

Memorandum

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

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

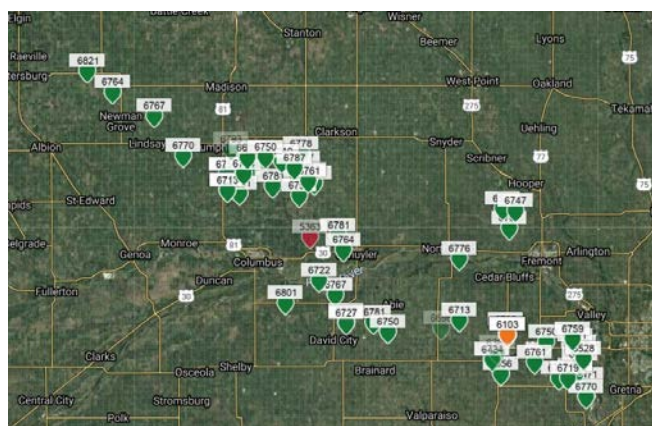
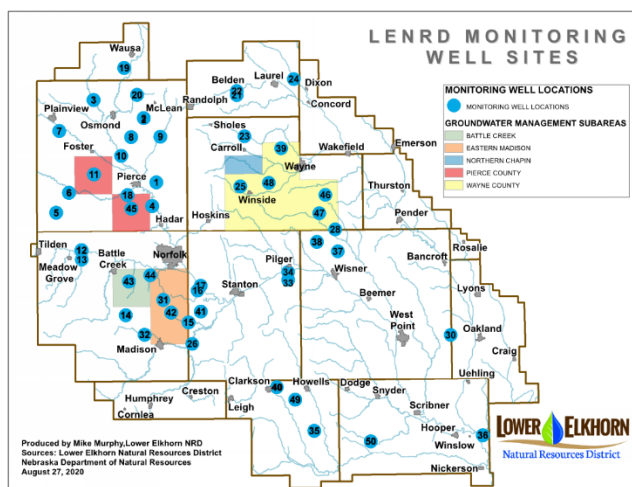
Date: June 30, 2021

Re: Groundwater Level Monitoring Sites Joint Funding Agreement with USGS and Amendment to Interlocal Agreement with Lower Platte North NRD

The District currently cooperates with USGS and Lower Platte North NRD (LPNNRD) to maintain six groundwater level monitoring sites between Leshara and Waterloo, NE. The purpose of these sites between the Platte and Elkhorn River is to gain a better understanding of the interaction between the Platte River, the Elkhorn River, and the alluvial aquifer between them. The annual maintenance costs for these 6 monitoring sites is \$10,840 to the PMRNRD and \$2,200 to LPNNRD, the USGS contributes \$4,350 (or 25%). This long-term monitoring follows a 3-year USGS study and is detailed in their [published report](#).

Continuous groundwater level monitoring is becoming increasingly important to better understanding our groundwater resources. Currently, most groundwater levels taken by the District are only measured twice a year in spring and fall. A complete and continuous record of groundwater levels is similar to readings from a stream gage, as two points during an entire year really doesn't tell you much about changes that occurred during different seasons. This is especially true for increased groundwater use by wells in the summer and the seasonality of groundwater recharge.

Many nearby NRDs are investing in continuous groundwater level monitoring to help improve their data for groundwater modeling and support their decisions as part of their Groundwater Management Plan requirements. The Lower Elkhorn NRD has 50 dedicated monitoring wells with pressure transducers, recorders and telemetry, see map below. Many have found that telemetry is important to know that gages are always working properly. The LPNNRD now has 46 continuous groundwater level recording sites with telemetry, see map below.



There is additional need within our NRD to expand our continuous groundwater monitoring sites between the Platte and Elkhorn Rivers. This expansion would focus on having a cross section of monitoring sites that extends north to south, from Arlington to the Linoma beach area. The location of these proposed nine additional monitoring sites as well as the six existing groundwater monitoring sites is shown in Figure 1 attached.

USGS has provided an outline of the costs necessary to add and maintain these additional nine groundwater monitoring sites through October of 2022. One of these nine sites is in the LPNNRD and would be cost-shared through an amended interlocal agreement with them. These include one-time costs needed to purchase the monitoring equipment as detailed in the table below.

	Equipment (one time cost)	Maintenance thru FY 22	FY 22 TOTAL (for 9 additional sites)	Maintenance after FY 22 (15 sites, incl 6 existing sites)
P-MRNRD	\$36,574.48	\$14,834.41	\$51,408.89	\$28,275
LPNNRD	\$4,571.81	\$1,854.30	\$6,426.11	\$4,350
USGS	\$23,203.71	\$9,411.29	\$32,615	\$10,875
TOTAL	\$64,350	\$26,100	\$90,450	\$43,500

A Joint Funding Agreement between the USGS and the District has been prepared to have the USGS install and operate nine additional groundwater monitoring sites and is attached. The duration of the agreement is for one year, from Oct. 1, 2021 to Sept. 30, 2022. The total cost to the District for equipment and maintenance of these sites in the first year is \$57,835, of which \$6,426.11 will be reimbursed by the LPNNRD through an amendment to the current Interlocal Agreement.

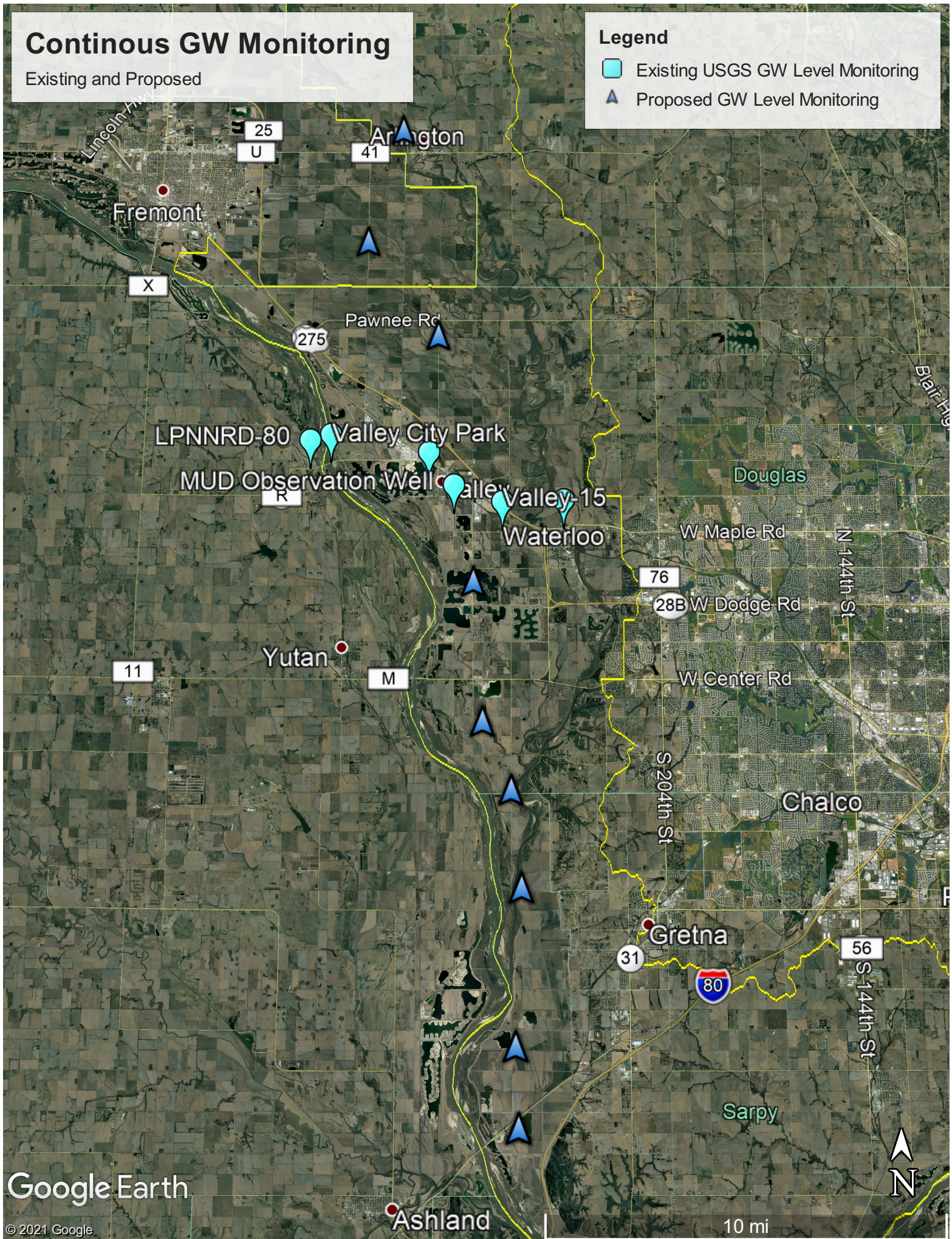
Staff recommends that the subcommittee recommend to the Board of Directors that the General Manager be authorized to execute a Joint Funding Agreement with U.S. Geological Survey for a total cost to the District of \$57,835 for the addition of continuous groundwater monitoring sites in the Platte and Elkhorn River valley, and furthermore that the General Manager be authorized to execute an amendment to the Groundwater Monitoring Interlocal Agreement with the Lower Platte North NRD for reimbursement of \$6,426.11 of such total cost, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

Continous GW Monitoring

Existing and Proposed

Legend

- Existing USGS GW Level Monitoring
- Proposed GW Level Monitoring





United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Nebraska Water Science Center
5231 South 19th Street
Lincoln, NE 68512-1271

June 24, 2021

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. 21NRJFA00310 for the purchase of monitoring and telemetry equipment in September 2021 and the operation of nine real-time groundwater gages for Oct 1, 2021 to Sep 30, 2022. The total amount of the agreement is \$90,450 or \$32,615 for the U.S. Geological Survey and \$57,835 for the Papio-Missouri River Natural Resources District. Please sign one copy of the agreement and return it via email to aflynn@usgs.gov as soon as possible. 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,

Steve Peterson, Director
USGS Nebraska Water Science Center

3 Enclosures

DUNS No. 949286512

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 600000134
Agreement #: 21NRJFA00310
Project #: NR00GS1
TIN #: 47-0542469

Fixed Cost Agreement YES[X] NO[]

THIS AGREEMENT is entered into as of September 1, 2021, by the U.S. GEOLOGICAL SURVEY, Nebraska Water Science Center, 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 the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation **the purchase of monitoring and telemetry equipment in September 2021 and the operation of nine real-time groundwater gages for Oct 1, 2021 to Sep 30, 2022**, 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) include In-Kind-Services in the amount of \$0.00

- (a) \$32,615 by the party of the first part during the period
September 1, 2021 to September 30, 2022
- (b) \$57,835 by the party of the second part during the period
September 1, 2021 to September 30, 2022
- (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: \$0

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.

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 cost, 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. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website <https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices> (<https://www2.usgs.gov/fsp/>).

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR

Customer #: 6000000134
Agreement #: 21NRJFA00080
Project #: NR00GS1
TIN #: 47-0542469

Water Resource Investigations

9. Billing for this agreement will be rendered quarterly. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

USGS Technical Point of Contact

Name: Jason Lambrecht
Hydrologic Data Section Chief
Address: 5231 South 19th
Lincoln, NE 68512
Telephone: (402) 328-4124
Fax: (402) 328-4101
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Customer Technical Point of Contact

Name: Marlin Petermann
Assistant General Manager
Address: 8901 South 154th St.
Omaha, NE 68138
Telephone: (402) 444-6222
Fax:
Email: mpetermann@papionrd.org

USGS Billing Point of Contact

Name: Amanda Flynn
Budget Analyst
Address: 5231 South 19th
Lincoln, NE 68512
Telephone: (402) 328-4144
Fax: (402) 328-4101
Email: afflynn@usgs.gov

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Fax:
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U.S. Geological Survey
United States
Department of Interior

Papio-Missouri River Natural Resources District

Signature

By _____ Date:

Name: Steven M. Peterson

Title: Director

Signatures

By _____ Date: _____

Name:

Title:

By _____ Date: _____

Name:

Title:

By _____ Date: _____

Name:

Title: