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

Applicant: Trout Unlimited

Water Activity Name: Upper Ohio Creek Flow Restoration

Water Activity Purpose: Nonconsumptive and Agricultural/Implementation

County: Gunnison

Drainage Basin: Gunnison

Water Source: Castle Creek

Amount Requested: $6,000

Source of Funds: Gunnison Basin Account

Matching Funds: **$**114,000 or 95% of the project cost ($28,500 Trout Unlimited, $40,500 Rock House Ranch, $1,000 Castle Creek Ranch, $4,000 NRCS, $15,000 UGRWCD, $25,000 CRWCD – refer to *Funding Overview/Matching Funds*)

Staff Recommendation
Staff recommends approval of up to $6,000 from the Gunnison Basin Account to assist in the funding of the project titled: Upper Ohio Creek Flow Restoration.

Water Activity Summary: The funding being requested by Trout Unlimited will work with the NRCS and agricultural water users (Acme Ditch water users) to improve an existing irrigation delivery system and irrigation water management. This improvement will decrease negative impacts irrigation withdrawals can have on the aquatic habitat of the source stream (Castle Creek). The goal is to improve irrigation efficiency for water diverted from Castle Creek into the Acme Ditch in order to maintain minimum flows in Castle Creek. The project will work to convert a difficult to flood 40 acre area from its existent flood irrigation to sprinkler irrigation system. Flows will be remotely monitored in the creek and the ditch at the head gate, and irrigation water managers will coordinate individual users on the ditch. This will help irrigators, the creek, and other water users downstream to become more resilient during periods of water supply shortages.

Objectives:
It is expected that the proposed project will:

1) Improve irrigation efficiency and overall irrigation system function
2) Improve in stream water quality in Castle Creek and Upper Ohio Creek
3) Record how sprinkler irrigation influences production in Upper Gunnison Basin
4) Maintain agricultural values of Upper Ohio Creek Valley
5) Maintain use of pre compact water rights

Measurable outcomes include one mile of stream restoration and efficiency savings of 306 acre-feet/ year. The project works to address both consumptive and nonconsumptive values and demonstrates nontraditional cooperation between conservation groups and agricultural water users.

Discussion:
No additional discussion is required.

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

Funding Overview/Matching Funds

	Cash	In-kind	Total
WSRA Gunnison Basin Account	$6,000	n/a	$6,000
Trout Unlimited	$23,500	$5,000	$28,500
Rock House Ranch	$40,500	$0	$40,500
Castle Creek Ranch	$1,000	$0	$1,000
NRCS	$0	$4,000	$4,000
UGRWCD	$15,000	$0	$15,000
CRWCD	$25,000	$0	$25,000
Total Project Costs	$111,000	$9,000	$120,000

Staff Recommendation:
Staff recommends approval of up to $6,000 from the Gunnison Basin Account to assist in the funding of the project titled: Upper Ohio Creek Flow Restoration.

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. Applicants are also happy to present the report in person to grantor meetings.

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.

The Gunnison Basin Roundtable
501 Palmer Street
Delta, CO 81416

May 12, 2014

Mr. Craig Godbout
Intrastate Water Management and Development Section
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 600
Denver, CO 80203

Re: Grant Request from the Water Supply Reserve Account
Trout Unlimited
Upper Ohio Creek Flow Restoration Project

Dear Mr. Godbout:

This letter is presented to advise you that the grant application submitted by Trout Unlimited for $6,000 from Basin Account funds from the Water Supply Reserve Account for its Upper Ohio Creek Flow Restoration Project was reviewed by the Gunnison Basin Roundtable and its Project Screening Committee, and was approved by a unanimous vote of the Gunnison Basin Roundtable during our meeting on May 5, 2014.

This water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes. The requirements/language from the statute is provided in Part 3 of the Criteria and Guidelines.

This activity furthers basin-wide consumptive needs for the Gunnison Basin by improving agricultural efficiencies and helping to meet the Basin's non-consumptive needs.

Sincerely,

Michelle Pierce
Chair

cc: Tom Alvey (e-mail)

COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Today's Date: Feb 28th 2014

Upper Ohio Creek Flow Restoration

Name of Water Activity/Project

Jesse Kruthaupt-Trout Unlimited

Name of Applicant

Gunnison Basin

Approving Basin Roundtable(s)
(If multiple basins specify amounts in parentheses.)

Amount from Statewide Account: 0

Amount from Basin Account(s): $6,000

Total WSRA Funds Requested: $6,000

FEIN

Application Content

Required Exhibits

A. Statement of Work, Budget, and Schedule
B. Project Map
C. As Needed (i.e. letters of support, photos, maps, etc.)

Appendices – Reference Material

1. Program Information
2. Insurance Requirements
3. WSRA Standard Contract Information (Required for Projects Over $100,000)
4. W-9 Form (Required for All Projects Prior to Contracting)

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 (CWCB). 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 CWCB 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 CWCB 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

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

Water Supply Reserve Account – Application Form
Revised October 2013

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

1.	Applicant Name(s):	Jesse Kruthaupt		
	Mailing address:	57564 Hwy 50 Gunnison, CO 81230		
	FEIN #:			
	Primary Contact:	Jesse Kruthaupt	Position/Title:	Trout Unlimited
	Email:	jkruthaupt@tu.org		
	Phone Numbers:	Cell: 970-209-0976	Office:	
	Alternate Contact:	Steve Merrifield	Position/Title:	Manger RH Ranch
	Email:	smerrifield1@msn.com		
	Phone Numbers:	Cell: 970-596-4680	Office:	970-641-0299

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.
x	Non-governmental organizations – broadly defined as any organization that is not part of the government.

3. Provide a brief description of your organization

Trout Unlimited is a sportsmen's conservation organization with programing in the Upper Gunnison Basin focused on water use solutions that will benefit agricultural operations as well protect and improve cold water trout habitat.

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

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.

[X] 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.

None

Part II. - Description of the Water Activity/Project

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

x	Nonconsumptive (Environmental or Recreational)
x	Agricultural
	Municipal/Industrial
	Needs Assessment
	Education
	Other Explain:

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

This project will improve an existing irrigation system as well as improve the water quality and nonconsumptive values of the source stream.

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

	Study	x	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)
1 mile	Length of Stream Restored or Protected (linear feet)
	Length of Pipe/Canal Built or Improved (linear feet)
306	Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)
	Area of Restored or Preserved Habitat (acres)
	Other -- Explain:

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

Latitude: 38°44'52.91"N Longitude: 107° 3'22.73"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.

This project will improve an existing irrigation delivery system and irrigation water management to decrease negative impacts irrigation withdrawals can have the aquatic habitat in Castle Creek. This will be accomplished by upgrading 38 acres of irrigated pasture and hay meadow on the Rock House Ranch from flood irrigation to pressurized sprinkle irrigation. An irrigation management plan will be incorporated with the improvements to closely match irrigation deliveries to crop demands. The infrastructure and management changes at the Rock House combined with remote monitoring at the head gate and coordination with other water users on the ditch will reduce diversions at the Acme Ditch head gate and help prevent Castle Creek from being completely dewatered. The reduction of diversions will be a result of reduced "return flow" that typically returns to the stream several miles down. WSRA funding will be used for purchase of materials and installation of the center pivot, settling structure and delivery pipe to the pivot.

Changes to crop production volume and quality will be monitored for the area under the pivot and be compared to data recorded years prior as well as adjacent areas flood irrigated. This information will be available for others in the Upper Gunnison Basin considering pressurized irrigation.

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]

This project is consistent with Section 37-75-102 and will continue to protect the use of senior water rights in the State of Colorado and in no way impair any contractual or property rights related to the use of irrigation 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 BRTs 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.

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[1] 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.

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.

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d) Matching Requirement: <u>For requests from the **Statewide Fund**</u>, 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)

Matching funds and In-kind contributions are being provided by Trout Unlimited, Rock House Ranch, and Castle Creek Ranch. Funding request have recently been approved by the Upper Gunnison River Water Conservation District and are pending from the Colorado River District. The requested amount is within the match requirement and is reflected in the Project Budget in Exhibit A.

[2] 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.

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. This project is a collaborative effort between several agricultural operations, the NRCS, and Trout Unlimited. It addresses both consumptive and nonconsumptive values that are desirable for all participating parties.
b. Five entities are represented in this application. This project is an example of how a conservation organization interested in protecting nonconsumptive values can cooperate with traditional agricultural consumptive uses and implement a plan that will benefit both interests. Balancing between nonconsumptive and consumptive uses is becoming more challenging in the Upper Gunnison Basin as demographics change and water use demands increase. This is especially apparent in the Ohio Creek Valley.
c. This project implements processes that will help meet future water demands by increasing water use efficiency, and implementing creative management practices that will maintain agricultural production while protecting in-stream water quality and the recreational values associated with a healthy cold water fishery.

Tier 2: Facilitating Water Activity Implementation

d. Funding from the Gunnison Basin WSRA account will increase the likelihood this project will be implemented in a timely manner.
e. A combination of funds from Trout Unlimited, the Rock House Ranch, UGRWCD, and NRCS for more than to $85,000 demonstrates a high level of commitment to the project.

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

f. This project will help sustain agriculture & open space needs by improving historical agricultural irrigation management practices so the producers will be more adaptable to increasing recreational demands and variable climate conditions. The project will also implement practices that will help to meet exiting recreational and environmental needs on Castle Creek and Upper Ohio Creek.
g. This project promotes maximum utilization of the state's waters by improving irrigation management to maintain both agricultural use and protecting nonconsumptive values of the source stream.

h. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested. This project will provide benefit to values that are very important to Colorado residents, agriculture and water quality, for a relatively small investment from the WSRA of $6,000.

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.

Castle Creek is the source stream for Acme Ditch which is in water diversion 4, district 59. Three irrigation water rights are associated with Acme ditch. A portion of the most senior right was available during the 2012 irrigation season.

- 11cfs adj in 1906, admin # 17340
- 13 cfs adj in 1906 admin # 18902
- 46 cfs adj in 1941 admin # 30667.17340.

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

Monitoring of diversions and deliveries during the 2013 and 2012 irrigation season focused on identifying individual user needs, areas of shortage, as well as ideas for improvement. Supply shortages during 2013 were experienced in during the first 2 weeks of July and for a week in August. A call on Ohio Creek during the 2012 curtailed Acme diversions, irrigation shortages were seen during much of that season.

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.

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

Signature of Applicant: Jesse Kruthaupt

Print Applicant's Name: Jesse Kruthaupt

Project Title: Upper Ohio Creek Flow Restoration Project

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 –Upper Ohio Flow Restoration Project

GRANT RECIPIENT – Trout Unlimited

FUNDING SOURCE – Gunnison Basin Roundtable Basin Account, Water Supply Reserve Account

INTRODUCTION AND BACKGROUND
Provide a brief description of the project. (Please limit to **no more than 200 words**; this will be used to inform reviewers and the public about your proposal)

This project is a collaborative effort between Acme Ditch water users, Trout Unlimited, and the NRCS. The project is located in the Upper Ohio Creek Valley approximately 20 miles north of Gunnison, CO. The goal of the project is to improve irrigation water use efficiency for water diverted from Castle Creek into Acme Ditch in order to maintain a minimum flow in Castle Creek. This will be accomplished by converting an area from flood irrigation to sprinkler irrigation, remotely monitoring flows in the creek and the ditch at the head gate, and coordinating irrigation water management for individual users on the ditch. The end product will make the irrigators, the creek, and other water users downstream more resilient during periods of water supply shortages.

OBJECTIVES
List the objectives of the project
The following objectives will accomplish the following objectives:

- Improve irrigation efficiency and overall irrigation system function
- Improve in stream water quality in Castle Creek and Upper Ohio Creek
- Record how sprinkler irrigation influences production in Upper Gunnison Basin
- Maintain agricultural values of Upper Ohio Creek Valley
- Maintain use of pre compact water rights

TASKS
Provide a detailed description of each task using the following format

TASK 1 – Infrastructure and management improvements at the Rock House

Description of Task
This task will involve converting approximately 40 acres from flood to sprinkler irrigation (pivot design in Exhibit C). This 40 acres is difficult to irrigate via flood because the distance from the ditch and the topography. There is 80 feet of fall from the ditch to the portion of the field where the pivot will be located. Enough pressure will be available to pressurize the sprinkler as it rotates on the lower bench. However, a small pump will be installed to pressurize the pivot as it rotates onto a portion of the upper bench. The pump will also enable the option to expand to an additional 35 acres. The

NRCS also contributed to an irrigation water management plan for the Rock House property (Rock House IVM appendix A). The plan is based on soil type, climate, efficiency of irrigation method, and peak crop demand. Water delivery recommendations are based on maintaining optimum soil moisture content for production. Soil moisture sensors will be used to help direct water delivery planning. For the purpose of the plan we figured irrigation to 40 acres under sprinkler at 70% efficiency, and the remaining 120 acres at 30% efficiency. This plan will reduce deliveries to the Rock House by 46%. In 2013 and average of 9.2 cfs were delivered to the Rock House between May 30 and July 16th. The diagram in the attached irrigation management plan illustrates how the irrigation management plan will work on the ground. If this plan was incorporated on a similar year as 2013 approximately 4cfs be available to remain in Castle Creek from May 30th to July 16th. This aspect of the project is the bulk of where the water savings will come from. Tasks 2 and 3 are meant to insure the water saved makes it past Acme Diversion.

Method/Procedure

The IWM plan will be implemented during the 2014 irrigation season before the pivot is installed. Design for the center pivot was completed in the fall of 2013 with assistance from the NRCS. The settling structure, delivery pipe, pump, and pivot will be installed in the fall of 2014. High Country Equipment of Hotchkiss will order and install the Pivot and pump. As well as assist in the installation of the pipe and settling structure.

Deliverables

- Installation of infrastructure complete by November 2014.
- First full season of irrigation records and yield will available in fall of 2015.

TASK 2 – Monitoring at the Head gate

Description of Task

In order to trace the water saved from efficiency improvements and management strategies back to the creek, equipment will be installed to remotely monitor flows in Acme Ditch and Castle Creek at the point of diversion. Users have agreed to attempt to maintain a minimum flow in the creek below the diversion of 7cfs. The 7cfs target is based on the minimum instream flow right held by the Colorado Water Conservation Board for Castle Creek above the diversion.

Method/Procedure

Dynotek Inc will be contracted to install the monitoring and telemetry equipment at the Acme head gate in June of 2014. Flow measurements will be transmitted via satellite to ditch mangers email or phone.

Deliverable

- Installation complete in June of 2014
- First season of flow data in Castle Creek will be available in fall of 2014

TASK 3- User coordination

All the users on Acme Ditch have been working on improving irrigation management and are interested in protecting the fishery in Castle Creek and Ohio Creek. Developing and coordinating irrigation management plans between users is an additional solution that will help meet the minimum flow target in Castle Creek.

Method/Procedure

Closely matching irrigation deliveries to crop demands and alternating sets between different users during times of shortage will make additional water available to remain in Castle Creek, while maintaining production.

Deliverables

- Completion of Irrigation management plans for Castle Creek Ranch and Keith property by fall of 2014.

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.

BUDGET

	Rock House flume Purchase and installation	Rock House Pivot Design engineering & coordination	Rock House pivot equipment and installation	Acme Head gate Automation and monitoring	Individual totals $	Status	% of Total
Trout Unlimited	$3,500.00	$5,000.00	$19,000.00	$1,000.00	$28,500.00	secured	23.80%
Rock House Ranch	$500.00	$0.00	$40,000.00	$0.00	$40,500.00	pledged	33.80%
Castle Creek Ranch	$0.00	$0.00	$0.00	$1,000.00	$1,000.00	pledged	0.80%
NRCS	$0.00	$4,000.00	$0.00	$0.00	$4,000.00	secured	3.30%
UGRWCD	$0.00	$0.00	$10,000.00	$5,000.00	$15,000.00	secured	12.50%
CRWCD	$0.00	$0.00	$25,000.00	$0.00	$25,000.00	requested	20.80%
Gunnison Basin Roundtable	$0.00	$0.00	$6,000.00	$0.00	$6,000.00	requesting	5%
Sub Totals	$4,000.00	$9,000.00	$100,000.00	$7,000.00	$120,000.00	Total	100.00%
Total $ Secured	$4,000.00	$9,000.00	$59,000.00	$7,000.00	$89,000.00		74%
Additional $ Pending	$0.00	$0.00	$31,000.00	$0.00	$31,000.00		26%
Status	Completed Spring of 2013	Completed summer 2013	Installation Fall 2014	Installation Spring 2014			

Red indicates in-kind 360 hrs at $25/hr.

Cost Break down

	Acres	7 1/2 hp Pump w/VFD	Pivot $	Electric to pivot	Pipe $	Settling Structure	Total +10%
H.C.E. Pivot Design/install	38	$10,000	$58,000	$7,000	$13000	$3000	$100,000

DATE:	October 16, 2013
Quote	TU 131016-1

13931 W 54th Ave, Arvada, CO 80002

303-234-1409 Fax 720-479-8980

QUOTE

Acme Ditch Company
c/o Jesse Kruhaupt
Trout Unlimited, Gunnison CO

970-209-0976 jkruthaupt@tu.org

DYNOTEK
FLUID LEVEL MANAGEMENT

ITEM	DESCRIPTION	Number	Unit Price	AMOUNT
1	Flow at the gate will be monitered through flow data generated at the existing flume with a stage data recorder in a new stilling well. Flume status and flow data will be transmitted to a hosted internet site maintained by AMCI Inc, and will be available fo all persons authorized by the ditch company. Actuator will have fully automatic, manual electric, and manual modes of operation.	1	$2,961.00	$2,961.00
2	Pressure transducer to be located in pool about 50 ft below headgate to measure status of river flow. Can provide alarms to indicate high or low. conditions. Dynotek slimline pressure transducer, 0-5 psi.	1	$750.00	$750.00
3	Installation: Includes all labor and materials for setup of automated actuator, satellite modem, solar panel and all instrumentation. Does not include trenching from headgate to flume location and to pressure transducer junction location or construction of a stilling well at the flume	1	$3,130.00	$3,130.00
			TOTAL	**$6,841.00**
	Note: Remote communication will require a customer agreement with AMCI Inc., of Golden Colorado. Cost for the hosted internet site and satellite communications will be about $35-50 per month, depending on the amount of data required. No service charges will appply when the system is no in operation (winter).			

Terms: Net FOB Arvada, CO

Delivery 3-5 days ARO unless otherwise arranged

Submitted: George Downs
303-748-6574

Project Schedule

Project Milestones	Summer 2013	Fall 2013	Spring 2014	Summer 2014	Fall 2014
Rock House pivot and IWM design/planning					
Acme Ditch and Castle Creek flow monitoring					
Pivot design selection and bid process					
Installation of monitoring equipment at Acme diversion					
Installation of Rock House pivot					
Additional monitoring and irrigation planning					
Construction and final report					

Exhibit B Project Map

Exhibit C Additional Information

Irrigation Water Management Plan

PRODUCER: Old Rock House Ranch **DATE: December 17, 2013**
CONTRACT #: NA

The purpose of this plan is to continue to maintain and increase production goals while effectively utilizing the available irrigation water supply and managing the soil moisture environment to reduce deep percolation. **See NRCS Standard and Specification 449 for more details**.

Fields and Planned Acres:

Fields: #5 - Acres: 165

Crop grown: Grass Hay

Predominate Soil(s):

MoE Mord loam, 5-30 % slope

Average water-holding capacity per foot:		Rooting depth:
1st foot (profile top)	1.6 inches	1.6 inches
2nd foot	1.6 inches	1.6 inches
3rd foot	1.3 inches	1.3 inches
4th foot	1.4 inches	
5th foot (profile bottom)	1.6 inches	
Total	***7.5 inches***	***4.5 inches***

EvB Evanston loam, 1 – 5% slope

Average water-holding capacity per foot:		Rooting depth:
1st foot (profile top)	2.0 inches	2.0 inches
2nd foot	2.0 inches	2.0 inches
3rd foot	1.8 inches	1.8 inches
4th foot	1.8 inches	
5th foot	1.8 inches	
Total	***9.4 inches***	***5.8 inches***

Water right is: ####cfs

Ditches: Acme Ditch

The existing irrigation system is a wild flood system that is estimated to be 29% efficient.

The new irrigation system is planned to be a combination of pivot and flood irrigated system for the field. The pivot system should increase efficiency to 80% but due to deficiencies in delivery, and such, it will only be

approximately 70% efficient. With improvements in management and monitoring the flood irrigation system should increase to over 40% efficient. *(All efficiencies are estimates.)*

Calculations

Max holding at 2 ft deep is 4" inches water. Max management allowable depletion is 50%

When depletion hits 50%, 2" has to be replenished. (4"x .5 = 2")

Because the delivery is only 30% efficient, 6.6" would have to be delivered. (2"/ .3 = 6.6")

For that crop and climate, the peak evapotranspiration rate (ET) is about 0.15"/day. The time it takes for 2" to deplete from the soil at the peak ET rate is 13 days. (2"/0.15"/day = 13 days).

	Soil Holding Capacity	Peak Daily use Evapotranspiration (ET)	Soil Holding Duration (SHC- ET)	Irrigation Return Interval 50% Depletion SHC x 50%= 2"	Irrigation efficiency	Recommended Deliveries
Managed Flood	4 in	.15in	26.5 days	13 days	30%	6. 6 inches every 13 days
Sprinkler	4in	.15in	26.5 days	13 days	70%	2.9 inches every 13 days

Field number	Irrigation System Type	Irrigation System Acres	Irrigation efficiency (%)	Change in efficiency (%)	Historic water demand + efficiency loss (ac-in)	New water demand + efficiency loss (ac-in)
5	Flood	125	30.00%	-10%	5711	3060
5	Pivot	40	70.00%	-40%	1.827	803
Total		**165**			**7538**	**3863**

306 ac-ft saved

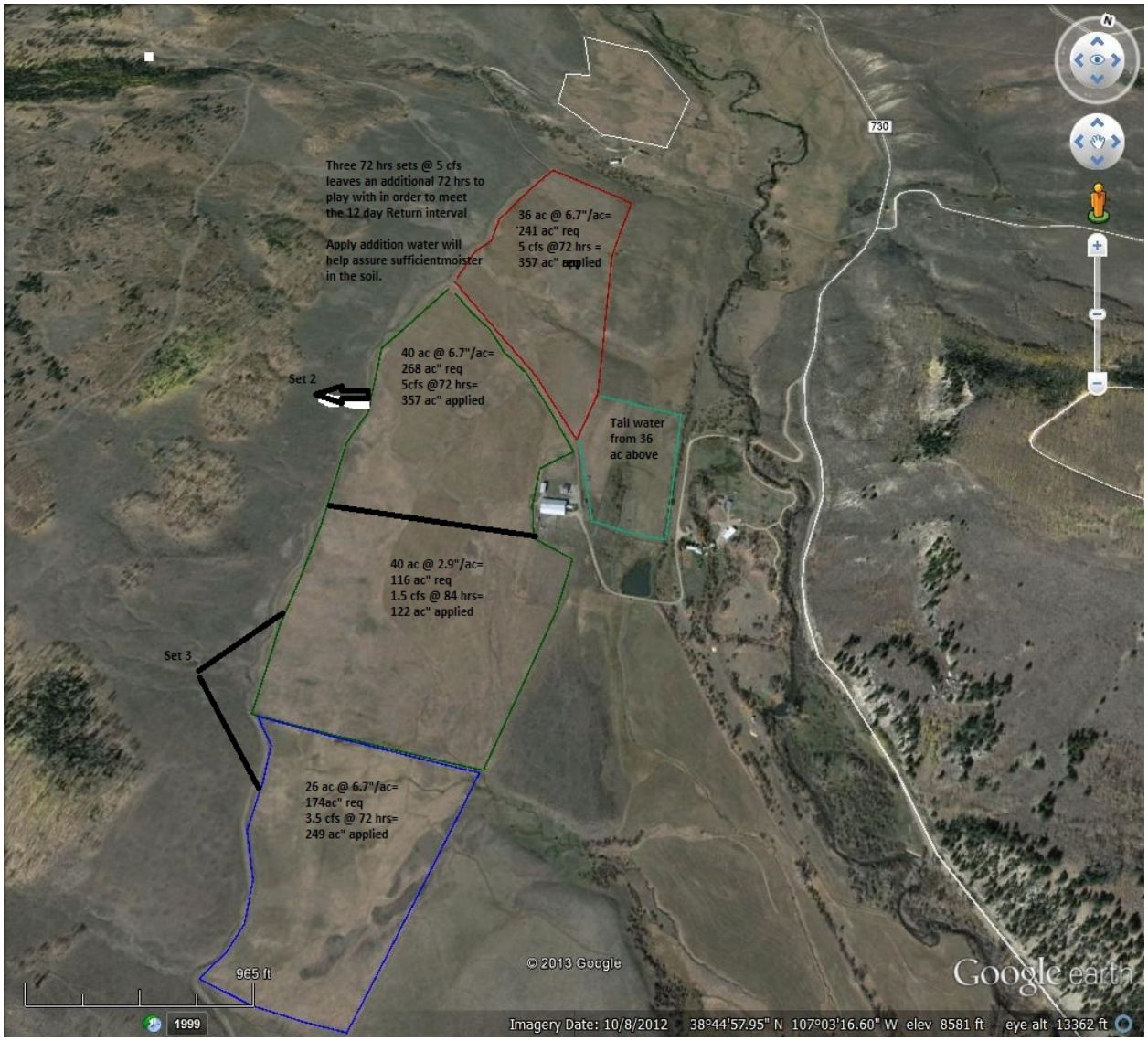
June 1 –Sept 1

The goal of this IWM plan is to achieve proper irrigation water management by balancing set time and crop consumptive use to apply effectively a planned amount of water. Soil moisture depletion will be checked by the feel and appearance method. Soil probing may be used periodically to assess soil moisture uniformity after irrigation takes place.

The Colorado Irrigation Guide and available computer soft wear has been utilized to estimate amount of water to apply and set time based on peak consumptive use. These are only estimates and may need to be adjusted to fit actual field conditions

PLANNED SCHEDULE OF IWM ACRES APPLICATION

Field number	Irrigation System Type	Irrigation System Acres	New water demand + efficiency loss (ac-in)	Plant moisture depletion (days)	Frequency of irrigations	Total number of sets
5	Flood	125	3060	13	12 days	7
5	Pivot	40	803	13	7 days	12
Total		**165**	**3063**			


Three 72 hrs sets @ 5 cfs leaves an additional 72 hrs to play with in order to meet the 12 day Return interval
Apply addition water will help assure sufficientmoister in the soil.
36 ac @ 6.7"/ac= 241 ac" req 5 cfs @72 hrs = 357 ac" applied
40 ac @ 6.7"/ac= 268 ac" req 5cfs @72 hrs= 357 ac" applied
Set 2
Tail water from 36 ac above
40 ac @ 2.9"/ac= 116 ac" req 1.5 cfs @ 84 hrs= 122 ac" applied
Set 3
26 ac @ 6.7"/ac= 174ac" req 3.5 cfs @ 72 hrs= 249 ac" applied
730
965 ft
© 2013 Google
Google earth
1999
Imagery Date: 10/8/2012 38°44'57.95" N 107°03'16.60" W elev 8581 ft eye alt 13362 ft

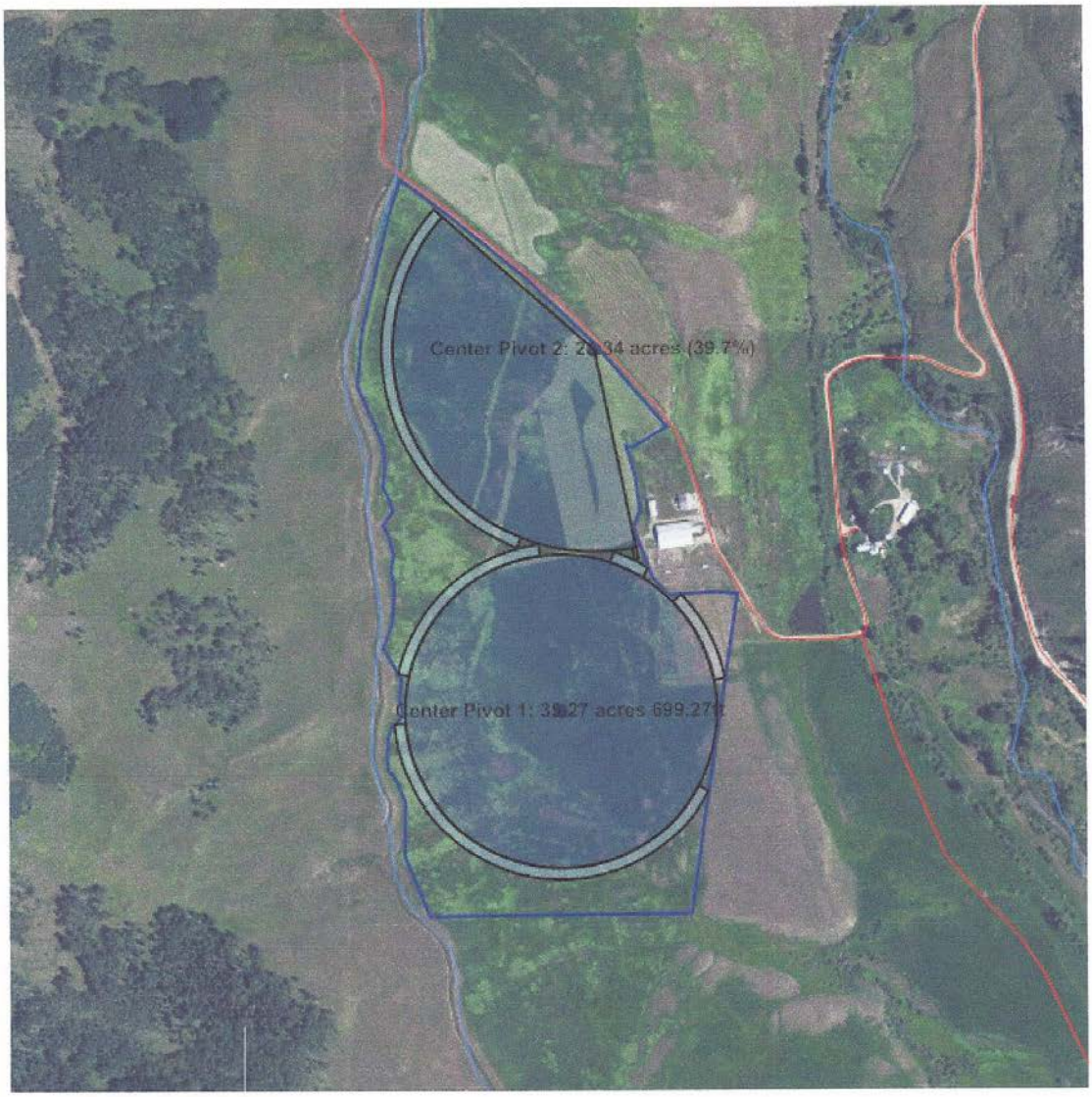
Appendix B: Pivot Design Arial Veiw and bid

Reinke
MORE RIGHT THAN RAIN

High Country Equipment

36356 Hwy. 92
Hotchkiss Co. 81419

Grower: Rock House



Pivot #1 - 35.27 acres
Pivot #2 - 23.34 acres
Total - 58.61

Reinke
MORE RIGHT THAN RAIN

High Country Equipment, LLC

ELECTROGATOR II™

Irrigation System Proposal - Rock House Ranch #1 12/4/2013

PRICES EFFECTIVE: July 5, 2011

Customer Information

Customer: Rock House Ranch
Manager: Jesse Kruthaupt
Ohio Creek Rd [cty rd 730]
Gunnison Colo.81230

Mailing: Ohio Creek Rd [cty rd 730]
Gunnison Colo.81230
Email:
Phone:

Dealer Information

High Country Equipment, LLC
36356 Highway 92
Hotchkiss, CO 81419
Phone: 970-872-3890
FAX: 970-872-3892
Mobile: 970-210-9562
Email:

System Information

System Type:	**Center Pivot**	**Model:**	**E2060-G LP/57"**
System GPM:	400.0 GPM	System Length:	726.0'
Elevation:	40.0' feet		
Top of Inlet Pressure:	80.67 PSI	System Acres:	38.4 Acres
End Pressure	60.00 PSI	End Gun Acres:	6.3 Acres
Hours to Apply an Inch:	56.0 Hours	Total Acres:	44.7 Acres

Span Information

Number	Diameter	Length	Wheel Track
1	6.00"	175.0'	177.0'
2	6.00"	175.0'	352.0'
3	6.00"	175.0'	527.0'
4	6.00"	175.0'	702.0'
EB	3.00"	23.0'	726.0'

Investment

Total List Price:	**$55,476.59**
Discount:	$4,651.05
Customer Price:	**$50,825.54**
Installation:	$0.00
Freight:	$3,200.00
+ Pivot Pad::	$2,000.00
Miscellaneous Items:	$2,000.00
Price:	**$58,025.54**
- Trade-In:	$0.00
Sub-Total:	$58,025.54
Sales Tax (%):	$0.00
Total Price:	**$58,025.54**
Down Payment:	$29,012.77
Due on Delivery:	$23,210.22
Due on Installation:	$5,802.55

Payment Terms: Cash

Payment shall be as indicated above. Prices subject to change without notice. If Customer requests changes in the system or delays progress of the manufacture or shipment of the system, the system price shall be adjusted to reflect increases caused thereby. In addition, the system price is subject to revision due to increases in material and labor costs during during the period from the date of this purchase order until completion of manufacture of the system.

2/22/2014

Steve Merrifield
13931 County Rd 730
Gunnison, CO 81230

Members of the WSRA project committee,

The Rock House Ranch is located in the Upper Ohio Creek Valley. We utilize water from Acme Ditch to irrigate approximately 160 acres of hay meadow and pasture. There is also a little under a mile of Ohio Creek that runs through the property. The ranch has a significant interest in protecting the agriculture production and the fishery in Ohio Creek.

The Upper Ohio Creek Flow Restoration Project will improve our existing irrigation system and allow us to closely match irrigation deliveries to crop demands. We will be able to continue to produce high quality forage and work to maintain adequate flows in Castle Creek and Ohio Creek to support a productive cold water fishery.

The Rock House Ranch supports this project and encourages the Gunnison Basin Round Table and the CWCB to grant Trout Unlimited the funds requested.

Sincerely,

Steve Merrifield
Manager Rock House Ranch
970-641-2299

Castle Creek Ranch, LLC
58 Palmer Woods Drive
The Woodlands, Texas 77381

2/26/2014

Upper Gunnison River Water Conservation District
210 Spencer, Suite B Gunnison, Co 81230

UGRWCD Grant Committee,

Castle Creek Ranch, LLC is the owner of the property known as 15215 County Road 730, Gunnison, CO. The Castle Creek head gate of the multi-user Acme irrigation ditch is on the property, and we are one of the users of the Acme Ditch. The Upper Ohio Creek Flow restoration project is collaboration between several Acme Ditch water users and Trout Unlimited. The goal is to increase water use awareness and management to allow Acme Ditch users to maintain agricultural production while protecting the water quality and ecological function of Castle Creek and Upper Ohio Creek.

Maintaining healthy flows in Castle Creek and Upper Ohio Creek is something all Acme Ditch owners are interested in protecting. Each water user relies on irrigation water for production of grass hay and pasture but also appreciates the values associated with a productive cold water fishery.

Finding a balance between recreational and agricultural water uses in the Upper Gunnison Basin will continue to be a challenging task. This project is an example of how that balance can be met through increased communication and management improvements.

Castle Creek Ranch supports this project and encourages the Upper Gunnison River Water Conservancy District to grant Trout Unlimited the funds requested.

Sincerely,

Telephone: 281-362-9369 Fax: 281-298-5029