



TO: Finance Committee (FC)
FROM: Executive Director's Office (ED Office)
SUBJECT: Wet Meadow Monitoring Plan Procurement Process Update
DATE: February 20, 2013

The ED Office presented a draft monitoring plan for studying the hydrology on potential wet meadow habitat sites to the Technical Advisory Committee (TAC) on January 14, 2013. The TAC requested that the monitoring plan be reviewed by the Water Advisory Committee (WAC). At their meeting on February 12, 2013, the WAC supported moving forward with three components of the monitoring plan at this time: (1) drilling of monitoring wells; (2) installation of weather stations; and (3) purchasing of equipment to monitor water levels. The ED Office has obtained multiple quotes for each component, as summarized below. Each component is less than \$25,000 and the total falls within the Governance Committee approved 2013 budget for line item IMRP-2, which had an approved budget of \$300,000. The ED Office intends to implement the following components as soon as possible, in advance of the planned spring short duration medium flow release. The following information is being provided as additional detail and background. No action by the Finance Committee is necessary or required.

Monitoring Wells

The WAC supported the construction of shallow monitoring wells on the Binfield and Fox tracts to study the relationship between river stage and groundwater levels. No deep monitoring wells will be constructed at this time. Multiple quotes were obtained for the drilling and completion of the shallow monitoring wells. The ED Office intends to proceed with the lowest quote of \$18,772.50, which was provided by Mid-State Engineering & Testing, Inc. based in Kearney, Nebraska (quote attached).

Weather Stations

The WAC supported the installation of two weather stations. One weather station will be installed at the Binfield site and the other will be at the Fox site. While the initial objective of the weather stations is to study the effects of precipitation and evapotranspiration of water levels at wet meadow sites, the data are expected to be useful for many Program projects. Three quotes were received for the instrumentation of the weather stations, which were all comparable. The ED Office intends to proceed with the High Plains Regional Climate Center (HPRCC) for the installation and maintenance of the weather stations, which will also provide online data access. The instrumentation and installation cost is \$11,136.07 per station including soil moisture sensors, an infrared temperature sensor, and telemetry, for a total cost of \$22,272.14 for both sites (quote attached). HPRCC's annual operation and maintenance cost is \$1,000 per station, which is in addition to the instrumentation and installation fee.

Water Level Monitoring Equipment

The WAC supported the installation of pressure transducers and dataloggers to monitor Platte River stage and groundwater levels, although at a lower density than what was presented in the draft monitoring plan. A total of four river stage units will be installed at the Fox and Binfield sites. A total of 12 units will be installed in shallow monitoring wells distributed across the Fox and Binfield sites to study the groundwater level response to river stage, precipitation, and evapotranspiration. Two quotes were obtained for the pressure transducer and datalogger units, which were comparable. The ED Office intends to purchase the equipment from In-Situ, Inc. to provide consistency with monitoring equipment already installed for other projects. As in the past, pressure transducer and datalogger units may be transferred from one project to another, so consistency provides added value. The In-Situ units will be compatible with telemetry equipment available from other manufacturers, if telemetry is added at a future date. The total cost for the 16 units is \$24,795.29 (quote attached).

Monitoring Wells Quote

Mid-State Engineering & Testing, Inc.

MID-STATE
ENGINEERING &
TESTING, INC.

February 19, 2013

Scott Griebeling
Headwaters Corporation
2727 Bryant St, Suite 210
Denver, CO 80211

RE: Proposal of Works and Costs
Monitor Well Installation
Kearney, Nebraska

Dear Mr. Griebeling,

Thank you for allowing Mid-State Engineering and Testing, Inc. an opportunity to submit this proposal of Work and Costs to install monitor wells at Kearney, Nebraska area.

All work for these projects would be performed at the listed unit costs. The total cost estimates provided are based on the drilling footage for eleven 10' deep 2" monitor wells. The monitor wells have a powder-coated steel, lockable well protector and around the monitor well. Any variance in footage would be adjusted according to the noted unit costs. Monitor well registration is also included with the total estimate. All surveying will need to be provided by your engineer.

UNIT COSTS

Field Work

Mobilization (drill rig and driller)	\$ 2.00/mile
Trip Charge (support vehicle and crew)	1.00/mile
Per Diem (each individual)	90.00/day
Hollow Stem Auger Drilling (man and equipment)	12.00/foot
Monitor Well Installation (2-man crew).....	120.00/hour
Environmental Technician.....	55.00/hour

MID-STATE
ENGINEERING & TESTING

Proposal of Work & Costs
Monitor Well Installation
Kearney, Nebraska
February 19, 2013
Page 2 of 3

Materials

2" PVC Schedule 40 Riser Pipe	\$ 3.00/foot
2" PVC Schedule 40 Well Screen.....	5.00/foot
2" PVC End Caps	10.00/each
Gravel Pack (50 lb. Bag).....	10.00/bag
Bentonite Chips (50 lb. Bag).....	10.00/bag
2" Locking Caps	22.00/each
4" x 4" Stick Up Covers	100.00/each
Ballard Posts.....	50.00/each
Concrete.....	400.00/site
Padlocks	7.50/each
Volclay	15.00/bag

Professional Services

Senior Engineering	\$ 90.00/hour
Project Manager (Review)	60.00/hour

Miscellaneous

Monitor Well Registration (DNR).....	70.00/each
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Based on these unit costs, the following total cost estimate is provided. Total costs are based on the well depths indicated.

Per Diem	\$ 360.00
Mobilization (drill rig).....	200.00
Trip Charges (support vehicle and crews).....	40.00
Drilling	1,320.00
Monitor Well Installation	660.00
Materials.....	3,570.00
Monitor Well Registration (DNR).....	770.00
Project Manager	330.00
Tax (7.0% materials only)	<u>249.90</u>

TOTAL: \$ 7,499.90

MID-STATE
ENGINEERING & TESTING

Proposal of Work & Costs
Monitor Well Installation
Kearney, Nebraska
February 19, 2013
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Mid-State Engineering & Testing Inc. is accredited through the AASHTO Accreditation Program in concrete, and aggregates. Inspections and proficiency tests are performed through CCRL and AMRL. Our field technicians are certified through NICET, ACI, and NDOR. Mid-State Engineering & Testing, Inc. carries a full range of general and professional liability insurance, which would be in effect for this project.

If you have any questions or need further information, please contact us at our Kearney office (308)237-0187. If this proposal of work and costs is acceptable, please return a signed copy at your convenience.

Respectfully submitted,
Mid-State Engineering & Testing, Inc.



Kevin H. Christensen, C.E.T.
Office Manager

Accepted by: _____ Date: _____

MID-STATE
ENGINEERING &
TESTING, INC.

February 19, 2013

Scott Griebeling
Headwaters Corporation
2727 Bryant St, Suite 210
Denver, CO 80211

RE: Proposal of Works and Costs
Monitor Well Installation
Wood River, Nebraska

Dear Mr. Griebeling,

Thank you for allowing Mid-State Engineering and Testing, Inc. an opportunity to submit this proposal of Work and Costs to install monitor wells at Wood River, Nebraska.

All work for these projects would be performed at the listed unit costs. The total cost estimates provided are based on the drilling footage for sixteen 10' deep 2" monitor wells. The monitor wells have a powder-coated steel, lockable well protector and around the monitor well. Any variance in footage would be adjusted according to the noted unit costs. Monitor well registration is also included with the total estimate. All surveying will need to be provided by your engineer.

UNIT COSTS

Field Work

Mobilization (drill rig and driller)	\$ 2.00/mile
Trip Charge (support vehicle and crew)	1.00/mile
Per Diem (each individual)	90.00/day
Hollow Stem Auger Drilling (man and equipment)	12.00/foot
Monitor Well Installation (2-man crew).....	120.00/hour
Environmental Technician.....	55.00/hour

MID-STATE
ENGINEERING & TESTING

Proposal of Work & Costs
Monitor Well Installation
Wood River, Nebraska
February 19, 2013
Page 2 of 3

Materials

2" PVC Schedule 40 Riser Pipe	\$ 3.00/foot
2" PVC Schedule 40 Well Screen.....	5.00/foot
2" PVC End Caps.....	10.00/each
Gravel Pack (50 lb. Bag).....	10.00/bag
Bentonite Chips (50 lb. Bag).....	10.00/bag
2" Locking Caps.....	22.00/each
4" x 4" Stick Up Covers	100.00/each
Ballard Posts.....	50.00/each
Concrete.....	600.00/site
Padlocks	7.50/each
Volclay.....	15.00/bag

Professional Services

Senior Engineering	\$ 90.00/hour
Project Manager (Review)	60.00/hour

Miscellaneous

Monitor Well Registration (DNR).....	70.00/each
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Based on these unit costs, the following total cost estimate is provided. Total costs are based on the well depths indicated.

Per Diem	\$ 540.00
Mobilization (drill rig).....	200.00
Trip Charges (support vehicle and crews).....	180.00
Drilling	1,920.00
Monitor Well Installation	1,260.00
Materials.....	5,208.00
Monitor Well Registration (DNR).....	1,120.00
Project Manager	480.00
Tax (7.0% materials only).....	<u>364.56</u>

TOTAL: \$ 11,272.56

MID-STATE
ENGINEERING & TESTING

Proposal of Work & Costs
Monitor Well Installation
Wood River, Nebraska
February 19, 2013
Page 3 of 3

Mid-State Engineering & Testing Inc. is accredited through the AASHTO Accreditation Program in concrete, and aggregates. Inspections and proficiency tests are performed through CCRL and AMRL. Our field technicians are certified through NICET, ACI, and NDOR. Mid-State Engineering & Testing, Inc. carries a full range of general and professional liability insurance, which would be in effect for this project.

If you have any questions or need further information, please contact us at our Kearney office (308)237-0187. If this proposal of work and costs is acceptable, please return a signed copy at your convenience.

Respectfully submitted,
Mid-State Engineering & Testing, Inc.



Kevin H. Christensen, C.E.T.
Office Manager

Accepted by: _____ Date: _____

Weather Stations Quote

High Plains Regional Climate Center

New Weather Station parts list 2013

18-Feb-13

Provided by Dr. Ken Hubbard of High Plains Regional Climate Center.

NOTE: "Prices are subject to monthly change"

QUANTITY	PART NUMBER	DESCRIPTION	PRICE EACH	TOTAL PRICE
1	CR1000	datalogger	\$ 1,465.00	\$ 1,465.00
1	034B-L11	034B Met One Wind Set	\$ 638.25	\$ 638.25
1	LI200X-L11	Pyran	\$ 389.95	\$ 389.95
1	LI2003S	Pyran Base	\$ 80.00	\$ 80.00
1	CM225	Solar sensor mounting stand	\$ 25.00	\$ 25.00
1	107-L25	Temp Probe	\$ 101.25	\$ 101.25
1	HMP155A-L6	RH/Temp	\$ 689.50	\$ 689.50
1	SW12V	Relay for HMP155A	\$ 70.00	\$ 70.00
1	41005-5	RM Young 14 plate for HMP155A	\$ 200.00	\$ 200.00
1	TE525-L25	Texas tipping bucket	\$ 361.25	\$ 361.25
1	CM106	10 foot Tri-Pod	\$ 500.00	\$ 500.00
1	27117	guy wire kit	\$ 275.00	\$ 275.00
1	CM204	Sensor Crossarm	\$ 84.00	\$ 84.00
1	CM220	Sensor to Crossarm bracket	\$ 28.00	\$ 28.00
1	ENC16/18-SC-SB	ENC16/18 enclosure	\$ 338.00	\$ 338.00
1	ENC16/18-MM	ENC mounting bracket	\$ 50.00	\$ 50.00
1	PS100	Charging Reg	\$ 245.00	\$ 245.00
1	SP20R	20 Watt Regulated Solar Panel	\$ 450.00	\$ 450.00
1	SP10	10 Watt Solar Panel	\$ 195.00	\$ 195.00
1	18663	Null modem cable	\$ 3.75	\$ 3.75
1	17953	1" to 1" crossover	\$ 25.00	\$ 25.00
1	GX440	Verizon cellular IP Add modem	\$ 671.16	\$ 671.16
1	14394	Mounting kit	\$ 24.00	\$ 24.00
1	ANXFG821/18503	antenna	\$ 87.50	\$ 87.50
1	CXTA19K-2	2ft antenna cable	\$ 17.66	\$ 17.66
1	TIMA40A-15	15ft antenna cable	\$ 39.40	\$ 39.40
1	CEL395	Lighting arrester	\$ 41.41	\$ 41.41
1	Miscellaneous supplies		\$ 75.00	\$ 75.00
1	34ah Battery		\$ 80.99	\$ 80.99
4	ThetaProbes	MLX2	\$ 515.00	\$ 2,060.00
1	Winter Gage	Fabricated locally ~ \$500	\$ 500.00	\$ 500.00
1	SI-111	Apogee Infrared sensor	\$ 750.00	\$ 750.00
1	CM230	Infrared sensor mount	\$ 30.00	\$ 30.00
1	AM16/32B	Multiplexer	\$ 545.00	\$ 545.00

TOTAL (for one station)**\$ 11,136.07**

This price, \$ 11,136.07 , includes the 4 soil water sensors, a tipping bucket for summer precipitation and a Storage gage (total catch) for winter time, and an IRT sensor.

CONTACTS

Campbell Scientific Inc.
<http://www.campbellsci.com/>
 435-750-9681 for orders

Talley Inc.
www.talleycom.com
 1-800-949-7079

Dynamax, Inc.
orders@dynamax.com
 1-800-896-7108

Met One Instruments
www.metone.com
 Voice (541) 471-7111

Water Level Monitoring Equipment Quote

In-Situ, Inc.

DELIVER TO:
COMPANY: HEADWATERS CORP
PHONE: 7205246115

FROM: In-Situ Sales
E-MAIL: Sales@In-Situ.com
PHONE: (800) 446-7488
FAX: (970) 498-1598

Date: Tuesday, February 19, 2013

NUMBER OF PAGES:

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221 East Lincoln Ave., Fort Collins, Colorado 80524
Tel: 1.970.498.1500 / Fax: 1.970.498.1598 / www.in-situ.com

Sales Quote

Quote No: 90015154

Issue Date: 2/19/2013

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Quote To:

HEADWATERS CORP CO
2727 BRYANT ST
#210
DENVER, CO 80211

Ship To:

ATTN: MATT WELSH
HEADWATERS CORP CO
2727 BRYANT ST
#210
DENVER, CO 80211

Comments:

Quote No	Contact Ref	Issued By	Payment Terms	Tax / Freight	Ship Via	FOB Point	Est. Shipment ARO	
90015154	013640	JIM G. BRODERICK	NET 30 DAYS	Not Included	Best Way	Ft Collins, CO		
Ln No	DL	Product No / Product Name	UOM	Qty	Orig. Price	Quote Price	Ext. Price	
08	01	0089010 LEVEL TROLL 500, 15PSIG	EA	16.00	1,170.00	10.00% Disc	1053.00	16848.00
09	01	0052000 Rugged Twist-Lock Cable	EA	16.00	417.00	10.00% Disc	375.30	6004.80
		FT VENTED POLY CABLE		55.00				
		Qty: " 20.00						
		NO REEL 0-100'		0.00				
		RUGGED 485/232 VENTED		362.00				
10	01	SIMPLIFIEDED FREIGHT	EA	1.00	457.06		457.06	457.06
11	01	TAX,KEARNEY,NE@6.5%	EA	1.00	1,485.43		1485.43	1485.43

For further information regarding the Warranty or Terms and Conditions, please refer to our web site or contact your sales representative.
This quote is valid for 30 days.

Quote Total: 24,795.29

Thank You for Choosing In-Situ !