

Water Committee Meeting
Wednesday, June 28, 2017 5:00 PM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS

At the May 8, 2017, Board Meeting, the following motion to table was passed by all present:
A motion by Dave Saalfeld and second by Jim McDermott to table until budgeting time, budgeting \$20,000 for the development of an aquifer risk map for FY17-18 and continue discussion on development of the interactive mapping tool, with cost estimates presented in the budget for committee review

2. REGULATORY

2.A. ITEMS FOR WATER COMMITTEE

2.B. GROUND WATER MANAGEMENT AREA

2.B.1. Irrigated Acres for 2017 in the HCA and NHCA

Deadlines are approaching.

2.B.2. Variance Requests in the Hydrologically Connected Area (Limited Development Area)

The District received one new application for 85 acres in the Morse Bluff Subarea. This brings the total number of acres applied for to 4439.2. The deadline for variances to expand irrigated acres is September 15.

2.B.3. Variance Requests in the Non-Hydrologically Connected Area (Normal Development Area)

The deadline for variances to expand irrigated acres is August 15.

2.B.4. Variance Requests in the Restricted Development Areas

Normal deadline for variances to expand irrigated acres is August 15.

2.B.5. Well Permit Program

2.B.5.a. Well Permits Approved

Wells Permits Approved: 3

Landowner	Number of Wells	Number of New Irrigated Acres	Type of Well	County	Subarea
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Lakeview Community Schools	1	0	PWS	Platte	Lower Shell Creek
Duane & Pauline Siffing	1	0	Irrigation (Replacement)	Butler	Bellwood
Richard Dawson	1	0	Irrigation (Replacement)	Butler	Schuyler

The total number of approved permits for 2017 is 15
Location of Approved Well Permits for 2017: Correct as of 6/28/2017

County	Irrigation - New	Irrigation - Replacement	Stock	Commercial	Municipal	Other	Total
Butler	2	3	0	0	0	0	5
Colfax	0	1	0	0	0	0	1
Dodge	0	0	0	0	0	1	1
Boone	0	0	0	0	0	0	0
Madison	0	0	0	0	0	0	0
Platte	2	0	0	0	1	0	3
Saunders	5	0	0	0	0	0	5
Total	9	1	0	0	0	1	15

2.B.5.b. Martin Erickson Well Permit Update

Staff conducted a 4 hour pump test on Martin Erickson irrigation well on June 23, 2017. Water measurements were taken every 4 hours along with setting the Brazda Monitoring Well Data Logger to record every 10 minutes. A water quality sample was taken after the 4 hour test, which the NRD is still waiting for results. Staff talked to Martin about getting soil moisture sensors installed and drilling the required monitoring well in the NW part of the field. The soil moisture sensors were installed by Aaron Nygren on 6/27/2017. A couple of graphs are attached showing the pump test results. The Brazda well dropped 3.44 feet during the 4 hour pump with a recovery in about 24 hours. A complete report is attached on Martin Erickson Pump Test.

Staff recommends that the Committee amends the variance agreement that the Monitoring Well in the NW¹/₄ NE¹/₄ 20-14N-07E be installed before pumping of the irrigation well can commence. Attached is the original variance agreement for the drilling of the Martin Erickson well.

2.B.6. Irrigation Runoff Complaint

No activity

2.B.7. Well Interference Complaints

No activity

2.B.8. Potential Violation of Expanded Irrigation

No activity

2.B.9. Special Quantity Subareas

Continue to work with livestock producers on installing flow meters with high capacity wells.

2.B.10. Lower Platte River Basin Water Management Plan Coalition (LPRBC)

No new information to report.

2.B.11. Voluntary Integrated Water Management Plan - LENRD and LPNNRD

Jennifer Schellpepper - DNR wants to wait on approval of LPN IMP until the Lower Platte River Basin Water Plan is complete and the Water Banking/Transfer portion of LPN plan is included.

2.B.12. Cost Share Programs

2.B.12.a. Irrigation Well Sample Kits

2.B.12.b. Nebraska Agricultural Water Management Network (NAWMN)

This year we had 2 new producers for watermarks moisture sensors and one new one with an ET gage. Total producers signed up over the years of the program is 132. Here is a comment from Aaron Nygren: Of those 132 what we don't know is how many of those are still actively using the equipment, some I know are ordering new sensors, others I know have switched to Servi-Tech or capacitance probes, and a few have quit using anything... The area with the best long term retention and expansion of users is the Humphrey/Lindsay area, otherwise it is a scattering of users here and there. An invoice from Klein Sales for \$699 for purchase of equipment for Martin Erickson and John Hannah is attached.

2.B.12.c. Flow Meter Maintenance Program

An invoice is attached from Tri City Meters, Inc for replacement batteries and other flow meter parts. LPNNRD staff will be replacing batteries on electronic flow meters this fall.

2.B.12.d. Flow Meter Cost Share in SQS #2

A reimbursement request was sent to the Water Sustainability Fund on June 14, 2017 for \$24,227.

John Miyoshi attended the Commission meeting on June 20, 2017 to ask the Commission for approval to allow the District to expand cost-share for flow meters to 2 miles beyond the SQS #2 Boundary. The request also asked for allowing cost-share for changing out Gallons registers to Acre Inch on existing flow meters. The Commission approved the request for both items.

Cost-share rates will be the same as approved by the Board initially with 8 inch meters - \$770 and 6 inch meters - \$577. GWEL wells would have cost-share as follows: \$1,000 per 8 inch meters (\$770 from WSF and \$230 from LPNNRD = \$1,000) and at \$749 per 6 inch meters (\$577 from WSF and \$172 from LPNNRD = \$749).

Cost-share on existing flow meter that have gallons reading registers to convert to Acre-Inch would be \$225 with producer paying the labor cost.

All cost-share invoices will need to be at the LPN office by March 1, 2018 with the NRD closing out the grant by May 1, 2018.

The Water Sustainability Fund is a 60-40 cost-share. Staff recommends to participate in the WSF cost-share grant.

2.B.12.d.1. Flow Meter Cost Share in SQS #2

The LPNNRD has received no flow meter cost-share applications since the last Water Committee meeting.

At the November 30, 2016 Water Committee, a motion was made to fund GWEL cooperator wells at \$1,000 per 8 inch meters (\$770 from WSF and

\$230 from LPNNRD = \$1,000) and at \$749 per 6 inch meters (\$577 from WSF and \$172 from LPNNRD = \$749)

As of June 15, 2017 we have received a total of 176 applications. All meters have inspected to insure that the meter is installed properly.

Water Sustainability Fund (WSF)	
8 inch meters	0 x 8" meters or 0 x \$770 = \$0
6 inch meters	0 x 6" meters or 0 x \$577 = \$0
WSF Total	\$0
So Running Total = \$132,432	
So Running Total WSF Grant = \$79,459 of \$200,000 grant	
So Remaining Total of WSF Grant = \$120,541	
So LPN 40% Share = \$52,973	

LPNNRD For GWEL Cooperators	
8 inch meter	0 x 8" meters or 1 x \$230 = \$0
6 inch meter	0 x 6" meters or 0 x \$172 = \$0
Carry over (8 inch meter)	0 x 8" meter or 0 x \$230= \$0
LPNNRD Total	\$0

Total For Flow Meter Cost Share Program	
WSF & LPNNRD	For approval at July 10, 2017 Board Meeting = \$0

2.B.13. Flow Meter Update

McCrometer has introduced the Dura Mag Electromagnetic Flowmeter to their lineup of irrigation flowmeters. They would like the District to consider adding it to the irrigation approved flowmeter listing. The flowmeter meets all the Districts criteria for inclusion. It would also fit into the District's electronic meter maintenance program.

Attached are three PDFs with information on the DURA MAG flow meter. A few quick points from Ken Quandt on the McCrometer Dura Mag:

- +/- 1 % accuracy with 2D upstream and 1D downstream
- Sizes available include: 4", 6", 8", 10", and 12"
- The standard warranty on the meter is 2 years. Battery life is expected to be 5 years and the battery has a warranty of 3 years. DC power also available.
- Standard outputs include 4-20 mA, pulse output, and telemetry-ready output options.
- On-board datalogger included with 5 years of data storage.

Staff feels this meter meets all the criteria to put it on the list.

2.B.14. Bellwood Phase 2 Area

2016 is the fourteenth year for this Phase 2 Area. Phase 2 information packets with order were mailed to producers in June, before the start of irrigation. This area was reduced from 32 sections to 21 sections in 2015.

Year	Nitrate-Nitrogen Range	Percent Nitrate-Nitrogen 0 To 8.0 Ppm	Percent Nitrate-Nitrogen 8.01 To 10.00 Ppm	Percent Nitrate-Nitrogen Greater Than 10 Ppm
2015	0 to 32.3 ppm	43% (31 of 72)	8% (6 of 72)	49% (35 of 72)
2016	0 to 35.1 ppm	37% (25 of 68)	12% (8 of 68)	51% (35 of 68)

Hough Farms water sample of G-065461 collected in August had a **93.6 ppm** result for G-065461. After talking with Tommy Hough it was determined that this sample was collected while they were chemigating at this well. Oaklund arranged with Tommy Hough to re-sample this well. The result of the second sample was 13.6 ppm, which is within the range of previous sample results (3.70 to 18.5 ppm). [*Note: The 93.6 result was removed from the above table.*]

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No recent activity since last Committee Meeting.
This area was reduced from 32 sections to 21 sections in 2015.

Year	Nitrate-Nitrogen Range	Percent Nitrate-Nitrogen 0 To 8.0 Ppm	Percent Nitrate-Nitrogen 8.01 To 10.00 Ppm	Percent Nitrate-Nitrogen Greater Than 10 Ppm

2.B.15. Richland - Schuyler Phase 2 Area

No recent activity since last Committee Meeting.
2016 is the first year of this Phase 2 Area. There are 45 registered active irrigation wells in the ten sections of this new area.

Year	Nitrate-Nitrogen Range	Percent Nitrate-Nitrogen 0 To 8.0 Ppm	Percent Nitrate-Nitrogen 8.01 To 10.00 Ppm	Percent Nitrate-Nitrogen Greater Than 10 Ppm

2.B.16. Richland - Schuyler Phase 3 Area

No recent activity since last Committee Meeting.
2016 is the first year of this Phase 3 Area. This Phase 3 area went into effect September 1, 2015. The 55 sections of this area first went into a Phase 2 Area in 2004.

Year	Nitrate-Nitrogen Range	Percent Nitrate-Nitrogen 0 To 8.0 Ppm	Percent Nitrate-Nitrogen 8.01 To 10.00 Ppm	Percent Nitrate-Nitrogen Greater Than 10 Ppm

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2.B.17. LPNNRD Operator Certification

2.B.17.a. LPNNRD Operator Certification Classes

No recent activity since last Committee Meeting

Cert. Number	Cert. Date	Name	Re-Cert.	Comments
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2.B.18. Certifying Acres in

Saunders and Dodge Counties

2.C. CHEMIGATION

For 2017 we have 537 renewals and 80 new permit applications for a current total of 617. Inspections for 80 renewal permits have been completed. In 2016 the NRD had 98 new permits for a total of 573.

The breakdown by County for the Total Number of Renewals within the LPNNRD.

County	Number of Renewals
Boone	49
Butler	67
Colfax	34
Dodge	87
Madison	6
Platte	87
Saunders	207

The breakdown by county of the number of renewal inspections completed.

County	Number of Renewal Inspections Completed
Boone	20
Butler	14
Colfax	2
Dodge	8
Madison	0
Platte	7
Saunders	28

The breakdown, by county for the ## new chemigation permit applications, are listed below:

County	New Chemigation Applications
Boone	7
Butler	12
Colfax	2
Dodge	6
Madison	1
Platte	10
Saunders	25

2.D. LIVESTOCK WASTE PERMITS

The LPNNRD has received # 0 livestock permit applications from DEQ since the last Water Committee meeting.

Name	Livestock	Type of Permit	Legal Description	County

Description of permit application

2.E. GW RULES AND REGULATIONS

At the May Committee Meeting, staff was asked to present for discussion the variance scoring sheet and a draft Phase IV for Water Quality.

> Variance scoring sheet is attached that was used in 2016. Some questions at last Committee Meeting were:

1. Types of Irrigation Systems
2. Soil Types and Classes
3. Minimum pumping requirement like 200 - 300 GPM

4. Longer pump tests like 12 or 24 hours compare to 4 hours.
> Adding another Phase rule. Attached is some information on bordering NRDs and a draft on what Phase IV might look like in Lower Platte North.

2.E.1. Advisory Board

Part of the Rules and Regulations is utilizing an Advisory Board. This Board has not met for awhile, so this list might need to be updated.

Advisory Board

The District shall establish an Advisory Board composed of individuals representing different groups that will be affected by the District's Management Area. The purpose of the Advisory Board is to provide recommendations to the staff and Board in developing the rules and regulations for the District's Management Area. The Advisory Board is composed of 15 members representing the following groups:

- Farmer/Irrigator - 4
 - Farmer/Dryland - 1
 - Fertilizer Dealer - 2
 - Turf Grass Production - 1
 - Crop Consultant - 1
 - Cattle Feedlot - 1
 - Hog Confinement - 1
 - Poultry Operation - 1
 - Packing Plant - 1
 - Golf Course Manager - 1
 - Municipality - 1
- Here is the list from 2008

Buck	Wehrbein	Mead Cattle Co.
Ernie	Pence	Cargill Meat Solutions
Larry	Andreasen	Dept of Utilities
Duane	Siffring	
Randy	Benson	Farmers COOP
Randy	Luebbe	
Bob	Moravec	
Dave	Rosendahl	
Larry	Feala	
Wayne	Thorson	Todd Valley Farms
Carl	Sousek	
Dan	Bauer	
Andrew	Klug	

3. GROUND WATER PROGRAMS

3.A. DECOMMISSIONED WELL PROGRAM

3.A.1. Well Estimates

No new wells has been reviewed and approved by Gottschalk for decommissioning since the last Committee meeting.

Well Owner	Type of Well	Cost Share Estimate	County

3.A.2. Plugged Wells

No wells have been plugged, reviewed, and ready for cost share payment approval this month.

Well Owner	Type of Well	Cost Share Estimate	County

3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

3.B.1. Elkhorn Loup Model (ELM)

No new information to report since last Committee Meeting.

3.B.2. Eastern Nebraska Water Resources Assessment (ENWRA)

These are the proposed numbers that Katie Cameron is looking at for the Water Sustainability Fund

Large Project Cost Breakdown all in one

	FY18 (30% by March 1, 2018)	FY19 (Next 50% just before or just after July 1, 2018)	FY19 or FY20 (Last 20% around one year after end of flights)	Total
40% Local Match				
Lewis and Clark NRD (\$500k)	\$60,000.00	\$100,000.00	\$40,000.00	\$200,000.00
Papio-Missouri R. NRD (\$230k)	\$27,600.00	\$46,000.00	\$18,400.00	\$92,000.00
Nemaha NRD (\$300k)	\$36,000.00	\$60,000.00	\$24,000.00	\$120,000.00
Lower Elkhorn NRD (\$650k)	\$78,000.00	\$130,000.00	\$52,000.00	\$260,000.00
Lower Platte North NRD (\$750k)	\$90,000.00	\$150,000.00	\$60,000.00	\$300,000.00
Lower Platte South NRD (\$850k)	\$102,000.00	\$170,000.00	\$68,000.00	\$340,000.00
Local Match Subtotal	\$393,600.00	\$656,000.00	\$262,400.00	\$1,312,000.00
WSF reimbursements (60%)	\$590,400.00	\$984,000.00	\$393,600.00	\$1,968,000.00
Total Project Cost	\$984,000.00	\$1,640,000.00	\$656,000.00	\$3,280,000.00

3.B.3. Platte and Elkhorn River Valley Integrated Water Monitoring

No new information to report since last Committee Meeting.

3.B.4. Lower Platte River Consortium

No new information to report since last Committee Meeting.

3.C. GROUND WATER ENERGY LEVELS

No new information to report since last Committee Meeting.

3.D. GROUND WATER QUALITY SAMPLING

No new information to report since last Committee Meeting.

3.E. FORMER ORDNANCE PLANT NEAR MEAD

No new information to report since last Committee Meeting.

4. SURFACE WATER PROGRAMS

4.A. STATE LAKES, FOR THE WEEK OF

Here is the Updated Information, at this time no Lakes in Lower Platte North are on the list.

Week of June 19th, 2017

This week's beach Bacteria and Harmful Algal Bloom results are now posted on the NDEQ web page (<http://deq.ne.gov>).

Unfortunately we have hit that time of year. We have our first beaches for the year going onto the Health Alert List. The hot temperatures mixed with a high level of

available nutrients in the water have caused some Harmful Algal Blooms (HABs) in a couple of southeastern Nebraska lakes.

While swimming, wading, and skiing should be avoided. These lakes are still great places to camp, fish, and enjoy the beautiful Nebraska scenery.

For further information about HABs and the microcystin toxin please visit the links on our BeachWatch website. (<http://deq.ne.gov/NDEQProg.nsf/Beaches2017.xsp>)

Harmful Algal Blooms

TWO Lakes will be on “Health Alert” this week. NDEQ in conjunction with numerous collaborators monitor public beaches and sample for microcystin, a toxin produced as a result of a Harmful Algal Bloom. A lake that exceeds 20 ppb of microcystin will be placed on “Health Alert”. That lake will remain under “Health Alert” Status until such time that it has tested below 20 ppb for two continuous weeks.

If a lake is under a Health Alert, signs will be posted recommending people avoid full body contact activities such as swimming, wading, skiing, jet skiing, etc.

Non-contact activities such as boating, fishing, and camping are OK.

Lake Name	County	Current Microcystin Level (ppb)
Iron Horse Trail Lake (WMA)	Pawnee County	21.77
Pawnee Lake	Lancaster County	32.13

Bacteria

Lakes that tested high for *E. coli* bacteria this week are listed below. *E. coli* bacteria levels measured above 235 colonies/100 ml of sample are considered a higher risk for illness when swimming. Considering the more rapid changes in bacteria conditions, signs are not posted with these higher levels although we want people to be aware and use their own judgment on their use.

Lakes with High *E. coli* Bacteria Levels

Lake Name	County	E.coli Bacteria
Big Indian Lake (11A)	Gage	601.5
Louisville Lake No. 2 (SRA)	Cass	1203
Wagon Train Lake	Lancaster	1986

This information is updated weekly on our web site, <http://deq.ne.gov/NDEQProg.nsf/Beaches2017.xsp> . We hope you find this interesting and useful.

4.A.1. Bacteria Sampling

4.A.2. Toxic Algae

5. OTHER

Travis Turgeon and Bryce Wright passed the Natural Resource Ground Water Tech Exam. They will be helping with Chemigation, Water Sampling and Water Levels in July. Congratulation Guys!

Will Brueggemann accepted the position for Water Technician and plans on starting July 10. Will was an summer intern for LPN in 2016 and has passed the Ground Water Tech Exam. Staff will be working with Will and DHHS on getting his license reinstated. Welcome to the LPN Water Department!

5.A. LPNNRD WATER PROGRAMS BUDGET FY17-18

At June's Board Meeting it was voted to add CMAT and the Phoenix Database Field App Proposal to FY17-18 Budget. Attached is FY17-18 Proposed Water Budget.

Water Department Staff Priority List:

1. Mobile Application and Field Data Collection (Master Database)
2. AEM Flights
3. Monitoring Wells and Test Holes
4. Monitoring Equipment for Wells in SQS #2
5. Hydrological Risk Map
6. GW Elevations WANN subarea

5.B. Drought Map

Attached is the drought map for June 20, 2017, which depicts part the LPN District abnormally dry. This information is provided by the U.S. Drought Monitor.

5.C. COMMENTS FROM THE PUBLIC