

Agenda Item: 11.

Memorandum

To: Pappio-Missouri River Natural Resources District Programs Projects and Operations Subcommittee

From: Paul W. Woodward, PE, Groundwater Management Engineer

Date: November 3, 2017

Re: Waterloo, NE Groundwater Elevation and Temperature Gage Joint Funding Agreement with USGS

The Board previously approved a Joint Funding Agreement (JFA) with U.S. Geological Survey (USGS) in May of 2016 to monitor and analyze groundwater levels between the Platte River streamflow gage near Leshara and the Elkhorn River streamflow gage at Waterloo. As part of that analysis, the streamflow gages along the Platte and Elkhorn River continued to be operated by USGS under separate partnerships not involving the P-MRNRD. The pre-existing groundwater elevation and temperature gages at Waterloo were also already operated under a separate JFA, but as part of the Pappio Flood Warning System JFA between USGS and the P-MRNRD.

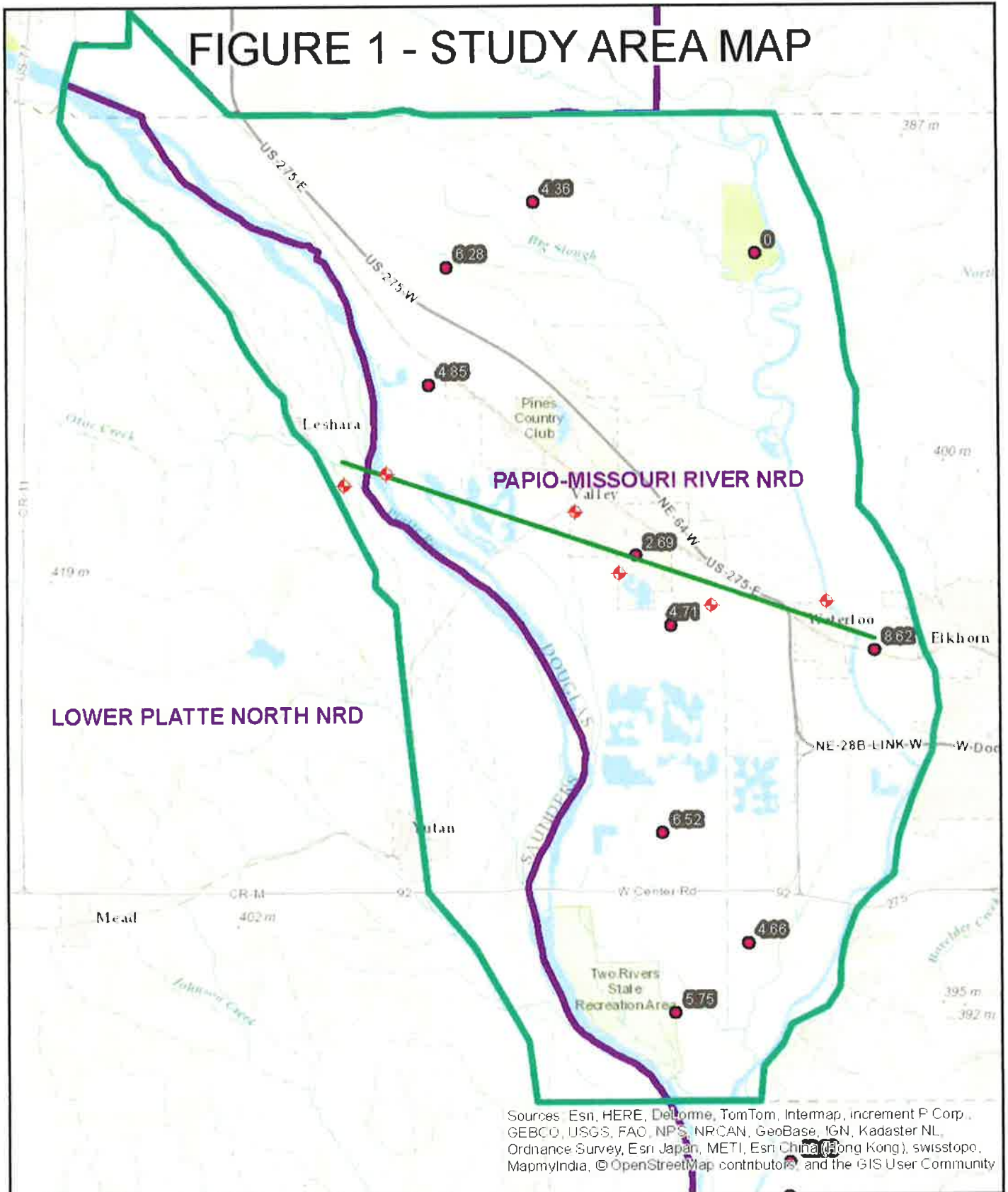
The groundwater elevation monitoring at Waterloo is part of a system of continuous groundwater level recorders across the Platte and Elkhorn River valley, see attached Figure 1. It is anticipated that analysis of groundwater elevations and gradients between the two rivers can provide a predictable relationship for streamflow gains or losses based on river level and flow.

Since the Waterloo groundwater elevation and temperature monitoring is being utilized as part of the ongoing USGS study between the two rivers, P-MRNRD staff is suggesting that the operation of the groundwater elevation and temperature gages be funded under a separate JFA until such time that they can be included as part of the overall USGS groundwater monitoring study.

The enclosed Joint Funding Agreement between the USGS and the District proposes to maintain the groundwater elevation and temperature gage until September 30, 2018. The annual cost of \$5,195 would be reduced by \$1,305 of cooperative funding from USGS, making the District's contribution \$3,890





Management recommends that the subcommittee recommend to the Board of Directors that the General Manager be authorized to execute the proposed Joint Funding Agreement with U.S. Geological Survey in the amount of \$3,890 in District Funds for operation of the Waterloo, NE groundwater elevation and temperature gage through September 2018, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

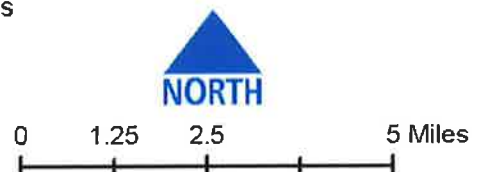
FIGURE 1 - STUDY AREA MAP



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



-  Prop Real-Time Monitoring Wells
-  Approx Profile
-  Study_Area
-  GW_levels_Spring2015





United States Department of the Interior

U.S. GEOLOGICAL SURVEY

Nebraska Water Science Center

5231 South 19th Street

Lincoln, NE 68512-1271

October 26, 2017

John Winkler
Papio-Missouri River Natural Resources District
8901 South 154 Street
Omaha, NE 68138

Dear Mr. Winkler:

Enclosed are two copies of Joint Funding Agreement No. 18EMNE000150 for the operation of one groundwater and groundwater temperature gage at Waterloo, as listed in the enclosed summary of proposed funding (Table 2). The total amount of the agreement is \$5,195 or \$1,305 for the U.S. Geological Survey and \$3,890 for the Papio-Missouri River Natural Resources District. Please sign one copy of the agreement and return it to this office as soon as possible. The second copy is for your records. Work cannot be continued until we receive the signed agreement.

Work performed with funds from this agreement will be conducted on a fixed price basis under the authority of statute 43 USC 36C. Billings will be rendered quarterly. The results of all work under this agreement will be available for publication by the U.S. Geological Survey.

For more information or any questions concerning this agreement, please contact Jason Lambrecht at 402-328-4124.

Sincerely,

Jason M. Lambrecht, Deputy Director
USGS Nebraska Water Science Center

3 Enclosures

DUNS No. 949286512

Form 9-1366
(April 2015)

**U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

JOINT FUNDING AGREEMENT

FOR

WATER RESOURCES INVESTIGATIONS

Customer #: 6000000134
 Agreement #: 18EMNE000150
 Project #: NR00GS1
 TIN #: 47-0542469
 Fixed Cost Agreement YES

THIS AGREEMENT is entered into as of the, 1st day of October, 2017 by the U.S. GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT, party of the second part.

1. The parties hereto agree that subject to availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation the operation of one groundwater and groundwater temperature gage at Waterloo, herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50; and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) includes In-Kind Services in the amount of \$0.00
 - (a) by the party of the first part during the period

Amount	Date	to	Date
\$1,305.00	October 1, 2017		September 30, 2018

 - (b) by the party of the second part during the period

Amount	Date	to	Date
\$3,890.00	October 1, 2017		September 30, 2018

 - (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of:

 Description of the USGS regional/national program:

 - (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.

 - (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

9-1366 (Continuation)

Customer #:

600000134

Agreement #:

18EMNE000150

- 7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.
- 8. The maps, records, or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records, or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program and, if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at costs, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records, or reports published by either party shall contain a statement of the cooperative relations between the parties.
- 9. USGS will issue billings utilizing Department of the Interior Bill for Collection (form DI-1040). Billing documents are to be rendered QUARTERLY. Payments of bills are due within 60 days after the billing date. If not paid by the due date, interest will be charged at the current Treasury rate for each 30 day period, or portion thereof, that the payment is delayed beyond the due date. (31 USC 3717; Comptroller General File B-212222, August 23, 1983).

**U.S. Geological Survey
United States
Department of the Interior**

Papio-Missouri River Natural Resources District

USGS Point of Contact

Customer Point of Contact

Name: Jason Lambrecht
Address: 5231 South 19 St Lincoln, NE 68512
Telephone: 402-328-4124
Email: jmlambre@usgs.gov

Name: Marlin Petermann
Address: 8901 South 154 St, Omaha NE 68138
Telephone: 402-444-6222
Email: mpetermann@papiord.org

Signatures and Date

Signature:



10/26/17

Date:

Signature:

Date:

Name: Jason M. Lambrecht

Name:

Title: NEWSC Deputy Director

Title:

Table 2. Summary of proposed funding for operation of one groundwater gage supported by the Papio-Missouri River Natural Resources District and other partners for period October 1, 2017 -- September 30, 2018.

[CR, continuous-record; CMF, USGS, Cooperative matching funds; PMR NRD, Papio-Missouri River Natural Resources District; USGS, U.S. Geological Survey; WL, Water Level; WT, Water Temperature]

USGS Station number	Station name	Supported Since Water Year	USGS			Total	Gage type(s)
			CMF	PMR NRD	GWSIP		
411736096170201	015N 10E 3CDDA1 Waterloo groundwater gage	2015	\$1,305	\$3,890		\$5,195	CR - 12 month: WL, WT
Funding partner totals			\$1,305	\$3,890	\$0	\$5,195	