



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

1313 Sherman Street, Room 718
Denver, CO 80203

January 5, 2015

Colorado State University
Attn: Wendy Ryan, Assistant State Climatologist
1371 Campus Delivery
Fort Collins, CO 80523-1371

RE: Notice to Proceed - WSRA Grant – Re-establishment of Lysimeters in North
Park to Determine High Altitude, Hay Meadow Crop Coefficients in the North
Platte River Basin

Dear Wendy,

This letter is to inform you that the contract to assist in the above WSRA grant project was signed on December 23, 2014. The original contract will be mailed to you.

With the executed contract, you are now able to proceed with the project and invoice the State of Colorado for costs incurred through December 31, 2019. Upon receipt of your invoice(s), the State of Colorado will provide payment no later than 45 days after the project manager approval. I wish you much success in your project.

If you have any questions or concerns regarding the project, please contact me.

Sincerely,

//s//

Craig Godbout
Program Manager
Water Supply Planning Section
O 303.866.3441 x3210
1313 Sherman Street, Suite 718, Denver, CO 80203
craig.godbout@state.co.us
www.cwcb.state.co.us www.coloradowaterplan.com



STATE OF COLORADO
Colorado Water Conservation Board
INTERAGENCY AGREEMENT

with

**Board of Governors of the Colorado State University System acting by and
through Colorado State University**
Contract Number CTGG1 2015-2323

1. PARTIES

This Interagency Agreement (hereinafter called "Agreement") is entered into by and between the Colorado Water Conservation Board (hereinafter called "Payor"), and the Board of Governors of the Colorado State University System acting by and through Colorado State University (hereinafter called "Payee"), who may collectively be called the "Parties" and individually a "Party", both of which are agencies or higher education institutions of the STATE OF COLORADO, hereinafter called the "State".

2. EFFECTIVE DATE AND NOTICE OF NONLIABILITY.

This Agreement shall not be effective or enforceable until it is approved and signed by the Colorado State Controller or designee (hereinafter called the "Effective Date"), but shall be effective and enforceable thereafter in accordance with its provisions.

3. RECITALS

A. Authority, Appropriation, And Approval

Authority to enter into this Agreement exists pursuant to State Fiscal Rule 3-3 and funds have been budgeted, appropriated and otherwise made available pursuant to Colorado Revised Statutes (CRS) 39-29-109(2)(c), 37-75-104(2)(c) and 37-75-102 et al., and Senate Bill 06-179 adopted by the 2006 General Assembly and a sufficient unencumbered balance thereof remains available for payment. Required approvals, clearance and coordination have been accomplished from and with appropriate agencies.

B. Purpose

The Water Supply Reserve Account provides money for grants and loans to complete water activities, which are broadly defined and include water supply and environmental projects and/or studies. This Grant is for the re-establishment of Lysimeters in North Park to Determine High Altitude, Hay Meadow Crop Coefficients in the North Platte River Basin.

4. TERM AND EARLY TERMINATION

A. Term-Work Commencement

The Parties respective performances under this Agreement shall commence on the later of either the Effective Date or December 12, 2014. This Agreement shall terminate on December 31, 2019 unless sooner terminated or further extended as specified elsewhere herein. Either Party may terminate this Agreement by giving the other Party 30 days prior written notice setting forth the date of termination. Upon termination the liabilities of the Parties for future performance hereunder shall cease, but the Parties shall perform their respective obligations up to the date of termination.

5. STATEMENT OF WORK

A. Work

Payee shall complete the Work and its other obligations as described herein and in **Exhibit A** on or before December 31, 2019.

B. Goods and Services

Payee shall procure goods and services necessary to complete its obligations. Such procurement shall be accomplished using Agreement Funds and shall not increase the maximum amount payable hereunder by Payor.

6. PAYMENTS-MAXIMUM AMOUNT

The maximum amount payable under this Agreement to Payee by Payor is \$194,102. Payor shall make payment for purchases of goods and services within 45 days after receipt of valid invoices from Payee. Payments shall be made by an interagency transfer in lieu of a State warrant whenever possible. The maximum amount payable by Payor to Payee during each State fiscal year of this Agreement shall be:

\$194,102 in FY2015
\$194,102 in FY2016, minus any funds expended in FY2015
\$194,102 in FY2017, minus any funds expended in FY2015 and FY2016
\$194,102 in FY2018, minus any funds expended in FY2015, FY2016 and FY2017
\$194,102 in FY2019, minus any funds expended in FY2015, FY2016, FY2017 and FY2018
\$194,102 in FY2020, minus any funds expended in FY2015, FY2016, FY2017, FY2018, and FY2019

7. RECORDS-MAINTENANCE AND INSPECTION

A. Maintenance

During the term of this Agreement and for a period terminating upon the later of (i) the five year anniversary of the final payment under this Agreement or (ii) the resolution of any pending Agreement matters (the "Record Retention Period"), each Party shall maintain, and allow inspection and monitoring by the other Party, and any other duly authorized agent of a governmental agency, of a complete file of all records, documents, communications, notes and other written materials, electronic media files, and communications, pertaining in any manner to the work or the delivery of services or goods hereunder.

B. Inspection

Payor shall have the right to inspect Payee's performance at all reasonable times and places during the term of this Agreement. Payee shall permit Payor, and any other duly authorized agent of a governmental agency having jurisdiction to monitor all activities conducted pursuant to this Agreement, to audit, inspect, examine, excerpt, copy and/or transcribe Payee's records related to this Agreement during the Record Retention Period to assure compliance with the terms hereof or to evaluate performance hereunder.

Monitoring activities controlled by Payor shall not unduly interfere with Payee's performance hereunder.

8. CONFIDENTIAL INFORMATION-STATE RECORDS

Each Party shall treat the confidential information of the other Party with the same degree of care and protection it affords to its own confidential information, unless a different standard is set forth in this Agreement. Each Party shall notify the other Party immediately if it receives a request or demand from a third party for records or information of the other Party.

9. FAILURE TO PERFORM-DISPUTES

The failure of a Party to perform its respective obligations in accordance with the provisions of this Agreement is a breach of this Agreement. In the event of disputes concerning performance hereunder or otherwise related to this Agreement, the Parties shall attempt to resolve them at the divisional level. If this fails, disputes shall be referred to senior departmental management staff designated by each Party. If this fails, the executive director of each Party shall meet and attempt resolution. If this fails, the matter shall be submitted in writing by both Parties, or either of them, to the State Controller, whose decision shall be final.

10. NOTICE AND REPRESENTATIVES

Each individual identified below is the principal representative of the designating Party. All notices required to be given hereunder shall be hand delivered with receipt required or sent by certified or registered mail to such Party's principal representative at the address set forth below. In addition to, but not in lieu of a hard-copy notice, notice also may be sent by e-mail to the e-mail addresses, if any, set forth below. Either Party may from time to time designate by written notice substitute addresses or persons to whom such notices shall be sent. Unless otherwise provided herein, all notices shall be effective upon receipt.

Payor:

Craig Godbout, Program Manager, Water Supply Planning Section
Colorado Water Conservation Board
1313 Sherman Street, Rm. 718
Denver, CO 80203
Craig.godbout@state.co.us

Payee:

Wendy Ryan, Assistant State Climatologist
Co State University
1371 Campus Delivery
Fort Collins, CO 80523-1371
Wendy.ryan@colostate.edu

11. GENERAL PROVISIONS

A. Assignment

The rights and obligations of each Party hereunder are personal to such Party and may not be transferred, assigned or subcontracted without the prior, written consent of the other Party.

B. Order of Precedence

In the event of conflicts or inconsistencies between this Agreement and its exhibits and attachments, such conflicts or inconsistencies shall be resolved by reference to the documents in the order of priority: exhibits and attachments first; this Agreement second.

C. Third Party Beneficiaries-Negation

Enforcement of all rights and obligations hereunder are reserved solely to the Parties. Any services or benefits which third parties receive as a result of this Agreement are incidental and do not create any rights for such third parties.

12. SIGNATURE PAGE

THE PARTIES HERETO HAVE EXECUTED THIS INTERAGENCY AGREEMENT

* Persons signing for Parties hereby swear and affirm that they are authorized to act on behalf of their respective Party and acknowledge that the other Party is relying on their representations to that effect.

STATE OF COLORADO

John W. Hickenlooper, Governor

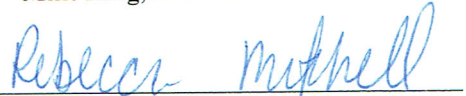
**Board of Governors of the Colorado State University
System acting by and through Colorado State University**


Signature

By: **David B. Doty, Associate Director**
Title: **Sponsored Programs**

Date: 12/3/14

**Department of Natural Resources
Mike King, Executive Director**



By: Rebecca Mitchell Chief,
Water Supply Planning Section, CWCB
Signatory avers to the State Controller or delegate that
Grantee has not begun performance or that a Statutory
Violation waiver has been requested under Fiscal Rules

Date: 12-11-14

ALL CONTRACTS REQUIRE APPROVAL BY THE STATE CONTROLLER

STATE CONTROLLER

Robert Jaros, CPA, MBA, JD

By: 

Date: 12/23/14

EXHIBIT A

WATER ACTIVITY NAME - Re-establishment of lysimeters in North Park to determine high altitude, hay meadow crop coefficients.

GRANT RECIPIENT – **Colorado State University-** Colorado Climate Center

FUNDING SOURCE –**Water Supply Reserve Account**

Statewide Account: \$97,051

Basin Account: \$97,051

Total Funds: \$194,102

INTRODUCTION AND BACKGROUND

In order for the North Platte Basin to better quantify consumptive use in the basin, this project aims to re-establish lysimeter measurements in the high altitude, hay meadow environment of North Park. Although lysimeters have been historically run in the basin, the data have been deemed questionable due to site exposure, infrequent watering and what appears to be a leak in one of the compensating lysimeters.

This project will utilize the three existing weather stations to calculate ASCE (American Society of Civil Engineers) reference evapotranspiration (ET). Two lysimeters will be installed side by side at the Cowdrey site for redundancy in case of failure. The lysimeters being collocated with the COW01 weather station allows for actual consumptive use from the meadow to be directly compared to Reference ET estimates calculated from the weather variables. These two measurements are then used to calculate crop coefficients for hay meadow environment. The lysimeters are installed in an undisturbed soil column adjacent to the station. The two lysimeters and the hay meadow are equipped with soil moisture sensors in order to keep conditions in the lysimeters as close to field conditions as possible. The lysimeter platform includes a bi-directional pump that can add or remove water from the system to keep it in the same conditions as the field. Once data is collected for several seasons, a final report will be drafted which summarizes the work and reports on findings.

SUMMARY OF TASKS

List the of the project

- 1.) Continue to operate and maintain the three CoAgMet weather stations in the basin. Annual maintenance will be performed each Spring in preparation for the growing season to ensure everything is functioning properly. Every other year, the pyranometer and temperature/humidity probe are replaced with a recalibrated sensor. This is done more frequently if any problems arise with the sensors. Other maintenance includes changing wind bearings and ensuring the batteries will continue to operate for another year.
- 2.) Install and maintain the Decagon lysimeter system including data archival. Once the equipment is received, an installation date will be chosen. The most probable time for installation will be summer 2015 after irrigation has ended. This will ensure no problems for the landowner during the irrigation season. Once the system is installed, data collection will begin immediately. Data

will be investigated to make sure equipment is working properly. Each winter, the system will be winterized prior to freezing. Each spring, the system will be brought online after the last freeze and before irrigation begins.

3.) Prepare final report summarizing work and findings.

PERSONNEL

Nolan Doesken, State Climatologist and Senior Research Associate in the Department of Atmospheric Science, has 30+ years of experience with the climate of Colorado. He will oversee this effort.

Wendy Ryan, Assistant State Climatologist and Research Associate III in the Department of Atmospheric Science, has nearly 10 years of experience with the climate of Colorado and running the CoAgMet weather network. Wendy has already built strong relationships with the North Platte Roundtable and will continue working with them on this project. She will install and maintain the lysimeters and weather stations (maintenance only). She will prepare reports and provide periodic updates to the roundtable as work progresses.

Field Technician (TBD) will work closely with Wendy to assist in lysimeter installation. Periodic site visits may be required to check on equipment and ensure it is working properly. This person may be the water commissioner, but this has not been finalized.

BUDGET

Total WSRA funds requested for this project are \$194,102 along with \$37,596 in matching funds for a total project budget of \$231,698.

See Attached Budget Sheet

SCHEDULE

Notice to Proceed – Begin procurement of lysimeter equipment.

Spring 2015 – Annual weather station maintenance.

Summer 2015 – Install lysimeter system adjacent to the Cowdrey site on Carl Trick's property and make sure they are functioning properly.

Fall 2015 – Winterize lysimeters.

Spring 2016 – Annual weather station and lysimeter maintenance.

Spring 2016 – December 2019 – Continue data collection and analysis as well as ensure all equipment is functioning properly. Periodic updates and progress reports will be given to the Roundtable to update them on how the lysimeters are working in conjunction with the weather stations. Annual maintenance will be performed twice each year, once in the spring as well as winterization in the fall.

December 2019 – Prepare final report of findings for the North Platte Basin Roundtable and CWCB.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the water activity sponsor. 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% 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 CWCB in hard copy and electronic format as part of the project documentation.

			Yearly Inflation Rate			4%	4%	4%	4%	
					Year 1	Year 2	Year 3	Year 4	Year 5	Total
TASKS	PERSONNEL SALARIES & FRINGE									
		Administrative Professional:		Hourly Rate	\$62.50	\$65.18	\$67.97	\$70.88	\$73.91	
		Nolan Doesken		Hours	86.67	86.67	86.67	86.67	86.67	
TASK 1					2,708	2,824	2,946	3,071	2,465	14,014
TASK 2					2,709	2,825	2,945	3,072	2,466	14,017
TASK 3					0	0	0	0	1,475	1,475
TOTAL					5,417	5,649	5,891	6,143	6,406	29,506
		Wendy Ryan		Hourly Rate	\$35.52	\$37.03	\$38.62	\$40.27	\$42.00	
				Hours	346.67	346.67	346.67	346.67	346.67	
TASK 1					6,156	6,419	6,694	6,981	5,604	31,854
TASK 2					6,156	6,418	6,695	6,981	5,604	31,854
TASK 3					0	0	0	0	3,353	3,353
TOTAL					12,312	12,837	13,389	13,962	14,561	67,061
		Non-Student Hourly		Hourly Rate	\$14.09	\$14.69	\$15.29	\$15.95	\$16.62	
		TBD		HOURS	200	150	150	150	150	
TASK 1					0	0	0	0	0	0
TASK 2					2,818	2,203	2,294	2,392	2,493	12,200
TASK 3					0	0	0	0	0	0
TOTAL					2,818	2,203	2,294	2,392	2,493	12,200
	DOMESTIC TRAVEL:									
TASK 1 - Mileage to maintain system and 2 trips annually for 1 person from Fort Collins to Wadken					860	894	930	968	1,007	4,659
TASK 2 - Mileage to maintain system and 2 trips annually for 1 person from Fort Collins to Wadken.					860	894	930	967	1,007	4,658
TASK 3					0	0	0	0	0	0
TOTAL					1,720	1,788	1,860	1,935	2,014	9,317
	MATERIALS AND SUPPLIES									
TASK 1					1,957	2,035	2,116	2,201	2,289	10,598
TASK 2					0	0	0	0	0	0
TASK 3					0	0	0	0	0	0
TOTAL					1,957	2,035	2,116	2,201	2,289	10,598
	OTHER DIRECT COSTS									
		Other:		Computer Network						
TASK 1					46	48	51	53	52	250
TASK 2					47	49	50	52	52	250
TASK 3					0	0	0	0	5	5
TOTAL					93	97	101	105	109	505
	EQUIPMENT:									
TASK 1					0	0	0	0	0	0
TASK 2					39,597	0	0	0	0	39,597
TASK 3					0	0	0	0	0	0
TOTAL					39,597	0	0	0	0	39,597
	TOTAL DIRECT COSTS:									
TASK 1					11,727	12,220	12,737	13,274	11,417	61,375
TASK 2					52,187	12,389	12,914	13,464	11,622	102,576
TASK 3					0	0	0	0	4,833	4,833
TOTAL					63,914	24,609	25,651	26,738	27,872	168,784
	INDIRECT (F&A) COSTS: 15% TDC									
TASK 1					1,759	1,833	1,911	1,991	1,713	9,207
TASK 2					7,828	1,858	1,937	2,020	1,743	15,386
TASK 3					0	0	0	0	725	725
TOTAL					9,587	3,691	3,848	4,011	4,181	25,318
	TOTAL:									
TASK 1					13,486	14,053	14,648	15,265	13,130	70,582
TASK 2					60,015	14,247	14,851	15,484	13,365	117,962
TASK 3					0	0	0	0	5,558	5,558
TOTAL WSRA					73,501	28,300	29,499	30,749	32,053	194,102
	UIC (CSU Cost Share) = 48.7% MDTC - 15% TDC									
TASK 1					3,952	4,118	4,292	4,473	3,847	20,683
TASK 2					-1,697	4,175	4,352	4,537	3,917	15,285
TASK 3					0	0	0	0	1,629	1,629
TOTAL					2,255	8,294	8,644	9,010	9,393	37,596
	Total Cost									
TASK 1					17,438	18,171	18,940	19,738	16,977	91,265
TASK 2					58,318	18,422	19,203	20,021	17,282	133,247
TASK 3					0	0	0	0	7,187	7,187
TOTAL					75,756	36,594	38,143	39,759	41,446	231,698

**Board of Governors of the Colorado State University System acting by and through Colorado
State University
Water Supply Reserve Account Grant
Performance Monitoring Provisions**

Statutory Requirements

For each personal services contract with a value over \$100,000, the individual selected by the state agency or institution of higher education (IHE), pursuant to CRS §24-103.5-101(3), shall monitor the contractor's work under the contract and shall certify as to whether the contractor is complying with the terms of the contract pursuant to CRS §§24-103.5-101(5).

- (a) Performance measures and standards developed specifically for the contract by the governmental body administering the contract. The performance measures and standards shall be negotiated by the governmental body and the vendor prior to execution of the contract and shall be incorporated into the contract. The measures and standards shall be used by the governmental body to evaluate the performance of the governmental body and the vendor under the contract.
- (b) An accountability section that requires the vendor to report regularly on achievement of the performance measures and standards specified in the contract and that allows the governmental body to withhold payment until successful completion of all or part of the contract and the achievement of established performance standards. The accountability section shall include a requirement that payment by the governmental body to the vendor shall be made without delay upon successful completion of all or any part of the contract in accordance with the payment schedule specified in the contract or as otherwise agreed upon by the parties.
- (c) Monitoring requirements that specify how the governmental body and the vendor will evaluate each others' performance, including progress reports, site visits, inspections, and reviews of performance data. The governmental body shall use one or more monitoring processes to ensure that the results, objectives, and obligations of the contract are met.
- (d) Methods and mechanisms to resolve any situation in which the governmental body's monitoring assessment determines noncompliance, including termination of the contract.

Performance Monitoring Standards

Performance monitoring for this contract shall include the following:

- (a) Performance measures and standards: The grantee shall prepare a final report summarizing work and findings for the Re-establishment of Lysimeters in North Park to determine high altitude, hay meadows crop coefficients. Grantee will produce detailed deliverables for Tasks 1 to 3 as specified in Exhibit A. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions per the budget in Exhibit A. Per WSRA Criteria and Guidelines, retainage of 10% of the grant funds shall be withheld until receipt of the final report and all other deliverables.
- (b) Accountability: Per WSRA Criteria and Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must certify that all grant conditions have been complied with on each invoice. In addition, per WSRA Criteria and Guidelines progress reports must be submitted at least once every 6 months. A final project report must be submitted and approved before final project payment and release of retainage.
- (c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A and Paragraphs 9 & 19 of the contract. Progress shall be detailed in the required invoice documentation and progress reports as detailed above. Additional inspections or field consultations will be arranged as may be necessary.
- (d) Noncompliance Resolution: Per paragraphs 9, 14, 15, and 19 of the contract: payment will be withheld until grantee is current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the purchase order.