this Account will reduce the uncertainty that the water activity will be implemented.*

The probability that a system like this will be built without grant funds is very low. While there are many beneficiaries of the proposed system, the ability for these users to afford the “cost of entry” for their own system is very low. With grant funds, however, this project will be able to develop a Statewide platform and completed modules for the South Platte applicants, thereby “getting in front” of the cost of entry challenge, and making these water use efficiency tools available to a wide variety of Colorado water entities.

For more than five years LRE has been creating water information management tools for Colorado clients. Each project has been driven by very specific user needs and funding, with limited potential to create adaptable tools that can be re-used for other users and purposes. This project application is asking for financial support for activities that focus on a broad range of users and interests; to properly document and upgrade already developed tools so they can be understood and used by others; to identify and fill in functional gaps with new tools; to reach out to other regions, users, administrators, and public interests to understand where the common needs are that can be addressed with these tools. With funding from this account, a Statewide Water Information Dashboard system platform will be delivered, so that future individual Dashboards can support improved water use efficiency at a cost that individual water users can afford.

- e. *The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant and*

*appropriate commitment to the project.*

In addition to matching cash and in-kind contributions, this project will leverage past work and build on non-proprietary tools that were funded by a number of different public and private entities. The code developed for these projects an advanced starting point for this project. Beyond the project Applicants, the entities below can also benefit from this project. While much of this previous work is too dated to qualify as “in-kind” contribution, the investments made by the following organizations are extremely valuable:

**Central Colorado Water Conservancy District (CCWCD)** - Starting in 2007, CCWCD has paid LRE to develop many data processing and analysis tools and functions for calculating well pumping, depletions and accretions, flow shift/adjustment tools and web-based recharge pond accounting and depletion/recharge lagging tools. CCWCD has been committed to the use of open source technology and reusable approaches. The tools developed for CCWCD will serve as the largest store of existing code to be leveraged for this work. CCWCD’s existing modules and dashboards will be updated and they will receive one of the implemented Dashboards included within the scope of this work.

**Greeley Irrigation and Canal Company (GIC)** - In 2012 GIC funded the development of a web-based accounting/reporting tool for Canal No. 3 shareholders to get daily cfs/share values automatically calculated daily based on SCADA and telemetry data managed by City of Greeley. The tools developed for this Accounting Dashboard will be documented, updated and included in the first set of modules.

**JBS Five Rivers** - The first tools developed by LRE using the proposed open source technology and approach were funded by Five Rivers, in order to publish their real-time telemetry data tracking flows through an aug station so that DWR staff could access the data at any time. While this code has been updated since for other users, this funding helped kick off the original efforts.

**Urban Drainage and Flood Control District (UDFCD)** - UDFCD has been pushing the envelope on the development of web-based, non-proprietary water information and management tools since the early 2000s. UDFCD has funded breakthroughs in the development of web-based mapping interfaces, real-time graphical display of direct web services feeds, and web-interfaces to water analysis and modeling tools.

**Colorado Water Conservation Board (CWCB)** - Previous projects funded by CWCB lead directly to this work and funded some of the foundational components that will be immediately usable for Dashboards. In 2010, CWCB funded a web-interface that allowed stakeholders and decision makers to review StateMod model results. While the tool developed is no longer online, the technology behind it has been leveraged again and again for other users and other purposes. It remains our best example of state funds providing value in multiples of the originally funded amount. Recently, CWCB funded the development

of a user data entry portal for water efficiency plan data. The code used for that tool can be adapted to many other kinds of Dashboard functions.

**City and County of Broomfield** - Broomfield has funded the development of functions that bridge the gap between database and web tools designed for internal water users and the required excel-based reports needed for reporting to DWR. Automated Excel report generation from a web interface will be included in the first set of Dashboard modules.

**Boulder County** - Boulder County shared in funding code that uses Northern Colorado Water Conservation District web services data and combines it with other site specific data to automatically calculate daily reservoir evaporation.

**Caribou Ranch** - In addition to sharing the funding of automated daily reservoir evaporation calculations, Caribou Ranch funded an approach to leverage Google Spreadsheets and bring sophisticated spreadsheet water accounting into a web-site framework. This breakthrough will allow future Dashboards to include accounting along side data visualization and reporting.

### **Tier 3: The Water Activity Addresses other Issues of Statewide Value and Maximizes Benefits**

- f. *The water activity helps sustain agriculture, and open space, or meets environmental or recreational needs.*

In over-appropriated basins such as Divisions 1 and 2, collaboration and communication are becoming more fundamental to make efficient use of the limited water available. Dashboards are all about improving communication of water information and enabling collaboration between water users and water administrators. Most water diversion structures in Colorado's over-appropriated basins support multiple uses, as water rights have been changed over time to meet increasing municipal, industrial and augmentation uses. Dashboards allow users that share a diversion structure to better coordinate their activities. Dashboards can support regional operations involving multiple structures too, such as alternative water transfer strategies, water banking, reuse of western slope water to exhaustion, tracking and use of excess recharge pond accretions - the list goes on. All of these activities benefit multiple interests and water uses.

- g. *The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.*

Most of Colorado's basins cross out of the state with some kind of legal delivery requirements to our neighbors. Meeting these delivery obligations as Colorado grows and meets its own water demands will require innovation and coordination between many

interests and regions. We believe that the Water Information Dashboards concept can play a key role in this and the potential for a Statewide Compact Deliveries Dashboard is not outside the realm of reasonable imagination.

- h. *The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.*

Conflicting interests between consumptive and nonconsumptive water uses constantly challenge our attempts to balance environmental needs with human driven water uses. Open and transparent exchange of data and information is key to finding consensus between stakeholders and achieving win-win solutions to meeting consumptive use demands while balancing environmental needs. Water Information Dashboards can be a part of these win-win solutions.

- i. *The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.*

With this funding, a foundation can be created that others can build on. By investing this time and money in tools that are reusable, adaptable, and non-proprietary, the value realized over time as other projects leverage this work and other developers build on these modules will be multiples of the original investment.

- j. *The water activity is complementary to or assists in the implementation of other CWCB programs, for example water made available to the CWCB for the Stream and Lake Protection Program or compact compliance purposes.*

In addition to future CWCB funded efforts yet to be designed, this project builds on two specific prior CWCB funded projects and may complement several additional projects going on now. The 2010 Colorado River Water Availability Study (CRWAS) included the development of a web based tool for stakeholders and the public to explore StateMod modeling results. The technology behind that tool has been updated and reused many times since and will be a fundamental part of the original set of Dashboard modules created under this scope. More recently, CWCB funded the development of a Water Efficiency Data Portal, a web-based interface for water providers to enter their water efficiency plan data. The code developed for that work was consciously developed to be reusable in other Dashboards. Current efforts that may be complemented or enhanced by this work include (but are not limited to) the alternative water transfer methods program development in the Lower South Platte, groundwater level investigations and modeling in the Gilcrest/LaSalle stretch of the South Platte, and the Arkansas Basin water users' efforts to develop exchange tracking tools and make accounting of water in Pueblo Reservoir and the Arkansas River more transparent.