Projects Committee Meeting
Thursday, June 3, 2021 7:30 AM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS
   No unfinished business to address.
2. SWCP

   A. SWCP Application Approvals
      None.
   B. SWCP Payments
      Below are two completed tree plantings ready for payment:

C.	APPROVED TREE PLANTING:			D.			
E.		F.		G.	LEE SEEMAN	H.	$ 1,860.00
I.		J.		K.	BRUCE WILLIAMS	L.	$ 820.00

   M. SWCP Cancellations
      None.
   N. Wahoo Creek Cost Share Approvals
      We received two applications for septic system upgrades within our Wahoo Creek Watershed water quality area.

O.	KENNETH SOUSEK	P.	$4,800.00
Q.	RON SABATKA	R.	$4,800.00

3. WATERSHEDS

   A. Shell Creek

      1. Shell Creek Environmental Enhancement Plan Implementation
         Attached is JEO's $6,603.50 Invoice for updating our Shell Creek Watershed Quality Management Plan. After this payment, $25,025.50 will remain under our $31,630 contract.
         a. Shell Creek Grant Funding Update
            Attached is the signed amendment to our Shell Creek 319 grant agreement awarding us an additional $226,000 of EPA 319 funds for use in the Shell Creek Watershed. This has been reported to the Board that these additional funds and amendment would be coming. General Manager Gottschalk signed the addendum electronically.

b. SHELL CREEK SEPTIC SYSTEM UPGRADE APPLICATION
We received two new applications for a septic system upgrade within the Shell Creek watershed:

c. GLEN THEIDEN

d. $4,800.00

e. TERRY HELMER

f. $4,800.00

g. SHELL CREEK PROJECTS PAYMENT
The Klug buffer strip has been seeded and certified. The original approval was for $3,456.48. The actual cost came in less than estimated; the 75% cost-share amount is $1452.26.

h. REECE/BEAU KLUG

i. $ 1,452.26

j. FILTER STRIP SEEDING

B. Wahoo Creek Watershed

1. Wahoo Creek Dam Site Planning Update & FYRA Invoices - 8:00 a.m.
A Zoom meeting with several LPNNRD, NRCS and FYRA representatives was held on May 26, to discuss options for completing the Wahoo Creek Watershed Plan and staying on our funding schedules with NRCS. The primary topic was whether or not to include Dam Site 83 in the plan (where several cultural resource findings have been discovered) or remove it to expedite completing the plan. Allen Gerhing, NRCS State Engineer, said while it initially seemed better to leave Site 83 in the plan, after further review, it now appears best to remove the site from the plan and finish it with the ten remaining dam sites. Leaving Site 83 in the plan will likely delay completing it for several months for review and consultation with the Omaha and Pawnee Indian Tribes and the State Historical Society. Even after several months of working on a desired Memorandum of Understanding for mitigating archeological findings, it appears challenging that a final solution could be found to continue with the site. In addition, the required further investigation (which would likely discover more findings) and increased mitigation costs are estimated to be in hundreds of thousands in additional expenses. All the investigation and mitigation expenses would be entirely LPNNRD's responsibility.

Removing Site 83 from the watershed plan will require FYRA to do additional work that is not in their current scope of work. A contact amendment with FYRA and a funding reimbursement amendment with NRCS would be needed to proceed with this option. This additional work on the plan will take FYRA an estimated two months to finish and submit it to NRCS for their review. Janel Kaufmam, FYRA, discussed (Zoom) the proposed additional scope of work and cost ($22,305) for the contract amendment, as attached. Allen Gehring, NRCS, discussed (Zoom) our agreement with them to reimburse us for the additional expense.

Allen Gerhing, NRCS, and FYRA have been asked to attend our June 3rd Projects Committee Meeting and our June 14th Board meeting. **The Board will**

be asked to consider approval of FYRA's contract amendment ($22,305) and to approve and authorize chairman to sign the NRCS amendment for reimbursement for the amount of $22,305 to be presented at the June 14th meeting.

2. Olsson Design Update and Invoice
   Olsson is on hold from proceeding with their contract work until the Wahoo Creek Watershed Plan is approved by NRCS.
3. Wahoo Creek Watershed Water Quality Plan Phase II
   Attached is JEO's $756.00 invoice for updating our Shell Creek Watershed Quality Management Plan. After this payment, $25,026.50 will remain under our $31,630 contract. Also included is JEO's draft plan undate for review.

4. JOINT WATER MANAGEMENT ADVISORY BOARD
   Below is Dodge County Emergency Manager Tom Smith's status summary of the various Dodge County projects that are moving forward in both LPNNRD and LENRD as shown below.

5. Core Strategy	6. Projects	7. Project Sponsor/Applicant	8. Federal Funding
14. 1. Non-Structural Planning	15. 1.1 Rawhide Creek Watershed Plan-EA	16. Dodge County	17. NRCS-EWP
	22. 1.2 LPNNRD Multi-jurisdictional Hazard Mitigation Plan	23. LPNNRD	24. FEMA Mitigation
	29. 1.2 LENRD Multi-jurisdictional Hazard Mitigation Plan	30. LENRD	31. FEMA Mitigation
	36. 1.3 LENRD Maple Creek Watershed Plan-EA	37. LENRD	38. NRCS-EWP
43. 2. Structural-New Projects Structure	44. 2.1 Elkhorn Township/East Fremont	45. Dodge County	46. FEMA Mitigation-
	51. 2.2 Platte Township/West Fremont	52. Dodge County	53. FEMA Mitigation-
58. 3. Structural-Existing	59. 3.1 North Bend Cutoff Ditch	60. North Bend Drainage Ditch-Dodge County	61. FEMA Mitigation-
	66. 3.2 Rod and Gun Club-Breach Lake	67. Dodge County	68. CDBG-EM
	73. 3.3 North Bend Levee	74. LPNNRD	75. FEMA 4420 428 P
	80. 3.4 City of Fremont, Railroad, Farmland Levee	81. City of Fremont	82. FEMA 4420 428 I CDBG-EM
87. 4. Structural-Individual Flood Proofing	88. 4.1 Dodge County Elevations	89. Dodge County	90. FEMA Mitigation-
	95. 4.2 Fremont Elevations-FEMA	96. City of Fremont	97. FEMA Mitigation-
	102. 4.3 Fremont Flood Proofing-USACE	103. City of Fremont	104. USACE-2

	109. 4.4 Winslow Acquisitions	110. Village of Winslow	111. FEMA M program
116. 5. Non-Structural-Warning Systems	117. 5.1 Platte River Monitoring	118. Dodge County	119. FEMA M program
	124. 5.2 Fremont Sirens-Silver Jackets	125. City of Fremont	126. Not Dete

A. Platte River Breach Repair Project (Rod and Gun Club)

1. Platte River Breach Repair Project Bid Award Update
   The bid opening for the Platte River Breach Repair Project (Fremont Rod & Gun Club) was held on May 12, 2021. There were four bidders (attached) with Yost Excavation, Inc. (Nebraska City) submitting the low bid of $597,323.50. The engineer's estimate was $728,000. It is anticipated that Dodge County will approve Yost's bid. LPNNRD has committed up to a maximum of $50,000 toward the project.
2. Platte River Breach Repair Project (Rod and Gun Club) O&M Agreement
   Attached is the proposed O&M Agreement for the Platte River Breach Repair Project located on Fremont Rod & Gun Club property. The City will hold the public project land rights for the project through an easement. Committee recommendation for approval and authorize the Board Chairman to sign is requested.

B. Elkhorn Township/East Fremont Assessment Project
As you recall, Dodge County has received up to $600,000 (75%) FEMA assistance toward assessing the drainage system east of Fremont with the hopes that the project will receive construction funding assistance if a viable project is identified. LPNNRD has approved $66,500 toward the estimated local 25% share of $200,000 (attachment). One of the next steps is to approve an interlocal agreement between LPNNRD, Dodge County and Fremont. Attached is the proposed agreement for committee review and approval recommendation.

Moving forward, RFP's have been sent to qualified engineering firms for completing the drainage system assessment (attachment). JWMAB members Dodge County, Fremont and LPNNRD met on June 1st to review received RFPs submitted by Burns & McDonnell, FYRA and JEO (attachments). All three firms are very qualified and the review group requested to ask the firms for an estimated price for the scope of work. A future recommendation from the review group will be presented to the Projects Committee/Board for concurrence after price information is obtained.

Other past project information is once again attached for your convenience.

C. Rawhide Creek Evaluation RFP's (WFPO) Update
As reported earlier, NRCS has obligated $670,500 to Dodge County for the development of a Watershed Work Plan-Environmental Assessment (Plan-EA). These funds are for planning and conceptual design costs are for surveys and investigations, environmental studies, evaluation of alternatives, and preparation of plans and design prior to the authorization of assistance for the installation of works of improvement. The

assessment will evaluate feasible flood reduction projects that can hopefully be eligible for future federal Watershed Flood Prevention Operations (WFPO) program. While LPNNRD is a participating partner, this planning effort is 100% funded by NRCS, so we have not obligated any funding at this point.
Attached is the RFP that was advertised and sent to qualified engineering firms. Dodge County, LPNNRD and Fremont representatives met on June 1, 2021 to review the RFP proposals. The three firms that submitted proposals (FYRA, JEO & Burns & McDonnell) were considered equally qualified, and the final review committee's recommendation came down to the proposed cost to complete the watershed plan. Burns and McDonnell had the lowest proposed cost to complete the plan.
Proposals for this project can be viewed at the following
link: https://drive.google.com/drive/folders/1XJTJ7_uvUcW5GZC2_Ebc-BrHI2rPJtBG?usp=sharing

D. North Bend Drainage District Project Repair Inspection Update
On May 28, NBDD, LPNNRD, Dodge County and Fremont representatives met with FYRA to inspect the four mile North Bend Drainage Ditch and assess needed repairs for completing the phase I project evaluation. An update will be given.

131. HAZARD MITIGATION PLAN UPDATE

The final step on our approved Hazard Mitigation Plan has been JEO collecting approved resolutions from the 55 participating entities.

Becky Appleford, JEO, has reported that the following jurisdictions have passed and provided a copy of their adoption resolution for the Lower Platte North NRD Hazard Mitigation Plan:

North Bend Volunteer Fire Department
Colon Volunteer Fire Department
Pohocco Township
Yutan Volunteer Fire Department
Village of Platte Center
Village of Richland
Village of Surprise

Two jurisdictions (out of 55) have yet to pass the adoption resolution: Linwood Volunteer Fire Department
East Central District Health Department

JEO will continue to work with the final two entities to obtain their resolutions.

132. EROSION AND SEDIMENT RULES AND REGULATIONS

133. OTHER

A. Schuyler Project Payment Request
On May 10, 2021, the Board approved assisting the City of Schuyler with their flood reduction and drainage improvement project. Part of the project was to install three additional flap gates on storm sewer outlets to help prevent backup flood waters from Lost Creek and the Platte River from entering the south part of Schuyler. The

Board's approved motion was to pay $25,000 each year for two years. Attached is Schuyler's request for $25,000 for the first payment this fiscal year. Our second payment will be budgeted in FY 2021-2022. A committee recommendation for payment is requested.

B. SID No. 8 (Woodcliff) Assistance Payment
SID No. 8 has one more assistance payment ($75,000) remaining on the Board's commitment of $300,000 to pay over four years on their levee/road stabilization project. Attached is their request for payment.

C. Moving Budgeted Funks into Sinking Funds
It is this time of year to move budgeted funding into our sinking funds.

D. LPRCA Meeting Update
Assistant Manager Mountford participated in the Lower Platte River Corrodor Alliance Zoom Meeting on May 14th. Several topics were reported on and discussed (agenda attached). One item was a USGS proposal for conducting a study of the dynamics of sand depositing at the mouth of one of the environmental chutes that LPNNRD has operation and maintenance responsibility for. Before any study of the area is considered, it must first be determined what exact operation and maintenance responsibility LPNNRD has to keep the chute open and what value a study would have toward that effort. Environmental Chutes were required by the US Fish & Wildlife Service as a condition of their blessing of the Western Sarpy/Clear Creek Project. After recent follow-up with the US Fish & Wildlife Service, they indicated that the chutes were considered an experimental effort without full knowledge of how they would perform. They proposed a future addendum to our Operation & Maintenance Agreement clarifying that while some woody debris removal from the chutes may still be expected, removal of sand bars plugging the chute entrances may not be expected.

Another interesting topic was that at the next LPRCA meeting, one topic might be to remove LPNNRD as a non-dues-paying Alliance member. When LPNNRD left the Alliance a few years ago, they decided to keep us listed as a non-active, non-dues-paying member since we were still involved with a few project efforts with LPSNRD & PMRNRD. To be an active member, the annual dues are now $1,000/ year.

Attached is LPRCA FY 2022 Budget. The only item LPNNRD is still active in under Alliance activities is the Lashara Water Quality Monitoring gauge, which has one more year (2021) of sampling under the current USGS agreement.
No action is requested at this time.

E. Draft Long Range Projects Spreadsheet Review (Attachments)

134. ADJOURNMENT

The Projects Committee adjourned at 9:30 a.m.

JEO CONSULTING GROUP

Engineering | Architecture | Surveying | Planning

Invoice

May 27, 2021
Project No: R210166.00
Invoice No: 124812
Invoice Amount: 6,603.50

Lower Platte North NRD
511 Commercial Park Road
PO Box 126
Wahoo, NE 68066

Project Manager Adam Rupe

Project R210166.00 Lower Platte North NRD: Shell Creek Watershed Plan Update

Professional Services through May 21, 2021

	Contract Amount	Percent Complete	Billed-to-Date	Previous Billing	Current Billing
Lump Sum Phase(s)					
Task 1: Evaluate Water Quality Data	$4,540.00	6 %	$270.00	0.00	$270.00
Task 2: Quantify Pollutant Loads	$13,240.00	40 %	$5,240.00	0.00	$5,240.00
Task 3: Quantify Pollutant Reductions	$11,420.00	0 %	0.00	0.00	0.00
Task 4: Project Management	$2,430.00	45 %	$1,093.50	0.00	$1,093.50
Additional Services	0.00		0.00	0.00	0.00
Total	**$31,630.00**		**$6,603.50**	**0.00**	**$6,603.50**
			Total Amount Due Upon Receipt :		**$6,603.50**

JEO CONSULTING GROUP INC
JEO ARCHITECTURE INC

p: 402.443.4661
f: 402.443.3508

1937 North Chestnut Street
Wahoo, Nebraska 68066

jeo.com

ENGINEERING ■ ARCHITECTURE ■ SURVEYING ■ PLANNING

Monthly Progress Report
Shell Creek Watershed WQMP Update
Lower Platte North NRD

JEO Project #: 210166.00
Through: May 24, 2021

1. **Work completed during current period**
   - Ongoing coordination with LPNNRD and NDEE.
   - Internal project management.
   - Identification of existing water quality data.
   - Compilation of water quality modeling input data.
   - Begin development of initial watershed model.

2. **Planned accomplishments for next period**
   - Prepare water quality data review memo.
   - Review draft water quality model and existing loads.

3. **Project schedule**
   - Project is on schedule

4. **Information needed from the LPNNRD**
   - None at this time

5. **Next Meeting Date and Time**
   - None at this time

6. **Other Notes**
   - Project team will continue to monitor COVID-19 health directives and recommendations, as they may relate to any meetings

Please contact Adam Rupe at 402.322.0377 or at arupe@jeo.com for any questions or concerns regarding this progress report

Grant Number: 56-1884

INTER-GOVERNMENTAL AGREEMENT AMENDMENT

This is an amendment to the Section 319 Inter-Governmental Agreement between the

NEBRASKA DEPARTMENT OF ENVIRONMENT AND ENERGY
and the
LOWER PLATTE NORTH NRD

For the following project:

Grant Number: **56-1884**
Project Name: **Shell Creek Corridor Enhancement and Conservation Implementation**
Reference Number: **2020-102571485**

Pursuant to Section IV, subsection C, part 1 of the above referenced Inter-Governmental Agreement, the following amendment is being made to the Inter-Governmental Agreement:

1. TERM OF THE AGREEMENT

The termination date of the agreement shall be extended from June 30, 2022 to September 30, 2022.

IV. GRANT REQUIREMENTS - SECTION A - PART 4

The due date of the final report shall be extended from June 30, 2022 to September 30, 2022.

III. FINANCIAL REQUIREMENTS - SECTION A

The amount of 319 funds awarded shall be increased by $226,000.00 from $365,000.00 to $591,000.00.

III. FINANCIAL REQUIREMENT - SECTION B

The amount of the required nonfederal match shall be increased by $150,000.00 from $244,000.00 to $394,000.00.

II. WORK DESCRIPTION AND SCHEDULE

The original project implementation plan (PIP) is being amended to reflect the supplemental work request and/or budget change attached to this document.

IN WITNESS THEREOF, the parties here to have executed this amendment.

NEBRASKA DEPARTMENT OF ENVIRONMENT AND ENERGY

DocuSigned by:

BY: Kevin Stoner DATE: 5/5/2021

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Kevin Stoner, Deputy Director

LOWER PLATTE NORTH NRD

DocuSigned by:

BY: Eric Gottschalk DATE: 5/20/2021

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Please Print: Eric Gottschalk

Generated 4/29/2021

Amendment to the PIP for Shell Creek Corridor Enhancement and Conservation Implementation

Project #56-1884. NDEE Reference Number: 2020-102571485

Additional Section 319 funds in the amount of $226,000 are added to support the activities described below. The balance of additional costs will be covered by the project sponsor. The work amended into the project is consistent with the original plan of work, adding to the quantity of planned work rather than adding new tasks and activities.

A decision by Union Pacific Railroad to replace its bridge over the lower reach of Shell Creek provided an opportunity to extend the current excavation and creation of an enhanced flow channel and flood plain bench on the north side of the UP tracks into the reach below the south side of the UP tracks. Union Pacific agreed to install a longer bridge than initially planned to match the increased width of the improved channel. Both the channel improvements and the bridge replacement remove choke points in the stream that exacerbate flooding in the communities of Schuyler and Rogers. The improved channel provides a vegetated flood plain bench within the entrenched reach of Shell Creek that creates aquatic habitat and filters pollutants before they enter the Platte River downstream.

The extended work adds an additional cost of $240,000 to the original project for clearing and grubbing, excavation, grading and seeding, and spoiling of soil. Extending the work within the current project allows the contractor already on site to continue the channel redevelopment without incurring additional mobilization fees.

An additional amount of $22,000 is added to conduct a survey to assess changes in operators' knowledge and attitude about conservation practices, water quality and the value of Shell Creek as a natural resource. Results of the survey will be compared to an original survey conducted in 2003 prior to beginning implementation of the Shell Creek Watershed Management Plan.

An additional amount of $30,000 is added to enhance support for part-time employment, materials and supplies, and outreach to promote adoption and installation of watershed BMPs. Part time employment includes extension of the project coordinator position and addition of a temp to promote the septic system upgrade program described in the original scope.

LPNNRD - Wahoo Creek Watershed Plan/EA - Site 83 Removal Additional Work

Planning Tasks and Fee

June 2021

Tasks	Wahoo Creek Watershed Plan/EA - Site 83 Removal Additional Work	Client Manager Sotak $225	Project Engineer Kaufman $160	EI Varies $110	Accounting Stratton $80	Expenses	Total
Task No.	**Project Management**						
1.1	NE NRCS/NRD Coordination Meetings[1]	3	4	3			
1.2	Monthly Invoicing (4 months)		2		4		
	Project Management Task Total	$675	$960	$330	$320	$0	$2,285
Task No.	**Revised Plan Economics**						
2.1	Update flooding hydrologic/hydraulic models and resulting hydraulics and flood maps			16			
2.2	Complete Economic Analysis, Update Appendix D		8	30			
2.3	Incorporate Updated Economics to Plan-EA		16	20			
	Revised Plan Economics Task Total	$0	$3,840	$7,260	$0	$0	$11,100
Task No.	**Plan-EA Update[2]**						
3.1	Update wording, tables, and associated values in Plan-EA to remove Site 83		20	32			
3.2	Remove Site 83 from Plan-EA Figures			20			
	Plan-EA Update Task Total	$0	$3,200	$5,720	$0	$0	$8,920
	Subtotal Costs	$675	$8,000	$13,310	$320	$0	$22,305

ASSUMPTIONS

[1] Assumes 3 meetings

[2] Assumes no public or agency meetings required. Assumes no additional review by NWMC.

LOWER PLATTE NORTH
Natural Resources District
PO Box 126 511 Commercial Park Road Wahoo, NE 68066
Phone 402.443.4675 Fax 402.443.5339
lpnnrd@lpnnrd.org www.lpnnrd.org

June 8, 2021

Mr. Jeffrey Vander Wilt, Acting Nebraska State Conservationist
Natural Resources Conservation Service
100 Centennial Mall North, Rm 152
Lincoln, NE 68508

RE: Wahoo Creek Planning and Design Project (NR186526XXXXC004)

Dear Mr. Vander Wilt:

The Lower Platte North Natural Resources District is requesting **to amend our agreement (NR186526XXXXC004) for an additional $22,305 assistance within the planning segment of the Wahoo Creek Planning and Design Project.**

The original watershed plan included eleven (11) floodwater reduction dams. After additional NRCS archaeological investigations were conducted at proposed dam site 83, it has become apparent that it is in the sponsor's best interest to remove this site from the plan. The additional $22,305 will be used to update the draft plan economics and other needed edits associated with the removal of dam site 83.

We are also requesting to **extend the plan completion date until December 1, 2022.** Our goal is to finish the watershed plan as expediently as possible and our request will provide the additional planning funds and time required as we work through NRCS's watershed plan review and approval process.

After final NRCS review and approval of the Wahoo Creek Watershed Plan, we will immediately move into the design phase of the project. The Nebraska NRCS staff has provided exceptional guidance and commitment in assisting us toward completing this extremely important project for our area. We greatly appreciate your continued partnership and thank you for considering our request.

Sincerely,

Tom Mountford
Assistant General Manager
Lower Platte North NRD

BUDGET NARRATIVE FOR WATERSHED & FLOOD PPREVENTION OPERATIONS
PROJECT WAHOO CREEK WATERSHED – SAUNDERS COUNTY, NEBRASKA
AGREEMENT NO. 6000003084, FAIN NO. NR186526XXXXC004

1. Total Estimated Project Budget: $2,157,935.00

2. NRCS pays up to 100 percent of eligible costs.

3. The Sponsor must provide documentation (to NRCS) to support all eligible costs.

4. Costs incurred prior to the Sponsor and NRCS signing the agreement are ineligible and will not be reimbursed.

5. NRCS funding for this project is provided to the Sponsor through technical assistance (TA). TA costs are associated with services and shall be accounted for to be eligible for reimbursement.

6. NRCS will provide TA reimbursement to the Sponsor for technical and administrative costs directly charged to the project, subject to the above limits and in accordance with the signed agreement parameters. If costs are reduced, reimbursement will be reduced accordingly.

_____

(Authorized Sponsor Representative) Signature and Title

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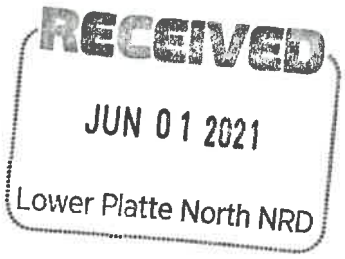
JEO CONSULTING GROUP

Engineering | Architecture | Surveying | Planning

Invoice



May 27, 2021
Project No: R170124.00
Invoice No: 124811
Invoice Amount: 756.00

Lower Platte North NRD
511 Commercial Park Road
PO Box 126
Wahoo, NE 68066

Project Manager Adam Rupe

Project R170124.00 Lower Platte North NRD Wahoo Creek WQMP Update

Professional Services through May 21, 2021

	Contract Amount	Percent Complete	Billed-to-Date	Previous Billing	Current Billing
	0.00		0.00	0.00	0.00
Lump Sum Phase(s)					
Task 1: Evaluate Water Quality Data	$4,540.00	6 %	$270.00	0.00	$270.00
Task 2: Quantify Pollutant Loads	$13,240.00	40 %	$5,240.00	$5,240.00	0.00
Task 3: Quantify Pollutant Reductions	$11,420.00	0 %	0.00	0.00	0.00
Task 4: Project Management	$2,430.00	45 %	$1,093.50	$607.50	$486.00
Additional Services	0.00		0.00	0.00	0.00
Total	**$31,630.00**		**$6,603.50**	**$5,847.50**	**$756.00**

Total Amount Due Upon Receipt : $756.00

ENGINEERING ■ ARCHITECTURE ■ SURVEYING ■ PLANNING

Monthly Progress Report
Wahoo Creek Watershed WQMP Update
Lower Platte North NRD

JEO Project #: 170124.00
Through: May 24, 2021

1. **Work completed during current period**
   - Ongoing coordination with LPNNRD and NDEE.
   - Internal project management.
   - Review existing water quality data.
   - Work on initial water quality model.

2. **Planned accomplishments for next period**
   - Deliver draft water quality data review memo.
   - Review draft water quality model and existing loads.

3. **Project schedule**
   - Project is on schedule

4. **Information needed from the LPNNRD**
   - None at this time

5. **Next Meeting Date and Time**
   - None at this time

6. **Other Notes**
   - Project team will continue to monitor COVID-19 health directives and recommendations, as they may relate to any meetings

Please contact Adam Rupe at 402.322.0377 or at arupe@jeo.com for any questions or concerns regarding this progress report

May 13, 2021

Tom Smith
Dodge County Emergency Manager
435 N Park Ave STE 101B
Fremont, NE 68025

Re: ***Bid Recommendation***
Breach Lake Flood Damage Repair Project
Rod and Gun Club Property
JEO Project No. 190890.02

Mr. Smith:

On May 12th, 2021, JEO Consulting Group, representing Dodge County, received five (5) bids for the Breach Lake Flood Damage Repair project at the bid letting held at the Dodge County Emergency Management office in Fremont, NE. Enclosed is a copy of the Bid Tabulation sheet that lists all bidders and their submitted prices.

Based on the bids received, it is our recommendation that the County proceed with contracting with the low bidder, Yost Excavating, Inc., from Nebraska City, who submitted a total price for Bid Groups A and B combined of **$597,323.50** and listed a start date of June 15th, 2021**.** We have experience working with Yost Excavating, Inc. on past projects, and they are a responsible bidder with the ability to complete the work in the time frame required. The total bid price is below the Engineer's Opinion of Cost of $728,000, and it is within reason for this project. Upon Board approval to award the contract, JEO will distribute contract documents for execution.

If you have any questions about the enclosed, please contact me at your convenience at jmiriovsky@jeo.com or (402) 367-2540.

Sincerely,

Jake Miriovsky, PE
Project Manager

Enclosure - Bid Tabulation

Bid Tab

PROJECT | Breach Lake Flood Damage Repairs

JEO PROJECT NO. | 190890.02

LOCATION | Dodge County, Nebraska

LETTING | 05/12/2021 02:00 PM CDT

OPINION OF PROBABLE COST | $728,000

Bidder	Total Groups A & B	Start Date
Yost Excavating, Inc. Nebraska City, NE	$597,323.50	June 15, 2021
Horizon Building Services, LLC Council Bluffs, IA	$604,284.05	June 1, 2021
Sawyer Construction Co. Fremont, NE	$608,385.00	June 14, 2021
High Plains Enterprises Inc. Martell, NE	$686,030.00	August 2, 2021
Valley Corporation Valley, NE	$891,405.23	June 15, 2021

Tab Sheet

PROJECT | Breach Lake Flood Damage Repairs

JEO PROJECT NO. | 190890.02

LOCATION | Dodge County, Nebraska

				Yost Excavating		Horizon Building Services	
GROUP A - BUILD BERM REPAIRS							
Item	**Qty.**	**Unit**	**Description**	**Unit Price**	**Total**	**Unit**	**Total**
1	1	LS	Mobilization		$12,500.00		$15,000.00
2	1	LS	Bonding and Insurance		$7,500.00		$7,000.00
3	1	LS	Site Access		$5,000.00		$2,200.00
4	1	LS	Site Grading		$15,000.00		$7,500.00
5	5,700	CY	Select Fill Embankment, Imported (Established Quantity)	$16.75	$95,475.00	$12.55	$71,535.00
6	2,474	CY	Topsoil, Imported (Established Quantity)	$22.50	$55,665.00	$16.20	$40,078.80
7	660	TONS	Gravel Surface Course	$42.00	$27,720.00	$58.00	$38,280.00
8	598	TONS	Surge Stone	$73.25	$43,803.50	$81.00	$48,438.00
9	598	TONS	Erosion Stone	$75.25	$44,999.50	$81.00	$48,438.00
10	1,793	TONS	Riprap, Class C	$76.25	$136,716.25	$87.50	$156,887.50
11	1	LS	Pipe Support		$2,000.00		$2,500.00
12	1	EA	Flap Gate, 8"	$1,500.00	$1,500.00	$1,000.00	$1,000.00
13	3,343	SY	Turf Reinforcement Mat	$5.25	$17,550.75	$5.75	$19,222.25
14	1,450	LF	Silt Fence, Low Porosity	$3.50	$5,075.00	$3.55	$5,147.50
15	7	ACRE	Hydro-Seeding, Fertilizer and Mulch	$6,750.00	$47,250.00	$7,000.00	$49,000.00
TOTAL GROUP A					$517,755.00		$512,227.05

GROUP B - BUILD TOE PROTECTION							
Item	**Qty.**	**Unit**	**Description**	**Unit Price**	**Total**	**Unit**	**Total**
1	1	LS	Mobilization		$3,000.00		$5,000.00
2	1	LS	Bonding and Insurance		$1,000.00		$2,500.00
3	186	TONS	Surge Stone	$73.25	$13,624.50	$81.00	$15,066.00
4	186	TONS	Erosion Stone	$75.25	$13,996.50	$81.00	$15,066.00
5	558	TONS	Riprap, Class C	$76.25	$42,547.50	$87.50	$48,825.00
6	0.8	ACRE	Hydro-Seeding, Fertilizer and Mulch	$6,750.00	$5,400.00	$7,000.00	$5,600.00
TOTAL GROUP B					$79,568.50		$92,057.00

TOTAL GROUPS A & B					$597,323.50		$604,284.05

ALTERNATE ITEMS							
Item	**Qty.**	**Unit**	**Description**	**Unit Price**	**Total**	**Unit**	**Total**
A-8	598	TONS	Surge Stone, Limestone, In Lieu of Surge Stone	$52.50	$31,395.00	$70.00	$41,860.00
A-9	598	TONS	Erosion Stone, Limestone, In Lieu of Erosion Stone	$52.50	$31,395.00	$70.00	$41,860.00
A-10	1,793	TONS	Riprap, Class C, Limestone, In Lieu of Riprap, Class C	$65.50	$117,441.50	$85.00	$152,405.00
B-3	186	TONS	Surge Stone, Limestone, In Lieu of Surge Stone	$52.50	$9,765.00	$70.00	$13,020.00
B-4	186	TONS	Erosion Stone, Limestone, In Lieu of Erosion Stone	$52.50	$9,765.00	$70.00	$13,020.00
B-5	558	TONS	Riprap, Class C, Limestone, In Lieu of Riprap, Class C	$65.50	$36,549.00	$85.00	$47,430.00

AGREEMENT

PROJECT CONTRACTING/PAYMENT PROCESS & OPERTION & MAINTENANCE
for
PLATTE RIVER BREACH REPAIR PROJECT
DODGE COUNTY

This "Agreement", in reference to the Platte River Breach Repair Project, Dodge County, Nebraska, hereinafter referred to as the "Project", is made and entered into by the following parties, hereinafter referred to individually as "Partner" and collectively as "Partners", to wit:

City of Fremont (City)
Dodge County (County)
Lower Platte North Natural Resources District (LPNNRD)
Fremont Rod & Gun Club (Club)

Whereas, the City, County and LPNNRD are political subdivisions of the State of Nebraska and the Club is an incorporated association.

Whereas, 2019 flood events along the Lower Platte River caused a substantial breach in the embankment on the west end of Club property, resulting in substantial damage to private property and public infrastructure.

Whereas, the Partners assisted with emergency repairs in early 2020, to divert Platte Water flood flows from reentering the breach until more substantial repairs could be made.

Whereas, as a result of dredging activities planned at Lake Ventura in 2020, there is an opportunity to use the resulting dredge material from Lake Ventura to engineer, fill, shape, and stabilize the breach area opening, at a total estimated Project cost of $612,380.

Whereas, the County will act as the fiscal agent for the Project repair and will administer a $485,000 Community Development Block Grant approved through the Nebraska Department of Economic Development to partially fund the Project.

Whereas, the City, County and LPNNRD have entered into a separate Interlocal Agreement, to assist with the local share of Project expense, up to $50,000 each, totaling $150,000.

Whereas, the City has agreed to obtain and hold all necessary public easements for the Project from the Club and be the public entity applicant for future disaster assistance.

Whereas, the Club has previously provided approximately $20,000 toward repairs in the

Project area and will provide up to an additional $12,380 toward the local share of the Project.

Whereas, the City, County and LPNNRD previously agreed to enter into a future agreement with the Club addressing Project operation and maintenance responsibilities.

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

1. **Purpose:** The purpose of this Agreement is to define the Partners responsibilities for Project contracting, contractor selection, payment process, and future operation and maintenance of the completed Project.

2. **Project Contracting, Contractor Selection:** The County will enter into a contract with JEO Consulting Firm for Project engineering services and also enter into an eventual contract with the construction contractor for completing the Project. The Partners will jointly review submitted Project bids and approve selection of the construction contractor.

3. **Project Payment Process:** The County will receive and approve all said Project engineering and construction invoices, and will make payment to the contractor. It is understood that the County will use approved Community Development Block Grant (CDBG) funding first, up to $485,000, for paying Project invoices. After CDBG funding is exhausted, the County will continue to pay all approved Project expenses that will be invoiced as follows: the Club for $12,380, and the balance shall be shared equally by the City, County and LPNNRD up to $50,000 each.

4. **Project Operation and Maintenance:** This Agreement between the City, County and LPNNRD, and Club is executed to identify operation and maintenance responsibilities of the completed Project. The Club agrees to complete all normal operation and maintenance activities on an annual basis, including but not limited to mowing, tree removal, noxious weed control and minor repairs to the Project. The Club agrees to complete an annual written operation and maintenance report, attached as Exhibit A, and provide each Partner a copy of said report.

   In the event of needed major future Project repairs, as a result of flooding or ice-out damage, the City, as the easement holder, is responsible for coordinating with the Partners to secure available federal or state financial assistance and no Partner is obligated to contribute nor is required to provide local financial assistance unless approved by that Partner's Governing body.

5. **Effective Date of Agreement:** This Agreement becomes effective upon final execution by the Partners. The original copy of this Agreement will be maintained as part of the public records of the City, with a copy of the Agreement to be

provided to the Partners. The Agreement may be signed in counterparts, as necessary.

6. **Hold Harmless:** The Club hereby agrees to indemnify and shall hold the City, County and LPNNRD harmless to the fullest extent allowed by law from and against any and all claims, damages, losses, and expenses, arising out of or resulting from its acts and the acts of its agents and employees in performance of this Agreement.

7. **Duration of Agreement:** This Agreement shall extend from the date of execution by the Partners and will remain in effect unless one or more Partners agree to amend, addend, or terminate the Agreement. City, County, or LPNNRD may terminate their obligations of this Agreement upon submitting a 90-day written notice to the other Partners.

IN WITNESS WHEREOF,

This Agreement for Platte River Breach Repair Project is executed by the City of Fremont on this 11th day of May, 2021.

City of Fremont

By:_____
Joey Spellerberg

Title: Mayor

IN WITNESS WHEREOF,

This Agreement for the Platte River Breach Repair Project is executed by Dodge County on this _____day of _____, 2021.

Dodge County

By:_____
Bob Missel

Title: Chairman

IN WITNESS WHEREOF,

This Agreement, for the Platte River Breach Repair Project is executed by the Lower Platte North Natural Resources District on this _____day of _____, 2021.

Lower Platte North Natural Resources District

By:_____

Title: Chairman

IN WITNESS WHEREOF,

This Agreement for the Platte River Breach Repair Project is executed by the Fremont Rod and Gun Club on this _____day of _____, 2021.

Fremont Rod & Gun Club

By:_____
John Miyoshi

Title: Board President

EXHIBIT A
Annual Rod & Gun Club Levy Inspection Form

Date of site visit: _____
Inspector: _____

1. Have there been any unusual occurances since the last inspection? _____

_____

_____

2. Describe the general condition of the levy and any maintenance activities which have been taken:

_____

_____

_____

3. Other comments: _____

_____

4. Checklist:

Item	Yes	No	Remarks
Animal control (holes)			
Errosion to bank			
Errosion control (grass)			
Settling of bank material			
Unwanted Vegetation			
Sod coverage			
Encroachments (trash)			
Gates closed and in order			
Fencing			
Bank slope			
Depressions or rutts			
Cracking			
Seepage			

INTERLOCAL COOPERATION ACT AGREEMENT FOR ELKHORN TOWNSHIP/FREMONT EAST DRAINAGE IMPROVEMENTS BY DODGE COUNTY CITY OF FREMONT LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

This Interlocal Cooperation Act Agreement (hereinafter "Agreement") is made by the following Political subdivisions of the State of Nebraska:

Dodge County
City of Fremont
Lower Platte North Natural Resources District

These parties hereinafter shall be individually referred to as "Partner" and collectively as "Partners".

Whereas, the Elkhorn Township/East Fremont ditch network captures storm water from the City of Fremont and flood waters from the Maple and Elkhorn Rivers, the City of Fremont, and the Rawhide Creek. Resulting flood water is diverted back into the Elkhorn River, while properly draining the City of Fremont, areas around the City's Critical Infrastructure, county roads, State Highways 275 and 30, and a railroad line.

Whereas, after abandonment by a drainage district that dissolved in 1929, the Elkhorn Township/East Fremont ditch drainage system has not been maintained or upgraded to meet the current needs of the City of Fremont and Dodge County population and industrial growth. During the 2019 flooding, these ditches were unable to handle the capacity of City of Fremont water runoff, Rawhide Creek watershed, and Elkhorn riverine flooding. Unable to properly drain floodwater, the ditches received substantial siltation and bank erosion, further reducing flow capacity.

Whereas, Dodge County has applied for FEMA Hazard Mitigation Grant Program (HMGP) assistance, up to $600,000, to assist the Partners in engineering design, feasibility studies and funding application development for a flood damage reduction/drainage improvement project for the Elkhorn Township/Fremont East Drainage ditch system, hereinafter referred to as the "Project".

Whereas, the Partners desire to enter into an Interlocal Agreement, to pledge support for the Project and to share the required local match of 25%, up to $200,000.

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 on identifying engineering design and feasibility studies, as described above, for potential improvements to

the Elkhorn Township/Fremont East Drainage System, 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, each Partner desires to enter this Agreement for any powers, privileges or authorities exercised, or capable of exercise, individually by them as public agencies under the Interlocal Cooperation Act.

2. Funding for Improvements to the Elkhorn Township/Fremont East Drainage Ditches:

Upon approval of receiving up to $600,000 (75%) assistance from the FEMA HMGP grant, the Partners agree to share the required maximum local costs (25%), estimated at $200,000, for studies and analysis of the Drainage Ditch System in the following proportions:

Dodge County - $67,000 (9%)
City of Fremont - $66,500 (8%)
Lower Platte North NRD - $66,500 (8%)

It is anticipated that the Partners will receive FEMA HMGP assistance, reimbursable up to $600,000 (75%), based on the total maximum estimated project cost. Dodge County will be the subgrantee and fiscal agent for the FEMA grant, if received.

Dodge County, as Project lead/fiscal agent, will issue Requests for Proposals to qualified consulting firms, for completing a Hydraulic/Hydrologic Study, Benefit Cost Analysis, Environmental/Historical/Land Right Considerations and Project Design.

After this scope of work is accomplished, the Partners will move forward with construction of a feasibly identified Project. Actual Project construction and future Project Operation and Maintenance will be outlined at a later date, with identified funding sources, in separate Addendum(s) to this Agreement.

After the FEMA HMGP grant is approved and a consultant is jointly selected by the Partners, Dodge County, on behalf of the Partners, will enter a consultant contract, make payments, and submit expenses to FEMA for 75% reimbursement. Dodge County will quarterly bill each Partner for their local monetary share (as outlined above) of the remaining 25%, minus any contributed in-kind credit.

3. 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 Dodge County, with a copy being provided to each Partner. The Agreement may be signed in counterparts, as necessary.

4. **Duration of Agreement:**
   This Agreement shall extend from the date of execution by all Partners and will remain in effect until Project completion, as outlined above (estimated 22-month timeframe from the date of HMGP subaward grant agreement). If an unforeseen situation should arise that warrants terminating the Agreement before Project completion, the Agreement may be terminated if mutually agreed by all Partners.

5. **Amendments and Addendums of Agreement:**
   This Agreement may be amended, or Addendums added, subject to approval by all Partners.

6. **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.

Dodge County

By: _____
Bob Missel, Chairperson, Board of Supervisors

Date: _____

City of Fremont

By: _____
Joey Spellerberg, Mayor

Date: _____

Lower Platte North Natural Resources District

By: _____
Frank Pollard, Board Chairperson

Date: _____

REQUEST FOR PROPOSAL

To: Engineering Floodplain Professionals

From: Dodge County, NE (via the Joint Water Management AdvisoryBoard)

Subject: Request for Proposal (RFP) to develop eligible, cost effective and technically feasible "shovel-ready" Dodge County Drainage Improvement Project.

Issue Date: May 5th, 2021

Due Date: May 28th, 2021 at 4:30 p.m.

Project Timeframe: 6/1/2021 to 7/19/2023 (24 months)

Dodge County, on behalf of The Joint Water Management Advisory Board (JWMAB), Dodge County Nebraska, is seeking a professional engineering firm to provide consulting services for a FEMA Hazard Mitigation Grant Program Advanced Assistance project. Dodge County has been approved for Advanced Assistance to scope and develop/engineer a Drainage Improvement Project to address water drainage in east Fremont and Elkhorn Township. The intent of Advance Assistance under HMGP is to develop eligible, cost effective and technically feasible mitigation projects in the future. To that end, Advance Assistance funding is used to develop/engineer "shovel-ready" Drainage Improvement Project that is ready to go should funding become available.

Prior to the 2019 Flooding, Dodge County, City of Fremont, and Lower Platte Natural Resource District began discussions to create a consortium to address the drainage across Dodge County. Following the 2019 floods, the consortium was formed, called the Dodge County Joint Water Management Advisory Board (JWMAB), comprised of members representing twelve different local governing bodies. Drainage improvement projects remain the highest priority for the JWMAB. The JWMAB will facilitate the process for the collaborative development of project evaluation criteria and assure that each option is evaluated against such criteria. The concept design alternatives will explore variations on feasibility, efficiency, land use, environmental, and historical considerations. A preferred alternative will be selected and documented by the JWMAB to bring forward to the Dodge County Board and local governing bodies.

BACKGROUND

The Elkhorn Township ditch network captures flood- and stormwater from many sources, including the Maple Creek, Elkhorn River, City of Fremont, and Rawhide Creek before diverting the water back into the Elkhorn River. This network of ditches provide drainage for the City of Fremont, including areas around critical infrastructure, County roads, U.S. Highways 275 and 30, and a Burlington Northern Santa Fe Railroad line. The project area is concentrated on fifty-four miles of ditches draining

approximately 25,000 acres of land, including the City of Fremont (population 26,509).

SCOPE

This Drainage Improvement Project's overall goal will be to develop/engineer a drainage improvement project to be readily implemented in the Elkhorn Township area (East Fremont). A project study will be completed to assess Fremont's internal drainage needs and examine the out-letting drainage ditch system in the Elkhorn Township area east of Fremont. This project will assess the holistic situation and propose project alternatives to be pursued. Project funding covers the cost of development of hydrologic and hydraulic studies, environmental compliance consultation, historical compliance consultation, land right (purchase/easement) consideration summary, conceptual designs, final engineering of project design, project estimate development, project summary, a completed cost/benefit analysis, and a finalized hazard mitigation application to submit to State and Federal partners. Conceptual project design options will reflect future needs with respect to existing area conditions, including constraints and opportunities. Drainage improvement strategies to be explored include, but not limited to, establishing wells in the Fremont area to pump groundwater to help dewater high water table where development is located or planned, detention basins/ponds (wet or dry) to be developed into dry basins or wetlands, and widening existing ditches, rerouting ditches, or straightening existing drainage ditches or a combination of aforementioned strategies.

The selected engineering firm will perform activities related to mitigation and resiliency measures for the JWMAB, including, but not limited to:

- Stakeholder engagement and coordination
- Historical damage data collection
- Existing drainage infrastructure assessment (conveyance and constrictions)
- Hydrologic and hydraulic analyses to assess flood risks
- Identifying potential flood risk mitigation measures
- Environmental, Historical, Land Right Considerations
- Cost/benefit ratio of any proposed measure or improvement
- Conceptual Solution Design
- Detailed Design for selected Project Alternatives
- State HMPG project application completion
- Funding Source Analysis
- Project Summary Report

QUALIFICATIONS

The professional engineering firm shall be:

1. Independent of any contractors, suppliers, manufacturers, or any interest that is construed as a conflict of interest to the proposal.
2. A professional firm that has experience in projects of similar scope and size as described in the scope of services section.

SUBMITTAL REQUIREMENTS

The Consultant shall include in the submittal:

1. Letter of Interest (limited to 2 single-sided pages).
2. A brief discussion of your project understanding and scope of work outlining your project approach for the study. (limited to 3 single-sided pages).
3. List of proposed team members including project specific experience and proposed roles in the project (Specific emphasis on grant writing team is expected).
4. List of similar projects completed in the last 5 years.
5. Proposed timeline assuming 100% funding.

SELECTION PROCESS

The final selection shall be determined by (but not limited to) a combination of the following criteria (interviews are not planned):

1. Consultant's understanding and recommended approach to complete the project.
2. Consultants history in successfully obtaining grant funding.
3. Consultant history on similar projects.
4. Consultant's ability to complete the project in a timely manner.

Submittals (including 3 hard copies and 1 digital copy) shall be delivered to the Dodge County Emergency Manager by May 28th, 2021 at 4:30 p.m.

Submittals shall be delivered to:

Dodge County Emergency Manager
435 N Park Ave STE 101 B
Fremont, NE 68025

All submittals must be received no later than May 28th, 2021 at 4:30 p.m.

ADDENDUM TO

REQUEST FOR PROPOSAL

To: Engineering/Architectural Flood Plain Professionals

From: Joint Water Management Advisory Board (JWMAB)

Subject: Request for Proposals (RFP) for Development of Watershed and Flood Prevention Operations (WFPO) Watershed Plan

Issue Date: May 20, 2021

Due Date: May 28, 2021 at 4:30 p.m.

Addendum:

As part of the work set forth for both the Rawhide Creek WFPO Plan-EA and the East Fremont and Elkhorn Township Requests for Proposals, a hydrologic and hydraulic model will be established for both projects. While this model may have varying resolutions for work required for specific locations within the project study areas, it is anticipated that eventually the model information will be incorporated into a larger floodplain model that will serve the future needs of the Dodge County area. For that reason, the JWMAB shall retain ownership of all modeling work created as a part of these projects and may also provide guidance during the development of the model to the consultant to ensure that the model can be readily incorporated into a larger model managed by JWMAB.

Tom Mountford

From: Tom Mountford
Sent: Wednesday, January 20, 2021 11:14 AM
To: dodgecoema@gmail.com
Subject: FW: Elkhorn Township Drainage Project
Attachments: AA-Elkhorn Township Maps.pdf; NEMA_HMGP_AA_Application Dodge County.xlsx

From: dodgecoema@gmail.com <dodgecoema@gmail.com>
Sent: Thursday, June 4, 2020 11:54 AM
To: Brian.Newton@fremontne.gov; 'Tom Mountford' <tmountford@lpnnrd.org>
Subject: Elkhorn Township Drainage Project

Brian and Tom,

Quick update on the application for the Advanced Assistance HMPG project for Drainage District Project. After further meeting with NEMA, this project will be the identification of key elements (Hydraulic/Hydrologic Study, Benefit Cost Analysis, Environmental/Historical/Land Right Considers, Project Design) to move forward with actual construction of the project at a later date/funding source. The application is attached and close to completion. A couple of items I am requesting from you;

1. An alternate Point of Contact. I will remain the primary point of contact, but I am requesting either the City of Fremont or Lower Platte North have an Alternate Point of Contact for project.
2. Feedback on the Non-Federal Cost Share (25%). The total cost of the project was an estimate based on the proposals used for the JWMAB Resiliency Plan proposals. I feel it is very liberal amount and should not cost $800,000. I would like to discuss the Cost-Share and the process for reaching an agreement. This is a reimbursement grant. Proposed project timeframe is 22 months.

Federal Share HMGP:		$	600,000.00	75%
Non-Federal:	Dodge County	$	67,000.00	9%
Non-Federal:	City of Fremont	$	66,500.00	8%
Non-Federal:	Lower Platte North Natural Resource District	$	66,500.00	8%

Thomas Smith
Director
Dodge County Emergency Management
435 N Park Ave STE 101B
Fremont, NE 68025
O:402.727.2785
dodgecoema@gmail.com

Hazard Mitigation Grant Program (HMGP) Advance Assistance

Nebraska Emergency Management Agency (NEMA)
Hazard Mitigation
2433 N. W. 24th Street
Lincoln, Nebraska 68524-1801
402-471-7421
nema.hazardmitigation@nebraska.gov

What is the Hazard Mitigation Grant Program?

Authorized under Section 404 of the Stafford Act, the Hazard Mitigation Grant Program (HMGP) is funded by the Federal Emergency Management Agency (FEMA) to provide grants to State and local governments to implement long-term mitigation measures after a major disaster declaration. The purpose of the program is to reduce loss of life and property damage resulting from natural disasters by funding eligible mitigation measures to be implemented during the recovery from a disaster.

- Project must conform to Nebraska State Hazard Mitigation Plan.
- Sub-applicant must have a FEMA-adopted Local Hazard Mitigation Plan, and the project must conform to it.
- Project must follow the most strict flood plain ordinance for the jurisdiction in which the project is completed.
- Project must undergo an environmental and historic preservation review process to ensure compliance.
- Project must solve a problem independently or constitute a functional portion of a solution, which as a whole, will be completed by the proposed project.
- City/County must be National Flood Insurance Program (NFIP) compliant and a participant in good standing, as applicable.
- Project must be cost-effective AND substantially reduce the risk of future damage, hardship, loss of life, or suffering resulting from a major disaster.

Completing the HMGP Sub-Application:

Completion of this sub-application indicates you are applying for the Hazard Mitigation Grant Program funding. This sub-application is designed to capture the necessary information to meet program requirements. Sub-applicants are encouraged to take ample time to read through the questions carefully, and complete each of the sections.

Information on Advance Assistance

The intent of Advance Assistance under HMGP is to develop eligible, cost effective and technically feasible mitigation projects in the future. To that end, Advance Assistance funding should be used to develop "shovel-ready" projects that are ready to go should funding become available. Per FEMA Hazard Mitigation Assistance Guidance (2015), subapplicants may request Advance Assistance for the following activities (including but not limited to):

- Obtain staff or resources to develop a cost-share strategy and identify potential match funding

- Evaluate facilities or areas to determine appropriate actions

- Collect data for Benefit Cost Analyses (BCAs), Environmental & Historic (EHP) compliance, and other program requirements

- Develop hazard mitigation projects, including engineering design and feasibility actions

- Conduct engineering design and feasibility studies for larger or complex community drainage projects or critical facility retrofits

- Conduct hydrologic and hydraulic studies for unmapped flood zones or Approximate Zone A areas where communities propose to submit hazard mitigation projects

- Scope and prioritize hazard mitigation projects

NEBRASKA
EMERGENCY MANAGEMENT AGENCY
Good Life. Great Strength.

Hazard Mitigation Grant Program

Advance Assistance Application

FEMA-DR-4420-NE
Project #

Section I. Sub-Applicant Information

Part 1. Community and Project Information

A	**Sub-Applicant (Organization):**	Dodge County
B	**Type of Sub-Applicant:**	Local Government
C	**Project Title:**	Elkhorn Drainage District Project Identification
D	**Project Type:**	Other
E	**Project Location:** *(city and county)*	Dodge County-Elkhorn Township-Detailed in Appendix B.
F	**Estimated Total Project Cost:**	$ 800,000.00
G	**State Legislative District:**	15
H	**Congressional District(s):**	1
I	**Tax ID Number:**	47-6006454
J	**FIPS Code:**	31-053
K	**DUNS Number:**	117053094
L	**NIS Number:**	

Part 2. Point of Contact Information

Box A. Authorized Representative	
Name (Prefix, First, Last)	
Thomas Smith	
Title	
Director, Dodge County Emergency Management	
Street Address	
435 N Park Ave	
City, County, State and Zip + 4	
Fremont, NE 68025-4977	
Office Telephone (Area Code)	**Fax Number (Area Code)**
(402) 727-2785	
Email address	
dodgecoema@gmail.com	

Box B. Primary Point of Contact	
Name (Prefix, First, Last)	
Thomas Smith	
Title	
Director, Dodge County Emergency Management	
Street Address	
435 N Park Ave	
City, County, State and Zip + 4	
Fremont, NE 68025-4977	
Office Telephone (Area Code)	**Fax Number (Area Code)**
(402) 727-2785	
Email address	
dodgecoema@gmail.com	

Box C. Alternative Point of Contact	
Name (Prefix, First, Last)	
Title	
Street Address	
City, County, State and Zip + 4	
Office Telephone (Area Code)	Fax Number (Area Code)
Email address	

Box D. Financial Officer (if applicable)	
Name (Prefix, First, Last)	
Title	
Street Address	
City, County, State and Zip + 4	
Office Telephone (Area Code)	Fax Number (Area Code)
Email address	

Duplication of Benefits

Do you know if this project or activity is elibile for funding by any other State or Federal agency	No
Has the project been submitted to any other State or Federal agency for funding?	No
Has funding been approved or deemed ineligible by any other State or Federal agency?	No

Is/has the project or project area been under a study by a Federal, State, academic, or scientific group? *Upload study documents as applicable.*	No

Section II. Hazard Mitigation Plan Information

Part 1. Hazard Mitigation Plan

A.	**Local Multi-Hazard Mitigation Plan Title**	Lower Platte North NRD Multi-Jurisdictional HMP
B.	**Local Multi-Hazard Mitigation Plan Status**	2020 Plan in Review
C.	**LMP Approval Date**	5/1/2015
D.	**LMP Expiration Date**	5/1/2020

Part 2. Hazards to be Mitigated

Please select/check all that apply to the proposed project.

Agricultural/Biological		**Human Cause**	
Chemical		**Nuclear/Radiological**	
Civil Unrest		**Severe Ice Strom**	
Crop Losses		**Snow**	
Dam/Levee Breach		**Special Events**	
Drought		**Tornado**	
Fire		**Windstrom**	
Flood	X		
Freezing			

Part 3. Hazard Mitigation Strategies

Describe how this project aligns with the Local Hazard Mitigation Plan (LHMP). Include the specific LHMP Mitigation Strategies and page numbers.
GOAL 2: REDUCE FUTURE LOSSES FROM HAZARD EVENTS. Objective 2.2: Develop hazard specific plans, conduct studies or assessments, and retrofit buildings and facilities to mitigate for hazards and minimize their impact, Pg 3 DRAINAGE STUDY/STORMWATER MASTER PLAN, Section 7, Pg 20.

Describe how this project aligns with the State Hazard Mitigation Plan Mitigation. Include specific SHMP Strategies and page numbers.
Goal 2: Reduce or eliminate long term risk to property and/or the environment. Objective 2.4: Provide counties/communities with technical assistance on repetitive loss areas and ways to mitigate future damages. Pg 137. 4.4.5 – Long-Term Vulnerability Reduction. 5. Pre-identify and prepare projects for future funding opportunities. 7. Reduce or eliminate long term flood risk to property and/or the environment. (Flood) a. Effective development and growth management to minimize flooding risks for new structures and to preserve the natural and beneficial functions of flood hazard areas. b. Mitigation of flood hazards for existing structures, including repetitive loss and severe repetitive loss properties. c. Protection of state facilities and local critical facilities. Pg 155

Section III. Detailed Scope of Work

Part 1. Project Description

A. Describe the problem to be mitigated: Provide a detailed narrative describing the natural hazard you wish to mitigate, its impacts to the community and observations of historic damages and/or potential risk. Provide a brief description of existing conditions in the project area.
The Elkhorn Township ditch network captures storm water from City of Fremont and flood waters from the Maple and Elkhorn Rivers, City of Fremont, and Rawhide Creek diverting flood water back into the Elkhorn River while properly draining the City of Fremont, areas around the Cities' Critical Infrastructure, county roads, State Highways 275 and 30, and a rail line. Abondened by a defunct drainage district in 1929, the drainage system has not been maintained or upgraded to meet the current needs of the City of Fremont and Dodge County population and industrial growth. During the 2019 flooding these ditches were undable to handle the capacity of City of Fremont water runoff and the Maple and Elkhorn Riverine Flooding, Unable to propertly drain the water, these ditches retained water even as flood waters receeded. The 2019 Flooding further silted in the ditches and damaged ditch banks.

B. Detailed project description:

This is an application for HMGP Advance Assistance. The intent of this funding is to provide the State and local jurisdictions with funding to develop shovel-ready projects (refer to Tab 2: Advance Assistance). In this box please describe what this initial funding will be used for and how the activities and deliverables will support a future mitigation project(s) in the community. If you need more space, please attach a supplemental document. Activities may include but are not limited to:

- Data for the development of a project BCA,
- Environmental & Historic compliance consultation;
- Feasibility studies and hydrologic and hydraulic reports; and
- Engineering and conceptual design work.

A Drainage Improvement Project will be identified for drainage ditch improvements. Funding will be used to identify engineering design and feasibility studies for a specific complex community drainage project in the Elkhorn Township to be readily implemented.

Section IV. Project Location

Provide project site details (if available). If advance assistance will be used to prioritize different sites and determine the proper location for the project, you may leave this section blank and describe your intent under the project scope of work section (Section III of this application).

Location	Address or Town	Latitude (if available)	Longitude (if available)
1	Elkhorn Township Drainage Ditch System-See App. B (25,000 Acres, 11 Ditches)		
2			
3			
4			
5			

Using the FIRM, determine the flood(s) of the project site (Check all zones in the project area(s))

AE or A 1-30		**A (no BFE given)**	X	**C or X**	X
AO or AH		**B or X(Shaded)**		**Floodway**	X

NFIP Community Number:	

Panel Number(s):	31053C0425E	**Panel Date:**	1/2/2008
	31053C0450E		1/2/2008

Section VI A. Activities & Milestones

List the proposed activities and associated deliverables. For example, feasibility studies, engineering & design, BCA development, Environmental & Historic consultation letters and documentation, etc.

Activity	Associated deliverable
Stakeholder Engagement	Priorites, Strategies, Opportunities
Data Collections-damges/Drainage Infrastructure Assessment (conveyance and constrictions)	Risk Analysis
Hydrologic and Hydraulic Studies	1D/2D Models/Topo Surface Assessment
Conceptual Solution Design	Project Alternatives
Benefit Cost Analysis	BCA for Project
Environmental, Historical, Land Right Considerations	Summary of Findings
Detailed Design for Select Project Alterantives	Final Project Design
Funding Source Analysis	Summary of Funding Sources

Milestones Project Work Schedule: List the major milestones and timeframes for this project. This should reflect the proposed activities and anticipated deliverables resulting from this funding.	**Timeframe (in months)**
Stakeholder Engangement and Coordination	2
Request for Qualifications-Vendor Procurement & Selection	4
Stakeholder Meeting-Alternative and Draft Summary of Findings	6
Project Screening Meeting-Narrow Project Concepts	2
Final Project Design-Summary to Stakeholders	3
Final Coordiantion/Inspection with State/FEMA	2
Grant Close-out	3
Total Project Duration	22

Section VII.A Budget Summary

A. Budget Summary

Advance Assistance is subject to the HMGP cost-share requirements (75% federal share and 25% non-federal share). With this application, subapplicant must provide a local share commitment letter that states the amount of non-federal share, the sources of share and that the funds will be available through the completion of Advance Assistance activities. Please include the total estimate cost of the project activities proposed in this application, the federal share (75%), the non-federal share (25%) and sources of the non-federal share below.

Item	Quantity	Unit of Measure	Cost per Unit	Total Cost
Summary of Findings		15%		$ 120,000.00
Hydrdology Study		8%		$ 64,000.00
Hydraulics Study		20%		$ 160,000.00
Conceptual Solution Design		10%		$ 80,000.00
Benefit Cost Analysis		5%		$ 40,000.00
Detailed Design		42%		$ 336,000.00
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
Grand Total:				$ 800,000.00

B. Cost Share Breakdown

Source:		Amount	Percentage of Total
Federal Share HMGP:		$ 600,000.00	75%
Non-Federal:	Dodge County	$ 67,000.00	9%
Non-Federal:	City of Fremont	$ 66,500.00	8%
Non-Federal:	Lower Platte North Natural Resource District	$ 66,500.00	8%
Non-Federal:			
Total:		$ 800,000.00	100%

C. Budget Narrative:

Budget costs are based on percentages given for similair proposals.

Section VII. B Management Costs

Management Costs are capped at 5% of total eligible project costs. FEMA will provide 100% federal funding for management costs based on actual costs incurred up to the aforementioned rate. Eligible costs include application development (tasks must be differentiated from tasks to be funded by Advance Assistance), contract management, project-related travel, salaries and other expenses associated with managing the proposed project. If a sub-applicant choses not to request management costs, they must submit an official letter, on company letterhead, signed by their authorized representative indicating that they will not be requesting or applying for management cost reimbursement for this project.

Budget total:	$	800,000.00
Maximum management costs:	$	40,000.00

Is the subapplicant requesting management costs?	Yes

Description of task/activity	**Position title**	**Hours**	**Rate w/fringe**	**Cost**
roject Applicatin Planning Meeting-6/01//202				
Request for Qualification Drafting/Release				
Request for Qualification Review/Selection				
Meeting with Vendor				
Data Collection Support				
Stakeholder Meeting				
Final Project Design Meeting				
Meetings with State				
Management cost total:				**0**

Management cost budget narrative:

Section VIII. Environmental & Historic Preservation Information

This section lists the various federal laws and authorities that must be complied prior to and during project implementation (e.g. construction). **You do not need to complete this section as part of this Advance Assistance application. However, as part of your project deliverables you must document how effects to environmental and historic resources were considered early in the project scoping process.** Consultation with the agencies listed below may be conducted during implementation of Advance Assistance:

- Nebraska State Historic Preservation Office
- Nebraska Game & Parks
- Nebraska Department of Transportation
- US Army Corps of Engineers
- US Fish & Wildlife Service
- Local floodplain administrator and/or Nebraska Department of Natural Resources

Part 1. National Historic Preservation Act - Historical Buildings and Structures

Does your project affect, or is it in close proximity to, any buildings or structures?	

Part 2. National Historic Preservation Act - Archeological Resources

Will the proposed project involve disturbance of ground?	

Part 3. Endangered Species Act & Fish and Wildlife Coordination Act

A.	Are federally listed endangered or threatened species, or their critical habitat, present in or near the project area and, if so, which species are present?	
B.	Will the proposed project remove or affect vegetation?	
C.	Is the proposed project in or near (within 200 feet), or likely to affect, any type of waterway or body of water?	
D.	Does the project impact the South Platte, North Platte, or Platte River?	

Part 4. Clean Water Act, Rivers & Harbors Act and Executive Order 11990 (Protection of Wetlands)

A.	Will the project impact or modify any Waters of the United States as identified by the U.S. Army Corps of Engineers (USACE) or Environmental Protection Agency (EPA)?	

B.	Is the proposed project located in, or will it affect, a wetland as listed in the National Wetlands Inventory?	

Part 5. Executive Order 11988 (Floodplain Management)

A.	Does a Flood Insurance Rate Map (FIRM), Flood Hazard Boundary Map (FHBM), hydrological study, or some other source indicate that the project is located in, or will affect, a 100-year floodplain, a 500-year floodplain (if a critical action), an identified regulatory floodway, or an area prone to flooding?	
B.	Will the proposed project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?	

Part 6. Farmland Protection Policy Act

Will the proposed project convert more than five (5) acres of "prime or unique" farmland outside city limits to a non-agricultural use?	

Part 7. Resource Conservation and Recovery Act and Comprehensive Environmental

A.	Is there reason to suspect there are contaminants from a current or past use on the property associated with the proposed project?	
B.	Are there any studies, investigations or enforcement actions related to the property associated with the proposed project?	
C.	Will any project construction or operation activities involve the use of hazardous or toxic materials?	
D.	Are any of the current or past land uses of the property associated with the proposed project, or are any of the adjacent properties, associated with hazardous or toxic materials?	

Part 8. Executive Order 12898, Environmental Justice for Low-Income and Minority

A.	Are there any low-income or minority populations in the project's area of effect or adjacent to the project area?	

Part 9. Other Environmental / Historic Preservation Laws or Issues

A.	Are there any other environmental/historic preservation requirements associated with this project?	
B.	Are any controversial issues associated with this project?	

Section XI. Signature Page

To the best of my knowledge and belief, all data in this sub-application is true and accurate. The governing body has duly authorized me to act on their behalf as the Authorized Representative, and hereby applies for assistance documented in this sub-application. By signing below, I agree to act as the sub-applicant's Authorized Representative in the performance and management of this sub-grant. All parties understand that the project MAY NOT proceed until FEMA approval is granted.

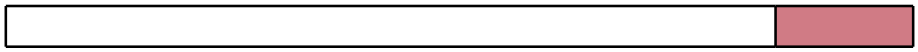
Thomas Smith	Director, Dodge County Emergency Management
Printed Name	**Title**
	
Authorized Representative Signature	**Date**

Section XII. Attachments

Appendix A: Supporting documentation (e.g. narratives, photos, etc.)

Appendix B: Maps (if available)

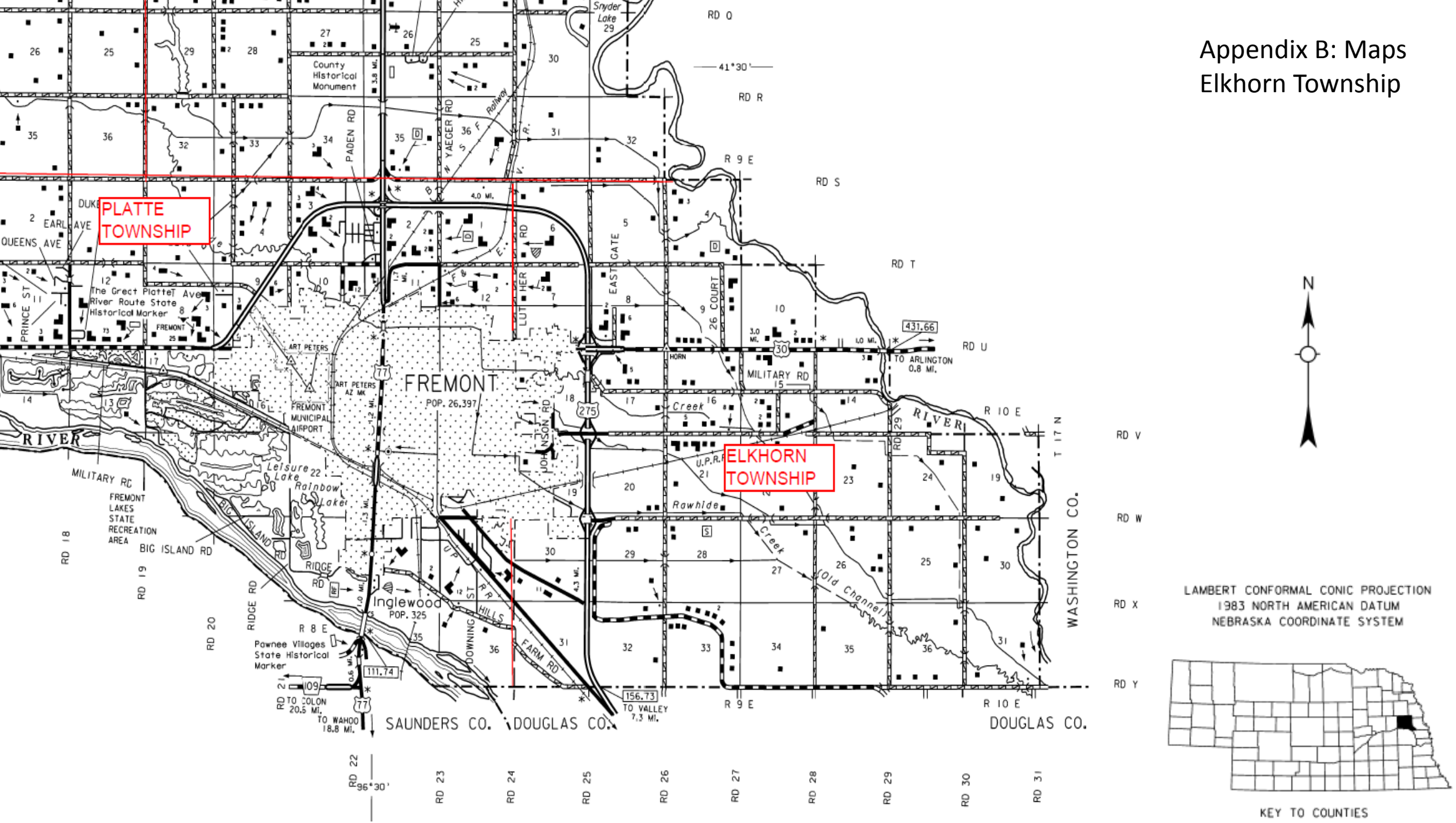
Site Maps	**X**
City or Couny Maps	**X**
FIRMs	**X**



Project types
Property acquisition demolition
Property acquisition relocation
Stormwater management/drainage improvements
Localized flood control
Non-localized flood control
Community safe room
Residential safe room
Property elevations
Floodproofing private structures
Floodproofing public structures
Retrofitting private structures
Retrofitting public structures
Mitigation reconstruction
Utility protective measures
Infrastructure protective measures
Other

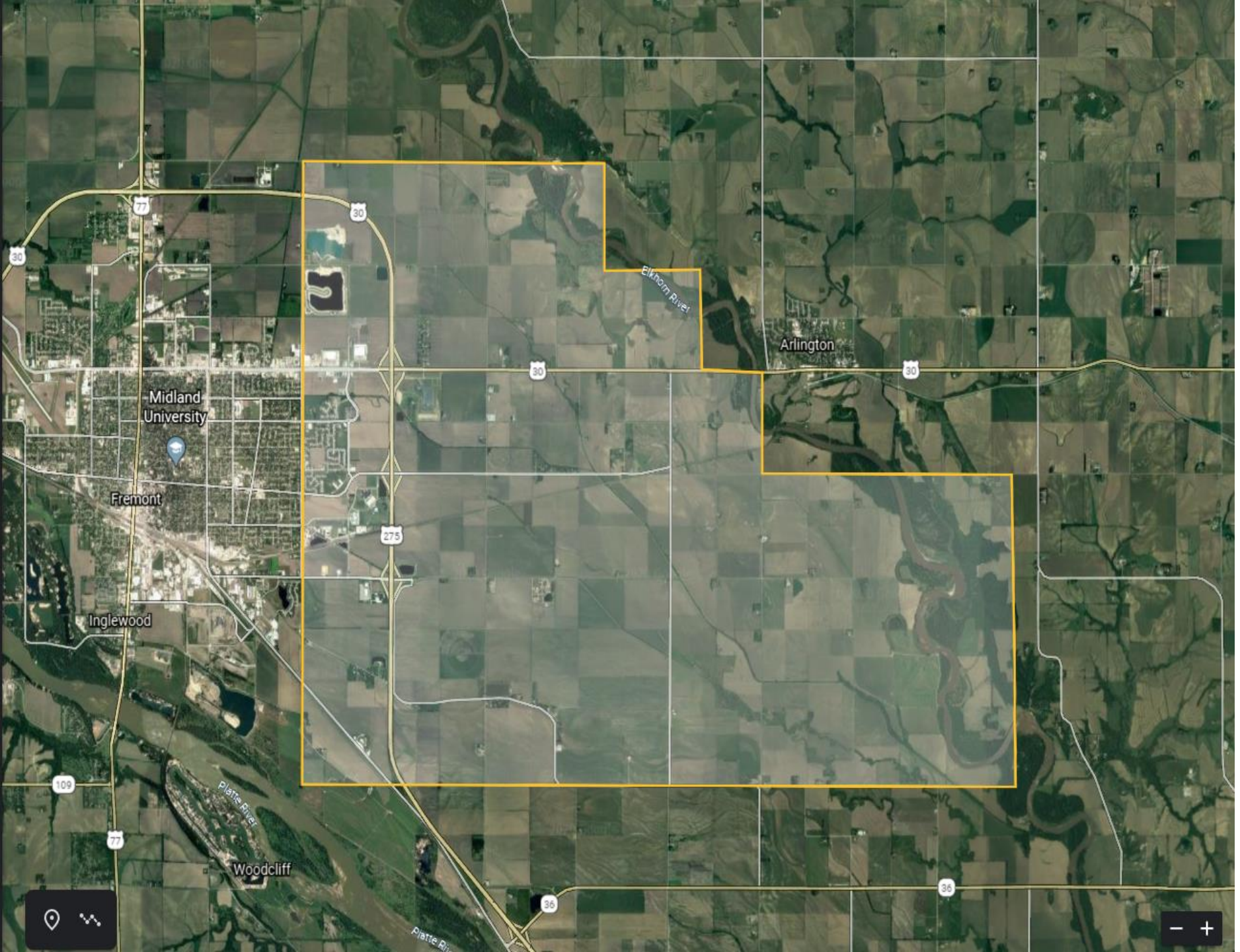
Yes
No

Appendix B: Maps
Elkhorn Township

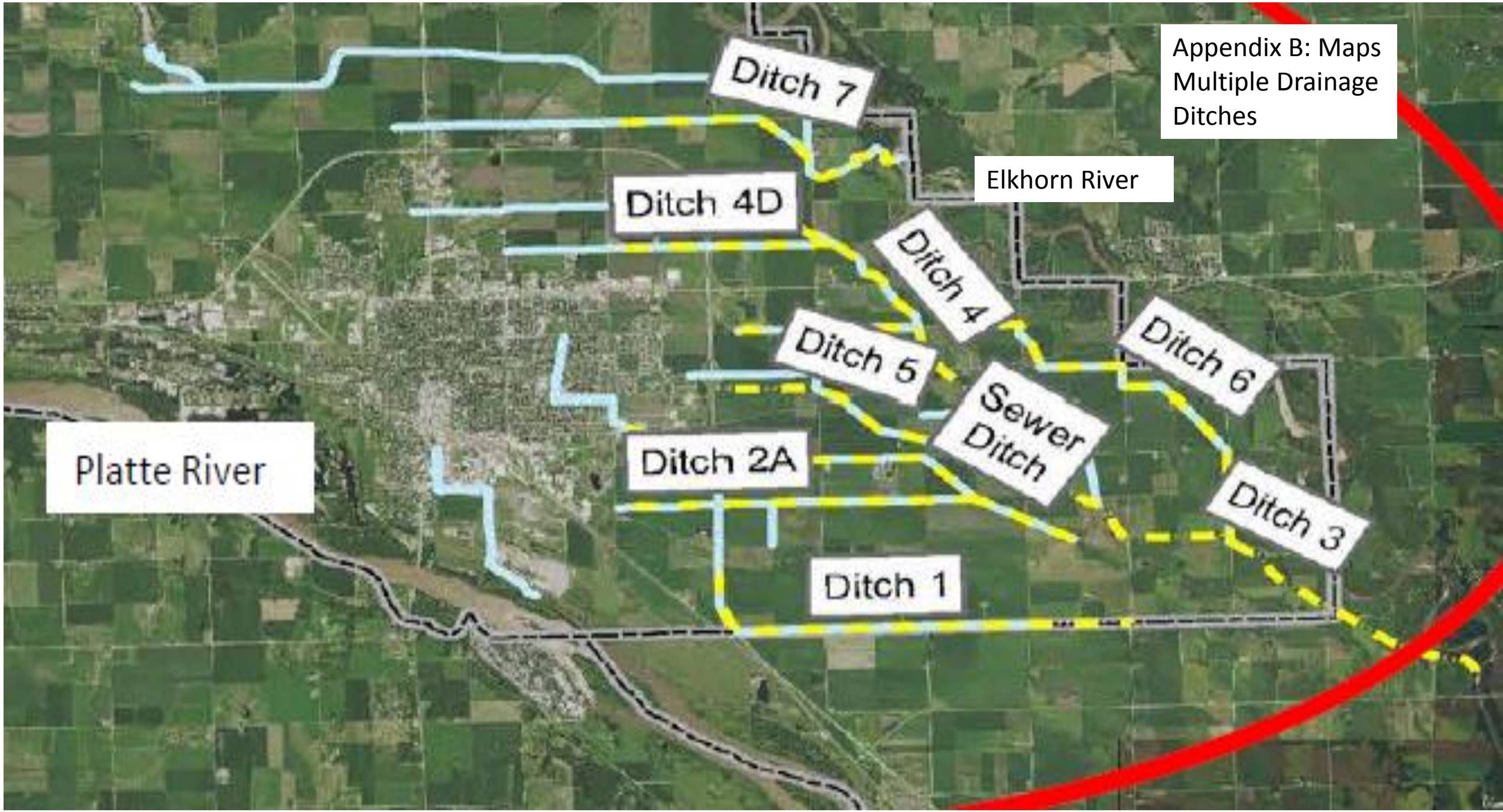


LAMBERT CONFORMAL CONIC PROJECTION
1983 NORTH AMERICAN DATUM
NEBRASKA COORDINATE SYSTEM

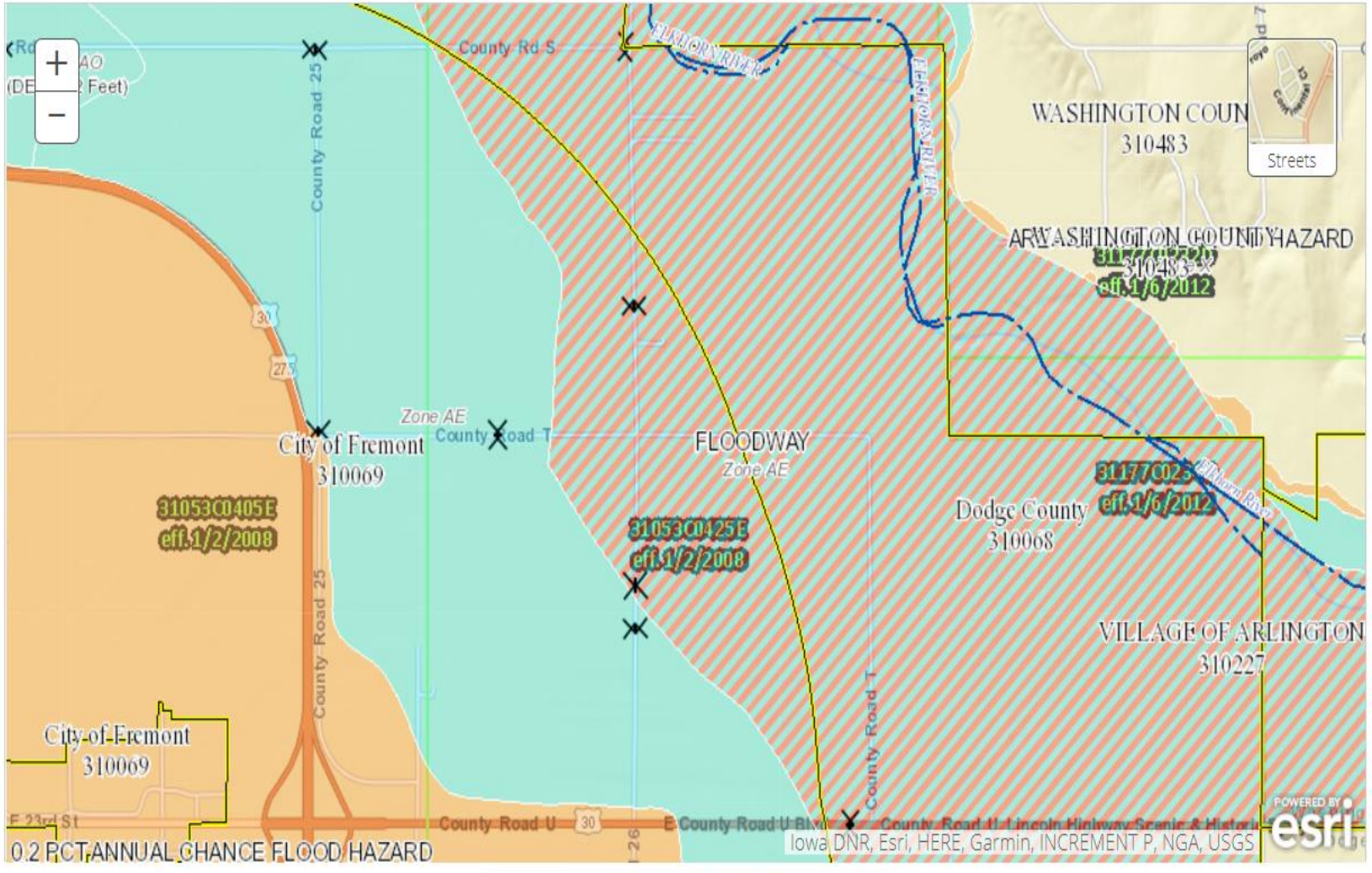
KEY TO COUNTIES

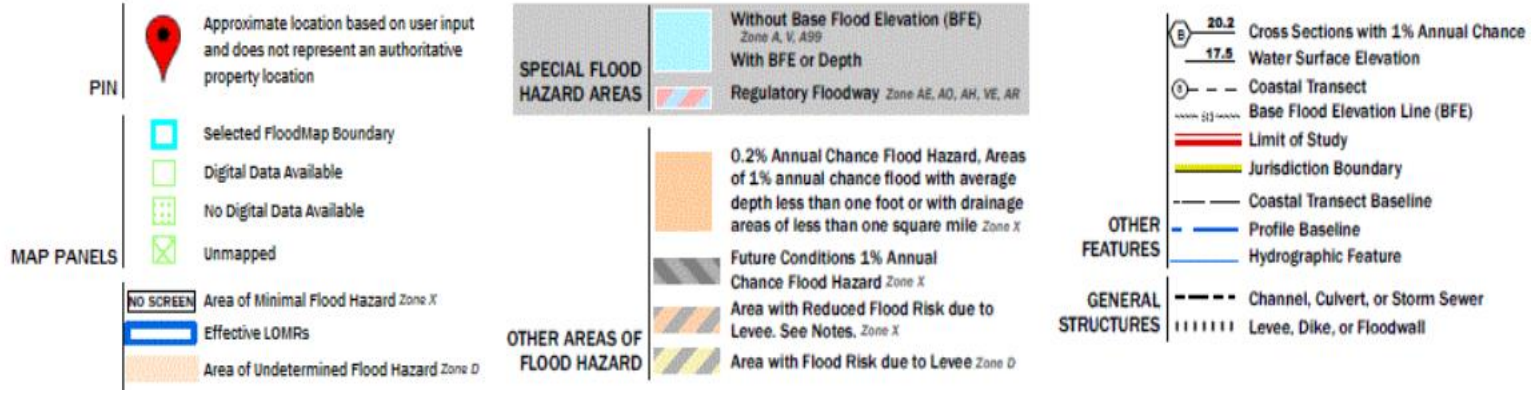


Appendix B: Maps
Elkhorn Township-
Project Area of
Interest

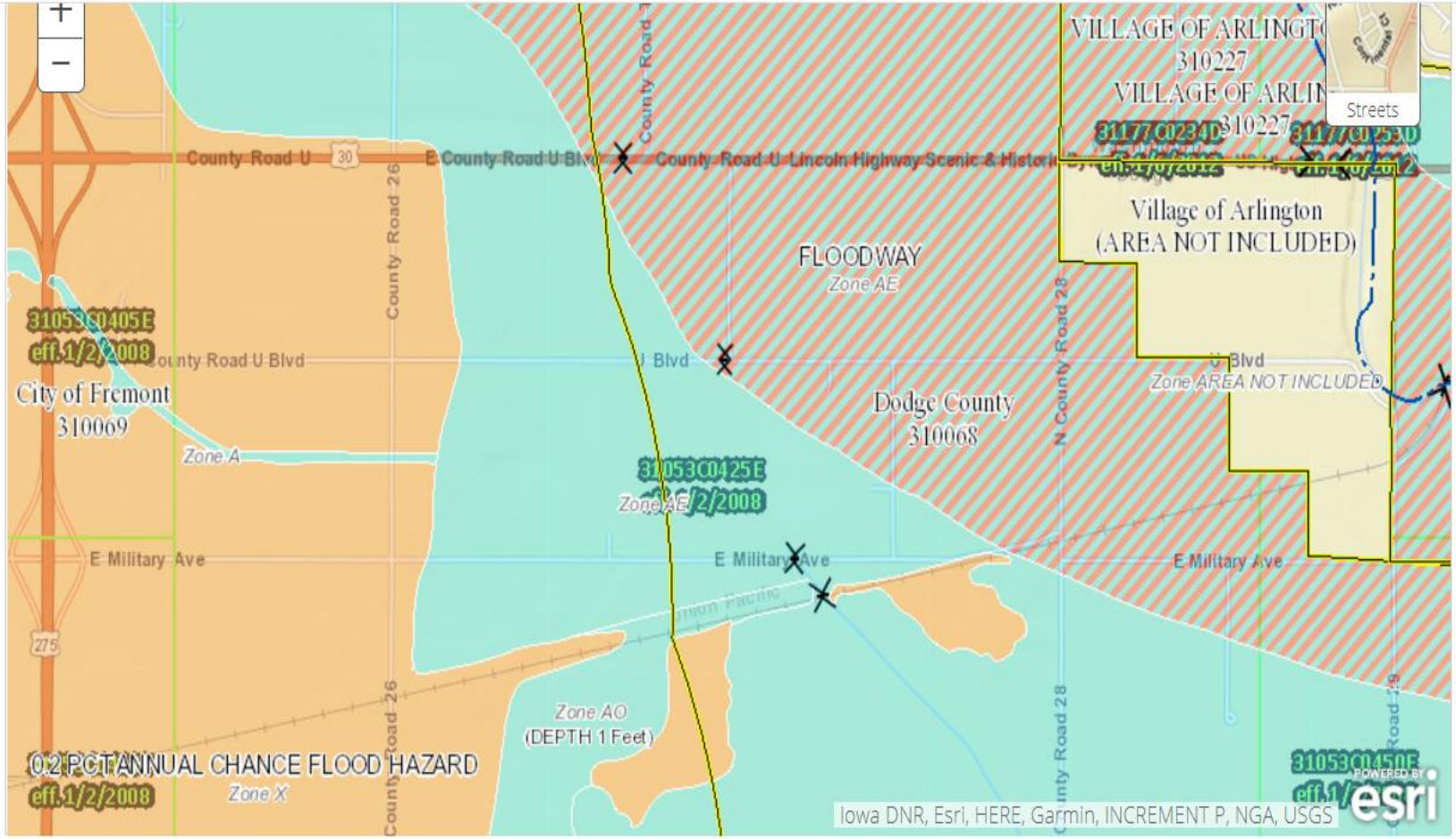

Appendix B: Maps
Multiple Drainage Ditches
Ditch 7
Elkhorn River
Ditch 4D
Ditch 4
Ditch 5
Ditch 6
Sewer Ditch
Platte River
Ditch 2A
Ditch 3
Ditch 1

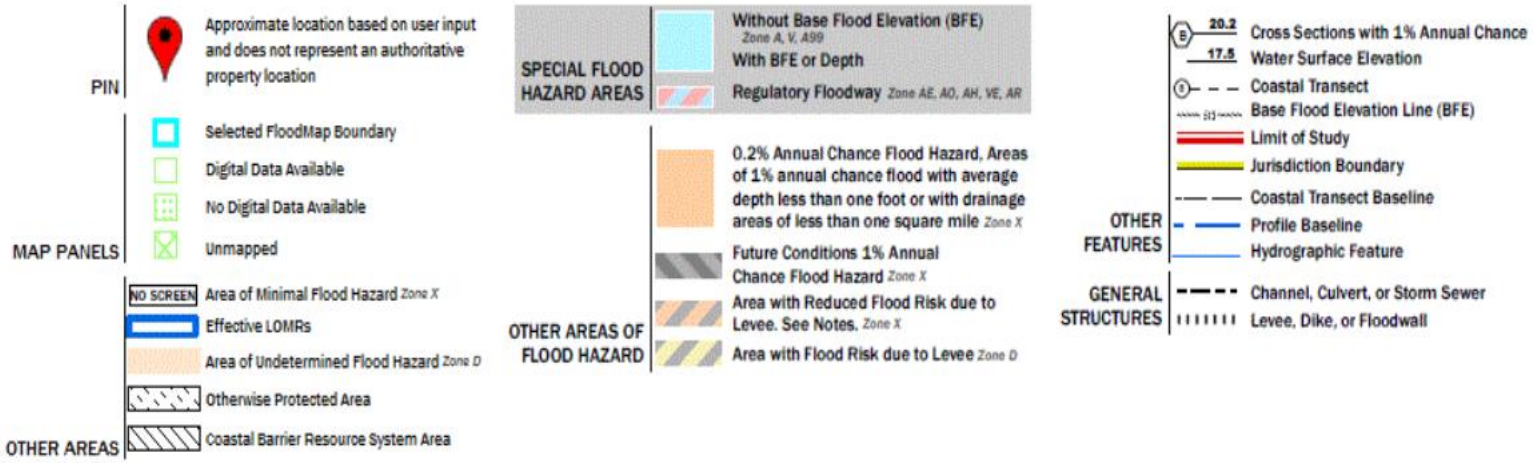
Appendix B: Maps
FIRM Panels
w/dates



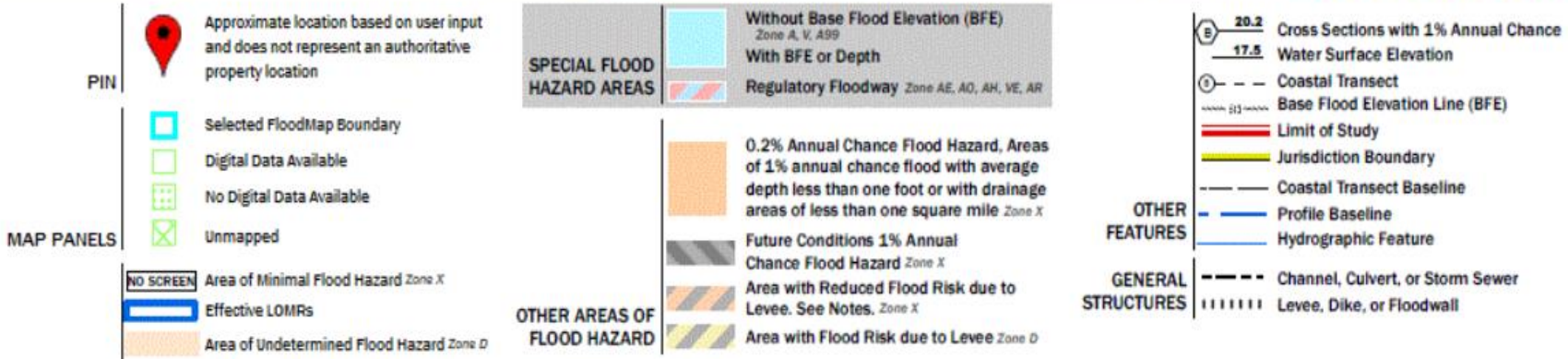


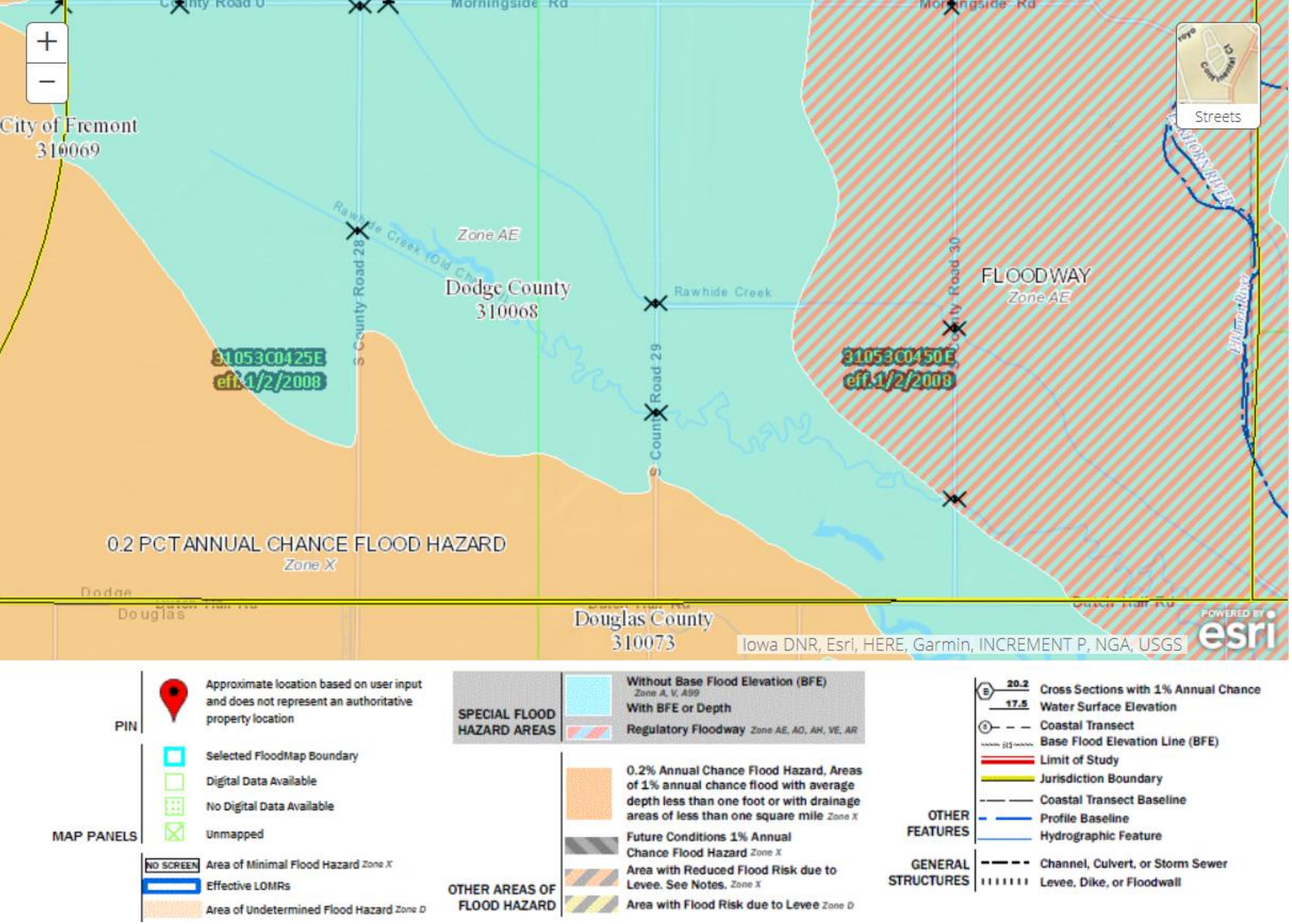
Appendix B: Maps
FIRM Panels
w/dates





Appendix B: Maps
FIRM Panels
w/dates





Appendix B: Maps
FIRM Panels
w/dates

PROPOSAL FOR

DODGE COUNTY DRAINAGE IMPROVEMENT PROJECT

DODGE COUNTY, NEBRASKA
(VIA THE JOINT WATER MANAGEMENT ADVISORY BOARD)
MAY 28, 2021

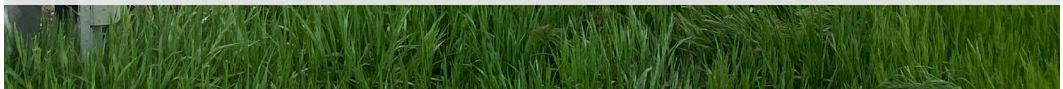
JEO CONSULTING GROUP, INC.

2000 Q Street, Suite 500
Lincoln, Nebraska 68503

jeo.com

Kevin Kruse, PE
Project Manager
p: 402.474.8759
e: kkruse@jeo.com

Lalit Jha, PE, CFM, D.WRE
Project Principal
p: 402.443.8010
e: ljha@jeo.com



May 28, 2021

Dodge County Emergency Management
Attn: Tom Smith, Director
435 N Park Ave, Ste 101B
Fremont, Nebraska 68025

RE: Proposal for the Dodge County Drainage Improvement Project

Dear Selection Committee Members:

Since 1909, efforts to improve drainage on 25,000 acres east of Fremont have been the focus of drainage districts, Dodge County, property owners, and Lower Platte North Natural Resources District (LPNNRD). Now, Dodge County, on behalf of the Joint Water Management Advisory Board (JWMAB), is reigniting a significant effort to produce shovel-ready projects to reduce flooding in this same area through a Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) Advanced Assistance project. This is the opportunity to leverage grant dollars (now and future) to solve a long-standing issue in this area.

In January 2019, prior to the March 2019 flood event, JEO had begun working with Fremont, Dodge County, and LPNNRD to explore funding options to study this same issue and identify alternatives to reduce flood risk. Since this time, and especially after the flood, JEO's staff have become familiar with the partners and flooding issues including urban drainage, the complexity of the Rawhide rural drainage ditches, and difficulties with high groundwater impeding drainage.

The JEO team offers FEMA HMGP experts, hydrologic and hydraulic (H&H) dedicated experts, design engineers who specialize in using the FEMA Benefit-Cost Analysis (BCA) Toolkit, funding specialists, and a hydrogeologist – everything required to take Dodge County to the next step of building projects. JEO's knowledge of the grant funding requirements allows us to maximize the available dollars now to multiply them for implementation, targeting a variety of funding programs. Specific attention will be placed on operation and maintenance (O&M), NEPA, easements, and stakeholder involvement. The top three highlights of our team include the following:

- **FEMA HMGP PROCESS EXPERTISE:** Since 2015, JEO has successfully assisted communities in securing almost $7.5 million of federal funds through HMGP for design and construction of vital flood risk reduction projects. Kevin Kruse has specifically been involved with almost $5.5 million of those funds, with the most recent being Forest Lake Boulevard Drainage Improvements in Lincoln, approved for $662,250 on May 18th, 2021. The process to achieve a positive benefit-cost ratio with FEMA is challenging, but our project manager Kevin has mastered the process and facilitated successful funding applications for four large scale drainage improvements in Nebraska.

  The HMGP process is far more challenging and completely different than FEMA's Public Assistance process for damage repair and recovery and Section 406 fudning. Our project team supporting Kevin includes four specialists who have worked together specifically on HMGP design and BCA processes including:
  - Mary Baker – A FEMA funding specialist who has recently been coordinating with Fremont on HMGP-funded nonstructural flood mitigation projects.
  - Justin Stine – A senior design engineer, specifically tasked to larger and more complicated projects and those that utilize the FEMA BCA Toolkit.
  - Patrick Hartman – A senior project engineer specializing in H&H analysis and a critical member of JEO's FEMA HMGP group.
  - John Callen – A senior project engineer with specific understanding of the unique flood conditions in Dodge County/Fremont and the intricacies of the FEMA BCA process.

- **FAMILIARITY WITH LOCAL HYDROLOGY & HYDRAULICS:** Most of the damages in the Dodge County area have a hydrologic connection. JEO is working on over ten local drainage/flood control projects with JWMAB members in response to flood damages and has a specific understanding of these areas of Fremont/Dodge County. Having this experience and leveraging data between these efforts including existing H&H models, topographic survey, and repair concepts will save costs by not duplicating efforts. Our staff also brings a healthy working relationship with agency partners including the Nebraska Department of Natural Resources (NeDNR) and the U.S. Army Corps of Engineers (USACE). Our approach to working with each agency is collaborative, rather than combative.

  The H&H analysis for the Dodge County Drainage Improvement Project is critical to:
  - Understanding existing drainage urban infrastructure within Fremont and the rural drainage to the Elkhorn River
  - Quantifying urban and rural flood risks/damages
  - Identifying risk reduction alternatives
  - Achieving a positive benefit-cost ratio (BCR>1.0)

  The H&H model is also the backbone of FEMA's BCA Toolkit. JEO will develop a robust 1D/2D analysis to evaluate the flow interactions and determine a holistic flood risk reduction improvement. JEO is already involved in other related discussions including H&H evaluations within the Rawhide Creek Watershed and would review the likelihood and potential schedules of all ongoing project opportunities to utilize a common model for development of comprehensive strategies for the JWMAB area, which would bring cost savings and consistency to JWMAB communities.

- **LONG-TERM VISION AND CONSIDERATION OF ALTERNATIVE FUNDING:** Our team has a strong record of success with pulling in multiple funding sources to collaboratively complete projects. This advanced assistance grant is focused on developing an HMGP grant application, something JEO has substantial experience with. Our knowledge of FEMA-funded projects allows us to identify which projects/activities FEMA likely will (or won't) fund. Our vision for this area and its stakeholders is to develop a multi-pronged risk reduction and funding approach that maximizes available programs based on their purposes.

  In this proposal we've highlighted the 56th & Morton Drainage Improvement project in Lincoln as a successful example. JEO was able to identify and facilitate funding from six separate sources, including federal funds through HMGP ($4 million). This project included not only flood reduction measures, but also improvements to streets, water and sewer, utilities, and electrical systems to provide the community a holistic improvement with minimal disruption. The drainage challenges in this area of Dodge County may bring a similar funding opportunity to leverage FEMA HMGP funds with other sources for improvements that might be ineligible for FEMA funding. For example, this is within a target area for potential flow augmentation wellfields to the Platte River to benefit the downstream Lincoln and Omaha drinking water wellfields, per the Lower Platte River Drought Contingency Plan (October 2019). Projects of this nature may be attractive to the Water Sustainability Fund, administered by the Nebraska Natural Resources Commission. To assist with the groundwater related evaluation and to explore opportunities for additional funding, JEO has groundwater and flow augmentation specialists (LRE Water, Inc. and The Flatwater Group). Each of these partners has substantial experience in this specific Dodge County area to evaluate other opportunities that may exist, including high groundwater issues and potential flow augmentation.

  In this proposal you'll see JEO brings a well-rounded team, as well as the necessary FEMA-funded project experience not only to complete this Advanced Assistance project, but also go after funding through HMGP and multiple funding sources.

We look forward to helping Dodge County, Fremont, LPNNRD, and all JWMAB address this long-term drainage and flooding concern. We welcome an opportunity to meet in person or discuss our proposal further.

Sincerely,

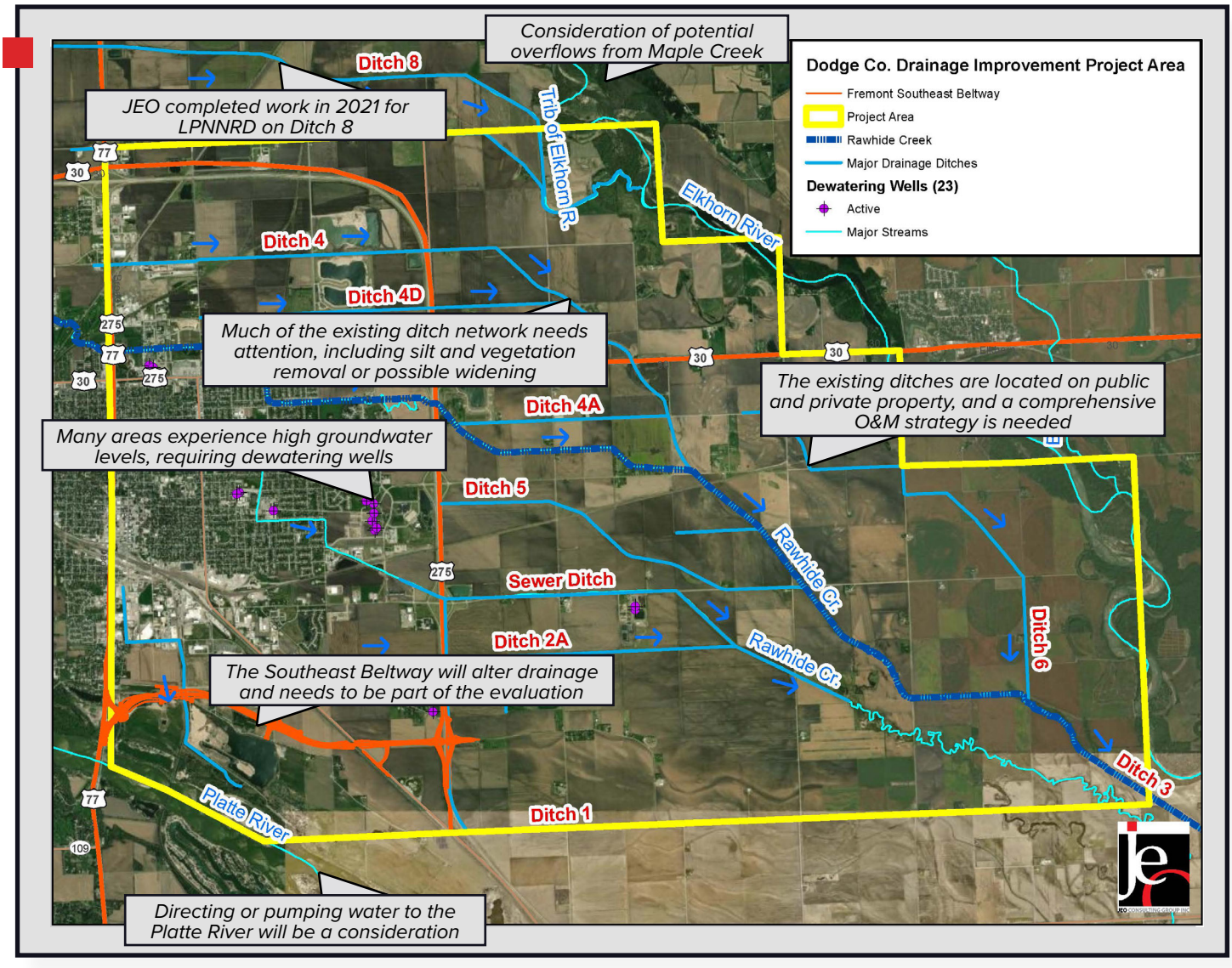
Kevin Kruse, PE
Project Manager

Lalit Jha, PE, D.WRE, CFM
Project Principal

PROJECT UNDERSTANDING AND APPROACH

Project Understanding

The original Elkhorn River Drainage District was formed in 1909 and was in place until 1929, with the intention to maintain a series of ditches east of Fremont to reduce flooding and enhance agricultural operations. Since that time, inconsistent maintenance has resulted in sediment- and vegetation-filled channels, hindering the system's ability to convey stormwater from Fremont to the Elkhorn River. Now, Dodge County is taking the lead to perform a hydrologic and hydraulic analysis to identify and design structural solutions to reduce flood risk and improve drainage, with funding assistance from FEMA, which will provide the resources necessary to make the Dodge County Drainage Improvement Project a success.



The primary goal of the project is to develop and design a project that reduces flood risk in East Fremont/Dodge County and is fundable through FEMA HMGP.

The secondary goal of the project is to identify additional projects and partners that may also be implemented separately from the HMGP project that will also reduce flood risk.

Project Approach

#1 Asset Inventory

The main focus of this effort is to improve the localized drainage performance, east of Highway 77, and into and out of the rural areas leading to the Elkhorn River. **The inventory is necessary to fully understand how the existing system is performing and what modifications will be necessary.** This inventory will rely heavily on existing data, most of which JEO has on-hand from other ongoing efforts in the area. Among other sources the following information will be utilized:

- **Flood Damages/Flooding Issues**
  - Knowledge on site specific flooding locations
  - Known areas with Operation and Maintenance (O&M) problems
  - Known food insurance claims or substantial damage observations
  - Flood damage reports to county road system
  - 2019 flood impacts/damages
- **Dodge County and City of Fremont**
  - Assessor's property information
  - Storm sewer database
  - County road/culvert and ditching/diking records
  - Current and future land use plans
- **NDOT**
  - Design plans and/or record drawings
- **NeDNR/USGS**
  - Post 2019 flood LiDAR and aerial imagery
  - 2019 flood observations/high water marks
  - Well registration information
  - Elkhorn and Platte River flow data
  - Elkhorn and Platte Rivers flood insurance studies
  - Elkhorn and Platte Rivers revised flood studies
- **Lower Platte North NRD**
  - Seasonal groundwater levels
  - Airborne Electromagnetic (AEM) data (already in place by the JEO team)
  - Institutional knowledge on past collaborative efforts

JEO will review O&M abilities with city/county/LPNNRD to determine what future responsibilities each agency is willing to accept. This information will be critical in developing and screening projects that are successful in the long-term.

#2 - Existing Conditions Review and Model Development

The 2019 flood was a devastating and catastrophic event for the area. Several agencies have estimated that this event was between a 100-year and a 500-year event. **While the fallout from this event is still fresh in the public and local agencies minds, it is also important to note that the area of east Fremont has received flood damages from much smaller and more frequent storm events.** The intent of the evaluation is to reduce risk and ultimately damages from all potential events. To support that goal, the drainage evaluation will need to be both comprehensive and detailed enough to not only identify pragmatic solutions, but also be used as the foundation for justifying funding requests through programs such as HMGP. The HMGP is unique in that a detailed BCA is required to justify projects. JEO has successfully developed these BCA's for several recent projects and through this process have developed a unique understanding of FEMA's guidelines and process. **In order to receive a positive BCA, careful attention must be paid to the smaller, yet frequent storm events (2-year, 5-year, 10-year, etc.). Special attention is paid to documented flood damages/issues in the inventory above for this reason.** Since these storms happen more frequently, any damages (no matter how small) compound quickly and have a much larger impact on the BCA than very infrequent, yet catastrophic events. This approach is based on JEO's recent experience in similar urban/rural conditions and will be built specifically with the eventual FEMA BCA in mind. **JEO is already heavily involved in other projects and related discussions including H&H evaluations that cover this and adjacent areas and will ensure the model is usable for future floodplain needs.**

Stakeholder and public engagement meetings will occur at least three times to gather input, vet alternatives, and present preliminary designs to ensure there will be public buy-in.

A common modeling approach will be utilized for development of comprehensive strategies:

- Leveraging the H&H model from the WFPO, enhance certain areas with 1D/2D methodology that evaluates the pipe and ditch network, urban areas, and how stormwater moves overland once the pipes/ditches are full.
- Review adjacent watershed (Rawhide and Maple Creek, etc.) to determine potential overflow contributions that may be crossing watershed boundaries and incorporate flows.
- Incorporate recent developments (Fremont Southeast Beltway and Costco).
- Utilize hydrogeologic and well data and analysis to develop potential high/low groundwater sensitivity issues.
- Review the existing conditions model with the city, county, and LPNNRD to calibrate the model. This calibration will review the model results with real-world observations.
- Review and develop a database of select properties that are seeing flood damages for the existing conditions. JEO will apply unique understanding of the area learned through our previous work with the hazard mitigation plan development and property elevation projects. These properties will be utilized to screen benefits of project alternatives and may also be used for the BCA of the chosen alternative. Information on select properties may include property owner, assessed property value, flood depths for various events, and/or first floor elevations, etc.

#3 Program Development and Recommendations

To address issues over 25,000 acres of urbanized and developing area, a programmatic approach will be used to evaluate and screen large-scale improvements. This approach maximizes available federal and state funding while also phasing the necessary improvements to provide immediate impact. **While primary goal of this project is to identify and design projects that are fundable through HMGP, JEO will also be considering other funding sources, as well.**

JEO will facilitate a review with NEMA/FEMA of the project goals, potential alternatives, and review screening outcomes with them to ensure a shovel ready project is established.

- Upon review of the existing conditions, the JEO team will develop, screen, and prioritize alternate improvement scenarios. Improvements to be evaluated will likely include (but are not limited to): new ditch alignments, improvements to existing ditches, storm sewer improvements, detention/ retention facilities, and de-watering (groundwater wells) systems.
- Other project partners/funding sources may include:
  - Water Sustainability Fund
  - Nebraska Environmental Trust
  - Coronavirus State and Local Fiscal Recovery Funds
  - Platte River Drought Contingency Plan Stakeholders (Metropolitan Utilities District, Lincoln Water System, etc.)
- Develop conceptual-level impacts of the alternatives for elements such as flood reduction, utility impacts, O&M responsibilities, land acquisition needs, Environmental and Historic Preservation (EHP), and other permit considerations. These impacts will be utilized as part of the screening to select a final selected alternative.
- **Screen potential projects for a variety of funding program eligibility. The primary objective of this phase is to identify a shovel-ready project by:**
  - **Developing a fundable project through the HMGP program leveraging JEO's recent experience**
  - **Meeting FEMA eligibility requirements**
  - **Navigating the stringent BCA requirements**
- Work closely with the city/county/LPNNRD to finalize a programmatic approach and to identify a funding approach for the secondary or non-HMGP projects.

#4 - Final Design and HMGP Application for Selected Alternative

Upon selection of the chosen alternative, JEO will develop a detailed design. It is the intent that at the conclusion of this phase, the final design will be complete providing a shovel-ready improvement. **The final design will include final plan drawings and specifications, cost opinions, permit applications as necessary (depending on selected alternative), and real estate needs (final easement and/or acquisition documents). HMGP has specific requirements regarding the acquisition of property rights, and JEO has recently facilitated this process for the 56th & Morton project in Lincoln where over 30 easements and acquisitions were necessary.** This experience will be leveraged to develop an outreach program of one-on-one meetings with select landowners to update them on the project and also review property acquisition needs.

Concurrently with the final design development, the JEO team will develop the grant application package ready for submittal to NEMA/FEMA. JEO will apply our ongoing experience on HMGP funded projects in Lincoln (56th & Morton in 2016 and Forest Lake Blvd in 2021), Nebraska City (in 2014), and Valentine (in 2013) to develop the application. The application will include a detailed BCA that will be continually updated throughout the design process. **By developing the BCA and application documentation concurrently with the design, the project team can maximize the federal funding to provide the community the most benefit.** Recent applications have utilized benefits from the following, and we'll be applying that experience to maximize the benefits of the selected alternative.

- Structural flood depth reduction
- Street flood depth reduction
- Reduction of damages to utilities/infrastructure
- Residential displacements
- Social benefits
- Preservation of emergency services
- Environmental benefits

Throughout the development of the final design package and the grant application, Kevin Kruse will be in direct contact with NEMA/FEMA to ensure that the project is ultimately funded and proceeds to the construction phase. Prompt responses to Requests for Information and supporting the city/county/LPNNRD, as necessary, will be critical.

PROPOSED TEAM MEMBERS

Key Personnel

The project team has been built specifically to provide the county/city/LPNNRD unique expertise in evaluation, screening and design of FEMA HMGP projects. **Kevin Kruse, our project manager, has personally been involved in four successful HMGP-funded project and has a strong track record of assisting communities leverage HMGP funding to implement flood risk reduction projects.** Other key staff members have also been integral components of HMGP projects and have built an efficient and robust team to provide the county/city/LPNNRD a pragmatic and fundable solution.

DODGE COUNTY
(VIA THE JOINT WATER MANAGEMENT ADVISORY BOARD)

PROJECT PRINCIPAL
Lalit Jha, PE, D.WRE, CFM

PROJECT MANAGER
Kevin Kruse, PE

QA/QC
Dan Fricke, PE, CFM
Randy Graham, PE, D.WRE, CFM

PROJECT TEAM

HYDROLOGY & HYDRAULIC MODELING
Patrick Hartman, PE
John Callen, PE, CFM

PROJECT SCREENING
Patrick Hartman, PE
Justin Stine, PE
Jake Miriovsky, PE
Dave Hume, PG[1]
Marc Groff, PE[2]

ALTERNATIVES DEVELOPMENT
Justin Stine, PE
Jake Miriovsky, PE
Dave Hume, PG[1]
Marc Groff, PE[2]

GROUNDWATER IMPACTS EVALUATION
Dave Hume, PG[1]
Marc Groff, PE[2]

FEMA BENEFIT-COST ASSESSMENT
John Callen, PE, CFM
Patrick Hartman, PE
Mary Baker

PROJECT COST DEVELOPMENT
Justin Stine, PE
Jake Miriovsky, PE
Dave Hume, PG[1]

FINAL DESIGN DOCUMENTS
Justin Stine, PE
Colleen Ocken, EI
Eric Olson

GRANT WRITING
Mary Baker
Terry Meier

REGULATORY REVIEW
Mike Heller, CPESC

STAKEHOLDER ENGAGEMENT
Andrea Gebhart, AICP

SURVEY
Josh Borchers, LS

Subconsultants:
1: LRE Water *2: The Flatwater Group (if necessary)*

GRANT WRITING TEAM
KNOWLEDGE AND HISTORY

Funding is critically important for turning ideas into reality. It is truly an integral part of the project development. **Despite its importance, quality projects are often delayed—or even canceled—due to the lack of appropriate funding.** An awareness of available funding options is a critical first step in addressing a project's funding needs.

The JEO funding department understands how crucial it is to educate and inform community leaders on funding options, so they can make responsible decisions on how best to proceed with their project. Uncovering all available resources ensures our clients that no stone has been left unturned when it comes to funding.

Terry Meier (JEO's funding specialist) will consider all grants, loans, tax credits, and statutorily-authorized programs that may help fund projects. Terry has over 33 years of proven grant writing experience. **During that time, he has successfully written applications that have resulted in over $425 million in community betterment projects.**

Mary Baker will bring her experience from working at the State of Nebraska for over 12 years, including five years as the State Hazard Mitigation Officer for the Nebraska Emergency Management Agency. **Mary has a strong knowledge of FEMA's funding requirements, policies, and grant management.**

Not many local firms offer a full-time funding specialist whose primary focus is assisting clients with public grants and loans, nor do many have a NEMA/FEMA expert.

Areas of Funding Expertise

- Community strategic planning
- Community assessment, needs identification, and prioritization
- Public facilitation
- Project development and coordination
- Issues facing rural development
- Grant writing and administration
- Local capital campaigns
- Economic development planning
- Downtown revitalization planning
- Tourism development projects
- Housing needs assessment and implementation
- Business transfer issues

Terry Meier

Terry came to JEO from Southeast Nebraska Development District (SENDD), thus his knowledge of grants in general, and specifically his knowledge of the requirements related to state and federal funding, is exceptional!

Mary Baker

As the former State Hazard Mitigation Officer for the Nebraska Emergency Management Agency, Mary Baker knows NEMA and FEMA requirements, policies, and grant management.

FEMA FUNDING EXPERIENCE
NEBRASKA AND IOWA

Since 2010, JEO has featured a specialized group of hazard mitigation planners and engineers that have become proficient with FEMA funding programs, including the Public Assistance (PA) Program, HMGP, Pre-Disaster Mitigation (PDM), and Flood Mitigation Assistance (FMA). We are very familiar with the FEMA Public Assistance Program and Policy Guide (PAPPG) through our continuous work on FEMA PA projects.

Over the last decade, our FEMA funding team has maintained solid professional relationship with the NEMA, NeDNR, and FEMA staff. Whether a mitigation project, or disaster response, our team knows who to call to obtain information quickly.

The JEO team has successfully written FEMA Planning Grants and Project Grant Applications for over 60 projects throughout Nebraska since 2010. JEO team members have written grants that provided over $270 million to the communities we serve in Nebraska and western Iowa. Our team has also assisted in securing over $130 million for flood risk reduction projects to our clients in Nebraska and western Iowa.

- FEMA Grant (All Programs): ~$25 million
- WSF (Water Sustainability Fund) Grant: ~$30 million
- State of Iowa Flood Mitigation Program: ~$70 million
- CDBG-HUD, NRCS, NET, DEQ: ~$5 million
- Economic Development Administration: ~$8 million

HMGP Advanced Assistance Process

JEO has unrivaled experience in Nebraska navigating the HMGP process. As a firm, we have successfully facilitated almost $7.5 million of HMGP project funding and $2.8 million HMGP/PDM planning funding for our clients. Through that experience, we have refined the process to be streamlined, efficient and successful.

1 Evaluate Existing Conditions

- Existing conditions modeling
- Quantify and monetize damages from all storm events
  - **Damages from small, but frequent events, significantly impact funding ability**
  - Damages from all events may be necessary for a favorable BCA

2 Mitigation Alternative Development

- Develop alternatives
  - Quantify benefits (flood risk reduction or avoidance of future damages)
- Review each alternative costs and impacts
  - Construction cost
  - Future O&M responsibility
  - Real estate needs and costs
  - Public Acceptance
  - EHP
- Preliminary BCA
- Benefits/Costs > 1.00 for eligibility
- Selection of desired alternative with input from stakeholders

3 Design of Desired Alternative

- Final design documents (plans & specifications)
- Finalize real estate needs and begin negotiations
  - Acquisition for HMGP must be “willing seller/willing buyer”
  - Condemnation is not an option for those FEMA funds
- Stakeholder/public engagement
- Update BCA throughout design process
- Environmental compliance/permitting

4 Complete Final HMGP Application for Construction Funds

- Finalize BCA
- Finalize project narrative
- Coordinate with NEMA/FEMA on EHP review
- Respond to Requests for Information (RFI) as necessary
- Prepare for construction

KEVIN KRUSE

PE

Project Manager

Kevin is a senior project manager and engineer. During his career, Kevin has been the lead designer and project manager on numerous large-scale water resources projects. His expertise involves urban stormwater master planning and design, including levee and large scale flood risk reduction projects. **Kevin has also been the project manager on several urban drainage improvements successfully funded through FEMA's Hazard Mitigation Grant Program. Kevin will serve as the project manager and be the primary point of contact with FEMA/NEMA.**

EDUCATION

M.S., Civil Engineering
University of Nebraska

B.S., Civil Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska, Iowa, Kansas, and Wyoming

TENURE

21 years

PROJECT EXPERIENCE:

56th & Morton Flood Control Project, Lincoln, NE
Many businesses have experienced frequent flooding in north Lincoln along 56th St. due to inadequate drainage for a tributary to Salt Creek. Kevin served as project manager to evaluate the system and develop alternatives. Upon selection of the chosen alternative, **Kevin developed the successful HMGP application** which provided federal funds for the design and construction phases of the project**. Total federal funding was $4,008,542 (HMGP).**

Forest Lake Blvd Drainage Improvements, Lincoln, NE
For decades, a tributary of Antelope Creek bounded by Forest Lake Blvd. and 67th St. has been prone to structural and street flooding. Kevin served as the project manager and lead engineer to review the existing conditions and to identify solutions to reduce flood risk and ultimately flood damages. Through this process culvert improvements were identified at both street crossings that would lower flood depths by as much as 3' in the reach and dramatically reduce the flood risk to neighboring properties. Concurrent with the design process, **Kevin and his team also developed the HMGP application.** In May 2021, FEMA approved project funding and the city and Kevin are currently preparing for construction in the spring of 2022. **Total federal funding was $662,250 (HMGP).**

Urban Drainage Improvements (All Phases), Valentine, NE
Kevin served as project manager to evaluate the urban drainage conditions and develop a recommended program of improvements to address structural and street flooding. Following the completion of the evaluation phase, **Kevin assisted the city with the development of a successful HMGP application that funded the design of the overall improvements**. Following the construction of Phase 1, Kevin once again assisted the community by securing federal Economic Develop Act (EDA) funding for the design and construction of Phase 2 which is currently underway. **Total federal funding was $477,562.50 (HMGP) and $2,441,906.25 (EDA).**

South Table Creek Bank Stabilization, Nebraska City Utilities, NE
Kevin provided the QA/QC reviews of the concept development, HMGP application development, and final design of a streambank stabilization project to protect the existing sanitary sewer treatment plant for the City of Nebraska City. This project installed rock rip rap and steel sheet pile to reduce risk of future erosion that would jeopardize the functionality of the sewer treatment plant that serves the entire community. **Total federal funding was $336,568 (HMGP).**

March 2019 Flood Response and Damage Assessment, North Bend, NE
During the March 2019 flood event, North Bend relied on their city engineer, JEO, to assist with response and recovery. Kevin worked with JEO's other departments to survey and report damages as well as develop conceptual recommendations for immediate and long-term repair. He performed field site assessments of the berm that had been constructed to protect the city from Platte River floodwaters. He is providing conceptual design and funding coordination to the city to consider for future flood protection. **Total federal funding was $450,000 (FEMA Public Assistance).**

LALIT JHA

PE, D.WRE, CFM

Project Principal

Lalit currently serves as vice president of WRED and provides services in program and project management, business development, and client management. Lalit has over 25 years of experience in water resources engineering. His experience includes flood risk reduction studies and projects, floodplain management and mapping, stormwater management, levees, dams, watershed master planning, flood and natural hazard mitigation, regulatory coordination and permitting, capital improvement plans, public involvement/outreach programs, and program/project management. Lalit will ensure Dodge County and the JWMAB are satisfied with the planning process and that JEO provides adequate resources for a timely deliverable.

PROJECT EXPERIENCE:

Upper Prairie/Silver/Moores Creek Flood Control Project, Central Platte NRD
Lalit was the program/project manager for this project which is the largest funded project by the NeDNR. The primary objective of the project was to provide flood risk reduction for the 100-year storm to 2,750 urban residential and commercial properties in western and northern Grand Island and prevent $59 million in damages. The secondary objective of this project was to reduce the FEMA floodplain map in Moores Creek and remove approximately 1,500 homes and businesses from the FEMA floodplain. This project includes design and construction of large detention cells, four dry dams, levee, floodplain, and mapping.

Levee Flood Risk Reduction and Flood Mitigation, Council Bluffs, IA
Lalit is the program manager for the ongoing City of Council Bluffs flood risk reduction project for the levee system covering approximately 28.5 miles adjacent to the Missouri River. The levee system significantly reduces flood risk for approximately 60% of the city and more than 35,000 residents reside behind the levee system. This project is a $70 million improvement to provide flood risk reduction to the city.

System-Wide Improvement Framework (SWIF), Lower Platte South NRD
USACE inspections completed after significant rain events have identified deficiencies and maintenance needs, prompting the LPSNRD to complete a SWIF for the Salt Creek Levee. JEO was hired to lead the SWIF process, which involves regular coordination with the LPSNRD, city, USACE, FEMA, partner consultants, property owners, and environmental regulatory agencies. Lalit serves as a resource to the internal JEO team by providing resource allocation and oversight on critical items related to analyses, deliverables, and USACE coordination.

Wahoo Creek Watershed Water Quality Management Plan, Lower Platte North NRD
Lalit served as the project principal for the Wahoo Creek Watershed Water Quality Management Plan. The EPA approved plan addressed water quality impairment issues throughout the 330,000 acre watershed and along the 290 miles of streams and tributaries to Wahoo Creek. The plan also identified and utilized modeling to quantify the sources of pollutions; identified management strategies (BMPs) to address them; engaged the public through information and education; and, established monitoring criteria for implementation of the plan.

EDUCATION

M.S.,Civil/ Environmental Engineering
South Dakota School of Mines

B.S., Civil Engineering
Nagpur University

REGISTRATION

Professional Engineer
Nebraska

Diplomate, Water Resources Engineering

Certified Floodplain Manager

TENURE

25 years

DAN FRICKE

PE, CFM

QA/QC

Dan is a project manager in the Water Resources Engineering department. For the bulk of his professional career, Dan's focus has been large-scale flood risk reduction evaluations and strategy development for communities in Nebraska and Iowa. Dan has experience in hydrologic and hydraulic analyses including riverine systems, interior drainage based on joint probability, and USACE risk and uncertainty analyses associated with flood risk reduction improvements.

PROJECT EXPERIENCE:

Emergency Assessment of the Platte River Upstream of Fremont, NE
The State Emergency Response Team (SERT) assembled in Fremont on March 20, 2019 to address levee failures as a result of catastrophic flooding. The SERT, facilitated through the Society of American Military Engineers (SAME), called for professional engineers with levee experience to assist with the assessment. Dan was involved as a technical advisor to the Dodge County Emergency Management response, related to the Ames diking levee breach, Lake Timberwood access road overtopping, and the County Road 19 failure that exacerbated flooding in Inglewood/Fremont. He witnessed firsthand the interconnectivity of the flooding issues, which led to his advice to establish a comprehensive approach to repairs and future mitigation actions.

One activity stemming from the March 2019 flooding is the repair of breaches and an evaluation of the Fremont, Farmland, and Railroad Levee at Fremont. JEO developed conceptual repair information which supported funding assistance requests. The evaluation included levee freeboard performance, an erosion hazard analysis, and identified critical issues that needed to be addressed for the levee to be accepted into the U.S. Army Corps of Engineers PL 84-99 Rehabilitation Program. The city is currently pursuing final design and construction of levee repairs and improvements.

Levee Program and Flood Risk Assessment, Council Bluffs, IA
Dan is the lead engineer for the ongoing Council Bluffs Levee Program. The city is the local sponsor of a 28.5-mile-long levee system along the Missouri River, including tieback levees along tributaries. Dan was the lead engineer for JEO's detailed feasibility evaluation, which included an analysis of the hydraulic and geotechnical performance of the system relative to the base flood, as well as top of levee loading. An approximately $70 million program of improvements was identified to address flood risks and potential failure modes. The goal is to provide more consistent performance across the system, where inconsistencies were found. Dan continues to work on program implementation, as well as strategies to optimize cost and obtain funding.

Multiple Section 408 Levee Improvements Feasibility, Design, and Construction: Waterloo, Hooper, Columbus, and Howells, NE
Dan has been a hydrologic and hydraulic engineer and provided Section 408 coordination for evaluations and improvements required for FEMA certification (13 total levee miles). The evaluations included analyses using multiple software packages including, but not limited to: HEC-RAS, HEC-HMS, HEC-FDA (project performance), and HEC-SSP.

EDUCATION

B.S., Civil Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska, Iowa, Wyoming, Idaho

Certified Floodplain Manager

TENURE

17 years

RANDY GRAHAM

PE, D.WRE, CFM

QA/QC

Randy has more than 42 years of engineering experience covering a wide variety of projects. He has served as a hydraulic engineer, project engineer, and project manager for several major projects, including dam design, dam breach analysis and emergency action plan generation, open and closed channel conduit systems, channel improvement and modification study, and floodway reanalysis. His responsibilities include project implementation, preliminary and final design, permitting, plans and specifications, construction and contract administration, and field engineering. He served as the interior drainage specialist while with the USACE Omaha District. Randy will provide leadership during the development of H&H models and perform QA/QC of the final H&H model and project designs.

PROJECT EXPERIENCE:

US-30 Rogers to Fremont Hydraulic Analysis, NDOT*
Randy serves as the project manager and senior engineer for the US-30 road improvement hydraulic analysis near Fremont. The NDOT is improving US-30 between Schuyler and Fremont. Although this route is within the Rawhide Creek watershed, its rare event flood events are due to the adjacent Platte River. The Union Pacific Railroad (UPRR) and/or US-30 serve as the divide between the Platte River and Rawhide Creek floodplains. Platte River overflows occur during two distinct seasons, a snow melt season and a summer rain season. Snow melt flood flows can be aggravated by river ice conditions. Due to the complex nature of the river basin, Randy performed hydraulic analyses that included bifurcation of stream flows at various frequencies, as well as consideration of combined frequency probabilities for stage-frequency. The HEC-RAS model developed jointly by the U.S. Army Corps of Engineers and Randy contained: lateral weir descriptions of the railroad/highway divide; ice jam characteristics of the Platte River; inline weir descriptions of flood ditches within the Rawhide Creek basin that bisected the floodplain; and seasonal flood flows estimated from seasonal stream gage analysis of the Platte River. Since the flood events within the project area are generated from two distinct meteorological causes (snow-melt and rain), the estimation of stage-frequencies required use of the total probability theorem which adds the probability from each of the two causes to generate the overall probability.

2-D Modeling of Missouri River, USACE, Reaches from Omaha, NE to St. Louis, MO*
Randy was the project manager responsible for the establishment of a 2D flow model of seven-mile stretches of the Missouri River, with reaches from Omaha to St. Louis. The purpose of the study was to estimate roughness zones for areas of revetment and dikes. The model description included recent USACE hydrographic surveys to describe the channel. The modeling involved calibration to USGS velocity measurements and simulation of design flow rates.

EDUCATION

M.S.,Civil Engineering
University of Nebraska

B.S., Civil Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska

Diplomate, Water Resources Engineering

Certified Floodplain Manager

TENURE

42 years

**Completed prior to JEO tenure.*

PATRICK HARTMAN

PE

Hydrologic and Hydraulic Modeling, FEMA BCA, and Project Screening

Patrick is a civil engineer who has over eight years of experience with a broad range of experience in hydrologic and hydraulic (H&H) modeling, water quality analysis and modeling, and water programs coordination. He is proficient with a large array of modeling software including: HEC-HMS, HEC-RAS, HEC-GEOHMS, HEC-GEORAS, XPStorm in both 1D and 2D environments, and many others. Patrick excels in using GIS as a tool for H&H analysis, and has a base of experience with most major GIS data types and data sets including LiDAR. He will lead H&H analysis and operate BCA software and project screening.

PROJECT EXPERIENCE:

56th & Morton Flood Control Project, Lincoln, NE
Patrick completed the hydrologic and hydraulic modeling and benefit cost analysis of the 56th & Morton flood control project within Lincoln. This construction project was funded under the hazard mitigation program. This analysis used GIS to collect to estimate flooding depths on individual parcels within the study area to estimate flood damage benefits after construction of the project. The project estimated damages from flooding frequencies ranging from the two-year to the 100-year recurrence interval and resulted in an estimated $7.3 million dollars of benefits.

Forest Lake Blvd Drainage Improvements, Lincoln, NE
For decades, a tributary of Antelope Creek bounded by Forest Lake Blvd. and 67th St. has been prone to structural and street flooding. Patrick developed a comprehensive 1D/2D hydrologic and hydraulic model to evaluate the existing conditions and was also instrumental in developing the final improvement design. Patrick utilized the models to develop a successful HMGP application that was used to demonstrate $1,400,000 in benefits from structural flooding and other sources. The benefit cost analysis Patrick developed was the key component of the grant application. In May 2021, FEMA approved project funding and the city is currently preparing for the construction phase in 2022.

Silver Creek and Moores Creek near Grand Island Letter of Map Revision (LOMR), Central Platte NRD
Patrick was the senior engineer who developed a detailed hydrology (HEC-HMS) and hydraulics (HEC-RAS) analyses for Moores creek to support preparation of the Letter of Map Revision (LOMR) for the project. In addition to the LOMR, Patrick was responsible for the development of the urban drainage master plan to minimize the impacts of future development on the existing Moore's Creek drainage system. Through these efforts, Patrick gained experience in coordinating with the Central Platte NRD and FEMA.

Bloomfield Drainage Study, Bloomfield, NE
Patrick assisted with the development of hydrologic and hydraulic modeling assessments for Bloomfield. Patrick reviewed existing HEC-HMS and HEC-RAS models used in a recent floodplain re-mapping effort. After review, he modified those models to develop a series of flood risk mitigation alternatives including dams, flood walls, bridge replacement, and channel widening to reduce the floodplain within Bloomfield. Patrick was responsible for assembling and developing the report outlining the technical development of these alternatives, modeling results, draft delineations, and cost estimates for implementation of each alternative.

EDUCATION

M.S., Civil Engineering
University of Nebraska

B.S., Civil Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska

TENURE

8 years

JUSTIN STINE

PE

Lead Design Engineer, Alternatives Development, Project Cost Development, and Project Screening

Justin is a senior engineer with a diversity of experiences in complex studies and designs in water resources and environmental engineering. His current focus is study, design, and construction of stormwater infrastructure, flood risk reduction projects, streambank rehabilitation and stabilization, and coordination with regulatory agencies. He also has design experience with recreation facilities, water supply wells, sewer collection, and wastewater treatment facilities. Justin will lead alternative development and design.

PROJECT EXPERIENCE:

56th & Morton Flood Control Project, Lincoln, NE
Many businesses have experienced frequent flooding in north Lincoln along 56th Street due to inadequate drainage for a tributary to Salt Creek. JEO was instrumental in the engineering analyses, project recommendations, and obtaining FEMA funding. Justin was the project engineer focusing on design, permitting, and ROW/easement acquisition.

Forest Lake Blvd Drainage Improvements, Lincoln, NE
Justin is a design engineer for this proposed project that will significantly reduce flood depths and reduce flood risk to ten private residences along South 67th Street and Forest Lake Boulevard, as well as reduce street overtopping which currently limits access to the neighborhoods by emergency vehicles. The project includes additional culvert barrels at both South 67th Street, as well as Forest Lake Boulevard, in addition to streambank improvements in select areas along the length of the channel.

Upper Prairie/Silver/Moores Creek Flood Control Project, Central Platte NRD
Central Platte NRD is nearing completion of a $30 million project to reduce flood risk to approximately 1,500 residences and 55 businesses in western and northern Grand Island. Justin served as a QC role on design after CPNRD hired JEO to lead the design and construction of four dry dams, a large detention cell, and a 1.5-mile-long levee to capture and store floodwaters. JEO was hired to complete H&H modeling and design, and oversee construction covering 18,800-acre drainage, resulting in a total of six million cubic yards of excavation.

Surface-Groundwater Relocation Feasibility Analysis, Upper Niobrara White NRD
Groundwater demand for irrigation is greater than natural recharge resulting in a steady decline over the last several decades in two groundwater management areas near Alliance, prompting a fully appropriated status from NeDNR. JEO was hired to evaluate moving water into this area from high water areas of the Sandhills to the east. JEO collected data and performed research, performed groundwater modeling, and identified potential order-of-magnitude cost evaluating the feasibility of moving water from these wellfields to the irrigated areas associated with the declines. The project was supported by NeDNR's Water Resources Cash Fund and was completed in November 2020.

Winslow Flood Control Levee, Winslow, NE
Justin served as the lead designer and main point of contact for this levee construction project to protect the Village of Winslow from the Elkhorn River. This levee system proved to be extremely complicated as it required two crossings of Highway 77, on local street crossing and one crossing of the railroad tracks. All of these crossings required temporary closure structures. Also included with this project was significant coordination with the NDOT, the railroad, and local utility companies.

EDUCATION

B.S., Civil Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska, Kansas, Iowa, Missouri, Montana

TENURE

21 years

JAKE MIRIOVSKY

PE

Alternatives Development, Project Cost Development, and Project Screening

Jake is a project manager and engineer with experience in complete design and development of engineering projects, such as dam and grade control design, construction administration, lake rehabilitation, aquatic habitat enhancements, and hydrology and hydraulics. Following the flooding in 2019, Jake has been instrumental in assisting eight communities throughout Dodge County not only to re-build, but increase resiliency. He has expertise in the hydrology and hydraulics of the area, as well as a unique understanding of the local dynamics and will leverage those to get projects completed. Jake will support design and leverage his local working experience.

EDUCATION

B.S., Civil Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska, Iowa, South Dakota

TENURE

11 years

PROJECT EXPERIENCE:

Flood Damage Assessment, Design of Repairs, Permitting, Rod and Gun Club, Dodge County, NE
JEO was hired by the Rod and Gun Club to provide flood damage assessment, survey, preliminary design of repairs, permitting services, final design, bidding, and construction. Through our team's experience with analyzing the March 2019 flow paths and documentation of damages and repairs, the inter-connectivity of the various breaches is well understood. Application of the knowledge gained by our team's witnessing the event firsthand, provides a foundation for the CDBG funding application and implementation of repairs. The breach lake project is currently in the contracting phase, with construction scheduled for summer/fall 2021.

Flood Damage Assessment, Dodge County SID #3 (Lake Ventura), NE
Lake Ventura was one of several local communities devastated by the March 2019 flooding. JEO was brought in to document damages, walk the perimeter of the SID, and perform a bathymetric survey to determine water quality impacts to the lake community. Jake served as the project manager, design engineer, and facilitated meetings with the SID management. Jake provided a cost estimate for debris removal, bank stabilization, and emergency repairs to the northern embankment.

Flood Damage Assessment, Design, and Construction, Dodge County SID #5 (Lake Timberwood), NE
Lake Timberwood, near the Village of Ames, was also devastated by the March 2019 flooding. Timberwood hired JEO to assess damages, document damages for FEMA reporting, and to create cost estimates for repairs. JEO was then hired to design and oversee construction of repairs to the roadway, boat launch, and diversion berm. Hydrologic and hydraulic modeling was performed to verify design parameters of the diversion berm. Construction was completed in late 2020.

2019 Flood Assistance, Saunders County SID #8 (Woodcliff Lakes), NE
Jake has served Saunders County SID #8 as their FEMA representative through the 2019 flood disaster, including multiple flood damage repair and resiliency projects. The ongoing projects include bank stabilization repair, roadway raise flood risk reduction, interior drainage improvements, new bank stabilization design, and construction oversight of aforementioned projects. JEO has coordinated with FEMA through the public assistance program to obligate 406 mitigation funding for a new bank stabilization measures to provide protection to the SID's sanitary lagoons.

JOHN CALLEN

PE, CFM

Hydrologic and Hydraulic Modeling, and FEMA BCA

John has 18 years of experience in project design, H&H analysis, and floodplain management. As a former Nebraska NFIP State Coordinator and Nebraska Silver Jackets lead for NeDNR, John is familiar with floodplain management requirements. John has extensive experience in watershed evaluation projects, including watershed master planning for water quality assessment and capital project development, and H&H. John has been a Certified Floodplain Manager for over 17 years. He will focus on maximizing the BCA for project alternatives.

PROJECT EXPERIENCE:

Parcel Assessment, Fremont and Schuyler, NE
John was the JEO lead coordinating this parcel level flood risk assessment. The project goal was to provide a more complete picture of flooding risk and a comprehensive summary of prioritized flood risk reduction alternatives for each community to consider. The assessment provided insight into nonstructural (individual property risk avoidance actions) and programmatic (community wide planning actions) that may not have been previously considered. John led the process of collecting background data and working with the community to identify assessment priority areas based on recent flood impacts along with project alternatives and priorities based on the findings of the evaluation.

Upper Prairie/Silver/Moores Creek Flood Control Project, Central Platte NRD
As part of this design and construction project, JEO developed detailed HEC-HMS and HEC-RAS models of a complicated system including multiple flood sources and overflows to support design, permitting, and mapping. As part of this effort, a Conditional Letter of Map Revision (CLOMR) was developed to assure FEMA would approve floodplain map changes for the project when completed. After completion, JEO developed the Letter of Map Revision (LOMR). This multi-FIRM panel LOMR was approved in 2020.

Platte River Flow Evaluation, Schuyler, NE
JEO completed multiple hydraulic analysis scenarios to evaluate flood risks from the Platte River at Schuyler based on both a recently completed hydrologic evaluation for the Lower Platte River, as well as flow data developed from gauging station data for the March 2019 flood event. Both existing one dimensional (1D) and newly developed two dimensional (2D) hydraulic models were utilized to evaluate how well each approach predicted flood risk for the community. March 2019 flood data was used as a comparison tool because flows for this flood event were at approximately the 1% annual chance flood frequency and several observations of the flood extents and elevations were available for review. JEO determined that 1D model results do not predict flooding risks well compared to 2D model results; 1D models tend to show additional risk areas vs. what was observed during the actual flood event. The results will inform decisions regarding future FEMA remapping and mapping agency coordination. Schuyler plans to use these findings to identify structure-specific risks, support hazard mitigation, and support locally-driven flood risk reduction infrastructure improvements to reduce similar damages from happening.

EDUCATION

B.S., Biological Systems Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska, Iowa, South Dakota

Certified Floodplain Manager

TENURE

18 years

ANDREA GEBHART

AICP

Stakeholder Engagement

Andrea serves as JEO's Community Engagement manager, working closely with all of JEO's departments. As a certified planner and experienced graphic designer, Andrea blends her creative, yet practical nature with her robust facilitation and communication skills to help communities identify and pursue their goals. With her Technology of Participation® facilitation training, Andrea has experience in traditional public facilitation methods, such as focus groups, as well as new methods, such as virtual facilitation through web-based meeting platforms and a variety of digital public participation tools.

PROJECT EXPERIENCE:

56th & Morton Stormwater Improvements, Lincoln, NE
In 2016, Andrea helped implement a successful public involvement approach for a drainage improvement project in north Lincoln. She conducted one-on-one stakeholder outreach, established a free-standing project website, developed public information materials, co-facilitated two group property owner meetings, coordinated two open house public meetings, and assisted the city with news media relations. This project involved the city making use of existing, but previously unused permanent easements, as well as acquisition of new temporary and permanent easements. Developing cooperative relationships with stakeholders was essential to the project's success, as property condemnation would have made the project ineligible for the grant funding awarded to the project sponsors.

14th & Old Cheney Intersection Improvements, Lincoln, NE
Andrea developed public information materials and coordinated public information meetings for an intersection improvement project that would create an elevated roundabout over a T-intersection to enhance the safety and mobility of all modes of travel. The public education and outreach strategy involved extensive collaboration with the stakeholder formed during the city's first-ever design completion, creation of a project website (www.14thOldCheney.com), three public information meetings held at key design milestones, and assisting the city with news media relations. Each of the public meetings drew an average of 200 people and elicited a combined total of more than 200 public comments.

Braasch Avenue, Norfolk, NE
Andrea served as the community engagement project manager for the improvements along Braasch Avenue, from 1st Street to 5th Street. The corridor had exceeded its usable life, so the city contracted JEO to perform a study and report the existing and future conditions on the traffic and stormwater systems. As part of the contract, the public outreach and education strategy involved the facilitation of a 12-person stakeholder group and two public information meetings. Through two facilitated meetings, the stakeholder group helped guide the conceptual design of improvements. Development of public information materials, including fact sheets, public meeting displays, and news media releases, supported the public outreach activities.

EDUCATION

M.S., Community and Regional Planning
University of Nebraska

Graduate Certificate, Public Management
University of Nebraska

B.S., Dietetics
University of Nebraska

REGISTRATION

American Institute of Certified Planners

TENURE

9 years

MIKE HELLER

CPESC

Regulatory Review

Mike leads JEO's Environmental Sciences department and offers more than 25 years of experience with federal and state agencies, state highway departments, land development, and not-for-profit groups. His work has included wetland delineations and Section 404 and 401 permitting; permitting responsible mitigation design and monitoring; hydrogeomorphic approach to assessing wetland functions; mitigation bank permitting, design, and monitoring; threatened and endangered species surveys and mitigation; and environmental assessments associated with the NEPA process. He will perform environmental reviews.

PROJECT EXPERIENCE:

- North Bend US-30 Wetland Delineation, Section 404 Permitting, and T&E Species Review, NDOT
- Cedar Rapids West Wetland Delineation, Section 404 Permitting, and T&E Species Review, NDOT
- Syracuse South Wetland Delineation and Section 404 Permitting, NDOT
- Tryon North Categorical Exclusion Level 2 Documentation and NEPA Assistance, NDOT

EDUCATION

B.S., Fisheries and Wildlife
Iowa State University

CERTIFICATION

Certified Professional in Erosion and Sediment Control

TENURE

25 years

JOSH BORCHERS

LS

Survey

Josh is a team leader in JEO's Survey department with 22 years of survey experience. Projects have included preliminary engineering surveys, topographic surveys, boundary surveys, project management, and construction staking projects. He will manage all required field surveys.

PROJECT EXPERIENCE:

- West 21st Street Drainage and Utility Topography Surveying and Construction Staking, South Sioux City, NE
- West 22nd and West 23rd Street and Utility Improvements Topography Surveying and Construction Staking, South Sioux City, NE
- 164th Street Shoulder and Storm Sewer Improvements Topography Surveying, South Sioux City, NE
- Lake Wanahoo Trail Topographic Surveying and Construction Staking, Wahoo, NE
- Chestnut Street Topographic Surveying and Construction Staking, Wahoo, NE
- Grid Essential Topography Survey, Research, Tie-out Section Corners, Easement Plats, and Construction Staking, Nebraska Public Power District
- Electric Transmission Reliability Topography Survey, Research, Tie-out Section Corners, Easement Plats, and Construction Staking, Nebraska Public Power District

EDUCATION

A.A.S., Survey and Computer Aided Drafting
Southeast Community College

REGISTRATION

Professional Land Surveyor
Nebraska

TENURE

22 years

DAVE HUME

PG

Groundwater Impacts Evaluation, Alternatives Development, Project Cost Development, and Project Screening

Dave's general roles and responsibilities have included serving as a project and supervising hydrogeologist, project management, technical writing, and client development and management for groundwater resource and groundwater supply assessments. This experience has focused on helping municipal, industrial, agricultural, and regional water system clients address and manage their groundwater resource and groundwater sustainability challenges. Areas of expertise include: analytical and numerical groundwater flow modeling; design of high-capacity water supply wells and wellfields; development of groundwater monitoring plans; and long-term groundwater sustainability studies. He will lead groundwater modeling to help determine how groundwater affects surface water drainage in the project area.

PROJECT EXPERIENCE:

- Desktop Hydrogeologic Study and AEM Data Evaluation, Lower Elkhorn NRD
- Mira Creek/North Loup Flood Reduction Study, Lower Loup NRD
- Hydrogeologic Assessment of B-1 Reservoir, Central Platte NRD
- Sargent East Improvement Project Area Design and Evaluation, Lower Loup NRD
- Hydrogeologic Assessment and Aquifer Mapping, Lower Platte North and Papio-Missouri River NRDs

EDUCATION

M.S., Geology - Hydrogeology Emphasis
University of Toledo

B. A., Geology,
Wittenberg University

REGISTRATION

Professional Geologist
Nebraska, Minnesota, Missouri, Wisconsin

TENURE

30 years

MARC GROFF

PE

Groundwater Impacts Evaluation, Alternatives Development, and Project Screening

Marc is an agrigultural engineer with a background managing and directing complex multi-objective water resources projects including hydrologic analysis and hydraulic structure evaluation and design. If necessary, Marc will be applying his recent experience with the Lower Platte River Drought Contingency Plan to coordinate possible partnerships with other stakeholders and funding agencies.

PROJECT EXPERIENCE:

- Groundwater Recharge Analysis, Upper Niobrara White NRD
- COHYST Integrated Water Resources Modeling Support, The Platte Basin Water Project Coalition
- Blue Basin Integrated Water Resources Modeling Support, Brown and Caldwell
- Conjunctive Management Project, Nebraska Bostwick Irrigation District (NBID)
- Republican River Conservation Measure Study, Nebraska DNR

EDUCATION

B.S., Agricultural Engineering
University of Nebraska

REGISTRATION

Professional Engineer
Nebraska

TENURE

25 years

SIMILAR PROJECTS

Urban drainage improvements, drainage studies, H&H analysis, construction, and assisting with obtaining funding to leverage local resources are specializations of JEO's Water Resources Engineering department. The matrix below shows projects with similar project components as the Dodge County Drainage Improvement Project. Eight of the 12 project either have been, or may be, funded by FEMA.

		Project Components				
Project Name	**Location**	HMGP/FEMA Funded	H&H and Master Planning	Project Screening and Selection	Groundwater/Surface Water Interaction	Final Design and Construction Phase
Urban Drainage Improvements (All Phases)	Valentine, NE	●	●	●	●	●
56th & Morton Flood Control Project	Lincoln, NE	●	●	●		●
Forest Lake Blvd Drainage Improvements	Lincoln, NE	●	●	●		●
South Table Creek Bank Stabilization Design and Construction	Nebraska City, NE	●	●	●		●
Hazard Mitigation Plan Update with Parcel Level Mitigation Review of Fremont	Lower Platte North NRD	●		●		
Homeowner Property Acquisition and Floodproofing Review	Fremont and Dodge County, NE	Pending		●		
Sargent East IPA	Lower Loup NRD		●	●	●	
Upper Prairie/Silver/Moores Creek Flood Control Project	Central Platte NRD		●	●	●	●
Battle Creek WFPO Plan-EA	Lower Elkhorn NRD		●	●		
Mud Creek WFPO Plan-EA	Lower Loup NRD		●	●		
Interior Drainage and Pump Station Improvements and HMGP Application	Seward, NE	Pending	●	●		
West Side Drainage Improvements and HMGP Application	South Sioux City, NE	Pending	●	●		

HAZARD MITIGATION PLAN UPDATE WITH PARCEL LEVEL MITIGATION REVIEW OF FREMONT

LOWER PLATTE NORTH NRD

REFERENCE

Lower Platte North NRD
Tom Mountford
Assistant General Manager
p. 402.443.4677

City of Fremont
Lottie Mitchell
Executive Assistant
p. 402.727.2624

COMPLETION

2020

RELEVANCE

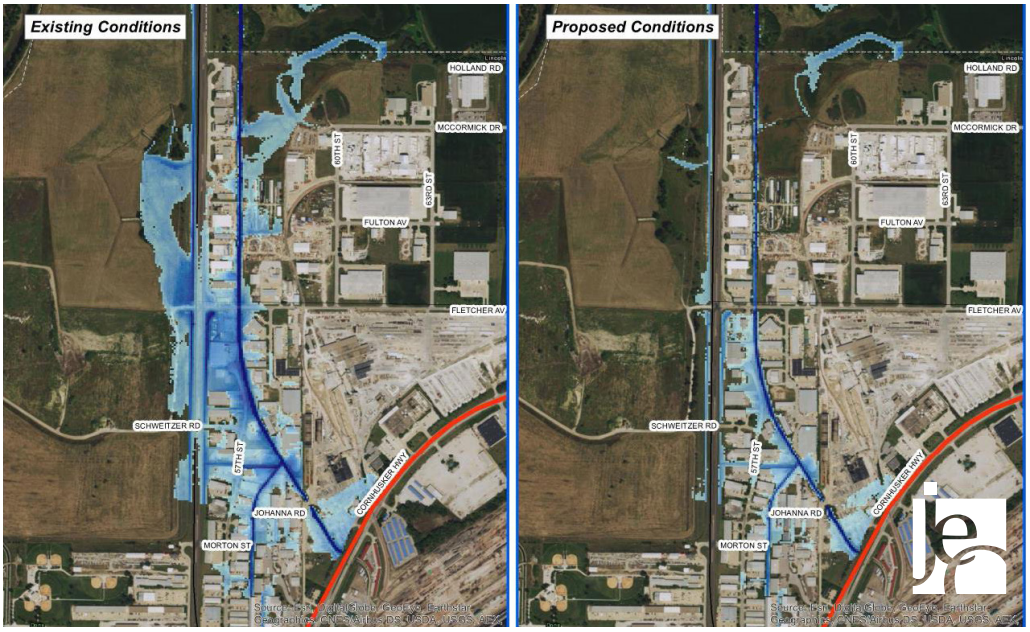
- FEMA HMGP Process Expertise
- Familiarity with Local H&H

The Lower Platte North NRD initiated the process of updating their multi-jurisdictional hazard mitigation plan in late 2017 by submitting a Pre-Disaster Mitigation grant application to FEMA. Additional funding was requested and allocated to provide the opportunity for participating communities, including Fremont, to complete additional risk assessments for select Special Flood Hazard Areas (SFHA). Following the award of grant funding and just prior to the March 2019 floods. JEO was contracted to complete the hazard mitigation plan update and parcel level assessments.

Because of the recent flooding and interest from local champions, participation in the hazard mitigation plan increased by over 40%, which led to a diversity of jurisdictional types joining the plan. In total 55 jurisdictions participated in the hazard mitigation plan update including: the NRD, three counties, seven cities, 23 villages, four levee and drainage districts, two townships, two SIDs, three school districts, nine fire districts, and one public health district. **These jurisdictions are now eligible to pursue FEMA grant funding to assist in the implementation of mitigation projects across the NRD.**

With consideration of the significant impacts of the March 2019 flood event, the selected properties provided a sample of flood risk profiles considering flood risks from the Platte and Elkhorn Rivers. The plan also identifies community-wide planning actions to reduce flood risks that may not have been previously considered. Ultimately, the assessment provides the City of Fremont and Dodge County with valuable information to support their decision making for funding additional flood risk reduction projects, such as the homeowner flood mitigation projects submitted to FEMA through the Hazard Mitigation Assistance Programs.

To view the Fremont Parcel Assessment StoryMap, please go to:
https://storymaps.arcgis.com/stories/f687bcfb47784a7985b70e861d3499b3



56TH AND MORTON DRAINAGE IMPROVEMENTS
LINCOLN, NEBRASKA

REFERENCE

City of Lincoln
Ben Higgins
Stormwater
Superintendent
p. 402.441.7589

COMPLETION

2020

RELEVANCE

- FEMA HMGP Process Expertise
- Urban Drainage Master Plan
- Project Screening
- Design of Selected Alternative

An area near 56th & Morton in Lincoln was well-known for wide-spread street and structural flooding. The first study to identify solutions was completed in 2005 by JEO, where 1,422 acres of urban storm drainage was evaluated using the city's Drainage Criteria Manual, including 759 inlets, about 90,000 LF of closed pipe, and 22,000 LF of open channel. From this evaluation, seven closed system improvement projects were identified, of which two have been designed/constructed, and conceptual improvements for channel widening were identified.

In 2016, JEO assisted the city to obtain $5 million in FEMA funding and began the design phase which included an updated 1D/2D hydraulic model, 5,000 feet of channel widening resulting in 64,700 cubic yards of excavation, and significant transportation improvements, including a new bridge to replace the existing undersized culverts.

The project included alignment within a tight urban/industrial corridor, with buildings right up to (and some inside) the existing drainage easement. The final design included significant coordination with numerous public and private utilities to maintain service throughout the construction duration. **The project also included a significant stakeholder and public involvement effort which was incredibly beneficial as it allowed the voluntary acquisition of over 35 permanent and temporary easements without issue in a very short timeframe.**

The design phase was completed in 2017 and included a significant community engagement campaign. Four separate construction contracts were developed to manage/utilize the funds, including tree clearing to comply with migratory bird considerations, utility relocation, channel widening and bridge construction, and road overlay. All of these had been coordinated with each other, stakeholders, and funding partners. Construction was substantially complete in the fall of 2020. Throughout the process, JEO has been communicating with all stakeholders including the city and Lower Platte South Natural Resources District, as well as coordination with the funding agencies.

For more information on the project, please go to:
www.56thmorton.com

REFERENCE

Dodge County
Tom Smith
Emergency Manager
p. 402.727.2785

COMPLETION

Ongoing

RELEVANCE

- FEMA HMGP Process Expertise
- Familiarity with Local H&H

HOMEOWNER FLOOD MITIGATION PROJECTS
FREMONT AND DODGE COUNTY, NEBRASKA

One of the key features of any mitigation planning process is a thorough hazard analysis. For the Dodge County area, the flood assessments were of special importance to the county and local officials as they kicked off the latest Lower Platte North NRD Hazard Mitigation Plan update in 2019. The tragic flood events in the spring of 2019 further emphasized the need for comprehensive and detailed hazard information to better inform the local officials decision making process for the safety of homeowners and resiliency of the housing stock in the county overall. To this end, JEO's Hazard Mitigation and Emergency Planning team worked closely with JEO water resources engineers to do a parcel-level flood analysis to give communities like Fremont very detailed homeowner information regarding their specific flood risk. This information was used by the local floodplain administrators, city and county officials to focus on parcels with the potential to mitigate their flood risk.

Dodge County and the City of Fremont are both pursuing HMGP project funding to assist numerous homeowners in mitigating their flood risk for their property. These mitigation endeavors include elevating homes, filling in basements, and moving all their utilities up from the sub-grade level of the home to a utility area above the Base Flood Elevation. JEO has been working alongside the Dodge County staff on completing the project applications and will assist with project implementation as well.

JEO's team members are also providing assistance to several villages and communities in the Dodge County area as they continue to rebuild and recover from the flooding events of 2019-2021. Communities such as North Bend, Scribner, and Winslow have been continually working on public assistance projects and mitigation pursuits for their communities, to not only mitigate their future flood risk but to make these areas more resilient no matter what hazard comes their way. **JEO's professional staff is passionate about reducing the risks to communities in future disaster events as well as ensuring the safety of residents in all the communities we serve.**

URBAN DRAINAGE IMPROVEMENTS (ALL PHASES)
VALENTINE, NEBRASKA

REFERENCE

City of Valentine
Shane Siewert
City Manager
p. 402.376.2323

COMPLETION

January 2017 (Phases 1-2) to Ongoing

RELEVANCE

- FEMA HMGP Process Expertise
- Urban Drainage Master Plan
- Project Screening
- Design of Selected Alternative

The City of Valentine has an area prone to regular street and structural flooding, prompting the need to perform a flooding evaluation, at which time JEO was hired in 2010. JEO's evaluation included a detailed data collection effort and asset inventory of the stormwater infrastructure in the project area. The stormwater network was evaluated to identify deficiencies on a system level to fully understand the cause of the flooding. Following an evaluation of the existing system, conceptual improvements were identified to reduce the flood threat. These prioritized improvements included a defined Niobrara River outlet for the retention pond, rehabilitation of the existing pond to provide water quality benefits, and storm sewer improvements to efficiently direct stormwater to the pond and outlet.

With JEO's assistance, the city secured FEMA HMGP funding for the design stage for projects 2 through 6. With design completed, the city chose to proceed with soliciting bids for construction of projects 2 and 3. The final design of these projects includes significant modification to the stormwater retention pond and the construction of the Niobrara River outfall. This improvement also includes the unique feature of a perforated pipe for approximately 2,500 LF with a gravel pack natural filter. These elements allow low flows leaving the retention pond to infiltrate into the ground rather than discharge directly into the Niobrara River. This unique feature was key to securing permit approval, but also a provides a significant benefit by allowing stormwater to recharge the area aquifer and using the existing geology of the sandhills to naturally filter the stormwater before it ultimately returns to the river as baseflow.

In 2020, JEO assisted the city in securing Economic Development Act funding which authorized federal funds in the amount of $2.4 million for the design and construction of Phase 2 Improvements. The final design of these improvements are currently underway and the city is anticipating a fall 2021 bidding.

FOREST LAKE BLVD DRAINAGE IMPROVEMENTS
LINCOLN, NEBRASKA

REFERENCE

City of Lincoln
Ben Higgins
Stormwater Superintendent
p. 402.441.7589

COMPLETION

2019 to Current

RELEVANCE

- FEMA HMGP Process Expertise
- Urban Drainage Master Plan
- Project Screening
- Design of Selected Alternative

JEO is currently in the design phase of an improvement to South 67th Street and Forest Lake Boulevard. **As part of this effort, JEO completed a Hazard Mitigation Grant Program application to FEMA requesting funding for the construction phase of the project, which was received in May 2021.** Through previous phases, JEO has completed a comprehensive two-dimensional hydrologic and hydraulic evaluation of the pre- and post-project conditions to confirm flood depth reductions at both street crossings.

Previous evaluation phases also included significant stakeholder and public involvement efforts to inform the design phase and to develop a holistic design that was both functional and acceptable to the area residents. The proposed project will significantly reduce flood depths and reduce flood risk to 10 private residences along the project reach, as well as reduce street overtopping which currently limits access to the neighborhoods by emergency vehicles. The project includes additional culvert barrels at both South 67th Street, as well as Forest Lake Boulevard, in addition to streambank improvements in select areas along the length of the channel.

In May 2021, the city was notified that FEMA has authorized $662,250 in federal funds through the HMGP program for this project. The city and JEO are currently preparing for a fall 2021 bidding and a 2022 construction phase.

For more information on the project, please go to:
www.lincolnforestlakeproject.com

REFERENCE

Nebraska City Utilities
Daniel Patton
Operations Superintendent
p. 402.873.3353

COMPLETION

2015 and 2021

RELEVANCE

- FEMA HMGP Process Expertise
- Project Screening
- Design of Selected Alternative

SOUTH TABLE CREEK BANK STABILIZATION DESIGN AND CONSTRUCTION

NEBRASKA CITY, NEBRASKA | NEBRASKA CITY UTILITIES

South Table Creek, a tributary of the Missouri River, was experiencing bank erosion in the Nebraska City area. While the erosion had been occurring for several years, the Missouri River flooding of 2011 accelerated bank erosion in the area immediately adjacent to the Nebraska City Utilities (NCU) Wastewater Treatment Plant. As continued failure of the streambank would force the plant to shut down, allowing untreated sewage to flow directly into the Missouri River, NCU contracted JEO to study streambank erosion issues along the banks of the South Table Creek.

After evaluating several conceptual design alternatives, JEO assisted NCU in obtaining FEMA Hazard Mitigation Funds to proceed with final design and permitting of the project. The grant application was approved for a project cost of $565,000, 75% of which is federally funded. The chosen design alternative consisted of approximately 150 feet of sheet pile wall and about 325 feet of riprap toe protection.

Construction of this project was completed in the summer of 2015 and the overall project was completed under budget.

Then in the spring of 2019, major flooding occurred and caused erosion along the streambanks along Gavilon Railroad Bridge threatening the roadways, utilities, and railroad over a 300-foot reach. Nebraska City obtained FEMA funding and hired JEO to rebuild the eroded bank, mitigate future damages by armoring the streambank, reconstructing two outlets, extending a culvert, and reconstructing of Argo Avenue for 245-feet. Work included coordination with the USACE, FEMA, and to obtain a 404 permit.

UPPER PRAIRIE/SILVER/MOORES CREEK FLOOD CONTROL PROJECT

CENTRAL PLATTE NRD

The Grand Island northwest area and surrounding Hall County region has experienced severe flooding over the years. A 50- to 75-year regional storm on June 13-15, 1967 inundated 42 square miles of cropland and damaged 1,162 residences and 46 business. Significant flooding occurred in this area of Grand Island in 1947, 1949, 1967, 1971, and 2005. In a 2000 study, it was estimated that a 100-year flood would cause an estimated $59 million in damages to urban property and approximately 1,500 residences and 55 business were in harm's way. These areas are subject to periodic flooding caused by overflow of Prairie Creek, Silver Creek, and Moores Creek. Central Platte Natural Resources District (CPNRD) hired JEO to provide flood risk reduction and resiliency to the northwest area of the City of Grand Island.

Project components included:

- Complex hydrology and hydraulics modeling for over 230 square miles of the watershed
- Design and construction of large detention cells, four dry dams, and a levee
- Robust public involvement and education program, including stakeholder coordination
- **Funding, with the total project cost estimated to be $30 million. This project was funded at a 52.5% share through the Water Sustainability Fund (WSF), formerly known as Natural Resources Development Fund (NRDF). To date, this project is the largest state funded flood risk reduction project.**

The spring 2019 flooding was estimated to be a 500-year flood event near Grand Island. This project successfully prevented these flood waters from entering the city. During this flood event and another, the project has performed as expected and prevented over $90 million in damages; meaning the project essentially paid for itself almost four times over.

REFERENCE

Central Platte NRD
Jesse Mintken
Assistant General Manager
p. 308.385.6282

COMPLETION

2019

RELEVANCE

- Master Plan
- Project Screening
- Design of Selected Alternative

AWARD WINNING

Upper Prairie/Silver/ Moores Flood Control project was awarded the ACEC-Nebraska Chapter 2020 Honor Award in the Water Resources Category.

For more information on the project, please go to:
https://www.floodsafe-cpnrd.org/

REFERENCE

City of Fremont
Lottie Mitchell
Executive Assistant
p. 402.727.2630

COMPLETION

2020

RELEVANCE

- Familiarity with Local H&H
- Urban Drainage Master Plan

PLATTE RIVER FLOOD RESPONSE AND FLOOD RISK REDUCTION

FREMONT AND DODGE COUNTY, NEBRASKA

Record flooding in March 2019 along Nebraska's major waterways devastated numerous communities and lives, destroying infrastructure and fertile land. Dodge County and its communities were front and center in this event. Substantial damage was experienced along the entire Platte River corridor within Dodge County including, but not limited to:

- A Platte River breakout at North Bend
- Cutoff ditches
- Ames Dike
- SID lakes
- Residents and businesses
- Rod and Gun Club
- The State Lakes
- Fremont, Farmland and Railroad Levee
- Fremont, Inglewood, and others

JEO was involved during the flood and remains involved to this day working with communities, including Fremont, to address ongoing flood risk. The State Emergency Response Team (SERT) was assembled in Fremont on March 20, 2019 to address levee failures as a result of catastrophic flooding. The SERT, facilitated through the Society of American Military Engineers (SAME), called for professional engineers with levee experience to assist with the assessment. **JEO staff provided technical information to the Dodge County Emergency Management response, related to the Ames diking levee breach, Lake Timberwood access road overtopping, and the County Road 19 failure that exacerbated flooding in Inglewood and Fremont. JEO "boots on the ground" staff worked with JEO staff in the office who to pull together available supporting information and develop hydraulic models on the fly to evaluate the impacts.** Through this effort, the interconnectivity of the flooding issues was identified, which led to the recommendation to establish a comprehensive approach to repairs and future mitigation actions.

One activity stemming from the March 2019 flooding is the repair of breaches and an evaluation of the Fremont, Farmland and Railroad Levee at Fremont. **JEO developed conceptual repair information which supported funding assistance requests. The evaluation included levee freeboard performance, an erosion hazard analysis, and identified critical issues that needed to be addressed for the levee to be accepted into the U.S. Army Corps of Engineers PL 84-99 Rehabilitation Program.**

PROPOSED TIMELINE

JEO has specific expertise in the development of successful HMGP applications and is very familiar in working with FEMA/NEMA. In order to provide adequate time for agency review and responses, we have developed the following schedule to provide a full HMGP application (including BCA) earlier than August 2023. The JEO team will review preliminary screening results with NEMA/FEMA to confirm eligibility prior to finalizing the screening process and proceeding with design. HMGP projects have stringent real estate requirements. Acquisition needs should be carefully vetted in the screening process to avoid schedule delays.

TASKS AND MAJOR ACTIVITIES	2021							2022												2023						
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Project Kick-Off	■																									
Data Gathering (Asset Inventory/Survey)	■	■																								
Stakeholder Engagement			■						■										■							
Hydrologic & Hydraulic Analysis		■	■	■	■	■	■	■																		
Alternative Identification						■	■	■	■																	
Project Screening and Preliminary BCA								■	■	■	■															
Selection of Preferred Alternatives										■	■	■														
Initial Review with NEMA/FEMA													■													
Design of Preferred Alternatives													■	■	■	■	■	■	■	■	■	■				
Real Estate Review and ROW/Easement Prep										■							■	■	■	■						
Final BCA and HMGP Application																				■	■	■	■	■		
Review of Final Application Documents with NEMA/FEMA																								■		

Ability to Complete Project in a Timely Manner

JEO forecasts the workload of individual employees for a minimum of six months through Deltek Vision software. This allows us to accurately assign project tasks and maintain the necessary resources to meet the milestones associated with each project deadline. We have a robust team available to commit the proper resources for a successful project. **To support our team members, we have built a seamless set of technologies within JEO, including shared access systems, video meeting capabilities, and remote access to keep team members engaged across multiple offices. This technology has been heavily used during the COVID-19 pandemic and has led to increased productivity among our staff.** This allows the full bench strength of JEO to be available for your project.

BURNS McDONNELL®

Engineering Services

Drainage Improvement Project

Dodge County, Nebraska

May 28, 2021 | 4:30 PM

Submitted to:
Dodge County Emergency Manager
435 N Park Ave. Suite 101 B
Fremont, NE 68025

Prepared by:
Burns & McDonnell
1111 N. 13th St., Suite 300
Omaha, NE 68102
O: 402-408-3010

Dodge County, NE
c/o Tom Smith | Dodge County Emergency Manager
435 N Park Ave Suite 101 B
Fremont NE 68025

RE: RFP to develop eligible, cost-effective, and technically feasible "shovel-ready" Dodge County Drainage Improvement Project

Dear Mr. Smith and Evaluation Committee Members,

In 1909, a network of ditches was constructed to alleviate drainage in Fremont and the Elkhorn Township. The diverted flow came from multiple sources, including Maple Creek, the Elkhorn River, the City of Fremont, and Rawhide Creek. Since the construction of these ditches, few improvements nor maintenance has been performed. The flooding in 2010, 2016, and, most recently, the historic flood of 2019 brought the need for drainage system improvements to the forefront. In concurrence with JWMAB, Dodge County has done well in taking critical planning steps to reduce flooding in your area by obtaining FEMA Hazard Mitigation Advanced Assistance funding. This funding will allow you to develop shovel-ready drainage improvement projects for the City of Fremont and the Elkhorn Township.

The Dodge County Drainage Improvement project requires a team that brings the right expertise to deliver this project. You face multiple challenges in this project, including developing large-scale hydraulic and hydrologic analysis of the system, creating innovative solutions to address drainage needs, and obtaining grant funding for construction, all while keeping stakeholders' opinions and engagement at the forefront. **Our Burns & McDonnell team can help you face those challenges and be your trusted partner throughout the project. Our local commitment to your community and unique project experiences help us think outside the box and identify solutions to address your drainage challenges.**

BENEFITS

Our Team Brings to Dodge County

Local commitment to your community

Located in our Omaha office and native to Nebraska, our project manager **Sarah Espinosa** will lead with a local perspective and can be there at a moment's notice when you need it. Burns & McDonnell is already familiar with the Dodge County area, especially Fremont, as **we have supported them for more than 30 years. Luca DeAngelis** recently performed a horizontal collector well study for the City to help increase their water supply. **During the 2019 flood, our aviation team worked tirelessly to support the Fremont Municipal Airport — the safest way in and out of the community during the flooding.** Burns & McDonnell, the City of Fremont, NDOT Aeronautics Division, and the FAA worked seamlessly together to establish and maintain a design schedule that took half the time of a similar project. We also held a contract with the Northeast Nebraska Solid Waste Coalition since 1993, supporting your solid waste needs and helping you plan for the future of your community.

Successful Grant Funding Professionals

Joining our team is **Carrie Davis**, who brings more than 16 years of grant writing experience. She's developed and written several proposals **resulting in an 85-90% successful funding rate**. Supporting Carrie is **Steve Gruber**, who has extensive experience managing complex projects involving regulatory agencies, permitting, and **grant funding experience with an average hit rate of 75-85%**. **Lauren Moore** and **Kylie Wyatt** have experience supporting communities in securing grant funding specifically for stormwater planning and improvement projects. *You can read more about our grant funding experience on page 18.*

Diverse water planning experience and deep bench of professionals to handle all your project's needs

This project is multi-faceted, but so is our team. We have experts in grant writing, stakeholder engagement, environmental/land/historical rights, financial analysis, floodplain management, and design- all on one team. Whatever needs arise on the project, we will have someone who can assist with related expertise. **Collectively, our team has developed over 30 stormwater master plans, over 100 hydraulic models, and hundreds of different design projects, each having its unique challenges.** In Bella Vista, Arkansas, our team, lead by **Leon Staab** and **Rick Besancon**, used streambank stabilization to help protect the City from flooding when modeling revealed no other viable options. In Warsaw, Missouri, **Leon Staab**, and **Lauren Moore** balanced green and gray infrastructure with the existing natural drainage system to maximize the City's level of service. On Gilmore Avenue in Omaha, Nebraska, **Rick Besancon**, **Jon Parker**, and **Spencer Lindley** designed a regional detention basin that will store the 10-year event and safely pass the 100-year event while allowing for additional future sewer separation. **For each of these projects, we partnered with the municipalities and key stakeholders to identify project goals and objectives, develop a plan of action, and deliver innovative solutions to reduce risk and meet project budgets and schedules. We can do the same for you.**

Your Burns & McDonnell team brings the local professionals who have the experience to deliver innovative, cost-saving approaches for every portion of this project. We understand the local need to improve the drainage in the area and are committed to creating a solution for your community that will help alleviate stress for all stakeholders, including Dodge County, the City of Fremont, the LPNNRD, and landowners affected by the recent floods.

We look forward to discussing this critical project further. If you have any additional questions about this submittal or our team, please contact Sarah Espinosa at 402-590-8329 or shespinosa@burnsmcd.com.

Sincerely,

Sarah Espinosa

Sarah Espinosa, PE | Project Manager

Leon Staab

Leon Staab, PE | Project Director

REGIONAL SPECIALISTS READY TO SERVE

DEEP BENCH STRENGTH

Established best practices, streamlined execution and proven experience to meet your project goals!

Leon Staab, PE
30+ years of drainage studies and design and managed more than 20 stormwater master plans for communities across the Midwest.

Rick Besancon, PE
25+ years of stormwater and storm sewer design, channel restoration and streambank stabilization.

Sarah Espinosa, PE
9 years of experience in floodplain management, stormwater management and project and program management, including development of more than 20 hydraulic models.

Carrie Davis
16+ years of grant writing experience resulting in an 85-90% successful funding rate.

Luca DeAngelis, PE, PG
25+ years experience in design and construction oversite of over 100 water supply wells constructed in both alluvial and bedrock aquifers including the wellfield in Fremont.

Patrick Finigan
25+ years of environmental permitting experience including, more than 25 construction stormwater and five industrial stormwater plans through the Nebraska Department of Environment and Energy.

Dave Naumann
30+ years of experience in financial and operational management consulting for water, wastewater and stormwater systems and has been integral in helping utilities make sound business decisions regarding the use of their financial resources.

Project Understanding and Approach

Project Understanding and Background

Between 1909 and 1929, approximately 54 miles of ditches were constructed to improve drainage on over 25,000 acres of land east of Fremont. These ditches capture flood and stormwater from multiple sources, including Maple Creek, Elkhorn River, the city of Fremont, and Rawhide Creek, before draining back into the Elkhorn River. In 1929, most of the right-of-way and funds for the ditches were passed onto Dodge County as state law dictated.

In 1994, landowners petitioned the Lower Platte North Natural Resources District (LPNNRD) to develop improvement projects for the ditches. The improvement projects were estimated to cost $9.3 million, with $4 million expected to be paid by landowners. The landowners voted against moving forward with the project.

The flooding took place in 2010 that caused the drainage ditches to back up and flood driveways and county roads. In 2016, additional flooding caused damage to more than 1,000 homes in the area. In 2019, historic floods caused additional siltation within the ditches, damaged the ditch banks, and the ditches could not successfully drain after the flood receded. These floods prompted the Joint Water Management Advisory Board (JWMAB) development to address drainage issues within the County.

On behalf of the JWMAB, Dodge County received the FEMA Hazard Mitigation Grant for Advanced Assistance for a Drainage Improvement Project to address drainage and flooding issues within eastern Fremont and the Elkhorn township. The grant provides funds for the study and design of a Drainage Improvement Project to evaluate Fremont's internal drainage and the drainage ditch system.

The Drainage Improvement project will be multi-faceted. It will include a conceptual study that involves data collection, hydrologic and hydraulic modeling, preliminary project alternatives development, and benefit-cost analysis for the project alternatives. The conceptual study will assist the JWMAB in deciding which projects to move forward with. After the conceptual projects are selected, detailed design will leave the County and the JWMAB with a shovel-ready project to use when grants become available. Additional items vital in making this project successful will be environmental permitting, land rights and historical considerations, public relations and stakeholder engagement, and successful grant writing experience.

Our Commitment to Dodge County

Burns & McDonnell understands the history of the area and the urgency of the project. We know that its success will benefit multiple stakeholders, including Fremont citizens, the owners of the land surrounding the ditches, and the JWMAB. We have put together a team with expertise in all aspects of the project and are excited to assist Dodge County, Fremont, and the LPNNRD in their efforts.

Our Approach

After considering the scope of work to be completed, our approach to this project would include two phases. The first phase would consist of defining better water management strategies, specific projects, regulatory constraints, and additional field investigations and data requirements. The second phase would continue the project into and through detailed design. We recommend this approach because of the inherent uncertainties with the scope of work for design. It has been our experience that when a project lacks complete definition, a phased approach offers the client cost savings and reduces change orders.

Phase 1: Conceptual Study

Task 1: Data Collection:

There are approximately 54 miles of ditches and over 25,000 acres draining to the ditches. Based on our understanding, there has not been progress regarding assessments and maintenance on the ditches. Any available existing information relating to the ditches will be reviewed, organized, and evaluated for use in both phases of the project. Information needed may include the following types:

1. **Performance Information:** The information helps define how the system performs compared to its designed purpose (i.e., FEMA flood mapping and reports, historical data, design criteria of the ditches, current ordinances and water policies, etc.).

2. **System Information:** Physical characteristics needed for hydrologic and hydraulic analysis (i.e., contour mapping, aerials, structure record drawings, soil data, land use data, roughness coefficients, etc.).

After existing data is collected, we will perform a gap analysis to determine and document what information is missing that will be needed to complete our analysis. Gaps in the information will be identified and flagged for additional field investigation. If field assessment is necessary, a proposal to address data gaps will be developed and provided to County for approval. Our field services team can work to obtain essential missing information. Our team includes **Steve Jonson**, who has over 20 years of experience performing field investigations and is a certified NASSCO instructor. He brings a vast knowledge of the techniques and technology available for obtaining data in the field. If contour mapping does not already exist for the area, we have teamed with **CNC Surveying** to perform surveying services.

Task 2: Hydrologic and Hydraulic Analysis:

After data collection, we will perform a hydrologic and hydraulic analysis of the ditch system; specifically, the ten ditches shown in **Figure 1.** FEMA's Flood Insurance Mapping shows Dodge County's ditch system and the City of Fremont fall within a mix of mainly Zones AE and X and a smaller portion of Zone AO. The area will have data as part of the effective flood insurance program through FEMA. While this data will be helpful in the analysis of the drainage ditch system, the analysis that FEMA has is specific to the Elkhorn River and the Platte River versus the existing ditch system itself. The ditch system will need to have modeling specific to its system performed. It is also possible that the USACE has modeled the drainage ditch system. We plan to coordinate with FEMA and the USACE to check whether they have modeled the area before creating our model.

There are several different programs available that we can use for modeling the hydraulics of a system. Based on our experience, the programs we recommend are HEC-HMS and HEC-RAS. HEC-HMS is used for hydrologic modeling, reservoir routing and yield, dam breach, and pumping analysis. HEC-RAS is used to model 1D and 2D flow, compute sediment transport simulations and analyze water quality. Multiple ditches can be modeled in HEC-RAS as reaches. Both programs are compatible with Arc-map, which will store, share and summarize the drainage system information and results in geospatially referenced maps.

Our team has extensive experience creating models as well as adjusting existing models for current conditions. Using our combined experience, we will create a system of models that accurately reflect the actual conditions in the field, which is crucial for project planning and detailed design.

***Task 3:** Identification of System Inadequacies*

Upon completion of the model, Burns & McDonnell will identify existing system inadequacies. We will use the design and performance criteria as the baseline for performance. For example, suppose Dodge County requires its system to convey runoff from a 10-year storm event without flooding. In that case, the model results will be examined for locations where the ditches lack the capacity for this event. Inadequate elements of the system will be identified and flagged for consideration of future improvement.

***Task 4:** Proposed Improvements*

Burns & McDonnell will work with the County to prioritize areas where additional analysis will take place. We will develop conceptual improvements to mitigate the drainage issues in the prioritized areas. Our team will assess specific improvements to identified inadequate ditch areas and take a holistic approach to the drainage to determine if any all-encompassing projects can affect a wider area of drainage. Ditch-specific improvements could include but are not limited to widening or lining banks, increasing slopes, or straightening ditches. Potential all-encompassing projects may include, but are not limited to, dewatering high water table areas, rerouting ditches or building wetlands, detention basins, or large underground tunnels to divert floodwaters around the town and areas prone to flooding.

We know that dewatering wells were discussed as a possibility in the area. **Luca DeAngelis** will lead the efforts in further evaluating this option. He is very familiar with the hydrogeology of the study area, including projects completed for the Nebraska DNR and the City of Fremont. He has worked with Fremont to evaluate the expansion feasibility of their wellfield capacity by adding a horizontal collector well and working with the Lower Platte North to collect and interpret

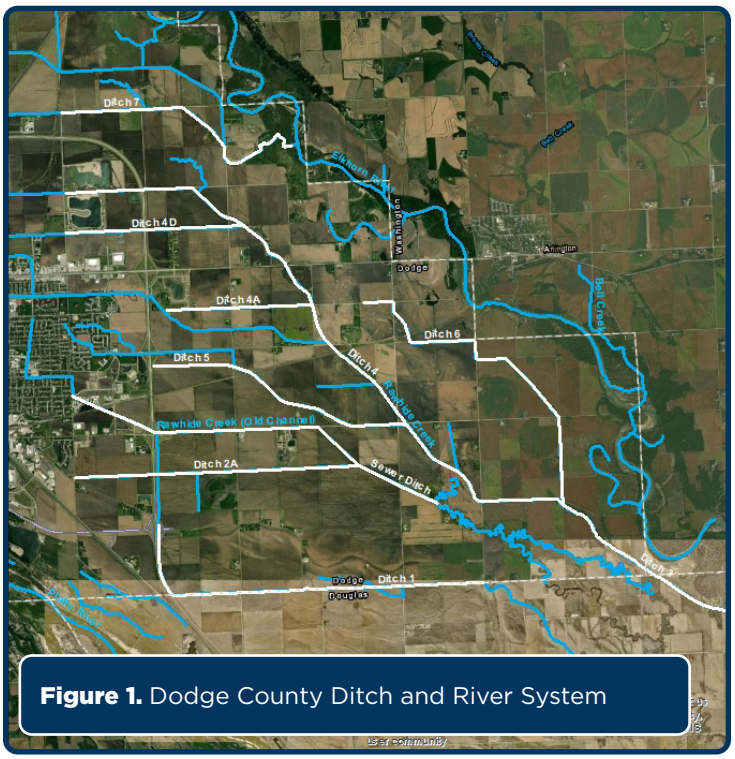


Figure 1. Dodge County Ditch and River System

groundwater levels from within the Wann Basin. When pumping water from high groundwater tables, we need to consider where to send the water once pumped. One option is to send the water to Fremont since they discussed their need to find additional water sources. Another option is to work with the landowners surrounding the drainage ditches. Most of this area is farmland, and there is a possibility they could use the pumped water for irrigating their crops. Identifying a beneficial use for groundwater pumped for dewatering purposes should help build support from local landowners for this project.

***Task 5:** Conceptual Design*

The effort associated with each conceptual design will consist of a model for each proposed improvement, a determination of downstream and surrounding impacts, and the development of planning-level cost opinions. We will use our in-house construction team and local contractor relationships to provide accurate opinions of probable costs to include in the study. We will also work with our in-house financial analysts to develop preliminary cost-benefit ratios for the proposed projects.

***Task 6:** Environmental, Historical, and Land Right Considerations*

Patrick Finigan will lead our environmental team to determine potential environmental impacts through a desktop analysis of the conceptual projects. Once we identify the potential environmental effects, the environmental team will conduct a site investigation to verify the findings. After all of the results are confirmed, we will create a permit matrix to summarize the potential permitting efforts required for each proposed project. **Joab Ortiz** is our resident land rights specialist. He will advise the team on how each conceptual project could affect the surrounding landowners and determine if easement acquisition may be necessary.

***Task 7:** Development of Prioritization Framework*

After we identify conceptual projects, we will summarize our findings in a report, and we will work with the County and the JWMAB to develop a prioritization framework. We will prioritize our approach using JWMAB's criteria, including

feasibility, efficiency, land use, environmental, and historical considerations. After prioritizing the projects, we will review our findings with Dodge County and the JWMAB and agree on which project(s) to move forward into a detailed design.

Task 8: *Funding Source Analysis*

In addition, we will also evaluate the conceptual projects based on grant funding applicability using our grant specialists, **Carrie Davis** and **Steve Gruber**. Based on the conceptual projects, we will determine which funding sources may apply to our projects and summarize the available funding sources in a memo that we will review with the County and JWMAB. We will research possible grant programs which may include the Nebraska Natural Resources Commission Water Sustainability Fund, the Nebraska State Hazard Mitigation Grants Program, and the federal Community Development Block Grant Disaster Recovery program.

Phase 2

Task 9: *Detailed Design*

After projects are selected for Phase 2, we will develop a scope of work and fee to coincide with the chosen project design. Our proven approach reduces the number of unknowns and can lead to a better-defined project. Our approach to design includes:

- Obtaining a topographic survey
- Developing project plans to 30%, 60%, 90% and issued for Bid Sets
- Preparing necessary permits
- Obtaining potential easements
- Determining Engineers Opinion of Probable Costs using our in-house team of construction estimate and design specialists
- Developing specifications and complete a series of quality reviews to confirm technical accuracy and constructability.

Rick Besancon will perform quality reviews on our conceptual study and our design projects. Rick has in-depth experience in both flood and stormwater planning and design and built his 25+ year career analyzing hydrology and hydraulics of drainage systems and design improvements to stormwater, drainage, and river systems.

Task 10: *Public Relations and Stakeholder Involvement:*

We recognize each community we work with is unique, with individual challenges and opportunities. From our understanding, public relations and stakeholder engagement will be a critical piece to this project. Historical data shows that some landowners were not in favor of this project. This is likely because the landowners did not want to take on the expense to maintain the drainage ditches located on their land. Our goal is to design and construct these improvements without an additional cost to surrounding landowners. The future operation and maintenance for the ditches might fall to the landowners. Joining our team is **Emspace + Lovgren**, who brings a combined 65 years of marketing and public relations expertise to the project. They have a portfolio of public engagement and outreach work throughout the state. They will work as an extension of your staff to communicate expectations to the stakeholders effectively.

Everyone digests information in different ways. Our team will develop a communication plan that considers the audiences and uses a comprehensive "toolbox" to approach your project. This includes public meetings and town halls to allow key stakeholders to ask questions about the project, leverage City social media and websites to distribute and update essential information, and establish a response hotline for one-on-one conversations with stakeholders.

Task 11: *Grant Application:*

Our grant writing team has extensive experience preparing grant proposals on behalf of our clients and a very high success rate in receiving funds to implement projects. Our ***grant-writing process starts early, typically six months to a year before the release of the grant submission opening, where we will work closely with Dodge County, Fremont, and the LPNNRD to understand your needs and desires to develop and implement a successful project.*** We will identify the appropriate granting entity and outline key milestones and timelines associated with the call for proposals and, critically, the funding timeline to make sure that the project can be implemented in line with your project goals. ***To increase our chances of funding success, we thoroughly review all aspects of the grant guidelines from the grantee (well in advance of the call for proposals) to make our proposal as specific as possible to meet the needs of the funding entity.***

Next, we review the funding criteria (which typically consists of the range of funds available for a project), the tasks that can and cannot be funded, and any funding match that the proposer may require. In preparation, we analyze successful proposals previously financed by the granting entity (these are typically made available by the agency but can also be identified by other means) to understand the types of projects they like to fund. After we identify the appropriate grant (or grants in some cases) and granting entity to meet the needs of your project, we thoroughly review the various elements required in the grant submittal. These elements typically involve a series of questions focused on project descriptions, project tasks, key personnel, funding, and contract requirements. Grant materials are generally available online (often from previous rounds of submittals).

OUR PROVEN APPROACH TO GRANT WRITING

Our grant funding specialists understand the importance of reviewing the criteria and limitations of the grant early in the process to provide ample time for any approvals that Dodge County, Fremont, and the LPNNRD may need to submit the grant proposal.

We download the questions to work offline and then collaborate with your staff to address each of the elements in the grant submittal.

Our approach focuses on developing language that demonstrates our understanding of the project while providing benefits to the granting entity and align with their goals and mission.

After our grant writers have set the appropriate text and budget for the grant submittal, we review the entire proposal with your staff and execute a formal QA/QC process for all submittal elements and compliance check. Burns & McDonnell typically submits the proposal on our client's behalf, at your discretion.

Over the last 20 years, our team has developed and refined our grant proposal process. Because of this, we are highly successful in obtaining grant funding for numerous projects from a wide range of regional, state, and national granting entity's across the country.

Project Schedule

Our proposed schedule is based on the 2024 Nebraska HMPG anticipated application deadline. During our kick-off meeting, we will discuss opportunities to expedite the overall schedule to meet critical project milestones and potentially meet earlier grant funding deadlines.

	Task	Objective	Initial Date	Completion Date
Phase 1	**Task 1:** Data Collection	**Obtain data and assess gaps, work with the County to obtain any missing information.** *(Associated with RFP Scope Items: Historical damage data collection and Existing drainage infrastructure assessment data collection.)*	7/1/2021	8/31/2021
	Task 2: Hydrologic and Hydraulic Analysis	**Obtain or create hydrologic and hydraulic models for Fremont drainage and the 10 ditches within the Ditch Network.** *(Associated with RFP scope items: Existing drainage infrastructure assessment (conveyance and constrictions) and Hydrologic and hydraulic analyses to assess flood risks.)*	9/1/2021	5/31/2022
	Task 3: Identification of System Inadequacies	**Identify and flag areas to be considered for drainage improvements.** *(Associated with RFP Scope Item: Existing drainage infrastructure assessment.)*	6/1/2022	9/30/2022
	Task 4: Proposed Improvements	**Prioritize inadequate areas and develop conceptual improvements.** *(Associated with RFP Scope Item: Identifying potential flood risk mitigation measures)*	10/1/2022	1/31/2023
	Task 5: Conceptual Design	**Model and analyze proposed improvements developed in Task 4.** *(Associated with RFP scope items: Conceptual solution design and Cost/benefit ratios for proposed improvements)*	2/1/2023	4/30/2023
	Task 6: Environmental, Historical, and Land Right Considerations	**Analyze projects based on potential environmental concerns, permitting, and land right/historical issues.** *(Associated with RFP scope item: Environmental, historical and land rights concerns.)*	10/1/2022	1/31/2023
	Task 7: Development of Prioritization Framework	**Develop framework with JWMAB and prioritize conceptual projects. Prepare and submit Project Summary Report.** *(Associated with RFP scope item: Project summary report.)*	12/1/2022	1/31/2023
	Task 8: Funding Source Analysis	**Analyze and summarize potential funding sources.** *(Associated with RFP scope item: Funding source analysis.)*	7/1/2021	4/30/2023
Phase 2	**Task 9:** Detailed Design	**Take conceptual projects into and through Final Design to be ready for bid and construction.** *(Associated with RFP scope item: Detailed design of selected alternatives.)*	5/1/2023	*TBD
Phases 1 & 2	**Task 10:** Public Relations and Stakeholder Involvement	**Gain support and understanding from local community.** *(Associated with RFP Scope Item: Stakeholder Engagement and Communication)*	7/1/2021	*TBD
	Task 11: Grant Application	**Apply for eligible grant opportunities.** *(Associated with RFP Scope Item: State HMPG project application completion.)*	8/1/2023	**1/29/2024

** Date will be adjusted based on the project(s) selected for detailed design.*
*** Completion date is based on the estimated Nebraska HMPG project application deadline.*

Project Team

Your Project Team

We are confident in our team's capacity and availability to fulfill the deadlines and expectations for this project. Collectively, our team has developed over 30 stormwater master plans, over 100 hydraulic models, and hundreds of different design projects, each having its unique challenges. Our team includes a deep bench strength of experience including grant writing specialist, **Carrie Davis who brings 85-90% hit rate** supported by **Steve Gruber with an average hit rate of 75-85%** and several team members who have collaborated with clients to submit grant funding applications. Our project manager, **Sarah Espinosa**, is supported by **Leon Staab** who brings more than 30 years of experience delivering drainage and stormwater projects. Sarah is located in Omaha, just minutes from Fremont, and will lead the day to day management tasks of this project.

Sarah is responsible for managing the day to day tasks of the project and coordinating with you and the project team to meet your project goals. As project director, Leon will support Sarah by providing technical expertise.

Sarah Espinosa, PE
Project Manager

Leon Staab, PE
Project Director

Rick Besancon, PE
QA/QC

GRANT SUPPORT

Carrie Davis
Steve Gruber
David Pohl
Lauren Moore
Kylie Wyatt

FINANCIAL ANALYSIS

Dave Naumann
Craig Brown

FIELD SERVICES

Steve Jonson
Spencer Lindley
Nathalie Ford

DATA COLLECTION + CONCEPTUAL DESIGN

Sarah Espinosa
Jon Parker
Lauren Moore
Spencer Lindley
Nathalie Ford

WELLFIELD COORDINATION

Luca DeAngelis

ENVIRONMENTAL + LAND RIGHTS ACQUISITION

Patrick Finigan
Joab Ortiz
Craig Adams

DETAILED DESIGN

Sarah Espinosa
Spencer Lindley
Nathalie Ford
Lauren Moore

PUBLIC RELATIONS

Emspace + Lovgren

SURVEYING

CNC Surveying, LLC

Leon Staab, PE
Project Director

Experience
31 years

Education
BS, Civil Engineering

License/Registration
Professional Engineer (FL, KS, MO, TX)

Leon has prepared more than 20 stormwater master plans for communities and has completed numerous stormwater system studies for projects across the country.

Leon is an associate project manager at Burns & McDonnell with of experience in civil engineering, stormwater management and flood protection design. He has prepared more than 20 stormwater master plans for communities in Kansas and Missouri and has completed numerous stormwater system studies for projects across the country. Leon's primary area of responsibility is in the management of projects related to stormwater management and conveyance which have included local drainage studies, city-wide stormwater master plans, sewer design, federal levee systems and flood control dams. With these projects, Leon has developed specialized experience in modeling applications for hydrology and hydraulics including HEC-HMS, HEC-RAS and SWMM. Leon's experience includes design and project management for urban storm drainage systems. A hallmark project was the design for Phase 5 of the Brookside Watershed Area Storm and Sanitary Improvements Project. With an estimated construction cost of $30 million, this project was, at the time, one of the largest storm sewer rehabilitation projects ever undertaken by the City of Kansas City, Missouri.

Relevant Experience

- **Bella Vista Flood Study| Bella Vista, Arkansas** Leon developed a hydrologic and hydraulic model of the 85 square mile watershed using HEC-HMS and HEC-RAS which include six major reservoirs.
- **Stormwater Facilities Plan | Missoula, Montana** Leon helped to identify the City's goals for National Pollutant Discharge Elimination System (NPDES) permit compliance, operational optimization, financial viability, infrastructure stability and operational resiliency. He then developed recommendations for program staffing, equipment and operational procedures for the storm sewer systems.
- **Smart Sewer Program | Kansas City, Missouri** Leon assists with the overall implementation of the program and oversight of staff.
- **Prairie Grove Drainage Study | City of Prairie Grove, Arkansas** Leon supervised the development of hydrologic analysis and the conceptual design of 4,500 feet of enclosed storm sewers.
- **Stormwater Design Manual | Republic, Missouri** Leon converted existing ordinance language to a comprehensive Stormwater Design Manual. Updates included language to help the City meet its Municipal Separate Storm Sewer System (MS4) permitting requirements and better coordination with the City's specifications for construction.
- **Warsaw Stormwater Study | Warsaw, Missouri** Leon assisted with the City's stormwater planning activities.

Sarah Espinosa, PE
Project Manager

Experience
9 years

Education
MS, Business Administration; BS, Civil Engineering

License/Registration
Professional Engineer (IL); Civil Engineer (IL, KS, MO, NE)

Sarah is dedicated to building trust with her clients and providing innovative, cost-effective and quality results on every project.

Sarah is a civil engineer with nine years of experience focused on floodplain management, stormwater management and project and program management. Sarah has developed more than 20 hydraulic models in her time at Burns & McDonnell that have been used for a variety of needs ranging from obtaining no-rises for proposed construction in floodplains to assessing flooding and drainage issues along rivers and creeks. In addition to performing hydraulic and hydrologic analyses, Sarah also has experience in leading design projects including channel stabilization, culvert and stormwater structure design and watermain and sewer design. In addition to serving as project engineer, she has also acted in project management roles on multiple projects through scheduling meetings, monitoring budgets, managing tasks and continuing communication with clients. Sarah is dedicated to building trust with her clients and providing innovative, cost-effective and quality results on every project.

Relevant Experience

- **Moosa Creek Riperian Restoration Project | San Diego County, California** Sarah developed a hydraulic model for existing and proposed conditions at the project site, development and submittal of a Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) for a Zone A hazard area to account for changes in existing conditions at the site, design of the grading plans for the site and County Flood Control/FEMA coordination.
- **Loop 286 Drainage Study | Paris, Texas** Sarah's responsibilities included quality review of the initial existing hydraulic model and schematics, the preliminary design of culverts, bridge improvements and creek improvements for multiple drainage systems in the area using HEC-RAS and Open Rail.
- **Lake Olathe Master Plan Floodplain Analysis | Olathe, Kansas** Sarah's responsibilities included updating the existing and post project hydraulic models to account for the changes made to the site from the project, analyzing and comparing the results of the hydraulic models, determining new floodway areas, reporting the findings, completing the FEMA conditional LOMR (CLOMR) application and corresponding with FEMA/City of Olathe to obtain approval for the CLOMR.
- **Bella Vista Flood Study| Bella Vista, Arkansas** Sarah's responsibilities included building a hydrologic model and a hydraulic model for Little Sugar Creek and its tributary reservoirs, analyzing different flooding situations for the adjacent golf courses, mapping new floodplains and reporting findings.

Rick Besancon, PE
QA/QC

Experience
25 years

Education
MS, Business Administration; BS, Civil Engineering

License/Registration
Professional Engineer (MO, KS, IA, NE)

Rick's experience gives him a unique perspective on many phases of study, design and construction.

Rick is an associate civil engineer and project manager for Burns & McDonnell. His experience includes sewer separation, storm sewer design and channel restoration utilizing environmentally friendly techniques. Rick has worked at refineries, nuclear facilities, industrial operations and facilities and he has performed City and State roadway design. This broad-based experience gives Rick a unique perspective on many phases of study, design and construction.

Relevant Experience

- **Bella Vista Flood Study| Bella Vista, Arkansas** Rick performed the channel analysis to determine locations for stabilization.
- **Omaha Forest Lawn Creek Inflow Removal and Outfall Storm Sewer Project | Omaha, Nebraska** Rick is currently managing the creek removal project in the Forest Lawn area of Omaha. Burns & McDonnell is working to separate the creek flow from the sanitary flow to reduce overflows at CSO 105.
- **Gilmore Avenue Sewer Separation Project | Omaha, Nebraska** Rick managed this sewer separation project located in South Omaha.
- **Stormwater Drainage Improvements | Pittsburg, Kansas** Rick assisted with the storm drainage improvements project in the southern portion of Pittsburg, Kansas, which replaced an aging and undersized infrastructure with a storm sewer system designed to convey the 10-year and 100-year storm events, without flooding adjacent homes and property.
- **Dundee Elementary School Green Infrastructure | Location** Rick was responsible for managing this stormwater project to alleviate drainage issues, which included redirecting downspouts to provide drainage away from the building, designing new walkways and a new driveway and designing green infrastructure to convey flows away from the building.

Luca DeAngelis, PE, PG
Wellfield Coordination

Experience
25 years

Education
MS, Civil Engineering; BS, Geological Engineering

License/Registration
Professional Engineer (KS, NE)
Professional Geologist (MO, NE, WY)

Luca is familiar with Dodge County, as he is already doing work in Fremont.

Luca has over 25 years of experience in the environmental and water supply industries, focusing on water rights consulting, development of groundwater resources, aquifer evaluations and water resource planning. Luca has experience managing, evaluating, planning and designing water supply projects for municipal, state and federal government agencies and private utilities. His experience includes the design and construction oversite of over 100 water supply wells constructed in both alluvial and bedrock aquifers.

Relevant Experience

- **Platte West Groundwater Monitoring and Modeling | Omaha, Nebraska** Luca's responsibilities on this project included the design of 32 water supply wells, contractor management during well installation and review of the well performance tests for the new wells.
- **Grand River Dam Authority Instrumentation Evaluation Project | Pryor, Oklahoma** Luca worked on a project being completed to evaluate the condition and performance of the Grand River Dam Authority dam safety instrumentation (piezometers, observation wells, foundation drains, wens, etc.) and to rehabilitate this instrumentation where appropriate.
- **Water Supply Management | Hays, Kansas** Luca developed the AHI, which is a spreadsheet tool that evaluates the relationship between groundwater elevations in the alluvium, streamflow in Big Creek and the Smoky Hill River and well field pumping to produce a score that is indicative of the current health of the aquifer system.
- **New Well Field and Groundwater Model | Buhler, Kansas** Luca developed a groundwater and solute transport model that simulated the impact of a new well on water levels in the aquifer and also evaluated the fate and transport of a chloride plume that is located several miles from the new well field property.

Carrie Davis
Grants

Experience
20 years

Education
MS, Public Administration; BA, Psychology

Carrie has an 85-90% success rate in acquiring funding in her 16 years as a grant writer.

Carrie has over 16 years of experience as a grant writer/manager and has developed and written numerous proposals which have resulted in an 85-90% successful funding rate. In addition to proposal preparation and submission, she has performed the back-end management of the majority of the grants that have been successfully awarded. Carrie has also participated in the development of sub-recipient requests for proposals and the monitoring of the awardees. She has been involved in agency-level grant policy and procedure development and has been largely responsible for maintaining compliance with all grant award requirements and regulations.

Relevant Experience

- **Douglas County Administration Grant Coordinator | Omaha, Nebraska** Carrie was responsible for working collaboratively with various County departments to identify, research, write and manage a variety of private, state and federal grants. She coordinated with program personnel to develop project goals, objectives and evaluation methods. Carrie ensured proper grant application and reporting procedures are followed.
- **Lutheran Family Services of Nebraska, Inc. Lead Grant Coordinator | Omaha, Nebraska** Carrie provided oversight to a multi-faceted, fast-paced Grant Department that generates over 150 proposals annually with funding requests equaling approximately $8 million. Her responsibilities included identifying, researching and developing grant proposals for a variety of foundations, corporations and federal and state government agencies**.**
- **Sarpy County Administration Grant Coordinator | Papillion, Nebraska** Carrie's responsibilities included working collaboratively with various County departments to identify, research, write and manage a variety of private, state and federal grants. She coordinated with program personnel to develop project goals, objectives and evaluation methods and consulted with fiscal staff to create proposal budgets, complete financial reports and monitor grant expenditures.

Steve Gruber
Grants

Experience
28 years

Education
MS, Biology

License/Registration
Certified Compliance Inspector of Stormwater (CA)

Steve has a 75-80% success rate in receiving grant funding.

Steve is a project manager for Burns & McDonnell with more than 20 years of experience in the environmental field. He has managed numerous stormwater projects throughout California related to the state's Construction General Permit (CGP) Industrial General Permit (IGP) and MS4 permits (Phase I and Phase II). Steve has a thorough understanding of watershed science and has conducted numerous studies related to NPDES stormwater permits throughout the country. He has extensive experience in managing complex projects involving engagement with diverse regulatory entities and resource agencies throughout California, such as the State Water Resources Control Board, numerous Regional Water Quality Control Boards, California Department of Fish and Wildlife (CDFW) and the US Fish and Wildlife Service (USFWS).

Relevant Experience

- **Big Canyon Restoration Phase 1 | Newport Beach, California** Steve secured $2.3 million in grant funding for the City of Newport Beach and is the Project Manager for this water quality treatment and restoration Project. In addition, he led the procurement of an additional $460,000 in grant funding from the Ocean Protection Council for the next phase of the project, which will be initiated in the summer of 2021.
- **Treatment Wetland Pilot Project | Vadnais Heights, Minnesota** Steve obtained $500,000 in grant funding for the project on behalf of Vadnais Lake Area Watershed Management Organization, overall project management and administration, study design, monitoring coordination, data analysis and reporting.
- **La Jolla Shores Area of Special Biological Significance (ASBS) Protection Implementation Program | San Diego, California** Steve led the proposal effort to obtain $1.2M in state grant funding for the project, which included funds for project design, permitting, BMP implementation, and assessment studies.
- **Newport Area of Special Biological Significance (ASBS) Protection Implementation Program | Newport Beach, California** Steve led the grant proposal process for this project, securing over $1M in grant funding from the state to implement the project. He was responsible for all aspects of project design and implementation.

David Pohl, PhD, PE, LEED AP
Grants

Experience
37 years

Education
PhD, Civil Engineering; MS, Civil Engineering; BS, Civil Engineering

License/Registration
Professional Engineer (CA); LEED AP

David has been successful in bringing over $10 million in grant funding to municipalities.

David has more than 35 years of environmental/geotechnical engineering planning, concept and final design, construction management and cost estimation experience. He has 14 years of experience in project management and senior technical oversight of plans and designs for compliance with water quality regulations that include best management practices (BMP) design and implementation that includes the use of green infrastructure approaches. He recently completed the San Diego Regional Storm Water Resource Plan and Stormwater Capture Feasibility Study. He is currently managing several creek and estuary restoration projects that include the full integrated services from environmental planning and permitting to design and construction oversight. **He has also been successful in bringing over $10 million in grant funding including Prop. 1 to municipalities for integrated stormwater and restoration projects.**

Relevant Experience

- **Grant Funded Low Impact Development (LID) BMP Design for Crystal Cove State Park and Corona del Mar Marine Preserve* | Newport Beach, California** David provided senior stormwater compliance and BMP design oversight for multiple biofiltration and porous pavement LID BMPs to meet new water quality regulations using grant funding.
- **Design-Build Chollas Creek Restoration Project* |San Diego, California** David coordinated with the City of San Diego, County of San Diego and local community group (Groundwork Chollas) to identify multi-benefit projects and funding opportunities that lead to the preparation, award and completion of this grant funded turnkey project.
- **Watershed Protection* | San Diego, California** David worked with the county and project team to develop a Stormwater Capture and Beneficial Use Study for San Diego County. The feasibility study provides the region with the management tool to plan, develop and implement stormwater capture and use projects.
- **Sorrento Valley Flood Channel Assessment and Los Peñasquitos Lagoon Restoration* | San Diego, California** David provided oversight to assess the capacity of the current stormwater management channels using 2D HEC-RAS modeling and develop options to reduce flooding through short term emergency maintenance measures and longer-term channel enhancement.

** Experience prior to Burns & McDonnell*

Lauren Moore, PE, ENV SP
Grants/H&H/Detailed Design

Experience
10 years

Education
MS, Engineering Management
BS, Civil Engineering

License/Registration
Civil Engineer (MO); Envision Sustainability Professional (ENV SP); Professional Engineer (KS, MO)

Lauren works with clients to design, plan and acquire funding for their project.

Lauren's focus on all projects is to provide deliverables in a forward-thinking and usable manner that best fit her client's needs, into the future. Lauren is a water resources engineer who brings hands-on experience in planning, design, analysis, task and project management for a range of projects including green infrastructure, civil site design, storm sewer conveyance and water quality. Her experience includes study, design, construction and policy related stormwater management projects specific to green infrastructure and stormwater facility design.

Relevant Experience

- **Warsaw Stormwater Study | Warsaw, Missouri** Lauren's role on this project has consisted of project management activities including development and negotiation of scope and fee, task assignments and budget tracking across multiple disciplines, monthly invoicing and project status reports and facilitation of client meetings and communication. She also helped leverage the funding for the project.
- **Grandview Stormwater Management Plan & MS4 Compliance | Grandview, Missouri** Lauren coordinated between City departments and staff to educate and identify best management practices already in place that the City could leverage as part of their MS4 requirements and how they could reasonably track those efforts with minimal impact to their existing workload.
- **Fulton Stormwater Evaluation | Fulton, Missouri** Lauren led the development of the data collection and system evaluation reports which included recommended stormwater improvement projects with associated conceptual level cost estimates for the improvements.
- **Unified Green Strategy for Integrated Overflow Control Plan | Kansas City, Kansas** Lauren's role on this project included leading the design calculation, cost estimation and construction document development efforts as well as construction management for the green stormwater infrastructure features.

Kylie Wyatt, AICP, ENV SP

Grants

Experience
2 years

Education
MS, Urban Planning, 2019

License/Registration
American Institute of Certified Planners; Envision Sustainability Professional (ENV SP)

Kylie's experience in detailed stormwater planning and bridging planning process with technical analysis is an asset to our team.

Kylie is an urban planner focused on comprehensive water infrastructure planning, holistic watershed management and sustainable land use. Kylie's experience in detailed stormwater planning and bridging planning process with technical analysis is an asset to our team. Her experience includes policy making, local government procedures, case research, public engagement, graphic design and current planning relating to green infrastructure.

Relevant Experience

- **Warsaw Stormwater Study | Warsaw, Missouri** Kylie played a key role in the development of Warsaw's 2019 and 2020 Better Utilizing Investments to Leverage Development (BUILD) Grant applications, her efforts on this project helped Warsaw to achieve the highest score possible on their 2020 application.
- **Unified Green Strategy for Integrated Overflow Control Plan | Kansas City, Kansas** Kylie developed city-wide overland flow paths that are the baseline for the new stormwater policy to keep development away from the most flood-prone areas. From these flow paths, Kylie helped develop new tools for the City to use such as watershed zones and drainage setbacks..
- **Stormwater Management Criteria Update | Manhattan, Kansas** Kylie assisted in the facilitation of an interdepartmental workshop to understand existing requirements and processes and gathered information about associated challenges and vision moving forward. She led the development of new sections for the stormwater criteria including the planning and review process for both private and capital projects.
- **Smart Sewers Green Team | Kansas City, Missouri** Kylie's responsibilities for the program range from assisting with conceptual design projects to completing detailed analysis of policy and implementation strategies

Dave Nauman

Financial Analysis

Experience
30 years

Education
MS, Business Administration, Finance Emphasis; BS, Finance Economics

Dave frequently collaborates with operations, engineering, customer care, administrative and other client departments to develop sound plans and recommendations.

Dave is a senior project manager who specializes in financial and operational management consulting for water, wastewater and stormwater systems. For 30 years, Dave has helped utilities make sound business decisions regarding the use of their financial resources. His experience has included financial planning, cost of service and rate design, system development charges, utility valuation, depreciation analysis, economic modeling, feasibility of plant expansion, feasibility of organizational or governance change and related transition planning and process improvement. Dave frequently collaborates with operations, engineering, customer care, administrative and other client departments to develop sound plans and recommendations. Dave has facilitated large and small workshops and presented study results effectively to decision makers and stakeholders.

Relevant Experience

- **Sewer Utility Strategic Financial Planning, Annual Rate Studies, Miscellaneous Fee Review | Johnson County Wastewater (JCW)** Dave's responsibilities included development of a comprehensive financial planning, cost of service and rate model, annual financial planning and rate updates, evaluation of connection fees and other miscellaneous fees and creation of a long-term financial plan to support regulatory compliance negotiations with the State of Kansas.
- **Water and Sewer Rate Studies, Bond Feasibility Studies, Affordability Analysis, Financial Policy Development, Wholesale Rate True-Up | Fort Smith, Arkansas** Dave performed a wastewater financial planning, cost of service and rate study to initiate funding for the sewer utility's Consent Decree, which led to the adoption of an initial three-year rate plan.
- **Water and Sewer Renewal and Replacement Feasibility Plan and Rate Studies | Village of Mount Prospect, Illinois** This study evaluated the feasibility of implementing a new, more aggressive renewal and replacement program, which was developed by Burns & McDonnell. Multiple financial plans were developed to understand the impact of implementing different capital program scenarios. Rate structure changes were recommended for the water utility to introduce a fixed fee to their water rates.

Craig Brown
Financial Analysis

Experience
21 years

Education
MS, Business Administration, Finance; BA, Hotel & Restaurant Management

Craig is a project manager at 1898 & Co., a part of Burns & McDonnell. He is an experienced consultant with a focus in economic analysis and business case development, retail and wholesale utility cost of service and rate design and depreciation and valuation consulting. His primary emphasis is rate consulting for public power utilities. Craig has project experience and expertise in revenue requirements, cost of service, rate design including integration of distributed energy resources (DER), resource planning, financial and load forecasting, capital program planning, bond financing support, depreciation, valuation and common cost and indirect capital overhead cost allocation.

Relevant Experience

- **Karnes Electric Cooperative INC 2020 Depreciation Study | Karnes City, Texas** Craig conducted a depreciation study for Karnes Electric Cooperative's distribution and general plant assets. The project team reviewed historic accounting and property records, developed average service lives by account and conducted a net salvage analysis.
- **Dover Electric System Annual Engineering Consultant's Report | Dover, Delaware** This report summarized the review and assessment of Dover's electric system, retail electric rates, insurance coverage in effect and reserve funds completed by Burns & McDonnell. Craig conducted a valuation study of the City's generation facilities.
- **Valley Electric Association 2020 COS and Rate Design | Pahrump, Nevada** Craig led a cost of service study for Valley Electric Association's electric transmission and distributions systems. The study utilized 1898 & Co.'s cooperative cost of service model to functionalize, classify and allocate costs to the client's principal rate classes.
- **Market Evaluation | Southeast, U.S.** Craig led a team of consultants in the development of a financial and market analysis to evaluate alternative business case scenarios for a confidential municipal utility in the Southeastern United States.

Steve Jonson
Field Services

Experience
21 years

Education
Construction Management and Business Communication Courses

License/Registration
National Association of Sewer Service Companies (NASSCO); Pipeline Assessment Certification Program (PACP) instructor

Steve is the Field Services/Quality Control Manager for Burns & McDonnell. His main focus is quality control of all sanitary sewer evaluation studies (SSES) fieldwork completed by field services technicians. He has been extensively involved in all phases of collection system diagnostic inspections and testing. Steve is responsible for equipment procurement, safety, instruction and oversight of all field activities. These activities include flow monitoring, manhole inspections, visual pipe lamping, cleaning and CCTV inspection, smoke testing and building inspections. Steve is also responsible for safety, public relations and client interaction during all field related activities. He has also performed construction inspection and post-construction certification for I/I reduction programs. Steve is the Burns & McDonnell National Association of Sewer Service Companies (NASSCO) membership Administrator and is certified as a Pipeline Assessment Certification Program (PACP) instructor. Additionally, Steve assists with GPS/GIS system integration, mapping and AutoCAD support for the firm.

Relevant Experience

- **Water Master Plan | Republic, Missouri** Steve served as the Field Service Technical lead on this project. Field services included collection of 2,500+ manhole locations and a 60-day flow monitoring program, development and calibration of a hydraulic model and development of a comprehensive wastewater master plan to identify existing system deficiencies and capital projects to mitigate deficiencies and provide adequate conveyance and treatment considering future growth in the area.
- **Flow Monitoring and GIS | Willow Springs, Missouri** Steve served as the Field Service Technical lead for the wastewater flow monitoring program. He aided in the data review of the flow meters and rain gauges, dry and wet weather flow analysis and basin delineation.
- **Headworks Improvements and LTCP Review | Macon, Missouri** Steve served as Field Services Technical Lead for a flow monitoring program, which included systemwide flow monitoring program and monitoring of the CSO overflows. The flow monitoring program was aimed at developing a baseline for wet weather flow generation in the combined and separate sanitary sewer systems.

Jon Parker, PE

Data Collection/H&H/Conceptual Design

Experience
18 years

Education
BS, Civil Engineering

License/Registration
Professional Engineer (KS)

Jon has a broad understanding for obtaining regulatory permitting and approval from FEMA, USACE, local and statewide divisions of water resources.

Jon has extensive experience in hydrology and hydraulics related to large-scale watershed studies, floodplain studies and stormwater management projects. Jon has a vast knowledge of GIS applications, HEC-RAS hydraulic modeling, HEC-HMS hydrologic modeling, Bentley Systems stormwater design software and XPSWMM. He has a broad understanding for obtaining regulatory permitting and approval from FEMA, U.S. Army Corps of Engineers (USACE), local and statewide divisions of water resources.

Jon's experience with site development projects for residential, commercial, municipal and industrial development and public improvement municipal storm drainage projects and studies have provided him with the knowledge and understanding how to manage and design numerous kinds of civil engineering and stormwater management projects.

Relevant Experience

- **Gilmore Avenue Sewer Separation Project | Omaha, Nebraska** Completed HEC-RAS unsteady flow dam breach modeling for a new large green infrastructure detention basin designed to capture storm runoff and reduce stormwater flows to a combined sewer system in order to meet EPA Consent Decree requirements for the City of Omaha.
- **Motiva Port Arthur Refinery – Storm Water Improvement Program | Port Arthur, Texas** Jon served as lead civil engineer for FEP-3 phase and detailed final design of stormwater drainage system improvements consisting of an engineered aqueduct that could accept a high volume of pumped stormwater discharge from 665 acres of existing refinery, as well as receive gravity rainfall runoff from an additional 200 acres of undeveloped area, much of which is planned for a future facility expansion.
- **Future Development Stormwater Treatment/SADF Master Plan | Kenton County, Kentucky** Addressed long term infrastructure needs necessary for the management of stormwater treatment and winter season spent aircraft deicing fluid (SADF) glycol collection, conveyance, storage, and treatment.
- **Lomita Canal Storm Drainage and Flood Analysis | San Francisco, California** Jon served as lead project engineer to complete a drainage study and HEC-RAS flood analysis of a storm drainage canal on property adjacent to the San Francisco Airport that was experiencing increased flooding problems.

Spencer Lindley, PE

Data Collection/H&H/Detailed Design

Experience
5 years

Education
BS, Civil Engineering

License/Registration
Professional Engineer (NE)

Spencer's experience includes studies and design for a variety of projects for state and local government agencies as well as private clients. His expertise relates to hydrology and hydraulics, sewer evaluation and design, stormwater retention and detention, watershed studies, wetland restoration, hydraulic modeling, air quality monitoring and water quality monitoring. Spencer is proficient in many computer applications including AutoCAD, Civil 3D, HEC-RAS and GIS.

Relevant Experience

- **Gilmore Avenue Sewer Separation Project | Omaha, Nebraska** Spencer was involved in the design phase during his summer internship and is currently involved in the post-design construction phase.
- **Forest Lawn Sewer Separation A | Omaha, Nebraska** Spencer's role was to aid in the design of the storm and sanitary sewer networks for the project. He also performed detailed calculations for sizing energy dissipation structures within the outflow channel.
- **Moosa Creek Riperian Restoration Project | San Diego County, California** Responsibilities for this project included development and submittal of a LOMR application to FEMA, creation of a grading plan that achieved all project goals, and development and submittal of a grading permit application to the County.
- **US National Guard Bureau Readiness Center | Bellevue, Nebraska** Spencer's roles on this project include the development of the grading plan, the site and roadway design, design of the sanitary and storm pipe networks and the design of a stormwater retention pond.
- **Omaha Green Infrastructure Monitoring Plan | Omaha, Nebraska** Spencer's duties included arming the autosamplers before rain events, collecting an early runoff grab sample at the inflow and outflow of the rain garden and collecting the data and stormwater samples at the conclusion of the rainfall event.
- **Turner Boulevard, Kountze, Schroeder-Vogel, Green Infrastructure Project | Omaha, Nebraska** Spencer was involved in the sewer system design as well as the hydraulic modeling for the project.

Nathalie Ford, EIT

Data Collection/H&H/Conceptual Design:

Experience
2 years

Education
BS, Civil Engineering

License/Registration
Engineer in Training (EIT)

Nathalie brings a unique perspective due to her experience with design and construction.

Nathalie is an assistant civil engineer for Burns & McDonnell. She has experience with hydrology and hydraulics, stormwater runoff, channel work, storm and sanitary sewers and site design. Nathalie is proficient in several computer programs, including Civil 3D, GIS, CivilStorm, HEC-SSP, HEC-HMS and HEC-RAS. Nathalie also has experience with field work, having worked on-site for several construction projects and has completed her OSHA 30-Hour Safety Training. This combination of design and construction experience allows Nathalie to bring a unique perspective to the projects she works on.

Relevant Experience

- **Drainage Study | Prairie Grove, Arkansas** Nathalie was responsible for the hydrologic analysis, including watershed delineation, time of concentration calculations and runoff calculations with the aid of ArcGIS and CivilStorm.
- **New Surface Water Intake | Blair, Nebraska** Nathalie's responsibilities focused on site design, including the grading plan and sheet piling for the proposed intake structure, as well as the layout of the yard piping and associated details.
- **US National Guard Bureau Readiness Center | Bellevue, Nebraska** Nathalie performed watershed delineation and hydrologic modeling for the design of a detention pond to reduce stormwater runoff from the site, as well as the design of a riprap apron for the outflow structure into the pond.
- **Northern Natural Gas Company Oakland IA Compressor Station | Oakland, Iowa** Nathalie evaluated the reduction in discharge to the pond using HEC-HMS, estimated the pond volume and compared volumes to evaporation data to determine that reducing the stormwater volume would prevent the pond from discharging to the stream and violating the permit.

Patrick Finigan

Environmental

Experience
25 years

Education
MS, Business Administration (Finance); BS, Biology; BS, Environmental Studies

License/Registration
Wetland Delineation Certification

Patrick has permitted over 25 construction stormwater and 5 industrial stormwater plans through the Nebraska Department of Environment and Energy.

Patrick is a project manager at Burns & McDonnell with 25 years of environmental experience. His wide range experience includes, Environmental Impact Statements (EIS), Environmental Assessments (EA), NPDES, Stormwater Prevention Pollution Plans (SWPPP) and wetland delineations. Patrick has served clients in the power generation, oil and gas, industrial manufacturing, healthcare, municipalities and state and federal government markets. His primary responsibilities include project management, general environmental permitting, wetland delineations, permitting and mitigation for a variety of project types, with a focus on renewable and energy production. Patrick has permitted over 25 construction stormwater and five industrial stormwater plans through the Nebraska Department of Environment and Energy.

Relevant Experience

- **Omaha Public Power District North Omaha Power Station* | Omaha, Nebraska** Patrick created the industrial stormwater plan. His work consisted of preliminary data collections defining site contours and potential impacts, creating the plan, identifying corrective action, permitting and compliance monitoring
- **Nebraska City Power Station* | Nebraska City, Nebraska** Patrick implemented the industrial stormwater plan. His work consisted of preliminary data collections defining site contours and potential impacts, creating the plan, identifying corrective action, permitting and compliance monitoring.
- **Elkhorn River Valley Transmission Project* | Dodge County, Nebraska** Patrick assisted in the design, permitting and implementation effort for the Elkhorn River Valley Transmission Project construction stormwater plan.

** Experience prior to Burns & McDonnell*

Craig Adams
Environmental

Experience
10 years

Education
MS, Natural Resource Sciences; BS, Environmental Studies

License/Registration
Wetland Delineation Certification

Craig is an assistant environmental scientist with more than 10 years of experience in the fields of environmental quality and assessment. His primary responsibilities include conducting wetland assessments and delineations, NEPA reporting and spatial analysis using GIS. This work requires an understanding of hydrological connections, soil classification, plant identification, technical writing and data recording using a Global Positioning System (GPS). Craig has assisted with surveying and permitting efforts in Nebraska, Missouri, South Dakota and Iowa for projects pertaining to pipelines, electric transmission lines, wind farms and road/bridge construction. His previous employment also gave him significant reporting, wetland and GIS experience in the Midwest region.

Relevant Experience

- **Environmental Studies and Permitting for the National Guard Silver Creek Local Training Area | Silver Creek, Nebraska** Craig prepared a report in compliance with Section 106 of the National Historic Preservation Act (NHPA) that identified and described any archaeological resources present within the Silver Creek Local Training Area (SCLTA).
- **Nebraska Department of Transportation Staplehurst Spur Bridge | Lincoln, Nebraska** Craig performed field test and evaluation (T&E) and hazardous materials reviews for the project area, GIS mapping and the associated reporting for permitting.
- **Nebraska Department of Transportation U.S. 6 and Adams Central Avenue Intersection |Hastings, Nebraska** Craig performed field T&E and hazardous materials reviews for the project area, GIS mapping and the associated reporting for permitting.

Joab Ortiz, IAP2
Historical/Land Rights

Experience
23 years

Education
BS, Political Science

License/Registration
International Association for Public Participation (IAP2)

Joab is experienced in developing and managing relationships with local interest groups and community leaders.

Joab manages public involvement services and real estate for Burns & McDonnell clients in the central and western United States. Previously, he designed, developed and executed public involvement and communication plans for a range of clients. He has more than 26 years of marketing and communications experience and a deep understanding of community relations gained by serving businesses and municipalities, state and other government agencies. He is also experienced in developing and managing relationships with local interest groups and community leaders. Joab's projects include public engagement, media relations, officials' briefings and strategies for diverse populations. He provides clients with the materials, technologies and strategies necessary for successful public involvement.

Relevant Experience

- **Small MS4 Permit | Grandview, Missouri** Joab was responsible for providing public involvement support for the first diverging-diamond interchange in Kansas. His efforts included creating communication tools such as a website and handouts, signage and media relations materials for this high-profile project connecting a new intermodal facility and industrial center.
- **Midwest Transmission Project | Maryville, Missouri** Joab was responsible for planning, developing and executing the public involvement effort for a 185-mile transmission line spanning 18 counties in Missouri and Nebraska.
- **Duke Energy Corporation Florida Major Projects Program |Southeast, U.S.** Joab assisted the Program Director in the evaluation and execution of the public involvement for a statewide transmission line development program. His responsibilities included the coordination of staff, public involvement management strategies, open house evaluations and material development and support
- **8th Street Improvements | Bentonville, Arkansas** Joab assisted with hosting public meetings, gathering public comments and providing critical information to affected residents and businesses. His public engagement efforts also included outreach to diverse populations, including Hispanic and Vietnamese peoples.

CNC Surveying LLC (CNC)
CNC is a full-service surveying firm with several years of experience in all aspects of surveying. Based in Omaha, CNC and Burns & McDonnell have partnered together on similar projects, including the Omaha CSO Program and other drainage projects in the state. They will be responsible for the topographic survey and any necessary easement preparation for your project.

Emspace + Lovgren
Emspace + Lovgren brings 65 years of branding, marketing and public relations expertise to the project. They apply a phased approach to successful communications and work with clients to maximize budgets, leverage available resources and achieve measurable results. They will lead the public relations and outreach efforts on this project and work closely with you to meet your goals.

GRANT FUNDING EXPERIENCE

Experienced professionals helping Dodge County secure project funds

Carrie Davis | Grant Writing Lead
More than 16 years of grant writing experience with a **success rate of 85-90%**
resume on page 11

Steve Gruber | Grant Writing Support
Manages complex projects involving regulatory agencies and grant funding experience with a **success rate of 75-85%**
resume on page 11

Support Team

David Pohl
resume on page 12

Lauren Moore
resume on page 12

Kylie Wyatt
resume on page 13

Project Highlights

Big Canyon Restoration Phase 1 | Newport Beach, California
Read more on page 21

SUCCESSFULLY SECURED

$2.3 Million

in Grant Funding from the Orange County Transit Authority and an additional $460,000 to begin Phase 2 from the Ocean Protection Council

Citywide Stormwater Master Plan | Grandview, Missouri
Read more on page 23

SUCCESSFULLY SECURED

$275,000

in Grant Funding from the Missouri Department of Natural Resources (MDNR) and an additional $270,000 funding match from the City

Stormwater Study Grant Application Assistance | Warsaw, Missouri
Read more on page 20

SUCCESSFULLY SECURED

$50,000

in Grant Funding from the MDNR and an additional $47,900 funding match from the City

Project Experience

Stormwater Study Grant Application Assistance | Warsaw, Missouri

Successful MDNR 604 (b) Water Quality Grant Funding

As part of this work, the team coordinated with MDNR to better align the application with the grant intent and compiled the text, figures and funding requests for the application and the supporting scope and fee documents. **The winning proposal will provide awarded $50,000 of MDNR funding with a City match of $47,900.**

Due to the success of this grant, the Burns & McDonnell team will assist the City of Warsaw in the BUILD Grant Application in for 2021 funding.

Completion: 2021

Stormwater Study

Burns & McDonnell completed a watershed-wide stormwater study for the City of Warsaw, Missouri, a small rural community situated between Truman Lake and the Lake of the Ozarks. The City's strongest community asset is its waterfront and protecting the integrity of this natural system is of paramount importance for its growth and success. The City is uniquely characterized by a primarily open channel stormwater system, requiring careful planning and design of stormwater drainage improvements required with future development and capital improvement projects. As part of the study, Burns & McDonnell completed a hydrologic analysis using Bentley CivilStorm modeling software to estimate stormwater flows to the existing system. The project team also reviewed the FEMA effective hydraulic model geometry as it relates to GPS-surveyed data of the primary existing conveyance channel through the City to integrate known hydraulic components to the model. This analysis will ultimately be used to classify existing system performance and to identify current and potential future sources of flooding. The hydrologic analysis will serve as the basis for future improvement recommendations to mitigate these issues using smarter, more sustainable management practices that integrate green and gray stormwater infrastructure. These recommendations will balance the stormwater drainage level of service needed to complement the performance of the existing natural system, minimize negative impacts to the receiving waterfront and overall maximize the community amenities by using multi-benefit green stormwater infrastructure solutions. The results of the stormwater study were compiled in an interactive digital interface using Google Earth and ArcGIS that the client can interact with and utilize to address day-to-day stormwater issues.

MDNR 604(b) Water Quality Management Grant Assistance

Integrating multi-purpose goals is critical to the City when leveraging funding mechanisms for improvement projects. As a small community, the City relies heavily on the financial assistance of numerous grand funding opportunities. Burns & McDonnell assisted the client with developing a MDNR Section 604(b) Water Quality Management Grant application. As part of this work, the team coordinated with MDNR to better align the application with the grant intent and compiled the text, figures and funding requests for the application and the supporting scope and fee documents. **The winning proposal awarded $50,000 of MDNR funding with a City match of $47,900. The project will include a review of the City's existing stormwater policy and design criteria related to capital, development and redevelopment projects.** Recommendations will be made to updates or revisions to the current criteria necessary to mitigate impacts of flooding in the downstream and downtown regions of the City from future expansion opportunities. These recommendations will facilitate smarter and healthier growth for the community that protects and complements the City's waterfront assets.

BUILD Grant Application Assistance

The project team assisted Warsaw with the development of the application, technical and financial analysis and the supplemental material for the Missouri Department of Transportation (MoDOT) BUILD federal grant submitted in the Spring of 2020. While primarily a transportation-related infrastructure grant, the project team was able to incorporate green stormwater infrastructure as a sustainable and resilient approach to managing stormwater within the City's Complete Streets initiative. The green stormwater infrastructure practices proposed as part of the concept design included permeable pavers and bioretention within the street cross section as well as a pocket wetland for additional stormwater storage and detention to mitigate increases in peak flows resulting from necessary roadway improvements. These multi-benefit solutions strengthened the grant narrative by leveraging improvements that maximize the benefit to the community while still meeting the primary requirements of the grant.

Big Canyon Restoration Phase 1 | Newport Beach, California

Successful Grant Funding

Burns & McDonnell assisted in **securing $2.3 million in grants to fund the project** on behalf of the City from the Orange County Transit Authority. Burns & McDonnell won an additional $460,000 grant from Ocean Protection Council for the next phase of the project starting in 2021.

- Re-designed existing storm drain infrastructure to treat dry weather and wet weather flows in Big Canyon Creek to remove transportation-related pollutants and selenium
- Restored 6 acres of degraded in-stream, riparian and floodplain habitat to natural conditions
- Integrate the natural treatment system and storm drain infrastructure with large-scale restoration of Big Canyon

Big Canyon Creek, which drains to the Upper Newport Bay Ecological Preserve presents a number of environmental challenges for the City of Newport Beach, including dry weather flows with elevated selenium levels in the creek, wet weather flows from an urbanized drainage with elevated transportation-related pollutants, mosquito vector habitat associated with existing storm drain outfalls, severely degraded in-stream and riparian habitat and regulatory drivers such as a Total Maximum Daily Load (TMDL) for selenium in Big Canyon Creek. The objective of the Big Canyon Restoration & Water Quality Improvement Project is to reduce storm water runoff pollutants (bacteria, nutrients, metals and organics), restore degraded habitat and improve water quality in Big Canyon Creek through a natural, integrated design.

Burns & McDonnell is responsible for designing the Project, preparing permitting and California Environmental Quality Act (CEQA) documentation, managing project construction and assessing Project effectiveness in reaching water quality and restoration goals. In addition, Burns & McDonnell staff worked closely with City staff to conduct monitoring of groundwater, surface water and stream bank sediment in Big Canyon Creek designed to identify “hotspots” of selenium in the Creek and maximize the efficiency of the Project design.

Construction of Phase 1 of the Project was completed in June 2018 and restoration planting has been completed. Initial dry weather monitoring results indicate a four-fold reduction of selenium concentrations in Big Canyon Creek as a result of the Project. **Burns & McDonnell prepared the application and won an additional $460,000 grant from the Ocean Protection Council to design and permit the next phase of the project, which will start in the summer of 2021.**

Treatment Wetland Pilot Project | White Bear Lake, Minnesota

- 94-100% reduction of *E. coli* from pre to post
- Removed Nitrate completely in the media layer (presumably by the vegetation root zone)
- 60-80% total Phosphorus and Organophosphate removal

The Vadnais Lake Area Water Management Organization (VLAWMO) contracted Burns & McDonnell to design a subsurface constructed wetland (SSCW) that could be tested for treating fecal coliform bacteria (e.g., *E. coli*) in stormwater. **Burns & McDonnell won a $600,000 grant from the Minnesota Legislative Citizen Commission on Minnesota Resources (LCCMR) to design, construct and monitor the project.** There is an urgent need for a cost-effective and innovative bacterial reduction BMP. The Treatment Wetland Pilot Project is addressing this need by developing an experimental SSCW BMP that can be used to improve water quality throughout the state.

Whitaker Pond, located adjacent to Columbia Park in White Bear Lake, captures storm water runoff from approximately 640 acres of the primarily urban upper Lambert Creek Watershed. From Whitaker Pond, water flows into Lambert Creek, which is currently impaired by *E. coli* and total phosphorus (a common problem in many urban streams throughout Minnesota). The Treatment Wetland Pilot Project was constructed in Columbia Park to test treatment of *E. coli* in the water from Whitaker Pond.

Successful Grant Funding

Burns & McDonnell **won a $600,000 grant** from the Minnesota LCCMR to design, construct and monitor the project.

Horizontal Collector Well Hydrogeological Investigation | Fremont, Nebraska

The City of Fremont is experiencing rapid growth and has recently become a target destination for several food related industries, resulting in the need to expand the City's water supply. The City currently obtains its raw water from eight vertical wells that are completed in the Platte River alluvial aquifer. In response to the need for more water supply, the City wanted to explore expanding its wellfield using a Horizontal Collector Well (HCW) and selected Burns & McDonnell to complete a hydrogeologic field investigation pre-design study to evaluate the feasibility of expanding the City's wellfield using a HCW. The investigation included test drilling and interval pump testing using a rotosonic drilling rig, installation of monitoring wells and completion of a 72-hour aquifer pumping test that was conducted at a flow rate of 1,100 gallons per minute (gpm.) The investigation was designed to fully evaluate the extents of the aquifer and identify the best locations for well sites. A high-flow rate pumping test with multiple observation wells was conducted to fully evaluate the aquifer characteristics. Analysis of the test data determined the aquifer characteristics and quantified the river/aquifer interaction, determining the sustainable yield of the aquifer under varying seasonable and climactic conditions. Based on these results Burns & McDonnell was able to identify a location in the aquifer with the depth and appropriate aquifer material to construct a HCW capable of producing 15 million gallons per day (MGD.)

Citywide Stormwater Master Plan | Grandview, Missouri

Successful Grant Funding

Burns & McDonnell worked with the City to secure **$275,000** in grant funding from the MDNR Water Protection Program, Financial Assistance Center Stormwater Grant. As part of the grant, the City matched 50% for a project total of **$550,000** for future stormwater planning.

Burns & McDonnell assisted and coordinated the City's compliance with a Letter of Warning from MDNR, evaluated and updated their existing Stormwater Management Program with practical and feasible BMPs specific to the City's needs. Expanding on the regulatory base of the Stormwater Management Program plan, the Burns & McDonnell team developed tools to assist the City in the day-to-day management of their stormwater program that meets the MDNR requirements.

Developing Stormwater Tools for Stormwater Analysis

In 2017, significant storms in July and August caused severe flooding along the Little Blue River. The City had more than 45 inches of rainfall throughout the year, with a 1% storm in August totaling 7.8 inches in 24 hours. After this severe flooding event, the City was spurred into action to update their stormwater master plan and city staff turned to Burns & McDonnell who completed the original master plan in 1988.

Using this custom tool, the City can also determine if existing pipes meet the minimum level of service per current regional design standards, as well as estimate pipe capacity needed to meet the design standard level of service for future development. Developing the tools in geodatabase framework provides flexibility in use for the City, compatible on a multitude of platforms from ArcMap to Google Earth to an ArcOnline Dashboard and sets the stage for future stormwater asset management in the City. Instead of spending millions on infrastructure improvements outlined in a dated master plan, the City is now equipped with the right tools to help their staff with the day-to-day management of their stormwater program and identify drainage and capacity issues.

Affordable Tools to Meet Regulatory Requirements

Although the original master plan served its purpose and identified several improvement projects, many of these projects required significant funding that was not in the City's budget. Because the Stormwater Management Program plan is required by MDNR, the Burns & McDonnell team strategized new and creative ways to expand on this regulatory requirement and provide tools to help the City manage stormwater from both the quantity and quality perspective. Instead of developing the traditional capital project list, Burns & McDonnell developed hydrologic tools, hydraulic tools and flow path obstruction and drainage service request tools to allow real-time analysis of stormwater issues using current City data. When the tools are layered together, they start to create a picture of how water is moving through the city and what the source of the identified drainage issue may be.

MS4 Compliance Support

The City's stormwater management program, known as MS4, was inspected by the MDNR in 2017. The results identified violations on the illicit discharge detection, elimination minimum control and the good housekeeping minimum control. Burns & McDonnell evaluated all existing BMPs for each minimum control measure (MCM) and related each BMP to the feasibility of the City to implement and evaluated activities and practices the City was already implementing that were in support of their MS4 goals. Based on this comparison, Burns & McDonnell updated the City's Stormwater Management Program plan with practical BMPs. This update involved a facilitated meeting between City departments to educate staff and identify best management practices already in place and identified feasible tasks and metrics to measure progress for the City over a five-year implementation period. To implement proper MS4 practices at its own facilities, a detailed stormwater inspection and analysis of the City's Public Works Maintenance Facility was completed. Our team developed a facility stormwater runoff management plan specific to the site and training for the facility's staff related to storage of equipment and materials in a way that protects the City's streams.

Omaha Combined Sewer Overflow (CSO) Program | Omaha, Nebraska

The Gilmore Avenue Sewer Separation project and Forest Lawn CSO project are highlights from an overall CSO program in Omaha to improve water quality.

Forest Lawn Creek Inflow Removal and Outfall Storm Sewer

Forest Lawn Creek discharges to an existing combined sewer and the flow is conveyed by large diameter pipe (114-inch RCP to 18x12 RCB) to CSO-105. The project included studying options to separate the creek flow from the combined flow and convey the clean creek flow to Minne Lusa channel and eventually the Missouri River. In addition to the creek separation, there is neighborhood sewer separation, sanitary sewer design, tunneling large diameter pipe and outfall evaluation and design. Total options for conceptual evaluation include two sanitary sewer routing options, three storm sewer options, three outfall options and one neighborhood sewer separation option. The evaluation included constructability, cost and neighborhood disruption.

Results from the green infrastructure evaluation was used to evaluate detaining upstream flows to reduce pipe size at the downstream end of the project. **The conceptual evaluation portion of the project included extensive public outreach to gain information about the area, historical flooding and business and traffic patterns. The public involvement continued throughout the project to keep the residents informed about alignments, construction and schedule.** The final design includes 1,200 linear feet (LF) of 96-inch diameter stormwater tunnel, 800 feet of 10x7 RCB and 500 feet of 108-inch RCP, along with neighborhood separation and a new outfall structure. Extensive utility and railroad coordination was required and will continue through construction.

Gilmore Avenue Sewer Separation

The project included a watershed of approximately 350 acres and features the design and construction of:

- A regional detention basin
- 3,000 LF of large diameter storm sewer interceptor
- New storm and sanitary sewer collections systems covering 150 acres
- Green Infrastructure to improve water quality and attenuate flows

When analyzing the watershed and downstream infrastructure, Burns & McDonnell determined the downstream infrastructure was undersized to convey the design storm from the drainage and separate the neighborhood sewers. **To address this issue the design team analyzed the watershed with a regional detention basin and a lower level design storm. The level of service for the separation area is better than existing conditions, allows for full separation of the neighborhood and provides for additional capacity in the downstream infrastructure to allow future separation.**

The existing 60-inch brick sewer is replaced by 84-inch reinforced concrete pipe storm sewer and 12-inch clay sanitary sewer. The regional detention basin will store the 10-year event and safely pass the 100-year event through the auxiliary spillway. The overall level of service for the project is a five-year design storm. The 84-inch storm sewer crossed two mainlines of Union Pacific Railroad and beneath a Nebraska Department of Roads viaduct. The large diameter storm will be tunneled under the railroad and tie in to an existing stub out from a previous project.

Public Outreach and Strategic Communications

Working with Burns & McDonnell, **CNC** provided **strategic communication and implementation for this program including:**

- **Managed meeting logistics and materials**
- **Developed website content**
- **Assisted in public speaking to represent the Program and City**
- **Managed an information hotline**
- **Developed collateral, social media and other public engagement tools**

In 2020, that public engagement toolbox expanded to include virtual tools. Public meeting presentations were pre-filmed for online updates to stakeholders, survey tools were employed to gather feedback and using Adobe Spark, project microsites were deployed to share future updates.

Bella Vista Flood Study | Bella Vista, Arkansas

The Bella Vista Property Owner's Association (BVPOA) owns and operates three golf courses along Little Sugar Creek in northwest Arkansas. The courses had been frequently flooded and the BVPOA had incurred considerable expense to effect repairs. As a first step to mitigate repetitive damage, the BVPOA and the City of Bella Vista, Arkansas partnered on a watershed analysis and planning project. As part of this effort, Burns & McDonnell conducted detailed hydrologic and hydraulic analyses of Little Sugar Creek, developed new floodplain mapping, considered alternatives for regional storage and developed a strategy for channel stabilization.

The hydrologic study encompassed approximately 118 square miles of watershed near Bentonville, Arkansas. We used HEC-HMS to develop peak discharges at key location along Little Sugar Creek. Six major reservoirs were included in the model using level pool routing techniques.

Hydraulic analyses of Little Sugar Creek and associated tributaries were developed using the HEC-RAS computer model. Models were constructed using HEC-GeoRAS, with LiDAR information from Benton County and survey data serving as the basis of topography. Modeling established new base flood elevations, floodplain extents and floodway. Results will be used for a future FEMA map revision of 6.5 miles of Little Sugar Creek.

One of the primary goals of the BVPOA was the long-term preservation of the County Club Golf Course. While elimination of flooding was not possible, the BVPOA want to keep flooding to a reasonable level. Three scenarios were investigated: channel stabilization along Little Sugar Creek, an increase in storage at Lake Bella Vista and increases to storage in the floodplain.

Modeling of the opportunities for storage concluded that regional detention would not offer a significant reduction in flooding. The tributary area above the BVPOA was approximately 85 square miles of unregulated watershed and the storage volume needed to impact runoff rates was far more than a project that could be constructed within BVPOA property. A strategy for bank stabilization using longitudinal peaked stone toe protections was recommend. The total length of channel in need of stabilization was 7,000 feet, with an estimated cost of $1.5 million.

Stormwater Facilities Plan | Missoula, Montana

In 2016, the City of Missoula, Montana created a stormwater utility to meet stricter stormwater regulations. **Formation of the utility allowed the City to collect and dedicate funding to operation and maintenance of its storm water collection and levee systems.** Joined with Morrison-Maierle, Inc., Burns & McDonnell developed the initial framework, operations, maintenance and operating budget for the utility.

STORM SEWER SYSTEMS

Burns & McDonnell identified the City's goals for NPDES permit compliance, operational optimization, financial viability, infrastructure stability and operational resiliency. Based on our findings, we provided recommendations for program staffing, equipment and operational procedures that would allow the City to meet those goals.

Initial tasks included a review City ordinances design standards, administrative rules and other existing guidance documentation for storm water management and prepared recommendations for updates based on MS4 permit requirements.

LEVEE SYSTEMS

With operation and maintenance of the City's levee systems reassigned to the newly formed storm water utility, the City recognized the need for a more robust maintenance program and the need to plan for future certification. Burns & McDonnell evaluated the City's practices and developed a plan for routine operations and a plan to correct maintenance deficiencies. This effort also included the development of an operational budget. The City recognized that their levees would need to be certified in the near future. Burns & McDonnell developed a work plan for future recertification efforts. The plan included an inventory of documents, an assessment of additional field investigations, an assessment of additional survey information needed, a description of any engineering analyses that may be required, development of a draft schedule to complete the recertification process and a recommended budget and timeframe for the recertification process.

Fulton Stormwater Evaluation | Fulton, Missouri

Since June of 2017, Burns & McDonnell has provided various services to City of Fulton through an on-demand master services agreement. Under this agreement, we analyzed the City's existing stormwater infrastructure, assessed capacity and provided recommendations for capital improvement projects.

The project included field data collection of stormwater infrastructure, stormwater system evaluation, condition and capacity analysis, stormwater improvement recommendations and opinion of probable cost, within the 66-acre pilot area. **Our team also trained City staff on field data collection procedures and equipment.**

The City currently has portions of its stormwater infrastructure mapped in GIS but is lacking attribute details necessary for system evaluation. **Since field data collection can be arduous and expensive, the City requested Burns & McDonnell to develop procedures that the City can implement on their own to continue data collection after the completion of the pilot area.**

After data collection, Burns & McDonnell completed a rough system evaluation using a spreadsheet based on the rational method. The level of service of the existing system was based on determining the pipe intensity capacity and correlating that to a design storm based on time of concentration. Using a similar approach, improvement projects were developed to address specific areas of hydraulic restriction. **Where feasible, solutions implemented both storage and conveyance components with the focus on managing stormwater before it entered the pipe system.**

Overall, this project provided the City of Fulton the tools needed to develop their stormwater asset inventory. Through data collection and training, **Burns & McDonnell was able to recommend several smaller projects that the City of Fulton can implement over the next few years to significantly increase the level of service their stormwater system can provide.** This analysis was completed using methodologies consistent with industry standard of practice and was "right sized" for the City to meet their data collection and analysis needs.

Juvenile Justice Center Green Stormwater Infrastructure Design & Construction | Kansas City, Kansas

The Unified Government of Wyandotte County and Kansas City, Kansas (UG) designed and built a new Juvenile Justice Center **upstream of one of the largest combined sewer overflow locations in the county.** The traditional stormwater management techniques that were proposed for the project met the UG's design criteria but increased the risk of combined sewer overflows and basement backups by adding connections to their already-stressed combined sewer system. **The UG added Burns & McDonnell to the design team at the 95% stage to incorporate more innovative storm improvements that met their requirements without negatively impacting their sewer system.** Our team worked rapidly to incorporate green stormwater infrastructure into the Juvenile Justice Center's site design (building site and offset parking site) to meet the UG's needs without delaying the construction schedule of the high-profile project.

Our team identified deficiencies in UG's stormwater policies left them at risk of increasing CSO issues. These primary issues were presented to decision makers within Public Works, Water Pollution Control, Parks, Planning and Development and County Administrative Office which resulted in the direction to complete a full stormwater design criteria and policy review and recommendations for the County. This analysis included review and comparison of current UG, regional and national data and standards for hydrologic and hydraulic design parameters and the implications they have on stormwater infrastructure and planning for the future. The recommendations include a layered approach to stormwater management to provide a more comprehensive, resilient strategy for managing storms of all sizes.

Stormwater management techniques included the construction of bioretention basins, more than 50 stormwater street trees and 9,000 square feet of permeable pavers (PaveDrain™) in both parking space and driveway applications. The UG's existing stormwater criteria would have required traditional curb inlet and pipe systems to be built for the new parking lot, meeting pre- versus post- condition runoff requirements and no stormwater management for the building site because of a calculated decrease in impervious area. At the building site, we integrated stormwater BMPs to provide a water quality benefit for the new building, using bioretention basins and permeable pavers to capture stormwater runoff from the roof drains and using stormwater tree planters to capture adjacent street runoff and meet the street tree landscaping requirements for the project.

Moosa Creek Riperian Restoration Project | San Diego, California

The Moosa Creek Riperian Restoration Project involved establishing wetland and riperian areas in what was previously Moosa Creek Golf Course in San Diego, California to offset work done for Camp Pendleton. Current conditions at the site consisted of an overgrown creek and floodplain that was subjected to frequent flooding. The project involved working with San Diego County Flood Control to complete a rehaul of the existing FEMA effective model that was not geospatially referenced and also did not accurately reflect conditions at the site. Burns & McDonnell performed hydraulic analysis of the site using HEC-RAS and subsequently submitted the analysis to FEMA for approval of a LOMR. Burns & McDonnell also planned to rehabilitate the site as a vegetative wetland to reestablish riparian habitats in the area and to help alleviate flooding issues. Grading, vegetative design and modeling for proposed conditions to confirm that no rise was created in the base flood elevation was conducted.

Loop 286 Drainage | Paris, Texas

In 2019, the City of Paris, TX obtained Burns & McDonnell's services to develop a drainage study to compliment the proposed widening of their major highway, Loop 286. The project analyzed a total of 12 major crossings located throughout the Loop 286 corridor, of which includes nine culverts (10 existing culverts), two bridges (one existing bridge), and two channels. Additionally, 42 existing minor culvert crossings and 37 proposed minor culvert crossings were analyzed. The drainage study involved a combination of using FEMA effective models/data and developing new hydrologic and hydraulic models using HEC-HMS, HEC-RAS, and HY-8. The project evaluated existing drainage patterns and structures within Loop 286 and modeled proposed improvements to the impacted drainage structures with respect to the proposed roadway design. In addition, the drainage study applied a holistic approach to drainage solutions. The proposed improvements were designed to serve multiple purposes: adjusting to changes in the roadway, improving conveyance in the areas, and reducing erosion and flooding.


BURNS
McDONNELL®

DEVELOPMENT OF "SHOVEL-READY" DODGE COUNTY DRAINAGE IMPROVEMENT PROJECT

PROPOSAL FOR CONSULTING SERVICES | 28 MAY 2021

Joint Water Management Advisory Board

c/o Dodge County
435 N Park Ave, Suite 101B
Fremont, NE 68025

FYRA ENGINEERING

LETTER OF INTEREST

FYRA ENGINEERING • BEHM HAZARD MITIGATION

28 May 2021

Dodge County Emergency Management
Attn: Tom Smith, Director
435 N Park Ave, Ste 101B
Fremont, NE 68025

Re: Professional Services for the Development of "Shovel-Ready" Dodge County Drainage Improvement Project

Dear Tom and Selection Committee:

FYRA Engineering (FYRA) is pleased to submit for your review our qualifications and project proposal for professional services for the above-referenced project. To meet our understanding of the project's requirements, we have teamed with Randy Behm, a former USACE hydraulic engineer that now acts as a private consultant, bringing a national expertise in alternatives development and acquiring funding assistance for flood damage reduction projects. Randy's experience fits perfectly with recent FEMA changes in their approach to developing hazard mitigation projects. We will also be happy to work with any local resource agencies including LPNNRD or other JWMAB staff to gather information in any way that makes sense for the project to allow us to focus on project details.

FYRA brings the local expertise and technical competency, innovative ideas, understanding, and relevant experience to provide excellent strategic planning and technical work to JWMAB on this project and its part of the larger, regional issues in Dodge County related to flooding. Our experience, along with an overview of our project understanding and approach, is contained within this proposal. We believe that success on this project is substantiated by three primary factors:

1. The **FYRA** team has recent/relevant experience working with NEMA and FEMA on multiple projects funded through FEMA through the Disaster Recovery, Hazard Mitigation and the new Building Resilient Infrastructure and Communities (BRIC) funding programs. We have worked with numerous FEMA staff (often multiple staff on each project) throughout the country and have successfully navigated FEMA requirements to fund and often times, increase funding on our clients' projects, including multiple projects for the Lower Platte North NRD and Dodge County. We will bring the technical expertise, in-depth understanding of project economics and passion to serve our clients to you.
2. **FYRA** understands this project's role in the larger picture. We have been working with the LPNNRD, NDOT, USACE and JWMAB on flooding issues for a combined 10+ years. We understand the complexity of the various drainage systems that affect this project and our current work with JWMAB on the North Bend Drainage Ditch Improvement Project and the Maple Creek Watershed WFPO Plan-EA, have us working right in this project's backyard. Further, we understand the need to work with a larger group of professionals that have to collectively solve this complex flooding problem for JWMAB and Dodge County residents. We will play whatever role you deem appropriate for us.
3. **FYRA** has a technical resume like no other. This project requires a level of technical understanding and capability that surpasses the capability and experience of our competition locally. Bob Gregalunas and Connor Kelley not only have a reputation for developing hyper-accurate models of riverine and watershed systems, but also have the ability and experience in selling their results to stakeholders such as FEMA, USACE and other agencies. Our combination of riverine, drainage ditch and municipal stormwater expertise brings this project the experience it needs to implement a successful project.

FEMA funding programs are constantly evolving. In discussions with JWMAB partners and leadership, it is evident that JWMAB desires a real world, implementable drainage solution that provides a long-term solution. Current FEMA BRIC programs are geared towards "nature-based" solutions that are more favorable to moving people/infrastructure out of the floodplain than preventing future flood damages to populated area. However, given the nature of this project, with the highest repetitive flood losses (to insured properties) occurring inside East Fremont, it appears that the BRIC program will provide a good fit for this project since improving the drainage system removes floodwaters from the area most affected by repeat flooding.

The Advance Assistance process will involve regular/periodic reporting with NEMA and FEMA officials. This newer "phased" approach is also being used on the North Bend Drainage Ditch Improvement Project that FYRA is currently working on. Specific to this project, and as discussed with NEMA officials during the preparation of this proposal, the goals of each FEMA program should be assessed along with each alternative to constantly identify which program may be best suited.

And while this particular phase of the project is funded through a FEMA grant, where a solution is anticipated to be formulated that will render the project suitable for future FEMA funding, it is anticipated that during the alternatives development phase

that other valuable project components will be identified that will collectively create a more holistic project to protect the project area. Plus, all funding sources love the idea of partnerships where they work together to achieve a greater common goal. The FYRA Team will work hard through all phases of the project to identify funding opportunities, as we have for our clients for nearly thirty years.

FYRA is capable of providing all necessary professional services to execute this contract, as well as the North Bend Drainage Ditch work currently under contract as well as our current workload. We want to be a continued part of helping to solve your local and regional water management needs and look forward to serving whatever role you deem best to help JWMAB.

We have reviewed the Scope of Work and fee for the project and feel that the funding provided is more than adequate to develop the technical tools necessary to complete this project with the highest of quality of work as proposed in our technical approach.

Thank you for the opportunity to submit this project proposal. If you have any questions or clarifications about the information presented, please do not hesitate to contact us. We look forward to hearing from you soon and to the opportunity to continue building our relationship with JWMAB.

For the Team,

Michael K. Sotak, P.E., D.WRE

PROJECT UNDERSTANDING AND APPROACH

FYRA ENGINEERING • BEHM HAZARD MITIGATION

PROJECT UNDERSTANDING

Dodge County, on behalf of the JWMAB, is looking to develop a "shovel-ready" drainage improvement project for the East Fremont and Elkhorn Township area. This area has exhibited difficulty conveying stormwater in the past and is influenced from direct precipitation within the sub-watershed and flows from Rawhide Creek and the Elkhorn and Platte Rivers that exceed their channel's capacity. The Elkhorn Township Drainage Project created a series of ditches that assist with draining the flat agricultural ground and serve to convey surface water runoff from the eastern part of Fremont. The East Fremont and Elkhorn Township (EFET) study area is a drainage system comprised of several ditches that provide relief from municipal and agricultural runoff, flooding, and high groundwater in the area. They also provide capacity for power plant discharges, construction de-watering activities, and agricultural field tiles.

These ditches do not provide adequate sufficient capacity for day to day use as described above, but when excess runoff occurs, there is often overflow into the downstream agricultural fields, which affects production and the ability to operate and maintain the farming activities. Flooding from the Elkhorn and Platte Rivers compounds the problem, but overland flooding occurs less frequently than reduced ditch capacity from riverine backwater and the sediment deposition that occurs because of the backwater. Problems with the system's capacity include reduced capacity due to natural effects (siltation, varying groundwater levels, and channel sinuosity) and an overall lack of dedicated maintenance and competing interests from those using the ground for recreation, farming, and development.

At FYRA, we are problem solvers. Our technical approach to problems like yours involves developing the detailed technical tools (models) that represent how the problems affect the real world so that the models can develop real world solutions. More detail is provided within this proposal. By adding Randy Behm to our team, we bring you local expertise and knowledge that is paired with national exposure to flooding solutions, extensive grant writing experience, and relationships with USACE personnel that can help with the exchange of valuable information potential USACE funding opportunities.

PROJECT APPROACH

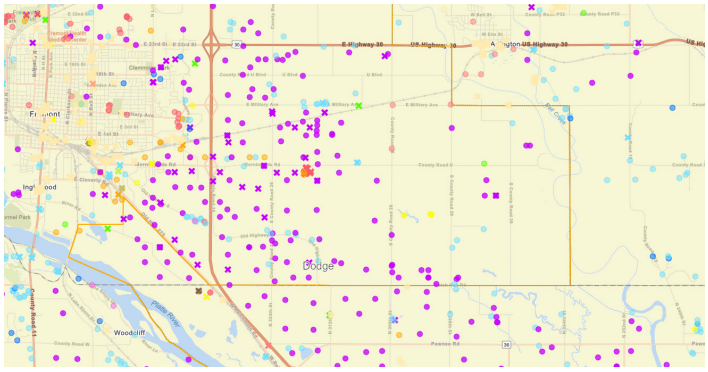
The EFET study area is experiencing a host of technical challenges that is compounded by social considerations that come with differing interests in land use and drainage system purpose. Our team is confident that a solution can be developed that benefits the area stakeholders with some system modifications and potential additions along with a commitment moving forward to improve ditch performance by improved maintenance and a shared vision for their use. FYRA anticipates a wide variety of alternatives to be formulated, screened, and assessed in order to improve the necessary capacity in the system to improve performance, production yields, and allow for additional East Fremont municipal runoff that will occur with continued development along the Hwy 275 corridor and Southeast Beltway that the ditch system already serves.

The alternatives listed in the request for proposals vary in scope and complexity. The technical, environmental, and economic considerations for each alternative and sub-alternative require a lot of work to assess them completely and fairly, which will be required by FEMA and any other funding assistance obtained.

In order to accomplish this, FYRA has kept our team, "lean and mean." FYRA personnel, accompanied by Randy Behm, have the resume to perform all of these services required. And if the project takes on any twist, or turns over any unanticipated stone, we will gladly add expertise to handle that effort. We do anticipate outside assistance from stakeholder parties, such as the LPNNRD (Groundwater), Dodge County and Fremont (Planning), and the Watershed Community as well.

Groundwater - LPNNRD's Daryl Anderson possesses a wealth of knowledge on the District's groundwater. We anticipate that Daryl will work with FYRA's Jessie Winter, who recently joined FYRA from NDNR's Integrated Management Planning team. The wells that exist within this study area will provide information necessary to properly assess how de-watering some locations may improve the developed alternatives.

Planning – Dodge County and City of Fremont planning professionals will be utilized to assess future land use changes. The rate and scale of growth planned in East Fremont is necessary to assess the life of alternatives and how a likely long-term, phased project can be successfully implemented.



A wealth of well/groundwater information is available in the project area that can be assessed for seasonal variations in groundwater levels.

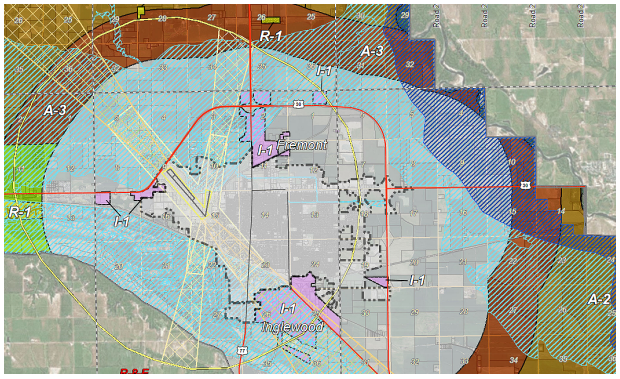
Watershed Community – Those that see how the drainage system behaves day to day understand the system better than anybody. The several hours spent with Mike Steinbach in the field was an engineer's and planner's dream… finding somebody that understands the system and is both willing and capable of assisting a technical team with the formulation and assessment of alternatives as a "boots on the ground" resource is unbelievably valuable to this projects success. Mike assures us that there are other community members who have the knowledge and are willing to help with the details.

FYRA could add additional groundwater, grant writing, and planning professionals to our team, but that would divert energy and resources away from the technical work that is really the key for this projects success. Over the last two years, FYRA has proven that we can obtain and comply with all FEMA Hazard Mitigation requirements for project implementation Randy Behm also brings national expertise and experience to his local technical knowledge that will assist not only with satisfying FEMA, but also the USACE (if/when needed) and bring unique funding ideas to the table. FYRA continues to deliver outstanding results on technical planning projects with our in-house staff, supplemented with project stakeholders' professional expertise, and this expertise will prove invaluable on this complex project. Lastly, no local firm has the success in funding large, complex projects like FYRA does. Local projects such as LPNNRD's Lake Wanahoo and LENRD's Maple Creek (Leigh Dam) are examples of projects that were funded by multiple local, State, and Federal sources with funding packages assembled by FYRA personnel.

With the FYRA team in place, our project approach is as follows:

1. Develop a Baseline Understanding of the Existing System.
2. Understand Future Growth Plans.
3. Formulate Alternatives.
4. Screen Alternatives.
5. Early Applications for Potential Outside Funding Sources.
6. Select Preferred Alternative(s).
7. Final Design and Permitting.
8. Project Deliverables.

A few details/specifics on some of the efforts carried forward throughout the project approach are given below:



Future growth plans within the project study area will dictate changes in future hydrology and the lands available for system improvements. The location, scale, and rate of growth will all be important considerations.

Stakeholder Engagement and Public Outreach - Stakeholder engagement, as defined in the FEMA application materials, with JWMAB will occur throughout the entire project approach. Through formal, regularly scheduled coordination meetings, and additional meetings coordinated ahead of project milestones and deliverables, communication with JWMAB will remain constant.

Public outreach should largely be facilitated in face-to-face meetings with willing participants. There are also plenty of on-line tools available to assist in gathering additional input for those who prefer that method of communication. FYRA is currently working with a tool called Social Pinpoint on several projects. In the nearby Maple Creek Watershed (north of this project), Social Pinpoint is being used to locate (pinpoint) flood damage location/dates, potential detention areas, and gather public input on the overall process. It could similarly be used on this project to gather information on ditch capacity issues/locations, areas for improved management, potential detention locations, and other general ideas to be explored. It is an excellent avenue to collect data from willing (but sometimes guarded) members of the watershed community, multiple project stakeholders, and absentee landowners. It can also be set up to accept anonymous input if that is desired. Given what can be competing interests from the stakeholders, development community, farmers, and outdoor enthusiasts in this project area, it can be a very suitable tool to gather input in a manner not always conducive to normal public meetings.

Modeling Approach - For the majority of the technical work required, the complex work lies in project hydrology. This study area is affected by at least five sources:

1. **The Rawhide Creek Watershed** which can accept additional hydrology when Shell Creek occasionally surpasses its capacity and overflows into the Rawhide Creek basin near Schuyler. There are existing detention cells and planned flood control along with other drainage infrastructure within the Rawhide Creek basin that will affect hydrology.
2. **Direct precipitation in the project watershed outside of Rawhide Creek** includes East Fremont (within the current

municipal boundary) and future planned development as well as the open space areas outside of the Rawhide Creek watershed.

3. **The Elkhorn River, as well as localized flooding from Maple and Bell Creeks** which do not have time to attenuate within the river before potentially affecting the project area with flood events.
4. **The Platte River** can convey flood flows into the project area, both around the north side of Fremont through localized drainage systems, Rawhide Creek, and from the south when higher stage flooding occurs.
5. **Groundwater** is generally high in this area due to the proximity of the Elkhorn and Platte River valleys. That groundwater, at its highest, can flow directly into the drainage canals and Rawhide Creek which reduce the capacity of drainage ditches and creeks. Additional groundwater can also enter the canals from the power plant which discharges into the storm sewer canal cyclically every day, the de-watering of permanent, temporary and planned facilities in East Fremont, and from agricultural de-watering of tiled fields. Irrigation during the growing season will lower groundwater levels and change groundwater dynamics at that time.

Understanding the complex nature of these runoff sources is only the start of assessing project hydrology. Just as, or more important, is understanding the potentially additive nature of the hydrological sources. What is termed a "joint-probability analysis" would be required to assess any alternatives correctly. All these sources have the potential to generate runoff independently.

These situations and the frequency of the events must all be assessed and to understand how they may affect project economics and the benefit:cost ration of the project which is a key indicator of project funding. The development of detailed hydrologic models will assist in formulating alternatives that achieve the project goals and allow for solutions that can be implemented and will perform as intended.

Hydraulic models are more straightforward. All the factors such as slope, roughness and geometry go into the calculations of channel capacity. Areas needing improved capacity can be identified readily under any alternative analysis. Existing and future channel maintenance including vegetation control, sediment removal, and channel grade improvement/upkeep must all be considered to generate realistic performance expectations.

Alternatives Assessment - Once these detailed models are developed, alternatives can be assessed. There are numerous considerations that can be (and will have to be) discussed and assessed, but the development of the appropriate tools will allow a fair and rapid analysis of each and every alternative.

Through the alternatives assessment, the permitting requirements for each alternative will be monitored closely. Regulatory considerations from avoiding impacts to existing resources to requirements related to modifying or re-routing streams can have a significant impact on the ability to permit and implement a project. FYRA's NEPA and wetlands team, led by Janel Kaufman, will work in parallel with the design team to constantly monitor permitting implications and opportunities such as habitat creation that may help with project financing (described below).

Financing -Similar to assessing the suitability of various FEMA programs available to fund this "shovel-ready" project through the alternatives formulation and screening process mentioned above, a similar approach should be taken with other potential funding opportunities. Early on in the stakeholder coordination process all potential funding sources should be identified along with their requirements/goals/criteria to maximize the potential to bring outside funding to this project,

FYRA has a long history of assisting with project funding and preparing materials that attract various funding opportunities. How you describe, document, and even portray project goals, alternatives, and solutions can all aid in maximizing outside contributions towards this project. Even "compartmentalizing" project components, or making sure that federal funds are not matching federal funds can assist with funding efforts.. FYRA personnel has been involved with large scale projects with multiple funding sources in the past. FYRA's Mike Sotak was critical in receiving funding for LPNNRD's Lake Wanahoo which had eight total funding partners including three federal partners, and the Carter Lake Improvement Project which had thirteen total funding partners including two different states!

In addition to traditional funding partners, the potential for this project to serve as key contributor in the economic growth of Dodge County and the Greater Fremont Area must be considered. Economic Development aid for this project should be explored. FYRA brings a wealth of ideas from the neighboring State of Iowa, which has recently brought more HUD and EDA grants to their state for use on local water resources projects focused on flood reduction.

TEAM MEMBERS AND PREVIOUS EXPERIENCE

The following Project Team and Experience Matrix highlights a few of the individuals from the FYRA Team that are proposed to work on this project in key roles for your NRD, and details project experience and individual experience relevant to their roles. As you can see, our team offers a broad depth of experience and understanding that relates specifically to this project and the planning and technical expertise required. Our team has built our reputation on delivering quality products, on time. As with every project pursuit, we carefully assess our ability to deliver on every project. Our team has the capacity to complete this project on time, with the staff shown in this matrix. The Grant Writing team is depicted in the matrix below and will be led by Mike Sotak, Janel Kaufman and Randy Behm, but will incorporate all FYRA and Project Stakeholder professionals that can bring value to any particular application or component of any application. Our team's experience with finding multiple funding sources for a project is shown below. See page 7 for projects that correspond to the letters shown in this matrix.

Project Team and Previous Experience

Staff Chart by Task and Project

General Project Task	FYRA ENGINEERING					BEHM HAZARD MITIGATION
	Mike Sotak, PE, D.WRE	Bob Gregalunas, PE	Lindy Rogers, PE	Janel Kaufman, PE	Connor Kelley, EI	Randy Behm, PE, CFM
Project/Client Management	A,B,C,D,E,H,I, M,O,P,Q,R,S,T					
NEMA/FEMA Funding Assistance	A,B,C,D,I,M,N	L	K			GG,HH
WSF/NET/Other Funding Assistance	A,C,E,H,I,M, P,S					
Major River/Interior Floodplain Modeling		A,B,C,D,E,F, L,K,L,M,O,P, Q,R,T			A,B,C,D,E,F, L,K,L,M,O,P, Q,R,T	U
Earthen Floodplain Drainage Ditch Design	B,C,E,H,M		E,F,G,H,I,J, K,M			
Urban Stormwater Assessment		C,D,E,F,G,H,I,J, K,M,Q,R,S				
Non-Structural/Nature-Friendly Flooding Solutic	C,D,H,M,T	C,D,H,K,M,O,P ,Q,T	C,D,H,K,M,O,P ,Q,T			V,W,X,Y,Z, AA,BB,CC, DD,EE,FF
Project Economics (Incl. FEMA BCR)	A,B,C,H,I,M,Q, R,S,T	A,B,C,H,I, Q,R,S				
NEPA Compliance - EO 11988 etc.				A,B,C,D,E,F,G, H,I,J,Q,R,S,T		
Groundwater-influenced Flooding Considerations	B,C,E,F,G, H,M,T	B,C,E,F,G,H, K,M,T				

Indicates Firm Principal and Project Manager

Grant Writing Team Experience

TEAM MEMBERS AND PREVIOUS EXPERIENCE

FYRA ENGINEERING • BEHM HAZARD MITIGATION

The projects below correspond to the letters shown in the matrix on page 6.

Experience	
	Bold = Project Included in Proposal
A	**Wanahoo Dam Stilling Basin Rehabilitation**
B	**North Bend Drainage Ditch**
C	**SID 101 Floodproofing Study**
D	**LENRD Elkhorn River Bank Stabilization**
E	**Federal Levees L-611-614 (M&P Levees) Investigative Study and Design Phase**
F	Big Papio Levee Culverts Project
G	Little Papillion Creek Levee Penetration Repair
H	Federal Levees R-613 and R-616-613
I	Papillion Levee Certification
J	Salt Creek Penetration Repairs
K	City of Deshler Parcel Level Flood Risk Mitigation Plan
L	Leshara Levee Breach Repair
M	Offutt AFB Ditch Pumping Station
N	Clear Creek Levee Repair
O	Elkhorn River 240th Street Stabilization
P	Elkhorn River IPA Repair
Q	Papillion Creek Plan Update (NRCS-WFPO)
R	Maple Creek WFPO Plan
S	Regional Detention Sites WP-2, 6 & 7
T	Long Pine Creek Watershed improvement Project
U	Fremont and Schuyler Parcel Level Flood Risk Assessments
V	Windsor Heights Non-Structural Flood Risk Reduction Assessment
W	Developed "Guidelines for Improving Flood Resistance for Existing Buildings" Manual
X	"Levee Setback Playbook" Author, Nature Conservancy
Y	Levee Setback Paper, Theodore Roosevelt Conservation Partnership
Z	Aplachicola, Florida Non-structural Flood Mitigation Assessment
AA	Charlotte/Mecklenburg County, NC Flood Mitigation and Outreach Assessment
BB	Lower Meramec River Basin Non-Structural Flood Mitigation Study
CC	Estes Park, CO Non-structural Flood Mitigation Assessment
DD	Instructor, USACE Planner Associates Flood Risk Management Course
EE	Gradiner, Maine Non-structural Flood Mitigation Assessment
FF	Developed "Guidelines for Improving Flood Resistance for Existing Buildings" Manual
GG	Development of Flood Mitigation Library, ASFPM
HH	Department of Homeland Security Flood Resilience Study

PROPOSED TEAM MEMBERS

FYRA ENGINEERING • BEHM HAZARD MITIGATION

Joint Water Management Advisory Board

STAKEHOLDERS
CITY OF FREMONT
ELKHORN TOWNSHIP
LANDOWNERS
JWMAB

PROJECT MANAGER

Mike Sotak, PE, D.WRE ■
CLIENT MANAGER
FUNDING ASSISTANCE
ECONOMICS
QUALITY CONTROL

PLANNING AND DESIGN TEAM

Lindy Rogers, PE ■
DITCH DESIGN
CONSTRUCTION DOCUMENTS

Bob Gregalunas, PE ■
HYDROLOGY & HYDRAULICS
DITCH DESIGN

Janel Kaufman, PE ■
ENVIRONMENTAL PERMITTING
QUALITY CONTROL

Connor Kelley, EI ■
CONSTRUCTION DOCUMENTS
H&H MODELING

Randy Behm, PE, CFM ●
FLOOD MITIGATION ALTERNATIVES
USACE/FEMA COORDINATION

TEAM MEMBER DETAILS
■ FYRA - OMAHA, NEBRASKA
● BEHM HAZARD MITIGATION - PAPILLION, NE

PROJECT EXPERIENCE

FYRA ENGINEERING

WANAHOO DAM STILLING BASIN REHABILITATION PROJECT

SAUNDERS COUNTY, NEBRASKA

The Lake Wanahoo Dam stilling basin suffered damage in the 2019 flood including the removal of a portion of the stilling basin's end sill and the development of a large scour hole that has undermined the basin's existing concrete apron. This high hazard potential structure on the north side of Wahoo, Nebraska is owned and operated by the Lower Plate North NRD.

FYRA was hired in the fall of 2019 and has investigated the basin area using bathymetric surveying equipment and has utilized a local fire department's dive team to get an accurate depiction of what damage occurred underwater.

A spillway repair and improvement has been designed and the project is ready for fall 2020 construction. The inability to feasibly draw down water elevations significantly in the area has led to a design utilizing wet construction methods and materials.

This project is currently using approved FEMA Disaster Recovery and Hazard Mitigation Funds for implementation. FYRA has assisted the NRD with FEMA coordination and securing construction funds for the project.

CLIENT
Lower Platte North NRD
Tom Mountford
Assistant General Manager
511 Commercial Park Road
Wahoo, NE 68066
tmountford@lpnnrd.org

PROJECT START October 2019

PROJECT COMPLETION Current

PROJECT SIGNIFICANCE
This project demonstrates FYRA's experience with both Disaster Recovery (DR) and Hazard Mitigation (HM) FEMA Programs and securing funding to design and construct the spillway repair properly.

CONSULTANT FEES $98,000

PROJECT EXPERIENCE

FYRA ENGINEERING

NORTH BEND DRAINAGE DITCH

DODGE COUNTY, NEBRASKA

The North Bend Cutoff Ditch is one of many significant drainage infrastructure projects in the JWMAB study area, routing floodplain flows that have spilled over from Shell and Rawhide Creeks into the Platte River left bank floodplain. The ditch protects a significant amount of agricultural ground, North Bend and other local facilities from this flooding. FYRA is preparing detailed hydrologic and hydraulic studies, an economic analysis and final design plans to improve the ditch's capacity, thereby protecting downstream facilities from flooding during targeted flood events.

CLIENT

North Bend Drainage District
Larry Ruzicka
PO Box 495
North Bend, NE 68649
402.727.2785

PROJECT START: March 2021

PROJECT COMPLETION: Current

PROJECT SIGNIFICANCE

This project demonstrates FYRA's experience in the JWMAB Study area and our exhibited knowledge of both drainage ditch design experience and complex local hydrology and hydraulics. FYRA also assisted JWMAB through the FEMA Hazard Mitigation Grant application phase with technical input and project economics.

CONSULTANT FEES $177,450

PROJECT EXPERIENCE

FYRA ENGINEERING

SID 101 FLOODPROOFING STUDY

SARPY COUNTY, NEBRASKA

Sarpy County (Nebraska) Sanitary and Improvement District (SID) 101 is a Platte River left bank sand pit community made up of five unconnected sand pit lakes and approximately 350 homes. The community has been affected by Platte River flooding several times over the past few decades and during March of 2019, very few homes and cabins weren't inundated with flood waters as Platte River water surface elevations nearly matched the effective 100-year flood level.

SID 101 hired FYRA Engineering to conduct a flood proofing study that would assess flood proofing options from the current level at which overland (from Platte River) flooding begins up to the 100-year water surface elevation. The study will assess permanent and temporary floodproofing solutions to try and build flood resiliency within the community. FYRA is assessing the cost of floodproofing the SID at 1' depth increments and by associating those depths with flood frequencies on the Platte River, can create a risk-based cost analysis and assist the SID factors. This project highlight's FYRA riverine modeling, risk-based project economics and innovative design solution capabilities that continue to serve lake communities.

This project is currently pursuing NEMA/FEMA Hazard Mitigation Funds for implementation. FYRA has begun preparing information for the anticipated Benefit Cost Analysis (BCA).

CLIENT

Olmsted and Perry Consulting Engineers
10730 Pacific Street, Suite 232
Omaha, Nebraska 68114
Mr. Jim Olmsted, PE
402.399.8552

PROJECT START: October 2019

PROJECT COMPLETION: Current

PROJECT SIGNIFICANCE

This project highlight's FYRA riverine modeling, risk-based project economics and innovative design solution capabilities that continue to serve lake communities. FEMA Funding has been obtained for some repair work and is currently being sought for Hazard Mitigation work planned.

CONSULTANT FEES $58,415

PROJECT EXPERIENCE

FYRA ENGINEERING

ELKHORN RIVER BANK REPAIR/MITIGATION PROJECT

DODGE COUNTY, NEBRASKA

The Elkhorn Riverbank near Scribner, Nebraska was severely damaged during the 2019 flood. An existing USACE Section 14 River Restoration project was flanked and the river shortcut its downstream path around a bridge and over a highly traveled highway north and east of Scribner, NE.

FYRA was hired to design both a project repair to the USACE Section 14 project and mitigation measures to improve riverine hydraulics and develop a risk-based approach to improving the channel capacity and bank to handle more flow, but also pass future flood flows that exceed channel capacity in a more stable fashion.

The Lower Elkhorn NRD is partnering with the City of Scribner and the Dodge County Highway Department to plan improvements to the area that improve flood resiliency.

This project is pursuing FEMA Disaster Recovery and Hazard Mitigation funds for the riverbank repair and improvement. FYRA assisted the NRD with FEMA coordination through the application process and the project was just obligated funds through FEMA.

CLIENT
Lower Elkhorn NRD
Curt Becker
Projects Manager
1508 Square Turn Boulevard
Norfolk, NE 68701
cbecker@lenrd.org

PROJECT START March 2019

PROJECT COMPLETION Current

PROJECT SIGNIFICANCE
This project demonstrates FYRA's experience with riverine modeling and coordination with FEMA for funding through both Disaster Recovery and Hazard Mitigation Funding.

CONSULTANT FEES $80,346

PROJECT EXPERIENCE

FYRA ENGINEERING

FEDERAL LEVEES L-611-614 (M&P LEVEES) INVESTIGATIVE STUDY AND DESIGN PHASE

POTTAWATTAMIE AND MILLS COUNTIES, IOWA

FYRA Engineering has been contracted by the M&P Levee District for the Investigative Study and Design Phase of Federal Levee Systems L-611-614 to provide FEMA-certified flood protection to the stakeholders in the protected area. FYRA also assisted in the development of a project application through the Iowa Economic Development Authority (IEDA) which is being used to fund the study.

This project has a host of flat drainage ditches along interior drainage systems that convey flows through the protected area that will require consideration of receiving water body backwater conditions and maintenance needs for successful operation of the ditches.

Additional funds will be pursued through FEMA programs upon completion of the study and final design of required certification measures and an existing funding mechanism has been created to allow those protected by the measures to help share with any local costs.

CLIENT
M&P Levee District
Mr. John Poore,
M&P Levee District Chairperson
17628 Allis Road
Council Bluffs, IA 51503
johnpoore@msn.com

PROJECT START September 2020

PROJECT COMPLETION Current

PROJECT SIGNIFICANCE
This project is significant because it demonstrates FYRA's understanding of complex drainage systems along large riverine systems and how each component plays an important part in the overall system performance.

CONSULTANT FEES $1,310,233

MICHAEL K. SOTAK, PE, D.WRE

FYRA ENGINEERING

EDUCATION

MASTERS OF BUSINESS ADMINISTRATION - UNIVERSITY OF NEBRASKA-LINCOLN (2001)

BS CIVIL ENGINEERING - UNIVERSITY OF NEBRASKA-LINCOLN (1992)

PROFESSIONAL REGISTRATIONS

PROFESSIONAL ENGINEER: NEBRASKA (#E8759, 1997), IOWA (#16681, 2003), KANSAS (#17431, 2002), MISSOURI (PE-2006031321, 2006, INACTIVE), ARIZONA (#35258, 2000), SOUTH DAKOTA (#13778, 2018), NCEES (#21734, 2003)

AFFILIATIONS

SOCIETY OF AMERICAN MILITARY ENGINEERS

AMERICAN SOCIETY OF CIVIL ENGINEERS

AMERICAN COUNCIL OF ENGINEERING COMPANIES

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

ASSOCIATION OF STATE DAM SAFETY OFFICIALS

OMAHA SUBURBAN ROTARY

OMAHA ENGINEERS CLUB

LEADERSHIP OMAHA CLASS 25

Mike has 30 years of experience in water resources engineering, serving as a lead staff engineer and project manager for several projects. He has extensive experience on projects for natural resources districts including watershed planning, economic analyses, river restoration/bank stabilization and levee and dam design. He also has extensive grant writing and funding program identification experience. Mike's experience in watershed planning has been gained largely by bringing aged PL-566 and watershed improvement projects not implemented to current standards through cost and benefit updating related to design services and flood reduction and recreation economics.

Mike has led diverse teams of design and NEPA professionals through the project formulation, planning and design phases of all types of water resources projects including some of the more unique projects in the midwest. He has served as the field, design and project manager on several structural watershed improvement projects and has personally been involved with the design and construction of over 100 dams since 1990. Lastly, he has rendered risk assessment studies in relation to the formation and implementation of Emergency Action Plans.

Finally, Mike brings a passion of preparing successful funding applications for projects, helping clients acquire tens of millions of dollars from Federal, State and other funding sources.

RELEVANT PROJECT EXPERIENCE

L 611-614 UPPER PONY CREEK TIE-BACK LEVEE LEFT BANK AND LOWER PONY CREEK TIE-BACK LEVEE RIGHT BANK • M&P MISSOURI RIVER LEVEE DISTRICT • GLENWOOD, IA (CURRENT) Principal Engineer and Project Manager for modifications required to the 19-mile L-611-614 Levee System along the Missouri River and associated tributaries. This project includes site investigations and surveys, categorization of the existing levee features, freeboard analysis of the main levee and associated tiebacks, geotechnical analysis and design of seepage mitigation, rehabilitations/repairs of levee culverts, NEPA documentation and environmental permitting, 408 coordination and permitting with USACE Omaha District, and development of final construction plans and specifications.

ELKHORN RIVER IPA BANK STABILIZATION DESIGN AND PERMITTING • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • DOUGLAS COUNTY, NE (2012) Project manager and civil engineer of record for the investigation, design and permitting for bank stabilization of 2010 Elkhorn River flood damages through the five mile stretch of the Improvement Project Area (IPA). This included developing construction plans and specifications for 13 locations identified as needing immediate attention during the investigation phase. A 404 nationwide permit was obtained for the majority of the work and a Regional General Permit 11-02 was obtained for one stabilization site.

INVESTIGATIVE PHASE FOR PAPILLION LEVEE CERTIFICATION • CITY OF PAPILLION • PAPILLION, NE (2019) Quality control engineer for the investigative phase of the West Branch Papillion Creek levee certification project.

BIG PAPILLION CREEK LEVEE CULVERTS REPAIR - PHASES 1 AND 2 • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • DOUGLAS AND SARPY COUNTY, NE (2015-CURRENT) Civil engineer of record for the investigation and alternatives development for the repair of 29 aging levee penetrations within the Big Papillion Creek Levees. This project consisted of site investigations, utility research, evaluation of each penetration for invasive and non-invasive methods of rehabilitation, development of best cost solutions for each penetration and 404 permitting for each site. Project included a final recommendation report for P-MRNRD to be submitted to the USACE for review under the guidelines of the PL 84-99 program and section 408 permitting requirements.

BOB GREGALUNAS, PE

FYRA ENGINEERING

EDUCATION

BS CIVIL ENGINEERING - UNIVERSITY OF NEBRASKA-LINCOLN (2005)

REGISTRATIONS

PROFESSIONAL ENGINEER: NEBRASKA (#E13416, 2010)

AFFILIATIONS

NEBRASKA FLOODPLAIN AND STORMWATER MANAGERS ASSOCIATION

SOFTWARE

ARCGIS

HEC-HMS

HEC-RAS (1D AND 2D)

GEOSTUDIO

SLOPE/W

SEEP/W

HEC-SSP

HEC-FDA

SMS

SRH2D

RIVERFLO-2D

SITES

Bob has over 15 years of experience on watershed development projects, hydrologic and hydraulic investigations, joint probability assessments, dam design, canal inspections, levee design and stormwater management. Bob has worked on some of the most complex hydrologic and hydraulic water resources projects in the state of Nebraska and has an unparalleled understanding of project modeling. He has used his exceptional modeling expertise to investigate and modify basin hydrology, analyze some of the most complex riverine systems in the area, guide alternatives development, support project permitting requests, develop project economics to support project funding and implementation, and analyze floodplains and floodway extents. Bob has also developed his own models and programs which have been used to assist clients and the public to better understand system responses to changes in hydrology and/or hydraulics.

Most recently, Bob has completed a risk and reliability analysis utilizing HEC-FDA for Federal Levee System R-613/R-616-613, performed a two-dimensional river analysis on the Elkhorn River Bank Stabilization Project, and utilized HEC-HMS and HEC-RAS (steady and unsteady state) to assist with the alternatives analysis of drainage structure sizing for the Papio-Missouri River NRD. He is also working with new hydrometeorological methods to develop a more accurate hydrologic model that will be used for floodplain mapping in the Papillion Creek basin.

Bob is also well versed in stochastic modeling applications which allow his clients to make intelligent, risk-based decisions about project design functions. Collectively, Bob's talents have led to significant savings for his clients and reliable projects that stand the test of time.

RELEVANT PROJECT EXPERIENCE

ELKHORN RIVER IPA BANK STABILIZATION DESIGN AND PERMITTING • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • DOUGLAS COUNTY, NE (2012) Design engineer performing 1-D and 2-D hydraulic modeling with sedimentation and scour simulations for stream stability work along the Elkhorn River. Hydraulic modeling in HEC-RAS and SMS (SRH2D) supported design work associated with mitigation and stability improvements following a significant flooding event in 2010.

L 611-614 UPPER PONY CREEK TIE-BACK LEVEE LEFT BANK AND LOWER PONY CREEK TIE-BACK LEVEE RIGHT BANK • M&P MISSOURI RIVER LEVEE DISTRICT • GLENWOOD, IA (CURRENT) Geotechnical and H&H Engineer for modifications required to the 19-mile L-611-614 Levee System along the Missouri River and associated tributaries. This project includes site investigations and surveys, categorization of the existing levee features, freeboard analysis of the main levee and associated tiebacks, geotechnical analysis and design of seepage mitigation, rehabilitations/repairs of levee culverts, NEPA documentation and environmental permitting, 408 coordination and permitting with USACE Omaha District, and development of final construction plans and specifications.

MISSOURI RIVER FEDERAL LEVEE SYSTEMS R-613 AND R-616-613 • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • SARPY COUNTY, NE (CURRENT) Completed an economic analysis for the levee modifications supporting an application for EDA grant request. HEC-HMS was used to investigate the possibility of a new pumping station. Completed an interior drainage analysis required for FEMA accreditation using HEC-HMS. Performed hydrologic and hydraulic modeling for the interior drainage analysis to determine flooding impacts on the landside of the levees system at each drainage penetration using HEC-HMS and HEC-RAS models. HEC-SSP was utilized for an updated hydrologic study on the lower Platte River incorporating a joint-probability assessment at the Missouri/Platte River confluence. Performed a risk and reliability assessment on all three rivers systems using HEC-FDA to analyze possible impacts due to the project construction.

LINDY ROGERS, PE

FYRA ENGINEERING

EDUCATION

BS CIVIL ENGINEERING - TEXAS A&M UNIVERSITY (1994)

REGISTRATIONS

PROFESSIONAL ENGINEER:
NEBRASKA (#E-17243)
TEXAS (#87037)
MISSOURI (#2020002922)
NCEES (19-077-94)

AFFILIATIONS

AMERICAN PUBLIC WORKS ASSOCIATION (APWA) – DIRECTOR AND COMMUNICATIONS CHAIR

SOCIETY OF AMERICAN MILITARY ENGINEERS (SAME)

NEBRASKA FLOODPLAIN AND STORMWATER MANAGERS ASSOCIATION (NEFSMA)

PAPILLION AREA LIONS CLUB

PAPILLION LA VISTA COMMUNITY SCHOOLS BOARD MEMEBER

CHI HEALTH MIDLANDS CAMPUS COMMUNITY BOARD MEMBER

LEADERSHIP SARPY 2012-2013

SAME STUDENT MENTOR

MODELS & SOFTWARE

AUTOCAD CIVIL 3D

ARCGIS GLOBAL MAPPER

HEC-HMS

HEC-RAS

SWMM 5

Lindy has over 26 years of civil engineering experience, with extensive experience in hydrologic and hydraulic modeling, levee analysis and design, stormwater pollution prevention, stormwater management design, residential and land development design, roadway design, and recreational trail design.

Lindy has been involved with student mentoring in various levels throughout her career. Currently, Lindy serves as a mentor with the Society of American Military Engineer's Student Mentoring Program and also serves on an advisory board focused on educating young ladies on careers in engineering. Lindy has worked with several area schools to assist educators in developing hands-on field studies and classroom teaching sessions that can be integrated with grade-specific curricula to better engage students in engineering, scientific principals, and general problem solving.

RELEVANT PROJECT EXPERIENCE

L 611-614 UPPER PONY CREEK TIE-BACK LEVEE LEFT BANK AND LOWER PONY CREEK TIE-BACK LEVEE RIGHT BANK • M&P MISSOURI RIVER LEVEE DISTRICT • GLENWOOD, IA (CURRENT) Project Manager and Design Engineer for modifications required to the 19-mile L-611-614 Levee System along the Missouri River and associated tributaries. This project includes site investigations and surveys, categorization of the existing levee features, freeboard analysis of the main levee and associated tiebacks, geotechnical analysis and design of seepage mitigation, rehabilitations/repairs of levee culverts, NEPA documentation and environmental permitting, 408 coordination and permitting with USACE Omaha District, and development of final construction plans and specifications.

FEDERAL LEVEE SYSTEMS R-613 AND R-616-613 LEVEE CERTIFICATION DESIGN, PERMITTING AND CONSTRUCTION • PAPIO-MISSOURI RIVER NRD • SARPY COUNTY, NE (CURRENT) Project engineer for the final design of $22M in levee improvements required for levee certification and FEMA accreditation. The 18.2 miles of earthen levee systems protect billions in local infrastructure and commerce. Levee modifications include levee raises, closure section reconstruction at two locations, drainage penetration and flood gate structure rehabilitation/reconstruction, and seepage berm/relief well placement. Project work for the certification phase includes hydrologic and hydraulic modeling, sediment scour analysis, NEPA coordination, planning and cost analysis, and overall project coordination. All design information is being compiled into the project GIS database which will be used to provide the client with up-to-date and easily accessible information and system history. The project received 408 approval, which was coordinated with the USACE Omaha District Levee Safety group. Construction was delayed on this project because of the 2019 flood, but is currently underway. Construction is expected to be complete in 2021.

INVESTIGATIVE PHASE FOR CITY OF PAPILLION LEVEE CERTIFICATION • CITY OF PAPILLION • PAPILLION, NE (2019) Project Engineer responsible for the investigative phase of the West Branch Papillion Creek levee certification project. In coordination with Papio-Missouri River Natural Resources District, the City of Papillion is investigating the viability of certifying the West Branch Papillion Creek levees. These levees were constructed by the Papio-Missouri River Natural Resources District in the late 1990s, but development in the watershed and increases in discharges through this area caused FEMA mapping updates to show that the levee provides no flood protection to the surrounding area. The work included a environmental site assessment and wetland delineation report, detailed site investigation and survey to categorize all the levee appurtenances, and development of a GIS database for the client to use in the future. Updates to the FEMA effective HEC-RAS model were made to include updated LiDAR and levee survey information and updated hydrology. A full geotechnical investigation was completed that included borings in the levee, and assessment of slope stability, seepage and settlement in the existing and proposed levee section. A final recommendation was made that include preliminary plans for levee modifications, a detailed cost estimate and full cost:benefit analysis.

JANEL KAUFMAN, PE

FYRA ENGINEERING

EDUCATION

MASTER OF SCIENCE CIVIL AND ENVIRONMENTAL ENGINEERING UNIVERSITY OF CALIFORNIA - BERKELEY (2006)

BACHELOR OF SCIENCE CIVIL ENGINEERING - UNIVERSITY OF NEBRASKA - OMAHA (2005)

REGISTRATIONS

PROFESSIONAL ENGINEER: SOUTH CAROLINA (#28225, 2010)

AFFILIATIONS

ENGINEERS WITHOUT BORDERS

GARRETT ACADEMY PRE-ENGINEERING ADVISORY

NEBRASKA FLOODPLAIN AND STORMWATER MANAGERS ASSOCIATION

NATIONAL ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS

PARTNERSHIP 4 KIDS

SOFTWARE

AUTOCAD, AUTODESK, MICROSTATION AND INROADS

ARCGIS

HEC-2 AND HEC-RAS

GEOPAK DRAINAGE

HY-8

Janel has over 13 years of experience in environmental permitting, planning, and civil engineering design across the country and her diverse background provides her with a unique perspective as an environmental engineer. Janel has worked on a wide variety of projects involved with every level of government (federal, state, and local) and has worked on projects ranging from watershed plans to water rights determinations. She is extremely knowledgeable with the NEPA process and has been involved with projects in all aspects of permitting and design including site and watershed investigations, report writing, data collection and analysis, application development, and public involvement. Janel has a BS in Civil Engineering from the University of Nebraska, an MS in Civil and Environmental Engineering from the University of California-Berkeley, and is a licensed Civil Engineer.

Janel has been with FYRA for over 4 years and leads the Environmental Services team out of the Omaha office. Janel's role on this project will be project management, agency coordination, leading the environmental assessments, working with the design team to develop permittable alternatives, and ensuring compliance with NRCS requirements.

RELEVANT PROJECT EXPERIENCE

L 611-614 UPPER PONY CREEK TIE-BACK LEVEE LEFT BANK AND LOWER PONY CREEK TIE-BACK LEVEE RIGHT BANK • M&P MISSOURI RIVER LEVEE DISTRICT • GLENWOOD, IA (CURRENT) NEPA/Permitting Lead for modifications required to the 19-mile L-611-614 Levee System along the Missouri River and associated tributaries. This project includes site investigations and surveys, categorization of the existing levee features, freeboard analysis of the main levee and associated tiebacks, geotechnical analysis and design of seepage mitigation, rehabilitations/repairs of levee culverts, NEPA documentation and environmental permitting, 408 coordination and permitting with USACE Omaha District, and development of final construction plans and specifications.

BIG PAPIO LEVEE CULVERTS PROJECT PHASE 2 • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • DOUGLAS AND SARPY COUNTIES, NE (CURRENT) Environmental engineer and permitting lead for fifteen Clean Water Act Section 404 nationwide permits to replace levee penetrations. Responsibilities include field determination of wetlands and other jurisdictional waters of the United States, agency coordination, and document preparation and review.

MISSOURI RIVER FEDERAL LEVEE SYSTEMS R-613 AND R-616-613 LEVEE CERTIFICATION DESIGN AND PERMITTING • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • SARPY COUNTY, NE (CURRENT) Environmental engineer responsible for assisting with field determination of wetlands and other jurisdictional waters of the United States and review of Clean Water Act Section 404 permit and NEPA Environmental Assessment documents.

PAPILLION CREEK SUPPLEMENTAL WATERSHED WORK PLAN-EA • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • PAPILLION, NE (CURRENT) Environmental engineer leading the planning effort of seven grade stabilization and flood damage reduction structures within the Papillion Creek Watershed. Preparation of the Supplemental Watershed Work Plan and Environmental Assessment includes NRCS and other agency coordination, assessment of sensitive resources, wetland delineations.

PAPILLION CREEK WATERSHED REGIONAL DETENTION SITES WP 6&7 PLANNING, PERMITTING, AND FINAL DESIGN • PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT • SARPY COUNTY, NE (2017) Environmental engineer responsible for assisting with the Section 404 permit individual permit application, 404(b)(1) alternatives analysis, analysis of existing environmental resources, stream mitigation plan, and review of wetland determination and stream assessment documents of two regional detention dams that are part of the Papillion Creek Watershed Plan to reduce flooding on the Papillion Creek.

CONNOR KELLEY, EI

FYRA ENGINEERING

EDUCATION
BS CIVIL ENGINEERING - UNIVERSITY OF NEBRASKA - LINCOLN (2017)

REGISTRATIONS
ENGINEER INTERN (IOWA)

AFFILIATIONS AND MEMBERSHIPS
AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

MODELS/SOFTWARE
AUTOCAD CIVIL 3D 2016

ARCGIS

GLOBAL MAPPER

HEC-RAS (1D AND 2D)

HY8

HEC-SSP

HEC-HMS

STEPL

MICROSOFT OFFICE SUITE

Connor has more than four years of experience with hydrologic and hydraulic investigations, dam design, storm water design and permitting, field engineering, project construction observation and surveying, and drafting of construction plans. He was the recipient of the Walter Scott Jr. Scholarship based on his exceptional scholastic achievements and is currently a professional mentor in the program. Connor's other experience includes having presented engineering topics to 1,000+ Nebraska and Iowa students and leading a start-up development team.

RELEVANT PROJECT EXPERIENCE

MISSOURI RIVER FEDERAL LEVEE SYSTEMS R-613 AND R-616-613 LEVEE CERTIFICATION DESIGN AND PERMITTING • PAPIO-MISSOURI RIVER NRD • SARPY COUNTY, NE (CURRENT) Responsible for assisting project engineers with development of details and construction drawings. Develop preliminary design for the extension of several large reinforced concrete box culverts and associated wingwalls, assist engineer in determining the implementation timing of the construction Emergency Action Plan, and prepare various maps for the Environmental Assessment and project communication utilizing ArcGIS and Autocad Civil 3D.

DAM SITE WP-2 PRELIMINARY DESIGN • PAPIO-MISSOURI RIVER NRD • SARPY COUNTY, NE (CURRENT) Engineer intern for preliminary hydrology.

DAM SITES WP-6&7 PRELIMINARY AND FINAL DESIGN • PAPIO-MISSOURI RIVER NRD • SARPY COUNTY, NE (CURRENT) Engineer intern working on preliminary and final design and project cost estimation. Responsibilities include assisting engineers with developing cost estimates for design alternatives and hydrologic modeling of reservoir routing. Assisting engineers with hydraulic design of spillway structures utilizing HEC-RAS and preliminary structural design of principal spillway impact basins, and water quality basin structure headwalls and wingwalls. Hydraulic analysis included a spillway design storm and dam breach analysis in a 2D HEC-RAS model.

ELKHORN RIVER AT 240TH STREET BANK STABILIZATION DESIGN AND PERMITTING, LONG-TERM SOLUTION • PAPIO-MISSOURI RIVER NRD • SARPY COUNTY, NE (2016) Specific duties included construction observation to assess the work being done by the contractor.Conducted an as-built survey of the project using GPS and total station survey equipment.

RANDY BEHM, PE, CFM

BEHM HAZARD MITIGATION

EDUCATION

BACHELOR OF SCIENCE, CIVIL ENGINEERING, UNIVERSITY OF NEBRASKA - LINCOLN/OMAHA (1985)

USACE LEADERSHIP DEVELOPMENT PROGRAM, (2000)

HQUSACE EMERGING LEADER PROGRAM (2001)

REGISTRATIONS

LICENSED PROFESSIONAL ENGINEER (E-6778), NEBRASKA, JULY1989 TO PRESENT

CERTIFICATIONS

CERTIFIED FLOODPLAIN MANAGER (US-03-00645), JANUARY 2003 TO PRESENT

Randy is a subject matter expert in the effective use of physical and nonphysical non-structural mitigation techniques for establishing comprehensive flood risk management and reducing property damages due to flooding. Comprehensive skills in flood risk management, planning processes, hydrologic engineering, and cultural resources.

SPECIALIZED EXPERTISE

USACE ENGINEERING, PLANNING, AND CULTURAL RESOURCES MISSION EXPERTISE 35 years experience as Hydraulic Engineer, Program/Project Manager, and Cultural Resources Manager; Omaha District Flood Risk Manager; Omaha District FEMA Coordinator; Omaha District Silver Jackets Program Coordinator

NON-STRUCTURAL FLOOD RISK ADAPTIVE MEASURES COORDINATOR Chair, USACE National Non-structural Committee; Technical support to USACE, Federal and State agencies, and local communities; Technical support to the USACE Dam Safety and Resilience Programs; Conduct of vulnerability assessments and plan formulation for implementation of non-structural projects; Instructor of non-structural mitigation for USACE Planning Associates Program

FLOOD RISK MANAGEMENT PROGRAM MANAGER WITH EXPERTISE IN PROGRAMS AND POLICIES Advisor to HQUSACE National Flood Risk Management Program, USACE Adviser on Executive Order 11988; Flood Plain Management activities, USACE Adviser on National Flood Insurance Program

ASSOCIATION OF STATE FLOODPLAIN MANAGERS (ASFPM) Co-Chair of the ASFPM Non-structural Floodproofing Committee since August 2017; Reviewer of ASFPM policy documents regarding floodplain management and non-structural mitigation

PROFESSIONAL WORK EXPERIENCE

NON-STRUCTURAL FLOOD RISK MANAGEMENT PROGRAM • UNITED STATES ARMY CORPS OF ENGINEERS (JULY 2018 TO JULY 2019) Came out of retirement on a part-time basis to provide assistance to USACE in the development of new policies, program procedures, and user guides for the USACE Non-structural Program. Led the non-structural assessment and report development for studies in the St. Louis, Missouri metropolitan area, for the City of La Crosse, Wisconsin, and Fire Island in New York.

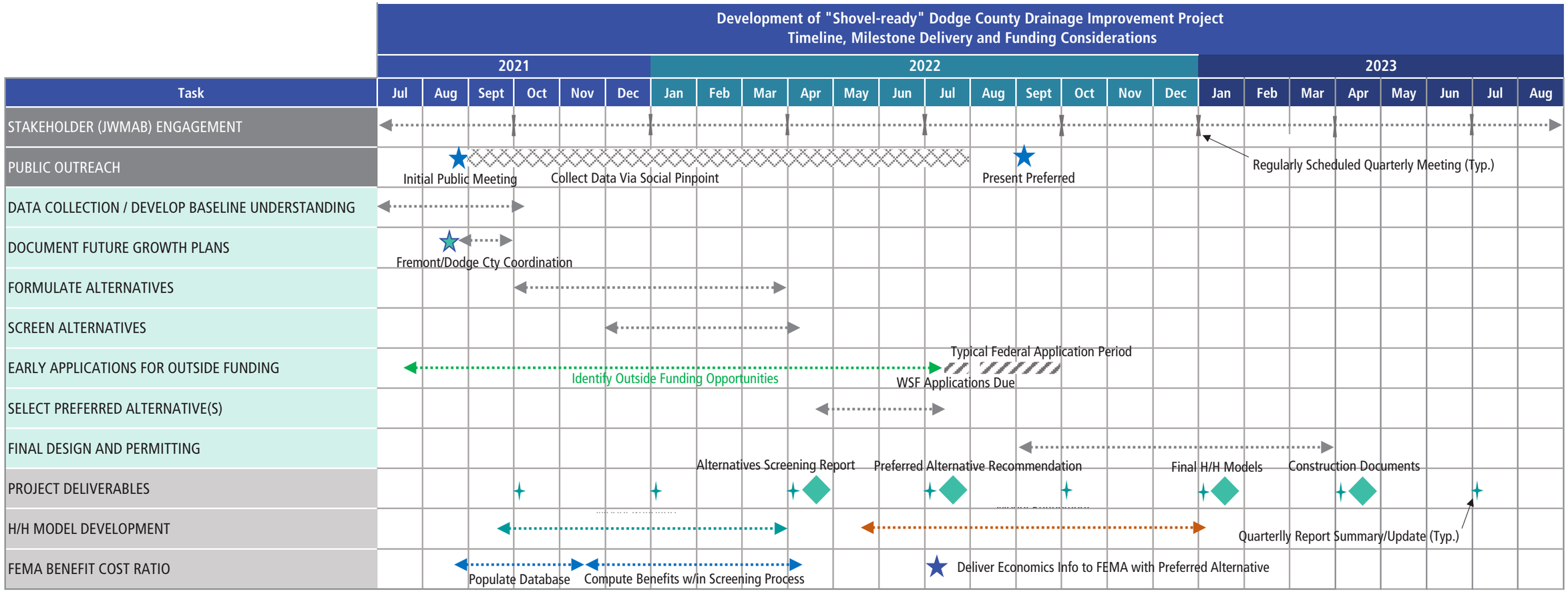
BEHM HAZARD MITIGATION, LLC. (JANUARY 2019 TO APRIL 2019) Conducted a detailed non-structural workshop as a member of a three-person professional team for the Ashokan Watershed Stream Management Program in the Catskill Mountains of New York for local, regional, and state floodplain managers. Provided support for and participated in a follow-up tour of the watershed to identify opportunities for the future implementation of non-structural measures.

NON-STRUCTURAL FLOOD RISK MANAGEMENT PROGRAM • UNITED STATES ARMY CORPS OF ENGINEERS (JULY 2014 TO APRIL 2018) Chair of the USACE National Non-structural Committee and led an interdisciplinary team of professionals from across the agency for advocating the use of Non-structural Flood Risk Adaptive Measures (FRAM) as an effective tool in managing flood risk. I fostered collaborative relationships with Federal and State partners, local communities, as well as Non-Governmental Organizations in the use of FRAM techniques. Led numerous flood vulnerability assessments of at-risk communities and have reinforced the successful assessment and implementation of non-structural mitigation within all USACE Civil Works programs. Retired from USACE on March 31 and until then was responsible for the execution of: Communication, outreach, and collaboration with multiple Federal and State agencies; Development of Non-structural Planning Process guidance for USACE project delivery teams. Oversight and program development of the National Flood Barrier Testing and Certification Program with ASFPM.

PROPOSED PROJECT SCHEDULE

FYRA ENGINEERING • BEHM HAZARD MITIGATION

The schedule shown depicts a realistic project schedule that meets the dates set forth by FEMA as presented in the grant application and award. The schedule allows for some slipping that may occur during inclement weather, prolonged review times, etc. This schedule works well with FYRA staff availability programmed for the project as well. The schedule shall be a standing agenda item at quarterly regularly scheduled review meetings with JWMAB. An even further accelerated schedule can be discussed if there is desire to deliver final construction documents even sooner to meet anticipated funding availability, such as the current infrastructure stimulus package being discussed in Congress.



Date: April 30th, 2021

To: **Prospective Consultant-Engineering/Architectural Flood Plain Professionals**

From: Dodge County on behalf of Joint Water Management Advisory Board (JWMAB)

RE: **Request for Proposal** - Development of Watershed and Flood Prevention Operations (WFPO) Watershed Plan - Environmental Assessment for - Rawhide Creek Watershed Improvement Project in Dodge County, Nebraska

Dodge County, NE on behalf of the JWMAB is accepting proposals for the following project: Development WFPO Watershed Plan - Environmental Assessment for - Rawhide Creek Watershed Improvement Project in Dodge County Count, Nebraska

Response Deadline: May 18, 2020@ 4:30 PM Central Time

Contact: Tom Smith, Director
Dodge County Emergency Management
435 N Park Ave STE 101B, Fremont, NE 68025

Dodge County is leading this request on behalf of the Dodge County Area Joint Water Management Advisory Board (JWMAB), which includes a total of twelve public entities organized through an interlocal agreement and each having taxing authority to maintain public infrastructure. The Advisory Board's purpose is to collaborate on identifying and building projects to make the Rawhide Creek Watershed more resistant to damaging floods in the future. Dodge County has the responsibility to lead plan development in compliance with the National Environmental Policy Act (NEPA), in conjunction with USDA-NRCS, and will be supported by JMWAB and the member entities to: engage stakeholders, establish alternatives, evaluate preferred alternatives, and create an implementation strategy to put projects into action in a timely manner.

Prospective consulting firms may approach this project in any manner they see fit, provided that the core components of this request for proposals are met. Consulting firms may form teaming arrangements, but the submission must come from a single firm. Project information, scope of work, and submission requirements are detailed below.

Project Objective:

The JWMAB is seeking an engineering firm to develop an approved Natural Resources Conservation Service (NRCS) Watershed Plan - Environmental Assessment (EA) for the Rawhide Creek Watershed (See Figure 1 below) in Dodge County, Nebraska. The purpose of this initiative is flood prevention within the Rawhide Creek Watershed. The goal is to (1) establish a recommended Plan-EA through an assessment of alternatives supported by public engagement and (2) sponsor participation that follows the National Environmental Policy Act (NEPA) process. This project is needed to mitigate flood-related damages to Fremont, other communities and agricultural properties, improve flood resiliency, and stabilize streambanks.

Project Background:

Dodge County, Nebraska (Project Sponsor) was approved for Watershed and Flood Prevention Operations (WFPO) funds to develop the Rawhide Creek Watershed Plan and Environmental Assessment (Plan-EA), in

collaboration with the USDA-NRCS. The project area includes portions of seven HUC12 watersheds that combined make up the Rawhide Creek Watershed. The project planning area contains a series of aged drainage ditches, levees, and embankments whose inadequacies were exposed during the March 2019 flooding event. The JWMAB has received multiple requests to evaluate strategies to improve flood resilience in this area based on recent and regular flooding issues, including catastrophic flooding in March 2019 leading to Nebraska Disaster Declaration DR-4420.

The project planning area includes five communities and several smaller lake communities, but is predominately a rural/agriculturally based economy, emphasizing the need for utilizing all available financial resources to achieve this goal. The Sponsor has resources to complete large-scale planning and construction projects and is responsible for consistently maintaining county roads, highways, bridges, drainage infrastructure and streambank stabilization, and other infrastructure related projects.

The purpose of the Plan-EA is flood prevention. The Rawhide Creek Watershed provides diverse economic benefits to the local area, especially as the watershed is primarily rural and agricultural in land use (84%), with five communities. Agricultural benefits include protection of land resources and communities, improvement of soil health, and sustainability of the agricultural economy. Other benefits include protecting the over 12 lake communities, two of which are SIDs with taxing authority, and protecting the Nebraska Game and Parks Commission's (NGPC) Fremont State Recreation Area.

Scope of Work:

The JWMAB is seeking firms with qualifications to complete this plan in accordance with the policy set forth in the NRCS Title 390, NWPM. Planning procedural guidelines for creation of the NEW Watershed Work Plan-Environmental Assessment (Plan-EA) shall follow NRCS Title 390, National Watershed Program Handbook (NWPH). NRCS water resources projects must comply with the latest Principles, Requirements, and Guidelines (PR&G) for Water and Land Related Resources Implementation Studies. Refer to the following webpage for PR&G: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/nwmc/

The primary components of the plan will include the following tasks:

Task 1: Identify Problems, Opportunities, and Concerns

This task will involve development of the Plan of Work and a public participation plan along with agency scoping meetings and two open house public meetings to obtain feedback on water resource concerns to be addressed in the plan.

Task 2: Determine Objectives

This task includes writing the purpose and need statement and establishing a plan outline. Includes correspondence and review with NRCS State Office staff. Ensuring the path forward is complete and compliant with Title 130 National Watershed Program Manual requirements.

Task 3: Inventory Resources

Includes data gathering, watershed site tour, formulation of feasible alternatives, economic and social assessment, cultural resource assessment, and geologic and engineering assessment.
Preparing and sending letters/notifications to agencies and the public.

Task 4: Analyze Resource Data

This task includes an analysis of all collected resources through statistics, maps, hydrogeology, understanding of the JWMAB goals, and other similar watermanagement objectives. Information will be used to support the establishment of a list of initial alternatives.

Task 5: Formulate Alternatives
A list of initial alternatives, including no action, will be established, and discussed with the JWMAB and other key stakeholders. Establishment (or updating existing) hydrology and hydraulics model and use of LiDAR to guide design.

Task 6: Evaluate Alternatives
This task includes an alternatives assessment using an alternative screening assessment such as an evaluation matrix. A list of evaluation criteria will be used such as technical feasibility, social acceptance, financial, etc. to evaluate and score alternatives. Includes site selection, planning level design of preferred alternatives, and initial benefit-cost assessment (BCA).

Task 7: Plan Development/Make Decisions
Includes drafting the plan document and completing all reviews with the Nebraska State NRCS office and other resource agencies participating in the NEPA process. Includes preliminary design ofthe preferred alternatives, cost estimating, summary of permitting needs, data gaps, and completion of the BCA. Includes compiling and addressing all responses and input. Completing the final plan and working through the review process with the National Water Management Center.
Printing and delivering appropriate hard and electronic copies after successful NationalProgrammatic Review.

Submittal Requirements:
Proposals will be accepted at the Dodge County Emergency Management Office until 4:30 PM Central Time on May 18th , 2021. Three paper copies must be submitted along with an electronic (pdf) format on a memory stick or equivalent device. Late proposals will not be eligible for consideration. The following shall be included in the submission:

Statement of Qualifications (Not to exceed 8 single sided pages):

1. Firm name, address, telephone number.
2. Years established and former names.
3. Type of services particularly qualified to perform.
4. Names of principals and states in which they are registered.
5. Names of key personnel to be utilized, experience of each, and length of service with the firm.
6. Maximum number of the staff at any one time.
7. Outside consultants and associates that might be employed.
8. List of similar completed projects for which the firm was the principal professional.
9. Similar current projects of the firm and estimated costs of each.
10. History of professional negligence claims made against the firm during the past five years.

Proposal for this project including the following items (Not to exceed 10 single sided pages):

1. Cover Letter Expressing Interest in the Project

2. Project Understanding
3. Proposed Project Approach
4. Related Experience
5. Workload/Willingness and Capability to Meet Time Requirements
6. Conflict of Interest Statement
7. Description of Insurance
8. Proposed Project Schedule
9. Breakdown of Costs by Task Listed in Scope of Work
10. Total Cost of Project
11. Other Relevant Information

Terms/Selection:
Proposals will be reviewed, and the award made to the proposal giving consideration which shall include, but not limited to, the following:

1. Firms which have sufficient professional manpower to meet the project schedule of 24 months.
2. Firms with a sound performance record for meeting time and budget requirements.
3. Firms which possess project experience and management ability.
4. Firms with recent, current, and/or a projected workload with the County.
5. Firms that display a strong project understanding.
6. Any other specialized qualification which the firms might possess to benefit the project.

Expenses for developing and presenting qualifications shall be the entire responsibility of the Respondent and shall not be chargeable to the requesting entity. All supporting documentation and manuals submitted with these qualifications will become the property of the JWMAB, unless requested by the Respondent, in writing, at the time of the submission, and agreed to, in writing, by the JWMAB. The selection committee may select a firm from the proposals submitted or may request additional information from a firm or firms.

Accept/Reject Proposals:
The JWMAB reserves the right to reject any or all proposals, wholly or in part; to waive technicalities, irregularities, and omissions; to make the award in a manner deemed to be in the best interest of the Advisory Board; and to correct any award erroneously made because of a clerical error on the part of the County.

No Obligation:
This RFP in no manner obligates the County, or other members of the JWMAB, to the eventual purchase of any products or services described, implied, or which may be proposed, until confirmed by written agreement. This RFP may be terminated by the JWMAB without penalty or obligation at any time prior to the signing of an agreement.

Questions and Contact Information:

For questions regarding the information contained in this RFP call or email:

Tom Smith, Director
Dodge County Emergency Management
dodgecoema@gmail.com
(402) 727-2785

Submissions will be accepted at the LRNRD Office until 4:30 PM Central Time on April 5, 2021:

Attn: Tom Smith, Director
Dodge County Emergency Management
435 N Park Ave. STE 101B
Fremont, NE 68025

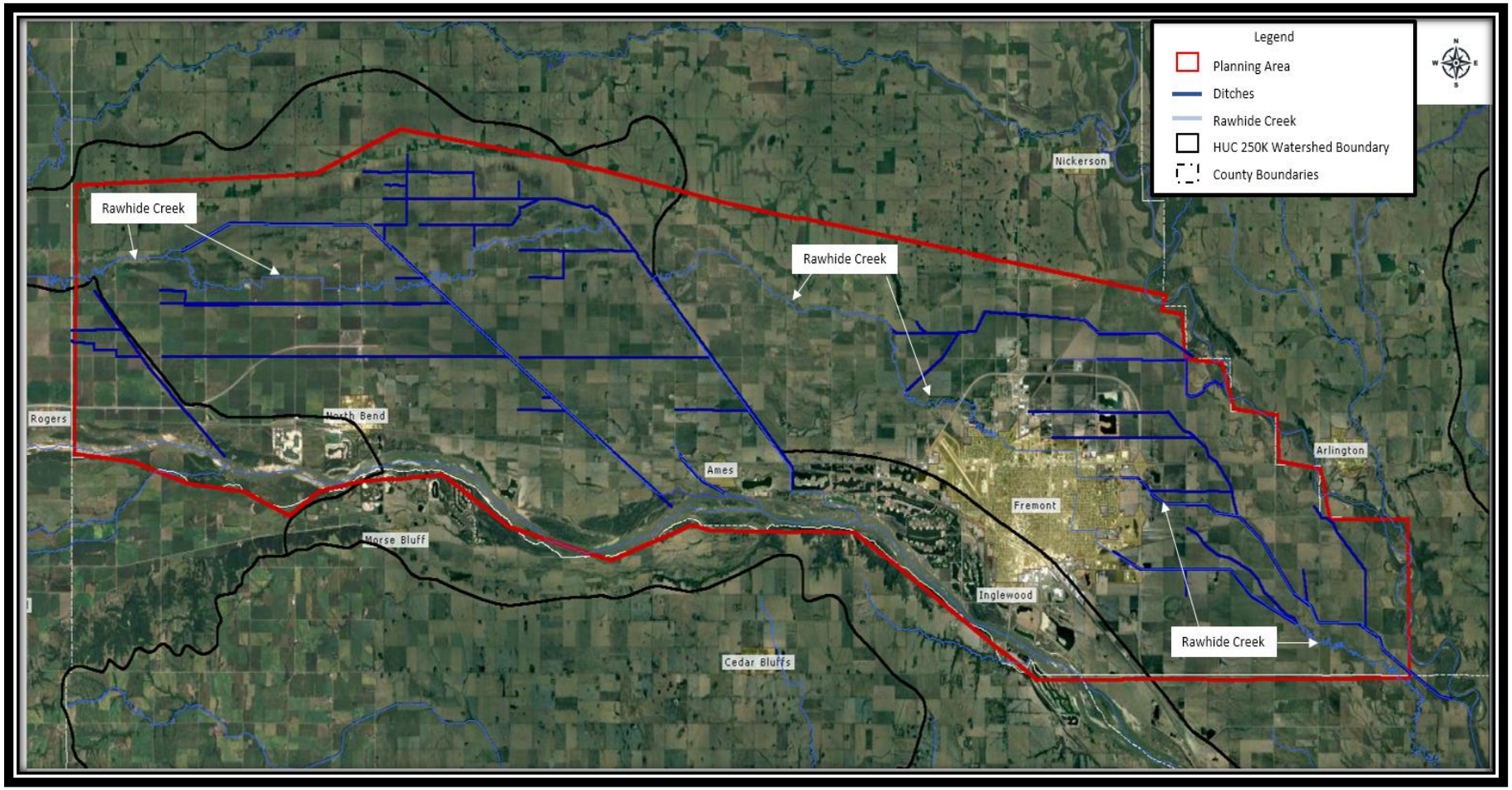


Figure 1: Planning Area

ADDENDUM TO

REQUEST FOR PROPOSAL

To: Engineering/Architectural Flood Plain Professionals

From: Joint Water Management Advisory Board (JWMAB)

Subject: Request for Proposals (RFP) for Development of Watershed and Flood Prevention Operations (WFPO) Watershed Plan

Issue Date: May 20, 2021

Due Date: May 28, 2021 at 4:30 p.m.

Addendum:

As part of the work set forth for both the Rawhide Creek WFPO Plan-EA and the East Fremont and Elkhorn Township Requests for Proposals, a hydrologic and hydraulic model will be established for both projects. While this model may have varying resolutions for work required for specific locations within the project study areas, it is anticipated that eventually the model information will be incorporated into a larger floodplain model that will serve the future needs of the Dodge County area. For that reason, the JWMAB shall retain ownership of all modeling work created as a part of these projects and may also provide guidance during the development of the model to the consultant to ensure that the model can be readily incorporated into a larger model managed by JWMAB.

WATERSHED & FLOOD PREVENTION OPERATIONS
STATEMENT OF WORK

PURPOSE

The purpose of this agreement is for the United States Department of Agriculture, Natural Resources Conservation Service, hereinafter referred to as the "NRCS", to provide assistance to the Lower Republican Natural Resources District, hereinafter referred to as the "Sponsor", for the Rawhide Creek Watershed Work Plan - Environmental Assessment (Plan-EA) project in Dodge and Colfax Counties, Nebraska, under the Watershed & Flood Prevention Operations (WFPO) Program.

OBJECTIVES

Create a NEW Watershed Work Plan-Environmental Assessment (Plan-EA) for the Rawhide Creek Watershed of Dodge and Colfax Counties, Nebraska.

This agreement is for planning, including conceptual design work adequate to develop feasible alternatives and identify the preferred alternative. If additional funds become available to totally complete the project through construction, an amendment will be proposed with the Sponsor. If agreed by the parties, this agreement will be amended accordingly. This agreement includes clauses for other phases that may or may not be funded.

BUDGET NARRATIVE

1. NRCS shall pay 100 percent of the costs up to approved funding. There is no financial obligation for the Sponsor unless costs exceed approved funding amounts, and additional funding cannot be secured.
   A. Budget includes the following estimated costs:
      $745,000.00 is obligated for the development of a Watershed Work Plan-Environmental Assessment (Plan-EA). Planning and conceptual design costs are expenses incurred for surveys and investigations, environmental studies, evaluation of alternatives, and preparation of plans and design prior to the authorization of assistance for the installation of works of improvement.
      a. CONTRACTUAL category: $670,500 is budgeted for Contractual work. Contractual work entails the professional services, hired and managed by the Sponsor, for the preparation and creation of the Watershed Work Plan-Environmental Assessment (Plan-EA).
      b. OTHER category: A maximum of $74,500.00 (i.e.: 10% of the Project Budget) is budgeted for Other expenses. Other expenses are expenses incurred by the Sponsor in direct management of the agreement (e.g.: contract administration). Eligible and reimbursable expenses may include sponsor personnel labor cost entailing soliciting, evaluating, awarding, administering and overseeing contracts for development of an approved NRCS Watershed Work Plan-Environmental Assessment (Plan-EA), including project management, verifying invoices and record keeping.
      c. This agreement allows for the reapportionment of funds from the "OTHER" budget category to the "CONTRACTUAL" budget category. This reapportionment shall be initiated by the Sponsor with prior approval from the NRCS representative, provided the costs are within the budget estimates listed above. This will be documented through an exchange of correspondence rather than a formal amendment to the agreement.

d. Reapportionment of funds from the CONTRACTUAL budget category to the OTHER budget category is NOT ALLOWED.

RESPONSIBILITIES OF THE PARTIES

A. Sponsor will—

1. Coordinate and oversee data collection and meetings for all Milestone Task points. Meetings may be in-person or remote as applicable to the circumstances and shall be coordinated with the Nebraska NRCS Watershed Planning Coordinator and will include the sponsors' technical representatives, and, as applicable, any other cooperating agencies. The purpose is to ensure all stakeholders are operating and progressing towards a common objective/goal. The Sponsor, or sponsors technical representative, shall provide Nebraska NRCS Watershed Planning Coordinator and State Conservation Engineer with a written summary of progress every three (3) months, starting after the 30% review and concluding with the delivery of the final design. The summary serves to ensure comments / feedback noted in the 30% and 60% reviews are being addressed. The summary should be limited to a maximum of two (2) pages.

2. Planning must comply with the policy set forth in the NRCS Title 390, National Watershed Program Manual (NWPM). Sponsor may obtain a full copy of this reference manual at http://directives.sc.egov.usda.gov/, Manuals, Title 390 – Project Development & Maintenance, Parts 500 -506 – *"National Watershed Program Manual"*

   Planning procedural guidelines for creation of the NEW Watershed Work Plan-Environmental Assessment (Plan-EA) shall follow NRCS Title 390, National Watershed Program Handbook (NWPH). Sponsor may obtain a full copy of this reference handbook at http://directives.sc.egov.usda.gov/, Handbooks, Title 390 – Project Development & Maintenance, Parts 600 - 606 – "*National Watershed Program Handbook"*

   NRCS water resources projects must comply with the latest Principles, Requirements, and Guidelines (PR&G) for Water and Land Related Resources Implementation Studies. Refer to this link for information: Principles, Requirements and Guidelines (PR&G); (at the bottom of the webpage, in the subsection labeled "Tools")

3. Contract for services, as necessary, award and administer any contracts for the installation of the work for the project specified in this agreement in accordance with the Code of Federal Regulations (CFR), 2 CFR § 200.317 through 200.326, applicable state requirements, and the Sponsors' procurement regulations, as appropriate. See general terms and conditions attached to this agreement for a link to the CFR. In accordance with 2 CFR § 200.326 contracts must contain the applicable provisions described in Appendix II to Part 200. Davis-Bacon Act would not apply under this federal program legislation.

4. The contracts for services described in this Agreement shall not be awarded to the Sponsor or to any firm in which any Sponsor's official or any member of such official's immediate family has direct or indirect interest in the pecuniary profits or contracts of such firms. Reference 2 CFR § 200.318 regarding standards of conduct covering conflicts of interest and governing the performance of its employees engaged in the selection, award, and administration of contracts.

5. Take reasonable and necessary action of all contractual and administrative issues arising out of contracts awarded under this agreement.

6. Designate a project liaison to serve between the Sponsor and NRCS and identify that person's contact information with this executed agreement. Any change in the project liaison during the term of this agreement must be immediately communicated to NRCS.

7. Pay the technical representative for all services performed in accordance with the agreement and submit a SF270, "Request for Advance and Reimbursement," to the NRCS Program/Technical Contact with all documentation to support the request. Payments will be withheld until all required documentation is submitted and complete.

8. Be responsible for all ineligible project costs. Ineligible costs are costs not referenced in this agreement.

9. Responsible for all costs in excess of the federal cost-share in this agreement.

10. Comply with the applicable requirements in the attached General Terms and Conditions of this agreement.

11. Ensure that requirements for compliance with environmental and cultural resource laws are considered for the proposed works of improvement described in this agreement.

12. Ensure the information in the System for Award Management (SAM) is current and accurate until the final financial report (SF425) under this award or final payment is received, whichever is later.

13. Take reasonable and necessary actions to dispose of all contractual and administrative issues arising out of the contract awarded under this agreement. This includes, but is not limited to disputes, claims, protests of award, source evaluation, and litigation that may result from the project. Such actions will be at the expense of the Sponsor, including any legal expenses. The Sponsor will advise, consult with, and obtain prior written concurrence of NRCS on any litigation matters in which NRCS could have a financial interest.

14. Sponsor must indemnify and hold NRCS harmless to the extent permitted by State law for any costs, damages, claims, liabilities, and judgments arising from past, present, and future acts or omissions of the Sponsor in connection with its acquisition and management of the Watershed & Flood Prevention Operations Program pursuant to this project agreement. Further, the Sponsor agrees that NRCS will have no responsibility for acts and omissions of the Sponsor, its agents, successors, assigns, employees, contractors, or lessees in connection with the acquisition and management of the Watershed & Flood Prevention Operations Program pursuant to this project agreement that result in violation of any laws and regulations that are now or that may in the future become applicable.

15. Be liable to the NRCS for damages sustained by the NRCS as a result of the technical representative failing to complete the work within the specified time. The damages will be

based upon the additional costs incurred by the NRCS resulting from the technical representative not completing the work within the allowable performance period. These costs include but are not limited to personnel costs, travel, etc. The NRCS will have the right to withhold such amount out of any monies that may be then due or that may become due and payable to the Sponsor. This liability is not applicable to the extent that the contract performance time is extended by court judgment unless such judgment results from actions of the Sponsor not concurred in by NRCS.

16. Take necessary legal action, including bringing suit, to collect from the technical representative any monies due in connection with the contract, or upon request of NRCS, assign and transfer to NRCS any or all claims, demands, and causes of action of every kind whatsoever that the Sponsor has against the technical representative or his or her sureties.

17. Retain all records dealing with the award and administration of the contract for three (3) years from the date of the Sponsor's submission of the final request for reimbursement or until final audit findings have been resolved, whichever is longer. If any litigation is started before the expiration of the 3-year period, the records are to be retained until the litigation is resolved or the end of the 3-year period, whichever is longer. Make such records available to the Comptroller General of the United States or his or her duly authorized representative and accredited representatives of the Department of Agriculture or cognizant audit agency for the purpose of making audit, examination, excerpts, and transcriptions.

B. NRCS will—

1. Provide support in terms of interpreting NRCS Policy and or Procedures and clarifying deliverable expectations.

2. Review and concur with the watershed plan, concept design and all other documents developed for or by the Sponsor.

3. Designate a Government representative (GR) to serve as liaison with the Sponsor and identify that person's contact information with this executed agreement.

4. Consult with the Sponsor, as requested, in preparing the solicitation and awarding and administering the contract.

5. Make payment to the Sponsor covering the NRCS's share of the cost upon receipt and approval of SF270, withholding the amount of damages sustained by NRCS as provided for in this agreement.

6. NRCS would initiate consultation, where warranted, for cultural resources and other special environmental concerns such as endangered species.

C. SPECIAL PROVISIONS

1. The furnishing of financial, administrative, and/or technical assistance above the original funding amount by NRCS is contingent on there being sufficient unobligated and uncommitted funding in the Watershed Flood Prevention Operations Program that is available for obligation in the year in which the assistance will be provided. NRCS may not make commitments in excess of funds authorized by law or made administratively available. Congress may impose obligational limits on program funding that constrains NRCS's ability to provide such assistance.

2. NRCS, at its sole discretion, may refuse to cost share should the Sponsor, in administering the contract, elect to proceed without obtaining concurrences described in this agreement.

EXPECTED ACCOMPLISHMENTS AND DELIVERABLES

Sponsor will—

1. Create a new Watershed Work Plan-Environmental Assessment (Plan-EA) that meets or exceeds the policies and procedures defined in the NRCS National Watershed Program Manual and NRCS National Watershed Program Handbook.

2. Prepare a conceptual design and drawings in accordance with standard engineering principles that comply with NRCS programmatic requirements.

3. Consult with NRCS related to preparing the solicitation as well as awarding and administering the contract.

4. The Sponsor must provide NRCS with documentation of the actual cost incurred for the services acquired and other expenses incurred by the Sponsor in direct management of the agreement.

5. Appoint a contracting officer and an authorized representative who will have authority to act for the contracting officer, listing their duties, responsibilities, and authorities. Furnish such information in writing to the NRCS State Conservationist.

6. Provide copies of site maps to appropriate Federal and State agencies for environmental review. Notify NRCS of environmental clearance, or any unresolved concerns.

7. Dispose of all claims resulting from the contract; secure prior written concurrence of the State Conservationist if NRCS funds are involved.

RESOURCES REQUIRED

No other resources required other than funding.

MILESTONES

TASK: Kickoff meeting - ESTIMATED START: March, 2021 - ESTIMATED COMPLETION: April, 2021

TASK: Public & Agency Scoping - ESTIMATED START: April, 2021 - ESTIMATED COMPLETION: May, 2021

TASK: Post-Discussion of scoping - ESTIMATED START: June, 2021 - ESTIMATED COMPLETION: July, 2021

TASK: Review Data Collection Needs - ESTIMATED START: July, 2021 - ESTIMATED COMPLETION: April, 2022

TASK: Refining Purpose and Need - ESTIMATED START: August, 2021 - ESTIMATED COMPLETION: September, 2021

TASK: Alternatives Discussion - ESTIMATED START: October, 2021 - ESTIMATED COMPLETION: December, 2021

TASK: Plan/EA development phase 30% - ESTIMATED START: November, 2021 - ESTIMATED COMPLETION: February, 2022

Conceptual Design Alternatives
Cost/logistics/technology
Avoid/minimize/mitigate

TASK: Plan/EA development phase 60% - ESTIMATED START: February, 2022 - ESTIMATED COMPLETION: May, 2022

CWA review (if applicable, 404b1 with Corps of Engineers)

TASK: Plan/EA development phase 90% - ESTIMATED START: May, 2022 - ESTIMATED COMPLETION: August, 2022

TASK: Prepare Draft Plan-EA for NRCS to submittal to NWMC - ESTIMATED START: August, 2022 - ESTIMATED COMPLETION: September, 2022

TASK: Addressing NWMC review comments - ESTIMATED START: October, 2022 - ESTIMATED COMPLETION: November, 2022

TASK: Public & Interagency review - ESTIMATED START: November, 2022 - ESTIMATED COMPLETION: January, 2023

TASK: Finalization of Plan/EA - ESTIMATED START: January, 2023 - ESTIMATED COMPLETION: February, 2023

TASK: Prepare Final Plan-EA for NRCS submittal for Authorization - ESTIMATED START: March, 2023 - ESTIMATED COMPLETION: April, 2023

Dodge County Emergency Management
435 N Park Ave STE 101B Fremont, NE 68025
Office: 402-727-2785
FAX: 402-727-2840 EMAIL: Dodgecoema@gmail.com

June 2nd, 2021

Re: Rawhide Creek Watershed Work Plan – Environmental Assessment
(NR216526XXXXC010) Engineering Firm Notification

Burns and McDonnel Patrick Finigan:

Thank you for submitting a proposal for the Rawhide Creek Watershed Work Plan-Environmental Assessment project. On June 1st, 2021, representatives of the Dodge County Joint Water Management Advisory Board (JWMAB) reviewed three (3) engineering firm proposals for the project in the Dodge County Emergency Management office.

Based on the proposals received, it was the JWMAB proposal review committee's recommendation that the County proceed with contracting with Burns and McDonnell to complete the project. Dodge County Board approved the committee's selection during their June 2nd meeting.

Congratulations on the selection for the project. Your local contact for the project will be Tom Smith, Dodge County Emergency Management Director, dodgecoema@gmail.com or work cell 402-909-2135. We request you provide Dodge County the necessary contract documentations required for your firm to proceed with the project. The NRCS representative assigned to the project is Richard Vaughan.

Very Respectfully,

Thomas Smith
Director
Dodge County Emergency Management

Enclosure-None

CITY of SCHUYLER
1103 B St., Schuyler, NE 68661

Phone: 402-352-3101
Fax: 402-352-3114

Jon Knutson
Mayor

May 20, 2021

Tom Mountford
Lower Platte North Natural Resources District
511 Commercial Park Road
Wahoo, NE 68066

RE: Schuyler 2021 Flap Gate and Channel Improvements

Dear Tom:

On behalf of the City of Schuyler, I am formally requesting a $25,000 financial contribution from the Lower Platte North Natural Resources District for the Shell Creek Levee project for fiscal year 2020-2021.

I want to thank you for the continued support. If you have any questions please do not hesitate to contact me.

Very truly yours,

Jon Knutson
Mayor

SANITARY & IMPROVEMENT DISTRICT NO. 8
OF SAUNDERS COUNTY, NEBRASKA

Lonnie Mahrt, Chairman
Tom Sawyer, Clerk

Lot T-1018, Suite A
980 County Road W
Fremont, Nebraska 68025

Chris Johannesen, Secretary
Ph. 402-753-0247
sid8@woodclifflakes.com

April 1, 2021

Mr. Eric Gottschalk
General Manager
Lower Platte North Natural Resources District
511 Commercial Park Rd.
Wahoo, NE 68066

Dear Mr. Gottschalk,

In 2018, SID #8 completed Phase II of the River Bank Stabilization Project placing 19 weirs, 1,500 feet of peaked stone toe protection, and vegetation along the Woodcliff riverfront property as approved by the Department of the Army under 404 permit #NWO-2015-01744-WEH.

We appreciate the NRD's support and assistance with this project and request at this time the fourth and final payment of the previously approved cost-share assistance in the amount of $75,000.

Please feel free to call me at 1-402-680-4953 or John Petersen at JEO Consulting Group, Inc. at 1-402-616-5036 if you have any questions.

Sincerely,

Lonnie D. Mahrt

Lonnie Mahrt
Chairman, SID #8

Lower Platte River
CORRIDOR ALLIANCE

LEAD. ORGANIZE. INSPIRE. The voice of the Lower Platte.

LPRCA MEETING AGENDA

Friday, May 14, 2021, 10:00 a.m.
Virtual Meeting via Zoom

1. Welcome / Introductions (David Potter-LPSNRD)
2. Review December 3, 2020 Meeting and Approval of Minutes (David Potter-LPSNRD) *[ACTION]*
3. Budget Update (David Potter-LPSNRD)
4. Current LPRCA Activities/Projects
    A. Agreements for gages at Leshara, 3 long-term sites, and Platte River chutes (David Potter-LPSNRD)
    B. Status of USGS stream gages/monitors, reports from gages (Matt Moser and Dave Rus-USGS)
5. Reports on Related Corridor Activities and Projects
    A. Flooding/levees/recovery on the Missouri River and Statewide Levee Update - Update (NDNR rep)
    B. NRD Updates on Platte River Flood Repair Projects (Marlin Petermann-PMRNRD and Tom Mountford-LPNNRD)
    C. Camp Ashland – Post Flood Building Rehab Project and Floodwall Extension Project (Larry Vrtiska-NE National Guard)
    D. State Parks (Jim Swenson and Bob Bergholz-NGPC)
    E. Hwy 34 Platte River Bridge Trail and Lied Platte River Bridge Repair (Eric Williams- PMRNRD)
    F. Updates from DHHS and DEE, Sampling (DHHS and DEE reps)
    G. Update from UNL (Ron Yoder-UNL)
    H. Other
6. Future Projects/Studies
    A. Status of Platte River Chutes, Morphodynamic Study, and possible Sandbar Study (Larry Vrtiska-NE National Guard, Marlin Petermann-PMRNRD, and Matt Moser and Dave Rus-USGS) *[Possible ACTION]*
    B. Water Quality Management Plan - 319 Projects and Implementation, Application to EPA (NRD reps, Matt Pillard-HDR, and Ryan Chapman-DEE)
    C. Lower Platte River Watershed Restoration Study – update/status, schedule meeting with NRDs (Paul Zillig, LPSNRD)
    D. Discussion of any other possible projects for LPRCA
7. Schedule Next Meeting (October 2021)
8. Comments, Questions, General Discussion
9. Adjourn

CONTACT INFO - LPRCA Office – 3125 Portia * PO Box 83581 * Lincoln, NE 68501 * (402) 476-2729
E-mail – dpotter@lpsnrd.org * Website -- www.lowerplatte.org

Lower Platte River Corridor Alliance FY22 Budget (Prepared May 2021)		LPSNRD	PMRNRD	National Guard	Game & Parks	UNL	NeDNR	DEE	DHHS	LPNNRD	LWS	MUD	LPRCA
Stream Gages:	3 Long term sites Expires: June 30, 2022	$31,612	$31,612	-	-	-	-	-	-	-	-	-	$63,224
	Leshara Expires: June 30, 2022	$4,807	$4,807	-	-	-	-	-	-	$4,807	$4,807	$4,807	$24,031
	PR Chutes near Guard w/ Agreement Extension Expires: April 30, 2021	-	-	$0	-	-	-	-	-	-	-	-	$0
	Platte River Chute Study (2-yr contract totaling $55,000 - tentative)	$9,375	$9,375	$9,375	-	-	-	-	-	$9,375	-	-	$37,500
Website Hosting		-	-	-	-	-	-	-	-	-	-	-	$2,010
ESRI Agreement		-	-	-	-	-	-	-	-	-	-	-	$2,500
* LPRCA Dues. Pays for Website, ESRI & Memberships. (In FY20 was paid by 6 of 8 members: LPSNRD, PMRNRD, National Guard, Game &Parks, UNL, NeDNR for total $6,000)		$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	-	-	-	-
Lower Platte Tour		$500	$500	-	-	-	-	-	-	-	-	-	$1,000
Memberships		-	-	-	-	-	-	-	-	-	-	-	$500
Restoration & Resiliency Study		-	-	-	-	-	-	-	-	-	-	-	$200,000 (from reserves)
TOTALS		**$47,294**	**$47,294**	**$10,375**	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$14,182**	**$4,807**	**$4,807**	**$330,765**

SUBCOMMITTEE: Platte River [Lower Platte South NRD]
PROGRAM AREA: Lower Platte River Corridor Alliance
VISIONS: A, B, C, D, E, F, G. H, I, J, K

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FISCAL YEAR 2022

ACTIONS	OBJECTIVES	STATUS CODE	DRAFT BUDGET EXPENDITURE	DRAFT BUDGET OTHER FUNDS	PRIORITIES	FINAL BUDGET EXPENDITURE	FINAL BUDGET OTHER FUNDS	BUDGET CODE EXPENDITURE	BUDGET CODE OTHER FUNDS
LPSNRD Support of LPRCA Programs & Projects ^ = Reserve									
Cooperate on Lower Platte River Corridor Alliance Administration (includes ESRI, website and memberships). Receive payment and have involvement from each partnering agency, if possible.	D1a	C1	$0	$2,000 $6,000	1			419002 419002	302011 301720
Host semi-annual Lower Platte River Corridor Alliance meetings.			$0	$0					
Lower Platte River Restoration and Resiliency Study with Corps, NRDs & State • Meet with USACE and other partners (LPNNRD, LPSNRD and PMRNRD) to determine if we all are interested in pursuing this study.			$0	$0					
Participate in Nebraska Land Trust meetings and in Lower Platte River Workgroup, when needed.			$0	$0					
Monitor Lower Platte River instream flow review & basin determination / integrated management.			$0	$0					
Environmental Suitability Assessment projects, information and correspondence • ESRI Agreement • City County Meetings	D1d	A2	$2,500 $0	$0 $0	5			419002	
WQ Stream Gauge Monitoring Network • Continuation of existing agreement--3 sites (Platte @ Louisville, Salt @ Ashland & Elkhorn@ Waterloo) • Leshara Site Agreement continuation	A5c A5c	A4 A4	$63,224 $24,031	$63,224 $24,031	2 3			419006 419006	302014 302014

DRAFT

FISCAL YEAR 2022

ACTIONS	OBJECTIVES	STATUS CODE	DRAFT BUDGET EXPENDITURE	DRAFT BUDGET OTHER FUNDS	PRIORITIES	FINAL BUDGET EXPENDITURE	FINAL BUDGET OTHER FUNDS	BUDGET CODE EXPENDITURE	BUDGET CODE OTHER FUNDS
• Approve new agreement - 3 sites (Platte @ Louisville, Salt @ Ashland & Elkhorn @ Waterloo) ($238,400)			$0	$0				419006	301724
• Approve new agreement for Leshara site. ($80,400)			$0	$0				419006	
• Renew Joint Funding Agreement for Leshara site.			$0	$0				419006	
Education & Outreach									
• Lower Platte River Tour. Set up one tour of the Platte River (for Alliance reps and / or LPSNRD and PMRNRD).	D1f	C1	$1,000	$1,000	7			419006	302014
• Newsletter; kiosks; I&E Materials; Other Events			$0	$0					
• Advertising; Social Media; Video Production			$0	$0					
• Website Hosting/Support/Maintenance	D1f	C1	$2,010	$0	4			419002	
• Memberships	D1f	C1	$500	$0	8			419002	
Water Quality Management Plan & Improvements									
• Watershed Management Plan Implementation			$0	$0					
• Assistance with Wellhead Protection Program updates			$0	$0					
Monitor Water Trail Planning & Development			$0	$0					
Support efforts to control invasive species and noxious weeds along the Lower Platte River. Participating with the counties and the Lower Platte Weed Management Area (LPWMA) group.			$0	$0					
Platte River Sandbar Study near Nebraska National Guard Camp.	A6c	E2	~~$100,000~~ $37,500	~~$100,000~~ $37,500	6			419006	302014

FISCAL YEAR 2023 ACTIONS	BUDGET	OTHER FUNDS
Cooperate on Lower Platte River Corridor Alliance Administration	$0	$8,000
Host semi-annual Lower Platte River Corridor Alliance meetings.	$0	$0
Approval of Lower Platte River Water Quality Management Plan/Projects with NRDs, State and others	$0	$0
Lower Platte River Restoration and Resiliency Study/Projects with Corps of Engineers, NRDs, State and others	$200,000	$0
LPRCA Programs		
• Water Quality		
• Monitoring Network	$125,200	$125,200
• Programs / Implementation	$0	$0
• Planning	$0	$0
• Recreation Access	$0	$0
• Ecosystem Studies	$0	$0
• Outreach, Education & Correspondence	$6,500	$0
• Miscellaneous efforts	$0	$0
• NE Land Trust	$0	$0
• Invasive Species & Noxious Weed Efforts	$0	$0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$0	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$0	$0
Platte River Sandbar Study at Chutes	# 17500	# 17,500

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FISCAL YEAR 2024 ACTIONS	BUDGET	OTHER FUNDS
Cooperate on Lower Platte River Corridor Alliance Administration	$0	$8,000
Host semi-annual Lower Platte River Corridor Alliance meetings.	$0	$0
Approval of Lower Platte River Water Quality Management Plan/Projects with NRDs, State and others	$0	$0
Lower Platte River Restoration and Resiliency Study/Projects with Corps of Engineers, NRDs, State and others	$200,000	$0
LPRCA Programs		
• Water Quality		
• Monitoring Network	$110,200	$110,200
• Programs / Implementation	$0	$0
• Planning (Update WQMP)	$60,000	$36,000
• Recreation Access	$0	$0
• Ecosystem Studies	$0	$0
• Outreach, Education & Correspondence	$6,500	$0
• Miscellaneous efforts	$0	$0
• NE Land Trust	$0	$0
• Invasive Species & Noxious Weed Efforts	$0	$0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$0	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$0	$0

FISCAL YEAR 2025 ACTIONS	BUDGET	OTHER FUNDS
Cooperate on Lower Platte River Corridor Alliance Administration	$0	$8,000
Host semi-annual Lower Platte River Corridor Alliance meetings.	$0	$0
Approval of Lower Platte River Water Quality Management Plan/Projects with NRDs, State and others	$0	$0
Lower Platte River Restoration and Resiliency Study/Projects with Corps of Engineers, NRDs, State and others	$200,000	$0
LPRCA Programs		
• Water Quality		
• Monitoring Network	$83,400	$83,400
• New agreement for 3 long-term sites and Leshara	$0	$0
• Programs / Implementation	$0	$0
• Planning (Update WQMP)	$30,000	$18,000
• Recreation Access	$0	$0
• Ecosystem Studies	$0	$0
• Outreach, Education & Correspondence	$6,500	$0
• Miscellaneous efforts	$0	$0
• New Agreement for Platte River Chute	$0	$0
• NE Land Trust	$0	$0
• Invasive Species & Noxious Weed Efforts	$0	$0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$0	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$0	$0

FISCAL YEAR 2026 ACTIONS	BUDGET	OTHER FUNDS
Cooperate on Lower Platte River Corridor Alliance Administration	$0	$8,000
Host semi-annual Lower Platte River Corridor Alliance meetings.	$0	$0
Approval of Lower Platte River Water Quality Management Plan/Projects with NRDs, State and others	$0	$0
Lower Platte River Restoration and Resiliency Study/Projects with Corps of Engineers, NRDs, State and others	$200,000	$0
LPRCA Programs		
• Water Quality		
• Monitoring Network	$127,000	$127,000
• Programs / Implementation	$0	$0
• Planning	$0	$0
• Recreation Access	$0	$0
• Ecosystem Studies	$0	$0
• Outreach, Education & Correspondence	$6,500	$0
• Miscellaneous efforts	$0	$0
• NE Land Trust	$0	$0
• Invasive Species & Noxious Weed Efforts	$0	$0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$0	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$0	$0

SUBCOMMITTEE: Platte River
PROGRAM AREA: Platte River
VISIONS: A, B, C, D, E, F, G. H, I, J, K

DRAFT

FISCAL YEAR 2022

ACTIONS	OBJECTIVES	STATUS CODE	DRAFT BUDGET EXPENDITURE	DRAFT BUDGET OTHER FUNDS	PRIORITY	BUDGET EXPENDITURE	BUDGET OTHER FUNDS	BUDGET CODE EXPENDITURE	BUDGET CODE OTHER FUNDS
LPSNRD Support of LPRCA Programs & Projects ^ = LPSNRD costs ^^ = Total of LPSNRD costs			^^$62,919	$0				419002	302011
Cooperate on Lower Platte River Corridor Alliance Administration. (PMRNRD, LPSNRD)	D1a	C1	^$1,000	$0	1			419002	302011
Environmental Suitability Assessment projects, information and • ESRI Agreement			$0	$0				419006	302014
WQ Monitoring Network (LPRCA) • Continuation of existing agreement - 3 sites (Platte @ Louisville, Salt @ Ashland & Elkhorn @ Waterloo) PMRNRD and LASNRD) • Leshara Site Agreement Continuation (PMRNRD, LANNRD, LPSNRD)	A5c A5c	A4 A4	^$31,612 ^$4,807	$0 $0	2 3			419006 419006	302014 302014
Platte River Sandbar Study near Nebraska National Guard Camp. (PMRNRD, LPNNRD, LPSNRD, Guard ??)	A5c	E2	^$25,000 # 93-15	$0	9				
Education & Outreach (LPRCA) • Lower Platte River Tour (PMRNRD, LASNRD) • Newsletter; kiosks; I&E Materials; Other Events • Advertising; Social Media; Video Production • Website Hosting/Support/Maintenance • Memberships	D1f	C1	^$500 $0 $0 $0 $0	$0 $0 $0 $0 $0	12			419006 419006 419006 419006	302014 302014 302014 302014
Water Quality Management Plan • Examine and prioritize projects identified in LPRCA WQMP. Identify WQMP 319 Project and apply for 319 Grant. • Implementation	F1a	E2	$0 $50,000	$0 $30,000	10			419006 419013	303140
Monitor Water Trail Planning & Development			$0	$0					

FISCAL YEAR 2022

DRAFT

ACTIONS	OBJECTIVES	STATUS CODE	DRAFT BUDGET EXPENDITURE	DRAFT BUDGET OTHER FUNDS	PRIORITY	BUDGET EXPENDITURE	BUDGET OTHER FUNDS	BUDGET CODE EXPENDITURE	BUDGET CODE OTHER FUNDS
Lower Platte River Restoration and Resiliency Study with Corps (NRDs • Restoration and Resiliency Study initiation, planning and projects			$0	$0				419017	Contingent Upon Federal Appropriation
Platte River Recovery Implementation Program--review			$0	$0					
Cooperate on liaison service of Water Strategies, Washington, D.C. for Lower Platte River Corridor issues including appropriations for Lower Platte River Restoration and Resiliency Study.	D1d	C1	$24,000	$0	6			419003	
Participate in Nebraska Land Trust and in Lower Platte River Workgroup, when needed.			$0	$0				419009	
Platte River Ice Jam Agreement. (LPSNRD 15% of base fund amount.)	C4a	A3	$22,500	$0	4			419008	
Monitor Lower Platte River instream flow review & basin determination / integrated management.	A4a	C2	$10,000	$0	13			419010	
Western Sarpy / Clear Creek Project • Maintenance	C4a	A3	$50,000	$0	5			419020	
Continue to monitor status of public water systems and wastewater facilities			$0	$0					
Monitor and inspect PL84-99 levees at Omaha Fish & Wildlife Club			$0	$0					
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	D1b	C1	$5,000	$0	11			419009	

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FISCAL YEAR 2022

ACTIONS	OBJECTIVES	STATUS CODE	DRAFT BUDGET EXPENDITURE	DRAFT BUDGET OTHER FUNDS	PRIORITY	BUDGET EXPENDITURE	BUDGET OTHER FUNDS	BUDGET CODE EXPENDITURE	BUDGET CODE OTHER FUNDS
Investigate acquisition of conservation easements to protect bluff and floodplain corridor along the Platte River and Missouri River. Participate as board member of NE Land Trust. Develop a strategy for identifying and evaluating critical areas for protection and landowner education and contacts. (See Cons. Eas.)									
• Agreement with NLT	D1e	A3	$30,000	$0	8			419012	
• Conservation Easement with NLT	D1e	A3	$20,000	$0	14			419012	
Support efforts to control invasive species and noxious weeds along the Lower Platte River.	D1d	C1	$30,000	$0	7			419016	

FISCAL YEAR 2023 ACTIONS

DRAFT

	BUDGET	OTHER FUNDS
Cooperate on service of Water Strategies for Lower Platte River Corridor. LPR Restoration and Resiliency Study appropriation	$25,000	$0
LPRCA Programs		
• Water Quality Monitoring	$51,960	$0
• Water Quality Programs/Implementation	$100,000	$60,000
• Recreation Access	$0	$0
• Lower Platte River Restoration and Resiliency Study w/ Corps. et al	$0	$0
• Ecosystem Studies	$0	$0
• Admin., Outreach & Education	$1 500	$0
• Platte River Sandbar Study at Chutes	$4375	0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$5,000	$0
Platte River Ice Jam Agreement	$22,500	$0
Nebraska Land Trust Agreement	$30,000	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$10,000	$0
Western Sarpy / Clear Creek Project	$50,000	$0
Invasive Species & Noxious Weed Efforts	$30,000	$0

FISCAL YEAR 2024 ACTIONS

	BUDGET	OTHER FUNDS
Cooperate on service of Water Strategies for Lower Platte River Corridor. LPR Restoration and Resiliency Study appropriation	$26,000	$0
LPRCA Programs		
• Water Quality Monitoring	$47,160	$0
• Water Quality Programs/Implementation	$100,000	$60,000
• Water Quality Plan Update	$20,000	$0
• Recreation Access	$0	$0
• Lower Platte River Restoration and Resiliency Study w/ Corps. et al	$0	$0
• Ecosystem Studies	$0	$0
• Admin., Outreach & Education	$1,500	$0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$5,000	$0
Platte River Ice Jam Agreement	$22,500	$0
Nebraska Land Trust Agreement	$30,000	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$10,000	$0
Western Sarpy / Clear Creek Project	$50,000	$0
Invasive Species & Noxious Weed Efforts	$30,000	$0

FISCAL YEAR 2025 ACTIONS	BUDGET	OTHER FUNDS
Cooperate on service of Water Strategies for Lower Platte River Corridor. LPR Restoration and Resiliency Study appropriation	$27,000	$0
LPRCA Programs		
• Water Quality Monitoring	$36,160	$0
• Water Quality Programs/Implementation	$100,000	$60,000
• Water Quality Plan Update	$10,000	$0
• Recreation Access	$0	$0
• Lower Platte River Restoration and Resiliency Study w/ Corps. et al	$0	$0
• Ecosystem Studies	$0	$0
• Admin., Outreach & Education	$1,500	$0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$5,000	$0
Platte River Ice Jam Agreement	$22,500	$0
Nebraska Land Trust Agreement	$30,000	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$10,000	$0
Western Sarpy / Clear Creek Project	$50,000	$0
Invasive Species & Noxious Weed Efforts	$30,000	$0

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FISCAL YEAR 2026 ACTIONS	BUDGET	OTHER FUNDS
Cooperate on service of Water Strategies for Lower Platte River Corridor. LPR Restoration and Resiliency Study appropriation	$28,000	$0
LPRCA Programs		
• Water Quality Monitoring	$53,000	$0
• Water Quality Programs/Implementation	$100,000	$60,000
• Water Quality Plan Update	$0	$0
• Recreation Access	$0	$0
• Lower Platte River Restoration and Resiliency Study w/ Corps. et al	$0	$0
• Ecosystem Studies	$0	$0
• Admin., Outreach & Education	$1,500	$0
Identify and map nesting habitat for terns & plovers including sand bars and sand/gravel pits through involvement with the Tern & Plover Partnership	$5,000	$0
Platte River Ice Jam Agreement	$22,500	$0
Nebraska Land Trust Agreement	$30,000	$0
Monitor Lower Platte River instream flow review & basin determination / integrated management.	$10,000	$0
Western Sarpy / Clear Creek Project	$50,000	$0
Invasive Species & Noxious Weed Efforts	$30,000	$0

Project Name	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY2029	FY2030	FY2031	Total	Fed $	State $	Local $
Wahoo Creek Flood Reduction														
Wahoo Creek Planning														
Wahoo Creek 3 Dam Designs/ Permitng	100,000	150,000									250,000		150,000	100,000
Wahoo Creek 3 Dam Construction		1,825,000	1,825,000								3,650,000	1,350,000	1,380,000	920,000
Wahoo Creek 8 Dam Designs/Permiting	600,000	450,000	450,000								1,500,000	1,300,000		200,000
Wahoo Creek 8 Dams Construction				5,000,000	3,500,000	3,000,000	3,000,000	3,500,000			18,000,000	11,700,000	3,800,000	2,500,000
JWMAB Projects														
North Bend Dike & Drainage	50,000	50,000									100,000			100,000
Platte River Sensors/Cameras	6,000										6,000	4,500		1,500
Fremont East/Elkhorn Township (Eval)	66,500										66,500			66,500
Fremont East/Elkhorn Township (Const)		50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	450,000			900,000
Fremont West/ Platte Township (Eval)	20,000										20,000			20,000
Fremont West/ Platte Township (Const)		50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	450,000			450,000
Rawhide WFPO Projects		50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	450,000			450,000
Other Projects														
Schuyler Gates/Channel Project	25,000										25,000			25,000
Woodcliff 406 Stabilization	40,000	25,000	25,000								90,000			90,000
Shell Creek 319 WQ	300,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,200,000	600,000	100,000	300,000
Wahoo Creek 319 WQ	245,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,145,000	570,000	95,000	280,000
Potential Project Requests														
Platte Center Bank Stabilization Project	25,000										25,000			25,000
Platte River 319 WQ (Bone/Skull)		100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	900,000	540,000	90,000	270,000
North Bend Dike Stabilization		50,000	50,000	50,000	50,000						200,000			200,000
Misc. Projects		100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	900,000			900,000
Total	1,477,500	3,100,000	2,900,000	5,600,000	4,100,000	3,550,000	3,550,000	4,050,000	550,000	550,000	29,427,500	16,064,500	5,615,000	7,798,000

LPNNRD LONG RANGE PROJECTED EXPENSES FY 2021 - 2026

Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
ADMINISTRATION						
Bonds	0	500	500	500	500	500
Dues and Membership	36,336	37,000	37,000	37,000	37,000	37,000
Fees & Licenses	10,600	11,024	11,465	11,924	12,401	12,897
GIS	2,000	2,000	2,000	2,000	2,000	2,000
Insurance	57,149	59,435	61,812	64,285	66,856	69,530
Interest Expense	0	0	0	0	0	0
Legal Notices	5,000	5,200	5,408	5,624	5,849	6,083
Maintenance Contracts	7,500	7,725	8,034	8,355	8,690	9,037
Office Supply & Expense	12,350	12,844	13,358	13,892	14,448	15,026
Computer Supply & Expense	26,500	26,500	27,000	28,000	29,000	31,000
Postage	4,000	4,160	4,326	4,499	4,679	4,867
Professional Services	138,300	150,000	150,000	150,000	150,000	150,000
Rent Expense	1,500	1,500	1,500	1,500	1,500	1,500
Support to Organizations	1,000	1,200	1,300	1,400	1,500	1,600
Telephone	17,000	17,680	18,387	19,123	19,888	20,683
Utilities	8,500	8,840	9,194	9,561	9,944	10,342
INFORMATION & EDUCATION						
Education	11,500	11,960	12,438	12,936	13,453	13,992
Information	33,015	34,336	35,709	37,137	38,623	40,168
Scholarships and Grants	3,000	3,120	3,245	3,375	3,510	3,650
Other	10,550	10,972	11,411	11,867	12,342	12,836
OPERATION/MAINTENANCE						
Auto & Truck Expense	22,000	22,880	23,795	24,747	25,737	26,766
Building Maintenance	9,200	9,568	9,951	10,349	10,763	11,193
Comm. Forestry Program	2,000	2,000	2,500	2,500	3,000	3,000
Operation and Maintenance	269,050	279,812	291,004	302,645	314,750	327,340
Project Repairs	3,000	15,000	15,000	15,000	15,000	15,000
Stream Bank Stabilization	85,000	85,000	85,000	85,000	85,000	85,000
Wildlife Habitat	3,820	5,000	5,000	5,000	5,000	5,000
Other	49,050	50,000	50,000	50,000	50,000	50,000
PERSONNEL						
Directors Expense	34,500	35,880	37,315	38,808	40,360	41,975
Directors Per Diem	35,000	35,000	35,000	35,000	35,000	35,000
Employee Benefits	426,745	443,815	461,567	480,030	499,231	519,201
Payroll Taxes	93,000	96,720	100,589	104,612	108,797	113,149
Personnel Expense	34,800	45,000	45,000	45,000	45,000	45,000
Salaries	1,268,151	1,303,767	1,342,880	1,383,166	1,424,661	1,467,401
PROJECTS						
Inter-governmental	450,700	500,000	500,000	500,000	500,000	500,000
Special Projects	8,500	10,000	15,000	20,000	25,000	30,000
Wanahoo	45,000	15,000	15,000	15,000	15,000	15,000
Other Projects	0	200,000	250,000	250,000	250,000	250,000
PRCA (WQ Monitoring)	6,562	6,562	7,000	7,000	7,000	7,000
WATER						
Groundwater Management Plan	35,100	50,000	55,000	60,000	65,000	70,000
Groundwater Programs	56,750	59,020	61,381	63,836	66,389	69,045
Regulatory	1,750	2,000	2,000	2,000	2,000	2,000
Surface Water Programs	17,500	17,000	17,000	17,000	17,000	17,000
Special Projects	146,500	150,000	150,000	150,000	150,000	150,000
Land Treatment	780,000	500,000	500,000	500,000	500,000	500,000
RURAL WATER DISTRICT	133,275	130,000	130,000	130,000	130,000	130,000
CAPITAL IMPROVEMENTS						
Wanahoo Recreation	125,000	75,000	75,000	75,000	75,000	75,000
Wanahoo Stilling Basin & Oversight	1,612,793	0	0	0	0	0
Wahoo Creek	873,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Cottonwood 21A Spillway	50,000	0	0	0	0	0
Buildings	35,000	35,000	35,000	35,000	35,000	35,000
Large Structure O&M Sinking Fund	100,000	100,000	100,000	100,000	100,000	100,000
Flood Reduction Sinking Fund	400,000	400,000	400,000	400,000	400,000	400,000
CAPITAL OUTLAY	184,000	100,000	100,000	100,000	100,000	100,000
BUDGET TOTAL	**7,782,546**	**7,185,019**	**7,331,070**	**7,429,672**	**7,531,871**	**7,637,779**

Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
AVAILABLE CASH (Sinking Funds etc.)	$503,026	$685,919	$881,970	$1,030,572	$1,132,771	$1,088,679
FEDERAL INCOME						
NRCS (WFPO & RCPP)	$ 500,000.00	$ 1,200,000.00	$ 1,200,000.00	$ 1,200,000.00	$ 1,200,000.00	$ 1,200,000.00
FEMA (Stilling Basin)	$ 1,209,595.00					
FEMA (Flood Funds)	$ 312,619.00					
FEMA (HMP)	$ 18,400.00					$ 150,000.00
NDEE (EPA 319)	$ 330,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00
BOR	$ 52,500.00					
STATE INCOME						
NE Buffer Strip Program	$27,000	$27,000	$27,000	$27,000	$27,000	$27,000
Decommissioned Well Fund	$3,500	$4,000	$4,000	$4,000	$4,000	$4,000
Natural Resource WQ Fund	$45,000	$50,000	$50,000	$50,000	$50,000	$50,000
Shell Creek Implememtation	$90,000	$150,000	$100,000	$100,000	$100,000	$100,000
Wahoo Creek Phase II (NET)	$70,000	$150,000	$150,000	$100,000	$100,000	$100,000
Water Sustainability Fund & EA App.	$224,000	$500,000	$500,000	$500,000	$500,000	$500,000
Water Department (NET)	$66,000	$50,000	$50,000	$50,000	$50,000	$50,000
Sand Creek - NRDF	$220,000					
Lake Wanahoo Other	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000
Wild NE	$3,820	$4,000	$4,000	$4,000	$4,000	$4,000
OTHER INCOME						
Rural Water Income	$110,100	$110,100	$110,100	$110,100	$110,100	$110,100
Property Tax	$3,458,000	$3,458,000	$3,458,000	$3,458,000	$3,458,000	$3,458,000
Investment Income	$15,331	$16,000	$16,000	$16,000	$16,000	$16,000
Equipment, Rent, Parks, Salaries, Etc.	$394,305	$400,000	$400,000	$400,000	$400,000	$400,000
Other Income	$74,350	$75,000	$75,000	$75,000	$75,000	$75,000
TOTAL	**$7,782,546**	**$7,185,019**	**$7,331,070**	**$7,429,672**	**$7,531,871**	**$7,637,779**