STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 20160000000000000558
Date: 12/03/15
Description:
PDAA 2500 ATM GRANT -Use of ATMs to Increase Supplies
Effective Date: 12/03/15 Expiration Date: 12/31/16

BUYER
Buyer:
Email:

VENDOR
CONEJOS WATER CONSERVANCY DISTRICT
PO BOX 550
MANASSA, CO 81141-0550

Contact: N. Combs
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:

EXTENDED DESCRIPTION
Original contract CMS# 58990 CTGG1 2015-512 expired 2/1/15 with remaining balance of $84,966. Grantee has provided a new Exhibit/Schedule for remaining funding.

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	$84,966.00	☐

Description: PDAA 2500 ATM GRANT -Use of ATMs to Increase Supplies

Service From: 12/03/15 Service To: 12/31/16

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

DOCUMENT TOTAL = $84,966.00

EXHIBIT A

Scope of Work

WATER ACTIVITY NAME - Use of ATMs to Increase Supplies for Conejos Basin Agriculture, Municipal, and Environmental Purposes

CONTRACTING AGENCY – Conejos Water Conservancy District

FUNDING SOURCE - CWCB Alternative Agricultural Grant Program plus 10% cash match from grant recipient and approximately 10% in-kind services match

INTRODUCTION AND BACKGROUND

The Conejos Water Conservancy District (District) is located in Conejos County in southern Colorado in the Rio Grande Basin (Water Division 3). The District includes 88,000 acres of irrigated agriculture and the towns of Manassa, Romeo, Sanford, Conejos, Antonito, Ortiz and San Antonio. Several of these towns rely partially or entirely on groundwater pumping for their water supply and pending rules and regulations will require augmentation of well pumping depletions. The towns will look to agricultural water resources within the basin as a replacement source as there is not water available for appropriation under a new water right. The District agricultural users on the San Antonio river, a tributary to the Conejos river cannot receive Project deliveries by gravity flow or current infrastructure. The purpose of this ATM project is to investigate the opportunities for the transfer of the allocation of San Antonio river agricultural water users' Project water to the Towns to meet their augmentation water requirement without loss or impact to the irrigated agricultural lands.

OBJECTIVES

The purpose of this project is to investigate the feasibility of a unique ATM that involves enlarging Trujillo Meadows Reservoir that preserves agriculture in the District and provides a reliable supply of augmentation water for the Towns. In addition, the project will also evaluate the other multiple-objective benefits that are possible, such as enhanced recreational opportunity at Trujillo Meadows Reservoir, potential environmental benefits such as enhanced riparian habitat, re-timing of streamflows on the Rio De Los Pinos and the on the Conejos below Platoro due to the release of augmentation water to the Towns, and meeting Compact delivery requirements.

TASKS

TASK 1 – Background and Objectives

Description of Task

This task will provide background and objectives for the project. The categories of background information will include:

1. Basic reservoir and dam information
2. Expected rules and regulations including imminent augmentation demand
3. Existing agricultural shortages on San Antonio
4. Existing Platoro Reservoir operations
5. Potential recreational and environmental benefits of dam enlargement

6. Conceptual schematic of the proposed ATM
7. Meetings and Coordination
8. Travel / Reimbursables

Method/Procedure

Through discussions with Colorado Parks and Wildlife (CPW) and the Conejos Water Conservancy District (CWCD), information will be gathered on the Trujillo Meadows reservoir and dam and CPW's uses of the reservoir, including the recreation user days per year for fishing visits. The history of Trujillo Meadows dam operation, maintenance, and rehabilitation, including historical dam problems will be summarized.

The pending groundwater pumping rules and regulations, and anticipated municipal augmentation demand will be researched and documented.

Through discussions with landowners and irrigation companies and investigations using StateCU, the existing agricultural shortages on lands irrigated from the San Antonio will be documented.

CWCD will provide detailed information about the existing Platoro division operations including timing, volume, and location of deliveries out of Platoro reservoir.

The potential recreation and environmental benefits of reservoir enlargement will be documented. These benefits include fishery and biological systems improvement, riparian habitat enhancement, and stream flow enhancement through re-timing of run-off.

There will be a kick-off meeting for the project in the San Luis Valley.

Deliverable

- A memorandum of tasks will be incorporated into the final report.
- A PowerPoint presentation will be developed that can be used to build partnerships with other entities

TASK 2 – Municipal Augmentation Demand

Description of Task

This task will include an assessment of the municipal augmentation demand expected for the Towns' well pumping. The following components will be included:

1. Quantification or estimate of pumping by towns (current and future)
2. RGDSS response functions to estimate augmentation demand
3. Estimate dry-up acreage to meet augmentation demand from agricultural water

Method/Procedure

CWCD will assist in collecting pumping data from towns. Both current pumping levels and expected future pumping volumes will be analyzed based on population and industry growth.

Currently the towns do not augment their well pumping. However, they will be required to do so once the rules and regulations requiring augmentation of pumping depletions are adopted. The Rio Grande Decision Support System (RGDSS) response functions will be used to estimate the augmentation requirements. It is currently estimated that the towns will need to augment 15 to 18 percent of their well pumping.

With the current water resources and operations in the Conejos watershed, agricultural water rights are the most likely source of water for municipality augmentation demand. Once the towns' augmentation demand is calculated, an estimate of the agricultural acreage that will be dried-up due to transfers of irrigation water will be determined.

Deliverable

- Memorandum including town pumping quantification, both current and future, and an estimate of dry-up acreage to meet augmentation demand from agricultural water sources will be incorporated into the final report

TASK 3 – Trujillo Meadows Reservoir Enlargement Feasibility

Description of Task

Storing water in an enlarged Trujillo Meadows reservoir for re-timing of run-off will better meet the needs of agricultural irrigation users and enhance stream flows for a longer period of time during the spring, allowing some agricultural water users to lease their Platoro project water to the towns for augmentation purposes. This task will examine the feasibility of Trujillo Meadows Reservoir enlargement. The following portions of the reservoir enlargement feasibility task have been completed:

1. Reconnaissance level geotechnical analysis of the dam and reservoir enlargement
2. Reconnaissance level environmental analysis of the dam and reservoir enlargement including a potential new dam site 0.3 miles upstream; wetlands mapping and a cultural resources survey
3. Reconnaissance level biological analysis of the dam and reservoir enlargement including Threatened and Endangered Species
4. Subcontractor coordination

The remaining considerations for examining the feasibility of Trujillo Meadows Reservoir enlargement include the following components:

5. Reconnaissance level hydrological analysis including inflow quantification
6. Institutional challenges with reservoir enlargement including compact issues, environmental permitting, New Mexico's use of water, water rights, etc.
7. Meetings

Method/Procedure

Basic engineering has been conducted on the reconnaissance level feasibility of dam enlargement. A geotechnical analysis was conducted to determine the dam enlargement scope and the possible size of the enlarged reservoir. The history of Trujillo Meadows dam operation and maintenance,

including historical problems with the dam was also assessed and taken into account in the dam enlargement feasibility. Additional assessment included embankment design considerations, existing structures, and future investigations and design considerations.

Environmental analysis of the dam and reservoir enlargement was conducted to determine any negative impacts on wetlands, wildlife, and the surrounding habitat. A map of the inundation that will occur with reservoir enlargement was produced. Assessments of other wildlife impacts were also conducted. A cultural survey was conducted assessing the potential impacts of construction on significant indigenous and non-indigenous archaeological and cultural heritage values.

To determine the current amount of water that flows into and out of Trujillo Meadows Reservoir via the Rio De Los Pinos, water commissioner records and RGDSS records will be analyzed. This analysis will help in determining how much Trujillo Meadows should be enlarged for maximum beneficial use.

CPW's USFS permit for the existing reservoir will be characterized. The existing reservoir permit may be expired, and if so, next steps for permitting will be outlined. Interviews with the District Ranger will be conducted to determine permit concerns and any potential special permit concerns will be evaluated. The Rio De Los Pinos flows from Colorado into New Mexico and then back into Colorado. Compact issues associated with the enlarged reservoir and re-timing of flows along with New Mexico's use of water on the Rio De Los Pinos will be evaluated. Water rights considerations will also be determined.

CWCD to provide on-site coordination with subcontractors for site visits.

Completed Deliverable

- Technical memoranda on reconnaissance level geotechnical and environmental analysis of the dam and enlargement to be incorporated or appended to the final report.

Deliverable

- A memorandum of biological and hydrological analysis and institutional changes will be incorporated or appended to the final report

TASK 4 – Alternative Transfer Method Model

Description of Task

The purpose of this task is to develop a simple operations model for the Trujillo Meadows Reservoir that shows storing, releasing and diverting water from the reservoir. The model will show changes in streamflow and the return flows. The model may be incorporated into the existing Rio Grande Cooperative Project model for CPW operations.

Method/Procedure

An operations model will be developed and incorporated into the existing Rio Grande Cooperative model to track reservoir use for meeting existing uses, meeting agricultural shortages, changes to stream flows below Trujillo Meadows, changes to Platoro to meet augmentation demands and the impact to the Compact and CPW's obligations for replacement of Trujillo Meadows evaporation.

Deliverable

- An operational model incorporated into the existing Rio Grande Cooperative Model with results in Excel-based format
- A memorandum of the components of this task including basic model configuration description, assumptions, and the results will be incorporated into the final report.

TASK 5 – Multiple Benefits

Description of Task

This task will assess and characterize the multiple benefits associated with the project and the goal of preserving agriculture irrigated acres by leasing the San Antonio users Platoro project allocation to the towns for augmentation, in turn for the enlargement of Trujillo Meadows reservoir. Benefits assessed will include:

1. Ability to meet towns' augmentation demand through the ATM Project
2. Ability to reduce agricultural shortages
3. Environmental benefits to streamflows on the Los Pinos, San Antonio, and Conejos
4. Benefits to CPW operations and uses
5. Compact and/or state-wide benefits

Method/Procedure

One of the main goals of the project is to meet towns' augmentation demand through an alternative transfer method. For this Project the transfer method is the trade of the use of Project water in Platoro reservoir for the enlargement and use of water re-timed out of Trujillo Meadows. Based on model results and assessments from previous tasks, the ability to meet the towns' augmentation demand through Platoro project water will be determined. In conjunction with the benefits to the towns' the ability to reduce agricultural shortages of the users on the San Antonio through water released out of Trujillo Meadows will also be evaluated.

The potential for environmental benefits such as enhanced stream flows, improved fisheries and ecosystem, and riparian environment enrichment determined in Task 1 will be incorporated into the analysis.

Additional benefits to CPW will be characterized including enhanced operations and improved uses for the water saved by not having to augment evaporation in Trujillo Meadows.

Finally, compact and state-wide benefits including better managed compact deliveries and improved reservoir and stream operations will be determined.

Deliverable

- A memorandum of benefits assessed in this task will be incorporated into the final report.
- Potential partners will be identified based on benefits.

TASK 6 – Report, Conclusions and Recommendations

Description of Task
A final report will be prepared that includes or incorporates all of the task memoranda, summarizes the project, and documents how the project was completed.

Method/Procedure
Deliverables and results from Tasks 1-5 will be incorporated into the final report.

Deliverable
- Final report including tables, maps, figures as necessary

TASK 7 – Cooperative Partnership and Stakeholder Involvement

Description of Task
This task will develop a cooperative partnership and stakeholder involvement in the multiple benefit project. Outreach will be made to the following stakeholders:

1. The towns of Sanford, Manassa, La Jara and Romeo
2. Agricultural users
3. CPW for preliminary negotiations
4. BLM
5. USBR regarding Platoro reoperation and project water contracting
6. DWR

Regular updates with CWCD will take place via progress meetings and trips to the San Luis Valley.

Method/Procedure
Meetings with the stakeholders, either individually or in larger groups depending on the meeting purpose and goals, will be held to develop a cooperative partnership and stakeholder involvement. CWCD will assist and be actively involved in stakeholder involvement and outreach.

Deliverable
- Regular coordination and progress updates with CWCD

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.

Conejos Water Conservancy District
ATM Grant Proposal
Use of ATMs to Increase Supples for Conejos Basin Agricultural, Municipal and Environmental Purposes

	Hourly Rates	$175	$140	$140	$105						$65
Task	Task Description	Senior Engineer	Senior Consultant/ Biologist	Water Resources Engineer II	Water Resources Engineer I	Subcontractor	Reimbursible Expenses	Total Cash Costs	CWCD In-kind labor hours	CWCD In-kind labor cost	
Task 1	**Background and Objectives**	4		12	6		$ -	**$3,010**	8	**$520**	
Task 2	**Municipal Augmentation Demand**	2		23	8		$ -	**$4,410**	6	**$390**	
Task 3	**Trujillo Meadows Enlargement Feasibility**	15		16	7		$ 272.00	**$5,872**	10	**$650**	
Task 4	**Alternative Transfer Method Model**	12		44	105		$ -	**$19,285**	8	**$520**	
Task 5	**Multiple Benefits**	32		32	48		$ -	**$15,120**	16	**$1,040**	
Task 6	**Report, Conclusions and Recommendations**	20		20	20	$ 2,000.00	$ 750.00	**$11,150**	12	**$780**	
Task 7	**Cooperative Partnership and Stakeholder Involvement**	148		28	20		$ 1,500.00	**$33,420**	52	**$3,422**	

Project Totals		Senior Engineer	Senior Consultant/ Biologist	Water Resources Engineer II	Water Resources Engineer I	Subcontractor	Total	CWCD In-kind labor hours	CWCD In-kind labor cost
	Hours	**233**	**0**	**175**	**214**		**622**	**112**	
	Labor and Subcontractor Cost	**$40,775**	**$0**	**$24,500**	**$22,470**	**$ 2,000.00**	**$89,745**		$7,301
						Travel/Reimbursibles	***$2,522***		
						Total Project Cost	**$92,267**		
						Cash and in-kind match	***$7,301***		
						Grant request	***$84,966***		

Conejos Water Conservancy District
ATM Grant Proposal
Use of ATMs to Increase Supples for Conejos Basin Agricultural, Municipal and Environmental Purposes

Schedule Dec/Jan Feb Mar Apr May Jun Jul Aug-Dec 31, 2016

Task		Months after NTP								
		*1**	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9-12*
Task 1	**Background and Objectives**									
Task 2	**Municipal Augmentation Demand**									
Task 3	**Trujillo Meadows Enlargement Feasibility***									
Task 4	**Alternative Transfer Method Model**									
Task 5	**Multiple Benefits**									
Task 6	**Report, Conclusions and Recommendations**									
Task 7	**Cooperative Partnership and Stakeholder Involvement**									

Grey shading indicates estimated timing of task
**Assumes NTP Dec 2015. Differences to the assumed NTP date may affect timing of Task 3*

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street, Room 718
Denver, CO 80203

March 22, 2017

Conejos Water Conservancy District
Attn: Nathan Combs
P.O. Box 550
Manassa,, CO 81141-0550

RE: Notice to Proceed – ATM Grant –**POGG1 2017-852 Continuation of POGG1 2016-558, CTGG1 2015-512 – Use of ATM's to Increase Supplies for Conejos Basin, Agriculture, Municipal, and Environmental Purposes**

Dear Nathan,

This letter is to inform you that purchase order/contract to assist in the continuation of the above ATM grant project has been approved. The original contract documents in the email serve as your copy.

With the executed agreement, you are now able to proceed with the project and invoice the State of Colorado for costs incurred through December 31, 2017. Please provide the **project name**, **PO number** when corresponding with or invoicing for your project along with back-up documentation of cost incurred for the ATM portion of the grant according to the scope of work. Upon receipt of your invoice(s), the State of Colorado will provide payment no later than 30 days after review and signed approval of the project manager.

Please refer to the ATM Criteria & Guidelines for reporting requirements for the six month progress report and final deliverable requirements in order to avoid a delay in payment. A 30-day advance notice is required in the event you are seeking an amendment to the term of the PO and will require an official letter of request to the CWCB project manager briefly describing the need for the extension and updated schedule.

If you have any questions or concerns regarding the project, please contact Craig Godbout, Project Manager at 303-866-3441 x3210 or at craig.godbout@state.co.us. When submitting invoices and progress reports, please cc both PM and myself. You can contact me at 303-866-3441 ext. 3250 for additional invoicing and payment disbursement questions.

Thank you.

Sincerely,

//s//

Doriann Vigil
Program Assistant II
O 303-866-3441 ext. 3250
1313 Sherman Street, Rm. 719, Denver, CO 80203
Dori.vigil@state.co.us / cwcb.state.co.com

Attachments

STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 201700000852
Date: 03/22/17
Description:
Use of ATMs to Increase Supplies for Conejos Basin Agricultu
Effective Date: 03/01/17 Expiration Date: 12/31/17

BUYER
Buyer:
Email:

VENDOR
CONEJOS WATER CONSERVANCY DISTRICT
PO BOX 550
MANASSA, CO 81141-0550

Contact: N. Combs
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	$45,521.12	☐

Description: Use of ATMs to Increase Supplies for Conejos Basin

Service From: 03/01/17 Service To: 12/31/17

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

DOCUMENT TOTAL = $45,521.12

EXHIBIT A - January 17,2017

Scope of Work

WATER ACTIVITY NAME - Use of ATMs to Increase Supplies for Conejos Basin Agriculture, Municipal, and Environmental Purposes

CONTRACTING AGENCY – Conejos Water Conservancy District

FUNDING SOURCE - CWCB Alternative Agricultural Grant Program plus 10% cash match from grant recipient and approximately 10% in-kind services match

INTRODUCTION AND BACKGROUND

The Conejos Water Conservancy District (District) is located in Conejos County in southern Colorado in the Rio Grande Basin (Water Division 3). The District includes 88,000 acres of irrigated agriculture and the towns of Manassa, Romeo, Sanford, Conejos, Antonito, Ortiz and San Antonio. Several of these towns rely partially or entirely on groundwater pumping for their water supply and pending rules and regulations will require augmentation of well pumping depletions. The towns will look to agricultural water resources within the basin as a replacement source as there is not water available for appropriation under a new water right. The District agricultural users on the San Antonio river, a tributary to the Conejos river cannot receive Project deliveries by gravity flow or current infrastructure. The purpose of this ATM project is to investigate the opportunities for the transfer of the allocation of San Antonio river agricultural water users' Project water to the Towns to meet their augmentation water requirement without loss or impact to the irrigated agricultural lands.

OBJECTIVES

The purpose of this project is to investigate the feasibility of a unique ATM that involves enlarging Trujillo Meadows Reservoir that preserves agriculture in the District and provides a reliable supply of augmentation water for the Towns. In addition, the project will also evaluate the other multiple-objective benefits that are possible, such as enhanced recreational opportunity at Trujillo Meadows Reservoir, potential environmental benefits such as enhanced riparian habitat, re-timing of streamflows on the Rio De Los Pinos and the on the Conejos below Platoro due to the release of augmentation water to the Towns, and meeting Compact delivery requirements.

TASKS

TASK 1 – Background and Objectives

Description of Task

This task will provide background and objectives for the project. The categories of background information that have already been incorporated into the draft report include:

1. Basic reservoir and dam information
2. Expected rules and regulations including imminent augmentation demand
3. Existing agricultural shortages on San Antonio
4. Existing Platoro Reservoir operations
5. Potential recreational and environmental benefits of dam enlargement

6. Conceptual schematic of the proposed ATM
7. Meetings and Coordination
8. Travel / Reimbursables

Method/Procedure

Through discussions with Colorado Parks and Wildlife (CPW) and the Conejos Water Conservancy District (CWCD), information will be gathered on the Trujillo Meadows reservoir and dam and CPW's uses of the reservoir, including the recreation user days per year for fishing visits. The history of Trujillo Meadows dam operation, maintenance, and rehabilitation, including historical dam problems will be summarized.

The pending groundwater pumping rules and regulations, and anticipated municipal augmentation demand will be researched and documented.

Through discussions with landowners and irrigation companies and investigations using StateCU, the existing agricultural shortages on lands irrigated from the San Antonio will be documented.

CWCD will provide detailed information about the existing Platoro division operations including timing, volume, and location of deliveries out of Platoro reservoir.

The potential recreation and environmental benefits of reservoir enlargement will be documented. These benefits include fishery and biological systems improvement, riparian habitat enhancement, and stream flow enhancement through re-timing of run-off.

There will be a kick-off meeting for the project in the San Luis Valley.

Deliverables Completed

- A memorandum of tasks will be incorporated into the final report.

Remaining Deliverables

- A PowerPoint presentation will be developed that can be used to build partnerships with other entities

TASK 2 – Municipal Augmentation Demand

Description of Task

This task will include an assessment of the municipal augmentation demand expected for the Towns' well pumping. The following components have already been incorporated into the draft report:

1. Quantification or estimate of pumping by towns (current and future)
2. RGDSS response functions to estimate augmentation demand

Remaining components to be included into the draft report regarding the municipal augmentation demand include:

3. Estimate dry-up acreage to meet augmentation demand from agricultural water

Method/Procedure

CWCD will assist in collecting pumping data from towns. Both current pumping levels and expected future pumping volumes will be analyzed based on population and industry growth.

Currently the towns do not augment their well pumping. However, they will be required to do so once the rules and regulations requiring augmentation of pumping depletions are adopted. The Rio Grande Decision Support System (RGDSS) response functions will be used to estimate the augmentation requirements. It is currently estimated that the towns will need to augment 15 to 18 percent of their well pumping.

With the current water resources and operations in the Conejos watershed, agricultural water rights are the most likely source of water for municipality augmentation demand. Once the towns' augmentation demand is calculated, an estimate of the agricultural acreage that will be dried-up due to transfers of irrigation water will be determined.

Deliverables Completed

- Memorandum including town pumping quantification, both current and future, have been incorporated into the final report

Remaining Deliverables

- Calculation and incorporation of dry-up acreage required to meet augmentation demand

TASK 3 – Trujillo Meadows Reservoir Enlargement Feasibility

Description of Task

Storing water in an enlarged Trujillo Meadows reservoir for re-timing of run-off will better meet the needs of agricultural irrigation users and enhance stream flows for a longer period of time during the spring, allowing some agricultural water users to lease their Platoro project water to the towns for augmentation purposes. This task will examine the feasibility of Trujillo Meadows Reservoir enlargement. The following portions of the reservoir enlargement feasibility task have been completed:

1. Reconnaissance level geotechnical analysis of the dam and reservoir enlargement
2. Reconnaissance level environmental analysis of the dam and reservoir enlargement including a potential new dam site 0.3 miles upstream; wetlands mapping and a cultural resources survey
3. Reconnaissance level biological analysis of the dam and reservoir enlargement including Threatened and Endangered Species
4. Subcontractor coordination
5. Reconnaissance level hydrological analysis including inflow quantification
6. Meetings

The remaining considerations for examining the feasibility of Trujillo Meadows Reservoir

enlargement include the following components:

7. Institutional challenges with reservoir enlargement including compact issues, environmental permitting, New Mexico's use of water, water rights, etc.

Method/Procedure

Basic engineering has been conducted on the reconnaissance level feasibility of dam enlargement. A geotechnical analysis was conducted to determine the dam enlargement scope and the possible size of the enlarged reservoir. The history of Trujillo Meadows dam operation and maintenance, including historical problems with the dam was also assessed and taken into account in the dam enlargement feasibility. Additional assessment included embankment design considerations, existing structures, and future investigations and design considerations.

Environmental analysis of the dam and reservoir enlargement was conducted to determine any negative impacts on wetlands, wildlife, and the surrounding habitat. A map of the inundation that will occur with reservoir enlargement was produced. Assessments of other wildlife impacts were also conducted. A cultural survey was conducted assessing the potential impacts of construction on significant indigenous and non-indigenous archaeological and cultural heritage values.

To determine the current amount of water that flows into and out of Trujillo Meadows Reservoir via the Rio De Los Pinos, water commissioner records and RGDSS records will be analyzed. This analysis will help in determining how much Trujillo Meadows should be enlarged for maximum beneficial use.

CPW's USFS permit for the existing reservoir will be characterized. The existing reservoir permit may be expired, and if so, next steps for permitting will be outlined. Interviews with the District Ranger will be conducted to determine permit concerns and any potential special permit concerns will be evaluated. The Rio De Los Pinos flows from Colorado into New Mexico and then back into Colorado. Compact issues associated with the enlarged reservoir and re-timing of flows along with New Mexico's use of water on the Rio De Los Pinos will be evaluated. Water rights considerations will also be determined.

CWCD to provide on-site coordination with subcontractors for site visits.

Deliverables Completed

- Technical memoranda on reconnaissance level geotechnical, environmental analysis of the dam and enlargement, and biological and hydrological analysis have been incorporated or appended to the final report.

Remaining Deliverables

- A memorandum of institutional changes will be incorporated or appended to the final report

TASK 4 – Alternative Transfer Method Model

Description of Task

The purpose of this task is to develop a simple operations model for the Trujillo Meadows Reservoir that shows storing, releasing and diverting water from the reservoir. The model will show changes in

streamflow and the return flows. The model may be incorporated into the existing Rio Grande Cooperative Project model for CPW operations. The following modeling tasks have been completed:

1. Incorporation of Trujillo Meadows Reservoir objects and hydrology into Rio Grande Cooperative Project RiverWare model
2. Logical modeling of storage, release to unmet agricultural demands, Rio Grande Compact, and Taos Valley Canal No. 3 direct flow storage

Remaining modeling tasks include:

3. Final scenario refinement by CWCD after reviewing results and modeled policy and assumptions.

Method/Procedure

An operations model will be developed and incorporated into the existing Rio Grande Cooperative model to track reservoir use for meeting existing uses, meeting agricultural shortages, changes to stream flows below Trujillo Meadows, changes to Platoro to meet augmentation demands and the impact to the Compact and CPW's obligations for replacement of Trujillo Meadows evaporation.

Deliverables Completed

- An operational model incorporated into the existing Rio Grande Cooperative RiverWare Model with results in Excel-based format
- A memorandum of the components of this task including basic model configuration description, assumptions, and the results have been incorporated into the final report

Remaining Deliverables

- Final model configuration description, assumptions, and results refinement

TASK 5 – Multiple Benefits

Description of Task

This task will assess and characterize the multiple benefits associated with the project and the goal of preserving agriculture irrigated acres by leasing the San Antonio users Platoro project allocation to the towns for augmentation, in turn for the enlargement of Trujillo Meadows reservoir. Remaining benefits to incorporate into the draft report include:

1. Ability to meet towns' augmentation demand through the ATM Project
2. Ability to reduce agricultural shortages
3. Environmental benefits to streamflows on the Los Pinos, San Antonio, and Conejos
4. Benefits to CPW operations and uses
5. Compact and/or state-wide benefits

Method/Procedure

One of the main goals of the project is to meet towns' augmentation demand through an alternative transfer method. For this Project the transfer method is the trade of the use of Project water in Platoro reservoir for the enlargement and use of water re-timed out of Trujillo Meadows. Based on

model results and assessments from previous tasks, the ability to meet the towns' augmentation demand through Platoro project water will be determined. In conjunction with the benefits to the towns' the ability to reduce agricultural shortages of the users on the San Antonio through water released out of Trujillo Meadows will also be evaluated.

The potential for environmental benefits such as enhanced stream flows, improved fisheries and ecosystem, and riparian environment enrichment determined in Task 1 will be incorporated into the analysis.

Additional benefits to CPW will be characterized including enhanced operations and improved uses for the water saved by not having to augment evaporation in Trujillo Meadows.

Finally, compact and state-wide benefits including better managed compact deliveries and improved reservoir and stream operations will be determined.

Remaining Deliverables

- A memorandum of benefits assessed in this task will be incorporated into the final report.
- Potential partners will be identified based on benefits.

TASK 6 – Report, Conclusions and Recommendations

Description of Task

A final report will be prepared that includes or incorporates all of the task memoranda, summarizes the project, and documents how the project was completed.

Method/Procedure

Deliverables and results from Tasks 1-5 will be incorporated into the final report.

Deliverable

- Final report including tables, maps, figures as necessary

TASK 7 – Cooperative Partnership and Stakeholder Involvement

Description of Task

This task will develop a cooperative partnership and stakeholder involvement in the multiple benefit project. Outreach has been made to the following stakeholders:

1. The towns of Sanford, Manassa, La Jara and Romeo
2. Agricultural users
3. CPW for preliminary negotiations
4. BLM
5. USBR regarding Platoro reoperation and project water contracting
6. DWR

Regular updates with CWCD will take place via progress meetings and trips to the San Luis Valley.

Method/Procedure

Meetings with the stakeholders, either individually or in larger groups depending on the meeting purpose and goals, will be held to develop a cooperative partnership and stakeholder involvement. CWCD will assist and be actively involved in stakeholder involvement and outreach.

Deliverable

- Regular coordination and progress updates with CWCD

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 & SCHEDULE

USE OF ATM'S TO INCREASE SUPPLIES FOR CONEJOS BASIN, AGRICULTURAL, MUNICIPAL

ATM - POGG1 2017-

Task	Description	Budget
1	Background & Objectives	
2	Municipal Augmentation Demand	
3	Trujillo Meadows Reservoir Enlargement Feasibility	
4	Alternative Transfer Method Model	
5	Multiple Benefits	
6	Report, Conclusions and Recommendations	
7	Cooperative Partnership and Stakeholder Involvement	
TOTAL		**$ 45,521.12**

. AND ENVIRONMENTAL PURPOSES

Start Date	Finish Date
3/1/2017	12/31/2017
	12/31/2017
	12/31/2017
	12/31/2017
	12/31/2017
	12/31/2017
	12/31/2017