

**Plaza Planning Project – Final Report****December 22, 2011**

This Report summarizes the activities completed in the Plaza Planning Project as of December 22, 2011. The summary of tasks completed coincides with Reimbursement Request #2 for WSRA Grant – McDonald Ditch and Plaza Phase 1 Planning, CMS #29704.

**TASK 1 – Stakeholder Coordination****Complete**

*Objective: Create the Plaza Project Stakeholders (Plaza Stakeholders) to advise the Partnership. The Plaza Stakeholders will make strategic planning decisions by meeting monthly to review and discuss intermediate Planning Project deliverables at key Project milestones. There will be a special focus on wetlands, habitat, and the need to address nonconsumptive needs.*

In order to maintain Project momentum, Task 1 activities were largely completed using partner funds. As such, Task 1 was almost completed during the period prior to Notice to Proceed. The Plaza Stakeholders represent a diverse group of interests and have been contacted and recruited for participation. The following interests and organizations are represented: Rio Grande Headwaters Restoration Project (RGHRP), Natural Resources Conservation Service (NRCS), McDonald Ditch Company, Prairie Ditch Company, Silva Ditch Company, Atencio 2 Ditch Company, US Fish and Wildlife Service (USFWS) Partners for Wildlife Program, Colorado Division of Wildlife (CDOW), Rio Grande Headwaters Land Trust (RiGHT), Colorado Division of Water Resources, San Luis Valley Water Conservancy District, Rio Grande County, US Army Corps of Engineers (USACE), the Rio Grande Water Commissioner, San Luis Valley Rural Electric Cooperative (SLVREC), and surrounding landowners, farmers, and ranchers. Task 1 included the continued tracking and archiving of developments and data by the Coordinator. The planned web-based collaborative tool was not appropriate for the Project. The Coordinator has rigorously monitored Project activities and reported information to the Stakeholders as necessary.

**TASK 2 – Situation Analysis****Complete**

*Objective: Increase Stakeholder familiarity with the Project Area by organizing site tours and information meetings.*

The Plaza Stakeholders became familiar with the 2.8-mile reach of the Rio Grande in the Sevenmile Plaza area through participation in two formal meetings and four scheduled site visits. Meetings and site visits allowed Stakeholders to discuss and examine the condition of diversions, riparian areas, and wetlands within the project area. Through site visits and meetings with local landowners, the desire to maintain the historic types and rates of recreation in the area was expressed. The Project Coordinator explored the historic and cultural characteristics of the area through meetings and research. She met with John Valdez, whose great grandparents dug the original Silva and Atencio 2 ditches by hand. The Valdez family once owned 160 acres in the area and were instrumental in establishing the community now known as Sevenmile Plaza. Additionally, the Coordinator obtained significant historic and cultural information from Maria Martinez, who wrote three books on the area and whose studies have been published in the San Luis Valley Historian. The Coordinator wrote one press release regarding the Plaza Planning Project, which was published in the Valley Courier. Stakeholder participation in meetings and site visits has

been excellent. Stakeholder Meeting #2 was attended by 22 Stakeholders, from the group of 32. The Coordinator fostered open and frequent communication through meetings, field trips, phone calls, and emails. Additionally, the Coordinator is recording the Stakeholder meetings and distributing abbreviated transcripts to all Stakeholders.

### **TASK 3 – Project Element Evaluation**

**Complete**

*Objective: Analyze interactions between the project elements and formulate potential alternatives for each element.*

Stakeholders developed and evaluated potential designs and funding options for improvements to the project elements. The actions considered pertained to replacing aging diversion structures, stabilizing streambanks, promoting riparian revegetation, rehabilitating a nearby damaged wetland, and examining the potential for installing low-head micro hydro facilities. Visits to diversions and automated systems locally, in Salida, CO, and in the Northern Colorado Water Conservation District system helped provide design ideas.

NRCS engineers performed preliminary surveys of project elements and developed four potential alternatives for the McDonald Ditch, four alternatives for the Silva/Atencio 2 Ditches, and three alternatives for the Prairie Ditch. The alternatives for the McDonald Ditch were: (1) replace the current diversion with a half concrete, half rock structure with fish and boat passage; (2) remove the current diversion, combine the Silva, Atencio 2, and McDonald headgates, and pipe the water from the Silva Ditch to the McDonald Ditch; (3) replace the current diversion with an all concrete diversion; (4) replace the current diversion with an all rock diversion. The alternatives for the Silva/Atencio 2 Ditches were: (1) replace the current diversion with a half concrete, half rock structure with fish and boat passage; (2) remove the current diversion, combine the Silva, Atencio 2, and McDonald headgates, and pipe the water from the Silva Ditch to the McDonald Ditch; (3) replace the current diversion with an all concrete diversion; (4) replace the current diversion with an all rock diversion. The alternatives for the Prairie were: (1) replace the current diversion with a half concrete, half rock structure with fish and boat passage; (2) replace the current diversion with an all concrete diversion; (3) replace the current diversion with an all rock diversion. The alternatives were presented at Stakeholder Meetings and were narrowed down to preferred options by Stakeholders. For the McDonald, alternatives 1 and 2 were chosen, for the Silva/Atencio 2 alternatives 1 and 2 were chosen, and for the Prairie alternative 1 was chosen. The Stakeholders requested further development of the preferred alternatives to include specific design and implementation criteria and installation and maintenance costs. This information was presented for the McDonald Ditch at the May Stakeholder meeting and for the Silva/Atencio 2 and Prairie at the June meeting.

NRCS, RGHRP, and USWFS personnel walked the streambanks in the project area, identified areas of instability or habitat concern, and developed alternatives for the Stakeholders to consider. Additionally, options for remediation of the damaged wetland were developed and discussed with individuals from Rio Grande County and the US Army Corps of Engineers.

Applegate Group was retained to perform a low-head micro hydro feasibility study for the Project Area. It was determined that it is not feasible to include low-head micro hydro in any of the diversion structures as there is not sufficient fall in this reach of the river.

*Prepared for the Colorado Water Conservation Board (CWCB) by the Colorado Rio Grande Restoration Foundation.*

In the alternative development process, a concern was raised by NRCS State Engineers and Rio Grande County regarding scouring on the middle pier of Sevenmile Plaza Bridge and the potential effect removing the concrete rubble and pilings might have on the river, changing channel grade and potentially adversely impacting the stability of the bridge. With guidance from Rio Grande County, RGHRP contracted Stantec Consulting. NRCS and RGHRP staff will conduct surveys and cross sections. Stantec will use this data to perform a HECRAS analysis and determine if the current and proposed structures are impacting the Sevenmile Plaza Bridge.

**TASK 4 – McDonald Ditch Diversion – Selection of Alternative****Complete**

*Objective: The Coordinator will facilitate a cost/benefit analysis of alternative design options for McDD Diversion through which the Partnership will select most feasible alternative for the McDD Diversion.*

At the May 23 planning meeting of Plaza Stakeholders, NRCS presented a cost/benefit analysis of the two options for the McDonald Ditch Diversion that the Stakeholders requested be further developed. NRCS engineers provided cost estimates for each element, including site preparation, foundation work, earthwork, concrete and reinforcement, pipe conduits, riprap and slope protection, water control gates and valves, miscellaneous structural work, and other miscellaneous construction costs. Also included were average annual costs of maintenance and operation over the life of each structure. Stakeholders discussed the qualities of both concepts and determined that the option 1, a hybrid rock and concrete structure, would be most feasible and desirable for site. The Coordinator, NRCS, and RGHRP developed a Budget, Timeline, and Scope of work for the Plaza Project Phase 2 - McDonald Ditch Implementation Project. Preliminary designs for the final McDD cost estimates were produced and accepted by the McDonald Ditch Company Board of Directors. The Project Coordinator archived all data, including notes from meetings, attendees and their contact information, maps, budgets, plan overviews, photos, and relevant data for McDonald Ditch implementation. All of this data is currently being incorporated into The Plaza Plan.

**TASK 5 – McDD Final Design****In Progress**

*Objective: The NRCS will deliver the final design and cost estimate for the McDD Diversion to the Partnership. Final design and cost estimates for the McDD will address the multiple objectives to be achieved in the river corridor as listed in the 2001 Study and will take into account the future planning needs of neighbouring diversions.*

Due to the time required to complete final designs for Phase 2 Implementation, the final design for the McDonald Ditch will not be completed in the Planning Project. NRCS will continue to develop the design; the designs for the McDonald Ditch diversion and headgate, wetland, and surrounding streambanks will be completed in Phase 2.

**TASK 6 - Preparation for Implementation of Phase 2 – McDD Implementation Project**  
**Complete**

*Objective: If requested, the Coordinator will assist in the identification of potential contractors for the McDD Diversion replacement project. The Foundation, RGHRP, and Coordinator will continue to identify potential funding sources.*

Funding for the first phase of implementation of the Plaza Plan, Phase 2 – McDonald Ditch Implementation Project, has been obtained. The Landowners secured \$150,000 through the NRCS EQIP program to be used in the McDonald Ditch headgate replacement. The RGHRP secured \$50,000 through the NRCS Colorado Partnership Program (CPP) and \$200,000 from the NRCS Cooperative Conservation Partnership Initiative (CCPI) to be used in the McDonald Ditch diversion replacement. The RGHRP secured \$295,000, \$20,000 of Rio Grande Basin funds and \$275,000 of State funds, through the Colorado Water Conservation Board (CWCB) Watershed Supply Reserve Account (WSRA) to match the CPP and CCPI grants. The CWCB Board approved the WSRA funds in September 2011. The RGHRP continues to identify and pursue funding for the implementation of the Plaza Plan.

The Coordinator, RGHRP, NRCS, and Rio Grande County representatives met with personnel from the San Luis Valley Rural Electric Cooperative (SLVREC) to discuss the power poles within the project vicinity. The poles need to be moved to ensure safe construction. SLVREC generously decided they would move the two poles of concern for no cost to the partnership. This contribution is valued at \$20,000.

#### **TASK 7 – Preliminary Design Development – Other Project Elements Complete**

*Objective: Coordinator will assist Partnership in conducting a cost/benefit analyses for alternative options for the Silva, Atencio 2, and Prairie diversions as well as for other identified elements (bends, riparian areas) in this reach of the river*

NRCS presented alternatives for the Prairie Ditch and Silva/Atencio 2 Ditches at the June Stakeholders Meeting. The Stakeholders discussed the costs and benefits of each alternative. The alternative selected for the Prairie Ditch was a new headgate with automation and new diversion with fish and boat passage. The Prairie Ditch board of managers, president, and manager were supportive of this option. A special meeting of the Water Users will be called in October to review and approve this alternative. The alternative selected for the Silva and Atencio 2 Ditches included new headgates with an improved placement in the side channel and a new diversion with fish and boat passage. The president of the Silva Ditch, who was the representative at Stakeholder meetings, moved during the Planning Process. As such, other Stakeholders spoke on the Silva and Atencio 2 Ditches' behalf. However, the selected alternative will not be finalized until the boards of the Silva and Atencio 2 Ditches give their approval. The NRCS will keep the preliminary designs on hand and when these ditches are ready to begin project preparation, the information will be available.

NRCS, RGHRP, and USWFS developed and presented alternatives for the streambanks and wetland to the Stakeholders. The streambanks between the McDonald Ditch and the Prairie Ditch are not severely damaged. As such, their condition can be improved with bioengineering. The RGHRP and Rio Grande Headwaters Land Trust (RiGHT) received a grant from the Colorado Association of Youth Corps to complete work on protected lands. This site meets these requirements because the property is under a conservation easement. With guidance from the RGHRP, a crew from the Southwest Youth Conservation Corps planted dormant willow bundles and installed tree revetments. The work was completed in September 2011. Designs for the other streambanks will be completed when landowners request participation in the project. NRCS is currently developing designs for the wetland.

Upon approval from Rio Grande County and the US Army Corps of Engineers, the designs will be implemented in Phase 2.

**TASK 8 – Strategy for Final Design and Implementation of the Plaza Plan** **Complete**

*Objective: The Stakeholders will prioritize the elements of the Plaza Plan, which are to be implemented in Phase II. The Coordinator and RGHRP will identify potential funding and additional resources to support the engineering work of NRCS toward finalizing designs and cost estimates. The Coordinator and RGHRP will collaborate to submit proposals accordingly. The Coordinator will write the proposed implementation plan for all elements of the Plaza Plan.*

The Stakeholders prioritized the elements of the Plaza Plan as follows: Phase 2 – McDonald Ditch headgate and diversion, wetland, and streambanks; Phase 3 – Prairie Ditch headgate and diversion and streambanks; Phase 4 – Silva/Atencio 2 Ditches diversion and headgates and streambanks. Funding for Phase 2 has been obtained (see Task 6) and a contract with NRCS to complete the design and engineering of Phase 2 has been executed with the landowners and RGHRP. The Coordinator submitted drafts of the Plaza Plan to the RGHRP. The Plaza Plan was complete in December 2011.

**TASK 9 – Final Reporting** **Complete**

*Objective: The Partnership will submit its Final Report for this Phase I Plaza Planning Project. The Coordinator will organize records, correspondence, contracts, and financial records, making sure that all grant applications and internal/external reports are submitted in an accurate and timely way.*

RGHRP completed and submitted this final report to CWCB in December 2011. The report summarizes the Planning Project, presents the selected alternatives to be implemented, and documents how the proposed implementation plan for Phase 2 was completed. Additional photographs, summaries of meetings, and engineering reports/designs are available from the RGHRP upon request.