



STATE OF COLORADO
Department of Natural Resources

ORDER		** IMPORTANT **				
Number: POGG1 PDAA 20160000000000000743		The order number and line number must appear on all invoices, packing slips, cartons and correspondence				
Date: 02/25/16						
Description: PDAA6000 Sev Tax Grant inundation map for Worster Dam		BILL TO COLORADO WATER BOARD CONSERVATION 1313 SHERMAN STREET, ROOM 718 DENVER, CO 80203				
Effective Date: Expiration Date:						
BUYER		SHIP TO				
Buyer:		COLORADO WATER BOARD CONSERVATION				
Email:		1313 SHERMAN STREET, ROOM 718 DENVER, CO 80203				
VENDOR		SHIPPING INSTRUCTIONS				
DIVIDE CANAL & RESERVOIR COMPANY 106 ELM AVENUE EATON, CO 80615		Delivery/Install Date: F.O.B:				
Contact: DON ENGEL Phone: 9704543377		VENDOR INSTRUCTIONS:				
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	\$7,000.00	<input type="checkbox"/>
Description: PDAA6000 Sev Tax Grant inundation map for Worster Dam						
Service From: 02/25/16 Service To: 06/15/16						
TERMS AND CONDITIONS https://www.colorado.gov/osc/purchase-order-terms-conditions						
DOCUMENT TOTAL = \$7,000.00						

February 24, 2016

Project: Inundation Mapping for Worster Dam

Vendor: Divide Canal and Reservoir Company
Mr. Dale Leach, President
P.O. Box 206
Eaton, CO 80615
Phone/Email: 970-454-3377 / info@eatonditch.com

Consultant: Tetra Tech, Inc.
Mr. Dan Evans, P.E.
3801 Automation Way, Suite 100
Fort Collins, CO 80525
Phone / Email: (970) 206-4219 / dan.evans@tetrattech.com

CWCB funding source: Severance Tax Trust Fund Operational Account

SCOPE OF WORK

Tetra Tech, Inc. (Consultant), at the direction of the Divide Ditch and Reservoir Company (Vendor), will perform a dam breach modeling study and flood inundation mapping for the above dam. Worster Dam is a Significant Hazard dam located in Larimer County within the South Platte River Basin. The dam is located on Sheep Creek north of Fort Collins, CO.

Consultant or Vendor will submit the final report and mapping to the Colorado Division of Water Resources, Dam Safety Branch, for approval. Grant funds will not be disbursed until the project has been approved by the Dam Safety Branch.

PROPOSED METHODOLOGY

The Consultant shall perform a clear dam breach analyses in accordance with the State of Colorado Rules and Regulations for Dam Safety and Dam Construction (1/1/2007), and the Dam Safety Guidelines for Dam Breach Analysis (2/10/2010). Correspondence shall be with Kallie Bauer, P.E., of the Colorado Division of Water Resources, Dam Safety Branch, to present preliminary dam breach parameters, water surface profile modeling, and inundation mapping and to determine if field measurements are necessary for critical bridges.

Inundation mapping for High Hazard dams shall show the calculated extents of the dam breach flood wave. The mapping will also include cross sections at critical locations showing lateral and vertical flood extents, flood wave velocity, and flood wave arrival time. Inundation mapping shall be extended downstream to a location where no potential for loss of life and/or no significant property damage exist.

Inundation mapping for Significant Hazard dams shall show the route of the dam breach flood wave, the estimated time of arrival of the flood wave at critical sections, and the estimated lateral extent of inundation. The inundation mapping shall be extended downstream to a location where no significant property damage exists. The inundation mapping requirements for Significant Hazard dams may be modified for good cause, with the approval of the State Engineer.

DELIVERABLES

For each reservoir, the Vendor shall provide the CWCB electronic copies of the following: a final report for the inundation mapping analysis stamped by a licensed Colorado professional engineer; digital files of the inundation limits, maps and supporting spreadsheets; and hydraulic/hydrologic models.

Additionally the Vendor shall provide a copy of the project's Colorado Division of Water Resources, Dam Safety Branch, approval letter.

SCHEDULE

Work may initiate on the date of the State's Purchase Order. Deliverables are due no later than June 15, 2016.

BUDGET

The Consultant will complete the work described for a not-to-exceed budget of \$13,960 based on Consultant's current rate schedule and projection of effort. The estimate is summarized. The Consultant shall invoice Vendor on a Time and Materials basis for services performed below:

Task	Budget
Breach Routing, Flood Routing, Deliverables, Invoicing	\$13,960
TOTAL	\$13,960

PAYMENT

The State shall pay Vendor up to \$7,000 (51 % of Project Cost) for Consultant's project related invoices following receipt of final deliverables. The Vendor is responsible for all expenses in excess of the State's contribution. Any overages or increases in project costs shall be the responsibility of the Vendor.

Estimated Project Cost Sharing:

Owner Match	\$ 6,980
CWCB Grant	<u>\$ 7,000</u>
TOTAL	\$ 13,960

CWCB shall issue payment following receipt and processing of Vendor's Request for Payment submittal. The Request for Payment must include: a summary of Consultant's labor effort and direct costs in accordance with the attached estimate, copies of corresponding invoices from Consultant, and identification of any major issues with proposed or implemented corrective actions. The Deliverable, including the Dam Safety Branch's approval letter, must be provided to the CWCB as part of project documentation prior to CWCB issue of payment.