




**LOWER PLATTE SOUTH**  
**natural resources district**

3125 Portia Street | P.O. Box 83581 • Lincoln, Nebraska 68501-3581  
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Agenda Item #13

## Memorandum

**Date:** October 19, 2021  
**To:** Each Director  
**From:** Paul D. Zillig, General Manager   
**RE:** Water Resources Subcommittee Meeting Minutes.

The Water Resources Subcommittee met at 4:30 p.m. on Monday, October 18, 2021 in the NRD Office in Lincoln. Subcommittee members participating included Larry Ruth, Chelsea Johnson, John Yoakum, Vern Barrett, Ken Vogel, and Gary Hellerich. Other Directors participating included Deborah Eagan. And others participating included Steve Seglin, Corey Wasserburger, David Potter, Tracy Zayac, Chris Witthuhn, Mike Murren, and myself.

Chair Ruth opened the meeting and welcomed those in attendance.

The Subcommittee then took up the following action items:

**Item 13a – Consideration of the Annual Stream Gage Operation Agreement with the United States Geologic Survey Division (USGS).**

There are 24 USGS stream gages located in the LPSNRD (see attached map). This NRD contributes to USGS towards the cost of operating 16 of these gages. USGS requires local partners to annually approve joint funding agreements with USGS for this assistance. Please find attached a copy of the annual joint funding agreement with USGS for the operation of these 16 gages at a cost of \$114,615 to the LPSNRD. The Subcommittee discussed the USGS cost of the stream gages.

***It was moved by Yoakum, seconded by Vogel, and unanimously approved by the Subcommittee (Hellerich had not yet logged on) to recommend the Board of Directors approve the October 2021 Joint Funding Agreement with USGS for the operation of 16 stream gages in the Lower Platte South NRD.***

**Item 13 b, c, & d. - These three items are all pertain to agreements with USDA/NRCS for our watershed rehabilitation projects at Upper Salt 3-A and Oak-Middle 82-B.** The construction of both of these projects are essentially completed but we expect that closing out the projects and receiving all reimbursements from USDA/NRCS will likely not occur until early 2022. These three agreements will expire late this year so we need to extend the agreements in order to be eligible for the federal reimbursement. Potter reviewed and explained the three modifications/amendments.

**Item 13b – Consideration of Amendment #2 to the Upper Salt 3-A Cooperative Construction Agreement with USDA/Natural Resources Conservation Service (NRCS).**

This project is located near Sprague. This agreement is for the construction of the project, the agreement expires December 15, 2021. The proposed modification (attached) extends the agreement to July 30, 2022.

***It was moved by Yoakum, seconded by Vogel, and unanimously approved by the Subcommittee (Hellerich had not yet logged on) to recommend the Board of Directors approve Amendment #2 to the Upper Salt 3-A Cooperative Construction Agreement with USDA/NRCS.***

**Item 13c – Consideration of Amendment #4 to the Upper Salt 3-A Reimbursable Agreement.**

This is the second agreement for this project near Sprague. This agreement is the reimbursable technical assistance agreement, and it is set to expire December 15, 2021. The proposed amendment (attached) extends the agreement to July 30, 2022.

***It was moved by Chelsea Johnson, seconded by Yoakum, and unanimously approved by the Subcommittee (Hellerich had not yet logged on) to recommend the Board of Directors approve Amendment #4 to the Upper Salt 3-A Reimbursable Agreement.***

**Item 13d – Consideration of Amendment #2 to the Oak-Middle 82-B Cooperative Construction Agreement.**

This project is located north of Garland. This agreement is the single cooperative construction agreement, and it is set to expire December 30, 2021. The proposed amendment (attached) extends the agreement to July 30, 2022.

***It was moved by Barrett, seconded by Vogel, and unanimously approved by the Subcommittee (Hellerich had not yet logged on) to recommend the Board of Directors approve Amendment #2 to the Oak-Middle 82-B Cooperative Construction Agreement with USDA/NRCS.***

The Subcommittee then briefly reviewed and discussed the attached summary of the District's Groundwater Management Plan and Groundwater Rules & Regulations. The Subcommittee noted several portions of those documents that they would like to learn more about from staff and legal counsel. The Subcommittee's recent experience in the well permitting process raised several questions. Directors should let them know of any

items that need to be reviewed specifically. The Subcommittee plans to devote time at their next meeting to first increase their understanding and purpose of the rules.

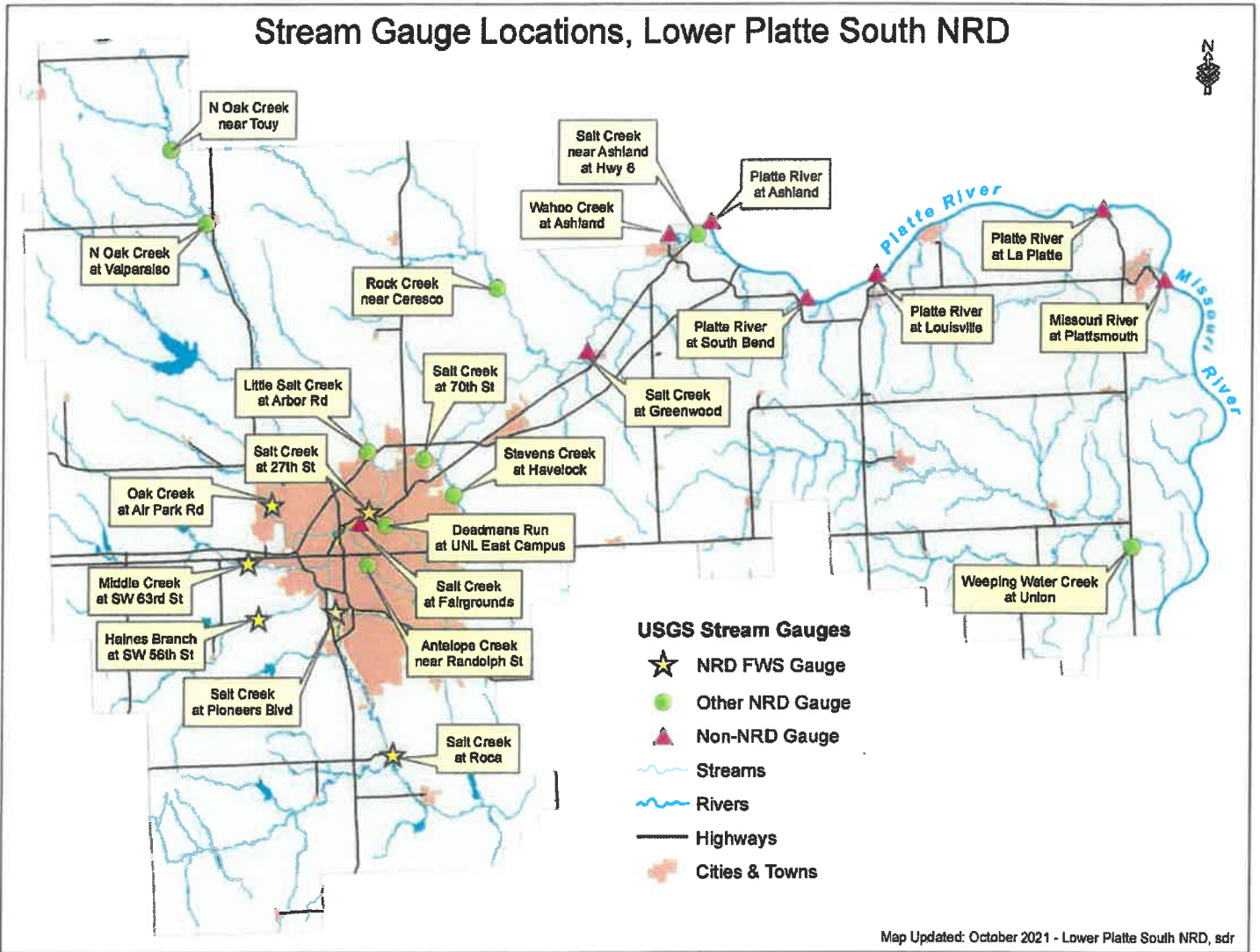
The Subcommittee then briefly reviewed the recent article in the Lincoln Journal Star concerning trace pesticides in a Lincoln Water System monitoring well in LPNNRD northeast of Ashland, and the LPSNRD current pesticide monitoring program.

There being no additional business the meeting adjourned at 5:10 pm.

PDZ/pz

cc: Steve Seglin & Corey Wasserburger

# Stream Gauge Locations, Lower Platte South NRD



Map Updated: October 2021 - Lower Platte South NRD, sdr

Form 9-1366  
(May 2018)

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

Customer #: 600000121  
Agreement #: 22NRJFA00030  
Project #: NR00GS1  
TIN #: 47-0542969

Fixed Cost Agreement YES[ X ] NO[ ]

THIS AGREEMENT is entered into as of October 1, 2021, by the U.S. GEOLOGICAL SURVEY, Nebraska Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation the operation and computation of records for 16 streamgages, herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of \$0.00

- (a) \$46,920 by the party of the first part during the period October 1, 2021 to September 30, 2022
- (b) \$114,615 by the party of the second part during the period October 1, 2021 to September 30, 2022
- (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: \$27,200  
Description of the USGS regional/national program:  
**Groundwater and Streamflow Information Program**
- (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.
- (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website <https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices>

Form 9-1366  
(May 2018)

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

Customer #: 6000000121  
Agreement #: 22NRJFA00030  
Project #: NR00GS1  
TIN #: 47-0542969

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

**USGS Technical Point of Contact**

Name: Jason Lambrecht  
Hydrologic Data Section Chief  
Address: 5231 South 19th  
Lincoln, NE 68512  
Telephone: (402) 328-4124  
Fax: (402) 328-4101  
Email: jmlambre@usgs.gov

**Customer Technical Point of Contact**

Name: Paul Zillig  
General Manager  
Address: PO Box 83581  
Lincoln, NE 68501  
Telephone: (402) 476-2729  
Fax:  
Email:

**USGS Billing Point of Contact**

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

**Customer Billing Point of Contact**

Name: Paul Zillig  
General Manager  
Address: PO Box 83581  
Lincoln, NE 68501  
Telephone: (402) 476-2729  
Fax:  
Email:

U.S. Geological Survey  
United States  
Department of Interior

Lower Platte South Natural Resources District

**Signature**

By STEVEN PETERSON  
Digitally signed by STEVEN PETERSON  
Date: 2021.09.17 10:36:33 -05'00'

Name: Steve Peterson  
Title: Director

**Signatures**

By \_\_\_\_\_ Date: \_\_\_\_\_

Name:  
Title:

By \_\_\_\_\_ Date: \_\_\_\_\_

Name:  
Title:

By \_\_\_\_\_ Date: \_\_\_\_\_

Name:  
Title:

**Table 1. Summary of proposed funding for operation of stream gaging stations supported by the Lower Platte South Natural Resources District and other partners for period October 1, 2021 -- September 30, 2022.**

[CMF, USGS, Cooperative matching funds; LPS NRD, Lower Platte South Natural Resources District; GWSIP, Groundwater Streamflow Information Program; USACE, U.S. Army Corps of Engineers; USGS, U.S. Geological Survey]

Station Number	Station name	LPS NRD Supported Since	Station funding								Remarks code	
			USGS CMF for LPS NRD	LPS NRD	Subtotal USGS & LPS NRD	USGS CMF for other partners	Lincoln Waste-water System	Lancaster County	GWSIP	USACE		Total funding
06803000	Salt Cr at Roca	1995		\$4,565	\$4,565				\$2,810	\$8,065	\$15,440	1,2
06803080	Salt Cr at Pioneers Blvd	1994	\$6,315	\$9,125	\$15,440						\$15,440	1
06803093	Haines Br at SW 56th St	1994	\$6,315	\$9,125	\$15,440						\$15,440	1
06803170	Middle Cr at SW 63rd St	1994	\$6,315	\$9,125	\$15,440						\$15,440	1
06803300	Antelope Cr at 27th St	2012	\$2,265	\$13,175	\$15,440						\$15,440	1
06803420	North Oak Cr nr Touhy	2016	\$2,265	\$13,175	\$15,440						\$15,440	
06803430	North Oak Cr at Valparaiso	2016	\$2,265	\$13,175	\$15,440						\$15,440	
06803486	Oak Cr at Air Park Rd	2000	\$6,315	\$9,125	\$15,440						\$15,440	1
06803500	Salt Cr at Lincoln (27th St)	2005		\$4,415	\$4,415		\$4,405		\$6,440	\$180	\$15,440	1, 2
06803502	Deadmans Run at 38th St	2021	\$0	\$0	\$0					\$11,480	\$11,480	4
06803510	Little Salt Cr near Lincoln	1995	\$3,900	\$5,630	\$9,530	\$2,415		\$3,495			\$15,440	
06803513	Salt Cr at 70th St at Lincoln	1994	\$3,165	\$4,550	\$7,715	\$3,160	\$4,565				\$15,440	
06803520	Stevens Cr near Lincoln	1995	\$3,900	\$5,630	\$9,530	\$2,415		\$3,495			\$15,440	
06803530	Rock Cr near Ceresco	1995	\$3,900	\$5,630	\$9,530	\$2,415		\$3,495			\$15,440	
06806000	Salt Cr near Ashland	2012		\$1,220					\$5,310		\$6,530	2,3
06806500	Weeping Water Cr at Union	1988		\$6,950	\$6,950				\$7,385	\$1,105	\$15,440	2
Funding Partner Totals			\$46,920	\$114,815	\$161,535	\$10,405	\$8,970	\$13,295	\$27,200	\$12,765	\$234,170	

- 1 Flood-warning site with satellite telemetry and WaterAlert notification system
- 2 GWSIP funds used in place of CMF for match
- 3 Stage-only site
- 4 Seasonal site (8 months), Oct. 1-31 and Mar. 1 to Sept. 30

**Upper Salt 3-A  
Cooperative Construction Agreement  
Amendment #002**



**FPAC-GAD-3 Grants and Agreements Division (GAD) Submission Memo (GADSUM-3) for a No-Cost Extension of Time**

1. Original agreement Number 69-6526-4-871
2. Type Cooperative      3. FPAC Mission Area NRCS      4. Amendment # 002
5. Recipient Name Lower Platte South Natural Resources District
6. Current agreement period of performance from 09/26/2014 to 12/15/2021
7. Revised agreement end date (maximum extension is 12 months.) 07/30/2022  
(Note: Construction may be an exception; add comments in block 10.)

8. Provide a justification for the extension, including a detailed explanation for the delay.

(Note: A no-cost extension request will not be approved merely to expend remaining funds.)

The watershed construction associated with this agreement is currently 90+% complete. We believe it is in the best interest of NRCS and LPSNRD to extend this agreement for 6 months to ensure measures and seeding fulfill expectation. For this particular project, the extension is especially important as NRCS needs time to complete as-builts and other closeout activities. The Covid pandemic has been the primary obstacle for their delays. It has and continues to disrupt the construction process resulting in additional time to coordinate and collaborate with stakeholders towards completing the construction.

9. Provide a summary of progress to date and revised milestones, including a list of deliverables that will be delayed and when they will be completed. (Note: Attach a separate document if necessary.)

Milestone #1 - Complete  
 Milestone #2 - Complete  
 Milestone #3 - 90+ % Complete; pipe and riser has been installed, all dirt work is finished, total project area has been seeded. Required fence installation in progress.

10. Notes / Comments / Additional Information (such as, changes to points of contact or other Statement of Work (SOW) changes)

N/A

11. The following recipient contact information is **only** required if it has changed.

NOT for FPAC Agency contact information.

	<u>Name</u>	<u>Title</u>	<u>Email</u>	<u>Phone</u>
Admin. Contact	_____	_____	_____	_____
Program Director	_____	_____	_____	_____
Program Contact	_____	_____	_____	_____
Signatory Official	_____	_____	_____	_____

12. Recipient Approving Official

	Date _____
<b>Paul Zillig, General Manager</b>	<b>(402) 476-2729</b>
<small>Email Address</small>	<small>Phone #</small>

13. Agency Program/Technical Contact

	Date _____
<b>Allen Gehring, SCE</b>	<b>(402) 437-4037</b>
<small>Typed Name</small>	<small>Email Address</small>
<small>Email Address</small>	<small>Phone #</small>

14. Grants and Agreements Division (GAD) Concurrence

If NO, State the reason in block 10.

	Date _____
	Phone # _____

15. Authorized Government Representative/Signatory Official or Designee. (Not to be signed prior to GAD concurrence signatures.)

	Date _____
<b>John Wilson, Acting STC</b>	<b>(402) 437-4103</b>
<small>Typed Name</small>	<small>Email Address</small>
<small>Email Address</small>	<small>Phone #</small>

This document serves as the fully executed amendment to this agreement. Except as provided herein, all other terms and conditions of the original agreement and any previous amendments remain unchanged and in full force and effect.

05/27/2021

**Upper Salt 3-A**  
**Reimbursable Technical Assistance Agreement**  
**Amendment #004**

**AMENDMENT NO. 4**  
**to**  
**AGREEMENT FOR NRCS SERVICES**  
**between the**  
**LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT**  
**and**  
**UNITED STATES DEPARTMENT OF AGRICULTURE**  
**NATURAL RESOURCES CONSERVATION SERVICE**

**Relative to:** NRCS Cooperative Agreement No. 69-6526-4-871  
Watershed Rehabilitation of Upper Salt Creek Watershed Site 3-A

**Purpose:** To extend the performance period end date from December 15, 2021 to July 30, 2022.

The following paragraphs to the agreement are hereby revised:

**PERIOD OF PERFORMANCE**

This reimbursable agreement is effective when signed by all parties and expires July 30, 2022.  
All work shall be performed and completed within the agreement period.

Except as provided herein, all other terms and conditions of the original agreement and any previous amendments remain unchanged and in full force and effect.

**AUTHORIZED SIGNATURES**

<b>LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT</b>	
<b>BY:</b>	
<b>TITLE:</b>	<b>Paul Zillig, General Manager</b>
<b>DATE:</b>	

<b>U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE</b>	
<b>BY:</b>	
<b>TITLE:</b>	<b>John Wilson, Acting State Conservationist</b>
<b>DATE</b>	

**FPAC-GAD-4 Grants and Agreements Division Submission Memo (GADSUM-4)  
for MOU/MOA or Non-Federal Collection (Incoming funds) Agreement - New or Amendment**

1. Agreement Number (amendment requests only) Agreement #  For amendment requests, provide amendment #
2. Type  3. FPAC Mission Area
4. Organizational Unit (state, center, program area, etc.)
5. Partner Name  6. DUNS
7. Unique Official Project Title   
(For project tracking prior to assignment of identifying number) (Limited to 40 characters)
8. Authority
9. Total amount for collection by agency \$  (Not needed for MOU/MOA)
10. Proposed Period of Performance (POP)  to  (For amendment requests enter the original POP)
11. For amendment requests, provide new proposed end date
12. Enter a brief description of the purpose of the agreement or reason for the amendment.

The purpose of this amendment is to extend the reimbursable agreement as to match the No-Cost Extension request to the sister cooperative agreement 69-6526-4-871. All reimbursable funds have been issued to NRCS; however, construction is 90+% complete, thus the Cooperative Agreement is active so the Reimbursable Agreement cannot expire.

13. Is this agreement replacing a previous agreement for the same purpose?
14. If yes, provide previous agreement # \_\_\_\_\_ POP end date \_\_\_\_\_

15. The following recipient contact information is required:

	Name	Title	Email	Phone
Admin. Contact	David Potter	Projects Coordinator	dpotter@lpsnrd.org	402-476-2729
Program Director	David Potter	Assistant General Manager	dpotter@lpsnrd.org	402-476-2729
Program Contact	Mike Murren	Projects Coordinator	mmurren@lpsnrd.org	402-476-2729
Signatory Official	Paul Zillig	General Manager	pzillig@lpsnrd.org	402-476-2729

For collection agreements, the signatory certifies that the work can be performed without adversely affecting regular Agency programs.

16. Agency Program/Technical Contact
- Typed Name Email Address Phone #

17. Authorized Government Representative/Signatory Official or Designee
- Typed Name Title Date

**Oak Middle 82-B  
Cooperative Construction Agreement  
Amendment #002**

**FPAC-GAD-3 Grants and Agreements Division (GAD) Submission Memo (GADSUM-3) for a No-Cost Extension of Time**

1. Original agreement Number NR196526XXXXC007
2. Type Cooperative 3. FPAC Mission Area NRCS 4. Amendment # 002
5. Recipient Name Lower Platte South Natural Resources District
6. Current agreement period of performance from 08/26/2019 to 12/30/2021
7. Revised agreement end date (maximum extension is 12 months.) 07/30/2022  
(Note: Construction may be an exception; add comments in block 10.)
8. Provide a justification for the extension, including a detailed explanation for the delay.  
(Note: A no-cost extension request will not be approved merely to expend remaining funds.)

The watershed construction associated with this agreement is complete. We believe it is in the best interest of NRCS and LPSNRD to extend this agreement for six months to ensure all constructed measures and seeding are properly installed and functioning as intended. The Covid pandemic has been the primary obstacle for their delays. It has and continues to disrupt the construction process resulting in additional time to coordinate and collaborate with stakeholders towards completing the construction.

9. Provide a summary of progress to date and revised milestones, including a list of deliverables that will be delayed and when they will be completed. (Note: Attach a separate document if necessary.)

The watershed construction associated with this agreement is complete. We believe it is in the best interest of NRCS and LPSNRD to extend this agreement for six months to ensure all constructed measures and seeding are properly installed and functioning as intended.

10. Notes / Comments / Additional Information (such as, changes to points of contact or other Statement of Work (SOW) changes)

N/A

11. The following recipient contact information is **only** required if it has changed.  
NOT for FPAC Agency contact information.

	<u>Name</u>	<u>Title</u>	<u>Email</u>	<u>Phone</u>
Admin. Contact				
Program Director				
Program Contact				
Signatory Official				

12. Recipient Approving Official

<u>Paul Zillig, General Manager</u>	<u>pzillig@lpsnrd.org</u>	<u></u>
	<small>Email Address</small>	<small>Phone #</small>

13. Agency Program/Technical Contact

<u>Allen Gehring, SCE</u>	<u>Allen.Gehring@usda.gov</u>	<u>(402) 437-4037</u>
	<small>Email Address</small>	<small>Phone #</small>

14. Grants and Agreements Division (GAD) Concurrence

If NO, State the reason in block 10.

Date

Phone #

15. Authorized Government Representative/Signatory Official or Designee. (Not to be signed prior to GAD concurrence signature.)

<u>John Wilson, Acting STC</u>	<u>John.Wilson2@usda.gov</u>	<u>(402) 437-4103</u>
	<small>Email Address</small>	<small>Phone #</small>

This document serves as the fully executed amendment to this agreement. Except as provided herein, all other terms and conditions of the original agreement and any previous amendments remain unchanged and in full force and effect.

**LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT**  
**Overview of Groundwater Management Plan and Groundwater Rules and Regulations**  
**October 2021**

**GROUNDWATER MANAGEMENT PLAN (GWMP)**

- Each NRD is required to have an approved GWMP in place
- Completed and approved by the Nebraska Department of Water Resources (now Department of Natural Resources (NDNR)) in 1995
- The overall intent of the Board was to establish a Ground Water Management Area (Phase 1) over the entire NRD and require well permits for all new wells. For Phase 1 the focus would be limited to “education” and improved management, if monitoring showed additional declines in quantity/quality the area of management would move to Phase 2 and the District would offer additional “incentives” in an effort to correct or stabilize the situation, if the problem was not corrected or stabilized in Phase 2 with “incentives” then the area would move to a Phase 3 area and the District would need to establish “regulations” to address the problem.
- Built on goals and objectives from original Master Plan from the 1970s, including
  - Protect groundwater from point and non-point sources of pollutants
  - Manage groundwater quantity and quality levels
  - Manage groundwater for effective long-term conservation and utilization
  - Reduce potential for contamination from chemigation through irrigation systems
  - Work collectively with other agencies to evaluate groundwater quantity and quality data
- NRDs have statutory authority to deal only with *nonpoint sources* of contamination—i.e., widespread, dispersed sources of pollution such as application of fertilizer or animal waste to crop ground. *Point sources* of contamination (spills, leaks, etc.) fall under the Nebraska Department of Environment and Energy (NDEE; formerly DEQ).

**Groundwater Management Area**

- Designated the entire District as Phase 1 in 1996
- Three different types of areas for managing groundwater, based on the District’s varying geology (see Figure 1):
  - **Groundwater Reservoirs (GWRs):** groundwater supplies are generally adequate for most domestic, agricultural, and industrial uses. Five identified GWRs (shown in blue on Figure 1):
    - Missouri River Valley (MRV)
    - Dwight-Valparaiso (DV)
    - Platte River Valley (PRV)
    - Crete-Princeton-Adams (CPA)
    - Waverly (now known as Lower Salt Creek (LSC))
  - **Community Water System Protection Areas (CWSPAs):** areas surrounding the approximately 30 cities/towns/villages in LPSNRD from which those communities withdraw groundwater. Correspond to Wellhead Protection Areas (WHPAs) delineated by NDEE. Shown in purple cross-hatching on Figure 1.
  - **Remaining Area (RA):** portions of the District not in either a GWR or CWSPA. Characterized by highly variable geology and groundwater availability, and includes some areas where groundwater is practically nonexistent. Shown in off-white on Figure 1.

**GWMP Phases**

- Specifies various “triggers” or conditions which require LPSNRD to take certain actions where groundwater pollution is occurring and/or groundwater levels are declining
- All phases require an annual review of Phase effectiveness
  - **PHASE I** includes
    - Establishing educational programs
    - Promoting adoption of & establishing cost-share for Best Management Practices (BMPs)
    - Implementing groundwater monitoring networks & reporting results to appropriate entities

## DRAFT

- Requires permits for all new wells designed to pump more than 50 gallons per minute (gpm)

### PHASE II

- **Groundwater Quality:** reached when at least 50% of the wells monitored by LPSNRD in a given area are at or above 50% of the federal Maximum Contaminant Level (MCL) for a given contaminant.
  - Example: The most widespread groundwater contaminant in LPSNRD is nitrate-nitrogen from land application of fertilizers and animal waste. The MCL for nitrate is 10 parts per million (ppm), so the Phase II trigger would be 50% of that MCL, or 5 ppm.
  - Once trigger is reached, LPSNRD initiates a minimum two-year Verification Study to gather more information on the levels of contamination, the source(s) of contamination, and any other contributing factors, with the goal of establishing how much of the contamination is from nonpoint sources. Typically involves soil sampling and analysis, vadose zone (the unsaturated zone between the soil and water table) sampling and analysis, and installation and monitoring of dedicated groundwater monitoring wells.
  - Additional phase requirements:
    1. Additional promotion of BMP cost-share programs
    2. Require educational certification programs for landowners/operators using, applying, and storing the contaminant(s)
  - Current Phase II GWMA (shown in orange on Figure 2)
    - Lower Salt Creek GWR
    - Seven CWSPAs (Valparaiso, Davey, Pleasant Dale, Hickman, Otoe County RWD #3, Weeping Water, and Union)
- **Groundwater Quantity:** reached when spring static groundwater levels in 30% of the wells monitored by LPSNRD in an area decline by a set percentage of saturated thickness for a consecutive two-year period.
  - For all GWRs and the RA, triggered when 30% of the monitored wells decline by 8% of saturated thickness, except for the Lower Salt Creek GWR (required decline is 15%)

### PHASE III

- **Groundwater Quality:** reached when, in a given area, at least 80% of the wells monitored by LPSNRD are at or above 80% of the applicable MCL.
  - Once that trigger is reached, LPSNRD will undertake a verification study.
  - Additional requirements:
    1. Require implementation of BMPs (e.g., soil sampling and analysis and adjusting fertilizer application accordingly, reporting of sampling to LPSNRD, no fall fertilization, etc.)
  - Current Phase III GWMA: Elmwood CWSPA (shown in red on Figure 2)
    - Also completing verification studies in four additional CWSPAs (Waverly, Greenwood, Ashland, and Raymond)
- **Groundwater Quantity:** reached when spring static groundwater levels in 50% of the wells monitored by LPSNRD in an area decline by a set percentage of saturated thickness for a consecutive two-year period.
  - For all GWRs and the RA, triggered when 50% of the monitored wells decline by 15% of saturated thickness, except for the Lower Salt Creek GWR (required decline is 30%)

### DWIGHT-VALPARAISO-BRAINARD SPECIAL MANAGEMENT AREA (DVB SMA)

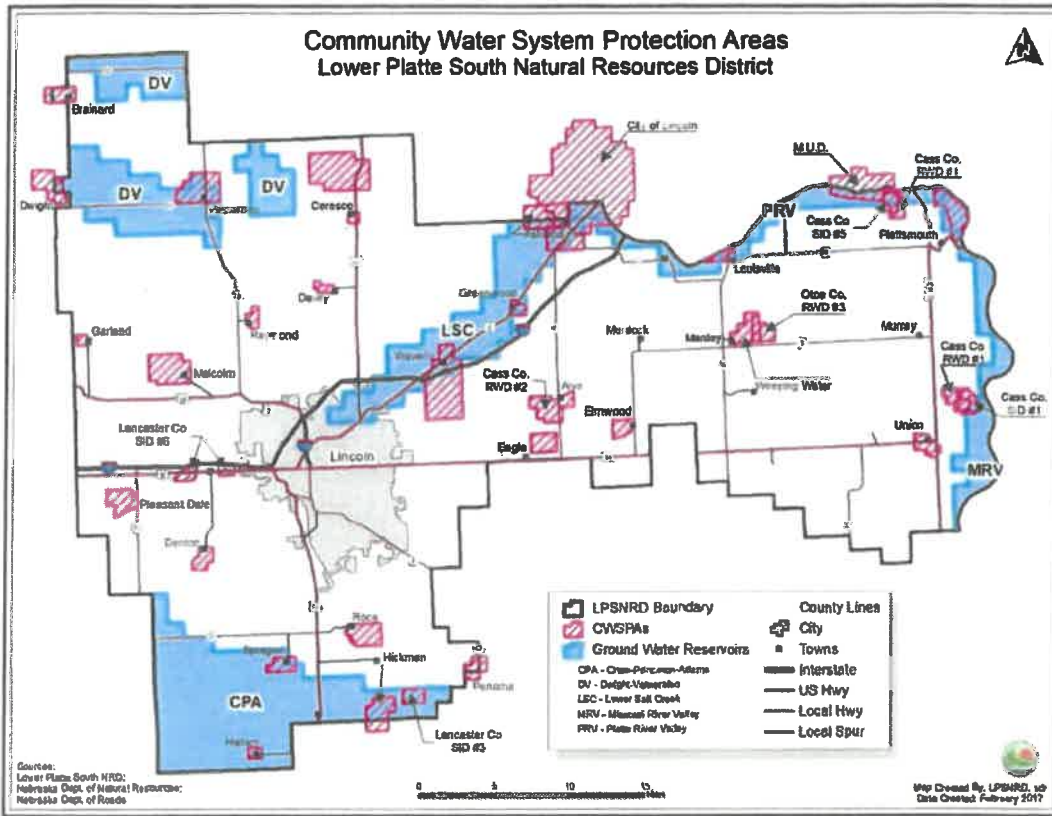
- Designated in 2014
- Intended to address significant in-season declines in groundwater levels related to the confined aquifer system in that specific area (Figure 3)
- Groundwater levels have not declined enough to exceed either Phase II or Phase III triggers
- Includes the following requirements:
  1. Required irrigation management certification training for irrigators operating in the SMA
  2. No new irrigated acres will be certified in the SMA



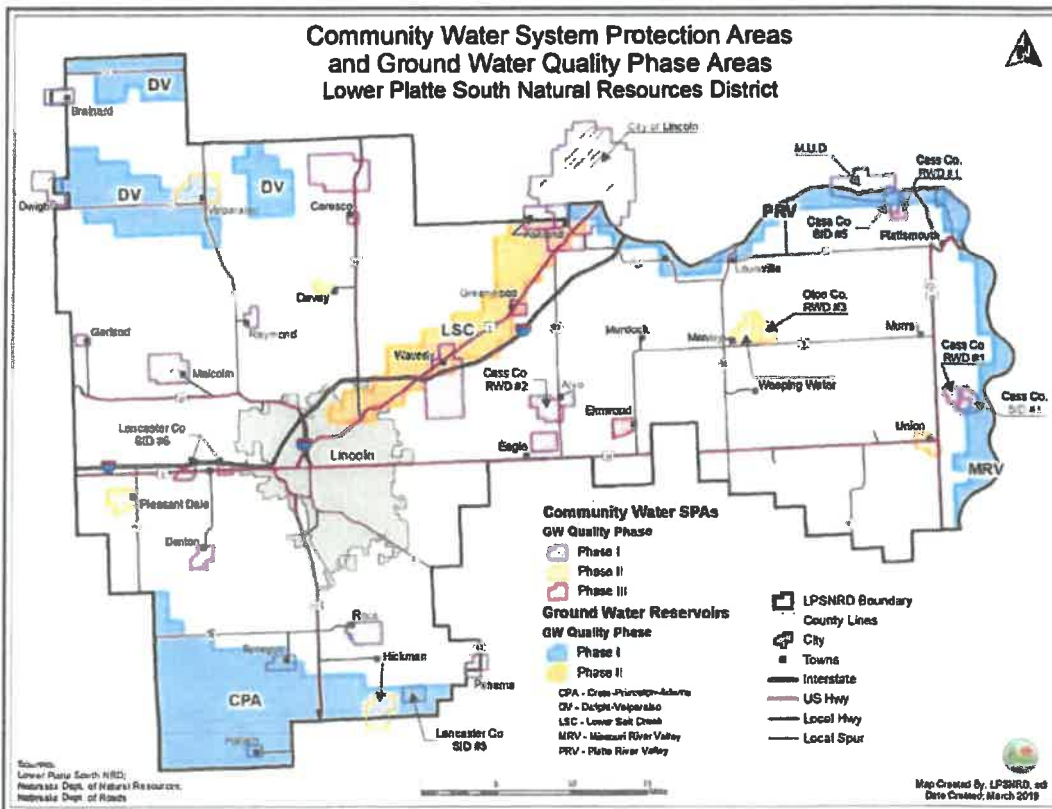
## **DRAFT**

3. Applied irrigation water is limited to a three-year rolling allocation of 21 acre-inches for all certified irrigated acres in the SMA, and applied irrigation water cannot exceed 9 acre-inches in any one year

# DRAFT

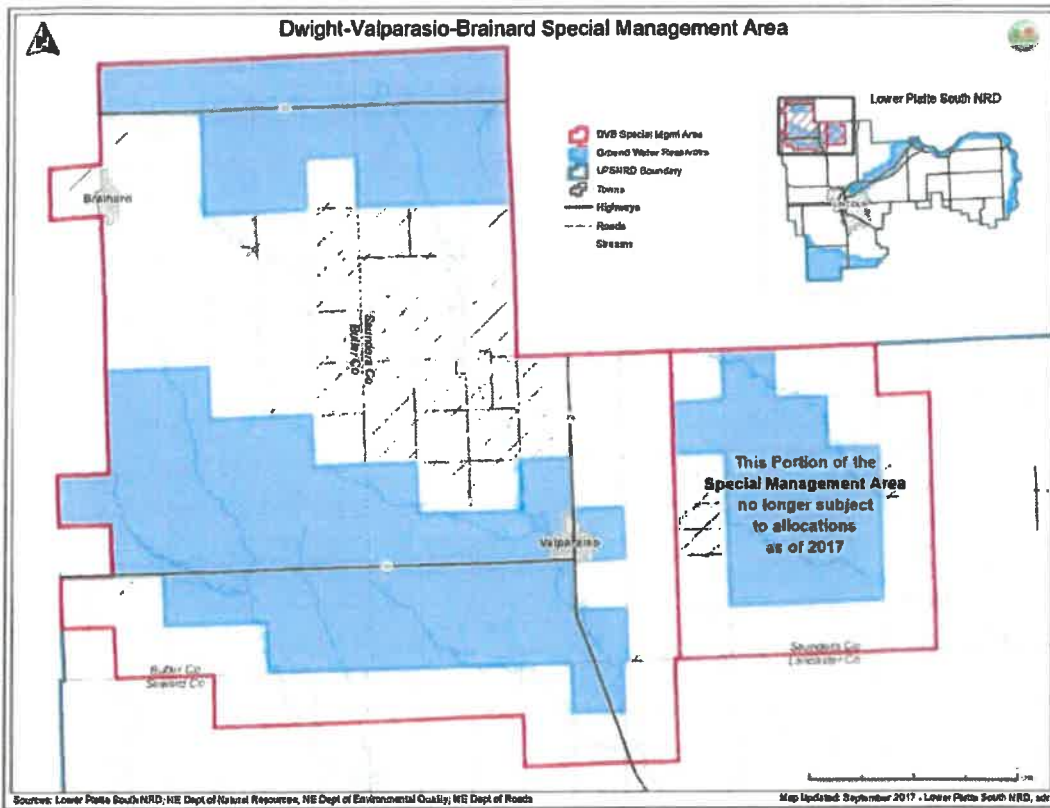


**Figure 1.** Groundwater Reservoirs, Community Water System Protection Areas, and Remaining Area in the Lower Platte South Natural Resources District.

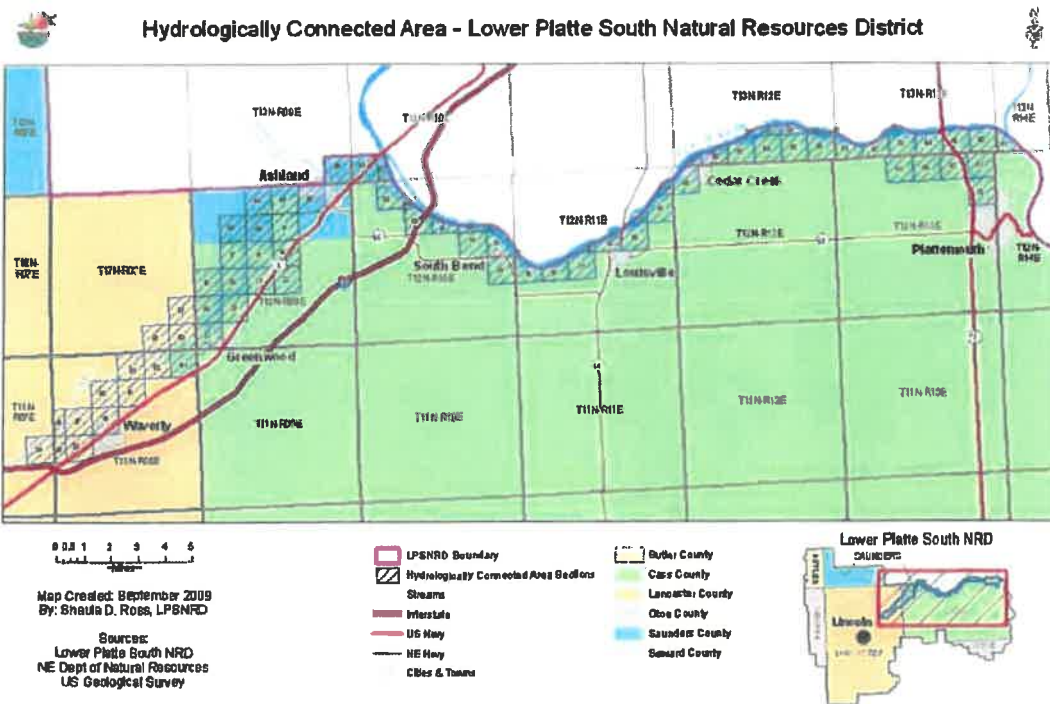


**Figure 2.** Phase II and Phase III GWQAs for groundwater quality in LPSNRD.

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**Figure 3.** Dwight-Valparasio-Brainard Special Management Area for in-season groundwater level declines.



**Figure 4.** Hydrologically Connected Area (HCA) in LPSNRD.

## GROUNDWATER RULES AND REGULATIONS

- First adopted in 1996 for implementing its groundwater management programs under the Act
- Have been revised several times
- Most current version of the Groundwater Rules and Regulations took effect on January 15, 2020

### Authority and Purpose

- References statutory authority granted in the Act
- Acknowledges the existing preferences for groundwater use (domestic first, then agriculture, then commercial/industrial uses).

**Section A—Definitions:** Defines specific terms as used in the regulations.

### **Section B—Groundwater Management Area**

- Overview of the statutory authority and requirements for establishment of a Groundwater Management Area
- Outlines various areas of management (GWRs, CWSPAs, and RA)

### **Section C—Water Well Permits**

- Details the information requirements for well permits
- Sets out five different classes or types of well permits:
  - **Class 1 Permit:** any proposed well located in a GWR and designed to pump more than 50 gpm but less than 1000 gpm *and* less than 250 acre-feet of water per year. Additional requirement:
    - Water quality analyses for sodium, chloride, and total dissolved solids (TDS) taken after a 24-hour pumping test
  - **Class 2 Permit:** any proposed well located in a GWR and designed to pump 1000 gpm or more *or* 250 acre-feet or more per year. Additional requirements:
    - Same water quality analysis as required for Class 1 permit
    - Copy of the well log
    - Accurate static water level measurement
    - Aquifer test supervised by a licensed professional geologist or engineer with experience in such analysis
    - Hydrogeologic analysis report considering the effect of the proposed well over a minimum 20-year period, also prepared by a licensed professional geologist or engineer
  - **Class 3 Permit:** any proposed well located in the RA and designed to pump more than 20 gpm and less than 250 gpm *and* less than 25 acre-feet per year (except for domestic wells designed to pump 50 gpm or less). Must include same water quality analysis required for Class 1 permit.
  - **Class 4 Permit:** any proposed well located in the RA and designed to pump 250 gpm or more *or* 25 acre-feet or more per year. Must include the same information required for Class 2 permits.
  - **Salt Water Well Permit:** any proposed well designed to pump salt water for a beneficial use. For purposes of LPSNRD's regulations, "salt water" is defined as groundwater containing TDS concentrations of 2500 ppm or more. Must include the information described for Class 1, 2, 3, or 4 Permits, depending on the intended volume of production, and submit analyses for sodium, chloride, and TDS collected at various times during a 24-hour pumping test.
- Specifies certain conditions under which permit may be denied, including the following:
  - Not using groundwater for a beneficial use
  - Proposed water well would have adverse effects on the aquifer or pre-existing wells of a higher beneficial use

- Potential for salt water intrusion
- Non-cooperation with other LPSNRD requirements
- Provides details on fees and additional requirements of well permit approval (e.g., use of new wells for LPSNRD groundwater monitoring, completion timeframe after approval, replacement wells, well spacing).

**Section D—Required Water Well Flow Meters**

- Requires flow meter on all new and replacement wells requiring a well permit, as well as all existing wells capable of pumping more than 50 gpm
- Owners of such wells shall report water usage to the District on an annual basis

**Section E—Phases for Designated Areas of Management:** Designates Phase I for groundwater quality and quantity District-wide; Phase II emphasizes BMP cost-share and requires education; and Phase III establishes regulatory requirements for quality and quantity.

**Section F—Groundwater Monitoring Networks:** Establishes groundwater quality and quantity monitoring networks for GWRs, CWSPAs, and the RA.

**Section G—Groundwater Phase Triggers:** Describes the triggers for Phase actions for both groundwater quality and quantity.

**Section H—Salt Water Intrusion:** Commits the District to investigating intrusion of salt water from underlying bedrock units into freshwater supplies and developing an action plan and rules and regulations if intrusion does occur.

**Section I—Groundwater Verification Studies for Management Phase Determination:** states that the District will conduct two-year verification studies when either Phase II or Phase III groundwater quality triggers have been reached.

**Section J—Groundwater Phase Management Actions**

- Requires annual District review of Phase actions by March 1
- Phase I actions
  - Requires certification of all irrigated acres in the District
  - Establishes incentive and educational programs
  - Recognizes the need for integrated management plans for hydrologically connected areas
- Phase II additional actions
  - Establish citizens' advisory groups
  - Develop requirements for educational certification
- Phase III additional actions
  - Require implementation of BMPs and reporting

**Section K—Phase II Rules and Regulations**

- Designates and provides legal descriptions of the land affected by Phase II groundwater quality management areas for nitrate-nitrogen (see Figure 2)
- Continues Phase I rules; requires educational certification; and conditions under which Phase II may be suspended

**Section L—Phase III Rules and Regulations**

- Designates and provides legal descriptions of the land affected by Phase III groundwater quality management areas for nitrate-nitrogen (see Figure 2)

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- Continues Phase I and II rules; requires soil sampling, consideration in fertilizer applications, and reporting of those results; prohibits fertilizer application between harvest and March 1 of any crop year; and conditions under which Phase III may be suspended

### **Section M—Improper Irrigation Runoff**

- Implements NRD’s statutory directive to minimize improper groundwater irrigation runoff
- Includes possible remedial actions; promotes utilization of runoff by other landowners; considers *de minimis* runoff.

### **Section N—Transfer of Groundwater**

- States the District’s policy on transfer of groundwater from a remedial action plan
- Other statutory allowances for groundwater transfer
- Prohibits transfer of groundwater from a GWR to land outside that GWR

### **Section O—Enforcement Procedures for the Nebraska Ground Water Management and Protection**

**Act:** Outlines procedures for investigating and taking enforcement actions against individuals or entities who have violated the District’s regulations or provisions of the Act.

**Section P—Request for Variance:** Requirements, fees, and procedures for individuals or entities seeking a variance from any District rule or regulation.

### **Section Q—Hydrologically Connected Area**

- Provides a legal description of the land included in the Hydrologically Connected Area (HCA), a portion of the NRD in which the NDNR has determined that groundwater and surface water are hydrologically connected (Figure 4)
- Provides allowances for expansion of irrigated acres in the HCA

### **Section R—Special Management Area**

- Provides authority for the designation of the Dwight-Valparaiso-Brainard Special Management Area (DVB SMA) and a legal description of the land enclosed in that area
- Lists the regulations in force for the SMA