Scope of Work

GRANTEE: Crested Butte Land Trust
PRIMARY CONTACT: Danielle Beamer, Stewardship Manager
ADDRESS: PO Box 2224 Crested Butte, CO 81224
PHONE: 970-349-1206
PROJECT NAME: Peanut Lake Reach Floodplain Connectivity, Assessment and Design
GRANT AMOUNT: $21,000

INTRODUCTION AND BACKGROUND

In 2012, the Upper Slate River Steering Committee completed a geomorphic assessment of the watershed which identified the stretch of river near Peanut Lake as a high priority for restoration due to human impacts causing floodplain disconnection and instability. It also emphasized the importance of gathering further information before restoration work is initiated. Some obvious stressors are the direct excavation of the streambed and construction of an artificial berm along one side of the river from a gravel mining operation that existed on the reach in the recent past. In this study, we will gather data for a prediction level assessment of functional impairment associated with these stressors and design specific treatments for improving function by alleviating these stressors. The study will also include collection of baseline data and developing a monitoring program to use in evaluating and tracking project performance relative to specific objectives and criteria.

OBJECTIVES

- To quantify the degree of floodplain connectivity on the reach.
- To document the extent of an artificial berm feature on the reach.
- To quantify the degree to which floodplain connectivity and functional condition can be restored via removal of the berm.
- To set specific restoration objectives and performance criteria for the goal of restoring floodplain connectivity and support of adjacent riparian habitat.
- To design specific treatments for removing the berm and rehabilitating stream banks.
- To develop a monitoring program to evaluate and track performance.
- To complete as-built surveys to document the initial "after" condition.

TASKS

Provide a detailed description of each task using the following format. Detailed descriptions are only required for CWCB funded tasks. Other tasks should be identified but do not require details beyond a brief description.

TASK 1 - Functional Assessment of the Reach

Description of task

AlpineEco and EcoMetrics will perform a reach-scale functional assessment on the study area.

Method/Procedure

Methods include WARSSS PLA, the EPA Function-Based Framework, beta versions of FACStream and FACwet.

Deliverables

The assessment will include quantitative data on specific aspects of stream condition including geomorphology, stability, and floodplain connectivity from longitudinal profile, cross section, and channel material field surveys. Surveys will be monumented for future use in monitoring.

TASK 2 - Document the extent of an artificial berm feature

Description of task

A primary stressor affecting floodplain connectivity on the reach is the artificial berm feature along the left bank of the river. In this task we will document the extent and size of the feature for the purpose of understanding its role in isolating the river from the floodplain and for scoping its removal.

Method/Procedure

The longitudinal extent and width of the feature will be mapped, and its height relative to historic top of bank will be measured to determine volume.

Deliverables

Documentation of the artificial berm sufficient to complete restoration design.

TASK 3 - Restoration design

Description of task

In this task, we will identify specific restoration objectives and performance criteria under the general goal of improving floodplain connectivity. We will then describe specific restoration treatments to meet these objectives.

Method/Procedure

Analysis of Task 1 and 2 data combined with the experience and knowledge of AlpineEco and EcoMetrics staff.

Deliverables

Treatments will include plans for removing the berm and rehabilitating the associated stream banks including revegetation. The design will be implemented on a portion of the reach in 2015 utilizing construction funds from Great Outdoors Colorado.

TASK 4- Permitting

AlpineEco will acquire the permits necessary to implement the restoration design. This includes wetland delineation as well as coordination with the Army Corps of Engineers. This task is not funded by CWCB.

TASK 5 - Monitoring program

Description of task

AlpineEco and EcoMetrics will outline a monitoring program that can be used to collect quantitative and qualitative data over time to evaluate and track project

performance relative to specific objectives and metrics with defined performance criteria.

Method/Procedure

Selected elements of WARSSS PLA, the EPA Function-Based Framework, and beta versions of FACStream and FACwet.

Deliverables

This study includes pre-project and post-project (as-built) measurements for any segments that are treated in 2015.

TASK 6- Meetings and Coordination

Description of Task

General coordination between the Crested Butte Land Trust and AlpineEco and EcoMetrics staff, including oversight, review and evaluation of tasks 1-5.

Method/Procedure

Meetings will be arranged as necessary to facilitate regular communication between both parties. Crested Butte Land Trust stewardship staff will join contracted ecologists in the field to ensure that long-term monitoring by staff is conducted in accordance with Tasks 1 and 2. Communications between meetings will be conducted via email or telephone and filed appropriately.

Deliverable

Regular communication between the Crested Butte Land Trust staff and AlpineEco and EcoMetrics principle ecologists, including collaborative fieldwork days. This may include an educational presentation for stakeholders and neighboring landowners intended to encourage additional river restoration work, if deemed appropriate.

TASK 7- Restoration

Restoration in accordance with Task 5. This task is not funded by CWCB.

TASK 8- Monitoring

On-going monitoring in accordance with Task 3. This task is not funded by CWCB.

REPORTING AND FINAL DELIVERABLE

We will provide an assessment and design report for the reach by December 31, 2014 that includes the assessment results and relevant baseline data, a restoration design, and a monitoring protocol for evaluating performance. By December 31, 2015, we will provide a second report describing any restoration activity that is implemented in 2015 including as-built monitoring data and an initial evaluation of performance relative to objectives.

STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 20150000000000000135
Date: 09/05/14
Description:
Watershed grant-peanut lake ranch floodplain design

BUYER
Buyer:
Email:

VENDOR
CRESTED BUTTE LAND TRUST
PO BOX 2224
CRESTED BUTTE, CO 81224-2224

Contact: .
Phone: .

**** IMPORTANT ****
The order number and line number must appear on all invoices, packing slips, cartons and correspondence

BILL TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIP TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIPPING INSTRUCTIONS
Delivery/Install Date:
F.O.B:
VENDOR INSTRUCTIONS:

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	$0.00	$21,000.00	☐

Description: Watershed grant-peanut lake ranch floodplain design

Start Date: 08/15/14 End Date: 10/30/17

TERMS AND CONDITIONS
https://www.colorado.gov/osc/purchase-order-terms-conditions

DOCUMENT TOTAL = $21,000.00

Project Name: Crested Butte Land Trust Peanut Lake Reach Floodplain Connectivity, Assessment and Design

Grantee: Crested Butte Land Trust

Address: PO Box 2224 Crested Butte, CO 81224

Phone No.: 970-349-1206

CWCB Contract or Purchase Order No.:

Grant Amount: $21,000

Date of Invoice: 2/16/2015

FINAL

Task	Description	Total Budget/Grant Funds	Previously Invoiced	Current Invoice	Remaining Total	Percent Complete
1	Functional assessment of reach	$ 3,000.00	$ -	$ 3,000.00	$ -	100.0%
2	Documentation of artificial berm feature	$ 2,000.00	$ -	$ 2,000.00	$ -	100.0%
3	Restoration design	$ 7,000.00	$ -	$ 7,000.00	$ -	100.0%
4	Permitting	$ 6,000.00	$ -	$ 6,000.00	$ -	100.0%
5	Monitoring program design	$ 1,000.00	$ -	$ 1,000.00	$ -	0.0%
6	Meetings and coordination	$ 2,000.00	$ -	$ 2,000.00	$ -	
7	Restoration	$ -	$ -	$ -	$ -	
8	Monitoring	$ -	$ -	$ -	$ -	
	TOTALS	**$ 21,000.00**	**$ -**	**$ 21,000.00**	**$ -**	**100%**

Submitted by: Danielle Beamer

Title: Stewardship Manager

Signature:

3/13/15
Date
Chris Sturm
OK to Pay

Kevin Houck 3/13/15
Kevin Houck
OK to Pay