STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 20150000000000000271
Date: 05/19/15
Description:
PDAA 2500 BIG THOMPSON-WATERSHED NEEDS SP BASIN
Effective Date: 05/19/15 Expiration Date: 05/31/16

BUYER
Buyer:
Email:

VENDOR
BIG THOMPSON CONSERVATION DISTRICT
PO BOX 441
BERTHOUD, CO 80513-0441

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: FOB Dest, Freight Allowed
VENDOR INSTRUCTIONS:

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	$60,000.00	☐

Description: PDAA 2500 BIG THOMPSON-WATERSHED NEEDS SP BASIN

Service From: 05/20/15 Service To: 05/31/16

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

DOCUMENT TOTAL = $60,000.00

Exhibit A

Little Thompson River Water Supply, Use and Planning Study

Statement of Work, Budget and Schedule

WATER ACTIVITY NAME - Little Thompson River Water Supply, Use and Planning Study—Needs Assessment Phase

GRANT RECIPIENT – Big Thompson Conservation District/Little Thompson Watershed Restoration Coalition

FUNDING SOURCE - South Platte Basin Roundtable – Roundtable Account

INTRODUCTION AND BACKGROUND

The Little Thompson watershed is not mentioned in SWSI and has subsequently been left out of the State Water Plan. This is not due to the lack of needs in the basin. To the contrary, this basin has severe domestic, agricultural and environmental water gaps. Unincorporated Pinewood Springs has some of the most severe water restriction in the state, stretches of the river have been going dry and reduced flows have damaged agricultural productivity.

Unlike many watersheds, there is no municipality promoting study of basin water rights. As a result, there has been no identification of needs, let alone study of potential solutions to water gaps. The Coalition believes it is time for such studies to be initiated in our watershed.

The Coalition feels the most logical approach is to break the process into phases, with the first phase being a *Needs Assessment*. We are confident this needs assessment will help document the water supply gaps that we know exist in our watershed, will quantify those needs, and will set the stage for identifying plans and processes to address those needs in the next phase.

OBJECTIVES

If the Coalition is successful in acquiring grant money for the Needs Assessment, this will be the first step in the broader goal of solving the serious water supply gaps which exist in this basin. Beyond that basic goal, here is a listing of the objectives, most of which would be met over time as the process moves forward:

1. Identify plans and processes to address water supply gaps for existing consumptive and non-consumptive uses in the basin.
    a. Solutions by means of alternatives with limited environmental impacts
    b. Identification of alternatives which firm up supplies for existing uses (consumptive and non-consumptive)
    c. Targeting intra-basin solutions which can utilize existing water rights and any available un-appropriated flows
    d. A preference for solutions which protect private property rights and will avoid displacing homeowners
2. Seriously pursue cost effective solutions which are appropriately sized for the needs of existing consumptive and non-consumptive water uses in the basin. We believe that such options will come to light when plans and processes are studied.
3. Actively engage agricultural and domestic water users along with beneficiaries of improved river flows to take a comprehensive approach to solving the water gap for the basin as a whole. While the organization is acting as the catalyst for addressing water supply gaps, it is realized that any solution is going to be dependent on cooperation among all water users in the basin.

4. A primary reason for a lack of agricultural to urban transfers from Little Thompson ditches is the fact that dry year supplies are so low. If a suitable project can be identified and developed, and agricultural water rights are consistent, measures should be taken to discourage municipal buy and dry acquisitions.

TASKS

Needs Assessment Phase

Objective: Determination of total volume of water necessary to alleviate agricultural, domestic and environmental water deficits.

TASK 1: Agricultural Water Use **$15,000** *WSRA funds*

1. Identify total irrigated acreage and cropping patterns.
2. Study historic agricultural diversions for surface and groundwater usage
3. Identify impacts of reduced diversion quantities due to drought (i.e., acreage adjustments and any corresponding practice adjustments) due to variation in river flow.
4. Identify the volume of NCWCD water usage and any potential impacts of removing that water (i.e., C-BT water that uses the river as its delivery system)
5. Determine the volume of water necessary to stabilize irrigated farm production

TASK 2: Domestic Water Use **$16,800** *WSRA funds*

1. Review water portfolios, source, service areas and anticipated growth for Big Elk Meadows, Pinewood Springs and their applicable districts
2. Review and document water sources (from inside and outside the basin) and anticipated growth for Plains towns and rural areas in the Little Thompson Water District: Berthoud, Milliken, Johnstown, and other surrounding Watershed rural areas
   Note:
   - LT Water District supplies water below the St. Vrain Supply Canal and it is believed there is no domestic water usage from the basin beyond this point (where the Little Thompson River meets the St Vrain Supply Canal), however, the study would not be complete without this data

3. Quantify number of exempt and non-exempt wells for all housing and domestic use in the Watershed including those that are not in a Water District (Main Stem, Blue Mountain, Rabbit Mountain); how many homes they serve, water usage (including any stock use) and any impact on stream flows. On the plains there are some pre-water district domestic and stock wells that pre-date the availability of Little Thompson Water District water. These are to be quantified as well. While this may be a small factor in the total water picture, the study would not be complete without this data.
   Note:
   - A comprehensive study to the interrelation between groundwater withdrawals and surface flows is an expensive proposition and would be well beyond the budget being proposed. Understanding the volume of water being pumped is an initial cost-effective step in the process, although more detailed studies may be warranted in the future.

4. Quantify undeveloped acreage (USFS, BLM, State, and County lands and conservation easements on private lands) with groundwater withdrawals. Determine location and any potential quantity of additional groundwater withdrawals in the basin, and any potential additional water usage from the basin or other implications of those lands
5. Determine volume of water necessary to stabilize domestic water use throughout the Watershed

TASK 3: Streamflows/Environmental/Non-consumptive Uses **$15,000** *WSRA funds*

Design:

1. Design a stream gauging system and cost estimates to employ with focus on dry reaches
2. Research timing of un-appropriated flow, how it is currently used and any recommendations for better use to maintain flows

   Note:

   - An ultimate goal of designing a streamflow study will be to understand the volume and timing of water necessary to prevent river dry-ups. However, due to the cost and time necessary to conduct this study, the Needs Assessment phase will be focused on designing a study with the actual study itself being in the next phase.
   - Another critical aspect of any potential project will be to research the quantity (in addition to the timing) of un-appropriated flows. The design of an improved stream gauging program should address the need to fully document un-appropriated flows, including when and where they may be available, and recommendations for their use in improving aquatic habitat.

TASK 4: Industrial Water Use **$1,200** *WSRA funds*

1. Document any previous (last 2 years) and existing industrial water use, i.e., oil and gas drilling and fracking; include current and potential leases and sub-leases of water rights. Note:
   - There may be no existing industrial usage involving Little Thompson water, and this study will present the factual data for this.

TASK 5: Develop Phase II (Identification of Plans and Processes) Budget **$9,600** *WSRA funds*

One of the primary reasons for proposing a phased approach is the uncertainty surrounding potential costs associated with identifying plans and processes. Much of the work done during the Needs Assessment Phase will help to refine the budget for the Plans and Processes Phase. Beyond those Phase I tasks, the contractor should begin to collect any information on projects which have been studied in the past in order to better understand the scope of work and budget necessary for the next phase.

TASK 6: Administrative Contracting Responsibilities **$2,400** *WSRA funds*

These are administrative time and materials tasks related to the overall project. They include but are not limited to preparing contract documents and documentation, reporting requirements, invoicing, payment tracking and spreadsheets, and copying and distributing materials. The duties are performed by staff of the BTCD, fiscal agent and project oversight. Together with the LTWRC project managers, BTCD will meet CWCB's requirements.

[$60,000 WSRA funds]

TASK 7: Project Management **$8,000** *In-kind Services*

A four-member sub-committee of the LTWRC Steering Committee working voluntarily on this activity will serve as project managers under the fiscal direction of the BTCD. They are Kevin McCarty, Deirdre Daly (both signatories on the application with BTCD), Julie Stapp and Larry Lempka. This team's time will supplement the funded tasks of the project, under the direction of the BTCD's board president, Gordon Gilstrap, who as fiscal agent will oversee any contracts for the project, and any vendors or contractors hired to undertake and complete project tasks. Further, we anticipate a Watershed Coordinator to be on board in spring 2015. A portion of the coordinator's duties may be to assist in project management; a dollar amount is not allocated at this time.

[$68,000 Total Project, WSRA and In-kind]

Budget Table for the Little Thompson River Water Supply, Use and Planning Study December 2014 WSRA Application, Amended February 2015			
Task	**Non-WSRA Funds** (noted but not required for Basin grant)	**WSRA Funds**	**Total**
1. Agricultural Water Use	0	$15,000	$15,000
2. Domestic Water Use	0	$16,800	$16,800
3. Streamflows/Environmental/ Non-consumptive Uses	0	$15,000	$15,000
4. Industrial Water Use	0	$1,200	$1,200
5. Develop Phase II (Identification of Plans and Processes)	0	$9,600	$9,600
6. Administrative (all tasks)	0	$2,400	$2,400
7. Project Management (all tasks)	$8,000	0	$8,000
TOTALS	$8,000	$60,000	**$68,000**

BUDGET

This application is submitted to the South Platte Basin Roundtable WSRA funds, with a budget as presented in the previous table and as below. Some background: a four-member sub-committee of the LTWRC has been working on this water activity for the past several months. During this time, conversations with the technical engineering firm specializing in water and river work, Deere and Ault have transpired, to help gain an understanding of the scope of work that might be needed to substantiate the accompanying budget.

This company was selected not only for its expertise in this field, but was suggested by Tetra Tech, the engineering company who conducted and is finalizing the Little Thompson River Master Plan (a CWCB/BTCD/LTWRC project). In an effort not to duplicate efforts, communication with Tetra Tech was held; they indicated willingness to share Master Plan notes, research, data and other work conducted with a contractor that might be selected for this project. Tetra Tech has indicated they have successfully worked with Deere and Ault in the past and suggested consultation to understand what the cost of such a Needs Assessment might be for the creation of this application. Additionally, Deere and Ault's close location (Longmont, CO) and familiarity with the Little Thompson River were factors in getting direction and advice in moving forward with this grant application. While all of this added up to Deere and Ault as an ideal company to provide the expertise and experience to consider for this work on our behalf, and on behalf of CWCB's grant funds, it in no way is a commitment to this company. The project managers are currently exploring various possibilities to do this work, including working with professors from CSU's Water Center in Ft Collins.

Early on, Jason Brothers of Deere and Ault was approached to analyze the scope of work proposed, and give a quick overview budget to conduct such work. A more extensive analysis of a water supply study budget, including additional plans and processes based on the assessment results, which are being proposed as Phase Two. The initial estimate for this intensive work was a verbal suggestion of $225,000 for both Phase One and Phase Two. It was acknowledged by the working group on this project, that for the Coalition, which is totally self-funded and has no working funding, this kind of budget is unrealistic at this time. Volunteer manpower is available as needed. Additionally, it might be better to break the work into several phases, and therefore, the proposed scope of work and budget outlined herein is a bare bones scope that will serve excellently as Phase One, a first round starting point for the future of an active water management approach to the Little Thompson River.

The Coalition believes that upon funding, this project can be achieved within the $60,000 (cash) budget from BRT's WSRA. It is estimated that a four person team from the Coalition will supplement the budgeted management of the project, under the direction of a 5th person, the BTCD's board president, who will oversee the project. When a Watershed Coordinator is on board in spring 2015 (CDBG-HUD-funds for watersheds affected by the 2013 flood), that person will also be available to assist.

The scope of work has been trimmed down as much as possible, while still being able to produce a *Needs Assessment* report which can serve as a building block for the identification of plans and processes. The intention is that this will eventually lead to the alleviation of severe domestic, agricultural and environmental water gaps which are present in our Watershed.

While it is apparent that considerably more than $60,000 will be necessary to fully understand the water situation and available water solutions, an important task in this initial phase will to develop a more refined budget for the next phase where the water situation and plans and processes are studied in greater detail.

Budget Summary of Proposed Little Thompson River Water Supply, Use and Planning Study (Needs Assessment Phase)

Revenue

$ 60,000	CWCB South Platte Basin Roundtable
$ 8,000	In-kind services from BTCD and Coalition members (320 hours)
$ 68,000	**Total Revenue Budget**

Expenses

$ 57,600	Needs Assessment (research, data collection, includes report writing and directional/update sessions with Coalition)
$ 2,400	Administrative Management by BTCD staff (approximately 96 hours)
$ 60,000	Sub-total cash budget
$ 8,000	In-kind services from BTCD and Coalition members (approximately 320 hours)
$ 68,000	**Total Expense Budget**

SCHEDULE, REPORTING AND FINAL DELIVERABLE

We hoped to have the *Needs Assessment* completed in less than six months, however since one year is available to us per this grant, we are estimating using the full year. A contractor to conduct the study and produce a final report which summarizes each task result and provides appropriate supporting documents has not yet been hired. This activity is in the exploratory stage (and we will continue to explore options); it will be completed as soon as possible once the Notice to Proceed is received.

Proposed Schedule

Little Thompson River Water Supply, Use and Planning Study

Task	Notice To Proceed Date	# of Days to Complete Task	# of Days to Complete Final Report
1. Agricultural Water Use	TBD	270	60
2. Domestic Water Use	TBD	270	60
3. Streamflows/Environmental/ Non-consumptive Uses	TBD	270	60
4. Industrial Water Use	TBD	120	60
5. Develop Phase II (Identification of Plans and Processes)	TBD	180	60
6. Administrative (all tasks)	TBD	300	60
7. Project Management (all tasks)	TBD	300	60