**Alternative Agricultural Water Transfer Methods – Competitive Grant Program**
**Water Activity Summary Sheet**
**Agenda Item 13f**

**Applicant:** Parker Water and Sanitation District

**Water Activity Name:** Lower South Platte Irrigation Research and Demonstration Project

**Water Activity Purpose:** Non-Structural Activity

**Drainage Basin:** South Platte River

**Water Source:** South Platte River

**Amount Requested:** $435,152

**Matching Funds:** $125,644 (29%)

| **Staff Recommendation** |
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| Staff recommends approval of up to $320,166 from the Alternative Agricultural Water Transfer Methods Program to help complete the project, Lower South Platte Irrigation Research and Demonstration Project. |

**Project Summary:**
Physical research supported by Parker Water and Sanitation District and CWCB (2007-2010) has evaluated water conserving cropping practices including limited irrigation and rotational cropping with a variety of crops and crop rotations. The research was conducted at the Lower South Platte Irrigation Research and Demonstration project in Iliff, CO and results show as much as 40% reduction in consumptive use compared to fully-irrigated continuous corn. The CWCB-funded research has led to additional supportive work by CSU and USDA-ARS scientists, showing that viable cropping practices reduce consumptive use while avoiding dry-up of irrigated land are attractive alternatives. However, rotational fallow or permanent dry-up are more frequently adopted because they are simpler to administer and enforce in a change of use case. Thus, legal and administrative hurdles stand as major obstacles to adoption of alternative water-conserving practices.

This proposal will develop a practical means of calculating and verifying consumptive water use and of addressing return flow concerns and seeks to bring limited irrigation and alternative crop rotation into the feasible set of water saving options. The previous CWCB-funded research also evaluated the role of deficit irrigation in farm level economics, the willingness of farmers to participate in alternative water sharing arrangements, and the contribution that irrigated agriculture makes to the economic vitality of rural communities. The next major step forward is development of a detailed, specific and sophisticated water sharing program that addresses the following: how much water can be released as a result of adopting alternative water saving practices, how much must farmers be paid to participate in the program, what is the cost of this water to the municipal leaser, and how will the alternative transfers impact local businesses and the environment relative to permanent fallowing that follows a ‘buy and dry’ transfer.

**SPECIFIC PROJECT TASKS**

1. Develop a practical means of calculating and verifying consumptive water use and water savings in alternative systems that will satisfy Water Court requirements.
2. Demonstrate a water allocation approach to simplify the administrative burden to maintain return flows.
3. Develop a model water transfer institution based on a case study water organization that will establish a water delivery plan and organizational structure.
4. Evaluate issues associated with, and develop, ultimate treatment and infrastructure delivery options and costs.

**Discussion:**

Staff believes that the application successfully addresses specific barriers identified by working groups/committees regarding alternative transfer methods. Specifically they seek to address how the State Engineer's Office would administer an alternative method to ensure that there is no enlargement of the irrigator's water rights while maintain historic return flows. In addition, the proposal seeks to further evaluate water quality/treatment and delivery options which are key considerations with moving water from lower in the river basin up to the metro area. In task 3, the applicant seeks to address economic and organizational issues. They identify related efforts with another application seeking funds from this grant program (Lower South Platte Water Cooperative Program). Staff believes that many of the organizational analysis sought in this proposal (specifically under task 3) will be studied under the Water Cooperative Program's efforts. In addition, staff feels that the economic portion of task 3 of this proposal would be best analyzed/studied in the Water Cooperative Program under their task 7.

**Issues/Additional Needs:**

- Please provide a more detailed budget and revised scope of work.

**Staff Recommendation:**

Staff recommends approval of up to $320,166 from the Alternative Agricultural Water Transfer Methods Program to help complete the project, Lower South Platte Irrigation Research and Demonstration Project. Staff recommends revising the scope of work to eliminate task 3 of the scope of work. Staff recommends that the economic analysis contemplated in this task be performed under the Lower South Platte Water Cooperative's efforts.

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.