

Water Committee Meeting
 Wednesday, August 30, 2017 5:00 PM
 Lower Platte North NRD Office
 P.O. Box 126
 Wahoo, NE 68066

1. UNFINISHED BUSINESS

2. REGULATORY

2.A. ITEMS FOR WATER COMMITTEE

2.B. GROUND WATER MANAGEMENT AREA

2.B.1. Irrigated Acres for 2018 in the HCA and NHCA

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

The District received 12 applications for new acres in the Hydrologically Connected Area since the last Water Committee meeting bringing the total to 4981.25 acres. The deadline for applications is September 15th.

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

The District has a total of 5 applications to review for approval totaling 437.0 acres. Attached is a list of the applications along with a map showing their location.

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

2.B.5. Well Permit Program

2.B.5.a. Well Permits Approved

Wells Permits Approved: #

Landowner	Number of Wells	Number of New Irrigated Acres	Type of Well	County	Subarea

The total number of approved permits for 2017 is #

Location of Approved Well Permits for 2017: Correct as of #####

County	Irrigation - New	Irrigation - Replacement	Stock	Commercial	Municipal	Other	Total
Butler							
Colfax							
Dodge							
Boone							
Madison							
Platte							
Saunders							
Total							

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

Staff measured Kenny Pestal Irrigation Well, by his request, on August 10th and then on August 14th. Kenny irrigated for the first time on August 11th and he finished on the 13th. August 10th reading was 70.65 ft and the August 14th reading - 80.5 ft. Measured Martin Erickson irrigation well on August 10 with a measurement of 127.45 ft, with the measurement on June 23, 2017, before starting the 4 hour pump test, - 124.69 ft. Both wells were running between August 11th and 13th.

Informational graphs from both monitoring wells are attached.

2.B.5.c. Village of Mead Municipal Water Supply Wells

The Village of Mead has submitted two Public Water Supply well permits located in the SW 1/4 NE 1/4 S35-T15N-R8E, Todd Valley Subarea, Saunders County. Mead is in the beginning stages of a water improvement project and would like to drill two new Public Water Supply Wells. There are currently two wells that supply water to the Village. One well will be used in conjunction with the two new wells, while the other one will be used primarily for filling trucks and as an emergency back up for the rest of the system.

2.B.5.d. City of Fremont Dewatering Wells

The City of Fremont has submitted four dewatering well applications for the NW 1/4 NE 1/4 S28-T17N-R9E, Fremont Subarea, Dodge County. The wells will be used to dewater a project area at the Fremont Waste Treatment Facility. The wells will be in operation for 14 months and will discharge into the Fremont storm water ditch directly north of the facility.

2.B.6. Irrigation Runoff Complaint

Complaint 1

A complaint was called into the LPNNRD office on the morning of 8/7/2017. Irrigation water from an endgun was hitting the road on the north side of the NE¹/₄ Section 20-T14N-R07E. Staff proceeding out to the location of the complaint site and took pictures (attached) of the water hitting the road. The owner/tenant of the land (Martin Erickson) was contacted and he shut off the pivot. He explained that as this is a new pivot, the degrees of the endgun was not set correctly, but was in the process of correcting that.

Complaint 2

A complaint was called into the LPNNRD office on 8/9/2017 and 8/10/2017. Irrigation water from an endgun had been hitting the road from the pivot in SW¹/₄ of Section 36-T15N-R5E. The second day an endgun was observed hitting the road from the SW¹/₄ of Section 31-T15N-R05E The owner/tenant of the land is Duane Ratkovec. A complete report is attached with pictures.

2.B.7. Cost Share Programs

2.B.7.a. Irrigation Well Sample Kits

325 irrigation kits have been mailed out so far in 2017 (19 of these were requested this week). 218 water samples have been returned.

2.B.7.b. Flow Meter Cost Share in SQS #2

Letters are just about ready to be sent out to the producers.

At the June 28, 2017 Water Committee, motion (1) offer cost-share for flow meters to producers within 2 miles of the SQS #2 Boundary with-in LPNNRD and (2)to offer cost-share within the SQS #2 area to convert gallons reading registers to acre-inches. Cost-share for registers conversion will be \$225 with producer paying the labor cost. Deadline for invoices will be by March 1.

2.B.8. Bellwood Phase 2 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
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.]*

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)

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2017 is the fifteenth year for this Phase 2 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
2004	0 to 25 ppm	46.3% (44 of 95)	8.4% (8 of 95)	45.3% (43 of 95)
2005	0 to 25 ppm	47% (44 of 94)	15% (14 of 94)	38% (36 of 94)
2006	0 to 24 ppm	41% (29 of 71)	14% (10 of 71)	45% (32 of 71)

2007	0 to 31 ppm	48% (48 of 100)	9% (9 of 100)	43% (43 of 100)
2008	0 to 28 ppm	53.75% (43 of 80)	7.5% (6 of 80)	38.75% (31 of 80)
2009	0 to 22 ppm	45.5% (41 of 90)	15.5% (14 of 90)	39% (35 of 90)
2010	0 to 35.7 ppm	48.65% (54 of 111)	11.71% (13 of 111)	39.64% (44 of 111)
2011	0 to 26.6 ppm	51% (56 of 110)	6% (7 of 110)	43% (47 of 110)
2012	0 to 28.9 ppm	57% (61 of 107)	9% (10 of 107)	34% (36 of 107)
2013	0 to 25.8 ppm	50% (53 of 107)	9% (10 of 107)	41% (44 of 107)
2014	0 to 22.3 ppm	51% (55 of 108)	13% (14 of 108)	36% (39 of 108)
2015	0 to 32.3 ppm	43% (31 of 72)	8% (6 of 72)	49% (35 of 72)
2016	0 to 35.1 ppm	34% (25 of 74)	11% (8 of 74)	55% (41 of 74)
2017	0 to 19.9 ppm	33% (16 of 49)	12% (6 of 49)	55% (27 of 49)

2.B.9. Richland - Schuyler Phase 2 Area

2017 is the second 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
2016	1.47 to 41.8 ppm	29% (10 of 34)	9% (3 of 34)	62% (21 of 34)
2017	2.44 to 23.6 ppm	19% (4 of 21)	(0 of 21)	81% (17 of 21)

2.B.10. Richland - Schuyler Phase 3 Area

2017 is the second 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
2016	0 to 50.5 ppm	25% (58 of 228)	10% (22 of 228)	65% (148 of 228)
2017	0 to 53.4 ppm	27.15% (38 of 140)	6.42% (9 of 140)	66.43% (93 of 140)

2.B.11. Irrigated Acre Transfer

Marland Novacek has sent a signed notice stating he would like to transfer 23 acres of his certified irrigated ground in E½ SW¼ 2-16-3E Butler County to Dennis Novacek in NE ¼ 4-16-3E and NW¼ 3-16-3E

Dennis Novacek plans on replacing an existing pivot with Drip Tape and would like the additional transferred acres to make the project feasible.

2.C. CHEMIGATION

For 2017 we have 537 renewals and 110 new permit applications for a current total of 647. Inspections for 146 renewal permits have been completed.

1 Emergency Permit - Dodge County

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	109

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

County	Number of Renewal Inspections Completed
Boone	23
Butler	21
Colfax	4
Dodge	16

Madison	0
Platte	13
Saunders	69

The breakdown, by county for the 110 new chemigation permit applications, are listed below:

County	New Chemigation Applications
Boone	7
Butler	27
Colfax	9
Dodge	10
Madison	1
Platte	18
Saunders	38

2.C.1. CHEMIGATION VIOLATION POLICY

Eric, Tom, Joe Birkel, Jovan and Daryl met to discuss the handling of chemigation violations. The LPNNRD does not have policy in place at this time for staff to follow. One issue is the use of the Emergency Permit, as a lot of NRDs statewide use this as a violation tool. This appears to be the incorrect way of handling a violation. Other areas that need to be discussed

- Violation - suspension or revocation
 - 10 day suspension
- System or systems - site specific or all sites
- What violations constituents sending to County Attorney
 - chemigating without permit
 - no valid applicator license
 - faulty equipment
 - no safety equipment at all
 - overlook sending in a permit with his other permits
 - Putting down the wrong legal
 - other
- Staff has authority to make a request to producer to shut down the system and turning violation over to appropriate County Attorney.

Other Suggestions:

If a site is found

- without a permit but tank and equipment are in place
- without a permit with a tank with product in place

the land owner/tenant will be notified with a written notice to allow violators to come into compliance. In the event if the landowner or tenant does not respond to the written violation notice and doesn't come into compliance then it will notify DEQ and issues an order to suspend the operation of the well until a valid permit is complete and it has passed an inspection. Once the notice is provided to the violator we could notify the county attorney to initiate litigation.

Staff suggests that a policy needs to be put in place and rules updated where needed. Goal is to have something in place before the end of the year.

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

A meeting is scheduled for September 5 at LPN.

2.E. Voluntary Integrated Water Management Plan - LPNNRD

A meeting is being held with DNR on August 31 at LPN office. Staff will be discussing the edited draft IMP version along with the next steps.

3. GROUND WATER PROGRAMS

3.A. DECOMMISSIONED WELL PROGRAM

3.A.1. Plugged Wells

1 well has been plugged, reviewed, and ready for cost share payment approval this month.

Well Owner	Type of Well	Cost Share Estimate	County
Duane Siffing	Irrigation	\$669.32	Butler

3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

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

Staff attended a 2½ day Nebraska GeoCloud Workshop working with the GeoScene3D software. Torben Bach from Denmark and Jesse Korus - UNL demonstrated how the software works and its capability on management scenarios. The GeoCloud is being designed to host all of the AEM information and other GIS files and models.

The GeoScene software presented at the workshop was informative but yet fairly challenging. Right now there is 2 versions available, one to view information and the other

is a full fledged modeling software with a lot of capabilities. One suggestion to Jesse is a version something in between to do basic point modeling after the initial model is developed. Attached is an example of AEM information within GeoScene3D. Another workshop is being planned for this winter on a version designed for Nebraska.

3.B.2. Lower Platte River Consortium

Eric and Daryl attended The Lower Platte River Consortium meeting on August 22 at LPS. Attached is a project update on the Forecasting and Conveyance tools along with initial Mitigation Alternatives. The plan is to host another workshop in January or February for the purpose of presenting the tools and discuss other alternatives. The next meeting for the group will be mid to late October.

Staff went out and inspected potential sites on the Platte River at Fremont, North Bend and Columbus along with a site on Skull Creek near Linwood. These sites will have stream gauges with a couple sites having piezometers installed. The equipment will be installed in September after receiving permission.

3.B.3. AEM FLIGHTS IN SQS#1 AND SQS#2

The LPNNRD has received the final report for the AEM flights conducted in 2016 for the SQS#1 and SQS#2 (which is attached). Staff is reviewing the report with the plan for James Cannia of Aqua Geo Frameworks coming to visit with staff the first part of October. A presentation to the Board is being planned with Jim Cannia either in October or November to answer questions. All of this information will be located at www.enwra.org, with a sample view attached on what the website would look like.

An invoice of \$83,333 for final payment is attached to complete the 2016-17 project. As part of the original WSF grant (60-40) the LPNNRD will be reimbursed \$49,999.80.

3.C. GROUND WATER ENERGY LEVELS

Wann Basin Summer Measurements:

2017- Spring to Summer average decline - 1.27 ft.

Summer of 2016 to Summer of 2017 - Lower by 1.20 ft. average

A few selected graphs are attached.

3.D. GROUND WATER QUALITY SAMPLING

4. STATE LAKES, FOR THE WEEK OF

Fremont Lake #10 is on the list for E Coli.

Week of Aug 21, 2017

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

Few notes for today.

Bluestem was below 20 ppb but will remain on Health Alert for at least one more week.

Swan Creek Lake (5A) and Willow Creek Reservoir will be removed from the Health Alert list.

It is important to remember that even if a beach is under Health Alert Status it is still open for all non-contact activities!

Harmful Algal Blooms

ONE Lake 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 algae
Bluestem Lake	Lancaster	3.64

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	Last Updated	E.coli Bacteria
Branched Oak Lake	Lancaster	8/24/17	308
Fremont Lake No. 10 (SRA)	Dodge	8/24/17	1203
Maple Creek Recreation Area Lake	Colfax	8/24/17	388
Pawnee Lake East Beach	Lancaster	8/24/17	579
Pawnee Lake West Beach	Lancaster	8/24/17	268
Wirth Brothers Lake (Site 27)	Johnson	8/24/17	1203

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.

5. OTHER

5.A. Districtwide Cross Sections

An invoice is attached from Dana Divine - UNL. Dana developed cross sections from Newman Grove to Fremont and David City to Ashland. The posters along with the information will be used at Certification Classes and within the office. The Cross Sections are also on the LPN website.

5.B. Drought Monitor

A drought map for 8/22/2017 is attached. Looking a lot better for the District.

5.C. Live Well Go Fish

Live Well Go Fish program provides fishing and boating activities for senior citizens, veterans, youth, and people with disabilities. You may have seen them on Lake Wanahoo with a pontoon boat.

If staff and directors are interested to go out on the lake for a pontoon ride on Lake Wanahoo and learn more about the Live Well Go Fish program, a event is scheduled for **9-11 am on Friday, September 8th**. Please let Desirae know if you are planning to join us by **Friday, August 25th** or ASAP. (Desirae will need a head count for the arrangements.)

5.D. Project Sense Field Day Update

A brief update on the field day at Bailey's Ag Supply on August 7.

5.E. COMMENTS FROM THE PUBLIC