Statement of Work

WATER ACTIVITY NAME – Totten Reservoir Hydrographic Survey

GRANT RECIPIENT – Dolores Water Conservancy District

FUNDING SOURCE – Dolores, San Miguel and San Juan Basins Roundtable Funds

INTRODUCTION AND BACKGROUND
Provide a brief description of the project. (Please limit to no more than 200 words; this will be used to inform reviewers and the public about your proposal)

DWCD plans to contract with the USGS to conduct a bathymetric survey, analyze the results and produce a final hydrographic report on Totten Reservoir.

OBJECTIVES
List the objectives of the project

Define the current accurate area capacity data for the appropriate administration and operation of Totten Reservoir.

TASKS
Provide a detailed description of each task using the following format

TASK 1 – Bathymetric Survey

Description of Task

Perform bathymetry survey plus surveying to account for the additional volume that is between the echo sounder sensor working depth and the current lake level. The echo sounder has a minimum working depth below the sensor of 0.5 meters, so additional physical surveys will tie the ends of each transect to the waterline. Additional physical data acquisition will include land surveying for the additional volume that is above the current lake level (5 feet plus some additional freeboard). Also, using the more powerful multi-beam echo sounder provides a surface relief map of the reservoir bottom in addition to a contour map.

Method/Procedure

Bathymetric surveys using multi-beam echo sounder and Differential Global Positional System (DGPS) coordinate location. Surface DGPS data surveys for above waterline area.

Deliverable

Electronic bathymetric survey data

TASK 2 – Data Analysis

Description of Task

Process the above and below waterline surveys to remove anomalies and generate a single mesh, construct maps of the reservoir area, and generate a stage-storage-surface area rating table.

Method/Procedure

Computer generated graphical review and adjustment of data.

Deliverable

Triangulated Irregular Network data files and stage storage quantities.

TASK 3 – Final Report

Description of Task/ Deliverable

Write a Scientific Investigative Report (SIR) that would be viewable over the Internet and downloadable in PDF format.

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 statement 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

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, $/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

Total Costs				
	USGS (Requested Roundtable Funding)	In-Kind Direct Costs	In-Kind DWCD Personnel	Total Project
Total Cost	$29,500	$2,746	$2,754	$35,000

USGS Hydrographic Survey	
	Direct Costs
Task 1 – Hydrographic Survey	$29,500
Task 2 – Analyze Data	Included above
Task 3 – Final Report	Included above
Total Cost	$29,500

District Personnel In-Kind Contributions

District Personnel	District Engineer	Dam Tender	Engineer Tech	Vehicles	Total
Hourly Rate w/Fringe	$57.45	$32.58	$22.81	$18.10	
Task 1 -	15	20	5	40	
Task 2 -	2	-	-	-	
Task 3	5	-	-	-	
Total Hours	22	20	5		
Total Cost	$1,264	$652	$114	$724	$2,754

District Consultant/Contractor In-Kind Contributions

	Water Resource Engineer	Professional Surveyor & crew	Survey Crew	Mileage	Total
Hourly Rate	$150	$94	$162	$0.70/mile	
Task 1 -		4	10	214	
Task 2 -					
Task 3	4				
Total Hours	4	4	10		
Total Cost	$600	$376	$1,620	$150	$2746

SCHEDULE

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

Bathymetric Survey of Totten Reservoir

Task	Start Date	Finish Date
1 Field Survey	May 2011	June 2011
2 Data Analysis	July 2011	August 2011
3 Final Report	September 2011	October 2011

Please note that Totten reservoir usually freezes solid over the winter. Spring brings rapid weather changes and wind. Therefore, schedules will be set with USGS based on their availability and the most likely good weather season for the initial field work that will take about one week. After data collection, office work will proceed as assigned and should not have weather related constraints.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. 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 the 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 help promote the development of a common technical platform.

The above statements are true to the best of my knowledge:

Signature of Applicant:

Print Applicant's Name: Kenneth W. Curtis III, Engineer, DWCD

Project Title: Totten Reservoir Hydrographic Survey

Date: August 27, 2010

Return this application to:

Mr. Todd Doherty
Intrastate Water Management and Development Section
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 200
Denver, CO 80203

To submit applications by Email, send to: todd.doherty@state.co.us
To submit applications by Fax, send to: (303) 894-2578