

Operations Committee Meeting
Thursday, September 29, 2022 8:30 AM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS
We have no unfinished business to consider.
2. WILD NE AND OTHER PROGRAMS
Schomer and Heimann met with members of Ducks Unlimited and NE Game & Parks on the Wanahoo Wetland Enhancement Project in the area of our dirt barrow area. A Ducks Unlimited surveyor will get elevations of the entire area sometime before December. Detailed plans will then be developed on how much area will be excavated and where materials will be deposited on site. The NRD and G & P would like to prescribe burn the area in late winter/early spring of 2023. Then control the vegetation by either mowing (if dry) or aerial spraying. Estimated construction in the Fall of 2023. Area map attached.
3. OPERATION & MAINTENANCE & OTHER ITEMS
O & M staff continues to remove trees from all of our public grounds and project areas. A beaver dam on the Rawhide Diagonal ditch culverts was removed. Heimann accompanied the Corps of Engineers on their annual inspection of the Clear Creek Levee system. The inspection went well with no major infractions. The RCC crack contractor, Fisher Building Services, is on the job filling cracks in the Wanahoo RCC auxiliary spillway.
 - 3.A. Wanahoo Stilling Basin - (FEMA)
The Wanahoo stilling basin apron floor project is currently being advertised. A list of contractors have been notified of the project. The design and specs have been reviewed by DNR Dam Safety. A pre-bid site showing took place on Wednesday, Sept. 28th at 10:00 with three contractors present. The bid opening is Oct. 5 at 2:00 pm at the LPNNRD office. LPNNRD approves a bid or rejects all bids at the Board Meeting Oct. 10.
 - 3.B. NRD Owned Thomas Lake Lots
The Thomas Lake Homeowners Association has drafted some new by-laws for the lots the District proposes to sell. Staff will contact the Association's president for more discussion regarding future use. Our new easements allow for removable items such as tents and RV's to be used on the four lots on the Thomas Lakes high ground. New HOA rules will not allow removable items. Not allowing removable items may affect the price of the lots. We may move forward with a sale in the next couple of months or after the first of the year.
 - 3.C. Prescribe Burn Association
Staff would like to become a member of the Pheasant Forever Bohemian Alps Burn Association (\$25). It was also mentioned that the District could possibly make an annual donation to the PBA for their use in purchasing equipment or repairs. A donation may also be an incentive to assist in burns annually on the Wanahoo

property. Find their Prescribed Burn Unit Activity Report Form attached. There is an Interlocal Cooperation Act Agreement between LPNNRD, NGPC and PF for the operation & maintenance of Lake Wanahoo and Pheasant Forever Wetland areas (see attached). Item 3.b. in the agreement states how LPNNRD, G & P, PF will work together to provide labor, technical assistance, and equipment for controlled burns.

Even though there's an interlocal agreement saying they should be assisting, it doesn't mean the district can't contribute to expenses for their work and assistance in helping other landowners care for their grasslands.

3.D. Olsson Professional Services for Wanahoo Dam

Attached is a proposal from Olsson's for Professional Services Wanahoo Dam Instrumentation Monitoring, (see Scope of Services). The agreement covers three years; January 2023 - December 2025. The cost for this contract for services is \$56,469.35, of which \$1,869.35 is for additional services on the previous contract related to the evaluation and consultation on the pressure relief wells.

In the previous contract, the District did not elect to do Task II unless it was necessary. Olsson's is now stressing that Task II is important for these reasons; 1) Recent changes to the outlet channel, including additional pressure relief wells, will impact the models and warning conditions. 2) The yellow flag elevations are based on now-outdated models and will likely change with respect to reservoir pool elevations. 3) With the history of collected instrumentation measurements, we can now develop a more accurate prediction of the dam's stability based on actual measurements.

A dam is a dynamic system, and understanding and predicting its behavior requires on-going analysis with up-dated data.

3.E. Grass Drill Rental Schuyler Co-op

The District received payment of \$535.35 from Schuyler Coop for grass drill rental during the first half of the year. Nine cooperators used the grass drill.

3.F. Cottonwood Dam Assessments 21-A & 7-A

JEO has completed a draft of the dam assessments on Cottonwood 21-A and 7-A through the NRCS Dam Assessment Program. The NRCS cost-share for construction is 65%. We are awaiting DNR Dam Safety review of the reports. The reports will then be reviewed by NRCS. (Attached is a segment of the report explaining the Rehabilitation Alternatives and cost and also an aerial of the design change to the auxiliary spillway.) The Dept. of Natural Resources Dam Safety lists 21-A as "Unsatisfactory Condition". Alternatives for Cottonwood 21-A as follows:

Alt-1 - Restore Auxillary Spillway, Raise Top of the Dam, & account for an additional 100 years of sediment life, estimated cost of \$4,540,000.

Alt-2 - Replace Spillway System with Weir & Box Culvert, & eliminate the auxiliary spillway, estimated cost of \$4,200,000.

Alt-3 - Realign Auxillary Spillway & Roadway, Evaluate Sediment Storage, estimated cost of \$1,750,000. (\$1,390,000 - \$2,500,000).

Alt-4 - Non-Federal, Replace Principal Spillway w/ Box Culvert & Restore Auxillary Spillway, Do not Increase Sediment Storage, estimated cost of \$3,340,000.

Alt-5 - Non-Federal, Realign Auxillary Spillway & Roadway, Do not increase sediment storage, estimated cost of \$890,000.

Federal alternatives need a 100 yr design life both for sediment storage and for materials used. JEO has modified Alternative 5, which could potentially get federal dollars, some items or changes can sometimes be negotiable. NRCS will review and in the next phase of Planning & Design some strict criteria may be negotiable and the exact rehab may or may not be one of the ones listed. There are more steps or phases we must discuss with NRCS.

Alternatives for Cottonwood 7-A are as follows:

Alt-1 - Increase Design Life by Increasing Storage Capacity, estimated cost of \$5.5 - 6.5 million.

Alt-2 - Increase Design Life by Periodic Sediment Removal, estimated cost of \$22.1 - 43.1 million.

3.G. Conservation Tree Price

The District currently charges \$1.00/tree for hand plants and \$2.00/tree for machine planting. Bessey Nursery has raised their prices .05, charging .87/ tree for 2023. In the past two years, Bessey has raised their price .09. The out of state nurseries we order from have also raised their prices and charge anywhere between .83 to over \$1.00/tree.

3.H. Recreasion Area Hay Harvest

Dan Kadavy completed haying the Homestead Lake area. He had 66 bales at a total weight of 42 tons. He over paid at a rate of \$82.50/ton, his bid was \$81.00/ton. He will be reimbursed \$57.59. His total payment to the district is \$3,421.44.

Ken Cejka hayed a portion of Wanahoo. He had 83 bales at a total weight of 51 tons. His bid was \$88.00/ton, he paid the District \$4,488.00.

4. ROCK AND JETTY

We have not received any requests for payment or applications. Information regarding 404 permitting was sent to one cooperator.

5. LAKE WANAHOO

5.A. Lake Wanahoo Permit Sales

For the month of August, the District received \$2,902.50 in park permit revenue. The year by year break down of annual permit sales is listed below.

5.B. Month	5.C. Monthly Total	5.D. YTD
5.E. August 2022	5.F. \$2902.50	5.G. \$71,768.00
5.H. August 2021	5.I. \$2700.00	5.J. \$82,262.50
5.K. August 2020	5.L. \$5035.00	5.M. \$92,507.50
5.N. August 2019	5.O. \$4302.50	5.P. \$79,612.50

5.Q. Lake Wanahoo Camping Revenue

For the month of August, the District received \$15,626.91 in camping revenue. The year by year comparison is listed below.

5.R. Month	5.S. Month Total	5.T. YTD
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5.U. July 2022	5.V. 15,626.91	5.W. 95,366.97
5.X. July 2021	5.Y. 11,405.61	5.Z.93,918.37
5.AA. July 2020	5.BB. 18,197.95	5.CC. 105,843.35
5.DD. July 2019	5.EE. 14,509.18	5.FF. 75,425.64

5.GG. Clint Johannes Education Building

During the month of September, the building was rented 24 times, with 2 NRD events. Revenue for the month was \$1,460.

6. INFORMATION AND EDUCATION

6.A. Information

6.A.1. Radio & eAds

September's KTIC Radio ad and Wahoo Newspaper e-ad continued with the variance request applications, then switched after the 15th to promote the NRD's three recreation areas.

6.A.2. Analytics

Analytics

The LPNNRD Facebook/Twitter pages, and the website are the fastest and low-cost ways to get information out to the public. Tracking analytics are a way to see if people are seeing the information and what ways seem to be most effective. If you are on Facebook or Twitter, please like, follow, share, or retweet the Lower Platte North NRD posts!

Total reach/impressions show how many people saw the post/tweet. Engagements include likes, comments, shares/retweets and link clicks.

6.A.3. F ACEBO OK	6.A.4. ota l Re ac h	6.A.5. En gageme nts	6.A.6. F ollow ers
6.A.7. S eptemb er 1-26	6.A.8. ,89 3	6.A.9. 104	6.A.10. 1 ,408
6.A.11. A ugust	6.A.12. 7,2 32	6.A.13. 387	6.A.14. 1 ,408
6.A.15. J uly	6.A.16. ,61 3	6.A.17. 214	6.A.18. 1 ,388

6.A.19.

6.A.20. T WITT ER	6.A.21. T otal impres sions	6.A.22. En gageme nts	6.A.23. ollo wers
6.A.24. S epte mber 1-26	6.A.25. 2 ,348	6.A.26. 14 9	6.A.27. 81
6.A.28. A ugust	6.A.29. 4 ,784	6.A.30. 20 7	6.A.31. 80
6.A.32. J uly	6.A.33. 3 601	6.A.34. 15 8	6.A.35. 77

6.A.36.

Top Posts on Facebook and Twitter:

- Pictures from the Range Judging contest at Camp Moses Merrill
- Pictures and an article from the Highboy Cover Crop Interseeding Project (HiCCIP) demonstrations
- PATH program open at Wanahoo
- Drought monitor comparison to 2012

6.A.37. EB SITE	6.A.38. S e r v i c e s	6.A.39. ra ffi c C h a n n e l	6.A.40. o p P a g e s	6.A.41. e v i c e s
6.A.42. e p t e m b e r 1- 27	6.A.43. , 5 4 7	6.A.44. rg a n i c 7 4. 3 % Di re ct 1 9. 6 %	6.A.45. ak e W an ah oo Ho me Cz ec hla nd La ke Ou tdo or	6.A.46. o bi le 5 9. 2 1 % D e s kt o p 3

			Re fer ra l 5. 8 % S oc ial 0. 3 %	Re cre ati on St aff	8. 9 8 % T a bl et 1. 8 1 %
6.A.47. ug ust	6.A.4 , 2 7 0	6.A.49 rg a ni c 6. 6. 6 % Di re ct 2 4. 6 % Re fer ra l 7. 6 % S oc ial 1. 3 %	6.A.50 ak e W an ah oo Ho me Cz ec hla nd La ke Ou tdo or Re cre ati on Do wn loa ds	6.A.51 o bi le 5 9. 7 3 % D e s kt o p 3 7. 7 7 % T a bl et 2. 5 1 %	
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		ct 2 0. 6 % R e f e r r a l 7. 5 % S o c i a l 1. 2 %	nd L a k e O u t d o o r R e c r e a t i o n H o m e s t e a d	s k t o p 3 7. 3 6 % T a b l e t 1. 9 5 %
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6.A.57.

Traffic channels: organic traffic means they use a search engine then choose an option that includes lpnnrd.org, direct traffic means they type in lpnnrd.org directly (or have it bookmarked), and referral traffic is any other traffic not from a search engine or social (such as a link from another site).

Social clicks: 5 from Facebook, 0 from Twitter.

Referral clicks: 16 from NARD, 10 from Visit Nebraska, 4 from ad on Wahoo Newspaper's site.

6.A.58. Long Range Plan

The Long Range Plan recent draft is attached. The final copy will be prepared for approval at the October Board Meeting.

6.B. Education

6.B.1. Past Events

- September 1st: **First Presbyterian Church group meeting.**
- September 6th: First **Survival Club** meeting with Wahoo Public Middle School. Opening it up to 6th & 7th was a great idea because no 8th graders came to the first meeting.
- September 7th: **District Greenhand Day** in Columbus. I talked about careers in natural resources and then I brought in native grasses and wildflowers for a prairie jeopardy game.
- September 8th: **Fremont Middle School Outdoor Day.** Over 200 students attended.
- September 12th: **St. Wenceslaus Pre-k** classroom visit. We talked about water and made another raindrop collage featuring pictures the students found in magazines that showed water being used or things that needed water. Picture attached. They also got to meet Elton.

- September 15th: I helped Papio NRD run a nature walk station for 3rd graders. Roughly 60 students.
- September 22nd: **Range Judging Contest**. It went really well--around 260 students competed.

6.B.2.

6.B.3. Future events

- September 29th: Wachiska Prairie Day. I'll be helping out with an elementary educational day learning about prairie ecosystems.
- October 5th: **East Central Land Judging Contest**. As of right now, we have close to 260 students attending. Pits will be dug by the O&M crew on Monday the 3rd. For those that are volunteering, you'll be receiving an email soon with details of the event. We will be scoring the contest in the office the next day.
- Monday October 10th: Wahoo 3rd grade field trip at Lake Wanahoo.
- October 12th: Aquinas Catholic 8th grade classroom visit.
- October 13th: Coffee Lakeside.
- October 17th: Fremont Trinity Middle Schoolers at Lake Wanahoo.
- October 25-26th: I & E meeting.

6.B.4.

7. RURAL WATER SYSTEMS

7.A. Colon System

On 9/12 the RWD was notified of a leak in the village of Colon. ME Collins repaired the leak.

The village has been upgrading the phone lines the past month which has required more line locations (19 total locates) and construction inspection as the new lines were bored.

Routine monthly sampling completed, meters read and bills in the mail 9/30.

7.B. Bruno System

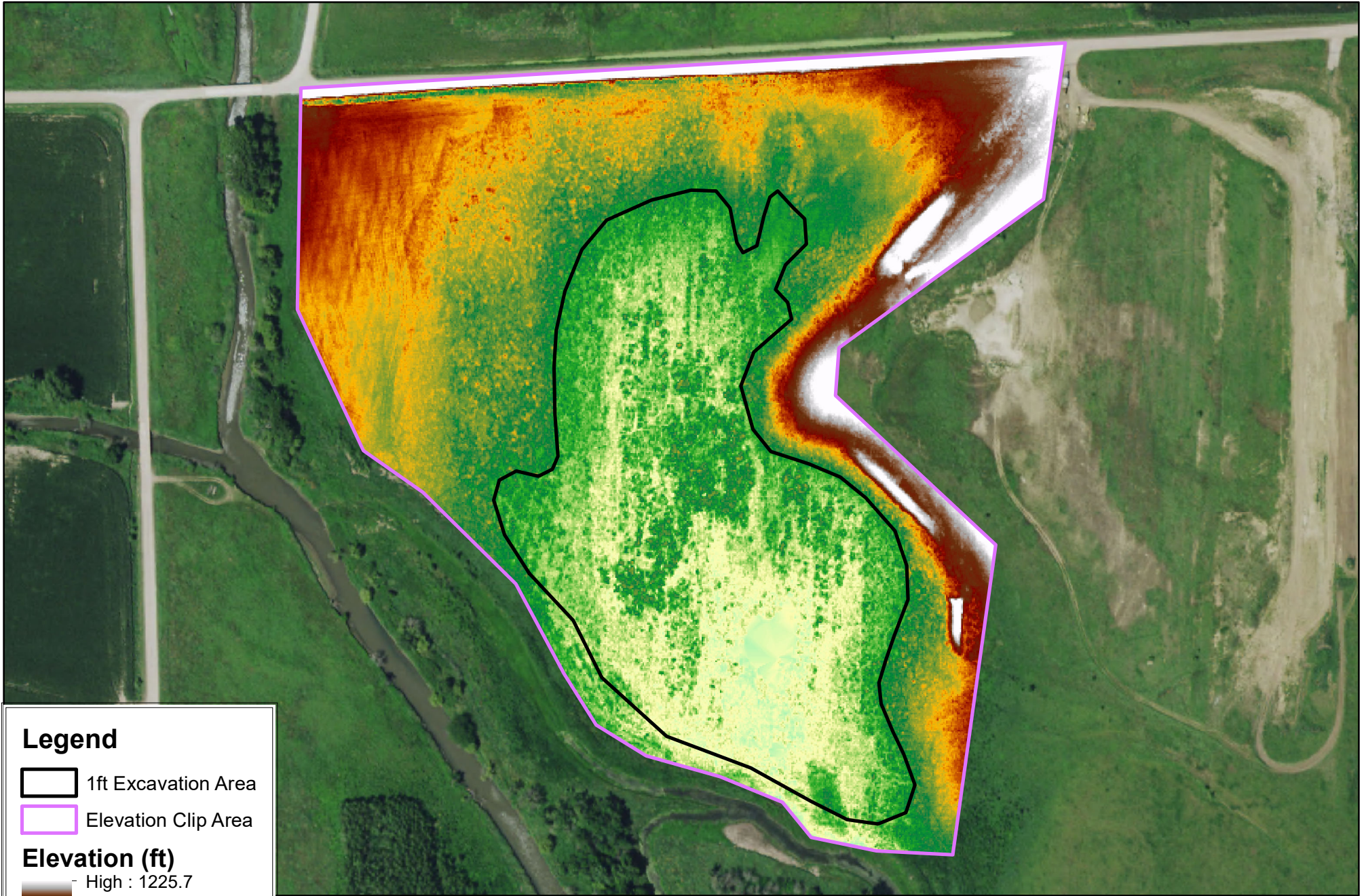
On 9/2 the RWD was notified of a leak at the Waste Connections landfill. The leak was caused by a failed gasket within the meter pit. The gasket was replaced by RWD staff.

The RWD has been working with JEO and Black Hills Energy over the past month planning for gas line expansion that will cross/parallel our water line east of David City.



Routine monthly sampling completed, meters read and bills in the mail 9/30

7.C. Other


Lake Wanahoo - Elevation

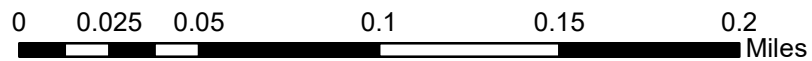


Legend

-  1ft Excavation Area
-  Elevation Clip Area

Elevation (ft)

-  High : 1225.7
- Low : 1215.87



**LAKE WANAHOO/PHEASANT FOREVER WETLAND
INTERLOCAL COOPERATION ACT AGREEMENT
FOR
OPERATION & MAINTENANCE
OF
WILDLIFE HABITAT LANDS AND SPECIAL USE AREAS**

This Interlocal Cooperation Act Agreement, hereinafter referred to as "Agreement", is made and entered into by the following parties within the State of Nebraska, hereafter referred to individually as "Partner" and collectively as "Partners", to wit:

Lower Platte North Natural Resources District (LPNNRD)
Nebraska Game & Parks Commission (NGPC)
Pheasants Forever, Inc. (PF)

Whereas, the Lake Wanahoo Project and Pheasants Forever Wetland have created a diversity of grassland and wetland habitats along with the existing riparian woodland associated with the lake and stream fringe areas.

Whereas, the Partners have joined together for developing Lake Wanahoo and Pheasants Forever Wetlands for wildlife habitat and public use with emphasis on managing the areas for "Youth Hunting" and "Special Use".

Whereas, the Partners, desire to provide mutual support to the operation and maintenance (O&M) of Lake Wanahoo wildlife habitat lands designated as "Lands Controlled for Public Access" by NGPC thereby coordinating O&M management activities to maintain the established cover-types and wildlife productivity and use.

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

- 1. Authority:** This Agreement is made pursuant to authority provided in the Nebraska Interlocal Cooperation Act (Neb. Rev. Stat. 13-801, R.R.S., 1943, et seq.), without a separate entity being created, and whenever possible, this Agreement shall be construed in conformity therewith.
- 2. Purpose:** The purpose of this Agreement is to define Partner responsibilities concerning the operation, maintenance and management of grassland, wetland, and woodland habitats located on Lake Wanahoo and Pheasants Forever Wetland property.
- 3. Partner Responsibilities:**
 - a. Grassland Haying and Burning Plan:** NGPC and PF will be the lead entities to complete an O&M Plan (Addendum A) for managing wildlife habitat and special use areas located on Lake Wanahoo lands and the Pheasant Forever Wetland. This plan will include a timeline and delineation of areas for rotational controlled grassland burns, haying, tree removal and spraying. The Partners will jointly review and approve this plan in January of each year and make adjustments as needed. LPNNRD will coordinate this meeting, allowing time for development of necessary lease or work agreements.

b. Haying, Controlled Burning, Tree Removal and Spraying: LPNNRD will be responsible for all leases, contracts, or work agreements with tenants or contractors. LPNNRD will advertise for bids and provide oversight and guidance to the selected bidder for all contracted activities. Foreseen activities are outlined in the O&M Plan where NGPC and PF will provide technical counsel at the annual O&M planning meeting. Routine O&M activities will be incorporated into annual work agreements with tenants where appropriate.

The NGPC and PF partners will work together with LPNNRD to provide labor, technical assistance, and equipment for controlled burns. The NGPC and PF will also provide support to other defined land management activities as appropriate. Support may include labor, equipment, technical assistance, and volunteer coordination. LPNNRD will be responsible for securing burn permits.

c. Fencing: LPNNRD and PF will provide labor and materials for fencing designated areas as agreed upon and identified in the Plan.

d. Site Renovation Activities: There are existing features at the Lake Wanahoo area effecting planned wildlife habitat, O&M, and public use and safety. These features include a farmstead, farm dump site, and trees within grassland and wetland areas. LPNNRD will be responsible for contracting to have these features removed. LPNNRD will solicit bids to establish costs. The lowest cost and most capable bidder will be selected. NGPC will determine if and how much Federal Aid cost-share may be available to provide LPNNRD based on the provided bids.

e. Parking Lots: A number of parking lots are identified in the O&M plan for development that will need annual maintenance. LPNNRD will determine need, oversee development and annual maintenance, and pay for the cost of these lots using tenant work agreements, staff labor, or contracts.

f. Public Relations and Outreach: LPNNRD will be the primary partner responsible for public information related to the Lake Wanahoo area. NGPC will be responsible for outreach and coordination of the Lake Wanahoo PATH (Passing Along the Heritage), mentored-youth hunting program. PF will work with LPNNRD and NGPC to promote activities as appropriate.

- 4. Amendments:** Any Partner may propose an amendment to this Agreement by submitting it in writing to the other Partners, who shall within thirty (30) days consider in good faith the proposed amendment; provided, however, that no such amendment shall, directly or indirectly, affect or impair any written contracts or agreements entered into prior to the effective date of such amendment. No amendment or other modification to this Agreement shall be effective unless it is in writing and approved by all Partners. Such amendment shall become effective after all the Partners have executed it.
- 5. Effective Date of Agreement:** This Agreement becomes effective upon execution by the Partners. The original copy of this Agreement will be maintained as part of the records of LPNNRD, with a copy being mailed to the other Partners.
- 6. Duration of Agreement:**
This Agreement shall extend from the date of execution by all Partners and remain in effect until one Partner terminates the Agreement with a 30-day written notice to the other Partners.
- 7. No agency relationship:** Nothing in this Agreement shall be construed or interpreted as

authorizing any Partner, its agents or employees, to act as agents or representatives for or on behalf of any other Partner, or to incur any obligation of any kind on behalf of any other Partner.

8. **Partner Contacts:** Primary contacts for this agreement are Bob Heimann, LPNNRD Operations and Maintenance Manager, 402-443-4675, bheimann@lpnnrd.org; Scott Luedtke, NGPC District Manager, 402-471-5561, scott.luedtke@nebraska.gov; Brian Teeter, PF Farm Bill Wildlife Biologist, 402-352-5200, bteeter@pheasantsforever.org. Change of Partner contacts will be decided by individual partners as appropriate followed by notification of the other Partners.

IN WITNESS WHEREOF,

This Agreement is executed by the Lower Platte North Natural Resources District on this 14th day of January, 2013.

Lower Platte North Natural Resources District

By: [Signature]

Title: Board Chair

IN WITNESS WHEREOF,

This Agreement is executed by the Nebraska Game and Parks Commission on this 22nd day of January, 2013.

Nebraska Game and Parks Commission

By: [Signature]

Title: Deputy Director

IN WITNESS WHEREOF,

This Agreement is executed by Pheasant Forever, Inc. on this 29 day of January, 2013.

Pheasants Forever, Inc.

By: [Signature]

Title: Senior Field Coordinator

Mobile Prescribed Burn Unit Activity Reporting Form

Pheasants Forever, Inc. works in agreement with prescribed burn associations to manage, maintain, and administer the use of prescribed burn equipment for the establishment, improvement, and management of wildlife habitat in Nebraska.



This form is required to provide a complete and detailed summary of each prescribed burn that involves a Mobile Prescribed Burn Unit (MPBU). All forms must be submitted by June 1st for Spring Burns and December 31st for Summer and Fall burns

MPBU USER INFORMATION

Prescribed Burn Association: _____	Burn Date: _____
First and Last Name: _____	County: _____
Address: _____	Section: _____
City, State, Zip: _____	Township: _____
Email: _____	Range: _____
Phone: _____	Direction: _____

<input type="checkbox"/> Burn Plan	Total Acres Burned: _____	Burn Crew Size: _____
<input type="checkbox"/> Burn Permit	Hours to Complete Burn: _____	Trailer Number(s): _____

PBA MEMBERSHIP

<input type="checkbox"/> Yes, I'd like to join or renew my PBA membership.	Amount: _____
<input type="checkbox"/> Optional donation to help support PBA activities and equipment costs.	Amount: _____

MPBU EQUIPMENT AND USE AGREEMENT

I accept responsibility for the use and condition of the MPBU and acknowledge that I will be held responsible for the replacement and/or repair costs of lost or damaged equipment that may occur during use. _____ (initial)

MPBU equipment is being returned in same condition as check-out or noted below if lost or damaged. _____ (initial)

QTY	DESCRIPTION	
_____	MPBU Use Fee (\$50 per trailer per day)	Amount: _____
_____	_____	Amount: _____
_____	_____	Amount: _____
_____	_____	Amount: _____
_____	_____	Amount: _____
Comments: _____		TOTAL: _____

<input type="checkbox"/> Pay by check	Make check payable to Pheasants Forever.
<input type="checkbox"/> Invoice User	Return completed forms to Ashley Nelson at Pheasants Forever

Mail to: Ashley Nelson
 22954 Holdrege Street
 Eagle, NE 68347
 asnelson@pheasantsforever.org

Please retain a copy of this document for your own records.

By signing below, I acknowledge that I fully understand and agree with the terms and conditions stated above.

MPBU User Signature : _____ **Date:** _____

Backpack Sprayer	\$200.00
Council Rake	\$65.00
Drip Torch Burner	\$70.00
Fencing Pliers	\$40.00
Fire Swatter	\$65.00
Flashlight	\$50.00
Gas Can	\$60.00
Glasses	\$20.00
Handyman Jack	\$100.00
Leatherman Tool	\$70.00
Neck Shrouds	\$35.00
Working electrical system	\$250.00
2" Ratchet Straps	\$30.00
Road Sign Ribs	\$25.00
Fire Shirts	\$110.00
Tool Kit	\$70.00
Weather Meter Case	\$25.00
Skid Sprayer	\$7,000.00

Compass	\$25.00
Drip Torch	\$300.00
Duct Tape	\$8.00
Fire Extinguisher	\$120.00
First Aid Kit	\$75.00
Folding Knife	\$40.00
Gloves	\$70.00
Goggles	\$50.00
Jumpsuit	\$250.00
Lug Wrench	\$30.00
Radio Harness	\$50.00
Radios	\$50.00
Road Signs	\$50.00
Road Sign Holder	\$120.00
Spare Tire	\$225.00
Weather Meter	\$190.00
Wheel Chocks	\$30.00
Enclosed Trailer	\$7,000.00



LETTER AGREEMENT FOR PROFESSIONAL SERVICES

September 28, 2022

Lower Platte North NRD
Attn: Bob Heimann
PO Box 126
Wahoo, NE 68066-0126

Re: **LETTER AGREEMENT FOR PROFESSIONAL SERVICES**
Lake Wanhoo Dam - Instrumentation Monitoring/Data Evaluation and Stability
Evaluation (the "Project")
Wahoo, Nebraska

Dear Mr. Heimann:

It is our understanding that Lower Platte North NRD ("Client") requests Olsson, Inc. ("Olsson") to perform the services described herein pursuant to the terms of this Letter Agreement for Professional Services, Olsson's General Provisions and any exhibits attached hereto (all documents constitute and are referred to herein as the "Agreement") for the Project.

Olsson has acquainted itself with the information provided by Client relative to the Project and based upon such information offers to provide the services described below for the Project. Client warrants that it is either the legal owner of the property to be improved by this Project or that Client is acting as the duly authorized agent of the legal owner of such property. Client acknowledges that it has reviewed the General Provisions and any exhibits attached hereto, which are expressly made a part of and incorporated into the Agreement by this reference. In the event of any conflict or inconsistency between this Letter Agreement, and the General Provisions regarding the services to be performed by Olsson, the terms of the General Provisions shall take precedence.

Olsson shall provide the following services ("Scope of Services") to Client for the Project: Geotechnical exploration and report for the Lake Wanhoo Dam – January, 2023 to December, 2025 Instrumentation Monitoring/Data Evaluation and Stability Evaluation). Should Client request work in addition to the Scope of Services, Olsson shall invoice Client for such additional services (Optional Additional Services) at the standard hourly billing labor rate charged for those employees actually performing the work, plus reimbursable expenses if any. Olsson shall not commence work on Optional Additional Services without Client's prior written approval.

Olsson agrees to provide all of its services in a timely, competent and professional manner, in accordance with applicable standards of care, for projects of similar geographic location, quality and scope.

SCHEDULE FOR OLSSON'S SERVICES

Unless otherwise agreed, Olsson expects to perform its services under the Agreement as follows:

Anticipated Start Date: _____

Anticipated Completion Date: _____

Olsson will endeavor to start its services on the Anticipated Start Date and to complete its services on the Anticipated Completion Date. However, the Anticipated Start Date, the Anticipated Completion Date, and any milestone dates are approximate only, and Olsson reserves the right to adjust its schedule and any or all of those dates at its sole discretion, for any reason, including, but not limited to, delays caused by Client or delays caused by third parties.

COMPENSATION

Client shall pay to Olsson for the performance of the Scope of Services for Tasks I,II, & III, the actual time of personnel performing such services in accordance with the Labor Billing Rate Schedule(s), and all actual reimbursable expenses in accordance with the Reimbursable Expense Schedule attached to this agreement. Olsson shall submit invoices on a monthly basis, and payment is due within 30 calendar days of invoice date. Olsson's Scope of Services will be provided on a time-and-expense basis not to exceed \$54,600.00.

Client shall pay to Olsson for the performance of the Scope of Services for Task IV, a lump sum of One Thousand Eight Hundred Sixty-Nine dollars and 35/100's (\$1,869.35). Olsson's reimbursable expenses for this project are included in the lump sum. Olsson shall submit invoices on a monthly basis, and payment is due within 30 calendar days of invoice date.

TERMS AND CONDITIONS OF SERVICE

We have discussed with you the risks, rewards and benefits of the Project, the Scope of Services, and our fees for such services and the Agreement represents the entire understanding between Client and Olsson with respect to the Project. The Agreement may only be modified in writing signed by both parties.

Client's designated Project Representative shall be _____.

If this Agreement satisfactorily sets forth your understanding of our agreement, please sign in the space provided below. Retain one original for your files and return an executed original to Olsson. This proposal will be open for acceptance for a period of 30 days from the date set forth above, unless changed by us in writing.

OLSSON, INC.

By 
Sean Parks

By 
Andrew Phillips

By signing below, you acknowledge that you have full authority to bind Client to the terms of the Agreement. If you accept the terms set forth herein, please sign:

LOWER PLATTE NORTH NRD

By _____
Signature

Print Name _____

Title _____

Dated _____

Attachments

General Provisions

Scope of Services

Labor Rate Schedule

Reimbursable Expense Schedule

GENERAL PROVISIONS

These General Provisions are attached to and made a part of the respective Letter Agreement or Master Agreement, dated September 28, 2022 between Lower Platte North NRD ("Client") and Olsson, Inc. ("Olsson") for professional services in connection with the project or projects arising under such Letter Agreement or Master Agreement (the "Project(s)").

As used herein, the term "this Agreement" refers to these General Provisions, the applicable Letter Agreement or Master Agreement, and any other exhibits or attachments thereto as if they were part of one and the same document.

SECTION 1—OLSSON'S SCOPE OF SERVICES

Olsson's scope of services for the Project(s) is set forth in the applicable Letter Agreement or Master Agreement ("Scope of Services").

SECTION 2—ADDITIONAL SERVICES

2.1 Unless otherwise expressly included, Scope of Services does not include the categories of additional services set forth in Sections 2.2 and 2.3.

2.2 If Client and Olsson mutually agree for Olsson to perform any optional additional services as set forth in this Section 2.2 ("Optional Additional Services"), Client will provide written approval of the agreed-upon Optional Additional Services, and Olsson shall perform or obtain from others such services and will be entitled to an increase in compensation at rates provided in this Agreement. Olsson may elect not to perform all or any of the Optional Additional Services without cause or explanation:

2.2.1 Preparation of applications and supporting documents for governmental financial support of the Project(s); preparation or review of environmental studies and related services; and assistance in obtaining environmental approvals.

2.2.2 Services to make measured drawings of or to investigate existing conditions of facilities.

2.2.3 Services resulting from changes in the general scope, extent or character of the Project(s) or major changes in documentation previously accepted by Client where changes are due to causes beyond Olsson's control.

2.2.4 Services resulting from the discovery of conditions or circumstances which were not contemplated by Olsson at the commencement of this Agreement. Olsson shall notify Client of the newly discovered conditions or circumstances and Client and Olsson shall renegotiate, in good faith, the compensation for this Agreement, if amended terms cannot be agreed upon, Olsson may terminate this Agreement and Olsson shall be paid for its services through the date of termination.

2.2.5 Providing renderings or models.

2.2.6 Preparing documents for alternate bids requested by Client.

2.2.7 Analysis of operations, maintenance or overhead expenses; value engineering; the preparation of rate

schedules; earnings or expense statements; cash flow or economic evaluations or; feasibility studies, appraisals or valuations.

2.2.8 Furnishing the services of independent professional associates or consultants for work beyond the Scope of Services.

2.2.9 Services necessary due to the Client's award of more than one prime contract for the Project(s); services necessary due to the construction contract containing cost plus or incentive-savings provisions; services necessary in order to arrange for performance by persons other than the prime contractor; or those services necessary to administer Client's contract(s).

2.2.10 Services in connection with staking out the work of contractor(s).

2.2.11 Services during out-of-town travel or visits to the site beyond those specifically identified in this Agreement.

2.2.12 Preparation of operating and maintenance manuals.

2.2.13 Services to redesign some or all of the Project(s).

2.2.14 Preparing to serve or serving as a consultant or witness or assisting Client with any litigation, arbitration or other legal or administrative proceeding.

2.2.15 Services relating to Construction Observation, Certification, Inspection, Construction Cost Estimating, project observation, construction management, construction scheduling, construction phasing or review of Contractor's performance means or methods.

2.3 Whenever, in its sole discretion, Olsson determines additional services as set forth in this Section 2.3 are necessary to avoid a delay in the completion of the Project(s) ("Necessary Additional Services"), Olsson shall perform or obtain from others such services without waiting for specific instructions from Client, and Olsson will be entitled to an increase in compensation for such services at the standard hourly billing rate charged for those employees performing the services, plus reimbursable expenses, if any:

2.3.1 Services in connection with work directive changes and/or change orders directed by the Client to any contractors.

2.3.2 Services in making revisions to drawings and specifications occasioned by the acceptance of substitutions proposed by contractor(s); services after the award of each contract in evaluating and determining the acceptability of an unreasonable or excessive number of substitutions proposed by contractor(s); or evaluating an unreasonable or extensive number of claims submitted by contractor(s) or others in connection with the Project(s).

2.3.3 Services resulting from significant delays, changes or price increases occurring as a direct or indirect result of material, equipment or energy shortages.

2.3.4 Additional or extended services during construction made necessary by (1) work damaged during construction, (2) a defective, inefficient or neglected work by any contractor, (3) acceleration of the progress schedule involving services beyond normal working hours, or (4) default by any contractor.

SECTION 3—CLIENT'S RESPONSIBILITIES

3.1. Client shall provide all criteria and full information as to Client's requirements for the Project(s); designate and identify in writing a person to act with authority on Client's behalf in respect of all aspects of the Project(s); examine and respond promptly to Olsson's submissions; and give prompt written notice to Olsson whenever Client observes or otherwise becomes aware of any defect in the Olsson's services.

3.2 Client agrees to pay Olsson the amounts due for services rendered and expenses within thirty (30) days after Olsson has provided its invoice for such services. In the event Client disputes any invoice item, Client shall give Olsson written notice of such disputed item within fifteen (15) days after receipt of such invoice and shall pay to Olsson the undisputed portion of the invoice according to the provisions hereof. If Client fails to pay any invoiced amounts when due, interest will accrue on each unpaid amount at the rate of thirteen percent (13%) per annum from the date due until paid according to the provisions of this Agreement. Interest shall not be charged on any disputed invoice item which is finally resolved in Client's favor. Payment of interest shall not excuse or cure any default or delay in payment of amounts due.

3.2.1 If Client fails to make any payment due Olsson for services and expenses within thirty (30) days after receipt of Olsson's statement therefore, Olsson may, after giving seven (7) days written notice to Client, suspend services to Client under this Agreement until Olsson has been paid in full all amounts due for services, expenses and charges and Client will not obtain any license to any Work Product or be entitled to retain or use any Work Product pursuant to Section 7.1 unless and until Olsson has been paid in full and Client has fully satisfied all of its obligations under this Agreement.

3.3 Payments to Olsson shall not be withheld, postponed or made contingent on the construction, completion or success of the Project(s) or upon receipt by the Client of offsetting reimbursements or credit from other parties who may have caused the need for additional services. No withholdings, deductions or offsets shall be made from Olsson's compensation for any reason unless and until Olsson has been found to be legally liable for such amounts.

3.4 Client shall also do the following and pay all costs incident thereto:

3.4.1 Furnish to Olsson any existing and/or required borings, probings or subsurface explorations; hydrographic surveys; laboratory tests or inspections of samples, materials or equipment; appropriate professional interpretations of any of the foregoing; environmental assessment and impact statements; property, boundary, easement, right-of-way, topographic or utility surveys; property descriptions; and/or zoning or deed restrictions; all of which Olsson may rely upon in performing services hereunder.

3.4.2 Guarantee access to and make all provisions for Olsson to enter upon public and private property reasonably necessary to perform its services on the Project(s).

3.4.3 Provide such legal, accounting, independent cost estimating or insurance counseling services as may be required for the Project(s); any auditing service required in respect of contractor(s)' applications for payment; and/or any inspection services to determine if contractor(s) are performing the work legally.

3.4.4 Provide engineering surveys to establish reference points for construction unless specifically included in Olsson's Scope of Services.

3.4.5 Furnish approvals and permits from all governmental authorities having jurisdiction over the Project(s).

3.4.6 If more than one prime contractor is to be awarded the contract for construction, designate a party to have responsibility and authority for coordinating and interfacing the activities of the various prime contractors.

3.4.7 All fees and other amounts payable by Client under this Agreement are exclusive of taxes and similar assessments. Without limiting the foregoing, Client is responsible and liable for all sales, service, use, and excise taxes, and any other similar taxes, duties, and charges of any kind imposed by any federal, state, county or local governmental authority on any amounts payable by Client under this Agreement, other than any taxes imposed on Olsson's income. In the event any governmental authority assesses Olsson for taxes, duties, or charges of any kind in connection with Scope of Services provided by Olsson to Client, Olsson shall be entitled to submit an invoice to Client, its successors or assigns, for the amount of said assessment and related interest and penalties. Client shall pay such invoice in accordance with Olsson's standard payment terms.

3.5 Client shall pay all costs incident to obtaining bids or proposals from contractor(s).

3.6 Client shall pay all permit application review costs for government authorities having jurisdiction over the Project(s).

3.7 Contemporaneously with the execution of this Agreement, Client shall designate in writing an individual to act as its duly authorized Project(s) representative.

3.8 Client shall bear sole responsibility for:

3.8.1 Jobsite safety. Neither the professional activities of Olsson, nor the presence of Olsson or its employees or sub-consultants at the Project shall impose any duty on Olsson relating to any health or safety laws, regulations, rules, programs or procedures.

3.8.2 Notifying third parties including any governmental agency or prospective purchaser, of the existence of any hazardous or dangerous materials located in or around the Project(s) site.

3.8.3 Providing and updating Olsson with accurate information regarding existing conditions, including the existence of hazardous or dangerous materials, proposed

Project(s) site uses, any change in Project(s) plans, and all subsurface installations, such as pipes, tanks, cables and utilities within the Project(s) site.

3.8.4 Providing and assuming all responsibility for: interpretation of contract documents; Construction Observations; Certifications; Inspections; Construction Cost Estimating; project observations; construction management; construction scheduling; construction phasing; and review of Contractor's performance, means and methods. Client waives any claims against Olsson and releases Olsson from liability relating to or arising out of such services and agrees, to the fullest extent permitted by law, to indemnify and hold Olsson harmless from any and all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, relating to such actions and services.

3.9 Client releases Olsson from liability for any incorrect advice, judgment or decision based on inaccurate information furnished by Client or others.

3.10 If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including hazardous materials, encountered on the site, Olsson may immediately stop work in the affected area and report the condition to Client. Client shall be solely responsible for retaining independent consultant(s) to determine the nature of the material and to abate or remove the material. Olsson shall not be required to perform any services or work relating to or in the area of such material until the material has been removed or rendered harmless and only after approval, if necessary of the government agency with jurisdiction.

SECTION 4—MEANING OF TERMS

4.1 The "Cost of Construction" of the entire Project(s) (herein referred to as "Cost of Construction") means the total cost to Client of those portions of the entire Project(s) designed and specified by Olsson, but it will not include Olsson's compensation and expenses, the cost of land, rights-of-way, or compensation for or damages to, properties unless this Agreement so specifies, nor will it include Client's legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with the Project(s) or the cost of other services to be provided by others to Client pursuant to Section 3.

4.2 The "Salary Costs": Used as a basis for payment mean salaries and wages (base and incentive) paid to all Olsson's personnel engaged directly on the Project(s), including, but not limited to, engineers, architects, surveyors, designers, draftsmen, specification writers, estimators, other technical and business personnel; plus the cost of customary and statutory benefits, including, but not limited to, social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, sick leave, vacation and holiday pay and other group benefits.

4.3 "Certify" or "a Certification": If included in the Scope of Services, such services shall be limited to a statement of Olsson's opinion, to the best of Olsson's professional knowledge, information and belief, based upon its periodic observations and reasonable review of reports and tests created by Olsson or provided to Olsson. Olsson shall not be responsible for constant or exhaustive observation of the work. Client

understands and agrees that any certifications based upon discrete sampling observations and that such observations indicate conditions that exist only at the locations and times the observations were performed. Performance of such observation services and certification does not constitute a warranty or guarantee of any type, since even with diligent observation, some construction defects, deficiencies or omissions in the work may occur. Olsson shall have no responsibility for the means, methods, techniques, sequences or procedures selected by the contractor(s) or for the contractor's safety precautions and programs nor for failure by the contractor(s) to comply with any laws or regulations relating to the performance or furnishing of any work by the contractor(s). Client shall hold its contractor(s) solely responsible for the quality and completion of the Project(s), including construction in accordance with the construction documents. Any duty under this Agreement is for the sole benefit of the Client and not for any third party, including the contractor(s) or any subcontractor(s). Olsson shall sign pre-printed form certifications only if (a) Olsson approves the form of such certification prior to the commencement of its services, (b) such certification is expressly included in the Scope of Services, (c) the certification is limited to a statement of professional opinion and does not constitute a warranty or guarantee, express or implied. It is understood that any certification by Olsson shall not relieve the Client or the Client's contractors of any responsibility or obligation they may have by industry custom or under any contract.

4.4 "Opinion of Probable Cost": An opinion of probable construction cost made by Olsson. In providing opinions of probable construction cost, it is recognized that neither the Client nor Olsson has control over the costs of labor, equipment or materials, or over the contractor's methods of determining prices or bidding. The opinion of probable construction costs is based on Olsson's reasonable professional judgment and experience and does not constitute a warranty, express or implied, that the contractor's bids or the negotiated price of the work on the Project(s) will not vary from the Client's budget or from any opinion of probable cost prepared by Olsson.

4.5 "Day": A calendar day of 24 hours. The term "days" shall mean consecutive calendar days of 24 hours each, or fraction thereof.

4.6 "Construction Observation": If included in the Scope of Services, such services during construction shall be limited to periodic visual observation and testing of the work to determine that the observed work generally conforms to the contract documents. Olsson shall not be responsible for constant or exhaustive observation of the work. Client understands and agrees that such visual observations are discrete sampling procedures and that such procedures indicate conditions that exist only at the locations and times the observations were performed. Performance of Construction Observation services does not constitute a warranty or guarantee of any type, since even with diligent observation, some construction defects, deficiencies or omissions in the work may occur. Olsson shall have no responsibility for the means, methods, techniques, sequences or procedures selected by the contractor or for the contractor's safety precautions and programs nor for failure by the contractor to comply with any laws or regulations relating to the performance or furnishing of any work by the contractor. Client shall hold its contractor(s) solely responsible for the quality and completion of the Project(s), including construction in accordance with the construction documents. Any duty under this Agreement is for the sole benefit of the Client and not for

any third party, including the contractor or any subcontractor. Client, or its designees shall notify Olsson at least twenty-four (24) hours in advance of any field tests and observations required by the construction documents.

4.7 "Inspect" or "Inspection": If included in the Scope of Services, such services shall be limited to the periodic visual observation of the contractor's completed work to permit Olsson, as an experienced and qualified professional, to determine that the observed work, generally conforms to the contract documents. Olsson shall not be responsible for constant or exhaustive observation of the work. Client understands and agrees that such visual observations are discrete sampling procedures and that such procedures indicate conditions that exist only at the locations and times the observations were performed. Performance of such observation services does not constitute a warranty or guarantee of any type, since even with diligent observation, some construction defects, deficiencies or omissions in the work may occur. Olsson shall have no responsibility for the means, methods, techniques, sequences or procedures selected by the contractor(s) or for the contractor's safety precautions and programs nor for failure by the contractor(s) to comply with any laws or regulations relating to the performance or furnishing of any work by the contractor(s). Client shall hold its contractor(s) solely responsible for the quality and completion of the Project(s), including construction in accordance with the construction documents. Any duty under this Agreement is for the sole benefit of the Client and not for any third party, including the contractor(s) or any subcontractor(s). Client, or its designees, shall notify Olsson at least twenty-four (24) hours in advance of any inspections required by the construction documents.

4.8 "Record Documents": Drawings prepared by Olsson upon the completion of construction based upon the drawings and other data furnished to Olsson by the Contractor and others showing significant changes in the work on the Project(s) made during construction. Because Record Documents are prepared based on unverified information provided by others, Olsson makes no warranty of the accuracy or completeness of the Record Documents.

SECTION 5—TERMINATION

5.1 Either party may terminate this Agreement, for cause upon giving the other party not less than seven (7) calendar days written notice of default for any of the following reasons; provided, however, that the notified party shall have the same seven (7) calendar day period in which to cure the default:

5.1.1 Substantial failure by the other party to perform in accordance with the terms of this Agreement and through no fault of the terminating party;

5.1.2 Assignment of this Agreement or transfer of the Project(s) by either party to any other entity without the prior written consent of the other party;

5.1.3 Suspension of the Project(s) or Olsson's services by the Client for more than ninety (90) calendar days, consecutive or in the aggregate.

5.2 In the event of a "for cause" termination of this Agreement by either party, the Client shall, within fifteen (15) calendar days after receiving Olsson's final invoice, pay Olsson for all services rendered and all reimbursable costs incurred by

Olsson up to the date of termination, in accordance with the payment provisions of this Agreement.

5.2.1 In the event of a "for cause" termination of this Agreement by Client and (a) a final determination of default is entered against Olsson under Section 6.2 and (b) Client has fully satisfied all of its obligations under this Agreement, Olsson shall grant Client a limited license to use the Work Product pursuant to Section 7.1.

5.3 The Client may terminate this Agreement for the Client's convenience and without cause upon giving Olsson not less than seven (7) calendar days written notice. In the event of any termination that is not the fault of Olsson, the Client shall pay Olsson, in addition to payment for services rendered and reimbursable costs incurred, for all expenses reasonably incurred by Olsson in connection with the orderly termination of this Agreement, including but not limited to demobilization, reassignment of personnel, associated overhead costs, any fees, costs or expenses incurred by Olsson in preparing or negotiating any proposals submitted to Client for Olsson's Scope of Services or Optional Additional Services under this Agreement and all other expenses directly resulting from the termination and a reasonable profit of ten percent (10%) of Olsson's actual costs (including overhead) incurred.

SECTION 6—DISPUTE RESOLUTION

6.1. Mediation

6.1.1 All questions in dispute under this Agreement shall be submitted to mediation. On the written notice of either party to the other of the election to submit any dispute under this Agreement to mediation, each party shall designate their representatives and shall meet within ten (10) days after the service of the notice. The parties themselves shall then attempt to resolve the dispute within ten (10) days of meeting.

6.1.2 Should the parties themselves be unable to agree on a resolution of the dispute, and then the parties shall appoint a third party who shall be a competent and impartial party and who shall be acceptable to each party, to mediate the dispute. Any third party mediator shall be qualified to evaluate the performance of both of the parties, and shall be familiar with the design and construction progress. The third party shall meet to hear the dispute within ten (10) days of their selection and shall attempt to resolve the dispute within fifteen (15) days of first meeting.

6.1.3 Each party shall pay the fees and expenses of the third party mediator and such costs shall be borne equally by both parties.

6.2 Arbitration or Litigation

6.2.1 Olsson and Client agree that from time to time, there may be conflicts, disputes and/or disagreements between them, arising out of or relating to the services of Olsson the Project(s), or this Agreement (hereinafter collectively referred to as "Disputes") which may not be resolved through mediation. Therefore, Olsson and Client agree that all Disputes shall be resolved by binding arbitration or litigation at the sole discretion and choice of Olsson. If Olsson chooses arbitration, the arbitration proceeding shall proceed in accordance with the Construction Industry Arbitration Rules of the AAA.

6.2.2 Client hereby agrees that Olsson shall have the right to include Client, by consolidation, joinder or other manner, in any arbitration or litigation involving Olsson and a subconsultant or subcontractor of Olsson or Olsson and any other person or entity, regardless of who originally initiated such proceedings.

6.2.3 If Olsson chooses arbitration or litigation, either may be commenced at any time prior to or after completion of the Project(s), provided that if arbitration or litigation is commenced prior to the completion of the Project(s), the obligations of the parties under the terms of this Agreement shall not be altered by reason of the arbitration or litigation being conducted. Any arbitration hearings or litigation shall take place in Lincoln, Nebraska, the location of Olsson's home office.

6.2.4 Except to the extent prohibited by law, the prevailing party in any arbitration or litigation relating to any Dispute shall be entitled to recover from the other party those reasonable attorney fees, costs and expenses incurred by the prevailing party in connection with the Dispute. In the event of a Dispute involving a Claim (as hereinafter defined) against Olsson, Olsson shall be considered the "prevailing party" if Client is awarded materially less than the full amount of damages claimed by the Client in connection with the Dispute. In all other Disputes, "prevailing party" shall mean the party (if any) who obtains all, or substantially all, of the relief requested by that party in connection with the Dispute.

6.3 Certification of Merit

Client agrees that it will not assert any claim, including but not limited to, professional negligence, negligence, breach of contract, misconduct, error, omission, fraud, or misrepresentation ("Claim") against Olsson, or any Olsson subconsultant, unless Client has first provided Olsson with a sworn certificate of merit affidavit setting forth the factual and legal basis for such Claim (the "Certificate"). The Certificate shall be executed by an independent engineer ("Certifying Engineer") currently licensed and practicing in the jurisdiction of the Project site. The Certificate must contain: (a) the name and license number of the Certifying Engineer; (b) the qualifications of the Certifying Engineer, including a list of all publications authored in the previous 10 years and a list of all cases in which the Certifying Engineer testified within the previous 4 years; (c) a statement by the Certifying Engineer setting forth the factual basis for the Claim; (d) a statement by the Certifying Engineer of each and every act, error, or omission that the Certifying Engineer contends supports the Claim or any alleged violation of any applicable standard of care; (e) a statement by the Certifying Engineer of all opinions the Certifying Engineer holds regarding the Claim or any alleged violation of any applicable standard of care; (f) a list of every document related to the Project reviewed by the Certifying Engineer; and (g) a list of every individual who provided Certifying Engineer with any information regarding the Project. The Certificate shall be provided to Olsson not less than thirty (30) days prior to any arbitration or litigation commenced by Client or not less than ten (10) days prior to the initial response submitted by Client in any arbitration or litigation commenced by someone other than Client. The Certificate is a condition precedent to the right of Client to assert any Claim in any litigation or arbitration and Client's failure to timely provide a Certificate to Olsson will be grounds for automatic dismissal of the Claim with prejudice. In any such instance, Olsson shall be entitled to an award of attorney's fees, costs, and expenses.

SECTION 7—MISCELLANEOUS

7.1 Reuse of Documents

All documents, including drawings, specifications, reports, boring logs, maps, field data, data, test results, information, recommendations, or opinions prepared or furnished by Olsson (and Olsson's independent professional associates and consultants) pursuant to this Agreement ("Work Product"), are all Olsson's instruments of service, do not constitute goods or products, and are copyrighted works of Olsson. Olsson shall retain an ownership and property interest in such Work Product whether or not the Project(s) is completed. If Client has fully satisfied all of its obligations under this Agreement, Olsson shall grant Client a limited license to use the Work Product and Client may make and retain copies of Work Product for use in connection with the Project(s); however, such Work Product is for the exclusive use and benefit of Client or its agents in connection with the Project(s), are not intended to inform, guide or otherwise influence any other entities or persons with respect to any particular business transactions, and should not be relied upon by any entities or persons other than Client or its agents for any purpose other than the Project(s). Such Work Product is not intended or represented to be suitable for reuse by Client or others on extensions of the Project(s) or on any other Project(s). Client will not distribute or convey such Work Product to any other persons or entities without Olsson's prior written consent which shall include a release of Olsson from liability and indemnification by the third party. Any reuse of Work Product without written verification or adaptation by Olsson for the specific purpose intended will be at Client's sole risk and without liability or legal exposure to Olsson, or to Olsson's independent professional associates or consultants, and Client shall indemnify and hold harmless Olsson and Olsson's independent professional associates and consultants from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation of Work Product will entitle Olsson to further compensation at rates to be agreed upon by Client and Olsson.

7.2 Electronic Files

By accepting and utilizing any electronic file of any Work Product or other data transmitted by Olsson, the Client agrees for itself, its successors, assigns, insurers and all those claiming under or through it, that by using any of the information contained in the attached electronic file, all users agree to be bound by the following terms. All of the information contained in any electronic file is the work product and instrument of service of Olsson, who shall be deemed the author, and shall retain all common law, statutory law and other rights, including copyrights, unless the same have previously been transferred in writing to the Client. The information contained in any electronic file is provided for the convenience to the Client and is provided in "as is" condition. The Client is aware that differences may exist between the electronic files transferred and the printed hard-copy original signed and stamped drawings or reports. In the event of a conflict between the signed original documents prepared by Olsson and the electronic files, which may be transferred, the signed and sealed original documents shall govern. Olsson specifically disclaims all warranties, expressed or implied, including without limitation, and any warranty of merchantability or fitness for a particular purpose with respect to any electronic files. It shall be Client's responsibility to confirm the accuracy of the information contained in the electronic file and that it accurately reflects the information needed by the Client. Client

shall not retransmit any electronic files, or any portion thereof, without including this disclaimer as part of any such transmissions. In addition, Client agrees, to the fullest extent permitted by law, to indemnify and hold harmless Olsson, its officers, directors, employees and sub consultants against any and all damages, liabilities, claims or costs, including reasonable attorney's and expert witness fees and defense costs, arising from any changes made by anyone other than Olsson or from any reuse of the electronic files without the prior written consent of Olsson.

7.3 Opinion of Probable Cost

Since Olsson has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s)' methods of determining prices, or over competitive bidding or market conditions, Olsson's Opinion of Probable Cost provided for herein is made on the basis of Olsson's experience and qualifications and represent Olsson's best judgment as an experienced and qualified professional engineer, familiar with the construction industry. Client acknowledges and agrees that Olsson cannot and does not guarantee proposals or bids and that actual total Project(s) or construction costs may reasonably vary from Olsson's Opinion of Probable Cost. If prior to the bidding or negotiating phase Client wishes greater assurance as to total Project(s) or construction costs, Client shall employ an independent cost estimator as provided in paragraph 3.4.3. If Olsson's Opinion of Probable Cost was performed in accordance with its standard of care and was reasonable under the total circumstances, any services performed by Olsson to modify the contract documents to bring the construction cost within any limitation established by Client will be considered Optional Additional Services and paid for as such by Client. If, however, Olsson's Opinion of Probable Cost was not performed in accordance with its standard of care and was unreasonable under the total circumstances and the lowest negotiated bid for construction of the Project(s) unreasonably exceeds Olsson's Opinion of Probable Cost, Olsson shall modify its work as necessary to adjust the Project(s)' size, and/or quality to reasonably comply with the Client's budget at no additional cost to Client. Under such circumstances, Olsson's modification of its work at no cost shall be the limit of Olsson's responsibility with regard to any unreasonable Opinion of Probable Cost.

7.4 Prevailing Wages

It is Client's responsibility to determine whether the Project(s) is covered under any prevailing wage regulations. Unless Client specifically informs Olsson in writing that the Project(s) is a prevailing wage project and is identified as such in the Scope of Services, Client agrees to reimburse Olsson and to defend, indemnify and hold harmless Olsson from and against any liability, including costs, fines and attorneys' fees, resulting from a subsequent determination that the Project(s) was covered under any prevailing wage regulations.

7.5 Samples

All material testing samples shall remain the property of the Client. If appropriate, Olsson shall preserve samples obtained no longer than forty-five (45) days after the issuance of any document that includes the data obtained from those samples. After that date, Olsson may dispose of the samples or return them to Client at Client's cost.

7.6 Standard of Care

Olsson will strive to perform its services in a manner consistent with that level of care and skill ordinarily exercised by members of Olsson's profession providing similar services in the same locality under similar circumstances at the time Olsson's services are performed. This Agreement creates no other representation, warranty or guarantee, express or implied.

7.7 Force Majeure

Any delay in the performance of any of the duties or obligations of either party hereto (except the payment of money) shall not be considered a breach of this Agreement and the time required for performance shall be extended for a period equal to the period of such delay, provided that such delay has been caused by or is the result of any acts of God, acts of the public enemy, insurrections, riots, embargoes, labor disputes, including strikes, lockouts, job actions, boycotts, fires, explosions, floods, shortages of material or energy, or other unforeseeable causes beyond the control and without the fault or negligence of the party so affected. The affected party shall give prompt notice to the other party of such cause, and shall take promptly whatever reasonable steps are necessary to relieve the effect of such cause.

7.8 Equal Employment Opportunity

Olsson and any sub-consultant or subcontractor shall abide by the requirements of 41 CFR 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or veteran status.

7.9 Confidentiality

In performing this Agreement, the parties may disclose to each other written, oral, electronic, graphic, machine-readable, tangible or intangible, non-public, confidential or proprietary data or information in any form or medium, including but not limited to: (1) information of a business, planning, marketing, conceptual, design, or technical nature; (2) models, tools, hardware, software or source code; and (3) any documents, videos, photographs, audio files, data, studies, reports, flowcharts, works in progress, memoranda, notes, files or analyses that contain, summarize or are based upon any non-public, proprietary or confidential information (hereafter referred to as the "Information"). The Information is not required to be marked as confidential.

7.9.1 Therefore, Olsson and Client agree that the party receiving Information from the other party to this Agreement (the "Receiving Party") shall keep Information confidential and not use the Information in any manner other than in the performance of this Agreement without prior written approval of the party disclosing Information (the "Disclosing Party") unless Client is a public entity and the release of Information is required by law or legal process.

7.9.2 Prior to the start of construction on the Project, the existence of discussions between the parties, the purpose of this Agreement, and this Agreement shall be considered Information subject to the confidentiality provisions of this Agreement.

7.9.3 Notwithstanding anything to the contrary herein, the Receiving Party shall have no obligation to preserve the confidentiality of any Information which:

7.9.3.1 was previously known to the Receiving Party free of any obligation to keep it confidential; or

7.9.3.2 is or becomes publicly available by other than unauthorized disclosures; or

7.9.3.3 is independently developed by the Receiving Party without a breach of this Agreement; or

7.9.3.4 is disclosed to third parties by the Disclosing Party without restrictions; or

7.9.3.5 is received from a third party not subject to any confidentiality obligations.

7.9.4 In the event that the Receiving Party is required by law or legal process to disclose any of Information of the Disclosing Party, the Receiving Party required to disclose such Information shall provide the Disclosing Party with prompt oral and written notice, unless notice is prohibited by law (in which case such notice shall be provided as early as may be legally permissible), of any such requirement so that the Disclosing Party may seek a protective order or other appropriate remedy.

7.9.5 Notwithstanding anything to the contrary herein (or to the contrary of any existing or future nondisclosure, confidentiality or similar agreement between the parties), Olsson is authorized, to use, display, reproduce, publish, transmit, and distribute Information (including, but not limited to, videos and photographs of the Project) on and in any and all formats and media (including, but not limited to, Olsson's internet website) throughout the world and in all languages in connection with or in any manner relating to the marketing, advertising, selling, qualifying, proposing, commercializing, and promotion of Olsson and/or its services and business and in connection with any other lawful purpose of Olsson. In the event of any conflict or inconsistency between the provisions of this section and any other prior or future nondisclosure, confidentiality or similar agreement between the parties, the terms of this section shall take precedence.

7.9.6 Nothing contained in this Agreement shall be construed as altering any rights that the Disclosing Party has in the Information exchanged with or disclosed to the Receiving Party, and upon request, the Receiving Party will return all Information received in tangible form to the Disclosing Party, or at the Receiving Party's option, destroy all such Information. If the Receiving Party exercises its option to destroy the Information, the Receiving Party shall certify such destruction to the Disclosing Party.

7.9.7 The parties acknowledge that disclosure or use of Information in violation of this Agreement could cause irreparable harm for which monetary damages may be difficult to ascertain or constitute an inadequate remedy. Each party therefore agrees that the Disclosing Party shall be entitled in

addition to its other rights to seek injunctive relief for any violation of this Agreement.

7.9.8 The obligations of confidentiality set forth herein shall survive termination of this Agreement but shall only remain in effect for a period of one (1) year from the date the Information is first disclosed.

7.10 Damage or Injury to Subterranean Structures or Utilities, Hazardous Materials, Pollution and Contamination

7.10.1 To the extent that work pursuant to this Agreement requires any sampling, boring, excavation, ditching or other disruption of the soil or subsurface at the Site, Olsson shall confer with Client prior to such activity and Client will be responsible for identifying, locating and marking, as necessary, any private subterranean structures or utilities and Olsson shall be responsible for arranging investigation of public subterranean structures or utilities through an appropriate utility one-call provider. Thereafter, Olsson shall take all reasonable precautions to avoid damage or injury to subterranean structures or utilities which were identified by Client or the one-call provider. Olsson shall not be responsible for any damage, liability or costs, for any property damage, injury or economic loss arising or allegedly arising from damages to subterranean structures or utilities caused by subsurface penetrations in locations approved by Client and/or the one call provider or not correctly shown on any plans, drawings or utility clearance provided to Olsson, except for damages caused by the negligence of Olsson in the use of such information.

7.10.2 It is understood and agreed that any assistance Olsson may provide Client in the disposal of waste materials shall not result in Olsson being deemed as a generator, arranger, transporter or disposer of hazardous materials or hazardous waste as defined under any law or regulation. Title to all samples and waste materials remains with Client, and at no time shall Olsson take title to the above material. Client may authorize Olsson to execute Hazardous Waste Manifest, Bill of Lading or other forms as agent of Client. If Client requests Olsson to execute such documents as its agent, the Hazardous Waste Manifest, Bill of Lading or other similar documents shall be completed in the name of the Client. Client agrees to indemnify and hold Olsson harmless from any and all claims that Olsson is a generator, arranger, transporter, or disposer of hazardous waste as a result of any actions of Olsson, including, but not limited to, Olsson signing a Hazardous Waste Manifest, Bill of Lading or other form on behalf of Client.

7.10.3 At any time, Olsson can request in writing that Client remove samples, cuttings and hazardous substances generated by the Project(s) from the project site or other location. Client shall promptly comply with such request, and pay and be responsible for the removal and lawful disposal of samples, cuttings and hazardous substances, unless other arrangements are mutually agreed upon in writing.

7.10.4 Client shall release Olsson of any liability for, and shall defend and indemnify Olsson against any and all claims, liability and expense resulting from operations under this Agreement on account of injury to, destruction of, or loss or impairment of any property right in or to oil, gas, or other mineral substance or water, if at the time of the act or omission causing such injury, destruction, loss or impairment, said substance had not been reduced to physical possession above the surface of

the earth, and for any loss or damage to any formation, strata, reservoir beneath the surface of the earth.

7.10.5 Notwithstanding anything to the contrary contained herein, it is understood and agreed by and between Olsson and Client that the responsibility for pollution and contamination shall be as follows:

7.10.5.1 Unless otherwise provided herein, Client shall assume all responsibility for, including control and removal of, and protect, defend and save harmless Olsson from and against all claims, demands and causes of action of every kind and character arising from pollution or contamination (including naturally occurring radioactive material) which originates above the surface of the land or water from spills of fuels, lubricants, motor oils, pipe dope, paints, solvents, ballast, bilge and garbage, except unavoidable pollution from reserve pits, wholly in Olsson's possession and control and directly associated with Olsson's equipment.

7.10.5.2 In the event a third party commits an act or omission which results in pollution or contamination for which either Olsson or Client, for whom such party is performing work, is held to be legally liable, the responsibility therefore shall be considered as between Olsson and Client, to be the same as if the party for whom the work was performed had performed the same and all of the obligations regarding defense, indemnity, holding harmless and limitation of responsibility and liability, as set forth herein, shall be specifically applied.

7.11 Controlling Law and Venue

The parties agree that this Agreement and any legal actions concerning its validity, interpretation or performance shall be governed by the laws of the State of Nebraska. It is further agreed that any legal action between the parties arising out of this Agreement or the performance of services shall be brought in a court of competent jurisdiction in Nebraska.

7.12 Subconsultants

Olsson may utilize as necessary in its discretion subconsultants and other subcontractors. Olsson will be paid for all services rendered by its subconsultants and other subconsultants as set forth in this Agreement.

7.13 Assignment

7.13.1 Client and Olsson each are hereby bound and the partners, successors, executors, administrators and legal representatives of Client and Olsson (and to the extent permitted by paragraph 7.13.2 the assigns of Client and Olsson) are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this Agreement.

7.13.2 Neither Client nor Olsson shall assign, sublet or transfer any rights under or interest in (including, but without limitation, moneys that may become due or moneys that are due) this Agreement without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or

discharge the assignor from any duty or responsibility under this Agreement. Nothing contained in this paragraph shall prevent Olsson from employing such subconsultants and other subcontractors as Olsson may deem appropriate to assist in the performance of services under this Agreement.

7.13.3 Nothing under this Agreement shall be construed to give any rights or benefits in this Agreement to anyone other than Client and Olsson, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of Client and Olsson and not for the benefit of any other party. There are no third-party beneficiaries of this Agreement.

7.14 Indemnity

Olsson and Client mutually agree, to the fullest extent permitted by law, to indemnify and hold each other harmless from any and all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, relating to third party personal injury or third party property damage and arising from their own negligent acts, errors or omissions in the performance of their services under this Agreement, but only to the extent that each party is responsible for such damages, liabilities or costs on a comparative basis of fault.

7.15 Limitation on Damages

7.15.1 Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, neither party's individual employees, principals, officers or directors shall be subject to personal liability or damages arising out of or connected in any way to the Project(s) or to this Agreement.

7.15.2 Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, neither Client nor Olsson, their respective officers, directors, partners, employees, contractors or subconsultants shall be liable to the other or shall make any claim for any delay damages, any punitive damages or any incidental, indirect or consequential damages arising out of or connected in any way to the Project(s) or to this Agreement. This mutual waiver of delay damages and consequential damages shall include, but is not limited to, disruptions, accelerations, inefficiencies, increased construction costs, increased home office overhead, loss of use, loss of profit, loss of business, loss of income, loss of reputation or any other delay or consequential damages that either party may have incurred from any cause of action including, but not limited to, negligence, statutory violations, misrepresentation, fraud, deceptive trade practices, breach of fiduciary duties, strict liability, breach of contract and/or breach of strict or implied warranty. Both the Client and Olsson shall require similar waivers of consequential damages protecting all the entities or persons named herein in all contracts and subcontracts with others involved in the Project(s).

7.15.3 Notwithstanding any other provision of this Agreement, Client agrees that, to the fullest extent permitted by law, Olsson's total liability to the Client for any and all injuries, claims, losses, expenses, damages, or claims expenses of any kind arising from any services provided by or through Olsson under this Agreement, shall not exceed the amount of Olsson's fee earned under this Agreement. Client acknowledges that such causes include, but are not limited to, negligence, statutory violations, misrepresentation, fraud, deceptive trade practices, breach of fiduciary duties, strict liability, breach of contract

and/or breach of strict or implied warranty. This limitation of liability shall apply to all phases of Olsson's services performed in connection with the Project(s), whether subsequent to or prior to the execution of this Agreement.

7.16 Entire Agreement/Severability

This Agreement supersedes all prior communications, understandings and agreements, whether oral or written. Amendments to this Agreement must be in writing and signed by the Client and Olsson. If any part of this Agreement is found to conflict with applicable law, such part alone shall be null and void and considered stricken, but the remainder of this Agreement shall be given full force and effect.

SCOPE OF SERVICES

This exhibit is hereby attached to and made a part of the Letter Agreement for Professional Services dated September 28, 2022 between Lower Platte North NRD ("Client") and Olsson, Inc. ("Olsson") providing for professional services. Olsson's Scope of Services for the Agreement is indicated below.

PROJECT DESCRIPTION AND LOCATION

Project will be located at: Wahoo, Nebraska

Project Description: Lake Wanahoo Dam – January, 2023 to December , 2025 Instrumentation Monitoring/Data Evaluation and Stability Evaluation

SCHEDULE OF FEES

GENERAL

Olsson shall perform for Client professional services in all phases of the Project to which this Agreement applies as hereinafter provided. These services will include serving as Client's professional representative for the Project, providing professional consultation and advice and furnishing customary services incidental thereto.

TASK I – INSTRUMENTATION MONITORING JANUARY, 2023 TO DECEMBER , 2025. EACH OF THE BELOW ITEMS WILL BE COMPLETED ONCE PER YEAR FOR A TOTAL OF THREE YEARS.

- **Vibrating Wire, Multi-Level Piezometer Measurements/Data Evaluation:** Measurements on each of the 23 piezometers. The vibrating wire piezometers will be read at the time relief well measurements are taken and/or at the time inclinometer movement is monitored. A table of current piezometer readings will be provided to the Client.
- **Inclinometer Monitoring/Data Evaluation:** Measurements on each of the six inclinometers. A graphical plot of the inclinometer readings will be submitted to the Client.
- **Settlement Gauges/Movement Marker Monitoring/Data Evaluation:** Survey elevations on each of the 21 settlement gauges/movement markers. A table and graphical plot of the settlement gauges/movement markers will be submitted to the Client.
- **Velocity Profile Data Evaluation:** The Client should collect readings on each of the flowing pressure relief wells (total of 47 pressure relief wells) once per year. We will use the submitted velocity profile data and compile the information into a graphical plot, which will be submitted to the Client.
- **Data Review and Reporting:** Review of piezometer, inclinometers, and velocity profiles data to compare with the maximum values associated with critical measures of the dam stability. If the evaluation determines the measured data exceeds acceptable limits, further evaluation and recommendations would not be included in the scope of services in this letter agreement.

Additional evaluation services to determine the dam stability would be completed under a time-and-expense basis, if needed.

TASK II – YELLOW/RED FLAG UPLIFT REVIEW

- **Yellow/Red Flag Uplift Evaluation:** Use gathered piezometric and pressures relief well data including the new pressure relief wells located along the outlet channel, to evaluate the present stability of Wanahoo Dam. We will re-evaluate of the seepage and uplift forces along the dam embankment, compare to the initial calculations and potentially updating the piezometric Yellow/Red Flag milestones. We will also evaluate the current slope stability of the dam with respect to recent piezometric elevations.

TASK III – PRESSURE RELIEF WELL CLEANOUT EVALUATION & INSTRUMENTATION MEMO

- **Pressure Relief Wells:** Review the pressure relief well data review of 2022 well cleanout. Recommendations include current well flow reduction list, a well cleanout priority list, and cleanout methods.
 - Compile pressure relief well cleanout data
 - Compare pressure relief well velocities before and after cleanings
 - Compare piezometric elevations prior to cleaning and after cleanings
 - Provide recommendations for future cleanings
 - Compile 2022 instrumentation measurements with pressure relief well data into one report

TASK IV – PREVIOUS CONTRACT ADDITIONAL SERVICES

- Additional services from previous contract. Including time associated with evaluation and consultation for pressure relief well readings and monitoring equipment.

TASK I COMPENSATION TIME AND EXPENSE TO NOT EXCEED (Instrumentation Monitoring):
\$32,000.00 (Approximately \$10,667 per year).

TASK II COMPENSATION TIME AND EXPENSE TO NOT EXCEED (Yellow/Red Flag Uplift Review): \$13,600.00.

TASK III COMPENSATION TIME AND EXPENSE TO NOT EXCEED (Pressure Relief Well Review & Instrumentation Memo): \$9,000.00.

TASK IV COMPENSATION LUMP SUM (Previous Contract Additional Services): \$1,869.35.

TOTAL COMPENSATION: \$56,469.35.

Should Client request work in addition to the above Scope of Services, Olsson will invoice Client for such additional services (Optional Additional Services) at the current standard hourly billing labor rate charged for those employees actually performing the work, plus reimbursable expenses, if any. Olsson will not commence work on Optional Additional Service without Client's prior written approval.

Olsson is committed to providing quality service to its clients, commensurate with their wants, needs and desired level of risk. If a portion of this proposal does not meet your needs, or if those needs have changed, Olsson stands ready to consider appropriate modifications, subject to the standards of care to which we adhere as professionals. If you have any questions or concerns, please call Sean Parks at 402-458-5900 (office). We look forward to hearing from you and working with you on this project.

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Nebraska 2022 Billing Rate Schedule

<u>Classification</u>	<u>Billing Rate</u>
Regional Business/Practice Leader	\$ 292.00
Market Sector Leader	\$ 292.00
Office Leader	\$ 243.00
Senior Project Manager	\$ 243.00
Client Relationship Manager	\$ 243.00
Industry Expert	\$ 243.00
Team Leader	\$ 209.00
Business Development Ldr/Sr Specialist	\$ 212.00
Business Development Specialist	\$ 162.00
Technical Leader	\$ 184.00
Senior Engineer	\$ 180.00
Project Engineer	\$ 147.00
Associate Engineer	\$ 123.00
Assistant Engineer	\$ 105.00
Senior Scientist	\$ 159.00
Project Scientist	\$ 125.00
Associate Scientist	\$ 105.00
Assistant Scientist	\$ 85.00
Senior Planner	\$ 159.00
Project Planner	\$ 125.00
Associate Planner	\$ 106.00
Assistant Planner	\$ 85.00
Senior Landscape Architect	\$ 162.00
Project Landscape Architect	\$ 129.00
Associate Landscape Architect	\$ 109.00
Landscape Architect Designer	\$ 89.00
Stormwater Compliance Manager	\$ 167.00
Database Manager	\$ 158.00
CAD Manager	\$ 162.00
BIM Manager	\$ 162.00
Civil 3D Trainer	\$ 162.00
GIS Specialist	\$ 129.00
Systems Specialist	\$ 126.00
Senior Architect	\$ 167.00
Project Architect	\$ 135.00
Associate Architect	\$ 112.00
Assistant Architect	\$ 92.00
Senior Construction Manager	\$ 168.00
Project Construction Manager	\$ 135.00
Associate Construction Manager	\$ 114.00
Assistant Construction Manager	\$ 93.00

Nebraska 2022 Billing Rate Schedule

<u>Classification</u>	<u>Billing Rate</u>
Design Manager / Technical Manager	\$ 146.00
Design Associate	\$ 116.00
Senior Technician	\$ 95.00
Associate Technician	\$ 81.00
Assistant Technician	\$ 70.00
CA Manager / Technical Manager	\$ 132.00
CA Field Manager	\$ 114.00
CA Assistant Manager	\$ 102.00
CA Senior Technician	\$ 90.00
CA Associate Technician	\$ 76.00
CA Assistant Technician	\$ 65.00
CMT/Drilling Manager / Technical Manager	\$ 123.00
CMT/Drilling Lab / Field Manager	\$ 101.00
CMT/Drilling Assistant Manager	\$ 90.00
CMT/Drilling Senior Technician	\$ 79.00
CMT/Drilling Associate Technician	\$ 68.00
CMT/Drilling Assistant Technician	\$ 55.00
NDT Manager / Technical Manager	\$ 158.00
NDT Lab / Field Manager	\$ 126.00
NDT Assistant Manager	\$ 116.00
NDT Senior Technician	\$ 105.00
NDT Associate Technician	\$ 87.00
NDT Assistant Technician	\$ 75.00
Senior Surveyor / Technical Manager	\$ 128.00
Surveyor	\$ 99.00
Associate Surveyor	\$ 81.00
Assistant Surveyor	\$ 66.00
Accounting Senior Specialist	\$ 141.00
Project Senior Coordinator	\$ 108.00
Administrative Manager	\$ 95.00
Administrative Senior Specialist	\$ 95.00
Administrative Senior Coordinator	\$ 90.00
Project Coordinator	\$ 82.00
Administrative Coordinator	\$ 71.00
Administrative Assistant	\$ 57.00
Public Engagement Specialist / Sr Coordinatc	\$ 114.00
Public Engagement Coordinator	\$ 90.00
Public Engagement Assistant	\$ 75.00
Student Intern - Level 3	\$ 81.00
Student Intern - Level 2	\$ 70.00
Student Intern - Level 1	\$ 58.00

Note: Olsson's labor rates will increase by 5% on January 1st every year of a multi-year contract

REIMBURSABLE EXPENSE SCHEDULE

The expenses incurred by Olsson or Olsson's independent professional associates or consultants directly or indirectly in connection with the Project shall be included in periodic billing as follows:

<u>Classification</u>	<u>Cost</u>
Automobiles (Personal Vehicle)	\$0.625/mile*
Suburban's and Pick-Ups	\$0.75/mile*
Automobiles (Olsson Vehicle)	\$95.00/day
Other Travel or Lodging Cost	Actual Cost
Meals	Actual Cost
Printing and Duplication including Mylars and Linens	
In-House	Actual Cost
Outside	Actual Cost+10%
Postage & Shipping Charges for Project Related Materials including Express Mail and Special Delivery	Actual Cost
Film and Photo Developing	Actual Cost+10%
Telephone and Fax Transmissions	Actual Cost+10%
Miscellaneous Materials & Supplies Applicable to this Project	Actual Cost+10%
Copies of Deeds, Easements or other Project Related Documents	Actual Cost+10%
Fees for Applications or Permits	Actual Cost+10%
Sub-Consultants	Actual Cost+10%
Taxes Levied on Services and Reimbursable Expenses	Actual Cost

*Rates consistent with the IRS Mileage Rate Reimbursement Guidelines (Subject to Change).

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include areas that have received Land and Water Conservation Funds (LWCF).

L ASSESSMENT OF EXISTING DAM

The assessment of Cottonwood Creek 21-A indicates that the auxiliary spillway and top of dam do not current dam safety and performance standards.

Table 7 summarizes the findings for individual scenarios considered in this assessment. The current RCP conduit would meet diameter and conduit material criteria. The existing riser is assumed to be what was originally installed in 1983 and would be 39 years old.

Table 7 – Assessment Results

TR-60 Requirement	Assessment Results
	Existing
Top width of embankment meets minimum value?	Yes
PSH routed without operating Earth Auxiliary	Yes
Meets 10-day drawdown requirement (Rainfall)? ¹	Yes
AS Velocity below acceptable values?	No
24-hour FBH Storm Contained without Overtopping?	No
1. PSH designed to account for 10-day drawdown elevation	

Table 8 – Assessment Routing Summary

TR-60 Based Parameters of Assessment	Model Output
	Existing
Elevation of Auxiliary Spillway (ft)	1296.36
10-Day Drawdown WSEL (ft)	1288.11
Amount Overtopping Dam for FBH (ft)	2.74
Exit Channel Velocity for SDH (fps)	8.51
Depth of Flow in Aux Spillway for SDH Storm (ft)	1.76

Output was based on the NRCS 6-hr SDH and 24-hr PSH/FBH duration models.

The water surface elevation at the 10-day limit is 1288.11. This assessment utilized the 10-day routing function in SITES to set the starting elevation of all routings at the 1288.11 10-day elevation. SITES indicates that the PSH routes below the auxiliary spillway crest, but the FBH design storm does overtop the dam. Model outputs are available in Table 4 and Appendix B.

M REHABILITATION ALTERNATIVES

The existing structure is assumed to have a 50-yr sediment design life and the riser and principal spillway conduit are assumed to have a 100-yr design life. The hydrologic and hydraulic assessment of the current dam configuration show that it does not meet current design standards. The alternatives below will consider these factors.

M.1 No Federal Action

Is the action when repairs and modifications to the dam are not authorized and not implemented using federal funding. Development of a dam rehabilitation alternative that does not meet federal funding program requirements is outside the scope of this project. However, if federal funds are not used, the rehabilitation activities would not be required to meet federal funding program requirements and there are other rehabilitation or maintenance alternatives available.

M.2 Alternative 1 – Reconfigure Auxiliary Spillway and Roadway, Raise Top of Dam

This alternative consists of accounting for an additional 100 years of sediment life and reconfiguring the auxiliary spillway and east end of the dam to avoid the county road grading issues. The level section of the auxiliary spillway would be shifted downstream of the roadway so that any minor roadway changes due to regular grading and maintenance would not impact the flow capacity through the auxiliary spillway. The roadway would be lowered to the east so that the slope of the roadway meets roadway design criteria and to allow the roadway through the auxiliary spillway to be lower than the auxiliary spillway level section. The width of the auxiliary spillway would remain at the original design of 125-ft. A segment of dam would be added at southeast to allow for the roadway to come up to top of dam grade at an acceptable slope.

Utilities are located within the project area. Power lines and buried fiber optic cable would need relocation during construction. Approximate costs have been included in the cost opinion, however, additional coordination with utility companies should be conducted during the Planning and Design phases to determine whether temporary or permanent relocations are needed.

The principal spillway system would be replaced at a higher elevation to account for the increased sediment storage capacity. The top of dam would also be raised about 6-ft in order to meet TR-60 criteria to contain the freeboard hydrograph.

Raising the top of dam will require additional easements for the flood pool to top of dam elevation, estimated at approximately 32 acres.

To help manage seepage, a detailed geotechnical analysis should be performed to determine the most appropriate remediation. This could include a chimney filter system, and modifications to the toe drain system, or addition of a seepage protection berm. For cost estimation purposes, this assessment assumes the addition of a chimney filter and modifications to the foundation drain. Table 9 summarizes the key characteristics of the rehabilitated structure.

Table 9 – Alternative 1 Key Characteristics

Port Elevation (ft)	1290.0
Riser Crest (ft)	1295.5
Auxiliary Spillway Crest (ft)	1298.5
Auxiliary Spillway Width (ft)	125
Top of Dam (ft)	1306.0

M.3 Alternative 2 – Replace Spillway System with Weir and Box Culvert

This alternative consists of replacing the principal spillway riser and pipe with a weir inlet and box culvert. The weir inlet would have a low flow orifice to maintain the existing outflow rating curve for storms up to the 100-yr event. The weir and box culvert are sized to pass the freeboard hydrograph so that the top of dam would need minimal increase. The existing auxiliary spillway will be graded in and abandoned. It was determined that a dual 10'Hx8'W box culvert with 60-ft weir would be able to pass the FBH with a 2-ft raise to top of dam (to elevation 1302.0).

To help manage seepage, a chimney filter and toe drain system should be installed.

Table 10 – Alternative 2 Key Characteristics

Port Elevation (ft)	1286.5
Weir Crest (ft)	1292.0
Weir Length (ft)	90
Box Culvert Size (ft)	2 – 10'x8'
Top of Dam (ft)	1302.0

Several iterations of box culvert sizes and weir configurations were examined while evaluating potential impacts to the top of dam. During design phase, this should be further examined to value engineer the best possible configuration from an economic and feasibility standpoint.

Raising the top of dam will require additional easements for the flood pool to top of dam elevation, estimated at approximately 12 acres.

Utilities are located within the project area. Power lines and buried fiber optic cable would need relocation during construction. Approximate costs have been included in the cost opinion, however, additional coordination with utility companies should be conducted during the Planning and Design phases to determine whether temporary or permanent relocations are needed.

M.4 Alternative 3 – Realign Auxiliary Spillway and Roadway, Evaluate Sediment Storage

This alternative, similar to Alternative 1, consists of reconfiguring the auxiliary spillway and east end of the dam to avoid the county road grading issues. The level section of the auxiliary spillway would be shifted downstream of the roadway so that any minor roadway changes due to regular grading and maintenance would not impact the flow capacity through the auxiliary spillway. The roadway would be lowered to the east so that the slope of the roadway meets roadway design criteria and to allow the roadway through the auxiliary spillway to be lower than the auxiliary spillway level section. The width of the auxiliary spillway would be increased to 275-ft in order to pass the FBH without overtopping the dam. A segment of dam would be added at the southeast to allow for the roadway to come up to top of dam grade at an acceptable slope.

To help manage seepage, a detailed geotechnical analysis should be performed to determine the appropriate remediation. This alternative includes the addition of a chimney filter and toe drain improvements.

A bathymetric survey should be conducted to determine the historic sedimentation rate and sediment storage required to extend the life of the structure. For cost estimating purposes, a range of costs are provided to show costs for low- and high-end potential sediment storage requirements. It is assumed the principal spillway system will remain in its current configuration. High-end would require raising the top of dam by 4-ft to elevation 1304.0. Low end assumes the top of dam would remain at its current elevation.

Utilities are located within the project area. Power lines and buried fiber optic cable would need relocation during construction. Approximate costs have been included in the cost opinion, however, additional coordination with utility companies should be conducted during the Planning and Design phases to determine whether temporary or permanent relocations are needed.

Table 11 – Alternative 3 Key Characteristics

Port Elevation (ft)	1286.5
Auxiliary Spillway Crest (ft)	1296.3
Auxiliary Spillway Width (ft)	275
Top of Dam (ft) ¹	1302.0
¹ Assuming an additional 209 ac-ft of sediment storage (50 years based on original design)	

M.5 Decommission Dam

This alternative consists of decommissioning the dam. However, since the dam is within its design life and serves a significant flood control purpose for the Village of Malmo, decommissioning the dam is not currently being evaluated or recommended.

M.6 Alternative 4 – Non-Federal, Replace Principal Spillway with Box Culvert and Realign Auxiliary Spillway, Do Not Increase Sediment Storage

This alternative is a variation of combining Alternatives 1 and 2. The principal spillway would be replaced with concrete weir with 60-ft length and a dual 8'x10' box culvert. The weir inlet would have a low flow orifice to maintain the existing outflow rating curve for storms up to the 100-yr event. The auxiliary spillway would be reestablished by moving the level section downstream of the roadway and would require a 200-ft width with crest at elevation 1295.0.

The top of dam would not need to be raised to contain the freeboard hydrograph but does not account for an additional 100 years of sediment life. Consideration would need to be given for periodic sediment removal to maintain the required flood storage.

To help manage seepage, a detailed geotechnical analysis should be performed to determine the appropriate remediation. This could include addition of a chimney filter, toe drain modifications, or additional seepage protection berm.

Utilities are located within the project area. Power lines and buried fiber optic cable would need relocation during construction. Approximate costs have been included in the cost opinion, however, additional coordination with utility companies should be conducted during the Planning and Design phases to determine whether temporary or permanent relocations are needed.

M.7 Alternative 5 – Non-Federal, Realign Auxiliary Spillway and Roadway, Do Not Increase Sediment Storage

This alternative, similar to Alternative 1, consists of reconfiguring the auxiliary spillway and east end of the dam to avoid the county road grading issues. This alternative is only to meet hydraulic capacity requirements and does not include seepage remediation. The level section of the auxiliary spillway would be shifted downstream of the roadway so that any minor roadway changes due to regular grading and maintenance would not impact the flow capacity through the auxiliary spillway. The roadway would be lowered to the east so that the slope of the roadway meets roadway design criteria and to allow the roadway through the auxiliary spillway to be lower than the auxiliary spillway level section. The width of the auxiliary spillway would be increased to 275-ft in order to pass the FBH without overtopping the dam. A segment of dam would be added at the southeast to allow for the roadway to come up to top of dam grade at an acceptable slope.

To help manage seepage, a detailed geotechnical analysis should be performed to determine the appropriate remediation. This alternative does not include any seepage remediation costs.

Utilities are located within the project area. Power lines and buried fiber optic cable would need relocation during construction. Approximate costs have been included in the cost opinion, however, additional coordination with utility companies should be conducted during the Planning and Design phases to determine whether temporary or permanent relocations are needed.

N COST ESTIMATE

Cost Estimate Approach

Estimates of probable construction costs (2022 basis) have been prepared. Quantity estimates are based on standard NRCS riser, conduit, seepage protection filter, and pipe supports details. Estimates for miscellaneous costs such as mobilization, water removal, water for construction, metal fabrication, survey, Contractor QC and pollution control are approximated and assumed to be equal for each alternative. Estimates include 20% for contingency to account for unforeseen costs, 15% of construction costs for engineering/design and 5% for geologic investigation. A breakdown of construction costs for the alternative is included in Appendix H.

N.1 No Federal Action

As described in greater detail in Section M.1.

No estimated construction cost prepared for this activity.

N.2 Alternative 1 – Restore Auxiliary Spillway and Raise Top of Dam

As described in greater detail in Section M.2.

The estimated construction cost is \$4,540,000.

N.3 Alternative 2 – Replace Spillway System with Weir and Box Culvert

As described in greater detail in Section M.3.

The estimated construction cost is \$4,200,000.

N.4 Alternative 3 – Realign Auxiliary Spillway and Roadway, Evaluate Sediment Storage

As described in greater detail in Section M.4.

The estimated construction cost is \$1,750,000. (\$1,390,000 - \$2,500,000)

N.5 Decommissioning

Decommissioning was not evaluated for this site as the dam is in satisfactory condition and decommissioning is not a recommended alternative.

N.6 Alternative 4 – Non-Federal, Replace Principal Spillway with Box Culvert and Restore Auxiliary Spillway, Do Not Increase Sediment Storage

As described in greater detail in Section M.6.

The estimated construction cost is \$3,340,000.

N.7 Alternative 5 – Non-Federal, Realign Auxiliary Spillway and Roadway, Do Not Increase Sediment Storage

As described in greater detail in Section M.7.

The estimated construction cost is \$890,000.

O CONCLUSIONS AND RECOMMENDATIONS

The Cottonwood 21-A structure is deficient. It will not safely pass the freeboard hydrograph without overtopping the dam. Therefore, it is the team's recommendation that a rehabilitation project be performed. Alternatives for rehabilitation have been described in this report. Some of the potential rehabilitation alternatives have similar costs and should further be evaluated in the Planning and Design phases to determine which ultimately is the best alternative. Careful consideration should be given to how normal maintenance of the county road would affect any potential rehab project and the integrity of the dam.

I certify that this assessment was completed and prepared under my direction and supervision:



Professional Engineer

9/26/2022

Seal & Signature

Title

Date

I approve this assessment report:

State Conservation Engineer

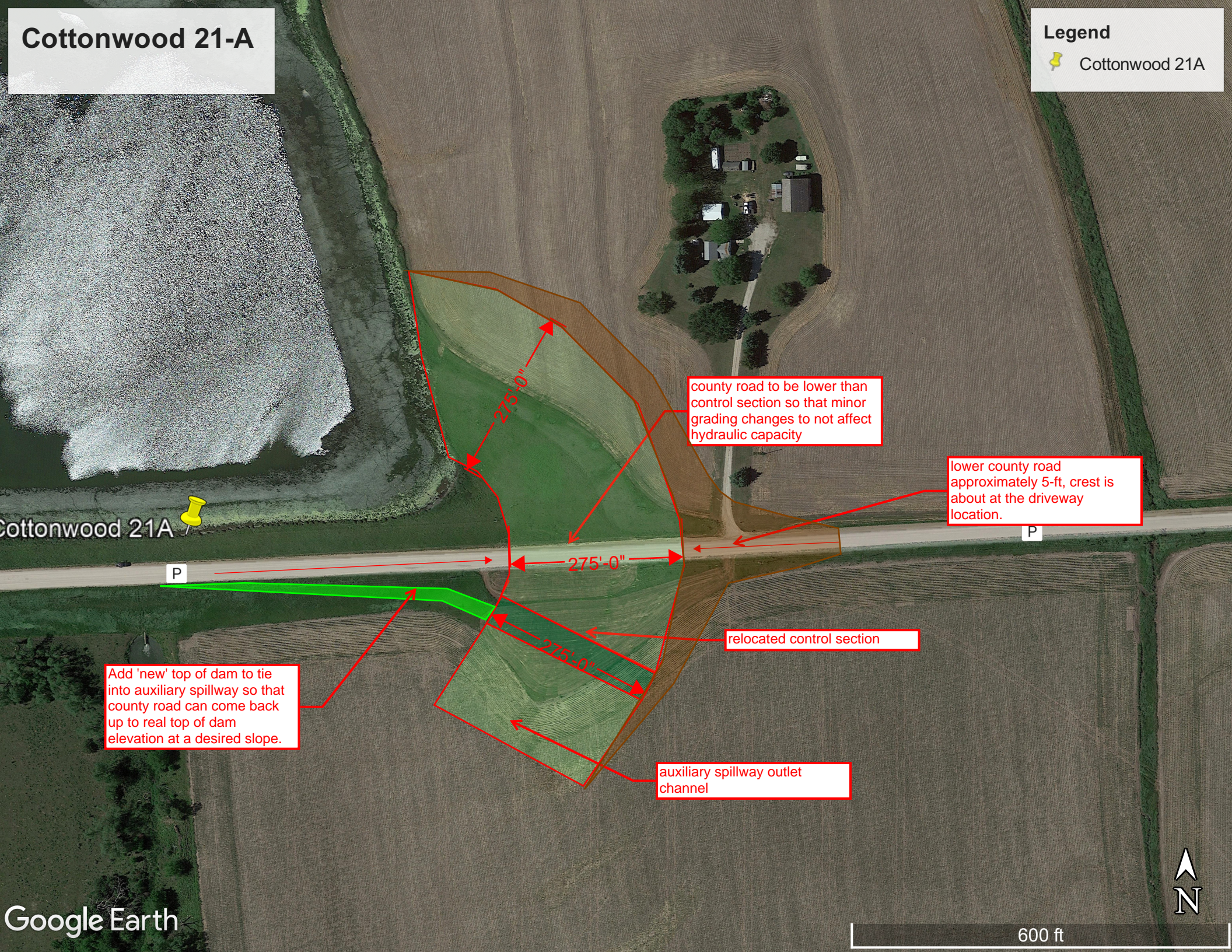
Seal & Signature

Title

Date

Cottonwood 21-A

Legend
Cottonwood 21A



Cottonwood 21A



P

P

county road to be lower than control section so that minor grading changes to not affect hydraulic capacity

lower county road approximately 5-ft, crest is about at the driveway location.

Add 'new' top of dam to tie into auxiliary spillway so that county road can come back up to real top of dam elevation at a desired slope.

relocated control section

auxiliary spillway outlet channel

275'-0"

275'-0"

275'-0"



VARIANCE REQUESTS

Variance requests for new and expanded irrigated acres in the Hydrologically Connected Areas are due by **September 15**. For more information visit lpnrd.org or call 402-443-4675



LOWER PLATTE NORTH
Natural Resources District

Rediscover the Outdoors

Visit one or all of the
LPNNRD Recreation Areas—
Czechland Lake near Prague
Homestead Lake near Bruno
Lake Wanahoo near Wahoo



LOWER PLATTE NORTH
Natural Resources District



LOWER PLATTE NORTH
Natural Resources District



LONG RANGE IMPLEMENTATION PLAN

Fiscal Year 2023

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Introduction

The Lower Platte North Natural Resources District (LPNNRD) is one of 23 Natural Resources Districts created in 1969 with the passage of LB 1357 by the Nebraska Unicameral. Since its formation in 1972, the LPNNRD has been assisting people in the Lower Platte North River Basin in the development and protection of our soil and water resources. Nebraska Statutes require that Natural Resources Districts develop a Long Range Implementation Plan. The purpose of this plan is to summarize accomplishments during fiscal year 2021 (July 1, 2021 to June 30, 2022) and planned District activities for fiscal year 2023. There are also objectives for a five-year period from fiscal years 2024 to 2028. The plan serves as an implementation tool of the district’s Master Plan, which is updated every ten years.

Authority and Responsibilities

The Natural Resources Districts have been given statutory responsibility outlined in Sections 2-3229, R.R.S. 1943. In this section it states that “The purposes of the Natural Resources Districts shall be to develop and execute, through the exercise of powers and authorities contained in this act, plans, facilities, works and programs relating to: (1) erosion prevention and control, (2) prevention of damages from flood water and sediment, (3) flood prevention and control, (4) soil conservation, (5) water supply for any beneficial uses, (6) development, management, utilization, and conservation of groundwater and surface water, (7) pollution control, (8) solid waste disposal and sanitary drainage, (9) drainage improvement and channel rectification, (10) development and management of fish and wildlife habitat, (11) development and management of recreational and park facilities, and (12) forestry and range management.”

Lower Platte North NRD programs and projects are available to meet the goal of properly developing our water and related land resources.

Description of the District

The Lower Platte North Natural Resources District is located in the Lower Platte River Basin in eastern Nebraska and includes 1,031,000 acres of land. A portion of Saunders, Butler, Platte, Dodge, Colfax, Boone and Madison Counties are within the district (see Appendix A), which includes twenty-eight cities, towns and villages. Besides the Platte River, other notable tributaries in the district include Wahoo Creek, Skull Creek, Bone Creek, Loseke Creek, Taylor Creek, Shell Creek, Elm Creek, Clear Creek, Rawhide Creek, Silver Creek, Sand Creek, and Duck Creek.

The population of the district is approximately 62,000, of which about half is rural and half urban. The Lower Platte North NRD is financed by a tax levy which may be up to four and one-half cents per \$100 valuation for general purposes and another one cent for water programs. The FY 2023 tax levy is .031404 cents per \$100 valuation.

Governing Body

The Lower Platte North Natural Resources District (LPNNRD) is governed by a 19-member Board of Directors. The directors are elected at the general election for a term of four years, with half of the members up for election every two years.

The district is divided into nine (9) subdistricts. Two board members are elected from each of the nine subdistricts, and one board member is elected at large every four years.

The district operates by a set of bylaws which are kept on file at the district headquarters at Wahoo, Nebraska.



FY 2022 Platte River Basin Activities

One of the great natural resources of Nebraska is the Platte River. It is the feature that attracted early settlers to our state and guided the wagon trails. Today, we look at the Platte River differently. It is a water source for agriculture and cities like Fremont, Lincoln and Omaha, a haven for wildlife, and a place for recreation. Issues surrounding the Platte are a top priority at the LPNNRD, since approximately 72 miles of the river flow directly through, or border, the district.

Ice Jam Agreement

In 1994, the LPNNRD entered into an agreement with the Papio-Missouri River NRD, Lower Platte South NRD, and Cass, Douglas, Sarpy and Saunders Counties to more effectively deal with ice jams and their resulting flood damages along the Lower Platte River. This area of concern is primarily from Fremont, Nebraska to the mouth of the Platte River. This group has pooled funds of \$150,000 to retain a contractor to use explosives when needed, to remove ice jams in a timely manner.

During the winter of 2021-2022, there were no ice issues of concern on the lower Platte River.

Rock & Jetty Program

This program was developed to offer cost-share assistance to landowners to construct erosion control devices for stream bank stabilization and to assist Dike and Drainage Districts with maintenance of dikes along the Platte and Elkhorn rivers and perennial streams. In FY21, \$25,000 is budgeted for projects on rivers & streams. We assisted one landowner on a maintenance project in FY 21-22 at a cost of \$4,000.

FY 2023 Platte River Basin Objectives

- Administer \$20,000 in the Rock & Jetty Program to assist with priority stream bank stabilization for cooperators on the Platte and Elkhorn Rivers and Perennial streams. This includes assisting cooperators with meeting the regulations of the Clean Water Act through section 404 permits.
- As a member of the Joint Water Management Advisory Board, provide leadership and assistance to move forward with exploring flood reduction solutions for the lower one-third of Dodge County within the District.
- Support the Lower Platte Weed Management Area financially and technically in controlling noxious and invasive weeds.
- Support the Nebraska Land Trust in acquiring easements for the protection and preservation of quality lands.
- Support the Lower Platte River Corridor Alliance by becoming an active voting member.

FY 2024-2028 Long Range Platte River Basin Objectives

- Continue to budget cost-share funds for priority bank stabilization along the Platte and Elkhorn rivers and other perennial streams in the district.
- Continue to be an active member on the Joint Water Management Advisory Board.
- Promote riparian buffer zones along the Platte River and other perennial streams.
- Continue to explore new, innovative and cost-effective ways to protect against stream bank erosion.
- Provide education on stream bank protection and regulations.
- Support and budget annually, as needed, for the Ice Jam Agreement Fund.
- Keep up to date on Clean Water Act and Endangered Species Act regulations.

- Continue to participate with the City of Fremont to study potential nonstructural measures to reduce flooding and economic losses from the Lower Platte River.
- Work with the City of Schuyler as they evaluate the need for future federal funding for completing structural and non-structural approaches to reduce flooding and economic losses from the Platte River through the LPNNRD District-Wide Hazard Mitigation Plan.
- Encourage cities and counties to initiate floodplain management planning to promote wise floodplain development.
- Assist dike and drainage districts within the LPNNRD to properly repair and maintain levy projects.
- Budget annually as needed to support the Lower Platte Weed Management group in controlling noxious weeds.
- Continue to support the Lower Platte River Corridor Alliance as an active voting member.



One of the Lower Platte North NRD's major responsibilities is to conserve and protect our ground and surface water resources. To accomplish this goal, the Lower Platte North continues to participate in water quality studies, ground water level monitoring, and water resource educational activities.

FY 2022 Ground & Surface Water Activities

Ground Water Management Area

LPNNRD implemented a District-wide Groundwater Management Area (GWMA) on January 1, 1997, to address both water quality and quantity concerns. This action was based on data gathered since 1985 indicating where groundwater quality conditions have deteriorated beyond those established as health standards, such as nitrate nitrogen. On that date, groundwater quality Phase I (education) regulations became effective for the entire District.

One primary rule in Phase I requires certification for fertilizer and water use. The District has developed a groundwater program emphasizing a protection-based approach rather than a reactive, corrective approach. Since that time, advanced Phase areas have been determined by trigger levels listed in the rules and regulations of the GWMA. The District has two Phase groundwater quality control areas, those being Bellwood and Richland/Schuyler. The Bellwood Phase 2 Area was established in 2003 and presently covers approximately 30 square miles in the western portion of the Platte Valley in Butler County and includes the town of Bellwood. In 2015 nitrate levels decreased to a point that the trigger levels were not being achieved, so this area was decreased to 20 square miles. The Richland/Schuyler Phase 2 Area was established in 2004. In 2015 this area was raised to Phase 3 because of the rising nitrate levels. This area covers approximately

55 square miles in the Platte Valley of Colfax County and includes the towns of Richland and Schuyler. In 2015, 10 additional sections north of the Richland/Schuyler Area became a Phase 2 area and in 2020 raised to Phase 3. Elevated nitrate-nitrogen levels continue to be the major concern in both Phase areas. Emphasis on awareness is a priority to the District with numerous grants being considered.

In June 2018, the District updated its Groundwater Rules and Regulations by adding a Phase Four under Water Quality and managing water by consumptive use or acre feet limitations. As of July 1, 2021, the District had 9155 registered active wells with 4586 irrigation wells and 206 wells in our GWEL network.

In Summer of 2012, the District saw mid-summer declines in the Bruno area and the uplands of Platte and Colfax Counties. These are now designated as the Butler-Saunders and Platte-Colfax Special Quantity Subareas. The District mandated water flow meters, rolling allocations and annual reports in these areas starting in 2016.

In 2012 seven NRD's agreed to develop a Lower Platte Basin plan, which is a cooperative agreement for the Basin Plan. This plan was approved in December of 2017 with each district assigned a depletion allotment within the Basin. The allotment is in 5-year increments starting in 2016 with a formula to determine the acre feet used for new water uses. The District completed its V-IMP in June of 2018 by adding an additional rule of requiring municipalities to report yearly water use, with an annual report due to NeDNR. The Coalition contracted with the Flatwater Group to analyze the data that will be used in the next 5-year allotment.

In 2016 the Lower Platte River Consortium, made up of the Lower Platte South NRD, the Lower Platte North NRD, the Papio-Missouri River NRD, Lincoln Water System (LWS), Metropolitan Utilities District (MUD), and the

Nebraska Department of Natural Resources (NeDNR), embarked on an effort to develop a drought contingency plan to maintain/mitigate sustainable water supplies to the Lower Platte River during drought conditions. The final report was finalized in the Spring of 2020. The group is in the process of ranking the projects to be considered for supplying water into the Platte River.

Current rules and regulations of the GWMA are available at the LPNNRD headquarters in Wahoo and via the district website at www.lpnrd.org.

Ground Water Quality Sampling

The Lower Platte North NRD continues efforts to develop a ground water quality inventory. The District has been divided into four primary aquifer regions: Todd Valley, Platte Valley, Shell Creek and the Uplands, and further divided into 26 subareas. Staff samples the same wells each summer, weather permitting, to determine long term trends for nitrate-nitrogen. This is referred to as the Statewide Network. The data collected is provided to the Nebraska Department of Environment and Energy (NDEE). NDEE in turn provides this to the Nebraska Legislature on an annual basis.

In 2022 samples were collected from 52 sites.

Year	Nitrate-Nitrogen Range	% Nitrate-nitrogen 0-8.0 ppm	% Nitrate nitrogen 8.01-10.0 ppm	% Nitrate nitrogen > 10 ppm
2022	0 - 18.7 ppm	69% (36 of 52)	15% (8 of 52)	15% (8 of 52)

Samples for pesticide analysis were collected from ten of these sites (19%). The pesticide analysis was for a suite of 25 parameters, and all results were less than reporting level.

Ground Water Energy Level Monitoring Network

One of the responsibilities of the NRDs in the State is to monitor fluctuations in groundwater

levels. With the help of area cooperators, a ground water energy level monitoring network has been established in the LPNNRD. This monitoring network has been established to obtain a better understanding of the groundwater levels throughout the District. As of Spring 2021, the LPNNRD had 206 wells in the groundwater energy level monitoring network. These wells are monitored each spring and fall, with selected wells also measured in late August.

The LPNNRD compares the latest spring reading to the 1987 base-year to determine if a subarea needs to be declared a Level 2 or Level 3 groundwater management area. Level 2 and 3 management areas require flow meters on wells, annual reporting of water use, and establishment of acre-inch allocations. For the 26 subareas within the District, 24 subareas are currently at Level 1 management, while the other 2 subareas still need additional information before these can be designated. The District prefers at least three years of data before the subarea can be designated as a Level 1, 2, or 3 management area.

Fall readings in 2021 and Spring of 2022 showed a decline from the previous year's measurement. This change was likely the effects of less rainfall and recharge from snowfall amounts in the winter months of 2021-22. Spring readings in 2022 showed 59% of the wells measured had levels lower in Spring 2022 compared to Spring of 2021. There was a 22% rise in 39 wells from a year ago.

Chemigation

Chemigation is the act of injecting chemicals into the water line of an irrigation system that is then applied onto the crops. It is considered to be one of the most efficient ways of applying essential nutrients in times when the crop is uptaking the most amount of nitrogen through its growing stages. In order to chemigate, a licensed permit holder must obtain a permit through the Lower Platte North NRD. Special equipment must be installed to protect Nebraska's groundwater from possible

back-flow of chemicals into the groundwater source. To obtain this permit administered by NDEE, you must pass the Chemigation Certification test taught through the University of Nebraska-Lincoln’s certification program. There is an online test option available to producers. The chemigation equipment must be properly equipped, inspected and approved by the NRD before applying any chemicals. The number of chemigation permits continues to slowly rise throughout the district due to chemigation’s efficient application rate when the crops are in the most need of nutrients. In sandier soil types, chemigation is extremely effective due to the soil’s incapability to hold essential nutrients in the root zone after heavy rainfall events.

Chemigation Permits	Total	Renewal	New	Emergency
November 2021	704	658	46	0
November 2022	733	676	56	1

In 2014, the Legislature approved changes to Title 195 that would allow individual NRDs to set chemigation fees. Chemigation fees for LPNNRD are: \$90 for a New permit, \$30 for a Renewal permit, and \$300 for an Emergency permit. Inspections are required on equipment for new permits. Renewal permits are inspected on a three-year rotation. Failure to renew by June 1st of the following year the permit was obtained will cause the permit to lapse. If a renewal permit lapses, the producer must obtain a new permit and an inspection is required.

Decommissioned (Abandoned) Wells

Abandoned wells are a health and safety concern and have been ruled as illegal by the Nebraska Legislature. A well not used for three consecutive years or one which is no longer useful is considered to be abandoned and needs to be properly decommissioned.

The Lower Platte North NRD offers up to 75%

cost share assistance to landowners to properly decommission abandoned water wells. In addition, the district will assist with up to 75% of the cost for pump and obstruction removal on domestic and stock wells. To receive cost share assistance, the actual decommissioning must be performed by a certified well driller or pump installer. The landowner has six months from the time of application to accomplish this task unless good cause is shown.

Since 1992 the district has administered local and state cost-share dollars to decommission 724 wells. Through this program in FY 21-22, a total of \$13,930.12 was administered by LPNNRD for the plugging of 17 wells. The district will administer approximately \$15,000 of state and local funds to plug additional wells during the current fiscal year.

Flow Meter Maintenance Program/Flow Meter Readings

Since 2008, the LPNNRD has implemented the requirement of installing a District approved flow meter on any new or replacement well. Thereafter in 2012, the District also required the installation of a flow meter on any expansion of acres from an existing well. This pumping information is invaluable to the District to know what has been pumped during years of extended drought. It is vital that the LPNNRD keeps track of this going forward into the future. In order to know the volume of water within our aquifer systems, we need to know the water that is being extracted.

In 2016, the district chose to contract with a private company through the bidding process. The company was scheduled to maintain the flow meters within the LPNNRD’s SQS areas for the first four years. Since that was completed the District has chosen to open the flow meter maintenance program district wide in 2020. Maintenance on the flow meters will be performed once every four years. The district is in charge of the labor and site visit at each meter. Each mechanical meter site visit is \$60 and each battery operated site visit is \$75. This maintenance includes the regular greasing

of the mechanical meters and changing the batteries on the digitally read meters. Along with the regular maintenance the private company also ensures that the meter is not damaged from water or vibration. There are approximately 1,100 irrigation well flow meters that are getting routine maintenance once every four years.

Along with the irrigation wells, the LPNNRD also records meter readings from all of the municipality wells within the District including MUD, Lincoln and Fremont. Livestock wells and commercial wells are required to report if the well was drilled after the 2012 requirement date. Over 1,200 readings are recorded annually throughout the LPNNRD District. This Fiscal year the LPNNRD budgeted \$17,500 for the meter maintenance program.

Registered Wells

The Nebraska Legislature declared that the conservation and the beneficial use of ground water are essential to the future well-being of the State. State Law requires that all water wells in the State of Nebraska be registered with the Department of Natural Resources. Wells that are not registered are illegal and should be registered as soon as possible. A breakdown by decade from 1970 to present shows the growth of active irrigation wells in the District.

*Table of Active Irrigation Wells within LPNNRD
compiled by Completion Date*

Date	Number of Active Irrigation Wells in the District
December 31, 1970	1,428
December 31, 1980	2,756
December 31, 1990	3,241
December 31, 2000	3,686
December 31, 2010	4,307
December 31, 2020	4,554
July 1, 2022	4,586

Well Permits

In May of 2008, the LPNNRD placed a flow meter and water reporting condition on well

permits for all permits issued after that date. All well permits require well owners to install a flow meter and report their water use for the calendar year to the LPNNRD by December 15 of each year. This reporting requirement is effective the year the well is drilled and for each year thereafter, until the well is decommissioned. As of July 1st, 2022, the District has issued 18 well permits with 8 new irrigation wells, 8 replacement irrigation wells, 1 stock well and 1 commercial well.

Special Studies

The LPNNRD has done a number of studies within the District. The following is a list of studies that are currently being conducted within the District.

Aquifer Vulnerability Mapping and Analysis

The Lower Platte North has been working with UNL to collect and analyze data within the LPN Water Quality Management Areas. The first stage involved intensive water sampling of irrigation wells for nitrates. A few isotope nitrate samples were collected for the purpose of determining if the nitrates are from organic or inorganic sources. This was followed-up with vadose soil sampling analysis to assist in determining the amount of nitrates in soil and pore water present in the unsaturated zones above the water table. A nitrate tool was developed utilizing this data, along with geological information to assist in determining vulnerability. This project was completed in 2021 with informational meetings in the area.

3D Airborne Electromagnetic (AEM) Hydrogeologic Framework and Assessment

Papio-Missouri River NRD, NeDNR and LPNNRD started a study in January 2021 to assess AEM survey information, well logs, and other geological information. The data will be used to characterize different geological layers and assign variables such as hydraulic conductivity. This data will be used in a groundwater modeling to better understand,

assess, and forecast groundwater. This study was completed in January 2022.

Lower Platte River Consortium Study

Municipal wellfields in the Lower Platte River Basin depend on the Platte River to recharge groundwater for their use. This study looked at long term water supplies in the Lower Platte River Basin, and the ability to enhance streamflow, especially in drought conditions, to sustain these municipal water systems. Sustaining water in the river would also provide a benefit to wildlife and agriculture by lessening the likelihood of a 'call' on the river. Due to different hydrologic conditions in the Platte River, such as gaining and losing segments, siting of future reservoirs, groundwater storage projects, etc. becomes important in order to most effectively move water to a desired location downstream. The plan was completed in Spring 2020 with the group now in the process of conducting a desktop exercise on determining which projects are feasible.

Eastern Nebraska Water Resources Assessment

LPNNRD is a partner in the Eastern Nebraska Water Resources Assessment (ENWRA). The ENWRA study has been utilizing Airborne Electromagnetic (AEM) over eastern Nebraska to better model the geology of the glaciated portion of the State. It has opened several questions concerning bedrock aquifers both in water quantity and water quality such as salinity. New flights were conducted in the summer of 2018 with the final report received in summer 2019. A study is being conducted in the Platte-Colfax Area (SQS#2) utilizing the AEM, additional data loggers and other geologic logs to determine the relationship between confining and unconfining layers along with determining drawdown levels for management decisions. The flights and the results can be found on the ENWRA website at (www.enwra.org).

Elkhorn-Loup Model

The Elkhorn-Loup Model (ELM) project is

a study of surface water and groundwater resources in the Elkhorn River basin upstream of Norfolk, Nebraska and the Loup River basin upstream of Columbus, Nebraska. Parts of this basin overlap and cover portions of upper Shell Creek.

Certifying Acres

In July 2009, the District signed a contract with GIS workshop to develop a database of county assessor records as the preliminary step to certifying irrigated acres. Using these records, LPNNRD staff mailed out letters to landowners to verify irrigated ground. As of January 2022, the majority of the irrigation in the district has been cataloged. The District is still granting new irrigation development. Those new acres are not entered into the certification database until such time as they show up on aerial photography and can be accurately modeled. In March of 2021, the District went through all the approved new irrigation acres and modeled out all those that had yet to be counted. Acre certification provides a true inventory of the irrigation needs of the District, which is an important part of present and future groundwater management and planning. In addition to cataloging irrigated acres, LPNNRD staff have been actively working with the Nebraska Department of Natural Resources (NeDNR), as well as local landowners, to bring all irrigation wells in LPNNRD into compliance with Nebraska Revised Statute 46-602 (7).

Nebraska Ordnance Plant Water Pollution Clean Up at Mead

During the 1940s, 1950s and 1960s, an Army Ordnance Plant near Mead was used to assemble bombs and served as an early Atlas Missile ICBM site. Over time, the soil and groundwater at the plant site became polluted with various explosive residues and solvents. The cleanup has been divided into three basic project areas: Soils (OU1), Ground Water (OU2), and Building contamination (OU3). This area has been under study by the Army Corps

of Engineers (COE) since 1988. An open house was held by the Corp, May 2022, with annual tours and open houses conducted regularly.

Wellhead Protection Program

The LPNNRD implemented a wellhead protection program in FY 2001. The goal of the program is to minimize potential polluting activities on the land surrounding a community's public water supply well(s). The District has identified 22 communities with public supply wells and they have been encouraged to become involved in the program. The Cities of David City and Wahoo have completed the re-evaluation and approved their wellhead management areas. Both communities are in the process of decommissioning wells within these areas.

Rural Water Districts

In recent years, the District has worked with communities who have had difficulties with water quality and quantity by forming two rural water systems. The Butler County system linked the village of Bruno in 2006, who was having water quality and quantity problems, to David City. Also in 2006, the Saunders County system linked the village of Colon, who was experiencing water quality concerns, to Wahoo. The LPNNRD operates both of these systems. The District purchases water from the larger communities and delivers it to the smaller communities; RW staff manage and maintain Colon's system and billing while Bruno manages their infrastructure and household billing. Both systems are designed to serve rural customers along each service route. Combined, the two systems serve over 135 households in Saunders and Butler Counties. To address fiscal concerns both RWDs have implemented a phased rate increase strategy to more diligently manage the financial standings of both districts. The District has been in contact with several other communities and anticipates several more communities and rural customers to be serviced by rural water systems in the future. Both systems are greater than 10 years old and

repairs/replacements of meters is expected to take up RWD staff's time in 2022-23 as a number of meters and components are showing the signs of wearing out.

Geographic Information System (GIS) and Global Positioning System (GPS)

LPNNRD has used Geographic Information System (GIS) technology since 1996. GIS is an automated system combining database information and maps. Features on a map, created with GIS technology, contain attribute or feature descriptions that are referenced by location. The data used by a GIS system consists of Vector and Raster Data. Vector data consists of point (wells), line (roads) and polygon data (irrigation boundaries); with Raster data consisting of pixels, where each pixel on the screen corresponds to a data point. Raster data includes aerial photography and elevation data such as LiDAR (a highly accurate elevation dataset). The District has incorporated the use of GIS into most district functions, including the certification of irrigated acres, maintenance, project planning, modeling of groundwater availability, and the movement of contaminants such as nitrates through the soil profile.

In addition to in-house GIS activities, LPNNRD GIS staff assist a variety of partners, including projecting FSA aerial photography into Nebraska State Plane Feet coordinates for NeDNR, custom authoring of maps for the Nebraska Land Trust, coordination of helicopter flight lines for invasive species control with the Lower Platte Weed Management Area, and helping other NRDs with GIS questions as they emerge.

LPNNRD entered into an agreement with Phoenix Web Group to create a robust, relational database. GIS will be the backbone of this database and will allow LPNNRD to quickly, and efficiently, look up any information pertaining to any project or cost share that has been completed for any constituent with land in LPNNRD.

The Global Positioning System (GPS) relies on 28 NAVSTAR satellites, which provide world

wide positioning and navigation information around the clock. Receivers acquire signals from satellites to determine precise locations on earth. The data obtained from taking GPS positions can be downloaded and mapped with GIS, making the two technologies complementary. LPNNRD partnered with NRCS on the purchase of a sub-centimeter GPS base station. This allows NRCS and NRD staff to quickly and efficiently perform a variety of tasks in the field with survey level precision.

As drone technology continues to evolve, LPNNRD has added a SkyDio2 Autonomous Drone to its inventory. LPNNRD staff are working towards the completion of a Part 107 license through FAA to fly the drone without the need for waivers, as not all activities fall under a waiver category.

FY 2023 Ground and Surface Water Objectives

- Continue to monitor changes in groundwater levels and quality in the district.
- Continue with LPNNRD Groundwater Management Area (GWMA) programs to help avoid the Lower Platte Basin being designated “fully appropriated.”
- Continue to implement Voluntary Integrated Water Management Plan (V-IMP) for the District and basin-wide plan. Utilize acre feet allotments assigned to the District for the benefit of the basin.
- As part of the GWMA, continue with LPNNRD certification classes, demonstration plots, generation of maps indicating problem areas, and evolving the development of a master database.
- Continue to cooperate with the United States Geological Survey (USGS) in monitoring groundwater levels at two sites.
- Continue to cooperate with the United States Geological Survey (USGS) in monitoring surface water levels at four sites and one site for contamination evaluation.
- Use the Subarea Delineation Study to

identify ‘small pocket aquifers’ in the Swedeburg, Prague, Yutan, and Yutan South subareas. Review other aquifer subareas to determine if Stay Management Areas are justified in other portions of our District.

- Continue sampling of approximately 53 wells in our District that are part of the Nebraska State-wide Network.
- Continue to monitor the Phase Areas in Richland-Schuyler and Bellwood for nitrate and elevate these areas as needed.
- Continue implementing extensive sampling of soil and water in the Phase Areas for the purpose of identifying workable best management practices for curbing the rising nitrate trend.
- Implement best management practices within the Phase Areas for the purpose of decreasing nitrate levels.
- Administer \$19,000 of state and local cost-share funds to decommission abandoned water wells, and provide 100% cost-share assistance within Wellhead Protection Areas to communities that are actively doing projects within its management area.
- Maintain a multi-agency groundwater energy level monitoring network in the Wann Basin of the Platte Valley north of Ashland to pool information from different agencies collecting water level data. This information is being used by the COE and MUD to refine their groundwater modeling efforts.
- Continue to implement the Chemigation Program to inspect safety equipment on permitted irrigation systems in the district.
- Continue with the District’s Well Permitting Program and Variance Process throughout the District.
- Continue to review water use reports submitted to the LPNNRD as part of the well permitting process from new and replacement wells.
- Provide information and education on water conservation and safe disposal of farm and household chemicals.
- Continue to map registered and

- unregistered wells in the district using GPS.
- Promote and sponsor LPNNRD's Spring Conservation Sensation.
 - Provide information on Integrated Pest Management in news releases and the "Viaduct" newsletter to encourage reduced use of pesticides.
 - Support and promote urban water conservation and chemical disposal throughout the District.
 - Assist in organizing the annual NRD Water Programs Conference held each year to update the NRD's on activity of State and Federal Agencies, new research, and Legislative issues.
 - Continue to install flow meters on irrigation wells that are part of our Ground Water Energy Level (GWEL) Network.
 - Expand the GWEL network to monitor aquifer sub-areas as designated in the 2009 Subarea Delineation Study. This will be done by incorporating additional high capacity wells and the drilling of new monitoring wells.
 - Continue to monitor clean up efforts by the COE at the Former Ordnance Plant at Mead, Nebraska.
 - Work with the COE to establish spacing requirements for future high capacity irrigation, industrial, and/or municipal wells that are requesting to be installed near known contaminant plumes from the Former Ordnance Plant near Mead, so these wells will not interfere with the COE's clean up efforts.
 - Continue to monitor clean up efforts by the University of Nebraska at the Eastern Nebraska Research and Extension Center (ENREC) facilities east of Ithaca, Nebraska.
 - Maintain transducers placed in District monitoring wells to record changes in groundwater energy levels and to continue the process of installing real-time remote reads.
 - Implement Level 2 or Level 3 Management areas as warranted caused by declining groundwater energy levels in 50% or more of the monitoring wells reaching their trigger levels after three consecutive spring readings.
 - Review livestock permits from NDEE.
 - Investigate irrigation runoff and groundwater management area complaints as needed.
 - Expand the NeRain program within our District.
 - Continue to be a sponsor member of the Elkhorn-Loup Model (ELM).
 - Continue groundwater studies with the University and NeDNR in the SQS areas. Study will focus on confined and unconfined aquifers and drawdowns within these areas.
 - Communicate with well drillers and pump installers on water concerns within the District.
 - Continue to assist the Eastern Nebraska Water Resources Assessment (ENWRA) with the use of AEM (Airborne Electromagnetic) to study the eastern glaciated portions of Nebraska to provide a geologic framework map.
 - Improve irrigation efficiency by working with UNL Extension on the Nebraska Agricultural Water Management Network (NAWMN) to install Watermark sensors and ET gauges with producers each year in our District.
 - Continue with the process of updating Irrigated Acre Certification within the District.
 - Continue working on projects identified within the Shell Creek Watershed Water Quality Plan.
 - Update water quality objectives as identified in the Wahoo Creek Watershed and the Shell Creek Watershed Water Quality Plans.
 - Continue to increase producer participation in online reporting for entering their data to improve efficiency and quality of data.
 - Analyze the real-time water level measurement network in Special Quantity Areas for in-season management decisions for determining warning triggers.
 - Start the groundwater modeling process

jointly with PMRNRD, LPSNRD and NeDNR within the Lower Platte Basin for updating the Hydrological Connected Area (HCA) and assist in the well permitting process.

- Work with UNL and NDEE on an interseeding cover crop project in the Shell and Wahoo Creek Watersheds.

FY 2024-2028 Long Range Ground and Surface Water Objectives

- Continue groundwater quality sampling throughout the LPNDRD, both the State-wide network and intensive sampling of selected regional aquifers.
- Continue water quality education programs based on the goals and objectives of the LPNDRD Groundwater Management Area, which includes LPNDRD certification classes for landowners, municipal, and industrial water users.
- If needed, designate further Phase II, III, and IV boundaries for the Groundwater Quality Management Areas.
- Educate the need for check valves in protecting the aquifer from contamination.
- Continue with nitrogen application demonstrations and participate with demonstrations on integrated pest management and sustainable agriculture.
- Assist in the proper decommissioning of water wells in the district.
- Continue to use GPS to map registered and unregistered wells within the district.
- If necessary, designate Level II and III boundaries within the district to manage declining groundwater levels.
- If necessary, designate new Special Quantity Subareas (SQS) within the district to manage mid summer declines of groundwater energy levels in aquifers that operate under large pressure swings.
- Continue measurement of ground water energy levels in the district.
- Develop a groundwater model for each sub-area. Additional information on water use from all wells will be needed for accurate information.
- Continued partnership with the Eastern Nebraska Water Resources Assessment (ENWRA) and apply information to the glaciated portions of our District.
- Initiate additional studies to identify vulnerable aquifers and modify GWMA rules and regulations to protect these aquifers and their long term sustainability. Continue geophysical work, installation of monitoring wells and test holes to better define these vulnerable sub-areas. Additional AEM flights with ¼ to ⅓ mile spacing would gratefully assist in defining such areas. Eventually cover the entire District with these detailed AEM investigations.
- Continue using AEM (airborne electromagnetic) information to analyze bedrock aquifers both in water quantity and water quality. Test holes and monitoring wells will have to be installed and sampled to determine these as a possible source of usable groundwater. New management strategies need to be developed for these aquifers such as summer trigger levels for confined bedrock aquifers, especially if these are hydrologically isolated from overlying alluvial aquifers. This could develop into three dimensional management where aquifers at different depths are treated by a separate set of rules for each one. This could become very complex but will likely be the only way to sustain the use of these aquifers far into the future.
- Install precipitation gauges near monitoring wells in important sub-areas.
- Utilize the completed Lower Platte River Consortium Study for possible locations for recharge and reservoir sites to better convey water downstream to municipal wellfields.
- Complete water quality objectives as identified in the Watershed Quality Plans.
- Continue to update the Groundwater Management Plan to include Integrated Management of surface and ground water. It may be necessary to install additional surface water gauging sites coupled with nearby groundwater monitoring wells as

tools for integrated water management.

- Expand the GWEL network to have continuous recording monitoring wells in each sub-area to better manage the resource with the ability for remote real-time readings. This is especially important in confined aquifers.
- Continue to update the certification of irrigated acres.
- Continue to assist District communities who have difficulties with water quality and quantity by helping determine rural water system feasibility.
- Keep the Saunders County Rural Water System study as an alternative in the event of changing federal regulations governing municipal water supplies.
- Keep abreast of updates and new iterations of the Elkhorn-Loup Model (ELM) to determine which areas in the Shell Creek watershed are in hydrologic connection with the Elkhorn or Loup River basins.

In summary, the LPNDRD needs to focus on five areas in the next five years:

1. Using information from the AEM flights and test holes, establish a monitoring well network in these confined aquifers to record continuous ground water energy levels. It is midsummer declines (late July to mid-August) when large drops in aquifer pressure can cause some wells to run low on water. Map locations of potential recharge sites. More flights, test holes and/or monitoring wells might be necessary in areas to provide the necessary information.

2. Establish ground water management rules to better address confined aquifers. This could involve comparing spring to summer ground water energy levels and comparing this to the potentiometric aquifer thickness and the depth of bedrock. The current management rules for unconfined aquifers should be adequate for future conditions. These controls are based on three consecutive spring readings at or below their trigger levels in at least 50% of the GWEL wells in a given subarea.

3. AEM flights have given a new interest in bedrock aquifers such as the Dakota formation. Monitoring wells in selected areas are needed to determine the water quality and quantity of these bedrock aquifers. Also are these bedrock aquifers in hydrologic connection to any overlying aquifers? If this is the case and new high capacity wells are being established in these bedrock aquifers then management should shift focus to the more vulnerable aquifer to sustain long term viability of both aquifers. If these bedrock aquifers are isolated from the overlying aquifer then "three dimensional management" where wells are managed differently due to their depth may be in order. This could get complex but management needs to take the chemical and physical characteristics of the aquifer in account. For example, what is the salinity of the groundwater and is the bedrock aquifer cemented, unconsolidated, sandstone, limestone, or shale.

4. Horizontal wells. In the immediate future horizontal high capacity irrigation water wells will likely be established in thin aquifers to increase well output or yield. On the plus side, these could replace several vertical wells that are used in series and therefore be a cost savings to the well owner. On the negative side these could quickly dry up thin aquifers less than 20 feet in thickness and affect nearby wells. How do you manage such a system? At the least you could require 600 feet spacing from any point of the lateral to a neighbor's well but again this may not provide much protection in thin aquifers such as the area immediately west of Fremont. Other management options would be to restrict the number of acres irrigated, restrict the length and direction of the laterals, restrict well output such as limit the gallons per minute, establish water allocation, install monitoring wells such as near the end of the laterals to track groundwater levels, etc.

5. Integrated Water Management. Siting of potential recharge sites, storage reservoirs (both surface and groundwater), and potential water reuse projects to enhance the water supply in the District. Additional monitoring wells, streamflow gauging, and precipitation sites will likely be necessary. Effects of climate change will also need to be considered as part of integrated water management.



In response to the Erosion and Sediment Control Act (LB 474), passed in 1986, the Natural Resources Commission developed the Nebraska Soil and Water Conservation Strategy. This strategy outlines a course of action for efficiently conserving and managing the state's natural resources.

The Lower Platte North NRD administers the Erosion and Sediment Act and has patterned its local program after the state strategy. The district administers state and local cost-share funds through Soil and Water Conservation Programs (SWCP) to offer incentives to farmers for installation of land treatment practices. LPNNRD staff also worked with NRCS staff to utilize Farm Bill Programs to repair erosion problems.

FY 2022 Soil Conservation Activities

Soil and Water Conservation Programs (SWCP)

Under Soil and Water Conservation Programs (SWCP), the LPNNRD allocated \$83,029.99 of state funds for land treatment practices during fiscal year 2022 in cooperation with 15 different landowner projects. In addition, 3 Buffer Strip contracts were administered with \$12,258 in state funds.

For fiscal year 2023, \$86,748.17 of state funds (from the Nebraska Department of Natural Resources) and \$25,000 of local funds will be allocated for soil and water conservation practices.

Wahoo Creek Water Quality Land Treatment Efforts

Wahoo Creek in Saunders County, Nebraska, has resided on the Environmental Protection Agency's (EPA) Section 319 list of impaired water bodies. To address the impaired status of Wahoo Creek, LPNNRD in partnership with the U.S. Environmental Protection Agency (EPA) and the Nebraska Department of Environment

and Energy (NDEE) developed the Wahoo Creek Watershed Water Quality Management Plan in 2013. These plans are updated every 5 years and the District is completing another update in 2022. This plan identifies goals to reduce excess phosphorus, nitrogen, soil sediments and E. coli bacteria in the Wahoo Creek Watershed. This plan meets the EPA's requirement of containing "Nine Elements" of an effective watershed plan. The plan identifies water quality goals to protect and enhance the quality of all water resources within the Wahoo Creek. Sub-watersheds within the Wahoo Creek Watershed were prioritized for future water quality projects. LPNNRD in partnership with EPA, NDEE and the Natural Resource Conservation Service (NRCS) identified four Wahoo Creek sub-watersheds as National Water Quality Initiative (NWQI) areas to receive special EQIP and EPA 319 funding for landowners to complete conservation practices to help achieve the numerous identified water quality goals.

Approximately \$36,458 of 319 Grant Funds in FY 2022 were spent in the Wahoo Creek watershed. These cost-share monies helped construct practices including approximately 5,000 linear feet of terraces and 3,000 linear feet of tile outlets. The Wahoo Creek Grant also included approximately 135 acres in the Lands for Conservation program that helps generate Summer work in the watershed.

In FY 2022, the Wahoo Creek Watershed Water Quality Plan Phase II, Part B, was completed, which combined \$177,250 of remaining EPA 319 grant funds and \$43,000 of the remaining Nebraska Environmental Trust grant funds. These funds were used to complete a large Shoreline/Road Stabilization Project at Czechland Lake, Lands for Conservation landowner payments, and for the Wahoo Creek Watershed Plan Update. For example, septic systems that are over 30 years old or have an open discharge are eligible for up to \$15,000

of cost-share assistance to bring the system up to EPA/NDEE code. The NRD cost-shared on two septic system upgrades within the Wahoo Creek Watershed in FY22. To accomplish water quality goals, as outlined in the EPA Water Quality Watershed Plan, is to continue this partnership effort for many years to come. The Railroad Road/Czechland Lake Shoreline Stabilization Project was completed in the Fall of 2021. This was a cooperative effort between LPNNRD and Saunders County.

Shell Creek Watershed EPA Section 319 Water Quality Improvement Efforts

Shell Creek is a major tributary of the Lower Platte River. Land use in the approximately 305,000 acre watershed is predominantly row crop agriculture. The designated beneficial uses (Primary Contact Recreation and Aquatic Life) of some segments of Shell Creek are impaired by elevated levels of Escherichia coli (E. coli) bacteria, selenium, Atrazine and excessive erosion from storm water flow.

The Shell Creek Watershed Improvement Group (SCWIG) is a volunteer committee that formed in 1999 to lead local efforts to identify problems and to promote implementation of conservation practices to improve water quality in Shell Creek. This evolved into an advisory group to LPNNRD continuing to provide local leadership toward reducing erosion and quality impairments in the watershed. A community-based planning approach was used to gather input from the citizens of the watershed for development of the Shell Creek Watershed Environmental Enhancement Plan that emphasizes combinations of practices that improve water quality. Efforts have been underway on the plan update to be completed by the end of 2022.

Over the past 22 years, the Shell Creek Watershed has benefited with over \$2 million in EPA Section 319 funds combined with approximately \$4 million in partnering federal and local funds for assisting landowners in establishing Best Management Practices on their farms. These efforts resulted in Shell Creek

becoming the first watershed in the nation to be delisted for atrazine contamination in FY 2018.

In FY 2022, in cooperation with Colfax County, the Shell Creek Channel and Bank Stabilization Project near Schuyler south of the Union Pacific Railroad bridge replacement near Colfax County Road 15 was completed. In addition, a large bank stabilization Project was completed in the summer of 2022, in cooperation with a private Platte County landowner. The District is planning with local and state partners for establishing local, state and federal grant assistance for the next five year period.

Erosion and Sediment Complaints

The LPNNRD responds to occasional erosion and sediment complaints. In most cases, these complaints are resolved before going through the formal complaint process. Many cases are drainage issues that are resolved between the District and landowners. During FY 2022 NRD staff was subpoenaed on a case between two neighbors that could not be resolved amicably.

FY 2023 Soil Conservation Objectives

- Use technical assistance from the NRCS in the planning, design, construction, and maintenance of conservation measures applied to the land.
- Use Federal, state, and local funds to promote and implement land and water treatment projects in the Dunlap Creek, North Branch, and Miller Branch of Wahoo Creek, along with Cottonwood Creek Watershed and Shell Creek Watershed, to reduce erosion and improve water quality.
- Continue encouraging the implementation of summer conservation construction utilizing federal funding within the Wahoo Creek Watershed through the Lands for Conservation program; for FY23 the NRD has approved \$28,800 for the set aside of 150 acres.
- Administer \$86,748.18 of State NSWCP funds and \$25,000 of local cost-share

and grant funds to landowners for the construction of terraces, tile outlets, waterways, diversions, small dams, planting of permanent vegetation, and maintaining water quality.

- Continue to promote conservation tillage measures, pasture & range management, sustainable agriculture, and the Conservation Reserve Program (CRP), through news releases and the district's newsletter.
- Recognize the Outstanding Soil and Water Conservationists.
- Continue to assist landowners in resolving soil erosion and sediment complaints.
- Provide financial support and staff time to conservation education activities.
- Continue to work closely with locally-led conservation groups to promote soil and water conservation throughout the district.
- Partner with the Shell Creek Watershed Improvement Group (SWIG), EPA/NDEE and NET toward continuing implementation of Best Management Practices in the Shell Creek Environmental Enhancement Plan Implementation.
- Work with NRCS, NDEE, NET, Saunders County, and the Wahoo Creek locally led Steering Committee in pursuing additional federal and state funds to assist with land treatment practices as defined in water quality objectives in the Wahoo Creek Watershed Water Quality Plan.
- Assist with the formation of local landowner advisory steering committees in the Wahoo and Bone/Skull Creek Watersheds for planning soil & water conservation practices and flood reduction.

FY 2024-2028 Soil Conservation Long Range Objectives

- Maintain existing land treatment practices and programs.
- Continue to work with all counties in the district to reduce roadside erosion.
- Administer NET and NDEE/EPA 319

Grant Programs to improve water quality throughout Wahoo Creek, Shell Creek, and the Lower Platte River Corridor priority watersheds.

- Look for new and innovative soil and water conservation methods.
- Partner with NRCS, UNL Extension, and landowners to improve all aspects of their water and soil quality.
- Continue to support the Land and Range Judging Contests.
- Continue targeting SWCP land treatment program funds for priority watersheds in the District.
- Use existing and new technology and GIS software programs for implementing and promoting soil conservation practices.
- Promote the use of and make available soil surveys and land use information.
- Continue to support Locally Led Landowner Groups to promote and implement soil and water conservation practices.



FLOOD CONTROL & DAMAGE REDUCTION ACTIVITIES

Watershed projects have been completed in five of eleven sub-watersheds (see Appendix E) in the LPNNRD to help reduce floodwater and provide grade stabilization. These completed projects include Bellwood, Clear Creek, Cottonwood Creek, Sand and Duck Creek, Swedeburg watersheds, along with Rawhide Creek. Current high priority flood reduction areas include Shell Creek, Wahoo Creek, Skull Creek and Bone Creek watersheds. On federal and state projects where the LPNNRD acts as project sponsor, the district obtains land rights and mitigates for loss of trees, wildlife habitats and fences destroyed by project construction. The LPNNRD is also responsible for operation and maintenance activities on these projects after they are built.

The LPNNRD offers local assistance for the construction of small dams that can help counties and/or landowners protect county roads, control erosion, and provide water for livestock and wildlife.

FY 2022 Flood Control and Damage Reduction Activities

Wahoo Creek Flood Reduction Efforts

In 2017, the Natural Resource Conservation Service (NRCS) approved \$1.5 million under their Regional Conservation Partnership Program (RCPP) to assist with construction of three Wahoo Creek flood reduction dams, sites 26a, 26b, and 27. These dam sites were originally identified as potential projects in the NRCS Wahoo Creek Watershed Plan completed in 1998. The total estimated cost to complete the three dams is \$4.1 million. In addition to RCPP funding, there is another \$2.3 million of state funds approved through the Nebraska Department of Natural Resources Water Sustainability Fund. It is anticipated that approved funding through LB 406 will assist with the estimated \$1.1 million needed from

local sources.

In the fall of 2017, NRCS approved additional funding for the Wahoo Creek Watershed under the federal Watershed Flood Prevention Operations Program (WFPO), historically referred to as P.L. 566. LPNNRD then entered into a three year agreement with NRCS to use federal funds for watershed planning to include sites 26a, 26b, 27 plus an additional seven remaining Wahoo Creek Watershed flood reduction dam sites (55, 66, 77, 82, 84, 85 & 86). FYRA Engineering was hired to assist LPNNRD with completing the Wahoo Creek Watershed plan which was submitted to NRCS for final review in December 2021. It is anticipated we will receive formal plan approval by the fall of 2022. With the approval of \$22 million from LB 406 funding, LPNNRD has hired Olsson (Engineering) for completing the design, permitting, bid letting, and construction oversight for all ten dam sites by the end of calendar year 2026.

Sand Creek Environmental Restoration Project (Lake Wanahoo)

With the invaluable assistance of numerous local, state, and federal partners, 2011 witnessed the completion of construction on Lake Wanahoo's earth embankment. The breakwater feature and the fisheries component were completed a few years prior to the embankment. Recreation components were completed for Lake Wanahoo in FY 2011. Construction of seven upstream flood reduction/environmental enhancement structures were completed in FY 2012 - FY 2014.

In FY19, LPNNRD assumed Lake Wanahoo's recreation management responsibilities from the Nebraska Game and Parks Commission.

Operation and Maintenance

District staff completed inspections on

45 watershed structures and special projects in the NRD in FY 22. These inspections help detect problems before they become serious. Also during the 2022 fiscal year, noxious weeds and volunteer trees were sprayed on 45 dams, Clear Creek Levee, and the Rawhide Ditch System. Annual maintenance activities such as removing debris, repairing fences and unplugging risers were completed at many of the dam locations.

Army Corps of Engineers 205 Flood Studies

Over the past few years, the District has partnered with local entities and the US Army Corps of Engineers to study flood protection alternatives for their areas. In 2004, LPNNRD partnered with Fremont, Inglewood, and Dodge County to look at a potential levee project to remove areas from the Platte River 100-year ice induced floodplain. In FY 2017, the Fremont study evolved into a General Investigation (GI) Study which determined that there is not a feasible structural solution (levee) to the City of Fremont's flood threat from the Platte River. In 2018 the GI Study evolved back to a 205 Non-Structural Study for the City of Fremont and Dodge County. This effort will continue in FY 2023.

In 2005, LPNNRD entered into an interlocal agreement with the City of Schuyler to evaluate levee protection options to protect the city from flooding from the Platte River and Shell Creek. In FY 2012, the Schuyler 205 Study was completed and entered into the project design phase. In FY 2014 the design phase was completed and LPNNRD assisted Schuyler with obtaining needed land rights for the Shell Creek Levee portion of the project which began construction activities in the spring of 2014 and most construction activities were completed in the fall of 2015. LPNNRD continued to assist Schuyler in FY 2018 with closing out the project with the Army Corps of Engineers. Schuyler continues to do a good job in maintaining the levee.

FY 2023 Flood Control and Damage Reduction Objectives

- Continue with accelerated land treatment efforts in identified priority watersheds in the District.
- Complete biennial inspections on 45 watershed structures; spray noxious weeds & cut and treat trees on 45 dams, Clear Creek Levee and Rawhide ditch; complete regular maintenance activities at all sites.
- Continue to be an active partner on the Joint Water Management Advisory Board to explore flood reduction and drainage solutions in the lower one-third of Dodge County within LPNNRD.
- Partner with the City of Fremont, Dodge County, and Papio-Missouri River NRD to fund operation and maintenance of established USGS cameras and water gauges at five locations along the Lower Platte River.
- Partner with Dodge County, City of Fremont, City of North Bend and the North Bend Drainage District toward an eventual FEMA Drainage Improvement Project.
- Partner with City of Fremont, Dodge County and the Fremont Rod & Gun Club on completing the Platte River Levee Breach Repair Project.
- Continue to educate the public on watershed management and flood reduction in LPNNRD newsletters, news releases, and our website.
- Cooperate with landowners and counties in evaluating small dam sites for cost-share throughout the district.
- Continue to partner with the Army Corps of Engineers, FEMA, City of Fremont, Englewood, and Dodge County on exploring non-structural opportunities for feasible flood control solutions.
- Support the City of Schuyler for exploring non-structural opportunities for feasible flood control solutions from the Platte River through the LPNNRD District-wide Hazard Mitigation Plan.

- Work with Communities, Counties, and other entities on projects identified in our District-wide All Hazard Mitigation Plan.
- Obtain final formal NRCS approval on the Wahoo Creek Watershed Plan that identifies the future completion of ten flood water reduction dams.
- Complete engineering designs on Wahoo Creek Dam Sites 26a, 26b, and 27.
- Complete engineering designs on Wahoo Creek Dam Sites 55, 66, 77, 82, 84, 85, 86.
- Begin the process using approved federal and state funds for constructing all ten Wahoo Creek flood water reduction dams.
- Begin the process of updating LPNNRD's district-wide All Hazard Mitigation Plan.
- Work with Dodge County and City of Fremont and other JWMAB members toward the completion of the Rawhide Watershed WFPO Planning efforts.

as they become available.

- Assist District Communities in evaluating future flood protection for their communities through updating the District's Hazard Mitigation Plan and assisting with identified projects.
- Construct ten approved Wahoo Creek flood water reduction dams by the end of 2026.
- Continue to work with JWMAB members on the numerous projects identified as flood reduction/drainage improvement projects.

FY 2024-2028 Flood Control and Damage Reduction Long Range Objectives

- Continue to commit funds and staff time toward completing flood water control/reduction structures in the Wahoo Creek Watershed.
- Continue to budget staff time and funds to maintain and operate completed flood control structures that are sponsored by the LPNNRD.
- Continue to explore flood reduction opportunities for Shell Creek and Skull Creek Watersheds.
- Continue to encourage cities and counties in the district to accept and implement Floodplain Management Authorities.
- Assist Fremont, Inglewood, and Dodge County with non-structural flood protection projects as identified by the Army Corps of Engineers study and the Hazard Mitigation Plan Flood Resiliency study.
- Assist Schuyler with non-structural Platte River flood protection project opportunities



The district administers several programs designed to enhance the region’s forest, range, and wildlife land, including the Tree Planting Program, Wildlife Habitat Programs with Nebraska Game & Parks and Pheasants Forever, SWCP Program, and Mitigation Program. The district also sponsors educational activities such as Range Judging and Land Judging contests, and other school-oriented activities.

FY 2022 Forestry, Range, and Wildlife Habitat Activities

Tree Program

One of the most visible and popular programs offered by the LPNNRD is the district’s tree planting program. As a direct result of this program, begun in 1973, an estimated 862,750 trees and shrubs have been planted in the district. Trees and shrubs may be obtained from the NRD for windbreaks, shelterbelts, wildlife habitat, woodlots, and Christmas tree plantings. Besides providing a planting service, the NRD also designs tree planting plans and offers technical advice on ground preparation for tree sites.

During the spring of 2022, 17,875 trees and shrubs were distributed to District residents. Of this total, 5,908 were planted by the NRD field crew at 12 sites.

Wildlife Program

Lower Platte North continues to encourage landowners to set aside land for wildlife habitat by using Federal Programs and Programs provided by Nebraska Game & Parks and Pheasant Forever. These programs include Corners For Wildlife and Wild Nebraska.

Community Forestry Program

In FY 2021-2022 LPNNRD donated 950 seedlings for schools in Fremont, Richland,

Columbus, and Newman Grove; provided trees to the District’s annual Spring Conservation Sensation; and provided trees for the Fremont EcoFair. The District budgets \$2,000 for Community tree development projects. The District did not assist a Community during the fiscal year.

FY 2023 Forestry, Range, and Wildlife Habitat Objectives

- Plant and distribute conservation trees and shrubs through the district’s Tree Planting Program.
- Continue to include tree planting as an eligible cost-share practice under the SWCP program.
- Offer trees and give staff presentations to elementary students across the district.
- Assist cooperators with signing up for Wildlife Programs.
- Cooperate with the Extension Service and the NRCS in obtaining tree orders from District residents.
- Provide cost-sharing for the conversion of cropland to grassland through the SWCP program.
- Cooperate with Pheasant Forever Chapters to enhance wildlife habitat and establish windbreaks.

FY 2024-2028 Forestry, Range, and Wildlife Habitat Long Range Objectives

- Increase tree and shrub sales and planting each year through the district’s Tree Planting Program for qualified property owners.
- Provide information and education on tree planting, woodland management, grassland management, and proper wildlife habitat enhancement through media,

tours, and schools.

- Continue to administer Wildlife Habitat programs in cooperation with the Nebraska Game and Parks Commission and other partnering entities as opportunities arise.



FY 2022 Recreation Activities

Czechland Lake Recreation Area

Czechland Lake Recreation Area is a multipurpose project located one mile north of Prague, Nebraska on Highway 79. Flood control, recreation, and education are the main benefits of the project. Located at a convenient distance from Omaha, Lincoln, Fremont, and Wahoo, the 85 surface acre lake is situated on 265 acres of public access land operated and maintained by the LPNNRD.

State park permits and fees are not required for entrance to the area. Czechland Lake has 11 electrical camper pads at an \$18/night fee for the use of a camping pad. There are also three non-electrical pads. A Nebraska Fishing License is required for anglers. The lake fishery is managed by the Nebraska Game and Parks Commission, which stocks and monitors fish populations. Catfish, Bluegill, Northern Pike, and Largemouth Bass were initially stocked in Czechland Lake.

Originally built as one of twelve floodwater structures in the Cottonwood Creek Watershed, Czechland Lake has developed into one of the area's most popular recreation spots. The reservoir and recreation area development was built at a total cost of \$1.8 million. Funding for the project was shared by the Nebraska Natural Resources Commission, Saunders County, USDA Natural Resources Conservation Service, and LPNNRD. Grant monies from the U.S. Environmental Protection Agency have been used to reduce non-point source pollution entering the lake and to provide educational resources.

The Czechland recreation area was used extensively during FY 2022 generating approximately \$20,000 in camping revenue. Mowing, trash removal, repair, and upkeep of park equipment, and thistle control kept LPNNRD park staff very busy during the spring and summer.

Homestead Lake (Skull Creek Site #55)

Construction was completed on Homestead Lake in 2001. The dam offers flood control for nearby communities, and has been developed for public recreation. Recreation facilities include a shelter, restroom, picnic areas, a boat ramp, and hunting areas. FY 2022 proved to be another very popular year for recreationists as the area was extensively used.

Lake Wanahoo

Work was completed on recreation facilities at Lake Wanahoo one mile north of Wahoo in FY 2012. Recreation facilities at the 1,600 acre site straddle the 662-acre lake, with camping and boating access on the west side and a day use area on the east. A rocked hiking/biking trail winds throughout the park, linking the east and west side recreation areas over a breakwater levee one mile north of the dam. Mowed trails north of the levee provide access to undeveloped areas set aside for wildlife habitat.

The camping area contains 75 camper pads, 54 tent camping sites, and 6 primitive cabins. All camper pads are equipped with electrical hookups and are rock surfaced. All sites have fire rings and picnic tables.

The recreation area offers access to two large boat ramps wide enough to accommodate four boats at a time. Boating on the entire lake is no-wake only.

The day use area on the east side of the lake has two large picnic shelters and two smaller ones, all offering scenic views of the lake. In FY 2017 a dump station for RV's was constructed on the east day use area as well as a disc golf course/nature educational trail.

Both the camping and day use areas provide excellent fishing access, with a total of seven fishing jetties. One jetty on each side has an attached handicapped pier. The lake was

stocked with largemouth bass, bluegill, blue catfish, crappie, northern pike, and walleye beginning in 2008.

Limited hunting opportunities will continue to be available at Lake Wanahoo through the Game & Parks Commission PATH Program, where adults can schedule a time to mentor a youth hunter at designated hunting sites north of the recreation area.

The Lake Wanahoo Recreation Area was opened to the public in spring 2012. An operation and maintenance plan was developed with the assistance of the Nebraska Game and Parks Commission and Pheasants Forever in FY 2014 which identified activities that were implemented in 2015.

In FY 2019, LPNNRD assumed the responsibilities of administering Lake Wanahoo as a public recreation area from the Nebraska Games & Park Commission.

In FY 2020, the Clint Johannes Education Building was completed on the day use portion of the recreation area. This facility provides a protected outdoor education space for LPNNRD education activities, as well as a rentable event facility for the public. Also in FY 2020, six new primitive cabins were installed in the primitive camping portion of the park to give visitors a unique alternative to tent camping.

FY 2024-2028 Recreation Long Range Objectives

- Continue to evaluate the development of new outdoor public recreational opportunities as they arise.
- Continue to assist NE Game & Parks and Pheasant Forever in developing new areas offering public access.

FY 2023 Recreation Objectives

- Continue to budget funds for maintenance, including grass mowing, tree trimming, grading roads, outhouse cleaning, trash removal, painting, and noxious weed control, at Lake Wanahoo, Czechland Lake, and Homestead Lake Recreation Areas.
- LPNNRD will continue managing all recreation at the Lake Wanahoo recreation area.



It is the general policy of the LPNDRD not to provide financial assistance for drainage improvement and channel rectification unless a project has public benefit and is sponsored by a county, city, Drainage District or a group of landowners through an established Improvement Project Area. Under this policy, the district has cooperated on several projects that have provided public benefit.

FY 2023 Drainage Improvement & Channel Rectification Objectives

- Work with Colfax County to complete new Shell Creek South Channel Improvement/Benching Projects.
- In partnership with Dodge County, and Fremont, support drainage improvements east of Fremont through FEMA.
- In partnership with the North Bend Drainage District, Dodge County and City of Fremont, support the drainage improvement project assessment of the North Bend drainage ditch through FEMA.
- Continue to oversee the Rawhide Creek West Branch Project to ensure that landowners properly control vegetation.
- Provide continued assistance to Platte Center with stabilizing segments of Elm Creek.

FY 2024-2028 Drainage Improvement & Channel Rectification Long Range Objectives

- Evaluate potential technical and funding assistance to counties, cities, and other entities in the district that sponsor sound drainage and channel improvement projects.



WASTE DISPOSAL & POLLUTION CONTROL

Over 30 years ago, vast changes occurred in Nebraska's solid waste regulations. Landfills that weren't properly designed, operated or sited were required to shut down, as were unauthorized dumps. In order for a landfill to operate, it must be approved by the State and receive a permit. If a permit is not issued, the landfill cannot legally operate. Currently, the only permitted landfill in the Lower Platte North NRD is a facility near David City.

FY 2023 Waste Disposal & Pollution Objectives

- Promote recycling efforts in the district through education programs, newsletters, and news releases.
- Participate in education efforts to promote the reduction of pollution to our air, water, and soil resources.
- Cooperate and be supportive of other group and agency pollution control efforts, education, and/or regulation.

FY 2024-2028 Waste Disposal & Pollution Long Range Objectives

- Assist and encourage all District communities in establishing collection locations for recyclable wastes.
- Assist District cities and counties in establishing pickup days for hazardous household and farmstead wastes as opportunities arise.
- Promote waste reduction efforts in the district through education and incentives.



A major responsibility of the Lower Platte North NRD is to keep the public aware of the district's various projects and programs, and to inform and educate children and adults about the wise use and management of our natural resources.

FY 2022 Information & Education Activities

During fiscal year 2022, the Lower Platte North NRD conducted many activities to help residents learn the importance of our soil and water resources and to stay informed of issues and concerns regarding natural resources. Some of the highlights included:

Publications and Marketing

The NRD distributes two newsletters each fiscal year. The Winter issue of "The Viaduct" newsletter includes an additional page that contains the Annual Report. In FY 2012, the district switched distribution of "The Viaduct" newsletter from direct mail subscriptions to inserts in area newspapers. In FY 2022, more than 21,000 copies of each newsletter were distributed in area newspapers and via email.

Various brochures describing LPNNRD programs and services were updated as needed in FY 2022. These brochures are displayed in the office and distributed during LPNNRD sponsored events and exhibit booths. A fact sheet for use with the Nebraska Association of Resources District's public relations campaign at public events is updated yearly.

Press releases are distributed to district newspapers, email lists and radio stations. Numerous ads spotlighting different NRD programs and upcoming deadlines air on KTIC Radio throughout the year. Digital ads on the Wahoo newspaper website continued in FY 2022. In FY 2020, the LPNNRD began airing 30-second program commercials on News

Channel Nebraska. With the success of these videos, the NRD continued airing the Lake Wahoo video, the Projects video, Operations and Maintenance video, and newly produced Information and Education video.

The NRD continues to maintain information and education outreach for the district through the use of social media outlets on Facebook, Twitter, and YouTube. These outlets are maintained weekly and provide information along with photos and videos about district activities and events.

Website

The NRD's website at www.lpnrd.org contains information on nearly all of the district's projects and programs, along with staff and director information, committee and board meeting minutes, and more. Online application and registration forms for various projects and programs are available as well. Online payment capabilities continue to allow customers to pay for trees, rural water bills, and Lake Wahoo permits. In 2019, the district began tracking the activity on the website including which pages are viewed to help keep current information available online. The website continues to be updated to allow for different types of viewing devices – desktop, mobile, and tablet devices.

Video Promotion

During FY 2018, the district created a 60-second, and 30-second video that promotes the conservation efforts of the district. A past director, current director, and current staff are featured in the video. The children of a current employee and a current director were also featured in the video.

In FY 2019, the district created a promotional video for the Lake Wahoo NRD Recreation Area. An additional video was produced to promote LPNNRD's water conservation efforts. The video featured LPNNRD Water

Department staff and various water quality and quantity efforts.

During FY 2020, a promotional video was created for the duties and responsibilities of the Operations & Maintenance department, and a video to promote the activities of the Projects department. The videos featured current staff, and the video was narrated by a current LPNNRD director.

In FY 2022, the LPNNRD created a video for the Information and Education department. This video focuses on the district's information outreach efforts and environmental education. Some of the footage was taken throughout the year from education events. The video features current staff and was narrated by the Information Coordinator.

With the completion of the Information and Education video, clips from all of the department videos are combined to create one video that features all of the programs at the LPNNRD. These videos are shown as educational purposes for presentations, the LPNNRD website, commercials through area television stations, and featured on social media platforms.

Education Programs

During FY 2022, the district continued with two year-long programs. The St. Wenceslaus Pre-kindergarten students learn about wildlife, trees, birds, recycling and water conservation through books, pictures, stories, and hands-on activities. The students visited Lake Wanhoo at the end of the year for a field trip filled with nature hikes, nature crafts, and disc golf. The district teamed up with Wahoo Public 8th Grade students for the Survival Club program, making a total of three school years of the program. LPNNRD staff and other outdoor enthusiasts met monthly with students during the school year to learn about hiking, knot tying, 2-legged predators, 4-legged predators, fishing, first aid, foraging for wild foods, fire building and other outdoor survival skills. Unfortunately, student involvement was very low and didn't end up finishing out the school year. Efforts to renew

and rejuvenate the survival club are being made for the upcoming school year.

The district continues to participate in the Career Exploration Opportunities (CEO) Program with Wahoo Public Schools. During the Spring semester of 2022, LPNNRD staff hosted one high school senior and he rotated between each department to learn about the LPNNRD responsibilities. The district will host another student during the fall of FY 2023.

The Clint Johannes Education Building is utilized for events of all kinds. Local teachers and other organizations will use it for their students and staff as a meeting space with a great view and amenities.

The LPNNRD utilizes the building for educational events each month. The monthly event, Coffee Lakeside, has impacted over 100 people. Topics included shorebirds, migration, frogs and toads, prairie plant ID walk, wetlands, and more. Six new events were also held at the LPNNRD with two of them repeating. The first annual Wildflowers and Wine event discussed prairie ecosystems, cost-share programs available, and ended with sampling from a local winery. This event brought in 42 people. Two rain barrel workshops were held, one in August and one in April. Eight attendees and then eighteen attendees respectively, attended the 'make and take' event where they learned about conserving water and then constructed a full sized rain barrel. The January Bees and Brews workshop brought in 65 people. This workshop was an informational night on honeybees and starting your own beehives. A Nebraska brewery partnered with the LPNNRD to create a locally sourced Honey and Lavender Saison specifically for the event; it was rightfully named "Honey Momma". Presenters also came from UNL Master Beekeepers. Science and Scenes was a night of learning about the science of pollination and then a step by step, acrylic landscape painting lesson. Fifteen people attended this event led by a local studio art student. LPNNRD partnered with UNL Extension Staff, to hold a lawn care, composting, and greenhouse event; 18 people attended. This event showcased water conservation

and species selection for lawn care needs; learning to compost; and an introduction to greenhouses. Nocturnal nights were held in May and August with 50 attendees and 22 attendees respectively. Families attending this event could learn all about nocturnal animals by dissecting owl pellets, listening to night time sounds, identifying tracks and more. A night time nature walk around the lake and s'mores to end the night made this event a highlight of attendees' summers.

The Lower Platte North NRD and Lower Platte South NRD rotate in hosting the East Central Land Judging Contest. Land Judging is a competition for high students that challenges them to gain a better understanding of soil structure and land evaluation. The Lower Platte North NRD works with local NRCS employees to choose a site location and help with site preparation. The Lower Platte North NRD staff and NRCS staff will assist in the preparation, contest monitoring, and scoring efforts during the contest. The East Central Land Judging Contest will be held by Lower Platte North NRD on October 5th, 2022.

The annual LPNNRD Spring Conservation Sensation was held on May 4th at Lake Wanahoo. Fifth and sixth grade students from Saunders, Butler, and Dodge Counties participated in various activities. Hands-on activities were presented by LPNNRD staff, additional personnel from various agencies and organizations, and volunteers to teach students about the environment, natural resources, tree planting, lake ecosystems, wildlife education and more. 231 students attended the event.

The first annual LPNNRD Natural Resources Camp was held at Lake Wanahoo. For one week, attendees learned how to fish, how to go birding, about the amphibians and reptiles of Nebraska, and insects and their life cycles. Four boys ages 7, 10, 10, and 11 attended the week long camp. The hands-on activities were the students favorite parts per their evaluations and they are looking forward to returning next summer. The goal for FY 2023 is 3 consecutive weeks of camp for 3 different age ranges.

Test Your Well Event is a program that partners with area FFA chapters to host public events, providing nitrate testing of water samples from private wells at no cost to the attendees. The district held 4 events in FY 2022 that involved 40 students (East Butler, Platte Center, Schuyler, and Mead), and over 50 wells sampled.

Staff at the LPNNRD visited 11 different schools with 27 classroom visits. Every single grade except 2nd, was visited for a natural resources lesson or activity. All day field trips for 1st and 3rd graders were conducted at Lake Wanahoo and in partnership with Live Well Go Fish. The LPNNRD has a great partnership with Live Well Go Fish.

District staff provided various presentations and activities during natural resources festivals, field days, out-of-school time programs, school classrooms, online activities on the LPNNRD website, and adult education events. As a result of the district's educational outreach efforts, there was interaction with approximately 1531 youth and 371 adults in FY 2022.

Awards, Contests, and Events

In addition to marketing efforts, the Lower Platte North NRD provides a physical presence with exhibit booths at local county fairs, agriculture expos and other events across the district. The NRD provided an exhibit booth in the Spring along with the Dodge County USDA/NRCS at the Fremont Eco Fair. The NRD dispersed Ponderosa Pine tree seedlings for 4th grade students in attendance. The NRD also provided an exhibit booth at the Butler County Fair and a parade during the Saunders County Fair. Promotional materials at the events included brochures of the NRD's projects and programs, information about Nebraska's NRDs, career opportunities in natural resources, magnets, stickers, frisbees and coasters filled with wildflower seeds. The LPNNRD plans to provide displays at up to five area county fairs, and agriculture related events in the district in the future.

Nebraska's NRDs celebrated their 50 Year

Anniversary in July of 2022. The Lower Platte North NRD held an open house at the office to celebrate.

FY 2023 Information & Education Objectives

- Publish the district newsletter “Viaduct” biannually in an electronic format and as a printed newspaper insert in 10 area newspapers.
- Send timely news releases to the local media on various LPNNRD programs, projects, and activities.
- Disperse pamphlets and other publications about LPNNRD programs.
- Update the district’s website frequently.
- Continue to provide a display at county fairs or agriculture events (up to five major counties) within the district.
- Continue information and education outreach for the district through the use of tools such as local radio stations, local TV stations, and social media outlets (Facebook, Twitter, YouTube, etc.).
- Continue with the annual awards and recognition program.
- Provide district elementary students with free trees, as requested, in the spring.
- Provide LPNNRD staff as requested to speak to community organizations and schools on NRD activities and environmental topics.
- Provide various education programs, events, and activities to area schools and out-of-school time programs.
- Host the East Central Region Land Judging Contest in the fall of 2022.
- Host the 32nd Spring Conservation Sensation in May 2023.
- Develop new programs and promotional projects to aid in outreach efforts of the district.
- Develop a video for the three recreation areas in the district.
- Provide assistance and publications for the students involved in the Shell Creek

Watershed Monitoring Program.

- Continue to provide a scholarship for graduating seniors in the Shell Creek Watershed Monitoring Program who plan to pursue higher education relating to science or natural resources.

FY 2024-2028 Information & Education Long Range Objectives

- Search for new and effective ways to inform and educate the public on the NRD purpose and programs.
- Participate with the Information & Education Staff Group to coordinate statewide I&E activities and produce statewide products.
- Increase participation in activities sponsored by other agencies relating to the NRD’s responsibilities.
- Seek to have conservation/environmental education as a part of the school curriculum.
- Support environmental education activities and events throughout the district, and neighboring NRDs.
- Provide assistance for the East Central Region Land Judging Contest in the fall of 2023, hosted by Lower Platte South NRD.
- Assist in the development of an outdoor classroom for a district school.
- Partner with district schools to host Test Your Well Events annually.



LPNNRD Staff

The staff of the Lower Platte North NRD includes 17 full-time and part-time employees stationed at the district office in Wahoo. The NRD administers a full-time field technician, four field office assistants in Natural Resource Conservation Service county offices, and a Recreation Facilitator for Czechland & Homestead Lake Recreation Areas.

In addition to the listed full-time and part-time positions, the district employs seasonal conservation technicians to assist in the layout of land treatment structures. There are also seasonal summer employees hired to help with Lake Wanhoo, water sampling, tree planting and maintenance of LPNNRD projects. Personnel positions and assigned responsibilities could increase in the future as increased project and program responsibilities increase.

Current staff as of September 1, 2022:

Sydney Abbott, **Education Coordinator**
 Daryl Andersen, **Water Resources Manager**
 Tyler Benal, **Water Resources Specialist**
 Jill Breunig, **Bookkeeping Department Head/Administrative Assistant**
 Will Brueggemann, **Water Resources Specialist**
 Ryan Chapman, **Assistant General Manager**
 Duke Dokulil, **Operations & Maintenance Technician**
 Sean Elliott, **Projects/Rural Water Manager**
 Noah Franzen, **Water Resources Technician**
 Eric Gottschalk, **General Manager**
 Bob Heimann, **Operations & Maintenance Manager**
 David Moore, **Operations & Maintenance Technician**
 Russell Oaklund, **Lead Water Resources Specialist**
 Dave Odvody, **Recreation Facilitator**
 Chris Poole, **Grants/GIS Department Head**
 Karen Rezac, **Department/Administrative Assistant**
 Lacey Sabatka, **Information Coordinator**
 Bret Schomer, **Wanhoo Recreation Supervisor/Water Resources Specialist**

Staff Support for NRCS Offices:

Vacant, **Conservation Technician**
 Kimberly Piitz, **NRD/NRCS Field Office Assistant (Butler County)**
 Kristin Miller, **NRD/NRCS Field Office Assistant (Colfax County)**
 Vacant, **NRD/NRCS Field Office Assistant (Dodge County)**
 Marla Milliken, **NRD/NRCS Field Office Assistant (Saunders County)**
 Melissa Foreman, **Shell Creek Watershed Coordinator (LPN & SCWIG Volunteer)**

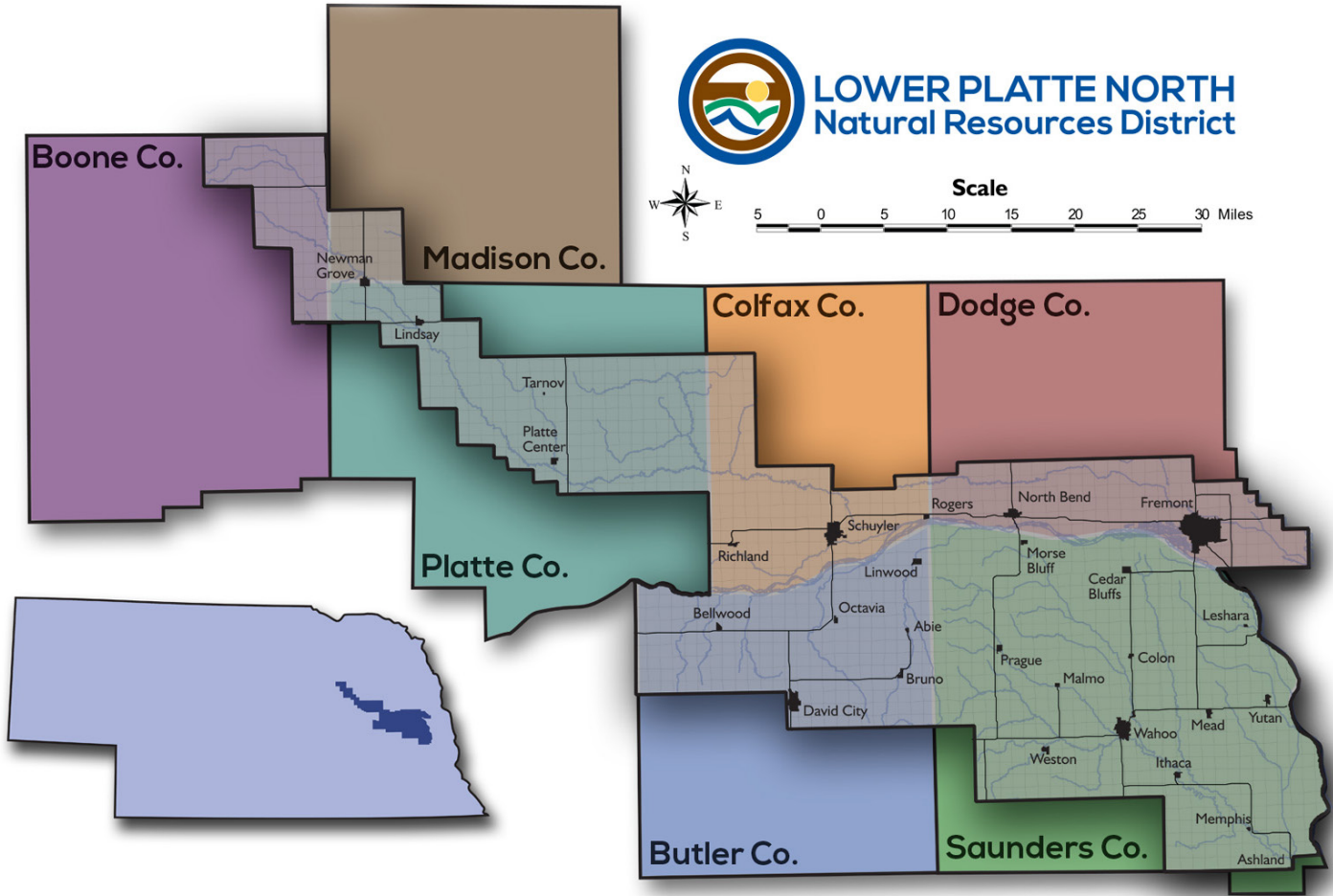


FY 2023 Financial Objectives

- Funding required for the LPNNRD projects and programs for Fiscal Year 2023 requires a general operating budget of \$8,177,500 of which \$3,480,715 is required from the district's local tax levy. The 2022 tax levy of .033457 cents per \$100 actual valuation is required from District property. Projected expenses and income for FY 2022-2027 are shown in Appendix F.
- A tax levy of .031404 means that an owner of a \$150,000 home will pay \$47.11 in NRD taxes in FY 2022. An owner of farm land valued at \$7,000 per acre will pay \$2.20 an acre/year to the NRD in FY 2022. The LPNNRD levy represents about two percent of the total property tax collected.

FY 2024-2028 Financial Long Range Objectives

- Although it is expected that the amount of revenue from all sources will fluctuate during the next few years, it is anticipated that the LPNNRD will operate at a mill levy between \$0.035 and \$0.055 per \$100 actual valuation as the District continues to assist with flood reduction project priorities and to address our responsibilities with groundwater water quality and quantity management.





APPENDIX B – Estimated Population by County

COUNTY	% OF COUNTY IN DISTRICT	ACRES IN DISTRICT	RURAL POPULATION IN DISTRICT	URBAN POPULATION IN DISTRICT	TOTAL
Boone	12.78	56,175	173	--	173
Butler	44.38	167,700	1,812	3,766	5,578
Colfax	40.76	108,582	1,060	6,708	7,768
Dodge	31.96	111,147	2,988	28,829	31,817
Madison	6.25	22,998	162	660	822
Platte	37.78	165,401	2,194	670	2,864
Saunders	81.39	395,098	4,706	11,719	16,425
TOTAL		1,027,101	13,095	52,352	65,447

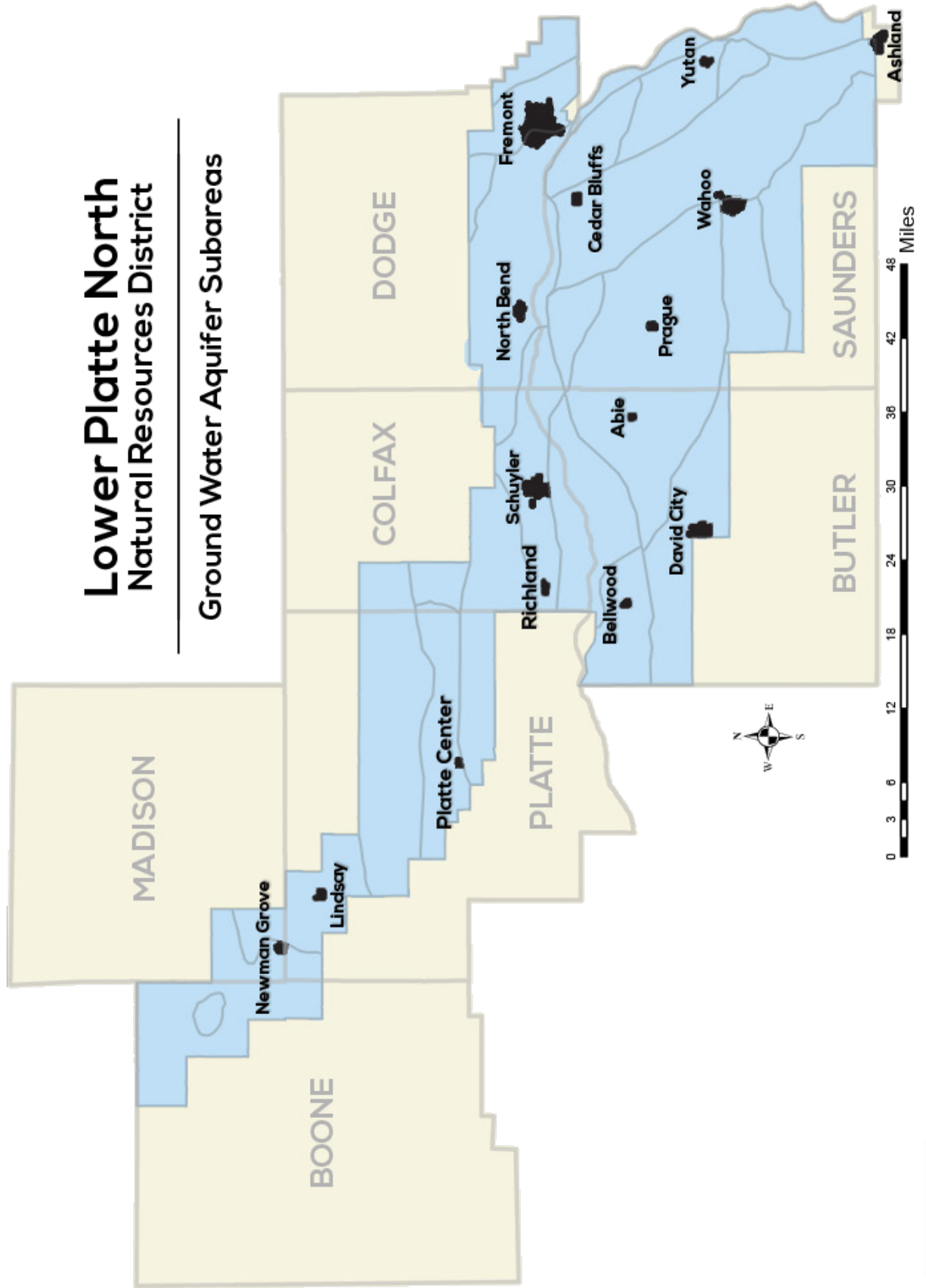
Twenty-eight cities, towns and villages are located within the Lower Platte North NRD, listed below with their populations (according to 2020 United States Census):

Abie	65	Memphis.....	109
Ashland	3,087	Morse Bluff	116
Bellwood.....	406	Newman Grove.....	660
Bruno	97	North Bend.....	1,267
Cedar Bluffs	614	Octavia	107
Colon.....	107	Platte Center	335
David City.....	2,999	Prague	290
Fremont	27,182	Richland	74
Inglewood.....	380	Rogers.....	82
Ithaca	160	Schuyler	6,552
Leshara	108	Tarnov	51
Lindsay	284	Wahoo	4,813
Linwood	92	Weston	248
Malmo	94	Yutan.....	1,353
Mead.....	620		



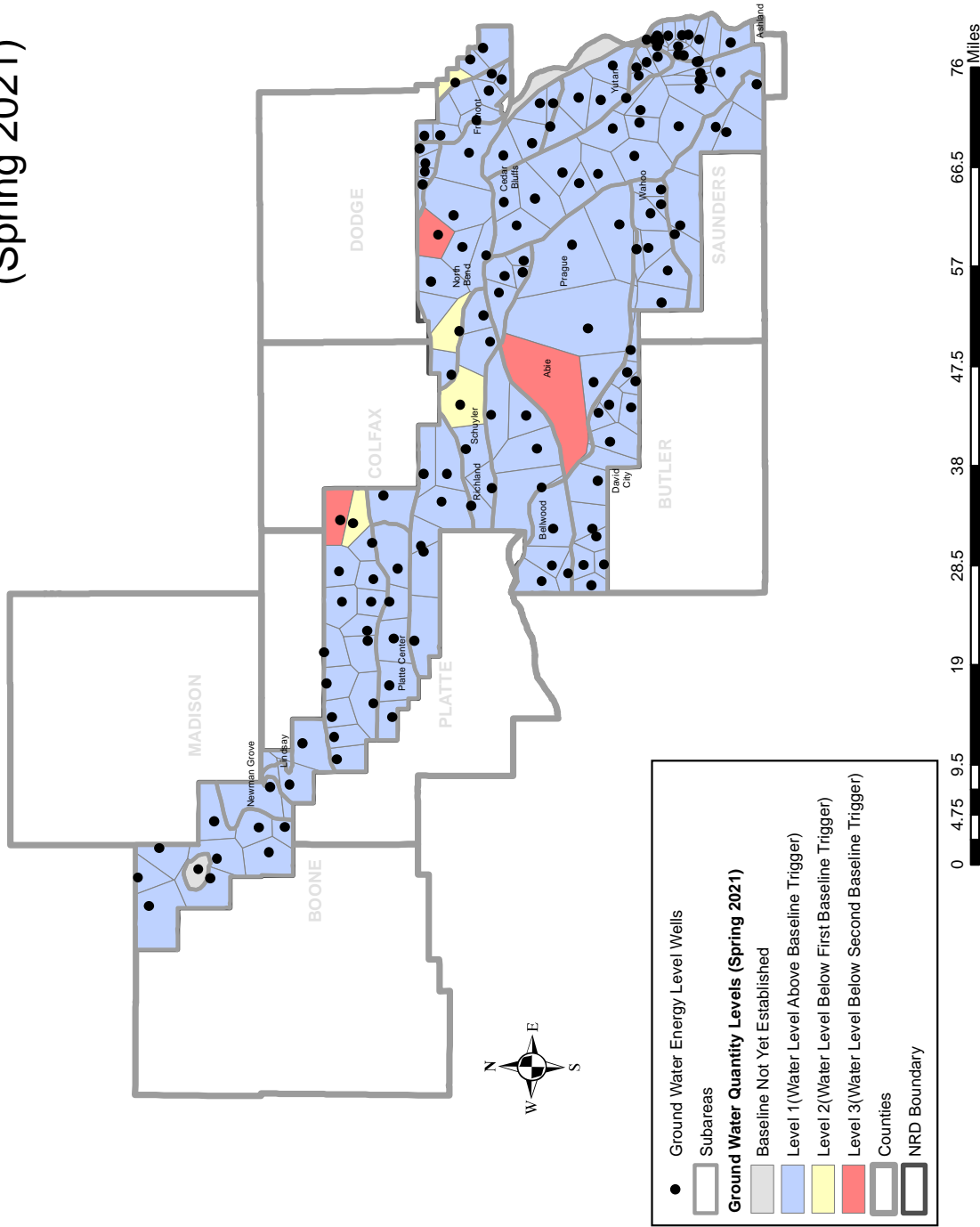
Lower Platte North Natural Resources District

Ground Water Aquifer Subareas



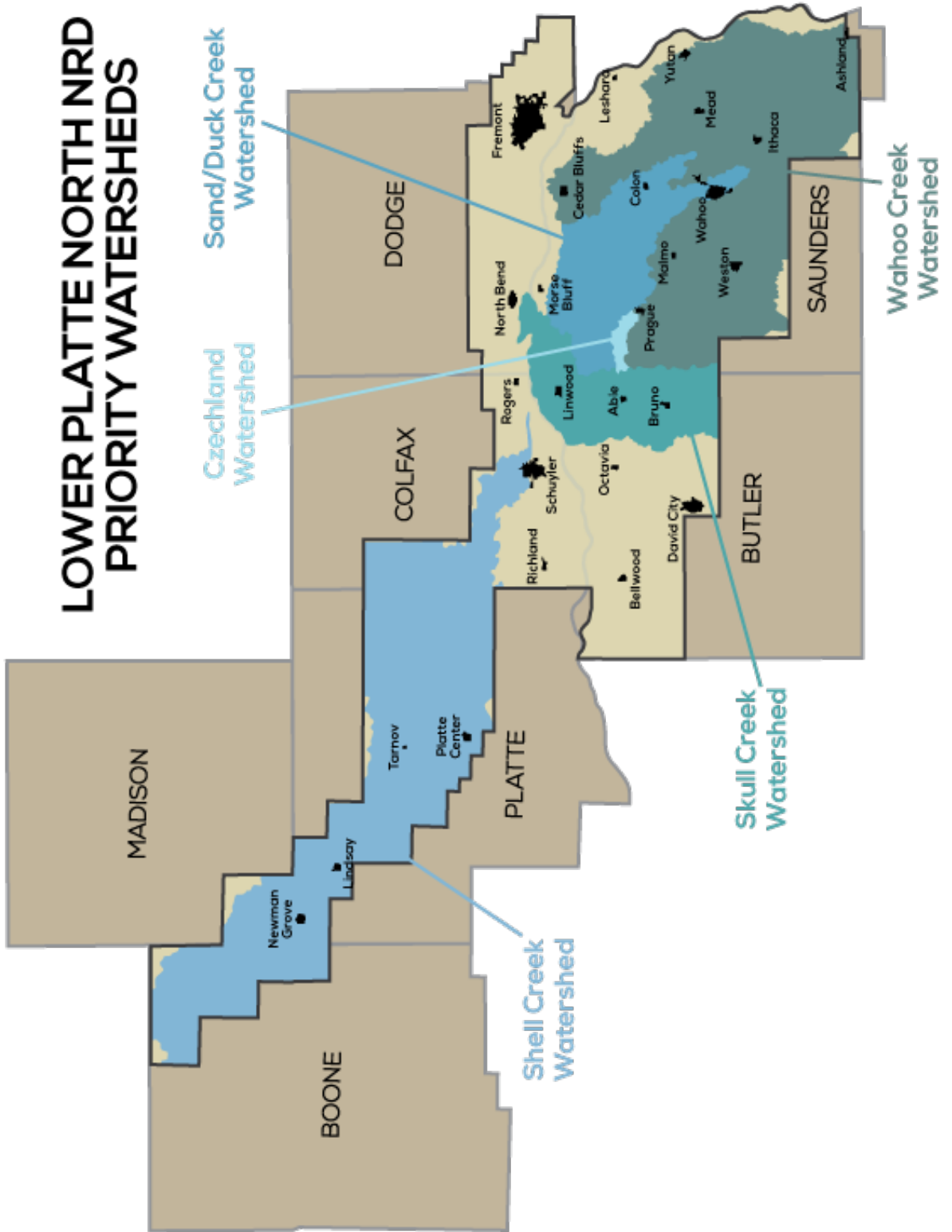


Lower Platte North Natural Resources District Ground Water Energy Level Network (Spring 2021)





LOWER PLATTE NORTH NRD PRIORITY WATERSHEDS





APPENDIX F – Projected Budget (Income), Fiscal Years 2023-2028

Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
AVAILABLE CASH (Sinking Funds, etc.)	\$304,410	\$812,848	\$869,898	\$1,643,754	\$1,573,537	\$1,626,374
FEDERAL INCOME						
NRCS (WFPO & RCPP)	\$499,610	\$24,650	\$24,650	\$24,650	\$24,650	\$0
FEMA (Stilling Basin)	\$2,709,600	\$0	\$0	\$0	\$0	\$0
FEMA (Flood Funds)	\$392,500	\$0	\$0	\$0	\$0	\$0
NDEE (EPA 319)	\$567,730	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
STATE INCOME						
NE Buffer Strip Program	\$38,000	\$38,000	\$38,000	\$38,000	\$38,000	\$0
Decommissioned Well Fund	\$3,500	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Natural Resource WQ Fund	\$52,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Shell Creek Implementation	\$43,829	\$10,000	\$10,000	\$0	\$0	\$0
Water Sustainability Fund	\$133,031	\$500,075	\$500,075	\$500,075	\$0	\$0
Sand Creek - NRDF	\$20,000	\$0	\$0	\$0	\$0	\$0
Lake Wanahoo Other	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Wild NE	\$3,820	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Motor Vehicle Prorate	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400
OTHER INCOME						
Rural Water Income	\$134,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Property Tax	\$3,476,233	\$3,476,233	\$3,476,233	\$3,476,233	\$3,476,233	\$3,476,233
Investment Income	\$3,645	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Equipment, Rent, Parks, Salaries, Etc.	\$625,192	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Local Income	\$118,940	\$130,000	\$130,000	\$130,000	\$130,000	\$130,000
TOTAL	\$9,154,440	\$5,932,206	\$5,989,256	\$6,753,112	\$6,182,820	\$6,173,007

APPENDIX G – Projected Budget (Expenses), Fiscal Years 2023-2028



ADMINISTRATION						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Bonds	\$100	\$100	\$100	\$100	\$100	\$100
Dues & Memberships	\$38,000	\$39,000	\$40,000	\$41,000	\$43,000	\$44,000
Fees & Licenses	\$11,024	\$11,465	\$11,924	\$12,401	\$12,897	\$13,200
GIS	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Insurance	\$73,244	\$	\$122,221	\$127,110	\$132,194	\$137,482
Interest Expense	\$0	\$0	\$0	\$0	\$0	\$0
Legal Notices	\$2,704	\$2,812	\$2,925	\$3,042	\$3,163	\$3,290
Maintenance Contracts	\$5,150	\$5,356	\$5,570	\$5,793	\$6,025	\$6,266
Office Supply & Expense	\$11,804	\$12,276	\$12,767	\$13,278	\$13,809	\$14,361
Computer Supply & Expense	\$31,000	\$32,000	\$33,000	\$34,000	\$35,000	\$36,000
Postage	\$6,760	\$7,030	\$7,312	\$7,604	\$7,908	\$8,225
Professional Services	\$138,000	\$140,000	\$142,000	\$144,000	\$146,000	\$148,000
Rent Expense	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Support to Organizations	\$1,200	\$1,300	\$1,400	\$1,500	\$1,600	\$1,600
Telephone	\$19,864	\$20,659	\$21,485	\$22,344	\$23,238	\$24,168
Utilities	\$8,840	\$9,194	\$9,561	\$9,944	\$10,342	\$10,755

INFORMATION & EDUCATION						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Education	\$11,960	\$12,438	\$12,936	\$13,453	\$13,992	\$14,551
Information	\$31,148	\$32,394	\$33,690	\$35,037	\$36,439	\$37,896
Scholarships & Grants	\$3,120	\$3,245	\$3,375	\$3,510	\$3,650	\$3,796
Other	\$10,140	\$10,546	\$10,967	\$11,406	\$11,862	\$12,337

OPERATION & MAINTENANCE						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Auto & Truck Expense	\$22,880	\$23,795	\$24,747	\$25,737	\$26,766	\$27,837
Building Maintenance	\$9,672	\$10,059	\$10,461	\$10,880	\$11,315	\$11,767
Community Forestry Program	\$2,000	\$2,500	\$2,500	\$3,000	\$3,000	\$3,000
Operation & Maintenance	\$298,220	\$310,149	\$322,555	\$335,457	\$348,875	\$362,830
Project Repairs	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Stream Bank Stabilization	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Wildlife Habitat	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Other	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000

PERSONNEL						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Directors Expense	\$40,248	\$41,858	\$43,532	\$45,274	\$47,084	\$48,968
Directors Per Diem	\$38,000	\$38,000	\$38,000	\$38,000	\$38,000	\$38,000
Employee Benefits	\$481,520	\$500,781	\$520,812	\$541,645	\$563,310	\$585,843
Payroll Taxes	\$96,720	\$100,589	\$104,612	\$108,797	\$113,149	\$117,675
Personnel Expense	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Salaries	\$1,303,767	\$1,342,880	\$1,383,166	\$1,424,661	\$1,467,401	\$1,490,000



APPENDIX G – Projected Budget (Expenses), Fiscal Years 2023-2028

PROJECTS						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Inter-governmental	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Special Projects	\$33,500	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000
Wanahoo	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Other Projects	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000

PLATTE RIVER CORRIDOR ALLIANCE						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
WQ Monitoring	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000

WATER						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Groundwater Management Plan	\$40,000	\$50,000	\$60,000	\$65,000	\$70,000	\$75,000
Groundwater Programs	\$188,396	\$195,932	\$203,769	\$211,920	\$220,397	\$229,213
Regulatory	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Surface Water Programs	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000
Special Projects	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Land Treatment	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000

RURAL WATER DISTRICT						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rural Water District	\$140,000	\$140,000	\$140,000	\$140,000	\$140,000	\$140,000

CAPITAL IMPROVEMENTS						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Wanahoo Stilling Basin & Oversight	\$0	\$0	\$0	\$0	\$0	\$0
Wanahoo Fish Station & Store	\$0	\$0	\$0	\$0	\$0	\$0
Wahoo Creek Dams	\$1,277,500	\$1,277,500	\$3,500,000	\$2,450,000	\$2,100,000	\$0
Land Rights (Wahoo Creek)	\$547,500	\$547,500	\$1,500,000	\$1,050,000	\$900,000	\$0
Cottonwood 21A Spillway	\$50,000	\$0	\$0	\$0	\$0	\$0
Buildings	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
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

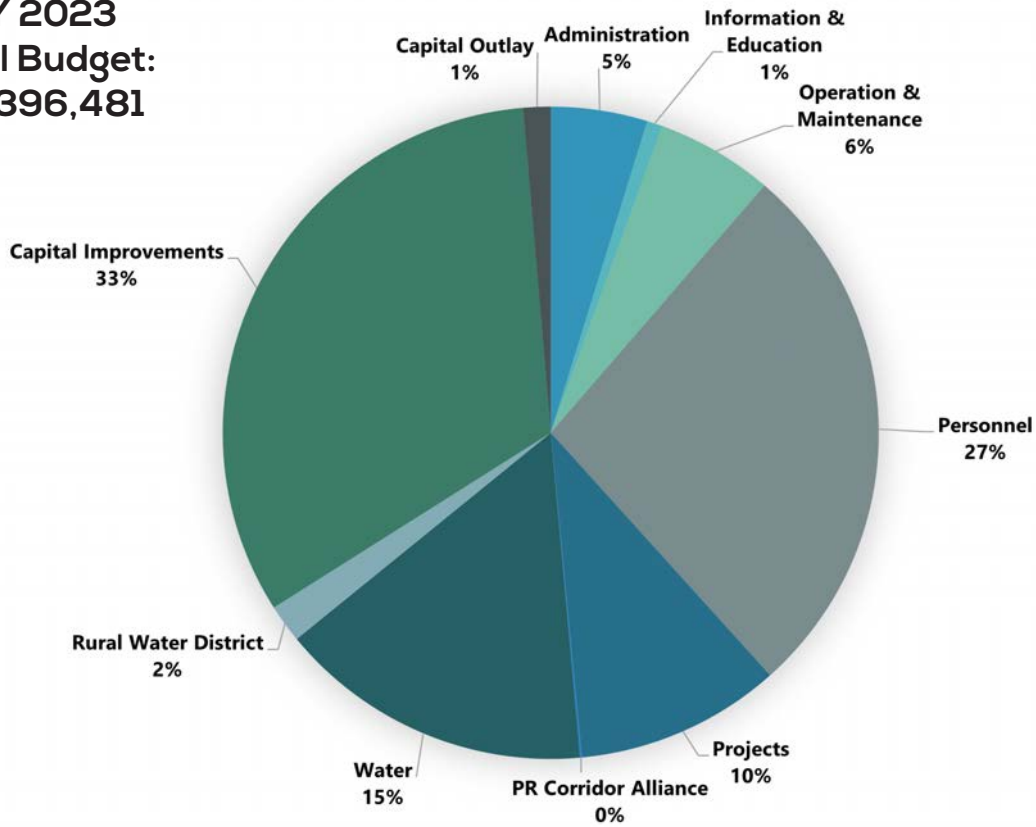
CAPITAL OUTLAY						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Capital Outlay	\$417,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000

BUDGET TOTAL						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
BUDGET TOTAL	\$7,396,481	\$7,453,531	\$10,738,387	\$9,347,170	\$8,960,007	\$6,053,790

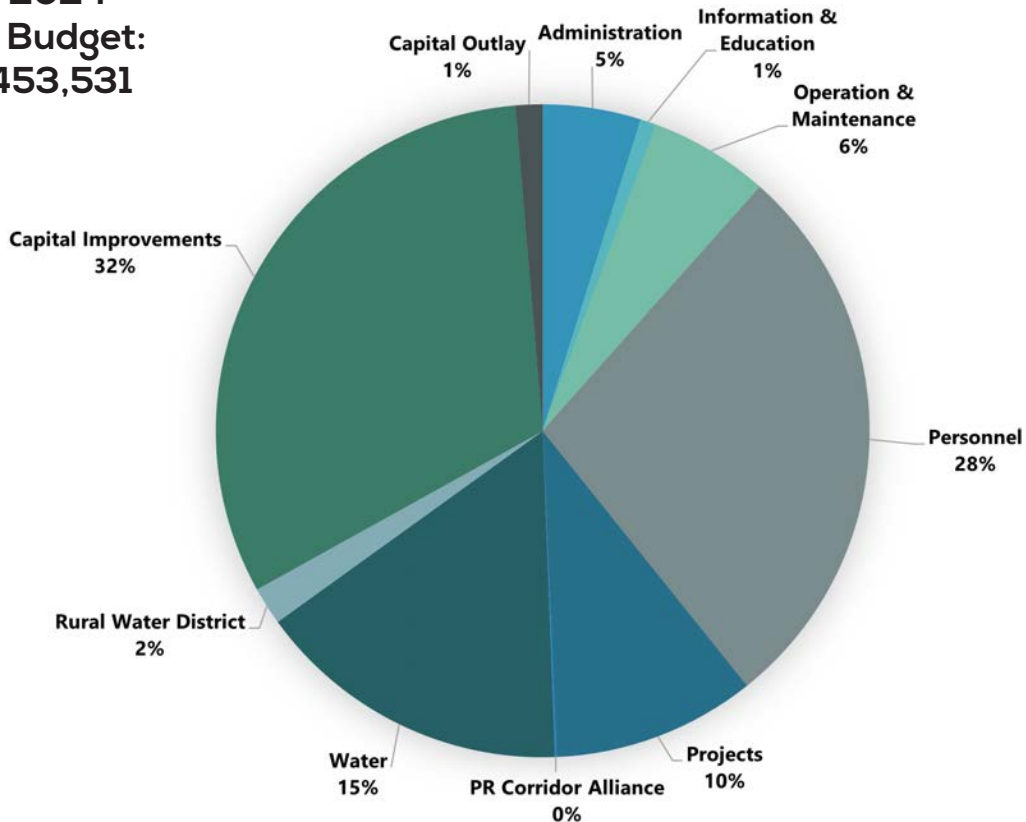
APPENDIX H – Projected Expenses Breakdown



FY 2023
Total Budget:
\$7,396,481



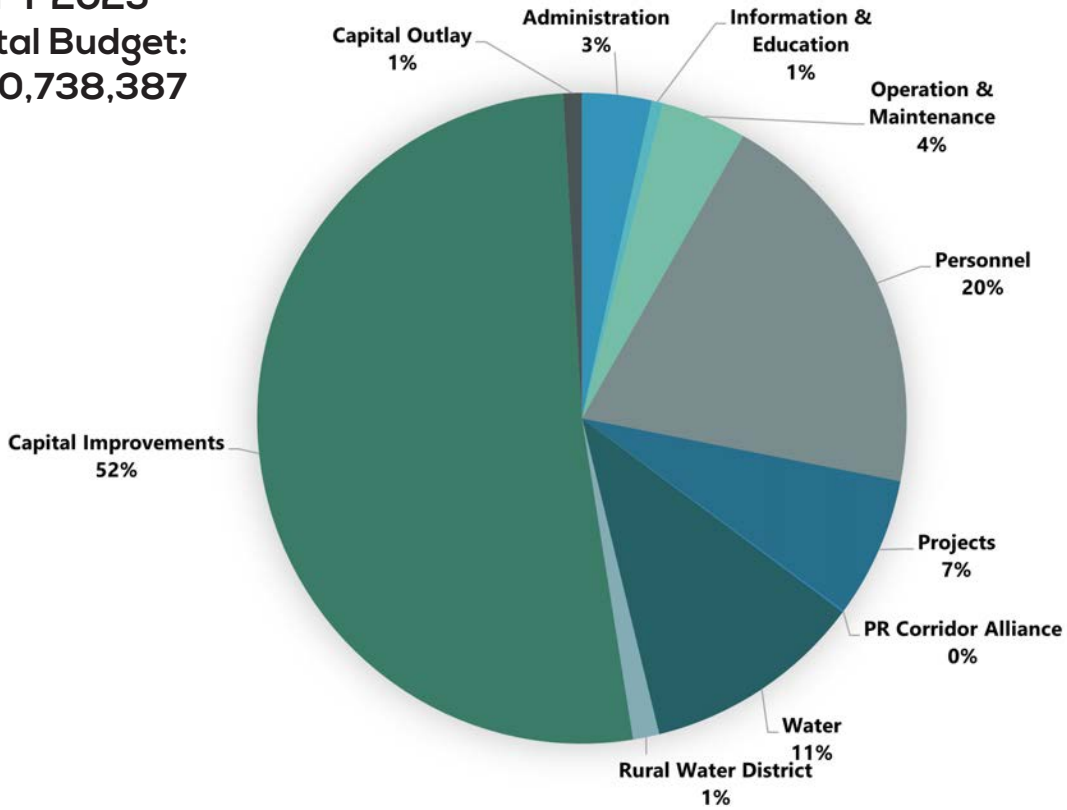
FY 2024
Total Budget:
\$7,453,531



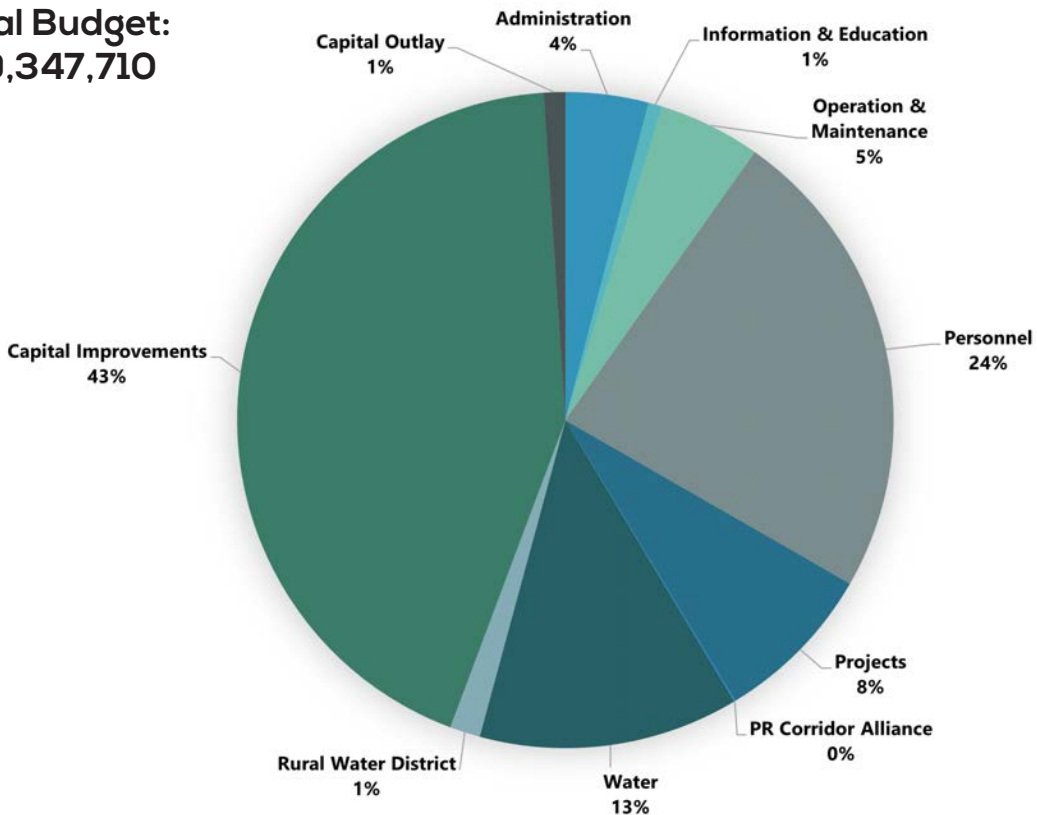


APPENDIX H – Projected Expenses Breakdown

FY 2025
Total Budget:
\$10,738,387



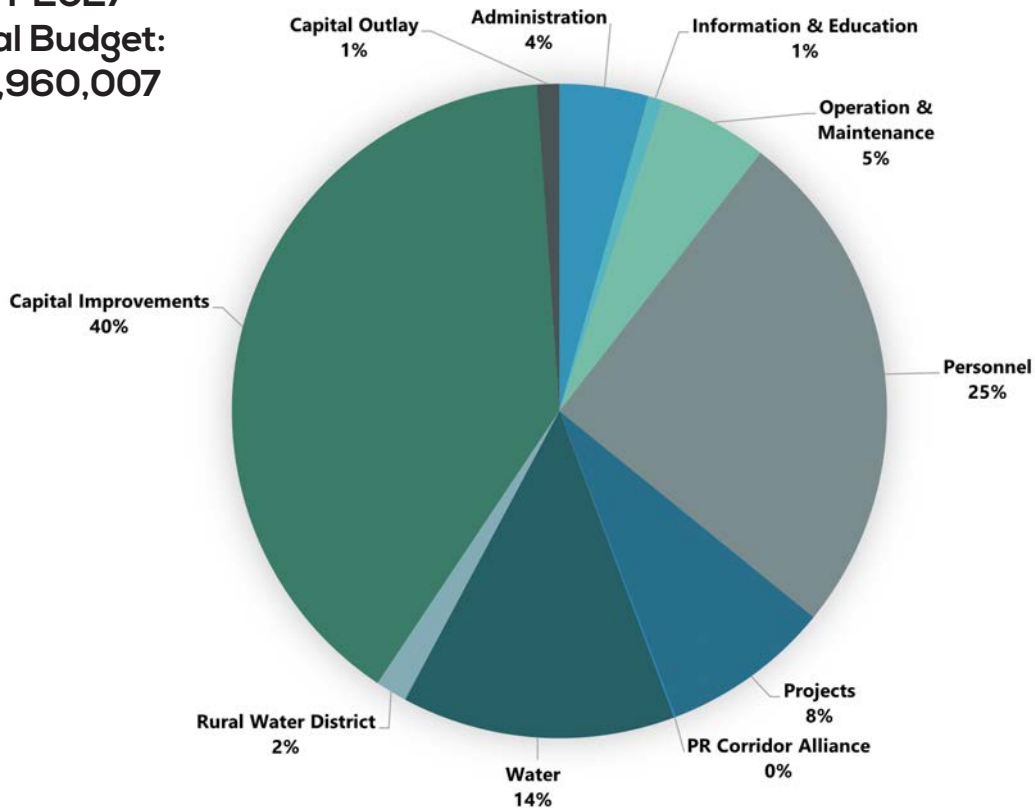
FY 2026
Total Budget:
\$9,347,710



APPENDIX H – Projected Expenses Breakdown



FY 2027
Total Budget:
\$8,960,007



FY 2024
Total Budget:
\$6,053,790

