

Memorandum

To: Papio-Missouri River Natural Resources District Programs Projects and Operations Subcommittee
From: Paul W. Woodward, PE, Groundwater Management Engineer
Date: September 2, 2021
Re: Interlocal Agreement with City of Fremont, Dodge County, and LPNNRD for Platte River Cameras and Sensors

Following the March 2019 flood event, local NRDs, emergency managers, and City staff have been interested in deploying camera systems and sensors at key locations along the Platte River to directly observe what is happening during potential ice jam and flooding situations. In July 2020, the PMRNRD Board previously approved an Interlocal Agreement with the City of Fremont, Dodge County and Lower Platte North NRD for cost-share, assuming that a FEMA Hazard Mitigation Grant for up to \$20,250 would be approved and could be applied toward the cost of the cameras and sensors.

After careful consideration of several different camera systems and options, the group has decided to recommend having the USGS install five cameras (see attached map) and two new stream gages. The reasons for this recommendation over other camera system options is:

- All private camera vendors use cellular service which is subject to changes and outages and can require full replacement of the hardware to keep them in operation. This can lead to extensive downtime. The USGS uses all satellite communication and has full control over this system.
- Most other options and private vendors would have required that NRD staff fully operate and maintain the camera and stream gage sites. This would have been an extensive requirement of staff time and expertise and may have resulted in significant downtime to repair or replace broken equipment. USGS will handle all operation and maintenance requirements and has redundant equipment.
- The USGS provides full website access and will customize image loops for each camera site, allowing all users easy access and observation. Other options either required significant annual payments to maintain website data or did not provide this service which meant the NRDs would have to develop their own website to host it.

The FEMA grant was approved for this project, however, the funds cannot be utilized to directly pay another federal agency. In response, the partners have suggested splitting the USGS equipment cost and annual O&M costs as follows:

	Year 1 Equipment Cost	Year 1 O&M Cost	Year 2 O&M Cost	Year 3 O&M Cost	TOTAL
PMRNRD	\$ 18,630	\$ 5,044	\$ 5,044	\$ 5,044	\$ 33,762
LPNNRD	\$ 6,750	\$ 5,044	\$ 5,044	\$ 5,044	\$ 21,882
Fremont	\$ 6,750	\$ 5,044	\$ 5,044	\$ 5,044	\$ 21,882
Dodge Co	\$ 6,750	\$ 5,044	\$ 5,044	\$ 5,044	\$ 21,882
TOTAL	\$ 38,880	\$ 20,175	\$ 20,175	\$ 20,175	\$ 99,405


A new Interlocal Agreement which reflects this arrangement is attached for your consideration. This new ILA would replace the original agreement.

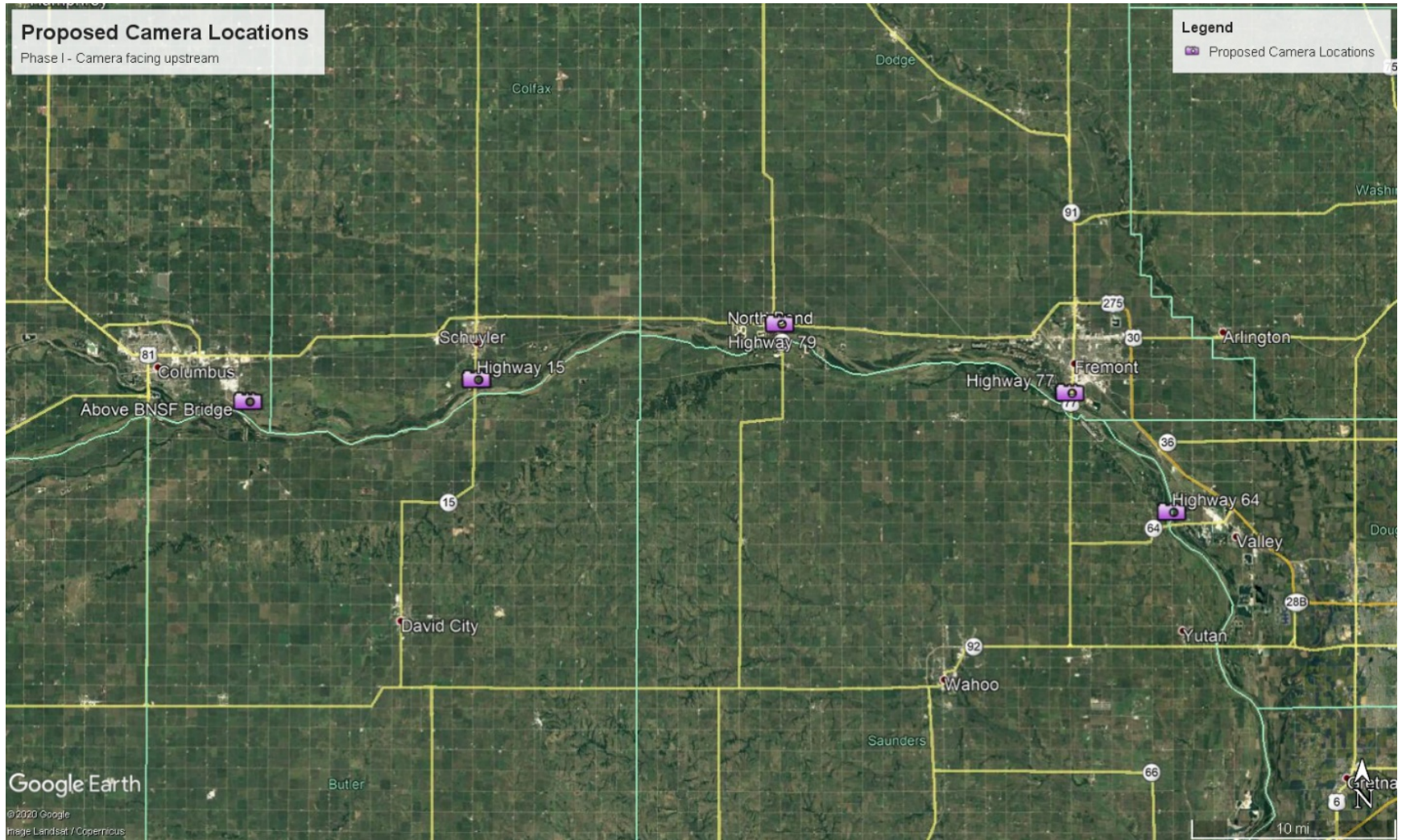
Management recommends that the Subcommittee recommend to the Board of Directors that the General Manager be authorized to provide written notice of termination of the original Interlocal Agreement effective July 15, 2020 and execute the proposed Interlocal Agreement with the City of Fremont, Dodge County, and Lower Platte North NRD for the Platte River Cameras and Sensors project, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

Proposed Camera Locations

Phase I - Camera facing upstream

Legend

 Proposed Camera Locations



**INTERLOCAL COOPERATION ACT AGREEMENT
PLATTE RIVER CAMERAS/SENSORS
FOR
LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT
PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT
DODGE COUNTY
AND
CITY OF FREMONT**

This Agreement (hereinafter named “Agreement”) is made by and among the following Parties (all are political subdivisions of the State of Nebraska):

Lower Platte North Natural Resources District (LPNNRD)
Papio-Missouri River Natural Resources District (PMRNRD)
Dodge County (County)
City of Fremont (CITY)

The parties hereinafter being referred to individually as “Partner” and collectively as “Partners”.

WHEREAS:

Flooding and resulting damages from winter ice jams and seasonal rainstorms frequently occur along the Lower Platte River corridor.

The Partners work closely with the National Weather Service, the Nebraska Emergency Management Agency and the Nebraska Department of Natural Resources to monitor winter ice/ice-out and flood stage conditions along the Lower Platte River corridor and take necessary actions to alert the public of resulting flood hazards.

The Partners desire to increase awareness of potential flood threats due to winter ice/ice-out conditions and other significant seasonal rainstorm events, by establishing cameras and additional water monitoring sensors at mutually agreed upon locations along the Lower Platte River corridor.

The Partners desire to enter into an Interlocal Agreement for sharing costs associated with purchasing and placing cameras, additional water monitoring sensors and other supporting equipment, for placement along the Lower Platte River corridor and for the future operation and maintenance of that equipment.

THEREFORE, in consideration of the foregoing recitals and their mutual covenants hereinafter expressed, the Partners agree as follows:

1. Authority:

The Partners desire to work together for purchasing and establishing cameras and water monitoring sensors and supporting equipment, at mutually agreed upon Lower Platte River locations and to make the most efficient use of their respective powers by cooperating on a basis of mutual advantage under the auspices of the Interlocal Cooperation Act (Neb. Rev. Stat. §§ 13-801 to 13-827). In furtherance of this cooperative effort the Parties desire to enter into this Interlocal Agreement with one another for joint and cooperative action for any power or powers, privileges or authorities exercised or capable of exercise individually by them as public agencies under the Interlocal Cooperation Act.

2. Funding for Cameras, Water Sensors & Supporting Equipment Purchase:

The Partners agree to provide maximum assistance toward the local cost for up to five (5) cameras, two (2) water sensors and other supporting equipment as follows:

PMRNRD:	\$18,630
LPNNRD:	\$6,750
City of Fremont:	\$6,750
Dodge County:	<u>\$6,750</u>
Total Equipment Expense:	\$38,880

3. Cameras/Sensors Operation and Maintenance Expenses:

The Partners agree to equally share on-going camera/water sensor equipment operation and maintenance expenses for three years, not to exceed an annual average total cost of \$20,175 total cost (\$5,044 annual maximum average cost for each Partner).

4. Authorized Partner for Entering into USGS Agreement/Billings:

The Partners agree that LPNNRD will enter into a three-year agreement with USGS for purchasing up to five cameras, two water sensors and for operation, maintenance. LPNNRD will bill each Partner for their share annually.

5. Effective Date:

This Agreement becomes effective upon execution by all Partners. The original copy of this Agreement will be maintained as part of the records of LPNNRD, with a copy being provided to each of the Partners. The Agreement may be signed in counterparts, as necessary.

6. Duration of Agreement:

This Agreement shall extend from the date of execution by all Partners and will remain in effect until September 30, 2024, unless mutually or individually terminated by one or more of the Partners upon an advance 90 day written notice.

7. Amendments and Addendums of Agreement:

This Agreement may be amended, or Addendums added, subject to written approval by all Partners.

8. Indemnification:

The Partners assume no liability under this Agreement unless expressly accepted herein. Each party agrees to defend the other from and against all liabilities, obligations, losses, damages, claims, and demands arising from the acts of its respective officers, agents, or employees.

IN WITNESS WHEREOF, each Partner has caused this Agreement to be executed by its duly authorized officer as of the date and year.

Lower Platte North Natural Resources District

By: _____
Board Chairperson

Date: _____

Papio-Missouri River Natural Resources District

By: _____
John Winkler, General Manager

Date: _____

Dodge County

By: _____
Chairman, Board of Supervisors

Date: _____

City of Fremont

By: _____

Date: _____

Table 1. Summary of proposed funding for the period October 1, 2021 -- September 30, 2024 for the equipment purchase (one-time cost) and operation of stage-only streamgages and gage cameras, supported by the City of Fremont, Dodge County, Lower Platte North NRD, and Papio-Missouri River NRD (herein referred to as Cooperator).

[CMF=USGS, Cooperative matching funds; Cooperator=City of Fremont, Dodge County, Lower Platte North NRD, and Papio-Missouri River NRD; USGS=U.S. Geological Survey]

Station number	Station name	Station funding		
		USGS CMF for Cooperator	Cooperator	Total funding
Stage-Only Streamgages				
06794700	Platte River nr Schuyler, Nebr.	\$4,940	\$14,905	\$19,845
06796450	Platte River at Fremont, Nebr.	\$4,940	\$14,905	\$19,845
	Equipment cost (one-time cost, no install cost)	\$0	\$19,800	\$19,800
	Subtotal	\$9,880	\$49,610	\$59,490
Platte River Cameras				
*	Camera operations & web-maintenance	\$10,185	\$30,715	\$40,900
*	Equipment cost & Installation (one-time cost)	\$6,375	\$19,080	\$25,455
	Subtotal	\$16,560	\$49,795	\$66,355
	Funding partner totals	\$26,440	\$99,405	\$125,845

* Cameras at 5 streamgage locations:

- 1) 06794700 Platte River nr Schuyler, and stage-only streamgage
- 2) 06796000 Platte River at North Bend
- 3) 06796450 Platte River at Fremont, and stage-only streamgage
- 4) 06796500 Platte River at Leshara
- 5) Unknown Platte River bridge location

TOTAL ANNUAL COSTS:

		FY 2022	FY 2023	FY 2024	Total
Cameras	Camera operations & web-maintenance (5 gages)	\$13,470	\$13,610	\$13,820	\$40,900
	Equipment cost & Installation (one-time cost)	\$25,455			\$25,455
Stage	Stage-Only streamgage (2 gages)	\$13,060	\$13,210	\$13,420	\$39,690
	Equipment cost (one-time cost, no install cost)	\$19,800			\$19,800
		\$71,785	\$26,820	\$27,240	\$125,845

COOPERATOR ANNUAL COSTS:

		FY 2022	FY 2023	FY 2024	Total
Cameras	Camera operations & web-maintenance (5 gages)	\$10,120	\$10,260	\$10,335	\$30,715
	Equipment cost & Installation (one-time cost)	\$19,080			\$19,080
Stage	Stage-Only streamgage (2 gages)	\$9,800	\$9,950	\$10,060	\$29,810
	Equipment cost (one-time cost, no install cost)	\$19,800			\$19,800
		\$58,800	\$20,210	\$20,395	\$99,405

ASSUMPTIONS:

- 1) Stage-only gages will be radar stage sensors and wire-weight reference gages mounted on the upstream side of bridges. Radar stage sensor may be affected by channel ice during winter periods, and data during this affected timeframe might be unusable. Telemetry will be via satellite. Data will be archived and available on USGS NWIS web.
- 2) Camera installations will be on the upstream side of bridges. Telemetry will be via modem. Photos will be archived internally at the USGS Nebraska Water Science Center, and will be available on USGS NWIS web.