

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
July 16-17, 2014
Agenda Item 20(h)

Applicant: Colorado Water Trust

Water Activity Name: White River-Highland Ditch Diversion & Headgate Redesign

Water Activity Purpose: Agriculture/Study

County: Rio Blanco

Drainage Basin: Yampa

Water Source: White River

Amount Requested: \$30,000

Source of Funds: Yampa/White/Green Basin Account

Matching Funds: \$62,500 cash, or 68% total project cost (\$30,000 from private landowners/CWT; \$7,500 Trout Unlimited; \$25,000 CPW – refer to *Funding Overview/Matching Funds*)

Staff Recommendation
Staff recommends approval of up to \$30,000 from the Yampa/White/Green Basin Account to assist in the funding of the study titled: White River-Highland Ditch Diversion & Headgate Redesign.

Water Activity Summary: The CWT is requesting funding for a multi-purpose project, which will develop final engineering designs for the replacement of the Highlands Ditch diversion structure and headgate using a modern agricultural diversion system. The current ditch structure prevents fish migration during the irrigation season by entraining fish, and has the capability to sweep the White River. The existing design of the wing wall and overflow apron at the headgate of the diversion is such that even when a portion of the water flows back into the main channel of the river, fish are still swept into the ditch. Once the fish enter the ditch there is no way for them to return to the river on their own. In low water years, the push up dam across the river makes it impossible for any fish to bypass the dam and stay in the river. According to Colorado Parks and Wildlife, over 1,000 native and sport fish are stranded and die annually within the Highland Ditch system.

The new design will ensure full and efficient water delivery to the 29 Highland Ditch shareholders without negatively impacting water operations or the 5,000 irrigated acres. Additionally, the modern diversion system will reduce heavy equipment operating and labor costs for the ditch company and enhance stream health by minimizing fish entrainment into the ditch, eliminating aquatic habitat degradation and barriers to fish migration associated with the annual building of the push up dam across the river. When built in 2015, the new structure will reconnect 20 miles of healthy stream habitat, improve 4 miles of stream, and restore 2 acres of channel bed.

Discussion:

The redesign (and subsequent rebuilding) of the Highland Ditch on the White River will assist in meeting the agricultural water supply needs of the basin as identified in SWSI 2010, and addresses

the non-consumptive needs of the basin identified by SWSI in the Appendix D-9 Yampa/White Basin Mapping Results. The project area is listed as having “multiple environmental and recreational values including most extensive, valuable connectivity of the Colorado Cutthroat Trout populations in the Yampa/White/ Green basin...(and)... valuable private and public water fisheries providing significant economic benefits for the upper White basin.” SWSI NCNA also lists the State Threatened and Endangered Species, and Important Riparian Habitat. State Threatened and Endangered Species include Flannel mouth sucker, Colorado River Cutthroat Trout, and Northern leopard frog. Important Riparian Habitats include riparian and wetland dependent rare plants and significant riparian/ wetland plant communities.

Issues/Additional Needs:

No issues or additional needs have been identified.

Funding Overview/Matching Funds

	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
WSRA Yampa/White/Green Basin Account	\$30,000	n/a	\$30,000
Private Landowners/ CWT	\$30,000	\$0	\$30,000
Trout Unlimited	\$7,500	\$0	\$7,500
Fishing is Fun/ CPW	<u>\$25,000</u>	<u>\$0</u>	<u>\$25,000</u>
Total Project Costs	\$92,500	\$0	\$92,500

Staff Recommendation:

Staff recommends approval of up to \$30,000 from the Yampa/White/Green Account to assist in the funding of the study titled: White River-Highland Ditch Diversion & Headgate Redesign.

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 and Final Deliverable: 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. 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.

YAMPA/WHITE/GREEN BASIN ROUNDTABLE

June 9, 2014

Ms. Rebecca Mitchell
Water Supply Planning Section Chief
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203

Dear Ms. Mitchell,

The Yampa/White/Green Basin Roundtable voted at our May 15, 2014 meeting to approve the WSRA application from the Colorado Water Trust for \$30,000 from Basin Account funds. These funds will be used for the redesign/engineering of the Highland Ditch, a very senior agricultural diversion that irrigates over 5,000 acres in the White River basin just east of Meeker.


The project was discussed and evaluated by the Yampa/White/Green Basin Roundtable on April 16, 2014 and was presented for the second discussion and final vote on May 14, 2014. One member voiced concern regarding the potential for the Highland Ditch Company's 1880's senior water right to place a call on the river and impact junior rights higher in the basin if this project is built. Others noted the ditch company has the right to place a call now, although in times of drought, the ditch company has a history of working collaboratively with other water users in the basin.

There was discussion regarding the importance of balancing the size the of the fish screened out of the ditch with expense and maintenance issues that may likely be encountered on a ditch of this magnitude. The Highland Ditch Company and the Colorado Water Trust are working collaboratively with Colorado Parks and Wildlife to address these issues during the design phase.

A presentation will be scheduled for the Roundtable next winter to present the findings and proposed design of the project. It is anticipated that a second grant will be requested to fund a portion of the construction phase of the project proposed for fall of 2015 pending approvals and availability of funds.

After discussion, there was agreement that this multi-purpose project was good for agriculture and the environment and would provide non-consumptive benefits in the White River Basin. Please don't hesitate to contact me with any questions.

Sincerely,



Jon Hill

CHAIR, Y/W/G BASIN ROUNDTABLE

COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM



Today's Date: May 8, 2014

White River-Highland Ditch Diversion & Headgate Redesign

Name of Water Activity/Project

Colorado Water Trust on behalf of Highland Ditch Company

Name of Applicant

Yampa/White/Green

Amount from Statewide Account:

NA

Amount from Basin Account(s):

\$30,000

Approving Basin Roundtable(s)

(If multiple basins specify amounts in parentheses.)

Total WSRA Funds Requested:

\$30,000

FEIN: 84-1606567



The Highland Ditch Company has diverted irrigation water from the White River since the 1880's. The headgate design allows fish to become entrained in the Ditch and the diversion structure prevents fish migration during irrigation season. This proposal is to redesign the diversion structure and headgate to include a fish screen that ensures the ditch can divert their full 250cfs water right without negatively impacting water operations or fish.

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

1.	Applicant Name(s):	Colorado Water Trust		
	Mailing address:	1420 Ogden Street, Suite A2 Denver, CO 80218		
	FEIN #:	84-1606567		
	Primary Contact:	Amy Beatie	Position/Title:	Executive Director
	Email:	abeatie@coloradowatertrust.org		
	Phone Numbers:	Cell: 720-204-5843 direct	Office:	720-570-2897
	Alternate Contact:	Caroline Bradford	Position/Title:	Fundraising Coordinator
	Email:	carolinebradford@wildblue.net		
	Phone Numbers:	Cell: 970-688-0812	Office:	970-688-0812

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.

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3. Provide a brief description of your organization

The Colorado Water Trust is a private, nonprofit organization that engages in and supports voluntary efforts to restore and protect stream flows in the State of Colorado. These efforts include permanent acquisitions of water, leases of water and physical solutions that achieve water conservation benefits.

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

Colorado Water Trust is the project sponsor and the contracting entity on behalf of the Highland Ditch Company. The Highland Ditch Company is the owner of the diversion structure. The Elk Creek Ranch Owners Association is the owner of the parcel where the headgate for the ditch is located. Both Elk Creek Ranch Owners Association and Highland Ditch Company are providing support for the project.

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.

Not applicable. There are no TABOR issues that may affect the applicant.

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Part II. - Description of the Water Activity/Project

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

<input type="checkbox"/>	Nonconsumptive (Environmental or Recreational)
<input checked="" type="checkbox"/>	Agricultural
<input type="checkbox"/>	Municipal/Industrial
<input type="checkbox"/>	Needs Assessment
<input type="checkbox"/>	Education
<input type="checkbox"/>	Other

Explain:

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

This multi-purpose project will provide a design to replace the existing Highland Ditch diversion structure with a redesigned, rebuilt structure so that fish entrainment into the ditch is significantly minimized and aquatic habitat degradation and barriers to fish migration associated with the annual building of the push up dam across the river are significantly reduced.

When built, the project will reduce heavy equipment operating & labor costs for the ditch company and enhance stream health, while ensuring full and efficient water delivery of decreed rights to the Highland Ditch shareholders without negatively impacting water operations. This phase of the project will provide the design and engineering for a modern agricultural water diversion system to 29 shareholders in the Highland Ditch Company--a diversion that has irrigated over 5,000 acres since the 1880's.

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

<input checked="" type="checkbox"/>	Study	<input type="checkbox"/>	Implementation
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4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

<input type="text"/>	New Storage Created (acre-feet)
<input type="text"/>	New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)
<input type="text"/>	Existing Storage Preserved or Enhanced (acre-feet)
<input type="text"/>	Length of Stream Restored or Protected (linear feet)
<input type="text"/>	Length of Pipe/Canal Built or Improved (linear feet)
<input type="text"/>	Efficiency Savings (acre-feet/year OR dollars/year – circle one)
<input type="text"/>	Area of Restored or Preserved Habitat (acres)
<input checked="" type="checkbox"/>	Other -- Explain:

When built in 2015, 20 miles healthy stream habitat will be reconnected; 4 miles will be directly improved: 2 acres of channel bed will be restored.

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

Latitude:

39°58'N

Longitude:

107°48'W

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.

PROJECT OVERVIEW: The purpose of this project is to complete the engineering and design in 2014 so that the existing Highland Ditch diversion structure can be replaced with a redesigned, rebuilt structure in fall of 2015. The project is needed to provide a more efficient, modern agricultural diversion system for the shareholders that significantly minimizes fish entrainment into the ditch and eliminates aquatic habitat degradation and barriers to fish migration associated with the annual building of the push up dam across the river.

The Highland Ditch Company, (established 1880's), has the ability to divert over 200 cfs of agricultural irrigation water from the White River at the Highland Ditch diversion structure, about 10 miles east/upstream of Meeker, CO. The Highland Ditch Company provides water to 29 shareholders who irrigate over 5,000 acres of productive hay meadows and livestock pastures in the White River valley.

The ditch company has historically constructed and annually maintained a gravel/cobble push up dam as the diversion structure in order to get the irrigation water from the main river channel into the headgate. This temporary dam is about 250' wide x 8' high and spans the main channel of the White River from the north bank to a mid channel island. The headgate is on the left bank/south side of the river and is about 15' wide and 8' tall, with a wide concrete wing wall that reaches out to the mid channel island as well.

The combination of the push up dam and headgate structures and layout has the capability to sweep the river and is a barrier to fish migration in the White River. At the same time, significant numbers of fish are swept into the ditch. The existing design of the wing wall and overflow apron at the headgate of the diversion is such that even when a portion of the water flows back into the main channel of the river, fish are still swept into the ditch. Once the fish enter the ditch there is simply no way for them to return to the river on their own. It is commonly thought that the mortality rate of fish once they have entered the ditch is 98%. In low water years, the push up dam across the river makes it virtually impossible for any fish to bypass the dam and stay in the White River. According to Colorado Parks and Wildlife, the result is that over 1,000 native and sport fish are stranded in the ditch and die annually within the Highland Ditch system.

WHAT WSRA FUNDING WILL BE USED FOR:

- WSRA funds will be used for tasks started after Notice To Proceed (NTP)has been received from the state.
- Matching funds will be used to complete engineering project tasks during the 9 months prior to NTP by the state.

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1. ENGINEER MEETINGS WITH STAKEHOLDERS on site and phone meetings and general coordination.
2. PRELIMINARY DESIGN, including materials sizing, plan and profile exhibits, cross sections (existing and proposed), cut/fill quantities, diversion and headgate, fish screen and supporting elements, construction cost estimates, preliminary design report.
3. PERMITTING, including coordination with Army Corps of Engineers.
4. FINAL DESIGN BUILD DOCUMENTS, including construction design build plans for bid and contractor design build bid documents.

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.¹

The White River-Highland Ditch redesign/rebuild project is consistent with Section 37-75-102 Colorado Revised Statutes because the project will not repeal, or in any manner amend, the existing water rights adjudication system. When the project is constructed, it will 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.

- 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.

The project was discussed and evaluated by the Yampa/White/Green Basin Roundtable on April 16, 2014 and will be presented again for a final vote on May 14, 2014. The initial straw vote in April was almost unanimous: one member voiced concern regarding the potential for the Highland Ditch Company's 1880's senior water right to place a call on the river and impact junior rights higher in the basin if this project is built. Others noted the ditch company has the right to place a call now, although in times of drought, the ditch company has a history of working collaboratively with other water users in the basin. After discussion, there was agreement that this multi-purpose project was good for agriculture and the environment and would provide non-consumptive benefits in the Basin. A letter from the Basin Roundtable Chair will be attached to the application when it is submitted to CWCB staff following the final vote of the Roundtable members.

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- c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.² 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.

The redesign (and subsequent rebuilding) of the Highland Ditch on the White River will assist in meeting the agricultural water supply needs of the basin as identified in Statewide Water Supply Initiative (SWSI) 2010. The Yampa/White basin is the only basin in the state that expects to increase the number of irrigated acres by 2050. In the SWSI 2010 report, (pp. 2-17) irrigated agriculture in this water district currently cover 26,500 acres, of which over 5,000 acres is irrigated by the Highland Ditch shareholders. The land is primarily in hay meadow and livestock forage production. This project ensures that the full decreed amount of water will be able to be diverted and used by the shareholders of the ditch in low water years as well as during high flows.

This multi-purpose project also addresses the non-consumptive needs of the basin identified by SWSI in the Appendix D-9, Yampa/White Basin Mapping Results. The reach of the White River from the headwaters to Meeker includes the Highland Ditch diversion. This reach (No.5) is identified in the Non-Consumptive Needs Assessment spreadsheet as having "*multiple environmental and recreational values including most extensive, valuable connectivity of the Colorado Cutthroat Trout populations in the Yampa/White/Green basin...(and)...valuable private and public water fisheries providing significant economic benefits for the upper White basin.*"

As also noted in the SWSI NCNA:

- The State Threatened and Endangered Species present include: Flannelmouth sucker, Colorado River cutthroat trout, and Northern leopard frog.
- Important Riparian Habitat present includes: Riparian and wetland dependent rare plants and significant riparian/wetland plant communities.

In 2012 and 2013, salvage efforts conducted by Colorado Parks and Wildlife yielded 2,092 fish that were found entrained in the Highland Ditch. This included seven native species, including bluehead sucker, Colorado River cutthroat trout, flannelmouth sucker, mountain sucker, mottled sculpin, mountain whitefish and speckled dace; as well as four non-native species, including brook trout, brown trout, cutthroat rainbow hybrid trout and rainbow trout. These eleven species represent all species prevalent in the upper White River basin, suggesting no species based selection for entrainment. Multiple age classes of all species were also salvaged from the ditch, showing no size selection relative to the potential for entrainment. Fish salvaged from the ditch ranged from 20mm (0.8 inch) mottled sculpin up to 612mm (24.1 inch) and 2332g (5.1 pound) rainbow trout. CPW has determined that significant numbers of fish will continue to be entrained and lost annually within the Highland Ditch without substantial redesign of the existing irrigation diversion structures. A copy of the full salvage report is available on request.

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- 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 CWCBC. 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)

FUNDS ARE ONLY BEING REQUESTED FROM THE BASIN ACCOUNT, NOT THE STATEWIDE ACCOUNT.

The request for \$30,000 from the Basin Account is about 30% of the total cost of the engineering and design expenses of \$92,470. The 70% matching funds for design are being provided from multiple sources, both public and private.

PRIVATE LANDOWNERS/CWT	\$30,000	
TROUT UNLIMITED	\$7,500	
FISHING IS FUN/CPW	\$25,000	(Application passed initial evaluation and is pending final approval June 2014)
Y/W/G BASIN ACCOUNT	\$30,000	

Private sources include landowners with an interest in sustaining a healthy fishery in the White River through contributions to the project via the Colorado Water Trust. Elk Creek Ranch Owners Association has invested in the engineering and design, and their ranch manager has provided invaluable outreach to other private ranches to support the fundraising for both design and construction phases. Outreach and fundraising efforts have focused on providing a public/private partnership to fund the engineering phase, as well as determining the feasibility of raising funds of \$500,000 to \$1,000,000 (COST TBD BY THE END OF THIS PHASE) sufficient to be able to construct the new diversion structure during fall 2015.

This project is being done with the strong guidance and support of staff from the Colorado Division of Parks and Wildlife, as well as the support of Trout Unlimited. The project also has the interest and support of the Natural Resource Conservation Service's staff and the board of the Meeker/Douglass Conservation District. Colorado Water Trust is raising funds and coordinating the project on behalf of the Highland Ditch Company. A letter from the Highland Ditch Company inviting Colorado Water Trust to raise funds and coordinate the project is available for your immediate review upon your request.

A presentation will be made to the Roundtable members upon completion of the engineering designs next winter. Pending the support of the Roundtable members at that time, the Colorado Water Trust intends to request a second Basin Account grant to fund approximately 25% of the construction phase scheduled for fall 2015.

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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.**

THIS APPLICATION DOES NOT INCLUDE A REQUEST FOR FUNDS FROM THE STATEWIDE ACCOUNT.

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.

The Highland Ditch Company water rights on the White River were adjudicated in Water District 43 in the District Court of the 9th Judicial District in Glenwood Springs, CO on May 10, 1889.

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

There are no permitting issues that have been identified.

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.

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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.

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


Signature of Applicant:



Print Applicant's Name: Amy W. Beatie

Project Title: WHITE RIVER-HIGHLAND DITCH DIVERSION AND HEADGATE

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

Exhibit A
Statement of Work

WATER ACTIVITY NAME -	WHITE RIVER-HIGHLAND DITCH DIVERSION & HEADGATE REDESIGN
GRANT RECIPIENT –	COLORADO WATER TRUST
FUNDING SOURCE -	YAMPA/WHITE/GREEN BASIN ACCOUNT

INTRODUCTION AND BACKGROUND

The purpose of White River-Highland Ditch Diversion & Headgate Redesign project is to develop final engineering designs for replacement of the diversion structure and headgate using a modern agricultural diversion system. This design will ensure full and efficient water delivery to the shareholders while significantly minimizing fish entrainment into the ditch and eliminating aquatic habitat degradation and barriers to fish migration associated with the annual building of the push up dam across the river.

OBJECTIVES

Develop the design and engineering for a diversion structure and headgate.

1. Protect thousands of fish from becoming entrained in the Highland Ditch.
2. Protect aquatic habitat and restore connectivity within the White River from impacts of building a push up dam each spring and removing the push up dam each fall.
3. Ensure full and efficient water delivery to the Highland Ditch shareholders without negatively impacting water operations.

PRIOR TASKS

Matching funds will be used to complete project tasks undertaken in the 9 months prior to NTP with state. These may include but are not limited to:

- MEETINGS WITH STAKEHOLDERS on site and phone meetings and general coordination.
- DATA COLLECTION, including hydraulic survey, base mapping, hydrology, substrate and soil characterization, construction materials characterization.
- HYDRAULIC ANALYSIS, including HEC-RAS (existing and proposed), entrainment analysis, scour potential evaluation, sediment transport evaluation, debris evaluation.

TASK 1 – DEVELOP PRELIMINARY DESIGN/COST ESTIMATES

Description of Task

Develop preliminary design, including materials sizing, plan and profile exhibits, cross sections (existing and proposed) cut/fill quantities, diversion and headgate, fish screen and supporting elements.

Method/Procedure

Standard river engineering and design protocol incorporating best management practices.

Deliverables

Preliminary design report, including drawings, exhibits and cost estimates for all supporting elements necessary to bring the project to fruition.

TASK 2- PERMITTING

Description of Task

Coordinate with ACOE and DWR to ensure smooth communication and understanding of all aspects of the project.

Method/Procedure

Phone calls/meetings as necessary.

Deliverable

Written letters of support for the project from ACOE and DWR.

TASK 3 - FINAL DESIGN BUILD DOCUMENTS

Description of Task

Prepare final design build documents including construction design build plans for bid and contractor design build bid documents.

Method/Procedure

Standard design and professional engineering methods based on professional experience.

Deliverable

Final design build documents will be provided electronically and hard copy.

TASK 4 - OTHER TASKS AS MAY BE IDENTIFIED DURING THE DESIGN PROCESS

Description of Task

Other tasks that may be identified as necessary during the preliminary design process.

Method/Procedure

Best professional practices.

Deliverable

A written explanation regarding how the task was identified, what made it necessary and the outcome.

REPORTING AND FINAL DELIVERABLE

Reporting

The applicant shall provide the CWCB with 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 with 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.

DRAFT BUDGET (MAY BE REFINED PRIOR TO CONTRACTING WITH STATE)

Task	Work Activity	Unit	Quantity	Cost Unit	MATCH	CWCB Share	TOTAL Cost
*	PRIOR TASKS (Data Collection; Hydraulic Analysis)	Hours		\$75-110	\$24,940		\$24,940
*	Stakeholder Meetings	Hours	90	\$90-110	\$8,760		\$8,760
1	Preliminary Design & Cost Estimates	Hours	208	\$90-110	\$6,270	\$15,740	\$22,010
2	Permitting	Hours	46	\$90-110		\$5,020	\$5,020
3	Final Design Build Documents	Hours	90	\$90-110		\$9,240	\$9,240
4	Other Tasks as identified in design	Hours	tbd	\$90-110			
*	Funder/landowner Coordination	Hours	225	\$75-\$110	\$22,500		\$22,500
	TOTAL				\$62,470	\$30,000	\$92,470

*Items will be paid for with funds from match only.

SCHEDULE

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process.

Tasks WHITE RIVER-HIGHLAND DITCH	Start Date	Finish Date
1. Preliminary Design/Cost Estimates	Upon NTP	9/30/2016
2. Permitting	NTP +/- 90 days	9/30/2016
3. Final Design Build Documents	NTP +/- 90 days	9/30/2016
4. Other tasks as identified during design	NTP +/- 90 days	6/31/2017

NTP = Notice to Proceed

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.

EXHIBIT B SITE MAP

