# Exhibit A

# **Scope of Work**

## WATER ACTIVITY NAME - Conejos River & North Branch Diversion & Stabilization

## **GRANT RECIPIENT – Manassa Land & Irrigation**

#### FUNDING SOURCE – Basin and Statwide Accounts

## INTRODUCTION AND BACKGROUND

The Conejos River is a tributary to the upper Rio Grande River; it rises at the Continental Divide in the San Juan Mountains. The river flows through Platoro Reservoir, continuing through Conejos until it reaches the Rio Grande River 2 miles north the settlement of Los Sauces. At the point that the river crosses highway 285, 1-1/4 miles north of Antonito, there is a bifurcation, locally known as the core. The core is almost 100 years old, and is in need of reconstruction. This diversion structure is used to split and balance the flow of water into the main channel of the river and the north branch of the river. Consequently, the core is instrumental to both channels of the river. The diversion structure is composed of four, eight foot wheel and stem headgates, which need to be manually operated by way of a18" plank catwalk over the river. This control structure is unsafe. In addition, Due to the narrow headgates the system suffers continual plug ups causing operational difficulty. Bank erosion is also a problem that the channels are facing. Erosion above this point affects all the water users down stream on both channels. There are 42 ditch companies on the main and north channels of the Conejos River. Twelve of these ditch companies rely upon the north branch diversion to irrigate a total of 22,204 acres. The north branch channel joins the main channel east of Manassa, returning any excess water back to the river to contribute to the compact obligation. Without the proper bank stabilization all of these companies can loose a portion of their water. The State Engineer of the state of Colorado also uses the main channel of the river to deliver its compact obligation to down stream states. If the riverbank continues to push north, leaving the channel, it will not reach the gaging station at Los Sauces. In addition to the loss of water, without river bank stabilization, there is a threat of flooding for agricultural communities of Conejos and the town of Manassa. It is for these reasons that we believe that is time to stabilize the channel and reconstruct the core. In this proposal Manassa Land & Irrigation is requesting funds to address and remedy the issues associated with the main and north channels diversions of the Conejos River.

#### **OBJECTIVES**

Meet agricultural demands-improve ability to supply water to irrigated acres. Meet the Rio Grande Compact requirements by reducing water losses Reduce liabilities due to the threat of flooding Provide operational safety Provide for enhanced riparian habitat Enhance aquifer recharge Protect fisheries wildlife and enhance recreation opportunities

## TASKS

Provide a detailed description of each task using the following format

## TASK 1 – Reshape Riverbed

#### Description of Task

To begin the process of shaping the river, to the condition that existed before excessive movement occurred, about 15 years ago.

#### Method/Procedure

Stabilize streambanks and improve the conditions of the riverbed sufficiently to minimize channel movement until phase 2 begins. This task will include increasing the depth to width ratio of the channel in anticipation of high flows this spring.

#### Deliverable

Reduce maintenance demands of diversion structures Create a channel that will hold expected waters of the Conejos River Decrease near bank velocity

## TASK 2 – J-Hooks

#### Description of Task

Beginning in spring of 2009 under the supervision of Pete Gallegos of NRCS, Robins Construction will begin hauling rocks for the construction of the J-hooks and prepare the channel and banks. Robins' construction will place the rocks to form 5 j-hooks and stabilize banks. The final step of this phase is to re-vegetate the impacted areas with willow clumps and clean the area. The total estimated cost for this phase is \$56,000.00. This includes engineering and in kind

#### Method/Procedure

The task for the placement of J-hooks will follow standard accepted procedures and will conform to NRCS specifications. In addition, Manassa Land & Irrigation supervision and consultation will be provided, ensuring that these specifications are met. The J-hook vane is an upstream directed, gently sloping structure composed of natural materials, in this case rock. The structure is designed to reduce bank erosion.

#### Deliverable

Reduce erosion and prevent sediment deposition Create a channel that is visually compatible with the natural surroundings Maintain fish passage at all flows Decrease near bank velocity

## TASK 3 – Core and Diversion Gates

#### Description of Task

Fall of 2009 Robins' Construction will begin construction of a temporary diversion to allow water flows to continue. Once the temporary diversion is complete, Robins' construction will begin demolition of the existing core and diversion gates. There should be approximately 20 yards of debris to be disposed. This phase should take about 2 days. The diversion gates will be the next construction project. Using NRCS designs and oversight, Robins will build the cast in place portion and install two radial type gates. This phase is proposed to use up to 160 cubic yards of concrete plus rebar,

and take about twenty one days to complete. The next step of this phase is to have Robins' construction build and complete the core and sluice structure. The core is an elevated concrete structure that will restrict the flow of the water in the main channel. This puts the elevated water level's pressure against the diversion gates. According to NRCS designs there will be 2 sluice gates that will allow the gravel and sediment to continue downstream. The final step for Robins' construction is to clean up and revegetate the affected areas around the construction site. There will be willow clumps and rock placement to complete project. Robins Construction will have supervision from both NRCS and Manassa Land & Irrigation. The proposed completion date is November 30, 2009.

#### Method/Procedure

This task involves construction a new core directly adjacent to the Diversion gates. This will allow controlled sluicing of gravel down the main channel during various flow conditions, reducing gravel accumulations.

#### Deliverable

Ensure compliance with Compact obligations Meet agricultural needs for irrigation More adequately support the priority system Reduce maintenance demands of diversion structures Provide a safe operational system for water management

## **REPORTING AND FINAL DELIVERABLE**

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.

# BUDGET

BUDGE	41	WSRA	In-kind Service
Tasks	Description	Funding	Match Value
Task			
1	Reshape Riverbed - 4 days	\$0.00	\$8,000.00
Task			
2	Engineering	\$0.00	\$20,000.00
Task			
2	Rocks and Trucking - 5 days	\$0.00	\$17,500.00
Task			
2	Install 5 J-Hooks - 5 days	\$0.00	\$17,500.00
Task			
2	Plant Willow Clumps - 1 day	\$1,000.00	
Task			
2	Mobilize Equipment	\$700.00	
Task			
3	Engineering	\$0.00	\$20,000.00
Task3	Temporary Diversion - 1 day	\$2,000.00	
Task	Demolition & Equipment - 10		
3	days	\$32,500.00	\$7,500.00
Task			
3	Disposal - 20 loads	\$30,000.00	
Task	Diversion Gate Structure - 160		
3	yds	\$176,000.00	
Task	•		
3	Core & Sluice - 100 yds	\$102,500.00	\$7,500.00
Task	Misc. Rock Work & Cleaning -		
3	7 days	\$21,000.00	
Task	-		
3	Re-vegetation - 2 days	\$4,000.00	
Task			
3	De-watering pump - 14 days	\$14,000.00	
		\$383,700.00	\$98,000.00

# SCHEDULE

Task	Start Date	Finish Date
1	September 15, 2008	September 30, 2008
2	April 15, 2009	May 31, 2009
3	September 15, 2009	November 30, 2009

# PAYMENT

Payment will be made based on actual expenditures and invoicing by the water activity sponsor. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed.

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.