Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
Agenda Item 28

Applicant: Sangre de Cristo RC&D Council, Inc.

Water Activity Name: A Multi-Media Program for Reporting Crop and Turf Water Use Estimates from the Colorado Agricultural Meteorological Network (CoAgMet)

Water Activity Purpose: Non-Structural Activity

County: Various

Drainage Basin: Arkansas

Water Source: Arkansas

Amount Requested: $46,971

Source of Funds: Statewide ($37,577) and Basin ($9,394) accounts

Matching Funds: Yes (20%)

Staff Recommendation
Staff recommends approval of up to $37,577 from the Statewide Account and $9,394 from the Arkansas Basin Account to help complete the Multi-Media Program for Reporting Crop and Turf Water Use Estimates from the Colorado Agricultural Meteorological Network project contingent upon the additional needs detailed below.

Water Activity Summary:
The proposed activity will employ a multi-media approach to communicate crop and turf water use reports to irrigators in the Arkansas Basin (in particular the areas served by the Colorado Agricultural Meteorological Network (CoAgMet) in this basin). CoAgMet is a network of weather stations that collect localized weather data in irrigated agricultural areas where each station is equipped with standardized instrumentation to record and transmit measurements of temperature, relative humidity, wind speed, solar radiation, precipitation, and soil temperature. Measurements are then used to calculate crop-specific evapotranspiration (ET) utilizing equations such as the Penman-Monteith equation.

Knowing ET rates for daily and local settings helps irrigators "fine-tune" irrigation and conserve water using the water-balance approach. Irrigation scheduling by the water balance approach is based on estimating the soil water content, from which daily withdrawals are subtracted and deposits are added. Irrigators often know their rates of water application, and may record daily precipitation, but the ET rates for their crops are not easily known. This proposal will provide the farmer with all water inputs and outputs and outputs whereby subsequent irrigations can be planned for the optimal time according to the soil moisture and crop type.

This proposal consist of a multi-media approach over a three year period to expand the CoAgMet and improve the system's website (www.coagmet.com) and allow other types of media (i.e. cell phones) to be used as not all farmers have access to computers in the field. The program will also help develop the reporting of crop water use reports for specific crops on a weekly basis to local papers and radio stations similar to what has been successfully implemented in the San Luis Valley. The other project component will develop a telemetric system for distributing daily (or weekly) ET reports through cellular telephone

text-messaging. CSU Extension has received similar requests to develop a text-messaging service for some current CoAgMet users. This novel approach reflects other farming trends towards greater efficiency in the use of time and resources, and warrants a pilot program to test its extension to irrigation practices. The WSRA funds will be used to subcontract the time for a programmer at CSU Extension to complete the remaining coding necessary to develop and trouble-shoot the text-messaging service for a pilot group of cooperators in the Arkansas Basin.

Discussion:
The applicant did a good job describing how this program meets many of the evaluation criteria for the Statewide Account. Staff concurs with the applicant in that accurate and timely data allows for more efficient use of our water resource. The benefits may be realized by the farmer/irrigator by minimizing irrigation expenses (e.g. energy for pumping or man-hours irrigating), maximizing crop yields and minimizing problems associated with over-irrigation of farmland. Broader benefits could also be realized through this program. These may include the reduction of salinity loading due to more efficient irrigation practices/schedules as well as an overall increase in productivity within the region.

Issues/Additional Needs: This program is for a three year effort to develop a multi-media approach for disseminating crop ET data to the interested public. Staff requests that the applicant provide an explanation as to how the system will fund itself after the three year period.

Staff Recommendation:
Staff recommends approval of up to $37,577 from the Statewide Account and $9,394 from the Arkansas Basin Account to help complete the Multi-Media Program for Reporting Crop and Turf Water Use Estimates from the Colorado Agricultural Meteorological Network project contingent upon the additional need described above.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting: 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.