

Water Committee Meeting
 Wednesday, April 26, 2017 5:00 PM
 Lower Platte North NRD Office
 P.O. Box 126
 Wahoo, NE 68066

1. UNFINISHED BUSINESS

2. REGULATORY

2.A. GROUND WATER MANAGEMENT AREA

2.A.1. Irrigated Acres for 2016 in the HCA and NHCA

No new activity to report

2.A.2. Variance Request in the Hydrologically Connected Area (Limited Development Area)

No new activity to report

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

No new activity to report

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

No new activity to report

2.A.5. Well Permit Program

2.A.5.a. Well Permits Approved

Wells Permits Approved: #

Landowner	Number of Wells	Number of New Irrigated Acres	Type of Well	County	Subarea
Lyman-Richey Corporation	1	0	Irrigation-Replacement	Butler	Bellwood
Milton Odvody	1	160	Irrigation-Variance	Saunders	Todd Valley
John Vandenberg	1	0	Irrigation-Supplemental	Butler	David City

The total number of approved permits for 2017 is 11

Location of Approved Well Permits for 2017: Correct as of 4/21/2017

County	Irrigation - New	Irrigation - Replacement	Stock	Commercial	Municipal	Other	Total
Butler	2	1	0	0	0	0	3
Colfax	0	0	0	0	0	0	0
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	0	0	2
Saunders	5	0	0	0	0	0	5
Total	9	1	0	0	0	1	11

2.A.6. Potential Violation of Expanded Irrigation

No activity to report

2.A.7. Special Quantity Subareas

#1 (Butler-Saunders)

There are 30 irrigation wells in this area. 25 of these have a flow meter; the other five wells were not used in 2016. All 25 flow meter reporting forms have been returned. 2017 will be the third year of their allocation (3-year rolling) for this SQS area. Staff got water levels from most of these wells last week.

#2 (Platte-Colfax)

Flow meter cost-share applications continue to be received. Staff is in process of completing allocation calculations. Staff plans on starting collecting water levels from these wells starting April 24.

High capacity livestock wells or a series of wells capable of pumping 50 GPM have received a letter that a flow meter is required by LPN management rules for this area. Staff was contacted by a couple of individuals on type of meter needed and potentially reclassifying the well. Staff will continue to communicate with these individuals.

FLOW METER INSTALLATION UPDATE

Russ inspected Terry Lutjens flow meter installations on April 24. Holes have been cut in 4 of the sites with one site that uses lagoon water still being evaluated. The motion at last month's meeting gave him until May 1, 2017 to have the meters installed or Cease and Desist will be issued at May 8th Board Meeting. Staff will be contacting Mr Lutjens on May 1.

2.A.8. Lower Platte River Basin Water Management Plan Coalition (LPRBC)

No new information to report

2.A.9. Voluntary Integrated Water Management Plan - LPNNRD

An edited draft IMP copy has been received by LPN from Amy Zoller of DNR. Chris Poole is editing text and creating a few maps with the GW Dept. writing up a description of the LPN aquifer characteristics. The plan is to have LPN edits back to Amy the first part of May.

2.A.10. Cost Share Programs

2.A.10.a. Irrigation Well Sample Kits

No new requests received in April. Kits will be mailed out prior to irrigation.

2.A.10.b. Nebraska Agricultural Water Management Network (NAWMN)

No new activity to report

2.A.10.c. Flow Meter Maintenance Program

Tri-City Meters has completed the greasing and sealing of flow meters in the SQS areas. A complete report should be arriving soon with meter information, pictures and invoice. Staff will be ordering batteries for electronic meters and a few parts to fix McCrometers in an emergency this summer.

Staff met with Tri-City Meters in the field to watch how they were sealing and greasing the meters. They also showed us how to replace batteries in a Senninger meter. Plans are to have staff seal more of the meters this summer before tampering becomes an issue.

2.A.10.d. Flow Meter Cost Share in SQS #2

2.A.10.d.1. Flow Meter Cost Share in SQS #2

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 April 21, 2017 we have received a total of 176 applications. Only 5 of these still need to be inspected to insure that the meter is installed properly.

Seven well sites have applied for 2 meters each, but following motion of the Water Committee, only one meter per irrigation system will receive funding.

Therefore, for the May 8, 2017 Board Meeting, we will have a total of 7 cost-share applications to approve.

A meeting was held with Rex Gittins, Assistant Director for DNR, and Kent Zimmerman, who handles the Water Sustainability Fund, to discuss the reimbursement rates that was discussed in the fall of 2016. A misunderstanding occurred on the percentage that the WSF will reimburse. The chart below has changed to show what is acceptable for reimbursement. Last month the remaining WSF total was \$72,765 and this month the amount is \$120,541, which reflects a 60/40 split between the WSF and LPN. LPN share is now \$52,973 of the grant.

Water Sustainability Fund (WSF)	
8 inch meters	6 x 8" meters or 6 x \$770 = \$4,620
6 inch meters	1 x 6" meters or 1 x \$577 = \$577
WSF Total	\$5,197
	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	1 x 8" meters or 1 x \$230 = \$230
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	\$230

Total For Flow Meter Cost Share Program	
WSF & LPNNRD	For approval at May 8, 2017 Board Meeting = \$5,427

2.A.10.d.2. Water Sustainability Fund Request

At last months committee meeting it was reported that a request was sent to Kent Zimmerman requesting expanding the area cost-share to SQS #1 and expand out 1 mile of the boundary line of SQS #2. At the meeting with Rex and Kent, they reported that the DNR director only wants cost-share on new meters that hasn't been previously purchased. So with the information provided, SQS #1 was taken out of the request but we expanded the request to go 2 miles outside the boundary for SQS #2.

There are 264 wells in our district within 2 miles of SQS #2 (Platte/Colfax). 234 are irrigation wells, 31 are stock wells. There is one irrigation well in LENRD that irrigates into LPNNRD. If we assume that the District has 200 wells and the cost-share will be at the \$770 rate; the total would be \$154,000 at a 60/40 split. The WSF grant would be responsible for \$92,400 and the District share would be \$61,600. Some wells already have flow meters installed and will not be eligible for cost-share. This expanded area is voluntary flow meter installation and is not required by District rules. Normally when flow meters are voluntary, cost-share applications usually runs around 25-50 percent participation. So realistic the cost-share amount on 100 flow meters would be \$77,000 on a 60/40 split. At this time the District has around \$120,000 remaining in the fund. This request will need to approve at the Commission meeting in June.

2.A.10.d.3. Duplicate Meters on One Well

A motion was made at the December 28, 2016 Water Committee to pay for 1 meter per irrigation system. At that time a letter was sent to five producers stating the decision by the District. This letter stated that after the March 1, 2017 deadline that the District will reassess the funding for duplicate meters. Since the letter was sent out in January 9, 2017, two more applications has been received for duplicate flow meters per irrigation systems bringing the total to 7 duplicate flow meters per irrigation system. The purpose of the producer putting on duplicate flow meters can be for a variety of reasons. The main 2 reasons usually are installing the meter to meet spacing requirements or a producers trying to become efficient on the amount of water use per irrigation system. This information can be invaluable to the producer and the District when looking at cropping rotations or different irrigation systems. If one pivot is corn and the other is soybeans installing one meter may not get the producer or the District the correct amount of water use per crop.

The District has excess funds in WSF of 120,000 for flow meter cost-share, so cost-sharing on these flow meters will total \$5,390. The WSF will pay for \$3,234 and LPN share would be \$2,156. This will still leave over 116,500 in WSF.

2.A.11. 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	Percent Nitrate-Nitrogen	Percent Nitrate-Nitrogen
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		0 To 8.0 Ppm	8.01 To 10.00 Ppm	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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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)

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No new information to report

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.A.12. Richland - Schuyler Phase 2 Area

No new information to report

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

2.A.13. Richland - Schuyler Phase 3 Area

No new information to report

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.A.14. LPNNRD Operator Certification

2.A.14.a. LPNNRD Operator Certification Classes

Cert. Number	Cert. Date	Name	Re-Cert.	Comments
7065	4/10/2017	Andrew Tisthammer	Yes	
7066	4/12/2017	Gregory Romshek	Yes	

2.A.15. Certifying Acres in Saunders and Dodge Counties

Staff is working with 12 individuals in

Dodge County on completing the process. Still a few people that hasn't certified their acres, so at the next Water Committee other actions might be needed.

2.B. CHEMIGATION

For 2017 we have 232 renewals and 10 new permit applications for a current total of 242. Inspections for 0 renewal permits have been completed.

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

County	Number of Renewals
Boone	24
Butler	20
Colfax	15

Dodge	43
Madison	6
Platte	46
Saunders	87

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

County	Number of Renewal Inspections Completed
Boone	
Butler	
Colfax	
Dodge	
Madison	
Platte	
Saunders	

The breakdown, by county for the 10 new chemigation permit applications, are listed below:

County	New Chemigation Applications
Boone	3
Butler	
Colfax	
Dodge	1
Madison	
Platte	2
Saunders	5

2.C. GROUND WATER ENERGY LEVELS

Spring 2017 Ground Energy Levels

Groundwater levels were up as a whole with 66.3% of the wells measured had levels higher in Spring 2017 compared to Spring of 2016. Platte Valley levels were basically unchanged but Todd Valley rose over 2 feet. Attached is a summary of the groundwater levels per region. Also attached are graphs from from a majority of the wells that are in the GWEL network per region.

2.D. LIVESTOCK WASTE PERMITS

The LPNDRD has received #1 livestock modification permit applications from DEQ since the last Water Committee meeting.

Name	Livestock	Type of Permit	Legal Description	County
Arlynn Runge	Swine	Modified Construction and Operating Permit	SW SE 18-18N-01E	Platte

This is a modification to livestock waste control facility design and nutrient management plan.

3. GROUND WATER PROGRAMS

3.A. DECOMMISSIONED WELL PROGRAM

3.A.1. Well Estimates

Two 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
Diann Svatora	Irrigation	752.14	Colfax
E. Allan Jedlicka	Hand Dug (48" casing	835.80	Colfax

3.A.2. Plugged Wells

None at this time

Well Owner	Type of Well	Cost Share Estimate	County

3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

3.B.1. Eastern Nebraska Water Resources Assessment (ENWRA)

The spring meeting was held April 18 at the LPNNRD Boardroom. An update was given on AEM survey flights, which was reported that the partners were receiving their finish product ahead of schedule. The LPN should be receiving their data in July or even sooner. Katie Cameron plans on making a report to the Board in September or October. Water sampling is taking place on 26 wells for variety of parameters including age dating.

Chris Hobza reported on a recharge project he is conducting at 2 sites (Firth and Valley). The Firth site showed about a 12% recharge rate with the Valley site at 45%. The purpose of this study is to help determine recharge rates of different soil and geology material. These wells were chosen initially as their locations showed no outside influences. Chris plans on selecting more wells and continue this research.

Discussion was held about more flights in 2017 and/or apply for grant funding. Lower Elkhorn is planning on budgeting for flights in fiscal year 2017-18 and was wondering if their would be other partners. If ENWRA applies for a Water Sustainability Grant, applications are due in July but notification is not planned until March 2018.

The group is planning GeoCloud training in August. It is planned for a full day, with the first half technical training and the second part administrative training.

Amendment 5 to ENWRA Interlocal Cooperative Agreement is attached that will need Board Chairman signature. This agreement agrees to have a coordinator position through June 30, 2020 and will commit the LPN in contributing \$30,000 to ENWRA for the next 5 years.

3.B.2. AEM Survey Flights

Discussion on participating in a grant to continue AEM survey flights within the District. A map is attached showing the four potential areas that more information could be valuable in determining aquifer boundaries. The cost would be about 8 - 9 per acres if we fly on 1/3 mile flight lines. So the cost would be \$500,000 per area plus double that for the Prague Area. Is the committee wanting to do more flights and what areas would be higher priorities?

LPS would like to finish out there NW portion which would include the David City Subarea. Papio would like to finish there western part which would include the Yutan Uplands. The Swedeburg Subarea has pocket aquifers which boundaries are undefined. Are the boundaries correct for the Prague Subarea and maybe just fly the boundaries of this area?

The ENWRA group is considering submitting a grant to the Water Sustainability Fund in July which is a 60/40 share. The grant would be ranked and approved March 2018. If the

NRD agrees to participate in the grant this would be a FY18-19 project. Does the committee want to participate as a partner in the grant and for what dollar amount?

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

No new information to report.

3.B.4. Lower Platte River Consortium

Minutes are attached from the meeting held March 27, 2017

3.B.5. Hydrogeologic Evaluation

Dave Hume and Jon Mohr, LBG Environmental and Groundwater Engineering Firm, discussed the idea of developing a aquifer risk map. Attached is a sample map done for the LBNRD. This map is used as a management tool for issuing well permits for the LBNRD. The LBNRD took into consideration transmissivity, specific yield, thickness of saturated sand, water level change from Spring 2000 to Spring 2007 and recharge. A different percentage for each was given to develop a scoring systems on approving well permits.

This tool could help the Committee/Board and staff on approving supplemental wells or marginal land development. LBG would just take the data collected by Olsson Associates in the LPN hydrogeologic study done in 2008 and assist in developing it into a useful management tool. The Committee would help in determining the criteria for the map development.

A proposal is attached from LBG on the scope of the project. The cost of the risk map would range from 15 - 20 thousand depending on extra workflow needed by staff and LBG. The proposal also discussed an interactive mapping tool which could be used internally or by the public. No cost amount was given for this tool.

3.B.6. Elkhorn Loup Model (ELM)

The model has been revised and is being reviewed by the partners with the deadline for comment by May 16.

3.C. NEW MONITORING WELLS

Staff met with Katie Cameron, Sue Lackey and Dana Divine on monitoring wells locations. Sue commented that exact locations in the Colfax/Platte and Middle Shell Creek area could be determined more precisely after seeing the finish AEM flights results. She thought to go into the Dakota Aquifer that depths could be reaching 1200 feet.

To drill test hole and develop monitoring wells at depths of 1200 feet the cost would be around \$70,000 per site. Does the committee want to proceed in budgeting monitoring wells into FY17-18 and one or 2 sites?

Staff would like some guidance on this issue for budgeting purposes.

3.D. GROUND WATER QUALITY SAMPLING

Staff met with USGS when they were collecting water samples on LPN monitoring wells in

Section 22-14N-08E in Todd Valley. These wells are part of ENWRA water sampling network. They will be analyzing for pesticides, nitrates and conducting age dating on the water.

4. SURFACE WATER PROGRAMS

Staff will be meeting with DEQ for training on weekly surface water sampling on Wahoo Creek. The purpose of the sampling is establishing baseline information before water structures are constructed.

4.A. STATE LAKES, FOR THE WEEK OF

No activity to report

4.A.1. Bacteria Sampling

4.A.2. Toxic Algae

5. OTHER

5.A. CMAT Conjunctive Management Analysis Tool

Olson Associates and FYRA Engineering have come up with a proposal called CMAT (Conjunctive Management Analysis Tool). This tool takes existing groundwater models along with known information such as geology maps, soils maps, well logs, all of our ground water information along with studies we have performed and put them into a super-computer to give answers to queries (questions).

Many of these queries would be stand alone studies, but with CMAT the answer could be in minutes, hours or over night. A question as simple as transferring a water right from one location to another - CMAT could give us the acre foot difference or tell us that 80 acres of irrigation at site "A" would translate to a certain number of acres at site "B".

Of course your answer is only as good as your data so CMAT would also give us the reliability for each answer. Along with this reliability CMAT would also tell us where we should be investing our study and research funds to make our most commonly asked queries more accurate.

Attached find a presentation, list of most commonly asked questions and a potential funding scenario.

The funding shows that LPNDRD would be asked to contribute \$16,150 per year for two years.

5.B. Nebraska Habitat Conservation Coalition

A meeting was held with members of the NHCC via conference call on April 18, 2017. John Shadle was ratified as the vice-chairman of the group. Mark Czaplewski mentioned to the group that OPPD was interested in joining the group. He commented that with the new administration in Washington the Endanger Specie Act could be reform. The last time it was amended was in 1988. This reform could include re-designating the Platte River Endanger Specie Act.

The next meeting is scheduled for April 17, 2018 at 10 am CST.

Attached is the financial report, 2017 meeting agenda and 2016 minutes.

5.C. Phoenix Group

Water Department met with the Phoenix Group discussing the implementation of the 4 areas approved by the Board. Staff gave them Chemigation, GWEL Wells, Flow Meters and Phase

2 & 3 Reporting databases. Staff at the Phoenix Group will be implementing these databases into Phoenix and then get back to us on corrections. Staff also discussed online reporting for producers and using tablets in the field for data entry.

Data entry by staff in the field would be next logical step after these databases are deployed. This item was not part of the agreement with the Phoenix Group. Staff was asked to get a quote from Phoenix for inclusion in next years budget.

5.D. GMDA ANNUAL CONFERENCE

Russ Oakland, Brett Schomer and Daryl Andersen will be attending the conference in Albuquerque.

2017 GMDA Summer Conference Preliminary Agenda

May 24

Welcome dinner 5:30-6:30

May 25

Breakfast from 7:30-8:30

Keynote speaker Tom Blaine intro and speech 8:30-9:15

Steve Hernandez- TX. V NM 1 9:15-10:15

Break 10:15-10:30

Jason Norquest – Local Enhanced Management Areas (LEMAs) 10:30-11:00

Aron Balok – PVACD: Past, Present, Future 11:00-12:00

LUNCH 12-1

A.J. and Ian and John – NWRA Fed. Issues (panel) 1:15-2:15

Bruce Thomson – Desalinization and brackish water 2:15-3:00

Break 3:00-3:15

Stacy Timmons- NM Groundwater Modeling 45 min 6 3:15-4:00

Guest Speaker- Matt Rush 4:00-4:30

State Caucus and Board Meeting 4:30 - 5:30

May 26

Breakfast from 7:30-8:30

Morning opening and any updates 8:30-8:45

Nathan Collier- Integrating Hydrogeology, Well Design and Drilling Techniques 8:45-9:30

Break 9:30 - 9:45

Mike Wallace- the Atlantic Multidecadal Oscillation (AMO) climate index 9:45-10:30

Greg Alpers/BLM – Watershed management 10:30-11:00

Neil Blandford – Aquifer recharge 11:00-12:00

LUNCH 12-1

Tour of Rio Rancho Direct Injection Facility until 4:00pm

5.E. 2017 SUMMER INTERNS

We will have three new Summer interns at LPNNRD:

- Travis Turgeon, Junior, UNL, majoring in Environmental Restoration Science
- Ross Kirby, David City High School grad; will start at UNL in August
- Bryce Wright, Sophomore, Doane U, majoring in Environmental Science

LPNNRD will host the next Groundwater Technician Training scheduled for Friday, June 2nd. The training will start at 9:00 a.m. with the exam at 3:00 p.m. The deadline to register for the training and exam is May 12th. Application and check must be received by that date. The training and exam will be held in the Board Room.

5.F. COMMENTS FROM THE PUBLIC