

Agenda Item:8.

Memorandum

To: Programs, Projects and Operations Subcommittee
From: Amanda Grint, Water Resources Engineer
Date: November 3, 2011
Re: Contract with USGS to maintain and monitor floodwarning system

In 1993, the District worked with the US Army Corps of Engineers (USACE) to install a flood warning system for the Papillion Creek Watershed. The system currently consists of 22 gage stations, 5 of which report rain data and the remaining 17 report rain and stream stage data. The attached map shows the location of the gages. The data is reported real time and is available to the public through the National Weather Service web site. This system has been maintained through a contract with Aquatracker since its installation and an agreement is in place with Douglas County, Sarpy County, Washington County and the City of Omaha to share the cost of the system.

In May 2011, the Board approved updated equipment in order to provide a more reliable and up to date floodwarning system. It was planned for District staff to take over the maintenance of these new sites however, the system is complex and it has become obvious that the maintenance needs to be provided by a dedicated individual or entity in order to provide the level of service that the floodwarning system should provide not only to the District but also to the National Weather Service, the District's partners and the engineers who use the information for modeling.

The USGS currently produces data and real time readings for four Papiio Creek gages and 1 along Omaha Creek near Homer, NE. USGS produces rating curves for each of these sites which allow discharge data to be collected real time along with stage and precipitation.

The District and USGS held discussions this summer and fall regarding the possibility of the USGS taking over the maintenance of the sites as well as providing the more detailed data for all of our stage/precipitation sites. Attached is a proposal from USGS to take over the monitoring and reporting of the Papiio Creek floodwarning system. The proposal includes 9 sites that will have real time stage/discharge/precipitation data, 8 sites with real time stage/precipitation data and survey work and measurements to develop rating curves and 5 precipitation only gages. The USGS will cost share at the rates outlined in the proposal and will look to increase their cost share funds in years to come.

This data will be collected and published by USGS and made available for public through the National Weather Service website. The new equipment will update the floodwarning system but the partnership with the USGS will improve the data and update the way it is made available to the public.


The current partners in the floodwarning system, Douglas County, Sarpy County, Washington County, and the City of Omaha will be asked to help share in this increased cost.

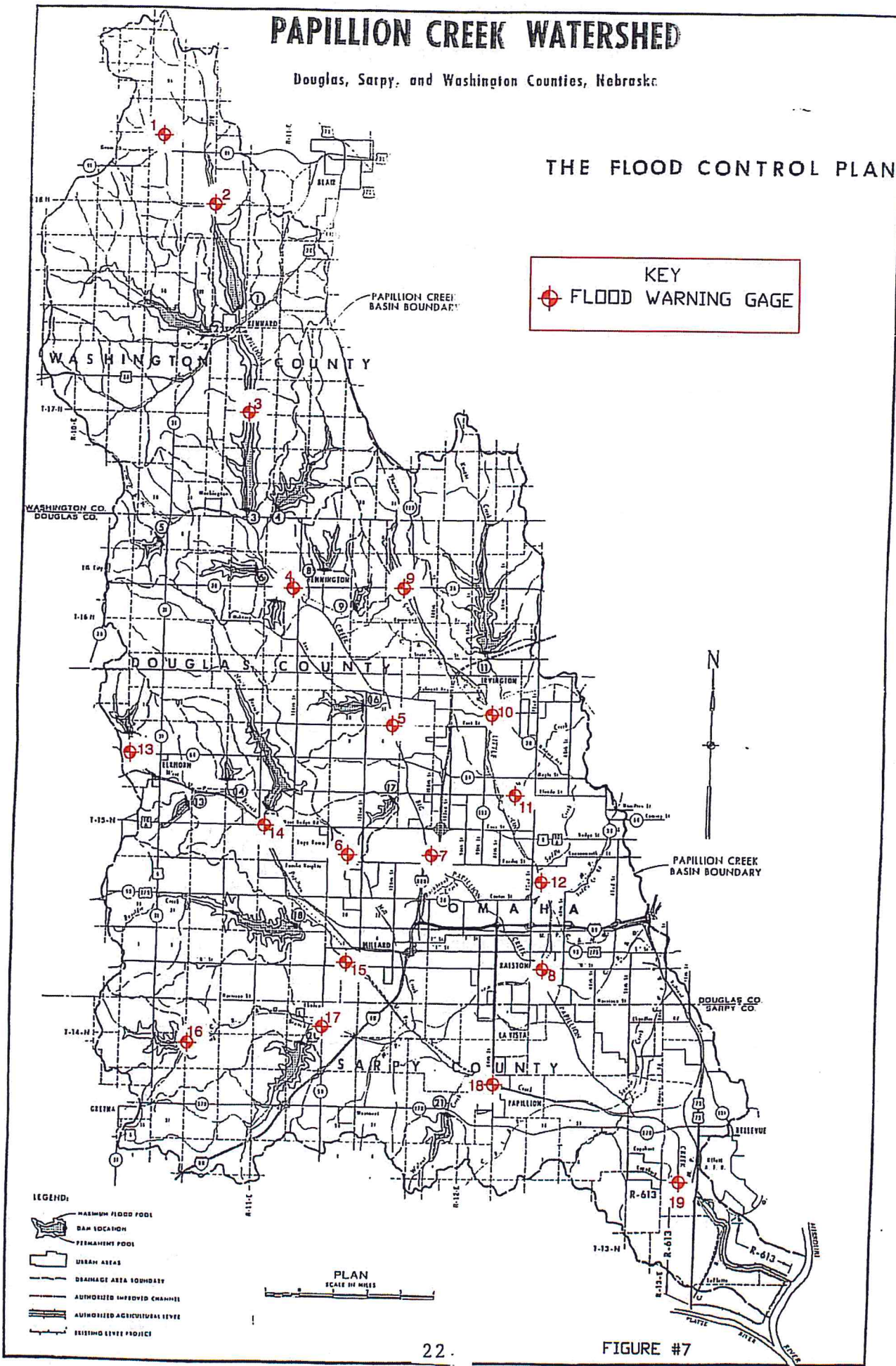
Management recommends that the Subcommittee recommend to the Board that the General Manager be authorized to execute the proposed Joint Funding Agreement with the USGS in the amount of \$144,500.00 for the operation of the District's floodwarning gaging system.

PAPILLION CREEK WATERSHED

Douglas, Sarpy, and Washington Counties, Nebraska

THE FLOOD CONTROL PLAN

KEY
 FLOOD WARNING GAGE





United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Water Resources Discipline
Nebraska Water Science Center
5231 South 19th Street
Lincoln, NE 68512-1271

October 27, 2011

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

OCT 31 2011

John
Dear Mr. ~~Winkler~~:

Enclosed are two copies of Joint Funding Agreement No. 12EMNE000210 for the operation of one streamgage at Omaha Creek at Homer and 22 gages (9 stage/discharge/precipitation, 8 stage/precipitation/rating development, and 5 rain-only) in the Papillion Creek watershed as listed in the enclosed summary of proposed funding. The total amount of the agreement for Cooperative Water program funding is \$144,500 or \$29,550 for the U.S. Geological Survey and \$114,950 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.

Please contact Jason Lambrecht at 402-328-4124 if you have any questions concerning this agreement.

Sincerely,

Robert B. Swanson, Director
USGS Nebraska Water Science Center

3 Enclosures

DUNS No. 949286512

Form 9-1366
(Oct. 2005)

**U.S. Department of the
Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
WATER RESOURCES INVESTIGATIONS**

Customer #:	6000000134
Agreement #:	12EMNE000210
Project #:	NR009R9
TIN #:	47-0542469
Fixed Cost Agreement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

THIS AGREEMENT is entered into as of the 1st day of October 2011, 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 streamgage at Omaha Creek at Homer and 22 gages (9 stage/discharge/precipitation, 8 stage/precipitation/rating development, and 5 rain-only) in the Papillion Creek watershed**, 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.

(a) \$29,550 by the party of the first part during the period
October 1, 2011 to September 30, 2012

(b) \$114,950 by the party of the second part during the period
October 1, 2011 to September 30, 2012

- (c) 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.
 - (d) 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.

Form 9-1366
continued

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

Customer #: 600000134
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- 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@papiionrd.org

Signatures

Signatures

By Robert B. Swanson Date 10/22/11
Name: Robert B. Swanson
Title: NWSC Director

By _____ Date _____
Name:
Title:

By _____ Date _____
Name:
Title:

By _____ Date _____
Name:
Title:

Table 1. Summary of proposed funding for operation of stream gaging stations supported by the Papio-Missouri River Natural Resources District and other partners for period October 1, 2011 -- September 30, 2012.

[CR, continuous-record; SR, seasonal-record (Mar. 1-Oct. 31); CSG, crest-stage gage; CWP, Cooperative Water Program; PMR NRD, Papio-Missouri River Natural Resources District; RT, real-time (satellite telemetry); USGS, U.S. Geological Survey; Q, Discharge; ST, Stage; PR, Rain; RD, Stage-Discharge Rating Development]

USGS Station number	Station name	USGS CWP	PMR NRD	Total	Gage type(s)	Data to be published	NRD Site Number
06601000	Omaha Creek at Homer	\$6,975	\$8,025	\$15,000	RT CR - 12 month: Q, ST	Annual daily Q and ST for Oct. 1-Sept. 30.	
	Orum 2 NE Rain Gage	\$225	\$1,275	\$1,500	RT SR - 8 month (Mar. 1 - Oct. 31): PR	Precipitation data collected, not published.	1
	Big Papillion Creek near Blair	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	2
	Big Papillion Creek near Kennard	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	3
06610720	Big Papillion Creek near Bennington	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	4
06610732	Big Papillion Creek at Fort Street, Omaha	\$4,650	\$5,350	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	5
	Boys Town Rain Gage	\$225	\$1,275	\$1,500	RT SR - 8 month (Mar. 1 - Oct. 31): PR	Precipitation data collected, not published.	6
	Big Papillion Creek at Pacific St at Omaha	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	7
	Thomas Creek near Bennington	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	9
06610750	Little Papillion Creek at Irvington	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	10
	Cole Creek at Blondo Street at Omaha	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	11
06610765	Little Papillion Creek at Ak-Sar-Ben, Omaha	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	12
06610770	Big Papillion Creek at Q Street, Omaha	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	8
	W Br Papillion Creek at Hwy 64 at Elkhorn	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	13
	West Papillion Creek at Dodge St	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	14
06610785	West Branch Papillion Creek at Millard	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	15
	South Papillion Creek near Gretna	\$600	\$3,400	\$4,000	RT SR - 8 month (Mar. 1 - Oct. 31): ST, PR, RD	ST for Mar. 1 - Oct. 31. Rain data collected, not published. Three measurements of discharge for rating development.	16
06610788	South Papillion Creek at Chalco	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	17
06610793	(West) Papillion Creek at Papillion	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	18
06610795	Papillion Creek at Fort Crook	\$1,500	\$8,500	\$10,000	RT SR - 8 month (Mar. 1 - Oct. 31): Q, ST, PR	Daily Q and ST for Mar. 1 - Oct. 31. Rain data collected, not published.	19
	Hitchcock Park Rain Gage	\$225	\$1,275	\$1,500	RT SR - 8 month (Mar. 1 - Oct. 31): PR	Precipitation data collected, not published.	20
	City Vehicle Maintenance rain gage	\$225	\$1,275	\$1,500	RT SR - 8 month (Mar. 1 - Oct. 31): PR	Precipitation data collected, not published.	21
	Fire Station Rain Gage	\$225	\$1,275	\$1,500	RT SR - 8 month (Mar. 1 - Oct. 31): PR	Precipitation data collected, not published.	22
Funding partner totals		\$29,550	\$114,950	\$144,500			

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Signatures

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By Robert B. Swanson Date 10/27/11
Name: Robert B. Swanson
Title: NWSC Director

By _____ Date _____
Name: _____
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Name: _____
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