Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 2012 Agenda Item 16.b

Applicant: Terrace Reservoir Irrigation Company, Inc.

Water Activity Name: Terrace Reservoir Spillway Replacement

Water Activity Purpose: Structural Project (Agricultural and Nonconsumptive)

County: Conejos

Drainage Basin: Rio Grande River

Water Source: Alamosa River

Amount Requested: $1,500,000 ($1,425,000 Statewide Account and $75,000 Rio Grande Basin Account)

Matching Funds: $920,000 from a new CWCB loan; $2,000,000 from the Natural Resource Damage Settlement Fund

Staff Recommendation
Staff recommends approval of **up to** $1,425,000 of Statewide WSRA funds and **up to** $75,000 of Rio Grande Basin WSRA funds to help complete the Terrace Reservoir Spillway Replacement.

Water Activity Summary:
The Colorado State Engineer (SEO) determined that the existing Terrace Reservoir spillway has insufficient capacity to pass the Probable Maximum Flood (PMF), resulting in a 2,000 AF storage restriction. This proposal builds on previous WSRA-funded work involving mapping, surveying, and hydrology studies. Those studies, along with subsequent investigations, found that the spillway cannot simply be repaired or rehabilitated, but must be replaced. This proposal seeks funds to replace the present spillway with a labyrinth design spillway. A hydrologic report using Extreme Precipitation Analysis Tool (EPAT) established a new design inflow flood that the new spillway must pass. This report was approved by the SEO. Design documents for the proposed spillway are currently under review by the SEO.

This project is a collaboration between Terrace Irrigation Company (TIC) and Alamosa Riverkeepers, which has a goal of establishing an instream flow on the Alamosa River. After the replacement of the spillway and lifting of this storage restriction, TIC will dedicate 2,000 acre feet of storage capacity in its reservoir to instream flow.

The proposed modifications to Terrace spillway include a demolition of the existing spillway, construction to raise the existing saddle dike to the main Terrace dam crest elevation, and construction of a new reinforced concrete labyrinth spillway control structure, chute, stilling basin, under-drain system, and grouted anchors. Instrumentation proposed for the Terrace Reservoir Dam saddle dike consists of 12 new piezometers installed through the raised saddle dike and in the glacial till slope downstream of the raised saddle dike, and six dam station markers, which will also serve as settlement monuments, installed at 100-foot centers across the dam crest. A staff gage, mounted to or near the labyrinth crest control structure, will also be included in the design. The staff gage would be used to measure the reservoir storage level.

As a result of this Project, the reservoir will be able to use its full 15,182.3 acre feet capacity instead of the 7-foot restriction of 13,180.9 acre feet capacity.

Threshold and Evaluation Criteria
The application meets all four Threshold Criteria.

The application articulates how the project meets the Evaluation Criteria as summarized below:

Tier 1: Promoting Collaboration/Cooperation & Meeting Water Management Goals & Identified Needs: By fixing a restricted reservoir this project restores existing capacity. Restoration of restricted reservoirs has been recognized by the Rio Grande Roundtable as critical in meeting its identified needs. The restored spillway would benefit both irrigators and nonconsumptive uses on the Alamosa River. The instream flow would improve irrigation water delivery and contribute to additional recharge of the Basin's aquifers, with the potential to raise the groundwater water levels. In addition, it would improve the function of the historic floodplain, reducing the risk of flood for Capulin and surrounding communities. Along with TIC and Alamosa Riverkeepers other partnering entities include: Colorado Parks and Wildlife, Capulin Water District, Conejos County Board of Commissioners, San Luis Valley Irrigation District, Alamosa La Jara Conservancy District, Valle del Sol Community Center, Colorado Water Trust, and the CWCB.

Tier 2: Facilitating Water Activity Implementation: Without this funding, this Project would not be implemented. This is a complex Project which has evolved over several years of study, preparation, and collaboration. Collaboration and an integrated approach to funding has been the only way for TIC to implement the project. TIC is working with CWCB to restructure its existing loan portfolio and create an additional $920,000 of funds for this project. A critical element in this funding package was to obtain approval for the release of $2,000,000 from the Natural Resources Damage funds, received early in October 2011. This NRD funding is contingent upon obtaining the matching funds requested in this proposal.

Tier 3: The Water Activity Addresses Issues of Statewide Value and Maximizes Benefits: This is a multi-purpose project that benefits both consumptive and nonconsumptive uses. It is ultimately the result of the Summitville Mine disaster and subsequent conclusions of the CWCB's Alamosa River Watershed Restoration Master Plan and Environmental Assessment Final Report (2005). In March 2007 WSRA funds were approved to help complete a hydrologic model, survey, and mapping project as an initial phase of the current proposed water activity. Colorado Parks and Wildlife maintains a conservation pool in the reservoir and is providing advice on fishery habitat and flows needed in the Alamosa below the reservoir. In addition, CWCB's instream flow program and the Colorado Water Trust continue to work with the project partners to help coordinate acquisition and transfer of water rights for the instream flows. To date, a water right in the amount of 2.5 cfs has been acquired and donated to the CWCB (May 2010 board meeting). Finally, the restored storage capacity and resulting instream flows will ultimately help maintain Colorado's ability to meet its obligations under the Rio Grande Compact.

Discussion:
The requested WSRA funds would help complete an important multi-purpose project in the San Luis Valley by restoring restricted reservoir storage, a strategy identified as critical by the Rio Grande Basin Roundtable. As such, this project helps the basin sustainably meet its consumptive and nonconsumptive needs. In addition, the project complements previous CWCB-funded research and current activities of the CWCB Instream Flow and Loan programs.

In addition to the requested WSRA funds the applicant is seeking CWCB loan funds for this project. To promote the joint use of CWCB programs the new WSRA Criteria and Guidelines approved in November 2011 give preference to applicants applying for both WSRA grant and CWCB loan funds. This application

was submitted prior to the current WSRA Criteria and Guidelines being approved by the CWCB and IBCC. As such, it does not meet the new requirement that a WSRA grant/CWCB loan package have a loan:grant ratio of at least 1:1. However, the applicant did receive approval from the Rio Grande Basin Roundtable to modify the WSRA basin:statewide ratio to meet the new basin fund 5% match requirement for applications to the statewide fund.

Issues/Additional Needs:
CWCB staff requests that the following issues be addressed during contracting and project execution:

- The sequencing of CWCB fund disbursement should be as follows: NRD funds should be exhausted prior to disbursement of CWCB loan or WSRA grant funds (or as otherwise required by the NRD policies); subsequent disbursements will then be issued at a prorated ratio for CWCB loan and WSRA grant funding, up to the approved limits.
- Provide a revised Statement of Work detailing which tasks and subtasks will be funded with WSRA monies.

Staff Recommendation:
Staff recommends approval of **up to** $1,425,000 of Statewide WSRA funds and **up to** $75,000 of Rio Grande Basin WSRA funds to help complete the Terrace Reservoir Spillway Replacement.

All products, data and information developed as a result of this grant must be provided to 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 or certified by a professional engineer licensed by the State of Colorado to practice Engineering.