

Water Committee Meeting
 Wednesday, September 26, 2018 5:00 PM
 Lower Platte North NRD Office
 P.O. Box 126
 Wahoo, NE 68066

1. Water Committee

1.A. UNFINISHED BUSINESS

Received Randy Fendrick letter from David City Zoning Administrator allowing for the drilling of a well for the SW1/4 & NW1/4 17-15-3E

Motion from last Committee Meeting:

To table variances LPN-NDV-018-0046 - Randy Fendrich and LPN-NDV-013-0015 - Lawrence Hynek until more information is obtained from Randy Fendrich..

App Number	Applicant	Type	Location	Subarea	Acres	Ranking Score	Acre Feet	Comments
LPN-NDV-018-0048	Kyle Osmera	Expansion	NW 1/4 15-14-5E	Weston	23.0	381.2	5.18	
LPN-NDV-018-0047	Anthony Meister	Expansion	NW 1/4 15-15-1E	David City	67	370	15.08	
LPN-NDV-018-0046	Randy Fendrich	New	SW 1/4&NW1/4 17-15-3E	David City	140	318.6	31.5	
LPN-NDV-013-0015	Lawrence Hynek	New	NW1/4&NE1/4 3-16-5E	Prague	150	275	33.75	

1.B. REGULATORY

1.B.1. GROUND WATER MANAGEMENT AREA

1.B.1.a. Variance Request in the Hydrologically Connected Area (Limited Development Area)

The deadline for variances were due September 15. A complete list is attached with rankings.

1.B.1.b. Variance Requests in the Non-Hydrologically Connected Area (Normal Development Area)

1.B.1.c. Variance Requests in the Restricted Development Areas

1.B.1.d. Transferring of acres

Staff has received a couple of calls on producer wanting to transfer acres. Neither of these producers has proceeded on the process but staff is asking for some feedbacks to relay to these producers if they come into the office.

The first scenario involves transferring irrigated acres from our District to an adjoining District. The second is in the SQS area and the irrigated acres are being moved to another tract within the SQS area.

1.B.1.e. Well Permit Program

1.B.1.e.1. 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							

1.B.1.f. Cost Share Programs

1.B.1.f.1. Irrigation Well Sample Kits

313 irrigation kits have been mailed out this year. Precipitation slowed the requests as producers have waited to irrigate. 269 samples have been received and the results for these have been mailed to producers.

1.B.1.g. Bellwood Phase 2 Area

2018 is the sixteenth 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)
2018	0 to 28.6 ppm	38.46% (20 of 52)	13.46% (7 of 52)	48.08% (25 of 52)

1.B.1.h. Richland - Schuyler Phase 2 Area

2018 is the third 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)
2018	1.75 to 29.3 ppm	26% (5 of 19)	11% (2 of 19)	63% (12 of 19)

1.B.1.i. Richland - Schuyler Phase 3 Area

2018 is the third 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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2004	0 to 47 ppm	30% (42 of 139)	10% (14 of 139)	60% (83 of 139)
2005	0 to 120 ppm	31.3% (74 of 236)	10.2% (24 of 236)	58.5% (138 of 236)
2006	0 to 53 ppm	28% (50 of 181)	14% (26 of 181)	58% (105 of 181)
2007	0 to 99 ppm	32% (75 of 231)	10% (22 of 231)	58% (134 of 227)
2008	0 to 46 ppm	28% (53 of 190)	12% (23 of 190)	60% (114 of 190)
2009	0 to 57 ppm	33% (72 of 216)	6% (13 of 216)	61% (131 of 216)
2010	0 to 57.5 ppm	31% (70 of 229)	7% (15 of 229)	62% (142 of 229)
2011	0 to 65.8 ppm	28% (67 of 241)	9% (21 of 241)	63% (153 of 241)
2012	0 to 52.6 ppm	29% (70 of 241)	9% (21 of 241)	62% (150 of 241)
2013	0 to 94.0 ppm	25% (63 of 252)	9% (23 of 252)	66% (166 of 252)
2014	0 to 101.0 ppm	27% (68 of 251)	9% (22 of 251)	64% (161 of 251)
2015	0 to 53.3 ppm	23% (55 of 238)	12% (29 of 238)	65% (154 of 238)
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)
2018	0 to 56.9 ppm	25% (46 of 182)	7% (12 of 182)	68% (124 of 182)

1.B.1.j. LPNNRD Operator Certification

No online test requests have been received in September. Meeting with County Extension Educators and staff has been set for next Monday, October 1st, to discuss class content and dates for upcoming Nitrogen & Water Management certification classes. Suggestions from Committee on topics?

1.B.2. CHEMIGATION

For 2018 we have 619 renewals and 90 new permit applications for a current total of 709. Inspections for 209 renewal permits have been completed.

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

County	Number of Renewals
Boone	55
Butler	89
Colfax	42
Dodge	96

Madison	7
Platte	102
Saunders	228

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

County	Number of Renewal Inspections Completed
Boone	11
Butler	20
Colfax	22
Dodge	51
Madison	6
Platte	44
Saunders	55

The breakdown, by county for the 87 new chemigation permit applications, are listed below:

County	New Chemigation Applications
Boone	3
Butler	21
Colfax	17
Dodge	22
Madison	0
Platte	8
Saunders	16

1.B.3. LIVESTOCK WASTE PERMITS

The LPNNRD has received # 3 livestock permit applications from DEQ since the last Water Committee meeting.

Name	Livestock	Type of Permit	Legal Description	County
Robert Heying	Cattle	Modification	N½ NW¼ Section 30-22N-5W	Boone
Ross Nelson	Swine	New Construction	NW¼ NE¼ Section 6-20N-4W	Platte
Kobza Poultry	Chickens	New Construction	NW¼ SW¼ Section 13-16N-2E	Butler

Description of permit applications

Robert Heying is adding more pens but not increasing the number of heads. Only concern was if the Buffer strip is wide enough.

Ross Nelson is adding two more building to finish out an additional 2,499 heads of pigs. Concerns on the location of the building in proximately of water flow during a flood event. Buffers would need to be established.

Kobza Poultry is designing 8 barns to house 380,000 broilers.

1.C. GROUND WATER PROGRAMS

1.C.1. DECOMMISSIONED WELL PROGRAM

1.C.1.a. Well Estimates

new wells has been reviewed and approved for decommissioning since the last Committee meeting.

Well Owner	Type of Well	Cost Share Estimate	County
Mary Morrison	Irrigation	\$ 742.04	Saunders

1.C.1.b. Plugged Wells

wells have been plugged, reviewed, and ready for cost share payment approval this month.

Well Owner	Type of Well	Cost Share Estimate	County

1.C.1.c. Approved Meter List

Sparling Instruments has introduced a Bluewater Electromagnetic FlowMeter. This meter meets all of the requirements for adding it to the Lower Platte North Approved Meter List. More information is attached.

Committee wanted to make sure that these types of meters will not cause other maintenance issues in the future like iron masking the eye. Staff will be obtaining information from groups that does flow meter maintenance.

1.C.2. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

1.C.2.a. Lower Platte River Consortium

A meeting was held at LPS to discuss the draft drought mitigation plan for the Platte River. The group gave editorial suggestions along with discussion on the drought response. A draft plan review and presentation will be conducted at the Water Committee on October 31. The plan is to have the Water Committee and NRD Board review the draft plan before an open house is conducted around the first part of December. At this time the plan will emphasis awareness, when a drought is predicted as most projects are still being studied.

Should the LPNNRD consider its own drought response? Committee directed staff to look at other drought plans and start working on a drought response plan for the District.

1.C.2.b. Dakota Monitoring Wells

The results for the samples collected in August have been received. These results were given to UNL C&SD staff for evaluation. Downey Irrigation revisited the sites in September for clean-up and for further development of the west well.

1.C.2.c. SQS# 2 - UNL collaboration

UNL received their order from In-Situ for ten dataloggers and cables. These will be installed at sites in October. After the end of the irrigation season Polasek and Oaklund downloaded the data file from the seven loggers already installed.

1.C.3. NEW MONITORING WELLS

1.C.4. GROUND WATER QUALITY SAMPLING

Adequate precipitation has allowed some producers to not have to run their well in 2018. That, coupled with hail events in Platte County, has reduced the number of samples collected this year. 34 of the 53 sites had nitrate samples collected: 22 of 34 were less than 8 ppm (64.7%); 4 of 34 were between 8 and 10 ppm (11.8%); 8 of 34 were greater than 10 ppm (23.5%). The nitrate range was 0 to 28.1 ppm. Pesticide samples were collected at five sites - the results of all 25 constituents at each of these sites were <RL (less than Reporting Limit). QA/QC: Three blank samples - each result was <RL. Four duplicate samples for HHS Lab came back the same as the first sample at these sites. Eight Midwest nitrate samples were collected - the results agreed with the HHS samples at these sites. Two Midwest pesticide samples were collected at two sites - the results of all constituents at both sites were <RL (less than Reporting Limit).

1.D. SURFACE WATER PROGRAMS

1.D.1. STATE LAKES, FOR THE WEEK OF

No new lakes on the Health Alert List this week and also no Lakes with high *E.coli* Bacteria!!

For complete information go to <http://deq.ne.gov>

1.E. OTHER

The Committee requested to move the Water Committee from October 31 to October 30 at 5 pm.

1.E.1. Climate and Water Seminar

Some take home points included

Know the difference between weather and climate. Weather is the now while climate is weather measured over a long period of time.

Averages can be mis-interpreted as the average temperature in Nebraska is 51.5 degrees but does not show the extremes. Normal is what happen in the last 30 years in interpreting weather patterns.

Preparation is vital for extremes weather events like flooding and drought. If \$1 is spent for these events a 4-6 dollars return can be expected.

If anyone would like the handouts or more information just let Daryl know.

1.E.2. Project Grow

Staff members Tyler and Will attended the Project Grow Field Day.

Project Grow has been an opportunity for the Upper Big Blue NRD and the City of York to strengthen their public relations with one another by creating conservation practices with in the York municipal Wellfield. The wellfield now has cover crops, berry shrubs, a community garden that is sponsored by businesses, and a pollinator habitat area. The goal of this project is to improve the overall soil health, erosion control by allowing infiltration and not allowing the leaching of nitrogen into the groundwater. An example of what will be done in 2019 includes the planting of field peas and then a 16 species cover crop after the harvest of the peas. The one take away from this learning opportunity is that our soils are not as healthy as they should be. After a century of farming we have extracted the essential nutrients by over tilling and since then we have experienced a catastrophic loss of nutrients in heavy rain events. The Hypoxia in the Gulf of Mexico is a prime example of what has occurred through decades of nutrient loss. With cover crops you can keep more rain on your field by allowing more infiltration.

Scott Gonnerman is the local farmer that has partnered with the Upper Big Blue NRD and he will be using his practices on the York Municipal Wellfield through Project Grow. Scott has been farming 250 acres of dryland and irrigated ground that his father and grandfather farmed. About 15 years ago he became interested in no till and in addition to the no till practice he has used cover crops to help enrich the soil and create a rich biological system due to root development that has allowed macro pores to develop through the root zones. The development of macro pores allows the water to infiltrate instead of allowing runoff; especially during large volume rain events. The left-over crop residue and cover crops help create organic matter that wouldn't be allowable by the normal tilling practice and corn/soybean rotation. Tilling and cover crops helped Gonnerman increase water filtration, enrich the soil with essential microbial life and add organic matter that was near inexistent before applying this practice to his own ground.

1.E.3. NARD Fall conference

Water Department Staff Daryl, Russ, Tyler and Will attended the Fall conference. The highlight was hearing the Shell Creek presentation given to the whole assembly along with the youth group receiving the 2018 Master Conservationist in the youth category. It was

great to see Don Kavan receive the Director of the year award. Some of the sessions that staff attended were Different Water Approaches, Planning, USGS updates, Sub-regional Groundwater Flow Model, Bazile Creek Mgt activities.

1.E.4. COMMENTS FROM THE PUBLIC