COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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John Hickenlooper, Governor

Mike King, DNR Executive Director

James Eklund, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Craig Godbout, Program Manager
Alternative Agricultural Water Transfer Methods Grant Program (ATM)
Water Supply Planning Section

DATE: May 5, 2015

AGENDA ITEM: 11; Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program in the Arkansas River Basin Alternative Agricultural Water Transfer Methods Grant Request

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Staff Recommendation – Action Items: ATM Grant Request

Background: Of the approximately $4,750,000 in ATM Grant appropriations, approximately $763,000 remains available for qualifying applicants and their respective projects. If approved, the attached ATM Grant application for $173,781.50 will result in a reduced balance of approximately $589,000.

If approved, the "Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program in the Arkansas River Basin" project will constitute the 24th ATM Grant approved by the CWCB. Of the previous 23 projects, 13 are in-progress, and 10 have been completed or closed-out.

Staff's review of the applications involves the following steps:
1) Applications are reviewed for completeness based on the information requirements, which are primarily outlined in the Criteria and Guidelines (C&G).
2) Applications are reviewed to verify that the water activity meets the eligibility requirements in the C&G.
3) Staff then prepares the Water Activity Summary Sheet which documents the outcome of the review process and contains staff's recommendations.

Staff concludes this ATM Grant application is complete and the proposed activity meets the eligibility requirements in the C&G. The Water Activity Summary Sheet, ATM Grant Application, and letters of support and commitment are attached.

Staff recommendation:
Staff recommends approval of up to $173,781.50 from the Alternative Agricultural Water Transfer Methods Grant Program to help fund the "Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program in the Arkansas River Basin" project.

Alternative Agricultural Water Transfer Methods – Competitive Grant Program
Water Activity Summary Sheet
May 20-21, 2015
Agenda Item 11

Applicant & Fiscal Agent:	Lower Arkansas Valley Water Conservancy District (Lower Ark)
Water Activity Name:	Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program in the Arkansas River Basin
Water Activity Purpose:	Demonstrate that rotational land fallowing – municipal leasing is a viable alternative to historical "buy-and-dry" of irrigation water rights for Municipal and Industrial uses.
Drainage Basin:	Arkansas
Water Source:	Arkansas River
Amount Requested:	$173,781.50
Matching Funds:	$19,310.00 total cash match from Lower Ark (11.1% of total grant request, 10% of total current project costs)

Staff Recommendation
Staff recommends approval of up to $173,781.50 from the Alternative Agricultural Water Transfer Methods Program to help fund the "Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program in the Arkansas River Basin" project.

Water Activity Summary: ATM grant funds, if approved, will be expended in general, to demonstrate, through actual operation of the Catlin Pilot Project, that rotational land fallowing – municipal leasing is a viable alternative to historical "buy-and-dry" of irrigation water rights for M&I uses. The Catlin Pilot Project is intended to provide on-the-ground "proof of concept" of rotational fallowing – leasing by making irrigation water rights available for municipal use while protecting irrigated agriculture. The Operations Program is intended primarily to address technical elements associated with on-the-ground operation of the Catlin Pilot Project pursuant to the terms and conditions of the Pilot Project Approval. In addition, it is anticipated that means of streamlining operations and administration for this and future rotational fallowing – leasing pilot projects will be identified, potential barriers to participate in rotational fallowing – leasing will be overcome, and more widespread interest in undertaking rotational fallowing – leasing will take hold.

The Catlin Pilot Project involves three municipalities (the Town of Fowler, the City of Fountain, and Security Water District), six farms (Schweizer, Diamond A, Hirakata Farms, Hancock, Diamond A East, and Hanagan Farms), and the Catlin Canal Company. The Operations Program will support leasing of up to 500 acre-feet annually to the three municipalities. All of the entities voluntarily chose to participate in this Pilot Project.

More specifically, the Operations Program will provide funding for on-the-ground staffing and equipment needs for the first two years of the Pilot Project's operations to ensure continued implementation of the Pilot Project during its ten-year term. Specific tasks include:

1) Purchase and Install Equipment for Operations
2) 2015 Operations, Accounting, and Annual Reporting
3) 2016 Share/Parcel Identification
4) 2016 Operations, Accounting, and Annual Reporting
5) Recharge Site Identification

Discussion: On January 27, 2015, the CWCB approved the first Rotational Fallowing Leasing Pilot Project under HB 13-1248 with the Lower Ark and the Lower Arkansas Valley Super Ditch, Inc, as co-applicants. Staff considers this effort to align well with the IBCC No/Low Regrets Action Plan, the Arkansas Basin Implementation Plan, and Colorado's Water Plan.

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

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 Criteria and Guidelines of the Alternative Agricultural Water Transfer Methods Competitive Grant Program, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

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

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

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

COLORADO WATER CONSERVATION BOARD

ALERNATIVE AGRICULTURAL WATER TRANSFER METHODS COMPETITIVE GRANT PROGRAM

GRANT APPLICATION FORM

Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program in the Arkansas River Basin

Program/Project Name

River Basin Name

$173,781.50	**$19,310.00**
Amount of Funds Requested	Amount of Matching Funds

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 Craig Godbout of the Water Supply Planning Section (Colorado Water Conservation Board) for assistance, at (303) 866-3441 x3210 or email at craig.godbout@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 Craig before completing this application.

Alternative Agricultural Water Transfer Methods – Grant Application Form
October 2010

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

1. Applicant Name(s): **Lower Arkansas Valley Water Conservancy District**

Mailing address: **801 Swink Ave.**
Rocky Ford, CO 81067

Taxpayer ID#: **481298144** Email address: **jwinner@centurytel.net**

Phone Numbers: Business: **719-254-5115**
Home: **719-469-8935**
Fax: **719-254-5150**

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

Name: **Peter Nichols/Leah Martinsson, Berg Hill Greenleaf Ruscitti**

Position/Title **Special Counsel to the Lower Ark District**

Email: **pdn@bhgrlaw.com and lkm@bhgrlaw.com**

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

Not Applicable.

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 Lower Arkansas Valley Water Conservancy District (the "Lower Ark District") is a water conservancy district established in 2002 pursuant to Colorado law, C.R.S. § 37-45-101, et seq.

Contacts: ***Jay Winner, General Manager, LAVWCD***
801 Swink Ave.
Rocky Ford, CO. 81067
719-469-8935
or

Peter Nichols/Leah Martinsson
Special Counsel, LAVWCD
Berg Hill Greenleaf & Ruscitti, LLP
1712 Pearl Street
Boulder, CO 80302
303-402-1600

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.

Not applicable.

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 Lower Ark District encompasses most of the Lower Arkansas River Basin, from above Pueblo Reservoir to the Kansas state line, including Pueblo and John Martin Reservoirs, and Pueblo, Otero, Crowley, Bent and Prowers Counties.

The Lower Ark District has a general fund budget of approximately $1.9 million per year, funded primarily by a 1.5 mill levy on real property within the District. All of the budget is spent on water-related activities, as described in more detail below.

The full-time staff of four includes the General Manager, Jay Winner; Conservation Program Manager, Bill Hancock; Staff Engineer: Jack Goble; Financial Officer, Brenda Fillmore; and Office Manager, Carla Quezada. In addition, the District extensively uses the services of its outside General Counsel, Bart Mendenhall, and Special Counsel, Peter Nichols, as well as the services of consulting engineers such as Martin and Wood Water Consultants, Inc.

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

The Lower Ark District was formed by a vote of the electorate in 2002 to conserve water resources for their greatest beneficial use within the District, essentially the Lower Arkansas Valley. The District has been active in five primary program areas since its formation:

1. ***Development of alternatives to the permanent dry-up and transfer of irrigation water rights for use outside the Lower Valley;***

2. ***Education and research to promote improved financial returns from irrigated agriculture;***

3. ***Development of so-called Rule 10 Compact Compliance Plans to facilitate the operation of existing and installation of new irrigation improvements to support irrigated agriculture;***

4. ***Preservation of irrigated agriculture through conservation easements and as purchaser-of-last-resort of irrigated farms and ranches in the Lower Valley;***

5. ***Purchase of strategic water rights for use in the Lower Valley, such as augmentation water; and***

6. ***Lease of water for augmentation use in the Lower Valley and to repay Colorado's water debt to Kansas.***

The Lower Ark District is the recognized leader in Colorado in developing a fallowing-leasing program to meet the water needs of Front Range municipalities while preserving irrigated agriculture and the economic future of rural Colorado. This work began in 2003 and has grown over time leading to the recent approval obtained by the Lower Ark District to operate a rational fallowing-leasing pilot project, as described in more detail below.

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

The Lower Ark District's 1.5 mill property tax levy is exempt from TABOR pursuant to the election that formed the District in 2002.

The Lower Ark District formed a Water Activity Enterprise in 2003 to manage the District's water assets and provide services to the Lower Ark District on a reimbursable basis. The Lower Arkansas Valley Water Enterprise Fund would be the contracting entity for this project.

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.

Project Intent. ***Broadly, the proposed Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program ("Operations Program") is aimed at demonstrating, through actual operation of the Catlin Pilot Project, that rotational land fallowing - municipal leasing is a viable alternative to historical "buy-and-dry" of irrigation water rights for M&I uses. The Catlin Pilot Project is intended to provide on-the-ground "proof of concept" of rotational fallowing – leasing by making irrigation water rights available for municipal use while preserving irrigated agriculture. Preserving irrigated agriculture is critical to the future of rural communities in the Lower Arkansas Valley, which depend on agriculture as their economic lifeblood. More specifically, the Operations Program will provide support needed to undertake the day-to-day operations and adminstration of the Catlin Pilot Pilot.***

Project Need. ***On January 27, 2015, the CWCB approved the first Rotational Fallowing Leasing Pilot Project under HB 13-1248 (codified at C.R.S. § 37-60-115(8)), with the Lower Ark District and the Lower Arkansas Valley Super Ditch Company, Inc. as co-applicants. The approved Catlin Pilot Project is a ten-year pilot project that will involve the rotational fallowing of approximately 1,200 acres irrigated under the Catlin Canal in the Arkansas River Basin to generate up to 500 acre-feet of water available for lease to three municipal participants (Fowler, Fountain, and Security Water District).***

The conditions of CWCB's January 27, 2015 approval for the Catlin Pilot Project (the "Pilot Project Approval") are extensive and include 60 terms and conditions to which the District and Super Ditch must comply in operating the project. A copy of the Pilot Project Approval is included as an attachment to this application. That approval requires, for example:

- ***Calculation of consumptive use credits, return flow obligations, and disposition of consumptive use credits and return flow water with numerous accounting elements on a daily basis***
- ***Daily recharge accounting, including daily content measurements, daily precipitation, and daily evaporation***
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- ***Weekly submittal of accounting for the first 75 days***

- ***Recharge pond monitoring for vegetation, seeps, overtopping or inducement of elevated ground water tables***
- ***Periodic monitoring of dry-up parcels for compliance with dry-up requirements***
- ***Annual report preparation (to include a comprehensive summary of year's operations, accounting summary, information on all costs associated with operations, a description of any obstacles to operation encountered, evaluation of erosion prevention and noxious weed control, any proposed operational modifications for the upcoming year, and any potential additional terms and conditions needed to prevent material injury to other water rights)***
- ***Annual mapping of parcels to be fallowed***
- ***Annual identification of how/where nonparticipating shares will be used, including location of irrigated lands***
- ***Identification of water supplies that will be used on non fallowed portions of participating farms***

The Catlin Pilot Project was the first application to be submitted and approved through the CWCB HB 1248 pilot program. This meant that the Catlin Pilot Project application was the first to go through the process established in the CWCB's Criteria and Guidelines and was also the first to conduct an analysis using the Lease-Fallowing Tool that was developed by the Division of Water Resources. As a result, the process of putting together the Catlin Pilot Project application, working through the comments of nine parties, preparing a joint conference report with those commenting parties on proposed terms and conditions, obtaining the Pilot Project Approval and then complying with the "conditions precedent" to 2015 operations that were set out in that approval was an arduous one that involved significant commitment of time and financial resources by the Lower Ark District. It is estimated that the Lower Ark District has invested over $3.0 million in investigating and addressing legal, technical, and institutional issues associated with the concept of leasing fallowing, and over $200,000 alone in putting together and obtaining approval for the Catlin Pilot Project.

The Operations Program will provide funding to support on-the-ground staffing and equipment needs for the first two years of the Pilot Project's operations to ensure continued implementation of the Catlin Pilot Project during its ten-year term. Adequate funding for on-the-ground implementation is critical for compliance with the terms and conditions of the Pilot Project approval described above. Many of these terms and conditions are more onerous than would be found even in a water court decree, but are intended to demonstrate to interested parties through careful operations and detailed accounting that rotational fallowing-leasing can occur without injury to other water rights. This on-the-ground experience will assist in evaluating opportunities and challenges in operating future rotational leasing fallowing projects. In addition, it will provide funding to identify additional recharge site locations. Use of recharge in the Arkansas River Basin is currently limited, but use of recharge will need to be expanded to replace return flow obligations owed from alternative transfer methods such as rotational fallowing-leasing. While it is anticipated that operations will be streamlined and simplified over time, having adequate support during the first years of operations is critical to the Pilot Project's success.

<u>Problem and Opportunities</u>. Success of the Catlin Pilot Project is important to the Lower Ark District because it would reflect the first "proof of concept" for rotational land-fallowing municipal leasing as a viable alternative to the permanent buy and dry of agricultural lands, which is a key mission of the Lower Ark District and a critical component of the State Water Plan. As explained above, however, because the Catlin Pilot Project is the very first of its kind, it faced skepticism and has been subjected to somewhat excessive requirements for operations and accounting. The Lower Ark District is hopeful that by running a successful pilot project, this skepticism will be replaced with enthusiasm.

Alternative Transfer Methods ("ATMs") such as rotational fallowing – leasing have been identified as a critical means of addressing the State's identified water gap. The Statewide Water Supple Initiative estimates that by 2050, Colorado may lose 500,000 to 700,000 acres of currently irrigated lands to meet municipal water demands if alternatives to meeting those demands are not aggressively pursued. Both the LBCC and the basin Roundtables have concluded that the continued buy-and-dry is contrary to the vision of our state being a great place to live and work. Rotational fallowing-leasing has been identified as an ATM with significant potential to avoid the permanent dry-up of agricultural lands while providing additional supplies for M&I demands.

The Operations Program in support of the Catlin Pilot Project provides an excellent opportunity to build on years of efforts undertaken by the Lower Ark District, the CWCB, and other stakeholders to advance rotational fallowing-leasing. The Lower Ark District has undertaken extensive investigations into the technical, financial, and legal viability of rotational fallowing-leasing (discussed below) and now we have the chance to put that work to the test. The Operations Program to support the Catlin Pilot Project will further the purpose of HB 1248 to test the efficacy of using the streamlined approach of the LFT for determining critical technical components of rotational fallowing-leasing plans, and will also provide an opportunity to identify further opportunities for streamlined approaches and methodologies, whether technical, institutional, or administrative/operational, for use in future pilot projects.

Importance to and Expectations of Lower Ark District. The Lower Ark District was "established for the purposes of conservation of the water resources within the District, [and] for their greatest beneficial use." Case No. 02CV793 (Pueblo County, Colo. Dist. Court, 2002). The District has spearheaded efforts to development and implement rotational fallowing – leasing, including development of the Super Ditch Company as a vehicle for testing rotational fallowing-leasing for several reasons:

1. ***Alternative transfer methods such as rotational fallowing and leasing furthers the primary mission that the voters in SE Colorado mandated to the Lower District.***

2. ***An alternative to historical buy-and-dry is urgently needed to provide owners of irrigation water rights an economically viable and attractive alternative to selling their water rights outright.***

3. ***Land fallowing and water leasing has been discussed in water circles and academia for decades, has been successfully tested and implemented in California in a much simpler institutional and legal setting, but has yet to be proven in Colorado.***

4. ***The complexity and resources required to develop a rotational fallowing-leasing pilot project were beyond the capacity of individual shareholders, ditch companies, and potential water users/lessees, and the District has both volunteered and committed to the challenge.***

The Lower Ark District anticipates that through operating the Catlin Pilot Project, it will be demonstrated that rotational fallowing-leasing is a viable alternative to permanent buy-and-dry. In addition, it is anticipated that means of streamlining operations and administration for this and future rotational fallowing-leasing pilot projects will be identified, potential barriers to participation in rotational fallowing-leasing will be overcome, and more widespread interest in undertaking rotational fallowing-leasing will take hold. As indicated above, the Lower Ark District has invested significant time and financial resources in support of rotational fallowing – leasing and now the Lower Ark District seeks to find out whether rotational fallowing-leasing can be made to work in Colorado.

Previous Studies. ***In prior years, the Lower Ark District focused significant efforts to identify an appropriate vehicle for farmers to participate in rotational fallowing – leasing and address various legal and institutional aspects of rotational fallowing - leasing. This led to creation of the Lower Arkansas Valley Super Ditch Company, which was established to provide a vehicle for Lower Valley irrigators a voluntary alternative to improve the economic use of their water – this has remained the number one priority of the Board of Directors of the Lower Ark District. Special counsel, staff and board members of the Lower District have been working on this concept for nearly five years. In furtherance of this effort, the Lower District has expended roughly $3,000,000 to date on technical, institutional, and legal analyses to further the Super Ditch Company and rotational fallowing - leasing. After all of this study, the Lower Ark District has moved into the implementation phase with the Catlin Pilot Project, which will represent the first fallowing-leasing program to provide water supplies to municipal water users through the Super Ditch.***

The Lower District evaluated the feasibility of a Lower Valley water leasing program, to prove the concept, and to address essential antecedent issues to the formation of the Super Ditch Company and answer questions associated with rotational fallowing and leasing. Principle studies and investigations completed to date include:

a. ***Technical proof of concept. HDR Engineering; Inc., "Lower Arkansas Valley Water Leasing Potential Preliminary Feasibility Investigation," Aug. 2006. This engineering investigation confirmed that adequate water rights would be available for lease in the Lower Valley to meet the demands of water users. For example, approximately 250,000 acre feet of water would be available for lease in an average year, and over 100,000 acre-feet in an exceptionally dry year, like 2002.***

b. ***Preliminary water engineering for water leasing program. HDR Engineering, Inc., "Rotational Land Fallowing-Water Leasing Program Engineering and Economic Feasibility Analysis, Final Report," Nov. 2007. This engineering study refined yield estimates of potential water available for lease and also analyzed exchange, storage and water quality issues. In addition, the study included a macro-economic analysis of water leasing, including water pricing, lease payments, and third party impacts.***

c. ***Economic analyses of regional water markets, alternative leasing structures, ditch company and shareholder revenues, and regional economic impacts. George Oamek, Honey Creek Resources, Jan. 2008. This study built upon the programmatic economic analyses in the Feasibility Analysis, developing specific scenarios for leases by ditch, compared to selling out and continuing farming. The Steering Committee used this information to reach decisions on operational and organizational aspects of the Super Ditch Company.***

d. ***Legal analysis of alternative forms of Super Ditch Company (Anthony van Westrum, LLC, Jan. 2007). This report reviewed all of the potential legal structures available for the Super Ditch Company with regard to essential operational and organizational issues. Most options were eliminated because they could not meet one or more critical objectives of the irrigators, leaving a for-profit Colorado corporation as the leading candidate.***

e. ***Draft articles of incorporation and bylaws for Lower Arkansas Valley Super Ditch Company (van Westrum; July 2007 – March 2008, on-going). Following review of initial drafts of articles of incorporation and bylaws, several subsequent drafts have been developed to respond to concerns and to refine organizational and operational objectives of the Steering Committee.***

f. ***Legal analysis of the ditch companies' articles of incorporation and bylaws with regard to water leasing. Trout, Raley, Montaño, Witwer & Freeman, PC, Oct. 2006. This was a review of the existing restrictions in***

the articles of incorporatoin and bylaws of the ditch companies whose shareholders are interested in water leasing. Two ditch companies clearly would allow water leasing under their current organizational documents, a third has historically allowed the use of water outside the company's service area although the organizational documents are not entirely clear concerning a shareholder's right to do so, while the shareholders of four other ditch companies would need to amend their organizational documents to permit water leasing. Trout, Raley, Montaño, Witwer & Freeman subsequently developed model language to permit water leasing, and identified the procedures for shareholders to make such changes.

g. Legal analysis of 1041 land use permitting requirements. Trout, Raley, Montaño, Witwer & Freeman, P.C., Aug. 2006. Water leasing would trigger so-called 1041 permitting requirements in up to four counties where irrigators may wish to participate in water leasing, including Bent, Otero, Prowers and Pueblo.

h. Legal investigation of municipal authority to work with the Super Ditch Company. Kelly McMullin, Esq. and Mark Shea, Esq., Colorado Springs Utilities, Moey Hammond, Esq., Carlson, Hammond & Paddock, David Robbins, Esq., Hill & Robbins, Anthony van Westrum, LLC, and Trout, Raley, Montaño, Witwer & Freeman, P.C. on-going. This joint effort has focused on legal impediments to municipal water leasing and the development of solutions to identified issues.

i. Preliminary engineering report for pipeline from Lower Arkansas Valley to northeast El Paso County. Boyle Engineering, under contract to Pikes Peak Regional Water Authority, Lower Ark WCD, and Morley Investments, draft expected fall 2008. This engineering analysis was commissioned to look at the feasibility of combining four planned pipelines into one pipeline. Specifically, PureCycle, Morley Investments and the Pikes Peak Regional Water Authority, in addition to the Lower Ark District for the Super Ditch Company, plan pipelines to deliver water from the Lower Arkansas River to northeast El Paso County. This study is to examine the feasibilty of a single pipeline project that would meet the needs of all four entities, although it would include branches to serve specific needs of the individual participants.

j. Antitrust Implications of Plan by Lower Arkansas Valley Super Ditch Company to Collectively Lease Water Rights. Thomas P. McMahon, Esq., Jones & Keller (July 15, 2008). This legal analysis was commissioned at the request of the CWCB to address potential antitrust issues of the water leasing program. The analysis concluded that the courts would likely consider the Super Ditch Company a "new product" that would pass legal muster.

k. Alternative Water Transfers Methods – Task B, Storage Faciliteis, AEOCM, April 5, 2010.

l. Draft Report A Proposed Method for Incorporating Rural Population-Business Thresholds, or "Tipping Points," in Water Transfer Evaluations, Honey Creek Resources et al., May 2010.

m. Key study results, memorandum from George Oamek of Honey Creek Resources to Peter Nichols, Super Ditch legal counsel, dated June 2, 2010.

n. Alternative Water Transfer Methods – Task F, Conveyance Alternatives and Task G, Water Quality, AECOM, June 17, 2010.

o. Draft Report Rotational Land Fallowing Water Leasing Program Lower Arkansas Valley Super Ditch Company, Aqua Engineering, Inc., July 2, 2010.

p. Development of Land Fallowing – Water Leasing in the Lower Arkansas Valley, Trout, Raley, Montano,

Witwer, & Freeman, P.C., June 30, 2011. This reports on the development from 2002 to 2011 of rotational land-fallow-water leasing in the Lower Akrasans Valley and reviews various issues and technical investigations the Lower Ark District undertook to foster fallowing-leasing, which faciliated negotiated term sheets and pilot programs to move fallowing-leasing from concept to reality.

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 study area for the Operations Program mirrors that of the Catlin Pilot Project and generally includes the Lower Arkansas Valley within Otero County to the terminus of the Catlin Canal on Crooked Arroyo upstream into Pueblo County to Pueblo Reservoir and up Fountain Creek into El Paso County. The Catlin Pilot Project utilizes approximately 30% annually of the approximately 1100 Catlin Canal Company shares associated with the irrigation of just under 1,000 acres, all of which are a part of the study area. Additional information regarding participating farms and participating municipalities are set forth in items c) and d), below.

The Catlin Canal diverts from the Arkansas River approximately 44 miles, as the crow flies, downstream of Pueblo Reservoir, or nearly 61 miles as a stream distance. The canal is approximately 35 miles long, diverting from the Arkansas River 4.1 miles east of the Town of Fowler and terminating on Crooked Arroyo about 5.4 miles west-southwest of the City of La Junta. The following table describes the water rights owned by the Catlin Canal Company, all of which are decreed for irrigation use:

Catlin Canal Company Water Rights

Water Right	*Priority No.*	*Appropriation Date*	*Adjudication Date*	*Amount (c.f.s.)*
Catlin Canal	*2*	*04/10/1875*	*04/08/1905*	*22.0*
Catlin Canal	*5*	*12/03/1884*	*04/08/1905*	*226.0*
Catlin Canal	*7*	*11/14/1887*	*04/08/1905*	*97.0*

The Catlin Canal also diverts water attributable to the Winter Water Program decreed in Case No. 84CW179. It also diverts Frying Pan-Arkansas Project water (Fry-Ark Project Water), but that Fry-Ark Project water is not included in the Pilot Project.

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 project map is attached.

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 Catlin Pilot Project uses shares historically used to irrigate lands located on the Schweizer, Diamond A West, Hirakata, Hancock, Diamond A East, and Hanagan Farms (see Catlin Canal Pilot Project Area Map). As described below, the Participating Farms currently use a total of 1046.83 shares to irrigate 911.3 acres. Irrigated acreage approved for fallow as a part of the Catlin Pilot Project and the lands to be fallowed for 2015 operations are summarized in the following table:

Participating Farmer	Legal Description of Historically Irrigated Lands	Irrigated Acres	Acres Fallow for 2015	Total Number of Shares	Shares Fallow for 2015
Schweizer	Portions of the S½ of the NW¼ and the S½ of Section 32, T22S, R57W of the 6th P.M., Otero County, Colorado	191.0	30.6	194	31.09
Diamond A West	Portions of the E½ of Section 33 and the W½ of Section 34, T22S, R57W, and the NE¼ of Section 4, T23S, R57W, all of the 6th P.M., Otero County, Colorado	126.7	36.1	223.3	48.53
Hirakata Farms	Portions of the SW¼ of Section 27 and the S½ of Section 28, all in T23S, R56W of the 6th P.M., Otero County, Colorado	143.5	42.8	151	45.04
Hancock	S½ SE¼ of Section 7, T24S, R56W of the 6th P.M., Otero County, Colorado	74	22.7	80	24.52
Diamond A East	Portions of the W½ of Section 11, T24S, R56W of the 6th P.M., Otero County, Colorado	259.5	76.3	278.53	76.01
Hanagan	NE¼ of Section 36, T23S, R56W of the 6th P.M., Otero County, Colorado	116.7	32.8	120	33.69
Total		911.3	241.2	1046.83	258.88

As shown in the attached map, the Schweizer Farm and Diamond A West Farm are, respectively, located about 3.3 miles and 4.6 miles south east of the Town of Manzanola along State Highway 50, the Hirakata Farm is about 3.4 miles southeast of the Town of Rocky Ford, the Hancock Farm is located about 5.5 miles south of the Town of Rocky Ford, the Hanagan Farm is located ¼ mile east of Town of Swink, and the Diamond A East Farm is located approximately 3 miles southwest of the Town of Swink.

Cropping types, crop yields, and total average water diversions were all calculated consistent with the requirements of the Criteria and Guidelines for Rotational Fallowing Leasing Pilot Projects (Approved Nov. 19, 2013) and are set out in the Catlin Pilot Project Application dated September 25, 2014 and available at: http://cwcb.state.co.us/water-management/water-projects-programs/Pages/Fallowing-LeasingPilotProjects.aspx.

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.

The Catlin Pilot Project will provide additional water supplies to three municipal participants from the water made available from the rational fallowing of approximately 30% of the lands included in the project. These municipal participants include the Town of Fowler, the City of Fountain, and the Security Water District.

Fowler is a small community of approximately 1,200 residents located in Otero County, Colorado within the Lower Arkansas River Valley. Fowler is located approximately 33 miles east of Pueblo. Fowler has seen a small population decline during with 2000s and has a median income of approximately $25,000. Fowler's municipal water supply is derived from the operation of 12 wells. Fowler is enrolled in a Rule 14 Plan, approved pursuant to the Arkansas River Amended Rules and Regulations Governing the Diversion and Use of Tributary Ground Water in the Arkansas River Basin, Colorado (Case No. 02-95CW211) and provides for the replacement of out-of-priority stream depletions to senior water rights in Colorado resulting from junior well pumping. Fowler's wells provide the only source of water supply available to meet all municipal water demands arising within Fowler's water service area. Fowler's allocation of Fry-Ark Project municipal water has been severely reduced in recent years, resulting in the need to drastically curtail outdoor water use by all of its customers. Fowler has leased up to approximately 250 acre-feet of water for 2015 through operation of the Catlin Pilot Project for use in its system in an effort to allow for some relaxation of its watering restrictions.

The City of Fountain is a community of approximately 27,000 residents that is located along Fountain Creek approximately 30 miles north of Pueblo. Fountain's population has grown significantly through the 1990s and 2000s, and its population is approximately 25% minority with a median income of approximately $42,000. Fountain receives the majority of its water from the Fry-Ark Project, which is delivered to Fountain from Pueblo Reservoir via the Fountain Valley Conduit. Fountain may also deliver water to its system through the Southern Delivery System, once it is operational. Fountain also obtains a portion of its water supply from four groundwater wells that pump water from the Fountain Creek Alluvium. Fountain has leased up to 125 acre-feet of water annually through operation of the Catlin Pilot Project for use in its water system to supplement its existing water supplies, which will be delivered at Pueblo Reservoir.

The Security Water District ("Security") is located in unincorporated El Paso County, encompassing an area of approximately 5 square miles east of Fountain Creek. Approximately 25% of the population of the Security-Widefield is minority, and the median income is around $48,000. Security provides a water supply to a population of approximately 18,000. Its water supply is obtained from numerous groundwater wells and supplemented by Fry-Ark Project water delivered through the Fountain Valley Conduit. Security may also deliver water to its system through the SDS, once it is operational. Security has leased up to 125 acre-feet of water annually through operation of the Catlin Pilot Project for use in its water system to supplement its existing water supplies, which will be delivered at Pueblo Reservoir.

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

The Lower Valley is disproportionately dependent upon farming employment compared to the state as a whole. In addition, the Lower Valley is older, poorer, and has more Latino residents than Colorado overall.

	Pueblo	Otero	Crowley	Bent	Prowers	Colorado
Population	161,451	18,703	5,322	5,688	12,291	5,268,367
Median Age	38.7	40.9	38.9	39.8	36.7	34.3
Latino %	42.3%	41.5%	29.6%	31.1	36.3%	21.0%
Median Income	$41,777	$33,848	$31,477	$37,340	$34,391	$58,433
Unemployment %	9.4	8.2	10.2	6.8	5.3	4.2
Poverty % (Est.)	20.2%	23.1%	51.2%	31.7%	21.9%	13.0%

Source: 2010 and 2013 Census Data for Colorado; 2012 Census of Agriculture (USDA); Bureau of Labor Statistics, Period Jan. 2014 – Feb. 2015

	Pueblo	Otero	Crowley	Bent	Prowers	Colorado
Irr. Ag acres	18,564	43,552	5,857	31,472	79,896	2,516,785
Total acres	1,528,832	808,256	504,960	968,060	1,049,920	66,385,432
Pct Ag	1.2	5.3	1.15	3.3	7.6	3.8

Information regarding the socio-economic characteristics of the place of temporary municipal use of water made available from operation of the Catlin Pilot Project is provided in d), above.

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.

The approved Catlin Pilot Project that will be supported by the Operations Program is a rotational land fallowing – municipal leasing project authorized by the CWCB as a part of the Rotational Fallowing Leasing Pilot Program established by HB 13-1248. A comprehensive description of the Catlin Pilot Project is included in the Project documents, available at: http://cwcb.state.co.us/water-management/water-projects-programs/Pages/Fallowing-LeasingPilotProjects.aspx.

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.

Participation in the Catlin Pilot Project is voluntary, and each participating farm and municipality elected to participate. Since water leasing is voluntary, the current protections provided by Colorado law for property and water rights will apply. In addition, the Catlin Pilot Project will operate within existing law, including all requirements applicable to approved Rotational Fallowing Leasing Pilot Program as set out in C.R.S. § 37-60-115(8), the Criteria and Guidelines, and the terms and conditions of the Catlin Approval, and as such will not supersede, abrogate or otherwise impair the current system of water allocation within Colorado.

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.

The participating agricultural users in the Catlin Pilot Project are Bill Hancock, Ken Schweizer, Eric Hanagan, Diamond A West Farms, Diamond A East Farms, and Hirakata/K2 Farms. The water made available from operation of the Catlin Pilot Project will be leased to Fowler, Fountain and Security for municipal use, as described in detail in other portions of this application and in the Catlin Pilot Project Application.

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.

The Operations Program is intended primarily to address technical elements associated with on-the-ground operation of the Catlin Pilot Project pursuant to the terms and conditions of the Pilot Project Approval. To date, many of the institutional and legal elements of the rotational fallowing –leasing have been investigated and studied through prior study (see item 1, above). The approval for the Catlin Pilot Project sets forth the terms and conditions within which the Catlin Pilot Project must be operated and the Operations Program will address the technical aspects of operation. Actual operations will likely result in the identification of additional technical, institutional, and legal elements that may need to be addressed in order to make rotational fallowing – leasing a viable tool for widespread use. In addition, the Operations Program will address a key institutional element for the success of ATMs –overcoming skepticism that ATMs can work and can be operated in a manner that is protective of other water rights. However, until a rotational fallowing –leasing program is actually implemented, it is impossible to foresee all elements that will need to be addressed.

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.

Funds requested for legal assistance do not exceed this 40% cap and conform with this requirement. Legal assistance will primarily be provided to assist in preparing the annual reports to share information learned from pilot project operations, and also to address concerns that may arise from other interested parties with the Catlin Pilot Project through collaborative efforts. This may include minor modifications to pilot project operations and

/or terms and conditions.

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).

A 10% cash match is being provided. This does not include the Lower Ark District's extensive past expenditures in support of rotational fallowing – leasing generally or work performed in obtaining approval for the Catlin Pilot Project.

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 each 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. For more detailed information on this work, please refer to the draft report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.

The Operations Program directly builds upon prior ATM efforts undertaken by the Lower Ark District in the first two rounds of funding of the ATM Grant program (see section 1 on previous studies, above), as well as the Lower Ark District's ongoing efforts supported by its own budget.

b. The proposed project addresses one or more key recommendation(s) in the report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.

The Operations Program seeks to achieve precisely what the "Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update" (November 2012) contemplates for the next phase for the ATM Grant Program. As stated in that Summary and Status Update, "it is time to transition the ATM program to an application and integration phase that will more fully integrate the findings of the first two rounds of ATM grant funding to achieve the dual objectives of overcoming barriers to implementation and establishing realistically implementable ATM scenarios. Specifically, one of the identified goals for the Arkansas Basin in the Summary and Status Update, is to "advance the Super Ditch's efforts to implement pilot projects to lease water in 2013 using a temporary approval by the State Engineer under 73-92-308(5)." Given the legal challenges associated with using SWSP approval in 2012, the Lower Ark District and the Super Ditch instead worked in support of HB 13-1248, which created the CWCB's Fallowing-Leasing Pilot Project, which provides an alternative and longer term approval to operate fallowing – leasing pilot projects. As described above, the Catlin Pilot Project, which is to be supported by the Operations program, is the first project approved under HB 13-1248 and thus will fulfill this stated goal.

c. 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 discussed in greater detail in item 1, the Lower Ark District has dedicated years of time and hundreds of thousands of dollars to develop and support ATMs such as rotational fallowing-leasing, reflecting the Lower Ark District's commitment to determining whether rotational fallowing – leasing is a viable alternative to permanent agricultural transfers.

d. 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 Operations Program has not only the potential to produce a reliable water supply, but is already generating water for its municipal participants since it began operating on March 15, 2015. The terms and conditions for administration and operation of the Catlin Pilot Project are set forth in the Catlin Approval, which include administration by the Division 2 Engineer's Office. As stated in the State Engineer's January 16, 2015 Written Determination of the State Engineer's, HB 13-248 Catlin Fallowing Leasing Pilot Project, "I find that the operation and administration of the HB 13-1248 Catlin Fallowing Leasing Pilot Project will meet the standard of Section 37-60-115(8)(f) if operated according to the terms and conditions included in the Determination."

e. 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).

Actual implementation of a multi-year rotational fallowing-leasing project will provide transferable and widely applicable lessons to other contexts and areas. For example, the Catlin Pilot Project was developed using the "Lease-Fallow Tool," an administrative tool developed by the Division of Water Resources with the support of the Arkansas Basin Roundtable, which addresses historic CU and return flows from a rotational fallowing and leasing program. If deemed successful, this tool will make the engineering aspects of future rotational fallowing – leasing projects streamlined. In addition, operation of the Catlin Pilot Project will provide significant information regarding the use of recharge in the Arkansas Basin, the appropriate accounting practices needed for project implementation, and will generate detailed information regarding project successes and challenges to inform development of future projects.

f. The proposed project/program addresses key water needs identified in SWSI 2010 or as identified in a basin's needs assessment.

As discussed in detail in item 1, above, the SWSI 2010 has estimated that by 2050, Colorado may lose 500,000 to 700,000 acres of current irrigated farmland. One of the potential drivers for that loss is transfers of agricultural water to municipal use to meet the future municipal water supply gap. One of the identified means to avoid permanent buy and dry in the SWSI 2010 is to identify and implement ATMs such as rotational fallowing – leasing. This Operations Program will directly support the Catlin Pilot Project, which is designed to and aimed at demonstrating the viability to rotational fallowing – leasing to address these key water needs.

g. 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.

The Lower Arkansas Valley depends on irrigated agriculture for its economic base. Preservation of irrigation in the Lower Arkansas Valley thus qualifies as "high value agricultural lands." Water leasing is intended to preserve such agriculture and prevent the permanent dry-up of those lands.

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

The Operations Program in support of the Catlin Pilot Project does not directly address water quality. However, by providing farmers with a viable alternative from selling their water and permanently drying up their irrigated lands, water will remain in the Arkansas River and its tributaries, thus providing a general benefit to rivers and streams and wetland area that may result from agricultural tailwater flows.

i. 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 Operations Program is targeted at the costs associated with operating a rotational fallowing – leasing project. While it is anticipated that operating costs will decrease over time, it is important to actually get a project up and running to see how it operates and ascertain the financial costs associated with the project. One of the terms and conditions of the Pilot Project Approval is an annual report that requires disclosure of all costs associated with operating the pilot project.

Various categories of costs associated with rotational fallowing-leasing have been addressed through a variety of prior work undertaken by the District, such as the institutional costs for operating the Super Ditch Company; third party impacts; and front-end legal costs.

j. 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.

All of the participating farmers voluntarily chose to participate in the Catlin Pilot Project. There is no requirement for participation and the Operations Program in support of the Catlin Pilot Project does not adversely affect other's access to water or others' traditional transfer of their water rights.

k. 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.

As authorized by HB 13-1248, rotational fallowing – leasing pilot projects may only be approved for up to ten years. The Catlin Pilot Project complies with this requirement and therefore does not provide a perpetual supply of water. However, by demonstrating the viability of rotational fallowing – leasing, the Catlin Pilot Project and Operations Program moves us one step closer to making rotational fallowing leasing a viable long-term alternative water supply option in the future. As discussed in item 1 above, the goal of rotational fallowing-leasing is to help sustain the Lower Arkansas Valley's agricultural economy.

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

The Operations Program will support the municipal leasing of up to 500 acre-feet annually to three municipalities through operation of the Catlin Pilot Project. While 500 acre-feet may be somewhat modest in size, future pilot projects may be more ambitious in both size and scope if the Catlin Pilot Project is demonstrated to be successful at moving this volume of water.

m. Applicants are encouraged to develop projects demonstrating participation and/or support from a diverse set of stakeholders and interests.

One of the eligibility criteria for the Catlin Pilot Project is that the project demonstrates cooperation among various stakeholders. The Catlin Pilot Project involves three municipal entities, 6 farms, the Catlin Canal Company, potential trades with a well augmentation group, and potential future use of intermediate storage locations. In addition, through the application process, the Lower Ark District worked through concerns raised by a wide variety of interests – industrial users, other agricultural users, municipalities, the Division of Parks and Wildlife, and the State of Kansas to name a few. The Operations Program will reflect the culmination of the cooperation among these various stakeholders to date by implementing the Catlin Pilot Project pursuant to the terms and conditions of the Pilot Project Approval.

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.

A Statement of Work, including a budget and schedule, is attached to this application.

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: Leah Martinsson

Print Applicant's Name: Leah K. Martinsson for Jay Winner
Project Title: Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program

Return this application to:

Mr. Craig Godbout
Colorado Water Conservation Board
Water Supply Planning Section
1313 Sherman St., Room 721
Denver, CO 80203
craig.godbout@state.co.us

Statement of Work

WATER ACTIVITY NAME –Rotational Fallowing – Leasing Catlin Canal Pilot Project Implementation and Operations Program

GRANT RECIPIENT – Lower Arkansas Valley Water Conservancy District

FUNDING SOURCE – Alternative Agricultural Water Transfer Methods Grant Program

INTRODUCTION AND BACKGROUND

The Lower Arkansas Valley Water Conservancy District (the "District") was formed by a vote of the electorate in 2002 to conserve water resources for their greatest beneficial use within the District, essentially the Lower Arkansas Valley. The District has been active in the development of alternatives to the permanent dry-up and transfer of irrigation water rights for use outside the Lower Valley. The District is the recognized leader in Colorado in developing a fallowing-leasing program to meet the water needs of Front Range municipalities while preserving irrigated agriculture and the economic future of rural Colorado. This work began in 2003 and has grown over time with the continued support of the Colorado Water Conservation Board ("CWCB"). There is an urgency to implement alternative transfer methods such as rotational fallowing to meet the needs identified in the 2010 SWSI, the Arkansas Basin Needs Assessment, and the draft Colorado Water Plan.

On January 27, 2015, the CWCB approved the first Rotational Fallowing Leasing Pilot Project under HB 13-1248 (codified at C.R.S. § 37-60-115(8)), with the District and the Lower Arkansas Valley Super Ditch Company, Inc. as co-applicants. The approved Catlin Pilot Project is a ten-year pilot project that will involve the rotational fallowing of approximately 1,200 acres irrigated under the Catlin Canal in the Arkansas River Basin to generate up to 500 acre-feet of water available for lease to three municipal participants. The Catlin Pilot Project is intended to provide on-the-ground "proof of concept" that rotational land fallowing – municipal leasing is a viable alternative to permanent buy-and dry.

The conditions of CWCB's January 27, 2015 approval for the Catlin Pilot Project (the "Pilot Project Approval") are extensive and include 60 terms and conditions to which the District and Super Ditch must comply in operating the project. A copy of the Pilot Project Approval is included with this grant application. That approval requires, for example:

- Calculation of consumptive use credits, return flow obligations, and disposition of consumptive use credits and return flow water with numerous accounting elements on a daily basis
- Daily recharge accounting, including daily content measurements, daily precipitation, and daily evaporation
- Weekly submittal of accounting for the first 75 days of the project
- Recharge pond monitoring for vegetation, seeps, overtopping, or inducement of elevated ground water tables
- Periodic monitoring of dry-up parcels for compliance with dry-up requirements
- Annual report preparation (to include a comprehensive summary of the year's operations, accounting summary, information on all costs associated with operations, a description of any obstacles to operation encountered, evaluation of erosion prevention and noxious

weed control, any proposed operational modifications for the upcoming year, and any potential additional terms and conditions needed to prevent material injury to other water rights)
- Annual mapping of parcels to be fallowed
- Annual identification of how/where nonparticipating shares will be used, including location of irrigated lands
- Identification of water supplies that will be used on non fallowed portions of participating farms

The Catlin Pilot Project is the first application to be submitted and approved through the CWCB HB 1248 pilot program. This means that the Catlin Pilot Project application was the first to go through the process established in the CWCB's Criteria and Guidelines and was also the first to conduct an analysis using the Lease-Fallowing Tool that was developed by the Division of Water Resources. As a result, the process of putting together the Catlin Pilot Project application, working through the comments of nine parties, preparing a joint conference report with those commenting parties on proposed terms and conditions, obtaining the Pilot Project Approval and then complying with the "conditions precedent" to 2015 operations that were set out in that approval was an arduous one that involved significant commitment of time and financial resources by the District. This Rotational Fallowing - Leasing Catlin Pilot Project Operations and Implementation Program (the "Operations Program") will support the day-to-day operations and administration of the Catlin Pilot Project during the first two years of operations.

The Operations Program will provide funding for the on-the-ground staffing and equipment needs for the first two years of the Pilot Project's operations to ensure continued implementation of the Catlin Pilot Project during its ten-year term. Adequate funding for on-the-ground implementation is critical for compliance with the terms and conditions of the Pilot Project approval described above. This on-the-ground experience will assist in evaluating opportunities and challenges in operating rotational leasing fallowing projects.

A key component in simplifying Pilot Project operations is the use of recharge facilities capable of meeting return flow obligations. While the Catlin Pilot Project currently has two approved and operational recharge facilities, additional facilities may be necessary and/or desirable in the future. Use of recharge is important not only to the success of the Catlin Pilot Project, but also in other rotational fallowing-leasing projects. Current use of recharge in the Arkansas Basin is very limited. To that end, the Operations Program also includes identification of potential additional recharge locations to replace return flow obligations owed from Catlin Pilot Project farms. This will provide an alternative to the two recharge facilities currently in use, in the event either facility becomes unavailable for continued use through the Pilot Project's operations.

OBJECTIVES

1. Advance the District's and Super Ditch Company's efforts to implement the Catlin Pilot Project, as approved by C.R.S. 37-60-115(8) during the start-up phase of the ten-year Pilot Project Approval to demonstrate the viability of rotational-leasing and fallowing as a meaningful alternative to the permanent dry-up of agricultural lands.

2. Identify, through actual rotational leasing-fallowing operations, any barriers to implementation of the Catlin Pilot Project and whether those may also pose barriers to other rotational leasing-fallowing projects.

3. Identify potential means of addressing identified barriers and possibilities for streamlining implementation of rotational leasing and fallowing on a broad scale, through models or other tools.

TASKS

Task 1 – Purchase and Install Equipment for Operations

Description of Task: The District has identified the need for equipment for the recharge ponds and to facilitate accounting and measurement requirements without the need for personnel to travel daily (or more) to the recharge ponds. Stage discharge recorders for the recharge ponds have already been purchased, but require GPRSLink units to allow this data to be transmitted wirelessly. In addition, radar level recorders and associated GPRSLink units for the recharge ponds (which measure water surface elevation that is used to determine surface area, volume, and daily evaporation) will be purchased and installed. Use of this equipment will require data plan and subscription –based software (SutronWIN).

Method/Procedure: District personnel will identify appropriate equipment and purchase the equipment from a qualified vendor. Once purchased, equipment will be installed using standard installation procedures and the District will provide an opportunity to Division 2 Engineering personnel to inspect the equipment.

Deliverable: Invoices of purchased equipment along with records and photos reflecting installation of equipment will be provided.

Task 2 – 2015 Operations, Accounting, and Annual Reporting

Description of Task: This Task will consist of District personnel/consultants undertaking the day-of-day operations of the Catlin Pilot Project to ensure that historic consumptive use water is made available to the municipal participants, return flow obligations are being met through recharge and augmentation station operations, and any exchanges and/or trades are made in compliance with the approval. This Task generally involves ensuring operations occur in compliance with all terms and conditions of the Catlin Approval and that all accounting and reporting obligations are properly completed.

Method/Procedure: This Task will be completed through the daily measurements and recording, monitoring activities, and preparation of weekly, monthly and annual submittals. This task will involve regular coordination between Pilot Project staff with the Catlin Canal Company, participating farmers, the participating municipalities, the Division Engineer's Office, CWPDA and others, as appropriate.

Deliverable: A 2015 annual grant report will be provided that (1) provides a copy of the Annual Report on the Catlin Pilot Project required by Term and Condition No. 52 of the Pilot Project Approval; (2) outlines the level of effort undertaken to comply with the terms and conditions;

and (3) proposes any potential mechanisms identified through operations for simplifying future operations.

Task 3 – 2016 Share/Parcel Identification

Description of Task: District personnel/consultants will prepare parcel mapping and the associated submittal needed for compliance with Term and Condition No. 4 of the Pilot Project Approval for 2016 operations.

Method/Procedure: District personnel/consultants will meet with participating farmers to cooperatively identify appropriate/adequate lands for inclusion on 2016 Pilot project operations. This will include gathering additional information from the participating farmers regarding use of non-fallowed shares/lands. With this information, personnel/consultants will then prepare mapping and the associated submittal needed for compliance with Term and Condition No. 4.

Deliverable: A copy of the mapping and submittal required by Term and Condition No. 4 for 2016 pilot project operations will be provided.

Task 4 – 2016 Operations, Accounting and Annual Reporting

Description of Task: This Task will consist of District personnel/consultants undertaking the day-of-day operations of the Catlin Pilot Project to ensure that historic consumptive use water is made available to the municipal participants, return flow obligations are being met through recharge and augmentation station operations, and any exchanges and/or trades are made in compliance with the approval. This Task generally involves ensuring operations occur in compliance with all terms and conditions of the Catlin Approval and that all accounting and reporting obligations are properly completed.

Method/Procedure: This Task will be completed through the daily measurements and recording, monitoring activities, and preparation of weekly, monthly and annual submittals. This task will involve regular coordination between Pilot Project staff with the Catlin Canal Company, participating farmers, the participating municipalities, the Division Engineer's Office, CWPDA and others, as appropriate.

Deliverable: A 2016 annual grant report will be provided that (1) provides a copy of the Annual Report on the Catlin Pilot Project required by Term and Condition No. 52 of the Pilot Project Approval; (2) outlines the level of effort undertaken to comply with the terms and conditions; and (3) proposes any potential mechanisms identified through operations for simplifying future operations.

Task 5 – Recharge Site Identification

Description of Task: This task will involve the identification and mapping of potential recharge sites at appropriate locations on the participating Diamond A West, Diamond A East, Hirakata, and Hancock farms.

Method/Procedure: District personnel/consultants will review soil mapping and other available information to preliminarily determine suitability of various farm fields on each farm for recharge. If deemed appropriated, soil samples may be taken. District personnel/consultants will

then meet with participating farmers and visit properties and discuss any concerns or issues surrounding potential recharge site locations to determine whether construction of the preliminarily selected sites may be viable from the perspective of the respective land owners. These sites will be identified in consultation with the farm owners, the Division Engineer's Office, and the Catlin Canal Company.

Deliverable: Mapping of identified recharge locations and any preliminary construction plans prepared for recharge will be submitted. If a recharge site is not identified on a participating farm, a memorandum describing why a potential site could not be located will be submitted.

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.).

	Staff Engineer	Field Tech	Senior Engineer	GIS Specialist	Legal	Admin.	Equip.	Other Direct Costs (mileage)	**Task Total**
Task 1	40	-	-	-	-	15	$21,620*	300	$24,467.00
Task 2	250	300	190	-	55	15		5100	$73,939. 00
Task 3	15	-	40	10	-	15		200	$9,948.00
Task 4	150	250	152	-	45	15		3700	$56,471.00
Task 5	45	75	35	55	40	-		850	$28,266.50
Total hours	500	625	417	65	140	60		10150 miles	
Hourly Rate	$60.00	$25.00	$184.00	$130.00	$240.00	$18.00		Mileage @ 0.59	
Total	$30,000	$15,625	$76,728	$8,450	$33,600	$1,080	$21,620	$5,988.50	$193,091.50

*Task 1 Equipment Costs:

Equipment & Supplies	**No.**	**Unit Cost**	**Total Cost**
Radar Level Recorder	2	$ 2,850.00	$ 5,700.00
Miscellaneous Installation Supplies	1	$ 1,000.00	$ 1,000.00
Laptop computer	1	$ 1,500.00	$ 1,500.00
GPRSLink Station	4	$ 1,950.00	$ 7,800.00
TGPRS Activation Fee (one time)	4	$ 60.00	$ 240.00
TGPRS 5MB Plan (per 12 months)	8	$ 120.00	$ 960.00
SutronWIN User Account Setup	1	$ 500.00	$ 500.00
SutronWIN Activation Fee (one time)	4	$ 250.00	$ 1,000.00
SutronWIN Annual Subscription	8	$ 365.00	$ 2,920.00
			$ 21,620.00

SCHEDULE

The anticipated schedule for the timing of the 5 task items is as follows:

Task	2015							2016												2017	
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
1																					
2																					
3																					
4																					
5																					

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.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

P (303) 866-3441
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John Hickenlooper, Governor

Mike King, DNR Executive Director

James Eklund, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Tom Browning, P.E.
Deputy Director – Integrated Water Resources

DATE: January 15, 2015

AGENDA ITEM #15: Catlin Canal Fallowing-Leasing Pilot Project

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Background:
The Lower Arkansas Valley Water Conservancy District (Lower Ark) and the Lower Arkansas Valley Super Ditch Company, Inc. (Super Ditch) submitted a formal application to CWCB staff for a fallowing-leasing pilot project. The application followed a selection and approval process by the Board at its September 2014 meeting in Glenwood Springs. The project application falls under the umbrella of House Bill 13-1248 and the CWCB's *Criteria and Guidelines for the Fallowing-Leasing Pilot Program in Colorado*.

The application involves transfers from certain shares of agricultural water from farmland irrigated by the Catlin Canal, within Otero County, for temporary municipal uses by the Town of Fowler, City of Fountain, and the Security Water District. The project proponents would like to begin implementing the pilot project for the 2015 irrigation season.

Lower Ark and Super Ditch have been attempting to launch a pilot project to demonstrate benefits and learn from rotational fallowing practices. Their overall goal is to meet municipal water needs in a way that reduces permanent agricultural dry-up, or "buy and dry." This goal is consistent with strategies included as part of Colorado's Water Plan.

Casey Shpall will facilitate this action item before the Board. An agenda will be posted prior to the meeting.

Staff recommendation:
Staff recommends that the Board approve the Catlin Canal Pilot Project based on the State Engineer's written determination, including terms and conditions necessary for project operation and administration, that the pilot project can operate without causing injury and without impairing compliance with any interstate compact.

Note: All of the materials contained in the comprehensive record for this agenda item are available electronically on CWCB's website, and the digital version of the CWCB Board notebook. Hard copy notebooks include the board memo and State Engineer's written determination.

COLORADO
Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 821
Denver, CO 80203

January 16, 2015

To: Colorado Water Conservation Board Members

From: Dick Wolfe, P.E.
State Engineer/Director, Division of Water Resources

Subject: Written Determination of the State Engineer, HB13-1248 Catlin Fallowing-Leasing Pilot Project

Section 37-60-115(8)(f) allows the Colorado Water Conservation Board (CWCB) to approve a pilot project application if the State Engineer has made a written determination (Determination) that the operation and administration of the pilot project will not cause injury and will not impair compliance with any interstate compact. As the State Engineer, I have worked with my staff (Staff) to complete the Determination for the Catlin Fallowing-Leasing Pilot Project and submit it as an attachment to this letter.

In the attached Determination, I find that the operation and administration of the HB13-1248 Catlin Fallowing-Leasing Pilot Project will meet the standards of Section 37-80-115(8)(f) if operated according to the terms and conditions included in the Determination. Section I of the determination briefly describes the process by which the Staff completed the Determination. One component of that process was a statutorily-required conference and the subsequent submittal of a joint report (Report) by the conference participants. The Report included a listing of agreed-upon terms and conditions for the proposed pilot project. The Report further identified areas of disagreement between the conference participants.

The terms and conditions in the Determination are based upon the agreed-upon terms and conditions from the Report as well as the Staff's imposed terms and conditions in areas where the conference participants did not reach agreement. Those areas of disagreement, along with the Staff's description of how the imposed terms and conditions are intended to resolve the areas of disagreement are described below.

The terms and conditions in the Determination are numbered 1 through 59. The terms and conditions that represent an effort to resolve disagreement are numbers 10, 19, 21, 22, 31, 27, 28, 29, 30, 33, 34, 46, and 48. All other terms and conditions may be regarded as agreed-upon terms and conditions. I believe that through the agreed-upon terms and conditions, along with the terms and conditions used to resolve disagreement, the concerns of all parties have been reasonably addressed, allowing plan operation without injury and no impairment to the interstate compact.

Unresolved Term and Conditions from the Report:

1. **How the revised Lease-Fallow Tool run contained in term and condition 10 of the Determination, should be applied to the total irrigated acreage for each year.**

   The disputed issue was how the average share-per-acre ratio from the historical consumptive use analysis using the Lease-Fallow Tool (LFT) should be applied to Project farms during the project. Staff adopted the recommendation of Tri-State in this instance as applied specifically in term and condition 10-c because the Staff believed this more accurately applied the basis for the historical analysis to farm conditions under the duration of the Project and still met the intent of the other commenting party who offered a comparable change.

2. **Whether the Catlin Pilot Project should be operated using a projection or a "pay as you go" methodology for lagged return flows.**

   A "pay as you go" methodology would require that consumptive use credits could only be taken in a year of operation if all return flow obligations associated with those credits would be met by accretions from water placed into recharge that same year. The proposal by Tri-State that the applicants operate the plan using a "pay as you go" approach was an offered compromise in lieu of stricter terms and conditions related to using a projection tool and firm commitment of replacement sources for any post-Project return flow obligations created by operation of the Project. The Applicants stated that Tri-State's proposal had merit but expressed concerns that the proposal was made too late in the process to allow review by other parties.

   Staff recognized that the "pay as you go" approach had merit, but required some additional work by the Applicants and review by other parties to ensure success. Term and conditions were included that allow the Applicants to choose this approach if desirable as compared to the terms and conditions necessary to operate using a projection and commitment of firm replacement sources. Specific terms and conditions that address this issue are 21 and 31.

3. **What are the appropriate requirements of projecting future return flow obligations and how they will be met, specifically, whether firm sources of supply need to be dedicated prior to any Pilot Project operations to meet only the upcoming Plan Year return flow obligations or to meet return flow obligations for as long as they occur.**

   Staff generally agreed with the Applicants' proposed terms and conditions, but added that the projection should be extended through the end of the lagging period as suggested by Tri-State. These terms and conditions are 27 and 28.

4. **Whether sources of replacement water may be approved for such use through substitute water supply plan ("SWSP") approval pursuant to C.R.S. §37-92-308(5) or are limited to SWSP approval pursuant to C.R.S. § 37-92-308(4), requiring a pending application for such change be filed with the water court.**

   Staff adopted the proposed term and condition by Tri-State in this circumstance as shown in term and condition 29. Staff does not believe that this will cause an undue hardship for the Applicants.

5. **Whether a "firm source" of water requires a binding agreement for the term of that source's inclusion in a future return flow projection, including agreements for use of structures.**

   Staff attempted to provide resolution of this issue in term and condition 30. This term and condition requires Applicants, if they choose to not use a "pay as you go" approach, to provide an annual report by January 1st following the end of each Project plan year one through nine that projects any post-Project return flow obligations incurred from operations through the prior year and requires a commitment of specific replacement sources capable of meeting this need. Applicants have the flexibility to update or change the source of replacement for post-Project return flow obligations with each January 1st update until the final report is provided following the last year of operation. At that point the Applicants have a higher burden for firm commitment of a source or sources and a responsibility to document that all necessary agreements are in place to replace post-Project return flow obligations. This term and condition also requires the Applicants to designate the legal method to be used to meet the post-Project return flow obligations. While not meeting all of Tri-State's desired term and condition wording, Staff believes this condition will provide the necessary protection for other water rights.

6. **What is the appropriate timing and method of sources for replacement of tailwater and lagged deep percolation return flows.**

   Staff adopted the recommended condition by Tri-State regarding tailwater as term and condition 19. The recommended alteration of this condition by the Applicants was not accepted due to the importance of ensuring the tailwater component is consistently delivered out the augmentation stations and is not retained within the Catlin Canal system to potentially be used by other shareholders.

   Staff adopted the recommended condition by Tri-state for deep percolation return flows as term and condition number 22 and believes that this term and condition does not cause the Applicants undue hardship and is protective of other water rights and compact obligations.

7. **Whether or not excess recharge accretions may be used to meet tailwater return flow obligations.**

   Staff adopted the Applicants' proposed term and condition as term and condition number 33 and did not agree with Tri-State's recommended alternative because Staff believed that Tri-State's concerns were predominantly addressed as described under issue 6 above.

8. **Whether or not water available pursuant to operations of the Pilot Project may be traded and/or exchanged with Rule 10 and/or 14 Plans.**

   Staff disagreed with Tri-State's contention that water could not be traded or exchanged with Rule 10 and/or Rule 14 Plans and adopted Applicant's term and condition as generally modified by Kansas as term and condition number 34. Staff did add the daily accounting provision suggested by Tri-State and did provide a mechanism for providing comments and concerns about trades or exchanges with Rule 10 or Rule 14 Plans in this term and condition.

9. **Whether or not it is necessary to require weekly accounting during the first year of Pilot Project operations.**

   Staff did not fully adopt Tri-State's recommendation that weekly accounting be provided during the first year of operation, but did required in term and condition number 48 that daily accounting elements be provided weekly for the first 75 days of operation in the initial plan year in addition to monthly accounting to ensure that Applicants are not missing any required daily information that will be necessary for successful monthly accounting and to highlight early operation of augmentation station and recharge pond deliveries. Staff does not believe that this represents an undue hardship for the Applicant, rather, this initial weekly accounting allows a good "shake down" period at the start of the plan.

10. **Whether or not the following term and condition regarding development of accounting forms should be included in any Pilot Project approval:**

    Staff crafted term and condition number 46 that includes recommendations by both the Applicants and Tri-State regarding the review and approval of accounting forms.

11. **Whether or not the term and condition regarding comparison of historical use analysis with projected operations should be included in any Pilot Project approval:**

    Tri-State recommended removal of a term and condition originally included in the draft proposal related to the above topic. The Applicants agreed that this term was confusing. Staff determined that the term and condition was not necessary.

12. **Whether agreements and approvals necessary to meet return flow obligations must be in place only for the upcoming plan year or whether such agreements and approvals must be in place for all future return flow obligations.**

    Staff adopted Applicant's proposed term and condition in term and condition number 27 because this term and condition was reasonable for annual operations. The tightened term and condition number 30 is intended to help address most of Tri-State's concerns related to replacement security as described under issue 5 above.

Attachment: Determination of the State Engineer

COLORADO
Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 821
Denver, CO 80203

Determination of the State Engineer

HB 13-1248 Catlin (Fallowing-Leasing) Pilot Project

Use of Catlin Canal Shares by Town of Fowler, City of Fountain,

and Security Water District

January 16, 2015

I. Introduction

This document serves to fulfill the State Engineer's obligations pursuant to the provisions of HB13-1248, enacted by the signature of the governor on May 13, 2013, specifically related to evaluation and review of the Catlin (Fallowing-Leasing) Pilot Project. A pilot project proposal for the Catlin Pilot Project was submitted to the Colorado Water Conservation Board (CWCB), James Eklund, Director, on September 25, 2014 by the Applicants (Lower Arkansas Valley Water Conservancy District and the Lower Arkansas Valley Super Ditch Company, Inc.). The CWCB approved the selection of the pilot proposal occurred at the September CWCB Meeting in Glenwood Springs, Colorado.

A 75-day comment period followed project selection and ended on December 9, 2014. A Conference Committee Meeting was conducted on December 18, 2014 in Denver. The Conference Committee Meeting continued with a brief conference call meeting on December 22, 2014 and was concluded at the end of that meeting. A Joint Conference Report was prepared and submitted to the State Engineer and CWCB on January 6, 2015.

This Determination of the State Engineer was prepared following review of all documents from the project application, comments received from the interested parties, and particularly, the Joint Conference Report which identified a large number of agreed upon terms and conditions as well as some terms and conditions where some disagreement remained. This report has also been prepared with recommendations to ensure that the two fundamental objectives identified in C.R.S. 37-60-115 (f)(I) and 37-60-115 (f)(II) have will have been met if the project is approved with the recommended terms and conditions. These two objectives were:

1. The project will effect only a temporary change in the historical consumptive use of the water right in a manner that will not cause injury to other water rights, decreed conditional water rights, or contract rights to water;
2. The project will not impair compliance with the Arkansas River Interstate compact.

II. Project Overview

The intent of the Catlin Pilot Project for 2015 is to utilize water available from approximately 311 Catlin Canal shares from six different participating farms (five owners) to generate an estimated 470 acre-feet of consumable water (based on an average supply) to be used for municipal purposes, either directly or through augmentation of wells, for the Town of Fowler, City of Fountain and Security Water District.

The water from the Catlin Canal shares will be physically available just downstream of Town of Fowler's augmentation needs and will be available for use by City of Fountain and Security Water District to the extent it can be exchanged into Pueblo Reservoir and delivered to those municipalities via the Fountain Valley Conduit or the Southern Delivery System pipeline.

III. Terms and Conditions to Prevent Injury and Compact Impairment

The following terms and conditions are recommended for adoption by the Colorado Water Conservation Board if this project is approved.

1. All water used in the Catlin Pilot Project will be delivered to the headgate of the Catlin Canal, and only lands irrigated under the Catlin Canal will be used in the leasing-fallowing operations of the Pilot Project. A plan year for the Pilot Project extends from March 15 through March 14 of the following year. Project duration is from March 15, 2015 through March 14, 2025.
2. No lands shall be fallowed for more than three years during the ten-year period of the Catlin Pilot Project nor shall more than 30% of the parcels on each participating farm be fallowed during the consecutive ten-year Catlin Pilot Project. For lands located in Otero County, no more than two of the three years of fallowing during the Pilot Project term will be consecutive unless applicable provisions of Otero County Code - Chapter 5 are complied with.
3. All submittals by Applicants to the Division of Water Resources pursuant to these Terms and Conditions shall be posted to the Division of Water Resources website, FTP site or other publically available media within a reasonable time, not to exceed ten days, after submittal and shall remain publically available until all lagged return flow obligations from the Pilot Project have been replaced. The Division of Water Resources shall establish a list of parties participating in the project application to be used to provide notice to the parties when documents have posted.
4. By March 1 of each plan year, Applicants shall notify and provide mapping to the Division Engineer of (a) those parcels to be fallowed and the associated shares for the upcoming plan year, (b) how and where the non-fallowed Catlin Pilot Project Subject Shares will be used for the upcoming plan year (i.e. surface irrigation, dry-up under Rule 14 Plan, etc.) including the location of irrigated lands and (c) the water supplies that will be used on the non-fallowed portions of the Catlin Pilot Project farms. Lands and shares fallowed as part of the Catlin Pilot Project shall be limited to those identified in the September 25, 2014 Application.

5. Fallowed parcels must be at least ten acres in size unless they comprise all of an existing CDSS parcel that is already less than ten acres. Parcels that represent a portion of an existing field shall only be split in the same direction of historic irrigation. A physical separation shall exist between any irrigated portion of a parcel and the dry-up portion. For dry-up fields left fallow or with a dry-land cover crop without permanent root system (that is, not alfalfa or pasture grass for example), the separation shall be a ditch or tilled strip at least ten feet in width that prevents irrigation application from reaching the dry-up parcel. For partial fields containing deep-rooted crops such as alfalfa or pasture grass, a deep tilled separation of at least 25 feet shall be maintained along with any ditches necessary to ensure no irrigation application to the dry-up portion. For any dry-up parcel that is planted with a dry-land crop (haygrazer, milo, millet, etc.), the crop should either be drilled at an angle to normal irrigation direction or a tilled strip maintained at the top of the field that clearly separates the crop from any possible irrigation source (preferably both).
6. Dry-up of the fallowed fields shall comply with the "Operating Procedures for Administration of Parcels Claimed for Augmentation Credits" of the State Engineer's Office, except that signs shall be installed by March 1 of each plan year on all parcels identified in that notice provided pursuant to term and condition 4, above. Re-irrigation of dry-up parcels shall not be allowed by any other source of water including other surface water, Catlin shares, or ground water during the year in which such parcel is fallowed in Pilot Project operations. No partial year dry-up shall be permitted.
7. Applicants shall notify the Division Engineer of the status (dry land crop (must specify type), tilled and fallow, not tilled and fallow, stubble of past crop left on field, etc.) of each fallowed field in the Catlin Pilot Project by May 15 of each year of operations.
8. Applicants shall monitor fallowed parcels on a periodic basis to confirm the adequacy of dry-up in conformance with the terms and conditions of this approval. Should non-compliance with the dry-requirements of this approval be discovered, Applicants shall immediately notify the Division Engineer and take such corrective action as is required by the Division Engineer. These fallowed parcels are also subject to inspection by the Division Engineer who shall inform the Applicants if non-compliance is found.
9. Prior to any Pilot Project operations, Applicants shall ensure that all participating farmers are contractually bound to provide for weed control and erosion protection for the lands removed from irrigation as a part of the Catlin Pilot Project. This will include the acknowledgement of, and agreement to comply with applicable County code noxious weed management requirements, including the Otero County Noxious Weed Management Plan, Otero County Code, Chapter 12 – Vegetation.
10. Prior to February 15, 2015, Applicants shall make the following adjustments to the Leasing-Fallowing Tool ("LFT") run for the Catlin Pilot Project and the associated historical consumptive use analysis and submit the same to the State and Division Engineer:
    a) The study period used in the LFT analysis shall be revised to exclude years where the Subject Shares were used in a Rule 14 Plan.
    b) To the extent consistent with item (d) below, the irrigated acreage of the Diamond A East farm, in Table 3 shall be corrected to 272.1 acres, as shown on Figure 21 in Appendix A, with a corresponding change in the total if appropriate. The 2010 acreage in the LFT analysis shall also incorporate this correction.

c) The results from the revised LFT run shall be applied to the irrigated acreage for each year. The Applicants shall report the average number of irrigated acres on each farm for the revised LFT run and the average shares per acre ratio for each farm during the revised LFT run shall be applied to the Catlin Pilot Project going forward. The number of fallowed Catlin Canal shares each year shall be equal to the number of fallowed acres on each farm multiplied by the average share per acre ratio for that farm.

d) The LFT run shall be conducted with a limitation on the maximum allowed irrigated acres to be no more than the 1985 irrigated acreage mapped by Colorado and agreed by Kansas as a part of the Kansas v. Colorado litigation.

11. Prior to the commencement of any Pilot Project operations for 2015, Applicants and Colorado Division of Parks and Wildlife ("CPW") shall work cooperatively to determine whether and the extent to which lands included in the Catlin Pilot Project have historically been irrigated with Catlin Canal Company shares that were leased from CPW during the applicable study period. Based on the results of that work, Applicants shall then make such adjustments to the historical consumptive use analysis based on the use of leased water by excluding a prorated amount of acreage, corresponding to acres irrigated by shares leased from CPW in any year, from such years in the historical use analysis, which adjustments shall be mutually agreed to by Applicants and CPW. This revised analysis shall be provided to the State and Division Engineer for approval and incorporated into the LFT run referenced in term and condition 10.

12. The Catlin Pilot Project shall not be operated until the Division Engineer has approved the foregoing adjustments in term and conditions 10 and 11.

13. To the extent it is determined that the Subject Shares and the associated lands available for fallow have been included in a Rule 14 Plan(s) such that they are no longer legally available for use to provide replacement water for Fowler's well depletions via CWPDA's Rule 14 pursuant to the terms of Amended Rules and Regulations Governing the Diversion and Use of Tributary Ground Water in the Arkansas River Basin, Colorado and the Amended Agreement Regarding the Colorado Use Rules, PDF Evaluation, Implementation of Processes, and Related Matters, and Not to Terminate Offset Account Resolution (June 2009), which is Appendix A.4 to the Kansas v. Colorado decree, any use of depletion credits available from the dry-up of those lands shall not be permitted to provide a source of replacement water for Fowler's well depletions. This shall be appropriately reflected in Pilot Project accounting. Applicants shall provide with the March 1 dry-up notice to the Division Engineer, and all commenting parties, whether the fallowed parcels are included in a pending or approved Water Court case adding augmentation as a decreed use.

14. The following monthly factors will be applied to augmentation station deliveries and deliveries at the farm headgate for recharge to determine monthly consumptive use. However, in the event of a current (as opposed to projected) return flow obligation deficit, the Applicant shall replace the return flow obligation deficit prior to receiving further consumptive use credits. These factors shall be modified to reflect changes in the LFT run per term and conditions 10 and 11.

Consumptive Use Factors

Farm	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Schweizer	-	0.000	0.063	0.155	0.377	0.531	0.537	0.538	0.445	0.250	0.179	-

Diamond A West	-	0.000	0.032	0.129	0.314	0.468	0.484	0.460	0.311	0.136	0.032	-
Hirakata Farms	-	0.000	0.062	0.153	0.373	0.528	0.533	0.532	0.425	0.244	0.174	-
Hancock	-	0.000	0.062	0.133	0.329	0.525	0.539	0.545	0.472	0.260	0.209	-
Diamond A East	-	0.000	0.065	0.157	0.380	0.533	0.540	0.541	0.463	0.264	0.162	-
Hanagan	-	0.000	0.030	0.113	0.274	0.408	0.428	0.381	0.259	0.097	0.020	-

15. The portion of all available Pilot Project augmentation station and recharge deliveries that is not credited as consumptive use shall be attributed to be return flow obligations. The following calculations shall be used to determine the return flow obligations where "deliveries" refers to all Pilot Project augmentation station and recharge deliveries:

    Tailwater Return Flow Obligation = 20% x (Deliveries – Consumptive Use);

    Deep Percolation Return Flow Obligations = Deliveries – (Consumptive Use + Tailwater Return Flow Obligations);

    For the first half of November and the second half of March the return flow obligation should equal the daily surface water return flow plus half of the monthly lagged groundwater return flow. For the second half of November and first half of March the return flow obligation should be half of the monthly lagged ground water return flow. An exception to the preceding March and November requirements are that no return flows are required prior to operation of the project. As such, return flows in the first month of the project will be distributed from the project start date through the remainder of the month. Return flow obligation that accrues from November 15 through March 14 shall be replaced to the Pueblo Winter Water Program and Conservation Storage in John Martin Reservoir as determined by the Division Engineer. Return flow obligation that accrues March 15 through November 14 shall be replaced at the time and place of depletion so as to not injure vested water rights.

16. The monthly and annual consumptive use will be limited to the following maximum values which are the averages of the three greatest years of the study period. The values in the table are for all of the shares on each farm. Therefore, the values for each farm must be multiplied by the percentage of share dry-up for each farm to estimate the appropriate limits for each year of the pilot project. These values shall be modified to reflect changes in the LFT run per term and conditions 10 and 11, above.

Farm	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**
Schweizer	0.0	0.0	3.1	13.7	56.2	80.8	80.3	65.2	51.0	37.3	10.5	0.0	398.0
Diamond A West	0.0	0.0	1.9	9.5	43.3	84.1	70.8	66.5	50.5	49.9	0.4	0.0	377.0
Hirakata	0.0	0.0	2.3	10.7	43.7	62.9	62.5	50.8	39.7	28.8	8.1	0.0	309.3
Hancock	0.0	0.0	1.1	5.4	22.0	30.2	30.6	27.1	15.8	16.9	6.6	0.0	155.6
Diamond A East	0.0	0.0	4.1	19.4	79.1	115.1	115.2	93.7	73.2	49.3	12.0	0.0	561.2
Hanagan	0.0	0.0	1.4	10.7	35.8	59.3	53.8	47.0	28.5	17.8	0.0	0.0	254.4

17. The annual augmentation station and recharge diversions will be further limited by an annual volumetric limit based on the historical diversions. The annual volumetric limit shall be calculated as the average of the three greatest years of farm headgate diversions over the study period. The annual volumetric limit in the table reflects the use of all of the shares on each farm. In any one year, the volumetric limit on farm headgate diversions for delivery of share water in the pilot project will be calculated to be the annual volumetric limit for the farm, presented in the table below, multiplied by the percentage of dry-up for each farm. Values will be based upon the LFT run per term and conditions 10 and 11, above. Deliveries of share water not included in the pilot project for any given plan year shall be limited to delivery and use on that portion of the farm that is not fallowed as a part of pilot project operations for that plan year.

Farm	**Annual Volumetric Limit (a/f)**
Schweizer	
Diamond A West	
Hirakata	
Hancock	
Diamond A East	
Hanagan	

18. Any water attributable to the Subject Shares that would otherwise be available to the Applicants (after accounting for ditch loss) which the Applicants are not able to divert or use because of operation of any volumetric limit shall be returned to the Arkansas River through one or more augmentation stations on the Catlin Canal following diversion at the Catlin Canal headgate and shall not be available for irrigation, augmentation or any other use until such time as use of such water is again allowed in accordance with the volumetric limits of this approval.
19. Tailwater return flow obligations shall be calculated daily and shall be replaced by delivery of the Pilot Project Catlin Canal shares at the augmentation station(s). On a daily basis, Applicants shall endeavor to replace the calculated amount of tailwater return flow obligation. On a monthly basis, Applicants shall demonstrate that all tailwater return flow obligations have been replaced.
20. Deep percolation return flow replacement requirements for the Schweizer, Diamond A West, Hirakata, Hancock, and Diamond A East Farms will be lagged using the URFs that shall be calculated using the x-distance to the nearest drain for each of the farms included in the December 9, 2014 Bishop Brogden Associates Inc. comment letter ("BBA Letter"). Thus, the URFs set forth in Appendix H of the Application shall be revised to reflect x-distances and corresponding w-distances for the Schweizer and Diamond A West farms to Patterson Hollow and for the Hirakata and Diamond A East farms to Timpas Creek. Deep percolation return flows for the Hanagan Farm shall be replaced by delivering all deep percolation water, plus sufficient water to offset evaporation to the Hanagan Recharge Pond, which is within ¼ mile of said farm, negating the need for lagging per the Criteria and Guidelines. Deep percolation return flows from the Schweizer, Diamond A West, Hirakata, Hancock, and Diamond A East Farms may be delivered to the Schweizer and/or Hanagan Recharge Ponds, and will be lagged using the applicable URFs.

21. On a daily basis, Applicants shall endeavor to deliver the deep percolation portion of fallowed Hanagan farm Catlin Canal share deliveries to the Hanagan Recharge Pond, as calculated in term and condition 15, plus consumptive use water to replace evaporation. On a monthly basis, Applicants shall demonstrate that the deep percolation portion of fallowed Hanagan farm Catlin Canal share deliveries are delivered to and infiltrate at the Hanagan Recharge Pond. If a "pay as you go" approach is chosen by the Applicants, delivery of the deep percolation portion of fallowed shares for each farm shall be delivered to the appropriate recharge pond consistent with Division Engineer approval of the "pay as you go" proposal and Applicants shall endeavor to deliver each farm's Catlin Canal share deliveries to the appropriate recharge pond and demonstrate that the deep percolation portion is delivered to and infiltrates at the appropriate recharge pond on a monthly basis.

22. Lagged deep percolation return flow obligations shall be calculated daily and shall be replaced exclusively through: (a) recharge accrual to the river calculated from actual infiltration of Pilot Project Catlin Canal shares delivered to recharge, (b) delivery to the Pilot Project Catlin Canal shares at the augmentation station and/or (c) other source of water decreed for augmentation or replacement or approved for augmentation or replacement by a C.R.S. 37-92-308(4) SWSP. During the irrigation season, on a monthly basis, Applicants shall demonstrate that all lagged deep percolation return flow obligations have been replaced. During November 15 to March 15, replacement of lagged deep percolation return flow obligations may be aggregated as approved by the Division Engineer so long as there is no injury to the Winter Water Storage Program, Colorado water rights, Conservation Storage in John Martin Reservoir or the Kansas-Colorado Arkansas River Compact.

23. The amount of consumptive use credits and return flow obligations and the disposition of consumptive use credit and return flow replacement water shall be calculated on a daily basis. Such consumptive use credits may be used to augment depletions from the Town of Fowler wells, exchanged to Pueblo Reservoir for use by the City of Fountain and/or the Security Water District, or stored for such uses or to replace Catlin Pilot Project return flows as necessary. Water allocated to replace deep percolation return flows and delivered through Catlin Canal augmentation stations that is in excess of the replacement requirement on a given day will be allocated as a stream depletion credit. Such depletion credits may be used to augment depletions from the Town of Fowler wells, exchanged to Pueblo Reservoir for use by the City of Fountain and/or the Security Water District, or stored for such uses or to replace Catlin Pilot Project return flows as necessary.

24. Pilot Project return flows shall be replaced at or above the historical point of accretion to the stream or above the downstream calling right. Points of accretion for tailwater and lagged depletions are as follows:

Farm	Historical Points of Accretion to Arkansas River			
	Tailwater		Deep Percolation	
Schweizer	**Stream Location**	**UTMs**	**Stream Location**	**UTMs**
Diamond A West	Confluence of Patterson Gulch & Arkansas River	Easting: 606604 Northing: 4217764	Confluence of Patterson Gulch & Arkansas River	Easting: 606604 Northing: 4217764
Hirakata, Hancock, Diamond A East	Arkansas River downstream of Patterson Gulch	Easting: 608734 Northing: 4217964	Confluence of Patterson Gulch & Arkansas River	Easting: 606604 Northing: 4217764

Hanagan	Confluence of Timpas Creek & Arkansas River	Easting: 619547 Northing: 4209161	Confluence of Timpas Creek & Arkansas River	Easting: 619547 Northing: 4209161

No return flow obligation replacement credits shall be granted for water delivered to the Crooked Arroyo augmentation station when there is a call for water at the Fort Lyon Canal headgate.

25. To the extent it is determined by the Division Engineer that the use of the Timpas Creek and/or Crooked Arroyo augmentation stations, or the use of any new or modified augmentation stations or recharge facilities authorized pursuant to term and condition 52, will interfere with the operation of decreed exchanges or decreed alternate points of diversion that are operating in the reach between historical points of accretions to the stream and the point at which augmentation station deliveries reach the river, the Division Engineer may require modifications to Pilot Project operations as may be deemed necessary to prevent material injury to water rights or contract rights to water. Such operational modifications will be identified and described in Applicants' annual report, as required by term and condition 52 and, to the extent such modifications are to take effect immediately, will be noticed pursuant to term and condition 3.

26. Prior to March 1 of each year, Applicant shall prepare and submit to the Division Engineer a monthly projection for the replacement of surface and lagged return flow obligations owed for deliveries to date and projected for the upcoming plan year and for total future monthly obligations over the lagged return flow period. To the extent that this projection shows that lagged and surface return flow obligations that will be owed during the upcoming plan year operation cannot be met through calculated recharge accretions from actual infiltration of water delivered to fallowed Subject Shares and projected delivery of HCU water to fallowed Subject Shares during the plan year based upon the minimum monthly delivery during the historical water budget study period, Applicant shall identify to the Division Engineer such other firm source(s) of water that will be dedicated to the Pilot Project for that plan year and for future monthly obligations, along with a calculation of the dry-year yield of such source(s) and accounting for evaporation, transit, or other losses that may be incurred prior to and/or during delivery. If the Division Engineer determines that such source(s) is(are) inadequate or otherwise unavailable to meet return flow obligations owed for the upcoming plan year, the Division Engineer may deny use of that source for such purpose and require Applicants to dedicate an acceptable firm source of water prior to commencement of operations for that plan year. This shall also include information regarding Applicants' anticipated method(s) and source(s) of water anticipated to be used to meet return flow obligations beyond the upcoming plan year such that the Division Engineer can evaluate the likelihood that Applicants will continue to be able to meet return flow obligations in upcoming years and to take such action(s) as may be necessary to proactively address potential shortfalls in meeting long-term return flow obligations. This projection shall be available to all interested parties through the posting to an FTP site or other accessible web site within a reasonable time of submittal to the Division Engineer.

27. Prior to March 1 of each plan year, Applicants shall have in place all approvals, and/or agreements that are necessary for operation of the Catlin Pilot Project for that plan year. Copies of these approvals/agreements shall be provided to the Division Engineer, which shall be made available to other parties upon request. Any use of intermediate storage locations in the operation of any exchange for the pilot project shall only occur to the extent that Applicants have obtained the necessary approvals and/or complied with applicable bylaw requirements associated with the use of such storage locations.

28. Throughout operation of the Pilot Project, the projection of the firm sources of water that will be used to replace plan year lagged and surface return flow obligations from deliveries to date shall be updated weekly during the irrigation season. This shall include actual infiltration at the recharge facilities. If at any time a plan year monthly lagged return flow obligation exceeds the firm sources of water that will be used for replacement, no water shall be delivered to Lessees until all return flow obligations are made and the projection shows that a firm source of water is available to replace plan year return flow obligations.

29. For the purpose of the projection, firm sources of water shall include, exclusively, (a) calculated recharge accretions from actual infiltration of water delivered to fallowed Subject Shares, (b) projected delivery of HCU water to fallowed Subject Shares during the plan year based upon the minimum monthly delivery during the historical water budget study period, and (c) other fully consumable firm replacement supplies either previously stored and dedicated to the Pilot Project or projected to be available in the upcoming plan year based on the dry-year yield of direct-flow water rights approved for replacement use by water court decree or C.R.S. 37-92-308(4) SWSP approval. The Applicant must account for applicable seepage, evaporation and transit losses associated with the use of such replacement supplies.

30. Prior to January 1 of each year following the initial year of operation, Applicants shall prepare and submit to the State and Division Engineer a report identifying the source(s) of water that will be used to meet post-project lagged depletions that will not be met through accretions from recharge. This report shall include a calculation of the dry-year yield of such sources and provide evidence that Applicants have the right to use such source(s) and shall also include a commitment from Applicants that such source(s) will be dedicated to meet such post-project depletions and will not be used for any other purpose. The identified source of post-project return flow water must be approved by the State and Division Engineer. Source(s) dedicated to post-project depletions may be updated annually with approval of the Division Engineer. Prior to January 1 following the final plan year of pilot project operation, Applicants shall prepare and submit to the State and Division Engineer a report identifying the final firm source(s) of water that will be used to meet post-project lagged depletions that will not have been met through accretions from recharge and shall designate the type of plan to be used to lawfully provide for replacement of the lagged depletions. This source or these sources shall be solely committed for use in each year that a remaining post-project depletion obligation exists by the Applicants, to the extent of the obligation. A replacement water source is considered firm in this context to the extent the water is guaranteed by binding agreement for the term of its inclusion in the post-project projection period and fully executed contracts to use structures not owned by the Applicant that are needed to store or deliver the replacement supply are provided.

31. The obligation to provide the annual March 1 and January 1 projections and commitment of sources of water in Conditions 26, 27 and 30 shall not be required if the Applicants have employed a "pay as you go" approach to return flow maintenance for all farms in the project and the Applicants can demonstrate through accounting that the difference in deep percolation return flow accretion timing does not exceed ten acre-feet in any month following project operations and can demonstrate that the full volume of deep percolation return flow accretion has been successfully recharged. The maximum ten acre-feet limitation on variance of lagged depletions shall be deemed to be reasonable as maintenance of historical flows to protect other water rights taking into consideration the reasonable accuracy of the lagged return flow modeling methods. To utilize the "pay as you go" approach, Applicants shall provide the analysis described in the comments by Tri-State that recommended this approach by February 17, 2015 to the Division Engineer for approval.

32. Unless otherwise replaced via Pilot Project operations (such as recharge), depletion credits may be exchanged to Pueblo Reservoir and stored in Lower Ark's excess capacity account to provide a replacement supply for winter return flow obligations. Waters that are stored in, and subsequently released from Pueblo Reservoir to replace lagged deep percolation return flow obligations will experience, delivery, storage and transit losses assessed by the Division Engineer between Pueblo Reservoir and the historical return flow accrual locations. Accounting of water within Lower Ark's excess capacity account shall be maintained by the Applicants to demonstrate the type of water used for historical return flow maintenance is appropriate for that use.

33. There shall be no exchange and re-diversion of any excess recharge accretions resulting from delivery of water to recharge ponds that was diverted pursuant to the Subject Shares. Such excess recharge accretions may be used for the replacement of lagged or tailwater return flow obligations and may also be used for Fowler-CWPDA Municipal Well Replacement, except that the use of such credits to replace tailwater return flow obligations may not otherwise result in the exchange of Catlin Canal headgate deliveries pursuant to the Subject Shares that are made available only as a result of the use of such credits to meet tailwater return flow obligations.

34. Water available or owed to operations of this pilot project shall only be traded or exchanged with water available or owed under a Rule 10 Compact Compliance Plan or Rule 14 Plan with the prior approval of the State Engineer. Such prior approval shall require a determination that such trade/exchange can occur without resulting in material injury to water rights or contract rights to water and is otherwise in conformance with the law. Daily accounting for such trades shall include (a) the amount of Pilot Project water used by reach for Rule 10 or Rule 14 replacement and (b) the source (location and water right) and amount of water traded from Rule 10 or Rule 14 to the Pilot Project and reports of this accounting shall be provided to the Division Engineer and made available pursuant to Condition 3. Interested parties can provide comments to the Division Engineer regarding concerns about individual trades.

35. Exchange into Pueblo Reservoir may occur only when there is at least 100 cfs of outflow (inclusive of hatchery flows) from Pueblo Reservoir. Such diversions/exchanges may not cause the outflow from Pueblo Reservoir to be less than 100 cfs. Pursuant to the terms of the 2011 Memorandum of Agreement between Lower Ark and the Southeastern Colorado Water Conservancy District ("Southeastern"), to the extent that a long-term excess capacity contract is entered into with the Bureau of Reclamation and Lower Ark enters into a sub-contract with Southeastern for use of the excess capacity space, Lower Ark (and operation of this Catlin Pilot Project) shall comply with the requirements of the Arkansas River Flow Management Project to the same extent that Southeastern is obligated to comply, which may result in additional limitations on the exchange of water into Pueblo Reservoir.
36. Pilot Project exchanges to Pueblo Reservoir from points within or downstream of the City of Pueblo's recreational in-channel diversion ("RICD") shall operate as if the Pueblo RICD water right is in effect 24-hours per day.
37. Any exchange of water as a part of this Pilot Project not operated pursuant to a court decree must be approved in advance by the Division Engineer after a determination that there is sufficient exchange potential to accomplish the requested exchange without injury to other water rights and taking into account the timing of river flows between the exchange-from point and exchange-to point.
38. Substitute supplies used for exchange must be delivered at a Catlin Canal augmentation station through a measuring device approved by the Division Engineer. The amount of substitute supply available for exchange shall be assessed transit loss by the Division Engineer between the augmentation station and Arkansas River.
39. Applicants may operate an exchange only if there is a live stream between the downstream exchange-from point and the upstream exchange-to point. The Applicants shall not operate the exchange when it would prevent any intervening water right, including exchange rights, from diverting the full amount of water from the Arkansas River to which such right would otherwise be legally and physically entitled, in the absence of the Pilot Project exchange.
40. Any excess consumptive use credits available from Pilot Project operations shall not be claimed for use as a source of replacement water for agricultural irrigation depletions in any Rule 14 Plan or substitute water supply plan.
41. All recharge ponds shall be surveyed and stage-area-capacity tables shall be approved by the Division Engineer before use.
42. Recharge pond accounting and operations shall, at a minimum, include and/or comply with the following information:
    a) Measured and recorded inflow and measured precipitation as recorded by the nearest CoAgMet weather station. Missing CoAgMet station data shall be replaced by the next closest CoAgMet weather station.
    b) Daily content by staff gage with a documented time recorded if not automated.
    c) Daily evaporation determined by daily evaporation rate by pond surface area for each day water is present in the pond. Daily evaporation will be determined based on the pan evaporation reported by the Corps of Engineers from data collected at John Martin Reservoir.

d) The recharge shall be computed from a mass balance standpoint with no credit for recharge of precipitation, and

e) The area in and around the recharge pond shall be kept clear of vegetation and shall be regularly monitored for any increased vegetative growth and/or pond seepage coming to the surface. To the extent that any vegetation exists while recharge is taking place, there shall be an appropriate reduction applied to recharge credits available at the Arkansas River.

43. Observations shall be made and recorded of any spills, seeps or overtopping of recharge ponds when recharge ponds are near full. No credit for recharge infiltration to ground water shall be allowed when spills, seeps or overtopping are observed unless the amount of such spills seeps and overtopping may be estimated with reasonable accuracy based on existing measurements and calculations and deducted from the amount delivered to recharge as approved by the Division Engineer. Fields between the recharge ponds and the river shall be monitored periodically by Division Engineer staff and Applicants to verify whether any elevated ground water tables are induced by recharge.

44. To the extent that the recharge ponds are used for purposes other than the Catlin Pilot Project, the infiltration of such water to ground water shall be considered to occur based on the percentage of the total delivery to the subject recharge pond. Recharge accounting under term and condition 42 shall similarly be adjusted to reflect the proportion of water placed into recharge for Pilot Project operations and for other purposes.

45. All diversions, deliveries for the Subject Shares, deliveries to recharge, and recharge pond stage shall be measured in a manner acceptable to the Division Engineer. The Applicant shall install and maintain measuring devices as required by the Division Engineer for operation of this Pilot Project.

46. Applicants shall submit to the Division Engineer and all commenting parties proposed accounting forms that are responsive to recommendations made by commenting parties no later than February 6, 2015. A copy of the Excel accounting forms, with formulas shall be posted on the Division of Water Resources website upon receipt from the Applicants. Commenting parties shall submit any comments on the proposed accounting forms to the Division Engineer by February 17, 2015. Operation of the Pilot Project shall not commence until after the Division Engineer has approved accounting forms that are consistent with these terms and conditions and the November 19, 2013 Criteria and Guidelines.

47. The State and Division Engineers and commenting parties may provide additional comment on the accounting forms throughout operation of the Pilot Project. Any accounting errors or deficiencies shall be immediately corrected and disclosed to all commenting parties and reflected in the annual Pilot Project operations report as provided for in term and condition 52.

48. Accounting of water in this Catlin Pilot Project must be provided to the Division Engineer on forms, at a frequency and at times acceptable to him. At a minimum, said accounting must be received by the 10th of the month following the month being reported. The name, mailing address and phone number of the contact person who is responsible for operation and accounting of this plan must be provided on the accounting forms. Accounting will be available for inspection through the posting to an FTP site or other publically accessible web site within ten days of submittal to the Division Engineer. Daily accounting elements shall be provided to the Division Engineer weekly during the first 75 days of operations, in addition to the monthly accounting, on a reporting schedule as designated by the Division Engineer.

49. In addition to daily accounting for each participating farm's contribution there shall be an accounting record that shows the disposition of the water delivered to the Arkansas River. This additional record shall identify the end user of available water, whether the water is used directly for Fowler-CWPDA Municipal Well depletion replacement or exchanged to upstream storage, and the portion of the delivery that is used for replacement of return flow obligations.

50. The Pilot Project shall incorporate (a) daily accounting, one day in arrears, of future lagged return flow obligations resulting from actual deliveries to date to the fallowed Subject Shares and (b) a projection of the firm water supplies dedicated for replacement of the future lagged return flow obligations.

51. Applicants' accounting shall comply with the following:

    a) Daily accounting shall be maintained for the measured amount of water delivered attributable to the fallowed Subject Shares at each of the augmentation stations and recharge facilities.

    b) Consumptive use and return flow factors shall be applied to daily measured deliveries at the locations where Subject Shares are delivered by the Catlin Canal Company.

    c) Daily accounting shall be maintained for the amounts of consumptive use water, tailwater and unlagged deep percolation portions of the measured amount of water delivered at each augmentation station and recharge facility for the fallowed Subject Shares.

    d) Monthly accounting shall be maintained for current and future lagged return flow obligations that have resulted from deliveries attributable to fallowed Subject Shares during the present month and all previous months.

    e) Monthly accounting shall be maintained for calculated recharge accretions to the stream system from actual infiltration at recharge ponds from delivery attributable to the fallowed Subject Shares.

    f) Monthly accounting shall be maintained for lagged return flow obligation not replaced by recharge, distributed on a daily basis.

    g) Daily accounting shall be maintained for measured Pilot Project consumptive use water and unlagged deep percolation water delivered through the augmentation stations for replacement of lagged return flow obligations that are not replaced with recharge.

h) Daily accounting shall be maintained for measured deliveries of other water supplies used to replace lagged return flow obligations that are not replaced with recharge, including location of each supply and transit losses associated with delivery of each supply to the location where the return flow obligation is owed.

i) Daily balance of the Pilot Project's net effect to the Arkansas River.

j) Daily net amount of consumptive use water and unlagged deep percolation return flow water delivered through the augmentation stations and not needed for replacement of return flow obligations.

k) Daily amount of consumptive use water and unlagged deep percolation return flow water stored to replace future lagged return flow obligations.

l) Daily amount of consumptive use water and unlagged deep percolation return flow water delivered to each Lessee.

52. Applicants shall annually prepare a report of Pilot Project operations that will be submitted to the CWCB and the State and Division Engineer on or before January 15 of each year, which shall reflect a reporting year of November 16 of the prior plan year through November 15 of the current plan year for which the report is being prepared. This annual report will present: (a) a summary of plan year accounting, including the total amount of acres and Subject Shares fallowed, plan-year deliveries to the Subject Shares, HCU credits generated, water exchanged for Fowler-CWPDA Municipal Well Replacement, water exchanged to Pueblo Reservoir for Fountain and Security, water exchanged to Pueblo Reservoir for lagged return flow replacement, tail water return flow obligation replaced and unreplaced, lagged return flow obligation replaced and un-replaced, sources of water used to meet lagged return flow obligation, future lagged return flow obligation and firm yield source of water that will be used to meet lagged return flow obligation; (b) any accounting errors or deficiencies discovered during the plan year and any accounting modifications that were made during the plan year or are proposed to be made for the upcoming year; (c) the number of days, if any, when there were un-replaced return flow obligations; (d) efficacy of the LFT, temporary dry-up, prevention of erosion, blowing soils and noxious weeds and re-irrigation of temporarily fallowed lands; (e) information regarding the parcels that have been dried up to date and years of such dry up to demonstrate that the limitations contained in term and condition 2 have not been exceeded; (f) a summary of costs associated with pilot project operations, including lease payments made/received, operational costs, and to the extent available costs of erosion prevention and noxious weed management; (g) identification of any obstacles encountered in pilot project operations; (h) any additional terms and conditions that Applicants believe may be necessary to prevent future material injury to other water rights or contract rights to water; and (i) any proposed minor operational modifications for the upcoming plan year, including and limited to the addition/modification of accounting forms, projection forms, storage locations, recharge facilities, and/or augmentation stations. Any proposed operational modifications shall be accompanied by such information and analysis as is necessary for the State and Division Engineer and any interested parties to evaluate the potential for injury resulting from such proposed changes.

53. Pueblo Reservoir, Twin Lakes Reservoir and Fountain Valley Pipeline (or Conduit) are owned and operated as part of the Fryingpan-Arkansas Project by the United States Department of the Interior, Bureau of Reclamation. This Catlin Pilot Project approval does not give Applicants any rights to use of Fryingpan-Arkansas Project structures, including Pueblo Reservoir, but will not alter any existing rights Applicants may have. Applicants shall store water in Pueblo Reservoir only so long as they have a contract with the owners of that structure, and such storage and use is within the effective time period of such contract. Any use of Fryingpan-Arkansas Project facilities by Applicants, for storage, exchange or otherwise, will occur only with the written permission of the owner of said reservoir, and will be made consistent with such policies, procedures, contracts, charges, and terms as may lawfully be determined by the U.S. Bureau of Reclamation, and, where applicable Southeastern or its successors in interest, in their good faith discretion.

54. This Catlin Pilot Project approval has no effect on the authority of the United States to regulate and/or deny use of federal facilities. Applicants recognize that the consideration of and action on request for any necessary federal contracts and authorizations shall be carried out pursuant to all pertinent statutes, regulations and policies applicable to the occupancy and use of the Bureau of Reclamation facilities, including but not limited to Fryingpan-Arkansas Project authorization legislation, the National Environmental Policy Act, and the Endangered Species Act.

55. Applicants shall store or transport water in Fryingpan-Arkansas Project structures only so long as they have a contract with the owners of that structure(s), and such storage and use is within the effective time period of such contract. This Catlin Pilot Project approval does not give Applicants any rights to ownership or use of any Fryingpan-Arkansas Project structure, or any rights of ownership or rights to purchase or receive allocation of Fryingpan-Arkansas Project water, and does not alter any existing rights (including any right to renew existing contracts) Applicants may have.

56. Applicants shall not operate the Catlin Pilot Project in a manner that would interfere with the lawful operation of the Fryingpan-Arkansas Project. Any water stored in Pueblo Reservoir as a part of this Catlin Pilot Project shall be beneficially used within Southeastern's district boundaries.

57. Unless otherwise authorized by the Bureau of Reclamation and to the extent permitted by law, and consistent with all lawful rules, regulations, policies, and contract obligations of Southeastern, the portion of the water associated with shares used in this Catlin Pilot Project derived from water stored pursuant to the decree dated November 10, 1990 in Case No. 84CW179 ("Winter Storage Water") shall be stored in an excess capacity storage account in Pueblo Reservoir. Applicants shall obtain space in an excess capacity storage account to allow storage of its Winter Storage Water, and such water shall be available to the Catlin Pilot Project operations. If no excess capacity account is available in a given year, Applicants will not take delivery of their Winter Storage water associated with the Catlin Pilot Project during that year. All of Applicants' Winter Storage Water shall be delivered through the Catlin Canal during the period of March 16 through November 14 at the same time as deliveries of Winter Water Storage are made to other Catlin Canal shareholders. If the Winter Storage Program described in the decree in Case No. 84CW179 terminates, the return flows owed on the Catlin Pilot Project lease shall continue to be calculated as set forth herein.

58. Applicants' lease of shares of the Catlin Canal entitle it to a pro rata share of the Winter Water made available to the Catlin Canal that shall be accounted for as released to Applicants' account in Pueblo Reservoir. This Winter Water will be available for release at any time during the year subject to the operating rules of the Winter Water Storage Project and may be carried over until May 1 of the water year (November 1 through October 31) following the water year in which the Winter Water is stored. Any Winter Water unused by that date will be released from Pueblo Reservoir to the system as decreed in Case No. 84CW179. Delivery of that Winter Water is also subject to the rules and regulations of the Catlin Canal Company regarding orders and assessments for such deliveries.

59. To the extent that the Catlin Pilot Project stores the net depletion amount of the participating shares in Pueblo Reservoir, such water may be booked over to replace winter return flow on a monthly or weekly basis, or as otherwise required by the Division Engineer, to participants in the Winter Water Storage Program decreed in Case No. 84CW179, Water Division 2 as necessary to prevent injury to the water rights included in that Program.