COLORADO WATER CONSERVATION BOARD

ALERNATIVE AGRICULTURAL WATER TRANSFER METHODS COMPETITIVE GRANT PROGRAM

GRANT APPLICATION FORM

Use of ATMs to meet nonconsumptive and consumptive needs in the Yampa Basin

Program/Project Name **River Basin Name**

$132,000

Amount of Funds Requested

$36,602

Amount of Matching Funds

*** The deadline for Grant Applications is November 26, 2010 for consideration at the January 2011CWCB meeting.** It is anticipated that there will be one round of application submittals, yet if funds are not exhausted, the Board will determine when it will consider the next round of grant applications at their January 2011 meeting.

* In completing the application you may attach additional sheets if the form does not provide adequate space. If additional sheets are attached please be sure to reference the section number of the application that you are addressing (i.e., A.1. etc.).

Instructions: This application form must be submitted in electronic format (Microsoft Word or Original PDF). The application can be emailed or a disc can be mailed to the address at the end of the application form. The Alternative Agricultural Water Transfer Methods Competitive Grant Program, Criteria and Guidelines can be found at http://cwcb.state.co.us/LoansGrants/alternative-agricultural-water-transfer-methods-grants/Pages/main.aspx. **The criteria and guidelines must be reviewed and followed when completing this application**. You may attach additional sheets as necessary to fully answer any question, or to provide additional information that you feel would be helpful in evaluating this application. Include with your application a cover letter summarizing your request for a grant. If you have difficulty with any part of the application, contact Todd Doherty of the Water Supply Planning Section (Colorado Water Conservation Board) for assistance, at (303) 866-3441 x3210 or email at todd.doherty@state.co.us.

Generally, the applicant is also the prospective owner and sponsor of the proposed program/project. If this is not the case, contact Todd before completing this application.

Part A. - Description of the Applicant(s) (Program/Project Sponsor);

1. Applicant Name(s): The Nature Conservancy

Mailing address:
The Nature Conservancy
2424 Spruce Street
Boulder, CO 80302

Taxpayer ID#: 53-0242652 Email address: abergeron@tnc.org

Phone Numbers: Business: 720-974-7032
Home:
Fax: 303-444-2986

2. Person to contact regarding this application if different from above:

Name: Adam Bergeron

Position/Title Water Project Director

3. If the Contracting Entity is different then the Applicant, please describe the Contracting Entity here.

4. Provide a brief description of your organization. The applicant may be a public or private entity. Given the diverse range of potential applicants, not all of the following information may be relevant. Where applicable and relevant the description should include the following:

a) **Type of organization, official name, the year formed, and the statutes under which the entity was formed, a contact person and that person's position or title, address and phone number. For private entities, a copy of the Articles of Incorporation and By-laws should be appended to the application.**

The Nature Conservancy is a 501(c)(3) non-profit founded in 1951. Adam Bergeron, Water Project Director for the Colorado chapter of The Nature Conservancy, will be the official contact for the applicant. Adam Bergeron's contact information is as follows: (address) 2424 Spruce Street, Boulder, CO 80302; (phone) 720-974-7032.

b) For waters suppliers, information regarding the number of customers, taps, service area, and current water usage, and future growth plans, water related facilities owned or used, funding/revenue sources (existing service charges, tap fees, share assessments, etc.), the number of members or shareholders and shares of stock outstanding or a description of other means of ownership.

The Nature Conservancy is not a water supplier.

c) For other entities, background, organizational size, staffing and budget, and funding related to water that is relevant in determining whether the applicant has the ability to accomplish the program/project for which funding is sought.

The Nature Conservancy is a non-profit organization working around the world to protect ecologically important lands and waters for nature and people. The Conservancy has more than one million members and over 3,000 staff worldwide. We receive millions of dollars each year from individuals, foundations and government grants to work on water issues all across the globe. We have internal grant administration capacity and will use that expertise to ensure timely compliance with all aspects of the grant should we be awarded the grant.

d) A brief history of the Applicant(s).

As mentioned above, The Nature Conservancy has been in operation since 1951, and has grown from a small non-profit into an organization that works in 30 countries and all 50 states in the U.S. The Conservancy has protected more than 119 million acres of land and 5,000 miles of river worldwide, and operates more than 100 marine conservation projects globally. The Conservancy pursues non-confrontational, pragmatic solutions to conservation challenges, and roots our decisions in good science.

e) Please include any relevant Tabor issues relating to the funding request that may affect the Contracting Entity.

There are no Tabor issues relevant to this funding request.

Part B. - Description of the Alternative Water Transfer Program/Project –

1. **Purpose of the Program/Project**

Please provide a summary of the proposed program/project, including a statement of what the program/project is intended to accomplish, the need for the program/project, the problems and opportunities to be addressed, the expectations of the applicant(s), and why the program/project is important to the applicant(s). The summary must include a description of the technical, institutional (i.e., how the program/project will be organized and operated), and legal elements that will and/or have been addressed by the applicant and proposed program/project. The summary should also discuss relevant project history, if applicable, and any other relevant issues.

Previous Studies
To the maximum extent possible, the results of any previous studies and investigation should be utilized and incorporated into the proposed program/project. The application for funding should include a brief summary of the results of previous studies and how they will be utilized.

The Nature Conservancy ("TNC"), as Applicant, Trout Unlimited ("TU") and the Community Agriculture Alliance ("CAA") with technical support from Camp, Dresser & McKee ("CDM") (collectively, "Project Team"), propose to evaluate various alternative transfer methods ("ATMs") for agricultural water in the Yampa Basin that, when combined with an understanding of the water rights in a given area, allow for agricultural water to be used to meet both nonconsumptive needs and irrigation shortages without permanently drying up any currently irrigated land.

The Project Team is committed to the maintenance of irrigated agriculture in the Yampa River Basin and around the State of Colorado. The Project Team believes that ATMs can be viable tools for creating conditions conducive to the continuation of productive and profitable agricultural operations. As demands for water in Colorado for municipal, industrial, environmental and recreational uses grow, market forces are causing agricultural producers to sell irrigation water rights and retire agricultural operations. Using ATMs, however, agricultural producers can take advantage of the increasing value of irrigation water while continuing to irrigate historical acreage. In such cases, agricultural operations continue and the producer receives payment for making some amount of irrigation water available for an alternative use. The payment for transferred water can create diversified income streams and increased financial security for the agricultural producer.

The proposed project will use water saved as a result of ATMs, in an ideal pilot project, for the benefit of in-stream nonconsumptive attributes and to meet irrigation deficiencies further downstream. That is the most simple example, but the Project Team intends to explore a variety of scenarios for meeting these multiple purposes. Indeed, the Project Team's interest in this project stems, in part, from the belief that ATMs can be used to free up consumptive use ("CU") water for transfer to nonconsumptive, in-channel environmental or recreational purposes, along with agricultural shortages or use in a water bank. Such transfers would benefit fish and wildlife, outdoor recreation, the tourism and recreation economies, overall quality of life and still

provide greater efficiency within the agricultural community to allow for optimization of agricultural water. The Yampa River Basin non-consumptive needs assessment recognizes that stream flows for environmental and recreational purposes are increasingly important in the Yampa Valley, and maintaining and improving stream flow conditions is a high priority for the Project Team. The Project Team believes that agriculture, environmental conservation and recreation are compatible, and we are excited about using this project as an opportunity to promote the common interests among those uses.

While the Project Team has an interest in transferring water to in-stream uses, it is not our intent to use this study for promoting transfer of large quantities of irrigation water to non-consumptive uses. Rather, we view ATMs as possible methods for making small quantities of irrigation water available for transfer to in-stream uses in select locations where it might be most valuable, such as in smaller order streams where the addition of a small amount of water could yield large environmental benefits. Then, by making that water available for irrigation shortages, the irrigation water will be used to bolster the stability of agriculture in the Yampa Basin while also meeting critical environmental needs. While we will discuss with the CWCB stream and lake protection staff the possibility of making formal arrangements for the state to use the water for temporary in-stream flow rights, the overall purpose is not to move water from irrigation permanently to in-stream flow rights but rather to find ways that saved irrigation CU can meet both nonconsumptive needs and irrigation shortages.

In the first phase of this project, for which we are currently seeking funding, we will:

- Identify areas in the Yampa Basin where ATMs could serve multiple purposes to address nonconsumptive needs and agricultural water shortages;
- Identify mechanisms for ATMs that are most suitable for multi-purpose projects addressing nonconsumptive needs and agricultural shortages; and
- Recommend next steps/locations for implementation and develop an implementation framework. Also, if possible, the Project Team will begin actual implementation of one or more pilot projects.

This project will build upon information from previous CWCB and basin roundtable studies, including the Agricultural Needs Study, the Watershed Flow Evaluation Tool Study, the CWCB's Statewide Water Supply Initiative 2010 report, and Basin Needs Assessment reports. Through this effort, the Project Team seeks to ensure that CWCB's current studies and reports are best utilized to leverage funds that CWCB has already spent to advance the understanding of current needs, and methods to meet those needs, in the Yampa Basin.

2. Study Area/Service Area Description

The study area/service area is generally the geographic area that is the subject of the proposed program/project (include both the source of supply and location and type of new use). The description should include the following items:

a) A narrative description of the study area/service area including: the county, the location of towns or cities, topography, and locations of major surface and ground water features.

The proposed project will be conducted in the Yampa Basin. While the exact locations are yet to be determined, the study will focus on sites within the Yampa Valley but will not, at this time, investigate opportunities in the White

River basin. Potential locations may be located adjacent to and receive irrigation water from tributaries of the Yampa River, rather than the river itself, but as mentioned, that is yet to be determined .

b) An area map showing each of the items above, as well as the locations of existing facilities, proposed project facilities and boundaries of lands involved in the proposed program/project.

A map depicting the location of irrigated acreage in the Yampa basin, including possible candidate tributaries to the Yampa River that may serve as the location for test sites, is attached as Figure 1.

c) Information regarding the irrigated lands that are involved in the program/project. This must include a tabulation of total irrigated acreage, description of cropping types, crop yields, and total average annual water diversions for existing agricultural lands.

The primary agricultural enterprise in the Yampa River Basin is livestock production, which is supported by locally grown forages in the form of both pasture and hay. Approximately half of the irrigated acreage in the Yampa Basin is used to grow pasture for grazing while the other half is used to grow hay to support animals during the long winter feeding period.

The primary crop grown in the project area is hay, which has a reputation as being high quality that commands a premium price (BBC Research & Consulting 1998). In addition to hay, there is a significant amount of alfalfa grown, and several other crops make up a small percentage of the total irrigated acreage. According to the State of Colorado 1993 irrigated acreage datasets, there are a total of 119,607 irrigated acres in the Yampa-White-Green area, of which 26,820 are in the White Basin, and 92,787 are in the Yampa and Green Basins. Irrigated acreage in the Yampa-White-Green Basin has varied over the past several decades, fluctuating between 60,000 and 90,000 acres in the Yampa Basin (BBC Research & Consulting 1998). Average annual agricultural diversions in the project area from 1975 to 2004 are approximately 721,000 AF/year, with approximately 284,000 AF/year in the White Basin and 436,000 AF/year in the Yampa Basin (CDSS 2008).

d) Information regarding the location of the new water use(s) that will be served by transferred water including the estimated number of users/taps and/or uses served.

As discussed above, the proposed project is designed to address the question of the potential to use ATMs for both nonconsumptive needs and agricultural water shortages. Therefore, the exact location of water use will be the subject of the study, but will however be located within the Yampa Basin.

e) Socio-economic characteristics of the area such as population, employment and land use.

As of 2010, approximately 33,000 people live in Routt and Moffat Counties (Routt 20,000 and Moffat 13,000). Historically, residents have made their living from mining, agriculture, and tourism. While the economy has changed over the years, these industries are still vital to the area. Moffat County's economy has not diversified as much as Routt's over the last 20 years. In terms of property tax collections, most of Moffat County's top businesses are energy related (coal, natural gas, pipelines, and electricity). Routt County's top ten property tax collections include coal, electricity, skiing, and recreational development. Other industries in the counties include medical services, construction, wildlife services, food services, and transportation, to name a few.

Agriculture is a small part of each county's gross economy, but is the largest business in terms of acres of land used. There are approximately 32,000 head of cows in both counties and 83,000 acres of hay were harvested in 2008. About half of those acres were used to produce irrigated mountain meadow grass hay and the rest was in dryland grass hay production or irrigated/dryland production of alfalfa hay. Approximately 70% of the land in both counties is available for livestock grazing. The gross market value of agricultural products for both counties was approximately $62 million dollars in 2008.

The Yampa River is the main waterway for both counties. The Yampa is considered one of the least developed water basins in the state.

Historic western ranching culture is still prominent in the social characteristic of both counties.

3. Description of the Alternative Water Transfer Method

Please describe the type(s) of water transfers that will be examined/utilized (i.e., conceived transfer methods include, but are not limited to: 1) interruptible water supply agreements; 2) long-term agricultural land fallowing; 3) water banks; 4) reduced consumptive use through efficiency or cropping changes while maintaining historic return flows; and 5) purchase by end users with leaseback under defined conditions). In addition, please describe how the transferable consumptive use will be calculated and quantified, and how return flow patterns will be addressed/maintained.

As discussed above, all ATM methods will be evaluated in the proposed project and calculation of consumptive use and effects on return flow patterns will be examined on a case by case basis as we move towards implementation of one or more pilot projects. Further, as the Project Team moves through the project, timing and location of water availability, including looking at return flow patterns, will continually be factored into the analysis.

Also, although our project is not specifically tied to a particular water bank concept, the ability to use ATMs in the Yampa Basin could turn out to be a critical component of any statewide water bank that may arise in the future for Colorado River Compact compliance or other purposes.

4. Program/Project Eligibility

Please describe how the proposed program/project meets each of the following eligibility requirements (please see Criteria and Guidelines for additional information regarding the alternative water transfer methods/strategies that qualify for funding). Note: If these requirements are addressed in other parts of the application you may simply reference the applicable section(s).

a) A description of how, if implemented, the proposed program/project will protect property and water rights.

See Part B, Section 1.

b) Identified group(s) of agricultural users that are or may be willing to transfer a portion of their water and identified entity(s), group(s) or area(s) where the transferred water could or would be put to the new use and a description of the new use.

See Part B, Section 2. Also, a significant task in the proposed project will include local outreach to irrigators at candidate locations to gage interest in participating in a pilot project. The outreach will occur throughout the span of the project with numerous stakeholders beyond just those irrigators at candidate locations to ensure that the agricultural community is as informed as possible about the proposed project going forward.

c) The program/project must at a minimum conceptually describe the technical, institutional, and legal elements of the water transfer. Grant monies may be used to address one or more of these elements. If grant monies are not requested for all three elements, the grant applicant must describe how the applicant has or intends to address the elements, which are not included in the grant request, through other efforts.

Part B, Section 1 of this application describes the technical issues this study will address. In sum, the project will develop a spatial representation of consumptive (municipal, industrial & agricultural) and non-consumptive (environmental and recreational) needs within the basin. Information from previous Colorado Water Conservation Board ("CWCB") and basin roundtable studies – including the Agricultural Needs Study, the Watershed Flow Evaluation Tool Study, the CWCB's Statewide Water Supply Initiative 2010 report, and Basin Needs Assessment reports – will be used to identify candidate locations at which ATMs could be utilized for multipurpose projects meeting both consumptive and nonconsumptive needs, with a specific focus on projects that meet agricultural shortages and environmental needs. Through combining this technical analysis with a targeted outreach and ground-truthing effort, the project will produce a report that describes favorable candidate locations for implementation of ATM projects and will describe in detail the ATM arrangement that would best facilitate the alternative water transfer to meet the consumptive and nonconsumptive needs in those projects. Thereafter, Applicant will begin implementation of recommended ATM projects.

To the extent that the Project Team is able to begin implementation of pilot projects, that will occur outside of the funding requested under this application. So, any legal issues, should they arise, will be dealt with after completion of the project phase contemplated in this application and CWCB funds will not be used to address any such legal issues.

d) If grant monies are proposed for use for legal assistance then the use of those funds shall be oriented toward advancing the knowledge of alternative agricultural water transfer methods and techniques; not for preparation of a specific water court case. The total requested funds for legal assistance shall not exceed 40 percent of the total grant request. In addition, grant monies proposed for use for legal assistance must be used to collaboratively address issues and concerns related to agricultural water transfer. Funds shall not be used to solely advance the cause of the project proponents.

Not applicable. See Part B, Section 4c immediately above.

e) A minimum of a 10 percent cash match of total project cost (past expenditures and "in kind" can

not be counted toward the 10 percent match).

We will meet, and exceed, this requirement by providing over 10% cash match in the sum of $15,000. In addition, we will also provide "in kind" match of $21,602. In total, we are matching 21% of the total project cost. The specifics of our match are set out in the budget attached to this application.

TNC and TU will be providing in-kind match in the form of project oversight and public education and outreach. Also, TNC and TU are committing a total of $15,000 of cash match that will go to pay only direct project costs. These cash match funds will not be used to cover indirect or administrative costs. Further, TNC will be leveraging $25,000 that TNC already provided to CAA to assist TNC on this project by utilizing CAA's outreach capabilities and solid relationships with the agricultural community in the Yampa Basin.

Also, TNC is asking for 10% administrative costs as TNC is the Applicant and will bear the majority of the administrative and compliance burden should the Project Team be awarded the grant amount requested above.

5. Program/Project Evaluation Criteria

The following grant evaluation criteria will be used by the CWCB to evaluate and make recommendations to fund, partially fund or not fund a grant application. The criteria are aimed at advancing alternative transfer methods from the literature and studies to actual on the ground projects/programs that provide reliable water supply and sustain key elements of the agricultural area from which the water is transferred. The applicant should fully address and explain in detail in the application how, and the extent to which, the proposed project/program meets <u>each</u> of the criteria. However, it should be noted that the project does not have to meet all of the criteria to be eligible to receive funding and the criteria below are not listed in any order of important or priority.

a) The proposed project/program builds upon the work of former alternative water transfer methods efforts and addresses key areas that have been identified (e.g. reduced transaction costs, presumptive consumptive use, and verification/administration issues). For more detailed information on this work, please refer to the draft technical memorandum, "*Alternative Agricultural Transfer Methods Grant Program Summary of Key Issues Evaluation," July 16, 2010.*

See Part B, Section 1 and Section 3.

b) Preference will be given to projects that provide additional matching resources in the form of cash, past expenditures and in-kind contributions that are in addition to the required 10% cash match.

As mentioned above, the Project Team will be contributing a total cash match of over 10% of the total costs of the project and will also be contributing $21,600 of in-kind match. Further, TNC has already provided $25,000 to CAA in anticipation of CAA's assistance on the proposed project.

c) The proposed project/program has the ability/potential to produce a reliable water supply that can be administered by the State of Colorado, Division of Water Resources.

The purpose of our study is to assess the feasibility of various ATMs as a methodology for producing a reliable water supply for meeting both nonconsumptive needs and agricultural shortages. Because of the breadth of the analysis proposed under this project, the project has the potential to show a variety of ways to use ATMs throughout the basin that the Project Team believes will lead to implementation of pilot projects in the Yampa basin. Once successful pilot projects are off the ground, then the Project Team hopes to continue to work to implement projects in other candidate locations identified in this phase of the project.

d) The proposed project/program produces information that is transferable and transparent to other users and other areas of the state (i.e., would provide an example "template" or roadmap to others wishing to explore alternate transfer methods).

The model established by this project could be put to use in other basins throughout Colorado and will eventually lead to ground-truthing of a variety of ATMs that may show which methods are more likely to work within Colorado's water administration system and under Colorado law. Further, other basins could learn from this project and build upon CWCB and local basin roundtable knowledge to identify candidate locations for multipurpose projects. The Project Team believes that the methods developed in this project could demonstrate to other basins how to best identify, and then implement, various ATM methods at the best candidate locations.

e) The proposed project/program addresses key water needs identified in SWSI or as identified in a basin's needs assessment.

The project will address at least seven of SWSI's management objectives: 1) sustainably meeting agricultural demands; 2) meeting environmental and recreation demands; 3) protecting cultural values; 4) promoting cooperation among Colorado water users; 5) optimizing existing and future water supplies; 6) promoting cost effectiveness; and 7) providing operational flexibility. By finding new ways to share water to meet both nonconsumptive needs and agricultural shortages, this project will provide a template for how to identify and then implement multi-purpose projects in areas of the State where agriculture is a critical part of the culture and economy. The Yampa Basin has a long history of agriculture and a strong culture that has arisen from that history. Finding ways to ensure the long-term viability of agriculture, while providing sustainable water supplies for the environment, will be critical to the continuation of the longstanding Yampa agricultural culture. This study will be an important step in determining which methods will work best to provide a sustainable future for agriculture and the environment in the Yampa basin.

f) The proposed project/program advances the preservation of high value agricultural lands. Value can be viewed as: the value of crops produced, the value the agriculture provides to the local community, and the value the agricultural area provides for open space and wildlife habitat.

Our proposed project will investigate ATMs as alternatives to the traditional buy-and-dry approach to transfers. Through the identification and implementation of multiple-purpose projects that meet both nonconsumptive needs and agricultural shortages, the Project Team intends to demonstrate methods that can ensure the continued viability of the agricultural community in conjunction with healthy rivers and streams in the Yampa basin. In addition, a survey of Routt County residents revealed that ranchlands were highly valued for many of the reasons cited above and that Routt County residents would be willing to pay $220 per year to preserve these lands in the

county (Magnan et al. 2005). So, the local population clearly cares about the preservation of the agricultural community, and finding methods for keeping agriculture in business while meeting nonconsumptive needs is a step towards ensuring that collaborative projects work to keep agriculture viable in the Yampa basin.

g) The proposed project/program addresses water quality, or provides other environmental benefits to rivers, streams and wetlands.

CU water generated through ATMs identified in this project will remain in-stream, for the benefit of an environmental attribute and to meet an agricultural shortage in the basin. As such, this water will increase in-stream flows and should produce benefits to fish, wildlife and the environment in general. Additionally, increased instream flows will enhance the dilution capacity of tributaries, and possibly the mainstem under certain conditions, thereby improving water quality conditions.

The project will demonstrate how ATMs do not have to benefit solely consumptive uses, or solely environmental attributes, but rather show how both needs can be met in the same project.

h) The proposed project/program increases our understanding of and quantifies program/project costs. This could include: institutional, legal, technical costs, and third party impacts.

The proposed project will improve our understanding of the potential for ATMs to serve as mechanisms to meet consumptive and nonsumptive needs and due to the breadth of the project will provide comparative examples of costs between different ATMs under different scenarios.

i) The proposed project/program does not adversely affect access to other sources of water (not subject to/participating in the program) where owners of these water rights may wish to pursue traditional transfer of their rights to other users.

If any of the ATMs investigated in the proposed project prove to be a feasible method of freeing CU water for temporary transfer to other uses, there is no reason that such a program would interfere with other water users wishing to pursue more traditional, permanent transfers of their water rights.

j) The proposed project/program provides a perpetual water supply for the new and/or alternate use and preserves agricultural production and/or helps sustain the area's economy from which the transfer is occurring.

The Project Team anticipates that the project will identify a number of candidate locations for ATM-based multi-purpose projects. This should allow, through targeted outreach, for the Project Team to develop a network of candidate projects throughout the basin. If the Project Team can find sufficient funding to follow through with full implementation of one or more pilot projects, then we anticipate that the framework put in place by this project will yield multiple opportunities for arrangements that will maximize the water supply for agriculture and the environment for the foreseeable future.

Irrigators participating in any pilot project stemming from this proposed project would be compensated a fair market price for their water, and the hope is that both the irrigator suffering shortage and the environmental community could combine funding sources to compensate the irrigator that has CU water available for sharing.

k) The quantity of water produced by the proposed project/program. Preference will be given to programs that can address larger water supply needs.

The Project Team intends to implement ATMs in candidate locations with the greatest environmental benefit while still meeting agricultural shortages in the basin. Therefore, it is difficult to discern at this point exactly how much water can be produced. However, if pilot projects prove to be successful, the Project Team envisions this project serving as the framework for a succession of multiple purpose projects that would benefit both the environment and the agricultural community and, with that in mind, hopes to produce significant amounts of water and significant optimization of existing supplies.

6. Statement of Work

Provide the proposed statement of work. On the following page there is an example format for the statement of work. You can use the example format or your own format, provided that comparable information is included. The statement of work should outline by task how the proposed program/project will be accomplished. It is important that the statement of work detail the specific steps, activities/procedures that will be followed to accomplish each individual task and the overall program/project and the specific products/deliverables that will be accomplished. The statement of work must include but not be limited to: task description, key personnel, budget, schedule and deliverables and the final report/project documentation upon completion of the water activity.

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.

Please provide a detailed statement of work using the following template. Additional sections or modifications may be included as necessary. Please define all acronyms. If a grant is awarded an independent statement of work document will be required with correct page numbers.

Statement of Work

WATER ACTIVITY NAME – Use of ATMs to meet non-consumptive and consumptive needs in the Yampa Basin

GRANT RECIPIENT – The Nature Conservancy

FUNDING SOURCE – CWCB Alternative Agricultural Water Transfer Methods Grant Program

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)

The Yampa-White Basin roundtable has completed a consumptive needs assessment and is working towards completion of a non-consumptive needs assessment as required by HB05-1177. This project is intended to build on the findings of these needs assessments to identify potential alternative agricultural transfer projects that could be used to meet needs for both non-consumptive and consumptive water uses in the Yampa Basin. Information from previous CWCB and basin roundtable studies will be used to identify candidate locations at which ATMs could be utilized for multipurpose projects meeting both non-consumptive and consumptive needs, with a specific focus on projects that meet environmental needs and agricultural shortages. Through combining this technical analysis with a targeted outreach and ground-truthing effort, the project will produce a report that describes favorable candidate locations for implementation of ATM projects and will describe in detail the ATM arrangement that would best facilitate the alternative water transfer in each candidate location. Thereafter, Applicant will begin implementation of recommended ATM projects.

Study Objectives and Overview

This effort is intended to build on the findings of the Yampa-White Basin needs assessments to identify potential projects and methods that could be used to meet non-consumptive and consumptive needs in the Yampa Basin. This effort will leverage existing studies funded by CWCB to identify the most favorable candidate locations for implementing ATM projects to meet non-consumptive and consumptive needs. The main targeted needs of this project will be environmental attributes and agricultural shortages. The project will examine available water rights and a variety of ATM mechanisms to ensure that the final report identifies the best candidates possible for ATM projects. The final report will serve as a blueprint for near-term implementation of a number of ATM projects, and in the long term, the analysis developed through this project will serve as a model for locating multipurpose projects that optimize water use in the Yampa basin.

Following are the study objectives for this project:

1. Identify locations in the Yampa Basin where ATM could help to meet non-consumptive needs and agricultural shortages
2. Analyze ATM transactions that might be used to meet multiple needs in specific candidate locations
3. Identify which ATM mechanisms are most suitable for meeting multiple purposes in each candidate location
4. Conduct outreach to water rights owners, governmental entities and other interests to gage, and develop, interest in ATM transactions
5. Produce a final report describing in detail the most favorable ATM transactions and describing the next steps for implementing each of those transactions
6. Begin working toward implementation of ATM transactions recommended in the final report.

Following is a summary of the tasks to be completed as part of the study and outreach effort:

Tasks include:

- Task 1 – Identify location and timing of non-consumptive and consumptive needs, with a focus on environmental needs and irrigation shortages
- Task 2 – Analyze possible ATM transactions that might be implemented to meet multiple needs in these locations, including analysis of timing and location of water availability through the ATM
- Task 3 – Identify the best ATM transaction for implementation in each location, taking into account the timing and location of water available through the ATM and the timing and location of the non-consumptive and consumptive need
- Task 4 – Conduct outreach to appropriate water rights owners, governmental entities and other interested parties
- Task 5 – Prepare a report describing the most favorable ATM transactions and identifying next steps to implement transactions
- Task 6 – Begin implementation of recommended ATM transactions

Task 1 – Identify Location and Timing of Non-Consumptive and Consumptive Needs
CDM ("Contractor") will utilize the following information to identify locations and timing of non-consumptive and consumptive needs in the Yampa Basin for a range of hydrologic conditions:

- SWSI 2010
- Irrigated lands from Colorado Decision Support System and reviewed during Yampa-White Ag Study
- Water short agricultural areas based on existing studies
- M&I Demands to 2050
- Environmental needs based on existing information from the Non-consumptive Needs Assessment, Watershed Flow Evaluation Tool, Priority Waters Project, and TU's Conservation Success Index. The flow evaluation tool will be used based on a range for each CDSS node. Flow amounts are generated based on attribute and location in the Non-consumptive Needs Assessment mapping. Up to three hydrologic periods will be simulated in CDSS. Contractor will identify areas where non-consumptive attributes would benefit from additional water.

Contractor will use above information to identify location and timing of water needs over three hydrologic periods. Once these needs have been identified at specific locations, areas with multiple uses can be determined. Contractor will develop a brief technical memorandum summarizing the results of Task 1. In addition, Contractor will prepare GIS database of information gathered in this task.

Task 2 – Analyze Possible ATM Transactions
Based on information gathered in Task 1, Contractor will investigate the most appropriate ATMs for addressing multiple (non-consumptive and consumptive) water needs. The Contractor will use the CDSS to evaluate these options.

Alternative Transfer Methods to be examined include, but are not limited to, the following:

- Interruptible supply agreements
- Rotational fallowing
- Reduced crop consumptive use
- Deficit irrigation
- Purchase and leaseback
- Delivery system efficiency improvements
- Crop type changes
- Participation in water banking as that concept develops

Contractor will prepare an inventory of the water rights associated with candidate locations identified in this task and will analyze the timing and amounts of water that would be made available through application of an ATM to these water rights. In addition, Contractor will evaluate whether exchange potential exists to address a multi-purpose area. Contractor will investigate the timing of return flows from irrigated lands that may need to be taken into account when implementing an ATM . This task could involve use of the CDSS in a limited fashion to evaluate the feasibility of this.

Task 3 – Identify the Best ATM for Implementation in each Location

Building on the information gathered in Tasks 1 and 2, Contractor will identify the best ATM transaction for implementation in each location with multiple (non-consumptive and consumptive) water needs. In determining the best possible ATM transactions, Contractor will take account of the timing and location of water available through the ATM and the timing and location of the non-consumptive and consumptive need. For the candidate locations, estimates on amount of water and timing to address needs will be summarized. This information will be summarized using GIS information.

Contractor will prepare a brief technical memorandum summarizing the results of Tasks 2 and 3 and will map candidate locations.

Task 4 – Conduct Outreach to Appropriate Water Rights Owners, Governmental Entities and Other Interested Parties

Early in the project (concurrent with Task 1), Contractor, the Project Team and CSU Extension Office ("Project Partners") will conduct outreach to various governmental entities and water interests in the basin to provide information about the study and receive feedback and reactions. Later, based on information gathered through Tasks 1 through 3, the Contractor will identify specific landowners and water rights holders and other interested parties to contact regarding specific ATM transactions to meet multiple-purpose needs. The Project Partners will conduct outreach to these parties and will work to develop interest in the candidate ATM transactions. Also, the Project Partners will conduct outreach with a broad range of potential partners at the basin and statewide levels in order to build coalitions that can effectively muster the resources to successfully implement one or more pilot projects in the future.

Task 5 – Prepare a Report Describing the most Favorable ATM Transactions and Identifying Next Steps to Implement Transactions

Contractor will summarize information from Tasks 1 through 4 in a final report. The report will identify a number of the most favorable candidate locations for implementation of a multi-purpose ATM and will describe the ATM method or methods most suited to each location. The report will detail the ATM arrangement that Contractor recommends for each candidate location. It will identify whether any infrastructure may be needed to resolve multi-purpose needs, and it will describe steps necessary to implement the ATM.

Task 6 – Begin Implementation of Recommended ATM Transactions

With the report complete, Project Partners will work to develop the recommended ATM transactions. Implementation of recommended ATM transactions will require working partnerships with water rights holders and others and will also require financial resources. The Project Partners will work to bring in partners throughout the Yampa Basin and the state to assist in working towards implementation of the recommended transactions. As part of this grant request, the Project Team would like to reserve $10,000, as cash match from TNC and TU, to put towards implementation of a recommended ATM transaction, but will also seek further funding in the future from various sources and through partnerships should this amount be insufficient to begin implementation of a pilot.

KEY PERSONNEL INVOLVED IN COMPLETION OF ABOVE TASKS

Adam Bergeron, The Nature Conservancy, abergeron@tnc.org
Geoff Blakeslee, The Nature Conservancy, gblakeslee@tnc.org
Drew Peternell, Trout Unlimited, DPeternell@tu.org
Nicole Rowan, CDM, rowannc@cdm.com
Sue Morea, CDM, moreasc@cdm.com
Hal Simpson, CDM halsimpson28@msn.com
Mark McCluskey, CDM, mccluskeymj@cdm.com
Becky Dunavant, CDM, dunavantra@cdm.com
CJ Mucklow, CSU Extension Office
Brian Hodge, Trout Unlimited, bhodge@tu.org
Marsha Daughenbaugh, CAA

BUDGET

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, $/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

Budget is attached separately.

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. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

Schedule is attached separately along with budget.

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 the public and help promote the development of alternative agricultural transfer methods.

Additional Information – If you would like to add any additional pertinent information please feel free to do so here.

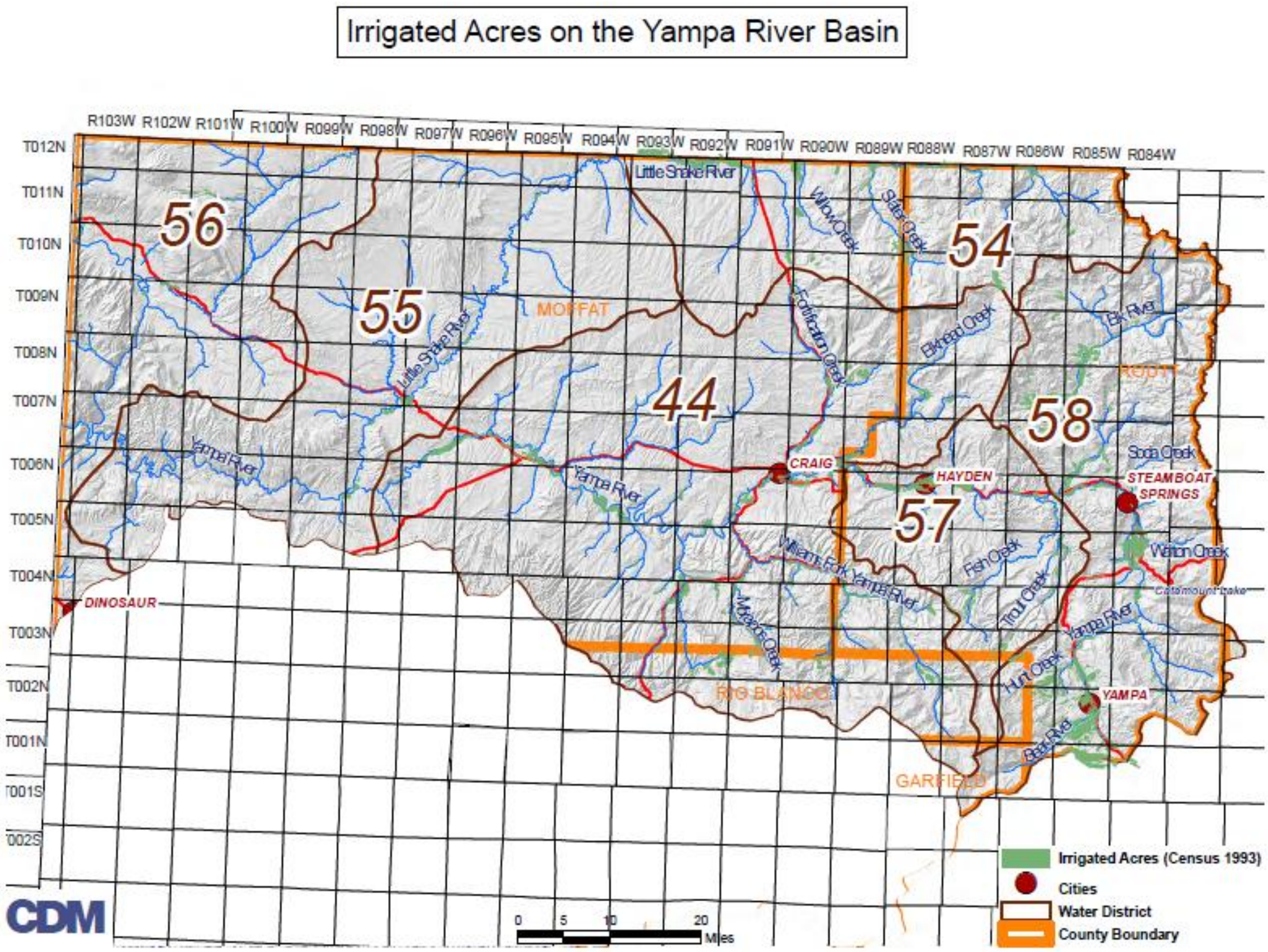
The above statements are true to the best of my knowledge:

Signature of Applicant: signed /Adam Bergeron/
Print Applicant's Name: Adam Bergeron
Project Title: Use of ATMs to meet non-consumptive and consumptive needs in the Yampa Basin
Date: June 29, 2011

Return this application to:

Mr. Todd Doherty
Colorado Water Conservation Board
Water Supply Planning Section
1580 Logan Street, Suite 200
Denver, CO 80203
Todd.Doherty@state.co.us

FIGURE 1


Irrigated Acres on the Yampa River Basin
56
55
54
44
58
57
MOFFAT
RIO BLANCO
GARFIELD
CRAIG
HAYDEN
STEAMBOAT SPRINGS
DINOSAUR
YAMPA
Little Snake River
Yampa River
Williams Fork Yampa River
Elk River
Irrigated Acres (Census 1993)
Cities
Water District
County Boundary
CDM
0 5 10 20 Miles