

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 18-19, 2014
Agenda Item 17(i)

Applicant: Geothermal Greenhouse Partnership, Inc.

Water Activity Name: Geothermal Greenhouse Partnership Project

County: Archuleta

River Basin: Southwest

Water Source: Animas River

Amount Requested: \$25,000 from the Southwest Basin Account, (delayed) \$50,000 from the Statewide Account.

Matching Funds: \$25,000 cash match from the WSRA Southwest Basin Account (5% of total project costs/33% of total grant request), \$27,440 in-kind from Community at large (6% of total project costs/37% of total grant request), \$283,000 in-kind Town of Pagosa Springs (61% of total project costs/377% of total grant request), \$25,000 cash match Town of Pagosa Springs (5% of total project costs/33% of total grant request), \$25,000 cash match Musser Fund (5% of total project costs/33% of total grant request).

Staff Recommendation:
Staff recommends approval of up to \$25,000 from the Southwest Basin Account for the project titled: Geothermal Greenhouse Partnership Project.

Water Activity Summary: WSRA Grant funds will be expended to assist in the financing of the Geothermal Greenhouse Project which includes three 42 foot agricultural growing domes heated by geothermal energy, grounded in permaculture practices and centrally located in downtown Pagosa Springs at Centennial Park, and will become part of the already existing District Heating System of the Town of Pagosa Springs.

Specifically, WSRA funds will finance the construction of infrastructure which includes: a closed loop system for heating/cooling the domes where geothermal water is used to heat well water which is then circulated under and through the domes; and the delivery systems for irrigation and potable water to the domes. The geothermal loop also provide heat for the surrounding beds, walk ways and public seating area. Inside the domes water infrastructure also includes ponds, radiators, sprinkler system, temperature instrumentation and various meters as needed.

Overall the project includes three domes: an education dome which will house a center for K-12 science education, as well as for advanced study in agriculture and renewable energy technologies; a commercial growing dome which includes an educational component and will provide a test site for the commercialization of organic crops at high altitudes using the geothermal resource; and a community garden dome which includes education and will provide an opportunity for the public to grow year-round crops. The influence of the GGP Project will extend well beyond Pagosa Springs as

it serve as a model for other communities both state and nation wide that possess a geothermal resource.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Funding/Match Summary:

<u>Funding Source</u>	<u>In-kind</u>	<u>Cash</u>	<u>Total</u>
WSRA Southwest Basin Account	\$0	\$25,000	\$25,000
Community at large	\$27,440	\$0	\$27,440
Town of Pagosa Springs	\$283,000	\$25,000	\$308,000
Musser Fund	\$0	\$25,000	\$25,000
Total Project Costs	\$310,440	\$75,000	\$385,440

Discussion:

The Geothermal Greenhouse Partnership Project applicants initially submitted a WSRA Grant request for \$25,000 from the Southwest Basin Account, and \$50,000 from the Statewide Account, however due to an anticipated WSRA Statewide Account shortfall the applicant has agreed to delay their Statewide Account request.

Issues/Additional Needs:

No additional issues or needs were identified.

Staff Recommendation:

Staff recommends approval of up to \$25,000 from the Southwest Basin Account for project titled: Geothermal Greenhouse Partnership Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting and Final Deliverable: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

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.