

Water Committee Meeting  
Wednesday, November 30, 2016 5:00 PM  
Lower Platte North NRD Office  
P.O. Box 126  
Wahoo, NE 68066

## 1. UNFINISHED BUSINESS

- Martin Erickson variance request for irrigation well in RDA Swedeburg subarea
- Flow meter Maintenance Program

### 1.A. Martin Erickson Variance Request

The Martin Erickson variance request (which is within one mile of the border with the Hydrologically Connected Area (HCA)) was to be further reviewed before possible approval. This land ranked high enough for consideration with other variance requests in the HCA.

Staff presented information about the geology in the area and described the variance policy on irrigation in the restricted development area. See attached documents including update hydrographs of Brazda and Swedeburg monitoring wells.

At the November 2, 2016 Water Committee a large audience was in attendance and they submitted a petition stating opposition to the LPNNRD granting an irrigation well permit in Section 20, T14N, R7E (see attached). Much discussion followed.

Committee members at the November 2, 2016 meeting made the motion: "To table the variance request for Martin Erickson for new irrigated acres and a new irrigation well in the NE1/4, Section 20, T14N, R7E Swedeburg subarea of the Restricted Development Area passed with a motion by Robert Meduna and a second by Robert Hilger."

At the November 30, 2016 Water Committee meeting staff presented new information on well logs of two irrigation wells one mile north of the proposed Erickson irrigation well showing the different aquifer conditions between these sites and hydrographs of several LPNNRD monitoring wells in the area. Mr. Erickson presented information from the Swedeburg AEM flights (depth of EM signal 80 to 100 feet) and the Saunders County Groundwater Atlas showing generalized maps of groundwater flow direction and cross sections.

### 1.B. Flow Meter Maintenance Program

Request for Proposals for our Flow Meter Maintenance Program were sent out in early October with a deadline of November 1st. Requests were sent to area irrigation supply companies, meter companies, well drillers and pump installers.

We have received replies from three companies and these are shown below. With a total of ~330 sites for both SQS areas and inspected once every four years, that works out to ~83 inspections per year.

Companies	McCrometer	Tri-City Meters	Marx Repair
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Cost per Site Visit	\$50	\$55	\$75
Cost for 83 Wells	\$4,150	\$4,565	\$6,225

The Committee took no formal action, but asked staff to contact these companies for a price breakdown in replacement parts.

Requests were sent to the three companies.

Companies	McCrometer	Tri-City Meters	Marx Repair
<b>Propeller</b>	\$205	\$205	\$205
<b>Bearing Assembly</b>	\$317	\$317 new or \$192 rebuilt	\$317
<b>Register</b>	\$208	\$178	\$208
<b>Canopy for Register</b>	\$78	\$39	\$78
<b>Cable</b>	\$9.10	\$5.13	\$9.10
<b>Liner</b>	\$9.10	\$5.13	\$9.10
<b>Liner Stop</b>	\$1.25	\$1.50	\$1.25
<b>Gasket for Saddle Meter</b>	\$6.60	\$5.00	\$6.60
<b>Labor Cost per hour for Repair</b>	\$74 / meter	\$65 / meter	\$65

After much discussion it was decided to hire Tri-City Meters to run the LPNDRD Meter Maintenance Program. A contract will be drafted for them to sign.

## 2. REGULATORY

### 2.A. GROUND WATER MANAGEMENT AREA

#### 2.A.1. Well Permit Program

##### 2.A.1.a. Well Permits Approved

Seven new permits were approved since the last Committee meeting.

Landowner	Number Of Wells	Number Of New Irrigated Acres	Type Of Well	County	Subarea
Keith McBurney	1	0	Irrigation (Replacement)	Colfax	Schuyler
Elkhorn Crossing LLC	1	160	Irrigation (Approved Variance)	Dodge	Fremont East

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Sylvia K Rodgers Trust	1	0	Irrigation (Replacement)	Colfax	Schuyler
James L and Ellen Ann Paulson	1	60	Irrigation (Approved Variance)	Saunders	Leshara Uplands
Elaine Eisenmenger	1	0	Irrigation (Replacement)	Platte	Middle Shell Creek
Schmit Land Co	1	70	Irrigation (Replacement)	Butler	David City

The total number of approved permits for 2016 is 24.

Location of Approved Well Permits for 2016: Correct as of 11/30/2016

County	Irrigation -New	Irrigation - Replacement	Stock	Commercial	Municipal	Other	Total
Butler	0	1	0	0	0	0	1
Colfax	0	3	0	0	0	1	4
Dodge	2	3	0	0	0	4	9
Boone	1	1	0	0	0	0	2
Madison	0	0	0	0	0	0	0
Platte	0	1	0	0	0	0	1
Saunders	3	2	1	0	0	1	7
Total	6	11	1	0	0	6	24

#### 2.A.1.b. Birkel Request Well Permit Application

Joe Birkel is requesting a new supplemental well to irrigate existing irrigated acres in the SE 1/4 NW 1/4 S29-16N-3E, Butler County, Octavia Subarea. The new well will irrigate 90 certified irrigated acres that were previously irrigated with well G-008114. Attached

is a map showing the field in question and the test hole submitted by Mr. Birkel. The current well G-008114 was drilled in 1946, with static water level of 44 ft., pumping water level of 64 ft., and well depth of 133 ft.

#### 2.A.2. Special Quantity Subareas

##### **SQS #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. 22 of the 25 flow meter reporting forms have been returned. Oaklund left message for those whose form has not yet been returned: Ben Kastl (two); Daniel Kellner (one). Both Kastl and Kellner called Oaklund the day of the Water Committee meeting – they will send in their flow meter reporting forms.

##### **SQS #2 (Platte-Colfax)**

Staff has continued checking flow meters and measuring water levels. Flow meter cost-share applications continue to be received in the mail each day. Flow meter reporting forms are also being returned – 193 have been received so far

#### 2.A.3. Lower Platte River Basin Water Management Plan Coalition (LPRBC)

No new update.

#### 2.A.4. Voluntary Integrated Water Management Plan - LENRD and LPNDRD

No new update, still waiting on DNR.

#### 2.A.5. Cost Share Programs

##### 2.A.5.a. Irrigation Well Sample Kits

Request for one kit was received in the mail on Monday November 28th (Terry Micek, Bellwood). 348 irrigation kits have been mailed so far in 2016. Two of these kits haven't yet been used – Charles Emanuel called Oaklund and said he would have them collected this week. Five water samples were received in mid November. Three more water samples were received last week prior to Thanksgiving and these were taken to the lab in Lincoln. Producers have collected 81 water samples since Labor Day. All sample results received have been mailed to producers.

##### 2.A.5.b. Flow Meter Cost Share Program

###### 2.A.5.b.1. Questions on Flow Meter Cost Share Program

Two new questions have come up concerning the Flow Meter Cost Share Program.

- We have received only ~190 flow meter readings of the ~300 required. Staff recommends we hold cost share payment of those producers who have

requested funds, but have not submitted their readings yet. Water Committee members agree with this.

- In the past we have offered to pay full cost of a flow meter for those producers who are also in our GWEL Network. Do we want to continue to do this? The LPNNRD has 16 wells we measure within the SQS area #2 and currently we have requests from producers for 4 GWEL wells. The staff proposal is that the WSF grant would pay the first portion of the cost of the flow meter, with the LPNNRD making up the rest. After some discussion between Water Committee members and reviewing the current LPNNRD budget the Directors felt an upper limit of \$1,000 dollars should be set for the combined total of WSF and LPNNRD funds for 8 inch meters.

#### 2.A.5.b.2. Flow Meter Cost Share in SQS #2

As of November 29, 2016, we have received a total of 126 applications (see attached spreadsheet). Several of these still need to be inspected to insure that the meter is installed properly.

For December 12, 2016 Board Meeting, we will have a total of 57 cost-share applications to approve.

49 x 8" meters or  $49 \times \$770 = \$37,730$

2 x 8" meter but GWEL wells so  $2 \times \$1,000 = \$2,000$

(WSF of 2 x 8" meter or  $2 \times \$770 = \$1,540$ )

(LPN of 2 x 8" meter or  $2 \times \$230 = \$460$ )

6 x 6" meters or  $6 \times \$577 = \$3,462$

For a Grand Total (WSF & LPN) of = \$43,192

(WSF total of \$42,732)

(LPN total of \$460)

So Running Total WSF Grant = \$61,789 of \$200,000 grant

So Running Total LPN funds = \$460

#### 2.A.6. 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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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 73)	11% (8 of 73)	55% (40 of 73)

## 2.A.7. Richland - Schuyler Phase 2 Area

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
2016	1.47 to 41.8 ppm	29% (9 of 31)	6% (2 of 31)	65% (19 of 31)

#### 2.A.8. Richland - Schuyler Phase 3 Area

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
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)

#### 2.A.9. LPNNRD Operator Certification

##### 2.A.9.a. LPNNRD Operator Certification Classes

Steve Semin completed online test the week of November 28th.

Cert #	Cert date	Name	Re-cert	Comments
6725	11/28/2016	Steve Semin	Yes	#5096 expired 4/1/2016

Staff will meet with UNL County Extension Educators to set up class schedule for 2017.

#### 2.B. CHEMIGATION

November 1st was the deadline for new and renewal inspections to be completed or they would lapse. Therefore, for 2016 we have 478 renewals and 95 new permit applications for a current total of 573. In 2015 we had a total of 515 chemigation permits.

#### 2.C. LIVESTOCK WASTE PERMITS

No new livestock permit applications from DEQ since the last Water Committee meeting.

### 3. GROUND WATER PROGRAMS

#### 3.A. DECOMMISSIONED WELL PROGRAM

##### 3.A.1. Well Estimates

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

##### 3.A.2. Plugged Wells

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

<b>Well Owner</b>	<b>Type of Well</b>	<b>Cost Share Estimate</b>	<b>County</b>
Louis Kavan	18" Stock Well	\$639.91	Saunders

#### 3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

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

No new updates. The next technical meeting will be held in conjunction with the NARD Legislative Conference in Lincoln at the end of January.

##### 3.B.2. Platte and Elkhorn River Valley Integrated Water Monitoring

A previous study in the mid-1990's by the LPNNRD ("Platte River - Sandpit Level Recorder Study") established a hydrologic connection between the Platte River and adjacent sand pits, including the sandpits at the Game & Parks Two Rivers State Recreation Area. Many geologists and hydrologists theorized that ground water from the Platte River south of Fremont was flowing toward the Elkhorn River, but the quantity was unknown. This new study is to determine that amount and is a cooperative effort between Papio-Missouri NRD (lead agency), Lower Platte North NRD, and U.S. Geological Survey for real time continuous monitoring of ground water energy levels and stream flow between the Platte River at the Leshara stream gauge and Waterloo stream gauge on the Elkhorn River. This is a two year study, which commenced in 2016.

##### 3.B.3. Lower Platte River Consortium

Municipal wellfields in the Lower Platte River Basin depend on the Platte River to recharge the groundwater for their use. This study will look at long term water supplies in the Lower Platte River Basin, and the ability to enhance streamflow, especially in drought conditions, to sustain these municipal water systems. Sustaining water in the river would also provide a benefit to wildlife and agriculture by lessening the likelihood of a ‘call’ on the river. Due to different hydrologic conditions in the Platte River, such as gaining and losing segments, siting of future reservoirs, groundwater storage projects, etc. becomes important in order to most effectively move water to a desired location downstream.

Agencies involved in the study are the Lower Platte South NRD (lead agency), Lower Platte North NRD, Papio-Missouri NRD, City of Lincoln/Lincoln Water Systems, the Nebraska Department of Natural Resources, and the Metropolitan Utilities District. The year 2016 is the first year of the project and currently funding is being sought with the U.S. Bureau of Reclamation Water Smart Grant and the Nebraska Water Sustainability Fund Grant (WSF).

### 3.C. GROUND WATER ENERGY LEVELS

Attachment is the Ground Water Level summary comparison of Fall 2015 to Fall 2016. Staff completed collection of the Fall measurements in November. The David City subarea had the largest declines both in terms of number of sites and depths. The sites in the area from David City to the Sabata monitoring wells were consistently about 7½ feet lower this fall. Normal Spring to Fall readings typically have a 15 to 20 foot decline, so the 7.5 foot decline is actually less than normal. This aquifer is strongly confined and the pressure in the aquifer usually returns by June 1st of the following year.

Oaklund reviewed the hydrographs for each well in our GWEL Network

- Two Platte Valley sites [PV-5B & PV-6] had “high points”
- Three Upland sites [UP-30, UP-36A, UP-39] had “high points”
- Several Todd Valley sites [ten] had “high points”. We had received calls in May, June, from Village of Colon regarding basement flooding and high water table

### 3.D. FORMER ORDNANCE PLANT NEAR MEAD

The latest Open House meeting was held on November 16, 2016 at the Yutan VFW Country Club. Topics presented included the 2015 Containment Evaluation, Recent groundwater quality results from sampling efforts in the Omadi Sandstone bedrock, and the new investigation into buried ordnance (see attached newsletter).

- The 2015 Containment Evaluation uses sampling results and groundwater modeling to determine if the contaminate plumes are still in containment. With this evaluation the Army Corps of Engineers feels the plumes are in containment.
- The Omadi Sandstone sampling (part of the Dakota sandstone formation) was done at 13 sites with 3 to 4 monitoring wells per site drilled to different depths. Eleven sites were clean or non-detect while the other two (MW-86 and MW-100) had RDX at less than 2 ppb, which is below the health standard and clean-up goal.

- A new investigation will be done for possible buried ordnance in the potential landfill area near the NRD reservoir and a larger area south of Load Line 1. These areas were last looked at in the late 1990's. Using robotics a more thorough investigation is now possible.

#### 4. SURFACE WATER PROGRAMS

##### 4.A. USGS STREAM FLOW GAUGING SITES

Attached is the Joint Funding Agreement for 2017 between LPN and USGS for continued stream flow gauging on Wahoo Creek at Ashland and Shell Creek near Columbus, plus continued monitoring of ground water levels at ARDC. LPNNRD portion is \$16,725 which is our budget.

#### 5. OTHER

##### 5.A. GMDA ANNUAL CONFERENCE

Last call on the GMDA conference set for January 9 - 11, 2017 in Ft. Worth, Texas. Conference announcement is attached. The conference agenda and other details are on the Conference website [www.gmdaconference2017.com](http://www.gmdaconference2017.com). Birkel and Meduna expressed interest in attending the conference.

##### 5.B. COMMENTS FROM THE PUBLIC

The following people were in attendance at the Water Committee meeting:

Martin Erickson

Leanne Koeppe

Don Koeppe

=====

The Water Committee adjourned at 7:20 pm.