
2018 ANNUAL INTEGRATED MANAGEMENT PLAN REPORT:

NEBRASKA DEPARTMENT OF NATURAL
RESOURCES
&
UPPER NIOBRARA WHITE NATURAL RESOURCES
DISTRICT

REPORTING ON CALENDAR YEAR 2017 DATA

ANNUAL MEETING HELD ON NOVEMBER 26, 2018

REVISED DECEMBER 6, 2018

2018 ANNUAL REPORT
BY THE DEPARTMENT OF NATURAL RESOURCES OF 2017 DATA
TO MEET THE REQUIREMENTS OF THE UPPER NIOBRARA WHITE
NATURAL RESOURCES DISTRICT'S INTEGRATED MANAGEMENT PLAN

Purpose

The purpose of the report is to fulfill the Department of Natural Resources' (Department or NeDNR) responsibilities as outlined in the Upper Niobrara White Natural Resources District (District or UNWNRD) integrated management plan (IMP) and provide updates to current projects and studies in the area.

Reporting and exchanging information gathered from monitoring projects, streamflow data, or other studies provides a basis to increase understanding of the hydrologically connected surface water and groundwater system. In areas where surface water and groundwater are hydrologically connected, estimates of water quantity of either surface water or groundwater cannot be evaluated separately. The data gathered through the IMP's monitoring plan and reported here are provided to assist evaluation of the success of the IMP's objectives. This information exchange also helps to test the validity of the conclusions and information upon which the IMP is based. This report contains information on variance activities and permit activities from January 1 through December 31, 2017. Also included are canal diversion measurements from October 1, 2016, through September 30, 2017.

Department Reporting

The IMP requires that the Department annually report on the following surface water data within the district:

1. *Surface water permitting*
 - a. Any order of cancellation issued pursuant to Neb. Rev. Stat. § 46-229.04(5) or any assignment of the right to use that portion of an appropriation which was relinquished.
 - b. Variances granted by the Department, facts offered as justification for the variance to be granted and the reasons for the action taken.
2. *Diversions*
 - a. Records of surface water diversions collected by the Department upstream of the Box Butte Reservoir.
3. *Streamflow*
 - a. Records of streamflow measurements taken in non-gaged streams within the District.

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1. Surface Water Permitting

- a. Any order of cancellation issued pursuant to Neb. Rev. Stat. § 46-229.04(5) or any assignment of the right to use that portion of an appropriation which was relinquished.**

On June 15, 2017, the Department acted upon a relinquishment and received an assignment of rights pursuant to *Neb. Rev. Stat. § 46-229.04(5)* for appurtenant land under D-464A. The acres affected are listed in Tables 1 & 2, and shown on map number 19609 in Appendix C.

Table 1: Legal description of the land from which Docket 464A was relinquished.

Harris-Cooper Mutual Irrigation Company Harris-Cooper Canal Provisional Relinquishment of Acres		
Legal Description	County	PREL-5716 (D-464A)
SW SW S18 T32N-R51W	Dawes	5.21
SE SW S18 T32N-R51W	Dawes	19.67
NW SE S18 T32N-R51W	Dawes	35.26
SW SE S18 T32N-R51W	Dawes	27.68
Total		87.82

Table 2: Legal description of the land to which Docket 464A was assigned.

Harris-Cooper Mutual Irrigation Company Harris-Cooper Canal Reassignment of Acres		
Legal Description	County	REA-5717 (D-464A)
NW SW S18 T32N-R51W	Dawes	24.80
NE SW S18 T32N-R51W	Dawes	32.38
SW SW S18 T32N-R51W	Dawes	13.85
SE SW S18 T32N-R51W	Dawes	16.79
Total		87.82

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a. Cancelled Surface Water Rights- continued

The IMP does not specifically require reporting of cancelled (in-full or in-part) surface water appropriations other than those pursuant to *Neb. Rev. Stat. § 46-229.04(5)*, however, NeDNR is providing this information for a more complete picture of surface water permitting activities within the UNWNRD. During calendar year 2017, seven surface water permits were cancelled in-full. Six of the permits cancelled were temporary, one-year permits for road construction held by the Dawes County Road Department. The seventh permit, A-19576, is an irrigation permit cancelled due to failure to perfect. Authority upon which the action for cancellation of A-19576 was based on is *Neb. Rev. Stat. §46-229.02(7)*: "A water appropriation that has not been perfected pursuant to the terms of the permit may be canceled by the department without complying with sections 46-229.01 to 46-229.04 if the owner of such appropriation fails to comply with any of the conditions of approval in the permit, except that this subsection does not apply to appropriations to which subsection (2) of section 46-237 applies." Tables 3 and 4 summarize the permits cancelled in 2017. Figure 1 shows the locations of the fully cancelled permits within the surface water control area.

Table 3: Surface water appropriations cancelled in-full during 2017 in the surface water control area of the UNWNRD

Appropriation Number	Cancellation Date	Variance	Point of Diversion Location				Use	Begin AF	Begin CFS	Cancelled AF	Cancelled CFS
			Sec	Twn	Rng	Dir					
A-19443	7/12/2017	VAR-5673	12	32	49	W	Temporary Construction	10	0.78	10	0.78
A-19444	7/12/2017	VAR-5668	3	31	52	W	Temporary Construction	10	0.78	10	0.78
A-19445	7/12/2017	VAR-5673	6	34	47	W	Temporary Construction	10	0.78	10	0.78
A-19446	7/12/2017	VAR-5670	27	34	48	W	Temporary Construction	10	0.78	10	0.78
A-19447	7/12/2017	VAR-5671	24	32	52	W	Temporary Construction	10	0.78	10	0.78
A-19448	7/12/2017	VAR-5672	13	33	48	W	Temporary Construction	10	0.78	10	0.78

Table 4: Surface water appropriation cancelled in-full during 2017 outside of the surface water control area of the UNWNRD

Appropriation Number	Cancellation Date	Variance	Sec	Twn	Rng	Dir	Use	Begin AF	Begin CFS	Cancelled AF	Cancelled CFS
A-18499	12/12/2017	N/A	26	31	42	W	Irrigation	-	2.8	-	2.8

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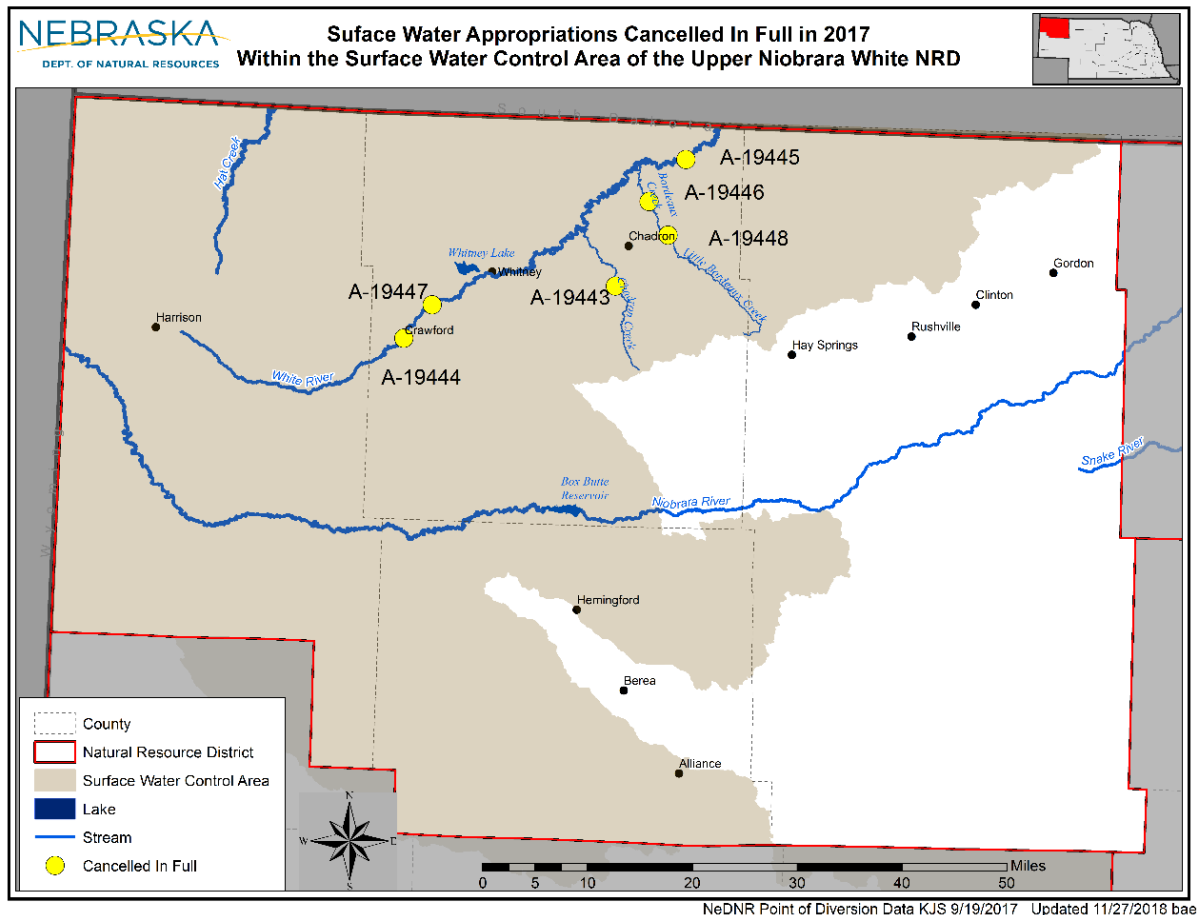


Figure 1: Fully Cancelled Surface Water Appropriations within the Surface Water Control Area

b. Variances granted by the Department, facts offered as justification for the variance to be granted and the reasons for the action taken.

During calendar year 2017, six requests for leave to file an application for a new surface water appropriation within an area under a moratorium or stay (variance) were received. Four requests were to file applications for temporary road construction, and two were to file applications to store water in existing reservoirs. Table 5 provides a summary regarding the variances filed in 2017. Figure 2 shows the locations of the associated applications approved within the surface water control area. Appendix D includes *Department of Natural Resources Rules of Surface Water, Title 457, Neb. Admin. Code, Chapter 23*, regarding variances.

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Table 5: Variances granted during 2017 and the associated applications approved in the surface water control area of the UNWNRD

Appropriation Number	Approval Date	Point of Diversion/ Reservoir Location S-T-R W	Use	Source	Grant in CFS	Grant in AF	Variance Petition Basis	Associated Variance
A-19544	7/20/2017	3-31-52 W	Temporary Road Construction	White River	0.78	10.0	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-6239
A-19545	7/20/2017	27-34-48 W		Bordeaux Creek	0.78	10.0	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-6240
A-19546	7/20/2017	24-32-52 W		White River	0.78	10.0	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-6241
A-19547	7/20/2017	13-33-48 W		Bordeaux Creek, Little	0.78	10.0	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-6242
A-19575	2/6/2018	16-31-52 W	Storage	Bozle Creek, Trib. to	NA	33.6	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.04	VAR-6355
A-19576	2/6/2018	16-31-52 W	Storage	Cherry Creek, Trib. to	NA	20.6	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.04	VAR-6356

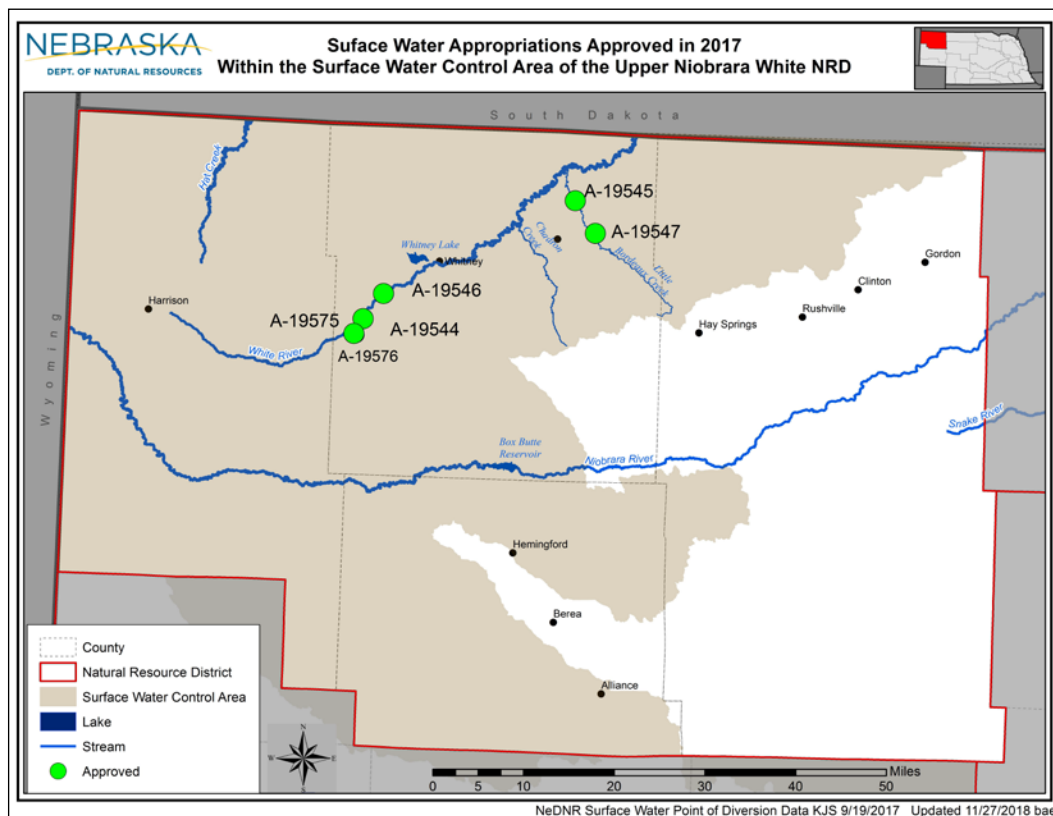


Figure 2: Locations of surface water appropriations approved in 2017 within the surface water control area

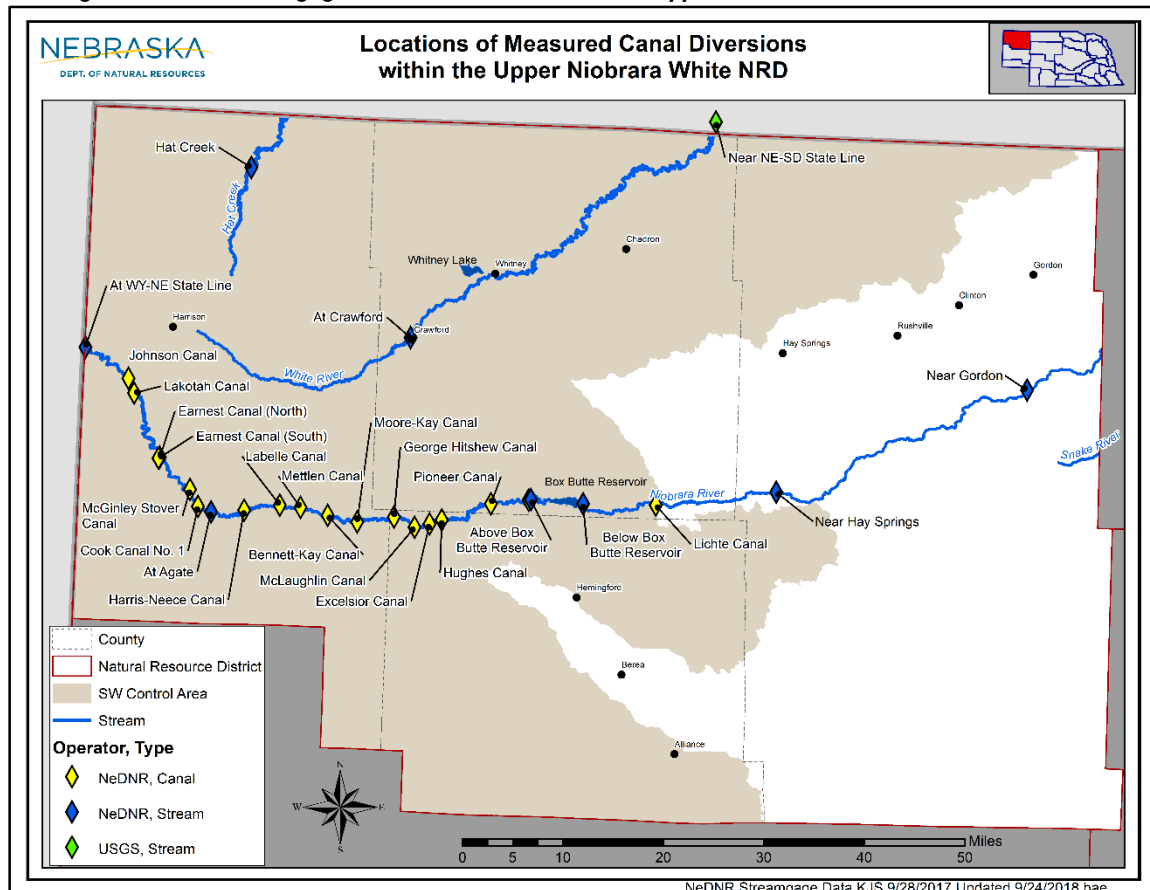
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2. Diversions

a. Records of surface water diversions collected by the Department upstream of the Box Butte Reservoir.

Surface water diversion records for the water year 2017 are included in Appendix A and their locations are shown in Figure 2. The canals measured include: Bennett-Kay Canal; Cook Canal No. 1; Earnest Canal (North); Earnest Canal (South); Excelsior Canal; Harris-Neece Canal; Geo. Hitsheiw Canal; Hughes Canal; Johnson Canal; Labelle Canal; Lakota Canal; Lichte Canal (although Lichte Canal is not above Box Butte Reservoir, it is included here for information); McGinley-Stover Canal; McLaughlin Canal; Mettlen Canal; Moore-Kay Canal and the Pioneer Canal.

Figure 3: Locations of gaged measurements included in Appendix A



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3. Streamflow

a. Records of streamflow measurements taken in non-gaged streams within the District.

Non-gaged stream locations, pumpsite and reservoir measurements for calendar year 2017 are included in Appendix B. Measurements were taken at: Niobrara River, and Whitney Reservoir. Measurements were also taken at various diversions, including: Armstrong Pump, Circle Pump, Coffee Canal; Cook Pump, Delsing Pump; Enterprise Pump, Harris-Cooper Canal, Hat Creek; Hitshew Pump #2; Johndreau Pump; Montague Canal Pump, Pioneer Pump #2, Rasher-Forbes Canal, Sow Belly Creek, White River Canal, and Wilkins Pump.

Streamflow measurements for gaged streams may be found at: <https://waterdata.usgs.gov/ne/nwis/current/?type=flow>.

Current Studies

The WaterSMART program, a conjunctive water management study that evaluated potential water management strategies while incorporating climate and economic components, was completed in 2015 by NeDNR and the United States Bureau of Reclamation. While the Bureau has completed a report and sent it to its Washington, D.C. office for review before publishing, the report has not yet been reviewed.

The Upper Niobrara White NRD and the Department worked to prepare a refined hydrogeologic and hydrostratigraphic framework along the Niobrara River between Agate, Nebraska, and the Dunlap diversion for the Mirage Flats irrigation project. The Department contracted with the University of Nebraska-Lincoln's Conservation and Survey Division to conduct this study, the purpose of which was to gain additional information regarding groundwater resources in areas presumed, according to geologic maps, to be without aquifers – yet, well registration records indicate that water wells have been drilled and are producing in these areas. The study is complete and a report is being finalized, and the resulting information will be used in considering the extent of groundwater resources and hydrologic connection with surface water in these areas.

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

29000 Cook Canal No. 1 from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	0.00	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	0.00	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	0.71	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	0.00	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	0.00	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Total	---	---	---	---	---	---	---	0.71	0.000	---	---	---
Mean	---	---	---	---	---	---	---	0.18	0.000	---	---	---
Max	---	---	---	---	---	---	---	0.71	0.00	---	---	---
Min	---	---	---	---	---	---	---	0.00	0.00	---	---	---
AC-FT	---	---	---	---	---	---	---	1.4	0.00	---	---	---
CAL YEAR	2016	TOTAL	0.0	MEAN	0.000	MAX	0.0	MIN	0.00	AC-FT	0.00	
WTR YEAR	2017	TOTAL	1.0	MEAN	0.14	MAX	1.0	MIN	0.00	AC-FT	1.4	
Legend:	e* Estimated											
				Created on				02/20/18 13:16		by J A MARBURGER		

NIOBRARA RIVER BASIN

COOK CANAL NO. 1 from Niobrara River, 00029000

LOCATION.--SE1/4NE1/4 Sec. 2-28-56 W.

GAGE.--Continuous stage recorder and concrete flume

PERIOD OF RECORD.--1956 - 1982, 1985 - present
PERIOD OF RECORD.--1950 - present

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APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

38100 Earnest Canal (South) from Niobrara Rive Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	0	---	---	---	---	---	5.3	1.7	4.5	0	0	0
2	0	---	---	---	---	---	5.6	1.6	4.2	0	0	0
3	0	---	---	---	---	---	5.3	1.3	4.0	0	0	0
4	---	---	---	---	---	---	4.6	1.2	3.9	0	0	0
5	---	---	---	---	---	---	4.7	1.0	3.5	0	0	0
6	---	---	---	---	---	---	4.5	0.54	3.1	0	0	0
7	---	---	---	---	---	---	4.2	1.5	2.1	0	0	0
8	---	---	---	---	---	---	4.0	3.3	0	0	0	0
9	---	---	---	---	---	---	3.8	3.1	0	0	0	0
10	---	---	---	---	---	---	3.5	4.8	0	0	0	0
11	---	---	---	---	---	---	2.5	5.3	0	0	0	0
12	---	---	---	---	---	---	1.4	5.6	0	0	0	0
13	---	---	---	---	---	---	1.2	5.6	0	0	0	0
14	---	---	---	---	---	---	0.92	5.5	0	0	0	0
15	---	---	---	---	---	---	0.75	5.6	0	0	0	0
16	---	---	---	---	---	---	0.61	5.7	0	0	0	0
17	---	---	---	---	---	---	0.62	5.9	0	0	0	0
18	---	---	---	---	---	---	0.51	6.0	0	0	0	0
19	---	---	---	---	---	---	0.46	6.6	0	0	0	0
20	---	---	---	---	---	0	0.48	7.0	0	0	0	0
21	---	---	---	---	---	0	0.52	7.2	0	0	0	0
22	---	---	---	---	---	0	0.81	7.1	0	0	0	0
23	---	---	---	---	---	0	1.3	6.9	0	0	0	0
24	---	---	---	---	---	1.1	1.3	6.6	0	0	0	0
25	---	---	---	---	---	5.4	1.3	6.3	0	0	0	0
26	---	---	---	---	---	4.6	1.4	6.0	0	0	0	0
27	---	---	---	---	---	3.8	1.5	5.9	0	0	0	0
28	---	---	---	---	---	4.1	1.6	5.7	0	0	0	0
29	---	---	---	---	---	4.4	1.6	5.5	0	0	0	0
30	---	---	---	---	---	4.7	1.4	5.2	0	0	0	0
31	---	---	---	---	---	5.0	---	4.9	---	0	0	---
Total	0	---	---	---	---	33.1	67.7	146	25.3	0	0	0
Mean	0	---	---	---	---	2.77	2.25	4.71	0.85	0	0	0
Max	0	---	---	---	---	5.4	5.6	7.2	4.5	0	0	0
Min	0	---	---	---	---	0.00	0.46	0.54	0.00	0	0	0
AC-FT	0	---	---	---	---	66	134	290	50	0	0	0
CAL YEAR	2016	TOTAL	14.0	MEAN	0.095	MAX	4.0	MIN	0	AC-FT	28	
WTR YEAR	2017	TOTAL	272.0	MEAN	1.37	MAX	7.0	MIN	0.00	AC-FT	540	
Legend:	e' Estimated											
Created on						02/20/18 13:47			by J A MARBURGER			

NIOBRARA RIVER BASIN

EARNEST CANAL (SOUTH) from Niobrara River, 00038100

LOCATION.--SW1/4SE1/4 Sec. 9-29-56 W. near Harrison

GAGE.--Continuous stage recorder and concrete flume

PERIOD OF RECORD.--1956 - present

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APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

46000 Excelsior Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	---	---	---	---	---	---	---	0.14	-0.00	-0.00	-0.00	-0.00
2	---	---	---	---	---	---	---	0.06	-0.00	-0.00	-0.00	-0.00
3	---	---	---	---	---	---	---	0.04	-0.00	-0.00	-0.00	-0.00
4	---	---	---	---	---	---	---	0.00	-0.00	-0.00	-0.00	-0.00
5	---	---	---	---	---	---	---	-0.00	-0.00	-0.00	-0.00	-0.00
6	---	---	---	---	---	---	---	-0.00	-0.00	-0.00	-0.00	-0.00
7	---	---	---	---	---	---	---	-0.00	-0.00	-0.00	-0.00	-0.00
8	---	---	---	---	---	---	---	-0.00	-0.00	-0.00	-0.00	-0.00
9	---	---	---	---	---	---	---	-0.00	-0.00	-0.00	-0.00	-0.00
10	---	---	---	---	---	---	---	-0.00	-0.00	-0.00	-0.00	-0.00
11	---	---	---	---	---	---	---	0.09	-0.00	-0.00	-0.00	-0.00
12	---	---	---	---	---	---	---	0.18	-0.00	-0.00	-0.00	-0.00
13	---	---	---	---	---	---	---	0.14	-0.00	-0.00	-0.00	-0.00
14	---	---	---	---	---	---	---	0.15	-0.00	-0.00	-0.00	-0.00
15	---	---	---	---	---	---	---	0.06	-0.00	-0.00	-0.00	-0.00
16	---	---	---	---	---	---	---	0.01	-0.00	-0.00	-0.00	-0.00
17	---	---	---	---	---	---	---	0.10	-0.00	-0.00	-0.00	-0.00
18	---	---	---	---	---	---	-0.00	0.08	-0.00	-0.00	-0.00	-0.00
19	---	---	---	---	---	---	-0.00	0.50	-0.00	-0.00	-0.00	-0.00
20	---	---	---	---	---	---	-0.00	0.64	-0.00	-0.00	-0.00	-0.00
21	---	---	---	---	---	---	-0.00	0.68	-0.00	-0.00	-0.00	-0.00
22	---	---	---	---	---	---	-0.00	0.44	-0.00	-0.00	-0.00	-0.00
23	---	---	---	---	---	---	-0.00	0.31	-0.00	-0.00	-0.00	-0.00
24	---	---	---	---	---	---	-0.00	0.23	-0.00	-0.00	-0.00	-0.00
25	---	---	---	---	---	---	-0.00	0.13	-0.00	-0.00	-0.00	-0.00
26	---	---	---	---	---	---	-0.00	0.03	-0.00	-0.00	-0.00	-0.00
27	---	---	---	---	---	---	-0.00	0.05	-0.00	-0.00	-0.00	-0.00
28	---	---	---	---	---	---	0.01	0.06	-0.00	-0.00	-0.00	-0.00
29	---	---	---	---	---	---	0.13	0.03	-0.00	-0.00	-0.00	---
30	---	---	---	---	---	---	0.22	-0.00	-0.00	-0.00	-0.00	---
31	---	---	---	---	---	---	---	-0.00	---	-0.00	-0.00	---
Total	---	---	---	---	---	---	0.36	4.15	0.000	0.000	0.000	0.000
Mean	---	---	---	---	---	---	0.028	0.13	-0.000	-0.000	-0.000	-0.000
Max	---	---	---	---	---	---	0.22	0.68	0.00	0.00	0.00	0.00
Min	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	---	---	---	---	---	---	0.7	8.2	0.00	0.00	0.00	0.00
CAL YEAR	2016	TOTAL	1.0	MEAN	0.068	MAX	1.0	MIN	-0.00	AC-FT	1.1	
WTR YEAR	2017	TOTAL	5.0	MEAN	0.028	MAX	1.0	MIN	0.00	AC-FT	8.9	
Legend:	'e' Estimated											
				Created on				02/27/18 13:21				by Author: Stjepan Figuric

2017 WY

NIORARA RIVER BASIN

EXCELSIOR CANAL from Niobrara River, 00046000

LOCATION.--SE1/4NE1/4 Sec. 10-28-52 W. near Marsland

GAGE.--Continuous stage recorder and 28 inch cutthroat flume

PERIOD OF RECORD.--1956 - present

November 26, 2018

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

63000 Geo. HitsheW Canal from Niobrara River
Q, WATER YEAR OCT 2016 TO SEP 2017
Daily Mean Values

Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
3	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
4	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
5	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
6	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
7	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
8	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
11	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
12	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
13	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
14	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
15	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
16	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
19	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
20	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
21	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
22	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
23	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
29	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	---
30	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	---
31	---	---	---	---	---	---	---	0.00	---	0.00	0.00	---
Total	---	---	---	---	---	---	0.000	0.000	0.000	0.000	0.000	0.000
Mean	---	---	---	---	---	---	0.000	0.000	0.000	0.000	0.000	0.000
Max	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
Min	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
CAL YEAR	2016	TOTAL	0.0	MEAN	0.000	MAX	0.0	MIN	0.00	AC-FT	0.00	
WTR YEAR	2017	TOTAL	0.0	MEAN	0.000	MAX	0.0	MIN	0.00	AC-FT	0.00	
Legend:	'e' Estimated											
Created on							02/27/18 13:12			by Author: Stjepan Figuric		

2017 WY

NIORARA RIVER BASIN

GEO. HITSHEW CANAL from Niobrara River, 00063000

LOCATION.--NE1/4SE1/4 Sec. 6-28-52 W. near Marsland

GAGE.--Continuous stage recorder and 30 inch cutthroat flume

PERIOD OF RECORD.--1956 - present

November 26, 2018

11 of 28

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

62000 Harris-Neece Canal from Niobrara River
Q, WATER YEAR OCT 2015 TO SEP 2016
Daily Mean Values

Day	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
1	11	—	—	—	—	—	0.00	0.00	0.00	4.8	2.9	0.00
2	11	—	—	—	—	—	0.00	0.00	4.8	5.2	4.6	0.00
3	11	—	—	—	—	—	0.00	0.00	8.4	5.2	5.4	0.00
4	11	—	—	—	—	—	0.00	0.00	e8.2	5.2	5.6	0.00
5	11	—	—	—	—	—	0.00	0.00	e8.3	4.9	5.8	0.00
6	11	—	—	—	—	—	0.00	0.00	e8.3	4.9	6.0	0.00
7	11	—	—	—	—	—	0.00	0.00	8.4	5.6	6.2	0.00
8	11	—	—	—	—	—	0.00	0.00	8.6	5.5	6.4	0.00
9	11	—	—	—	—	—	0.00	0.00	8.7	5.9	6.6	0.00
10	11	—	—	—	—	—	0.00	0.00	8.9	6.2	6.6	0.00
11	11	—	—	—	—	—	0.00	0.00	9.1	6.1	6.6	0.00
12	11	—	—	—	—	—	0.00	0.00	9.2	5.9	6.6	0.00
13	10	—	—	—	—	—	0.00	0.00	9.7	5.3	7.1	0.00
14	4.4	—	—	—	—	—	0.00	0.00	9.4	4.7	8.2	0.00
15	1.3	—	—	—	—	—	0.00	0.00	8.2	4.9	8.5	0.00
16	1.3	—	—	—	—	0.00	0.00	0.00	2.4	3.8	8.3	—
17	1.3	—	—	—	—	0.00	0.00	0.00	2.3	1.7	8.4	—
18	1.3	—	—	—	—	0.00	0.00	0.00	2.3	1.7	8.3	—
19	1.2	—	—	—	—	0.00	0.00	0.00	2.2	1.7	8.2	—
20	1.2	—	—	—	—	0.00	0.00	0.00	3.0	1.7	8.0	—
21	1.2	—	—	—	—	0.00	0.00	0.00	4.5	1.6	7.8	—
22	1.2	—	—	—	—	0.00	0.00	0.00	4.1	1.6	7.7	—
23	—	—	—	—	—	0.00	0.00	0.00	4.0	1.6	7.4	—
24	—	—	—	—	—	0.00	0.00	0.00	3.7	2.4	5.1	—
25	—	—	—	—	—	0.00	0.00	0.00	4.0	2.9	0.00	—
26	—	—	—	—	—	0.00	0.00	0.00	4.0	2.7	0.00	—
27	—	—	—	—	—	0.00	0.00	0.00	4.0	2.8	0.00	—
28	—	—	—	—	—	0.00	0.00	0.00	4.2	3.5	0.00	—
29	—	—	—	—	—	0.00	0.00	0.00	4.4	4.1	0.00	—
30	—	—	—	—	—	0.00	0.00	0.00	4.6	4.6	0.00	—
31	—	—	—	—	—	0.00	—	0.00	—	3.6	0.00	—
Total	156.4	—	—	—	—	0	0	0	171.9	122.3	162.3	0
Mean	7.23	—	—	—	—	0.000	0.000	0.000	5.72	3.95	5.24	0.000
Max	11	—	—	—	—	0.00	0.00	0.00	9.7	6.2	8.5	0.00
Min	1.2	—	—	—	—	0.00	0.00	0.00	0.00	1.6	0.00	0.00
AC-FT	310	—	—	—	—	0	0	0	341	243	322	0
CAL YEAR	2015	TOTAL	744	MEAN	5.02	MAX	11.0	MIN	0.00	AC-FT	1470	
WTR YEAR	2016	TOTAL	613	MEAN	2.98	MAX	11.0	MIN	0.00	AC-FT	1220	
Legend: 'e' Estimated												
Created on 04/26/17 08:28 by J A MARBURGER												

NIOBRARA RIVER BASIN

HARRIS-NEECE CANAL from Niobrara River, 00062000

LOCATION.—NW1/4SE1/4 Sec. 3-28-55 W. near Agate

GAGE.—Continuous stage recorder and 30 inch cutthroat flume

PERIOD OF RECORD.—1956 - present

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

81000 Lichte Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Total	---	---	---	---	---	---	---	---	---	---	---	---
Mean	---	---	---	---	---	---	---	---	---	---	---	---
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---
CAL YEAR	2016	TOTAL	0.0	MEAN		MAX		MIN		AC-FT	0.00	
WTR YEAR	2017	TOTAL	0.0	MEAN		MAX		MIN		AC-FT	0.00	
Legend: 'e' Estimated Created on 03/19/18 12:09 by J A MARBURGER												

NIOBRARA RIVER BASIN

LICHTE CANAL from Niobrara River, 00081000

LOCATION.--NW1/4SW1/4 Sec. 26-29-48 W. near Dunlap

GAGE.--Continuous stage recorder and 3 ft. Parshall flume

PERIOD OF RECORD.--1956 -2013 The Site was not visited in Water Year 2017.

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

72000 Johnson Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	0.00	---	---	---	---	---	---	3.9	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	---	4.4	0.00	0.00	0.00	0.00
3	---	---	---	---	---	---	---	3.2	0.00	0.00	0.00	0.00
4	---	---	---	---	---	---	---	2.1	0.00	0.00	0.00	0.00
5	---	---	---	---	---	---	---	2.1	0.00	0.00	0.00	0.00
6	---	---	---	---	---	---	---	2.7	0.00	0.00	0.00	0.00
7	---	---	---	---	---	---	---	2.6	0.00	0.00	0.00	0.00
8	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
11	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
12	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
13	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
14	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
15	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
16	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	---	---	0.01	0.00	0.00	0.00	0.00
19	---	---	---	---	---	---	---	0.01	0.00	0.00	0.00	0.00
20	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
21	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
22	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
23	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	6.9	0.00	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	17	0.00	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	12	0.00	0.00	0.00	0.00	0.00
29	---	---	---	---	---	---	2.8	0.00	0.00	0.00	0.00	0.00
30	---	---	---	---	---	---	3.5	0.00	0.00	0.00	0.00	0.00
31	---	---	---	---	---	---	---	0.00	---	0.00	0.00	---
Total	0.000	---	---	---	---	---	42.2	21.0	0.000	0.000	0.000	0.000
Mean	0.000	---	---	---	---	---	6.05	0.68	0.000	0.000	0.000	0.000
Max	0.00	---	---	---	---	---	17	4.4	0.00	0.00	0.00	0.00
Min	0.00	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	---	---	---	---	---	84	42	0.00	0.00	0.00	0.00
CAL YEAR	2016	TOTAL	62.0	MEAN	4.41	MAX	17.0	MIN	0.00	AC-FT	122	
WTR YEAR	2017	TOTAL	63.0	MEAN	0.39	MAX	17.0	MIN	0.00	AC-FT	125	
Legend:	'e' Estimated											
Created on							03/06/18 10:36			by J A MARBURGER		

NIOBRARA RIVER BASIN

JOHNSON CANAL from Niobrara River, 00072000

LOCATION.--NE1/4NE1/4 Sec. 1-30-57 W. near Harrison

GAGE.--Continuous stage recorder and 1.5 ft. Parshall flume

PERIOD OF RECORD.--1956 - present

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

78000 Labelle Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.52	0.000	0.000	0.000	0.000
Mean	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000
Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0	0.00	0.00	0.00	0.00
CAL YEAR	2016	TOTAL	0.0	MEAN	0.000	MAX	0.0	MIN	0.00	AC-FT	0.00	
WTR YEAR	2017	TOTAL	2.0	MEAN	0.004	MAX	0.0	MIN	0.00	AC-FT	3.0	
Legend: 'e' Estimated												
Created on 03/05/18 11:33 by Author: Stjepan Figuric												

2017 WY

NIOBRARA RIVER BASIN

LABELLE CANAL from Niobrara River, 00078000

LOCATION.--NW1/4NW1/4 Sec. 6-28-54 W. near Agate

GAGE.--Continuous stage recorder and concrete flume

PERIOD OF RECORD.--1956 - present

November 26, 2018

15 of 28

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

79000 Lakotah Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.0	0.37	0.30	0.45
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.1	1.7	0.38	0.44
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.3	1.5	0.37	0.28	0.40
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.5	1.3	0.36	0.27	0.39
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.3	1.2	0.32	0.32	0.38
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.1	1.1	0.27	0.42	0.36
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.0	0.97	0.24	0.50	0.37
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.8	0.97	0.22	0.53	0.41
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.2	0.97	0.22	0.56	0.42
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.6	2.0	0.21	0.60	0.44
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.6	2.6	0.19	0.57	0.44
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.4	1.7	0.20	0.57	0.43
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.2	2.5	0.20	0.62	0.44
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.7	2.4	0.19	0.62	0.45
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.2	2.2	0.17	0.66	0.53
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.7	2.3	0.15	0.65	0.66
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.8	1.7	0.15	0.66	0.76
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0	1.4	0.14	0.63	0.78
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.8	1.1	0.16	0.62	0.82
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.1	1.1	0.20	0.55	0.82
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.2	0.93	0.23	0.50	0.80
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.0	0.74	0.24	0.46	0.83
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.6	0.59	0.21	0.48	0.85
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.3	0.52	0.19	0.54	0.92
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.2	0.45	0.18	0.57	1.0
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0	0.43	0.18	0.56	1.2
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0	0.40	0.22	0.54	1.2
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.8	0.37	0.25	0.51	1.2
29	0.00	0.00	0.00	0.00	---	0.00	0.00	2.7	0.35	0.28	0.48	1.3
30	0.00	0.00	0.00	0.00	---	0.00	0.00	2.6	0.35	0.31	0.47	1.3
31	0.00	---	0.00	0.00	---	0.00	---	2.3	---	0.32	0.46	---
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	92.1	37.8	7.32	15.8	20.8
Mean	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.96	1.27	0.24	0.51	0.69
Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.2	2.6	0.38	0.66	1.3
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.14	0.27	0.36
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183	75	15	31	41
CAL YEAR	2016	TOTAL	227.0	MEAN	0.86	MAX	7.0	MIN	0.00	AC-FT	451	
WTR YEAR	2017	TOTAL	174.0	MEAN	0.48	MAX	4.0	MIN	0.00	AC-FT	345	
Legend: 'e' Estimated Created on 03/05/18 14:18 by Author: Stjepan Figuric												

2017 WY

NIOBRARA RIVER BASIN

LAKOTAH CANAL from Niobrara River, 00079000

LOCATION.--NE1/4NE1/4 Sec. 12-30-57 W. near Harrison

GAGE.--Continuous stage recorder and 2 ft. Parshall flume

PERIOD OF RECORD.--1956 - present

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

84000 McGinley-Stover Canal from Niobrara Rive Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	---	---	---	---	---	---	---	0.00	0.43	3.0	0.19	0.00
2	---	---	---	---	---	---	---	0.00	3.1	3.1	0.14	0.00
3	---	---	---	---	---	---	---	0.00	3.1	3.2	0.12	0.00
4	---	---	---	---	---	---	---	0.00	3.0	3.7	0.11	0.00
5	---	---	---	---	---	---	---	0.00	2.5	3.6	0.49	0.00
6	---	---	---	---	---	---	---	0.00	2.7	3.4	1.0	0.00
7	---	---	---	---	---	---	---	0.00	3.0	3.3	0.94	0.00
8	---	---	---	---	---	---	---	0.00	3.8	3.1	0.77	0.00
9	---	---	---	---	---	---	---	0.00	3.5	3.0	0.86	0.00
10	---	---	---	---	---	---	---	0.00	3.3	3.0	1.2	0.00
11	---	---	---	---	---	---	---	0.00	3.2	2.6	1.2	0.00
12	---	---	---	---	---	---	---	0.00	3.2	1.8	0.99	0.00
13	---	---	---	---	---	---	---	0.00	3.2	2.0	0.92	0.00
14	---	---	---	---	---	---	---	0.00	4.5	1.4	0.90	0.00
15	---	---	---	---	---	---	---	0.00	1.6	1.2	0.36	0.00
16	---	---	---	---	---	---	---	0.00	0.15	0.36	0.00	0.00
17	---	---	---	---	---	---	0.00	0.00	0.14	0.08	0.00	0.00
18	---	---	---	---	---	---	0.00	0.00	0.12	0.00	0.00	0.00
19	---	---	---	---	---	---	0.00	0.00	0.11	0.00	0.00	0.00
20	---	---	---	---	---	---	0.00	0.00	0.10	0.00	0.00	0.00
21	---	---	---	---	---	---	0.00	0.00	0.09	0.00	0.00	0.00
22	---	---	---	---	---	---	0.00	0.00	1.9	0.00	0.00	0.00
23	---	---	---	---	---	---	0.00	0.00	3.9	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.00	3.9	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.00	3.8	0.00	0.00	0.00
26	---	---	---	---	---	---	0.00	0.00	3.6	0.57	0.00	0.00
27	---	---	---	---	---	---	0.00	0.00	3.4	1.3	0.00	0.00
28	---	---	---	---	---	---	0.00	0.00	5.3	1.2	0.00	0.00
29	---	---	---	---	---	---	0.00	0.00	4.8	0.90	0.00	0.00
30	---	---	---	---	---	---	0.00	0.00	3.3	0.97	0.00	0.00
31	---	---	---	---	---	---	---	0.00	---	0.61	0.00	---
Total	---	---	---	---	---	---	0.000	0.000	78.7	47.4	10.2	0.000
Mean	---	---	---	---	---	---	0.000	0.000	2.62	1.52	0.33	0.000
Max	---	---	---	---	---	---	0.00	0.00	5.3	3.7	1.2	0.00
Min	---	---	---	---	---	---	0.00	0.00	0.09	0.00	0.00	0.00
AC-FT	---	---	---	---	---	---	0.00	0.00	156	94	20	0.00
CAL YEAR	2016	TOTAL	125.0	MEAN	0.63	MAX	10.0	MIN	0.00	AC-FT	248	
WTR YEAR	2017	TOTAL	136.0	MEAN	0.82	MAX	5.0	MIN	0.00	AC-FT	270	
Legend: 'e' Estimated Created on 03/05/18 14:12 by J A MARBURGER												

NIOBRAHA RIVER BASIN

McGINLEY-STOVER CANAL from Niobrara River, 00084000

LOCATION.--NE1/4SE1/4 Sec. 25-29-56 W. near Agate

GAGE.--Continuous stage recorder and 3 ft. Parshall flume

PERIOD OF RECORD.--1956 - present

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

89000 Mettlen Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	e0.00	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	e0.00	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	e0.00	---	---	---	---	---	0.00	0.00	0.85	0.00	0.00	0.00
4	e0.00	---	---	---	---	---	0.00	0.00	4.1	0.00	0.00	0.31
5	e0.00	---	---	---	---	---	0.00	0.00	3.8	0.00	0.00	2.6
6	e0.00	---	---	---	---	---	0.00	0.00	2.8	0.00	0.00	2.1
7	e0.00	---	---	---	---	---	0.00	0.00	1.8	0.00	0.00	1.6
8	e0.00	---	---	---	---	---	0.00	0.00	1.1	0.00	0.00	1.8
9	e0.00	---	---	---	---	---	0.00	0.00	0.40	0.00	0.00	1.3
10	e0.00	---	---	---	---	---	0.00	0.00	0.11	0.00	0.00	1.1
11	e0.00	---	---	---	---	---	0.00	0.00	0.38	0.00	0.00	0.84
12	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.73
13	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.68
14	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.68
15	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.80
16	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	1.3
17	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	1.2
18	---	---	---	---	---	---	0.00	0.00	0.06	0.00	0.00	0.00
19	---	---	---	---	---	---	0.00	0.00	0.04	0.00	0.00	0.00
20	---	---	---	---	---	---	0.00	0.00	0.00	0.58	0.00	0.00
21	---	---	---	---	---	---	0.00	0.00	0.00	2.2	0.00	0.00
22	---	---	---	---	---	---	0.00	0.00	0.00	2.4	0.00	0.00
23	---	---	---	---	---	---	0.00	0.00	0.00	2.8	0.00	0.00
24	---	---	---	---	---	---	0.00	0.00	0.00	3.2	0.00	0.00
25	---	---	---	---	---	---	0.00	0.00	0.00	2.9	0.00	0.00
26	---	---	---	---	---	e0.00	0.00	0.00	0.00	0.83	0.00	0.00
27	---	---	---	---	---	0.00	0.00	0.00	0.00	0.09	0.00	0.00
28	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.07
29	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.62
30	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.80
31	---	---	---	---	---	0.00	---	0.00	---	0.00	0.00	---
Total	0.000	---	---	---	---	0.000	0.000	0.000	15.4	15.0	0.000	18.5
Mean	0.000	---	---	---	---	0.000	0.000	0.000	0.51	0.48	0.000	0.62
Max	0.00	---	---	---	---	0.00	0.00	0.00	4.1	3.2	0.00	2.6
Min	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	---	---	---	---	0.00	0.00	0.00	31	30	0.00	37
CAL YEAR	2016	TOTAL	0.0	MEAN	0.000	MAX	0.0	MIN	0.00	AC-FT	0.00	
WTR YEAR	2017	TOTAL	49.0	MEAN	0.24	MAX	4.0	MIN	0.00	AC-FT	97	
Legend: 'e' Estimated												
Created on 03/05/18 14:01 by J A MARBURGER												

NIOBRARA RIVER BASIN

METTLEN CANAL from Niobrara River, 00089000

LOCATION.--NW1/4NE1/4 Sec. 4-28-54 W. near Agate

GAGE.--Continuous stage recorder and concrete flume

PERIOD OF RECORD.--1956 - present

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

86000 McLaughlin Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values

Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	---	---	---	---	---	---	---	0.23	0.14	2.4	0.00	0.00
2	---	---	---	---	---	---	---	0.20	0.14	2.2	0.00	0.00
3	---	---	---	---	---	---	---	0.18	0.14	2.0	0.00	0.00
4	---	---	---	---	---	---	---	0.16	0.15	0.21	0.00	0.00
5	---	---	---	---	---	---	---	0.12	0.14	0.1	0.00	0.00
6	---	---	---	---	---	---	---	0.07	0.07	0.08	0.00	0.00
7	---	---	---	---	---	---	---	0.02	0.00	0.08	0.00	0.00
8	---	---	---	---	---	---	---	0.00	0.00	0.1	0.00	0.00
9	---	---	---	---	---	---	---	0.00	0.00	0.08	0.00	0.00
10	---	---	---	---	---	---	---	0.14	0.00	0.02	0.00	0.00
11	---	---	---	---	---	---	---	0.20	0.00	0.05	0.00	0.00
12	---	---	---	---	---	---	---	0.15	0.00	0.04	0.00	0.00
13	---	---	---	---	---	---	---	0.1	0.08	0.04	0.00	0.00
14	---	---	---	---	---	---	---	0.06	2.4	0.04	0.00	0.00
15	---	---	---	---	---	---	---	2.1	3.1	0.02	0.00	0.00
16	---	---	---	---	---	---	---	4.5	3.0	0.00	0.00	0.00
17	---	---	---	---	---	---	---	5.2	3.2	0.00	0.00	0.00
18	---	---	---	---	---	---	0.37	4.6	4.0	0.00	0.00	0.00
19	---	---	---	---	---	---	0.37	4.2	4.0	0.00	0.00	0.00
20	---	---	---	---	---	---	0.33	1.9	3.8	0.00	0.00	0.00
21	---	---	---	---	---	---	0.29	0.55	3.4	0.00	0.00	0.00
22	---	---	---	---	---	---	0.21	0.48	3.2	0.00	0.00	0.00
23	---	---	---	---	---	---	0.04	0.45	3.1	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.40	3.0	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.37	2.8	0.00	0.00	0.00
26	---	---	---	---	---	---	0.11	0.32	2.8	0.00	0.00	0.00
27	---	---	---	---	---	---	0.21	0.29	2.5	0.00	0.00	0.00
28	---	---	---	---	---	---	0.31	0.23	2.4	0.00	0.00	0.00
29	---	---	---	---	---	---	0.34	0.18	2.3	0.00	0.00	---
30	---	---	---	---	---	---	0.29	0.16	2.5	0.00	0.00	---
31	---	---	---	---	---	---	---	0.15	---	0.00	0.00	---
Total	---	---	---	---	---	---	2.87	27.7	52.4	7.46	0.000	0.000
Mean	---	---	---	---	---	---	0.22	0.90	1.74	0.24	0.000	0.000
Max	---	---	---	---	---	---	0.37	5.2	4.0	2.4	0.00	0.00
Min	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	---	---	---	---	---	---	5.7	55	104	15	0.00	0.00
CAL YEAR	2016	TOTAL	101.0	MEAN	0.71	MAX	5.0	MIN	0.00	AC-FT	200	
WTR YEAR	2017	TOTAL	90.0	MEAN	0.55	MAX	5.0	MIN	0.00	AC-FT	179	
Legend:	'e' Estimated											
Created on 03/19/18 13:42 by J A MARBURGER												

NIOBARARA RIVER BASIN

McLAUGHLIN CANAL from Niobrara River, 00086000

LOCATION.--NW1/4SE1/4 Sec. 9-28-52 W. near Marsland

GAGE.--Continuous stage recorder and 30 inch cutthroat flume

PERIOD OF RECORD.--1956 - present

November 26, 2018

19 of 28

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

104000 Moore-Kay Canal from Niobrara River
Q, WATER YEAR OCT 2016 TO SEP 2017
Daily Mean Values

Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	---	---	---	---	---	---	---	0.66	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	---	0.55	0.00	0.00	0.00	0.00
3	---	---	---	---	---	---	---	0.25	0.00	0.00	0.00	0.00
4	---	---	---	---	---	---	---	0.05	0.00	0.00	0.00	0.00
5	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
6	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
7	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
8	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	---	---	---	1.2	0.00	0.00	0.00	0.00
11	---	---	---	---	---	---	---	0.99	0.00	0.00	0.00	0.00
12	---	---	---	---	---	---	---	1.7	0.00	0.00	0.00	0.00
13	---	---	---	---	---	---	---	1.1	0.00	0.00	0.00	0.00
14	---	---	---	---	---	---	---	0.28	0.00	0.00	0.00	0.00
15	---	---	---	---	---	---	---	0.06	0.00	0.00	0.00	0.00
16	---	---	---	---	---	---	---	0.02	0.00	0.00	0.00	0.00
17	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	---	0.00	0.14	0.00	0.00	0.00	0.00
19	---	---	---	---	---	---	0.00	1.2	0.00	0.00	0.00	0.00
20	---	---	---	---	---	---	0.00	1.4	0.00	0.00	0.00	0.00
21	---	---	---	---	---	---	0.00	1.1	0.00	0.00	0.00	0.00
22	---	---	---	---	---	---	0.00	0.93	0.00	0.00	0.00	0.00
23	---	---	---	---	---	---	0.00	0.66	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.31	0.00	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.05	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	0.00	0.02	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	0.00	0.12	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	0.22	0.00	0.00	0.00	0.00	0.00
29	---	---	---	---	---	---	0.79	0.00	0.00	0.00	0.00	0.00
30	---	---	---	---	---	---	0.70	0.00	0.00	0.00	0.00	0.00
31	---	---	---	---	---	---	---	0.00	---	0.00	0.00	---
Total	---	---	---	---	---	---	1.71	12.8	0.000	0.000	0.000	0.000
Mean	---	---	---	---	---	---	0.13	0.41	0.000	0.000	0.000	0.000
Max	---	---	---	---	---	---	0.79	1.7	0.00	0.00	0.00	0.00
Min	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	---	---	---	---	---	---	3.4	25	0.00	0.00	0.00	0.00
CAL YEAR	2016	TOTAL	173.0	MEAN	1.05	MAX	7.0	MIN	0.00	AC-FT	343	
WTR YEAR	2017	TOTAL	15.0	MEAN	0.087	MAX	2.0	MIN	0.00	AC-FT	29	
Legend: 'e' Estimated												
Created on 03/05/18 13:30 by J A MARBURGER												

NIOBRARA RIVER BASIN

MOORE-KAY CANAL from Niobrara River, 00104000

LOCATION.--SE1/4NE1/4 Sec. 9-28-53 W. near Marsland

GAGE.--Continuous stage recorder and 2 ft. flume

PERIOD OF RECORD.--1956 - present

APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

123000 Pioneer Canal from Niobrara River Q, WATER YEAR OCT 2016 TO SEP 2017 Daily Mean Values												
Day	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
1	0.71	---	---	---	---	---	---	0.00	0.00	1.8	0.00	1.7
2	0.49	---	---	---	---	---	---	0.00	0.00	1.7	0.00	1.8
3	0.00	---	---	---	---	---	---	0.00	0.00	1.7	0.00	1.7
4	0.00	---	---	---	---	---	---	0.00	0.00	1.7	0.00	1.7
5	0.00	---	---	---	---	---	---	0.42	0.20	1.7	0.00	1.7
6	0.00	---	---	---	---	---	---	4.4	2.2	1.7	0.00	1.6
7	0.00	---	---	---	---	---	---	4.4	2.1	1.7	0.00	1.7
8	0.00	---	---	---	---	---	---	4.4	2.0	1.7	0.00	1.7
9	0.00	---	---	---	---	---	---	4.2	2.0	1.6	0.00	1.8
10	0.00	---	---	---	---	---	---	4.4	0.88	1.6	0.00	1.8
11	0.00	---	---	---	---	---	---	4.3	0.00	1.6	0.00	1.7
12	---	---	---	---	---	---	0.03	4.4	0.00	1.7	0.00	1.6
13	---	---	---	---	---	---	0.02	4.5	0.00	1.8	0.00	1.7
14	---	---	---	---	---	---	0.01	4.4	0.00	1.7	0.00	2.0
15	---	---	---	---	---	---	0.00	4.2	0.00	1.5	0.00	2.0
16	---	---	---	---	---	---	0.00	4.2	0.00	1.4	0.00	2.0
17	---	---	---	---	---	---	0.00	4.0	0.00	1.4	0.00	2.0
18	---	---	---	---	---	---	0.00	4.2	0.00	1.4	0.00	2.1
19	---	---	---	---	---	---	0.00	4.5	0.00	1.3	0.00	2.1
20	---	---	---	---	---	---	0.00	4.6	0.00	1.4	0.00	2.1
21	---	---	---	---	---	---	0.00	4.5	0.00	1.4	0.00	2.1
22	---	---	---	---	---	---	0.00	4.4	0.00	1.5	0.00	2.1
23	---	---	---	---	---	---	0.00	2.7	0.00	1.5	0.00	2.2
24	---	---	---	---	---	---	0.00	0.59	0.00	1.4	0.39	2.3
25	---	---	---	---	---	---	0.00	0.25	0.00	1.4	1.6	2.3
26	---	---	---	---	---	---	0.00	0.05	0.00	1.3	1.6	2.3
27	---	---	---	---	---	---	0.00	0.00	0.65	1.5	1.7	2.3
28	---	---	---	---	---	---	0.00	0.00	1.8	1.3	1.7	2.3
29	---	---	---	---	---	---	0.00	0.00	1.9	0.00	1.7	2.4
30	---	---	---	---	---	---	0.00	0.00	1.9	0.00	1.7	1.2
31	---	---	---	---	---	---	---	0.00	---	0.00	1.7	---
Total	1.20	---	---	---	---	---	0.060	78.0	15.6	43.4	12.1	58.0
Mean	0.11	---	---	---	---	---	0.003	2.52	0.52	1.40	0.40	1.94
Max	0.71	---	---	---	---	---	0.03	4.6	2.2	1.8	1.7	2.4
Min	0.00	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	1.2
AC-FT	2.4	---	---	---	---	---	0.1	155	31	86	24	115
CAL YEAR	2016	TOTAL	225.0	MEAN	1.19	MAX	6.0	MIN	0.00	AC-FT	446	
WTR YEAR	2017	TOTAL	208.0	MEAN	1.14	MAX	5.0	MIN	0.00	AC-FT	413	
Legend:	'e' Estimated											
	Created on						03/20/18 08:54			by Author: Stjepan Figuric		

2017 Water Year

NIOBRARA RIVER BASIN

PIONEER CANAL from Niobrara River, 00123000

LOCATION.--NE1/4NE1/4 Sec. 36-29-51 W. near Marsland

GAGE.--Continuous stage recorder and concrete flume

PERIOD OF RECORD.--1956 - 1982, 1986 - present

November 26, 2018

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APPENDIX A SURFACE WATER DIVERSIONS IN 2017

Nebraska Department of Natural Resources

104000 Moore-Kay Canal from Niobrara River Q, WATER YEAR OCT 2015 TO SEP 2016 Daily Mean Values												
Day	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
1	---	---	---	---	---	---	4.4	6.6	0.00	0.00	0.00	---
2	---	---	---	---	---	---	3.7	6.6	0.00	0.00	0.00	---
3	---	---	---	---	---	---	3.2	6.1	0.00	0.00	0.00	---
4	---	---	---	---	---	---	2.8	4.7	0.00	0.00	0.00	---
5	---	---	---	---	---	---	2.5	3.5	0.00	0.00	0.00	---
6	---	---	---	---	---	---	2.1	2.8	0.00	0.00	0.00	---
7	---	---	---	---	---	---	1.8	2.9	0.00	0.00	0.00	---
8	---	---	---	---	---	---	1.8	4.3	0.00	0.00	0.00	---
9	---	---	---	---	---	---	1.7	4.5	0.00	0.00	0.00	---
10	---	---	---	---	---	---	1.5	4.4	0.00	0.00	0.00	---
11	---	---	---	---	---	---	1.3	3.5	0.00	0.00	0.00	---
12	---	---	---	---	---	---	1.2	2.4	0.00	0.00	0.00	---
13	---	---	---	---	---	---	1.1	1.9	0.00	0.00	0.00	---
14	---	---	---	---	---	---	0.88	1.6	0.00	0.00	0.00	---
15	---	---	---	---	---	---	0.96	1.4	0.00	0.00	0.00	---
16	---	---	---	---	---	---	1.8	1.6	0.00	0.00	0.00	---
17	---	---	---	---	---	---	2.2	1.8	0.00	0.00	0.00	---
18	---	---	---	---	---	---	2.1	1.8	0.00	0.00	0.00	---
19	---	---	---	---	---	---	1.9	1.8	0.00	0.00	0.00	---
20	---	---	---	---	---	---	1.6	1.9	0.00	0.00	0.00	---
21	---	---	---	---	---	2.3	1.3	1.9	0.00	0.00	0.00	---
22	---	---	---	---	---	2.3	1.1	1.9	0.00	0.00	0.00	---
23	---	---	---	---	---	2.3	0.93	1.8	0.00	0.00	0.00	---
24	---	---	---	---	---	2.4	0.81	1.8	0.00	0.00	0.00	---
25	---	---	---	---	---	2.4	0.64	1.8	0.00	0.00	0.00	---
26	---	---	---	---	---	2.3	2.5	1.8	0.00	0.00	0.00	---
27	---	---	---	---	---	2.3	3.0	1.8	0.00	0.00	0.00	---
28	---	---	---	---	---	2.0	3.0	1.8	0.00	0.00	0.00	---
29	---	---	---	---	---	1.9	2.7	1.8	0.00	0.00	0.00	---
30	---	---	---	---	---	3.6	3.9	1.8	0.00	0.00	0.00	---
31	---	---	---	---	---	4.5	---	0.00	---	0.00	---	---
Total	---	---	---	---	---	28.3	60.4	84.3	0.000	0.000	0.000	---
Mean	---	---	---	---	---	2.57	2.01	2.72	0.000	0.000	0.000	---
Max	---	---	---	---	---	4.5	4.4	6.6	0.00	0.00	0.00	---
Min	---	---	---	---	---	1.9	0.64	0.00	0.00	0.00	0.00	---
AC-FT	---	---	---	---	---	56	120	167	0.00	0.00	0.00	---
CAL YEAR	2015	TOTAL	115.0	MEAN	1.67	MAX	9.0	MIN	0.00	AC-FT	228	---
WTR YEAR	2016	TOTAL	173.0	MEAN	1.06	MAX	7.0	MIN	0.00	AC-FT	343	---
Legend: 'e' Estimated Created on 07/31/17 14:09 by J A MARBURGER												

NIORARA RIVER BASIN

MOORE-KAY CANAL from Niobrara River, 00104000

LOCATION.—SE1/4NE1/4 Sec. 9-28-53 W. near Marsland

GAGE.—Continuous stage recorder and 2 ft. flume

PERIOD OF RECORD.—1956 - present

APPENDIX B NON-GAGED STREAMFLOW MEASUREMENT IN 2017

Date	Site number	Site Name	Discharge in cfs
5/16/2017	6400	Armstrong Pump fr Niobrara River	0
5/23/2017	6400	Armstrong Pump fr Niobrara River	0
5/30/2017	6400	Armstrong Pump fr Niobrara River	0
6/6/2017	6400	Armstrong Pump fr Niobrara River	0
6/13/2017	6400	Armstrong Pump fr Niobrara River	0
6/20/2017	6400	Armstrong Pump fr Niobrara River	0
6/27/2017	6400	Armstrong Pump fr Niobrara River	0
7/5/2017	6400	Armstrong Pump fr Niobrara River	0
7/11/2017	6400	Armstrong Pump fr Niobrara River	0
7/18/2017	6400	Armstrong Pump fr Niobrara River	0
7/25/2017	6400	Armstrong Pump fr Niobrara River	0
8/1/2017	6400	Armstrong Pump fr Niobrara River	0
8/8/2017	6400	Armstrong Pump fr Niobrara River	0
8/15/2017	6400	Armstrong Pump fr Niobrara River	0
8/22/2017	6400	Armstrong Pump fr Niobrara River	0
9/5/2017	6400	Armstrong Pump fr Niobrara River	0
7/27/2017	6420	Circle Pump - Hollibaugh fr Niobrara River	0
7/27/2017	6421	Circle Pump - Lees fr Niobrara River	0
8/14/2017	6015	Coffee Flood Canal fr Hat Creek	0
5/16/2017	6380	Cook Pump fr Niobrara River	1.6
5/23/2017	6380	Cook Pump fr Niobrara River	0
5/30/2017	6380	Cook Pump fr Niobrara River	1.5
6/6/2017	6380	Cook Pump fr Niobrara River	1.45
6/13/2017	6380	Cook Pump fr Niobrara River	1.33
6/20/2017	6380	Cook Pump fr Niobrara River	0
6/27/2017	6380	Cook Pump fr Niobrara River	1.35
7/5/2017	6380	Cook Pump fr Niobrara River	1.33
7/11/2017	6380	Cook Pump fr Niobrara River	0
7/18/2017	6380	Cook Pump fr Niobrara River	0
7/25/2017	6380	Cook Pump fr Niobrara River	0
8/1/2017	6380	Cook Pump fr Niobrara River	1.34
8/8/2017	6380	Cook Pump fr Niobrara River	0
8/15/2017	6380	Cook Pump fr Niobrara River	1.34
8/22/2017	6380	Cook Pump fr Niobrara River	0.77
9/5/2017	6380	Cook Pump fr Niobrara River	1.5

APPENDIX B NON-GAGED STREAMFLOW MEASUREMENT IN 2017

Date	Site number	Site Name	Discharge in cfs
10/3/2017	6380	Cook Pump fr Niobrara River	0
6/1/2017	6440	Delsing Pump fr Niobrara River	0
6/8/2017	6440	Delsing Pump fr Niobrara River	0
6/26/2017	6440	Delsing Pump fr Niobrara River	3.20
6/29/2017	6440	Delsing Pump fr Niobrara River	0.99
7/13/2017	6440	Delsing Pump fr Niobrara River	0
7/20/2017	6440	Delsing Pump fr Niobrara River	0.99
7/27/2017	6440	Delsing Pump fr Niobrara River	0.99
7/31/2017	6440	Delsing Pump fr Niobrara River	6.60
8/3/2017	6440	Delsing Pump fr Niobrara River	0.99
8/17/2017	6440	Delsing Pump fr Niobrara River	0
9/7/2017	6440	Delsing Pump fr Niobrara River	0
6/8/2017	6435	Enterprise Pump fr Niobrara River	0
7/20/2017	6435	Enterprise Pump fr Niobrara River	0
7/27/2017	6435	Enterprise Pump fr Niobrara River	0
7/10/2017	6130	Harris-Cooper Canal fr White River	7.97
10/6/2017	3250	Hat Creek near Ardmore, South Dakota	0
9/1/2016	6300	Hitsheew Pump #2 fr Niobrara River	0
7/27/2017	6300	Hitsheew Pump #2 fr Niobrara River	0
6/1/2017	6445	Montague Canal Pump fr Niobrara River	1.21
6/8/2017	6445	Montague Canal Pump fr Niobrara River	0
6/27/2017	6445	Montague Canal Pump fr Niobrara River	4.40
6/29/2017	6445	Montague Canal Pump fr Niobrara River	0
7/13/2017	6445	Montague Canal Pump fr Niobrara River	0
7/20/2017	6445	Montague Canal Pump fr Niobrara River	0
7/27/2017	6445	Montague Canal Pump fr Niobrara River	2.1
8/1/2017	6445	Montague Canal Pump fr Niobrara River	5.00
8/3/2017	6445	Montague Canal Pump fr Niobrara River	0
9/7/2017	6445	Montague Canal Pump fr Niobrara River	0
6/27/2017	3740	Niobrara River at Dunlap at Hwy 385	94
7/13/2017	3740	Niobrara River at Dunlap at Hwy 385	127
5/1/2018	3740	Niobrara River at Dunlap at Hwy 385	9.82
9/27/2016	3750	Niobrara River at old Dunlap Bridge	11.2
6/29/2018	3750	Niobrara River at old Dunlap Bridge	66.4
6/27/2017	3755	Niobrara River below Mirage Flats Diversion	6.95
9/27/2016	1221	Niobrara River blw Box Butte at Road	2.33
7/11/2017	6381	Niobrara River Road into Sandoz house(4' culvert)	1.28

APPENDIX B NON-GAGED STREAMFLOW MEASUREMENT IN 2017

Date	Site number	Site Name	Discharge in cfs
7/25/2017	6381	Niobrara River Road into Sandoz house(4' culvert)	0
9/1/2016	6425	Pioneer Pump #2 fr Niobrara River	0
5/11/2017	6425	Pioneer Pump #2 fr Niobrara River	0
6/1/2017	6425	Pioneer Pump #2 fr Niobrara River	0
6/8/2017	6425	Pioneer Pump #2 fr Niobrara River	0
6/15/2017	6425	Pioneer Pump #2 fr Niobrara River	0
6/29/2017	6425	Pioneer Pump #2 fr Niobrara River	0
7/13/2017	6425	Pioneer Pump #2 fr Niobrara River	0
7/20/2017	6425	Pioneer Pump #2 fr Niobrara River	0
7/27/2017	6425	Pioneer Pump #2 fr Niobrara River	0
8/17/2017	6425	Pioneer Pump #2 fr Niobrara River	0
9/7/2017	6425	Pioneer Pump #2 fr Niobrara River	0
7/14/2017	6160	Rasher-Forbes Canal fr White River	1
7/19/2017	3072	Sow Belly Creek below Zimmerman Canal	0
9/20/2016	6105	White River Canal fr White River	0
7/10/2017	6105	White River Canal fr White River	6.16
6/30/2017	6165	Whitney Pipeline fr White River	0
7/14/2017	6165	Whitney Pipeline fr White River	0
6/8/2017	6430	Wilkins Pump fr Niobrara River	0
6/29/2017	6430	Wilkins Pump fr Niobrara River	0
7/20/2017	6430	Wilkins Pump fr Niobrara River	0
7/27/2017	6430	Wilkins Pump fr Niobrara River	0
9/7/2017	6430	Wilkins Pump fr Niobrara River	0

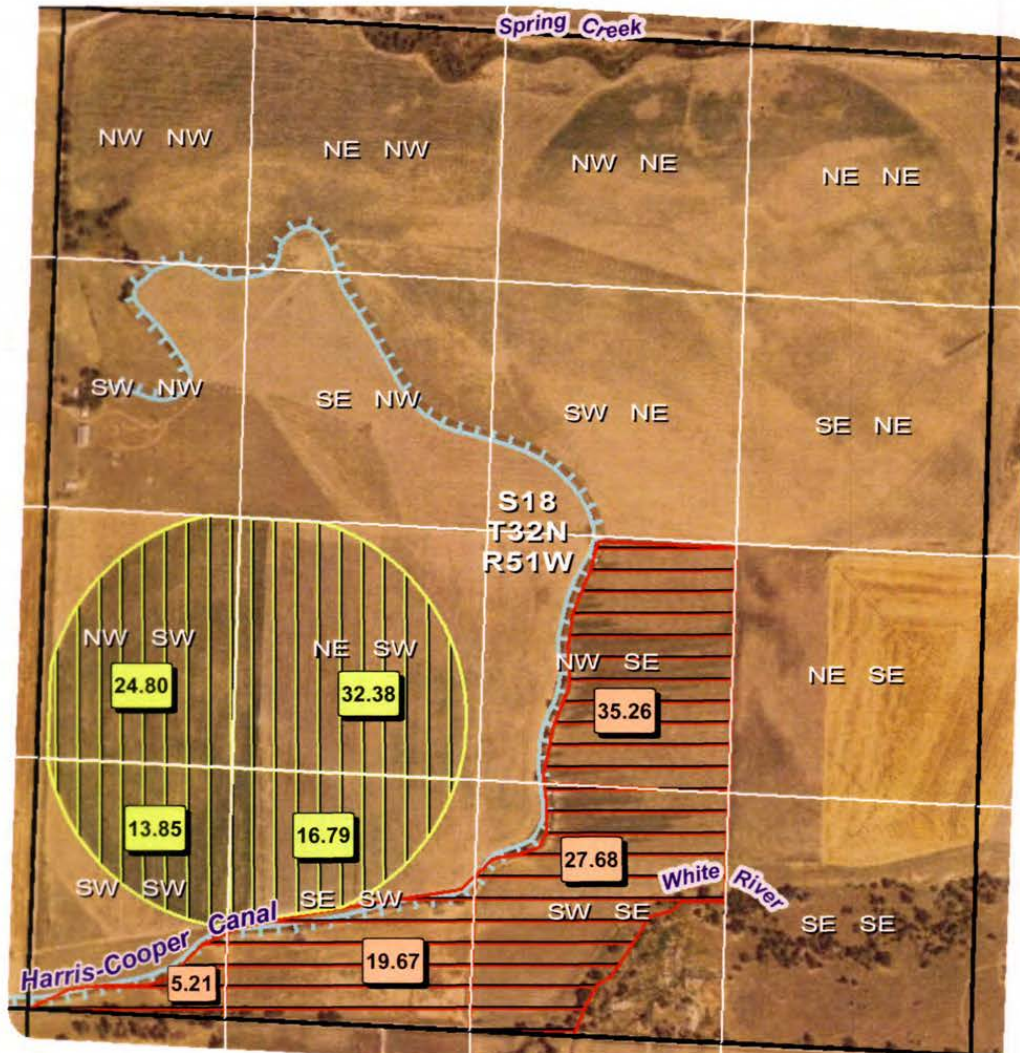
Date	Site Number	Site Name	Storage in acre-feet
9/20/2017	6149	Whitney Reservoir	4,729
11/1/2017	6149	Whitney Reservoir	7,470
6/15/2017	6149	Whitney Reservoir	10,862
6/30/2017	6149	Whitney Reservoir	10,025
7/14/2017	6149	Whitney Reservoir	8,873
8/28/2017	6149	Whitney Reservoir	6,655
11/20/2017	6149	Whitney Reservoir	6,520

APPENDIX C
Map Number 19609 Depicting PREL-5716, REA-5717 for D-464A

NEBRASKA
 DEPT. OF NATURAL RESOURCES

D-464A

Section:18 Township:32N Range:51W Dawes County



I Certify that this map accurately represents the land appurtenant to D-464A being modified through PREL-5716 & REA-5717

Signature: *Carla J. Hopp*

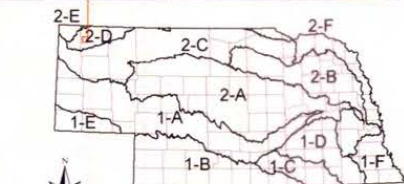
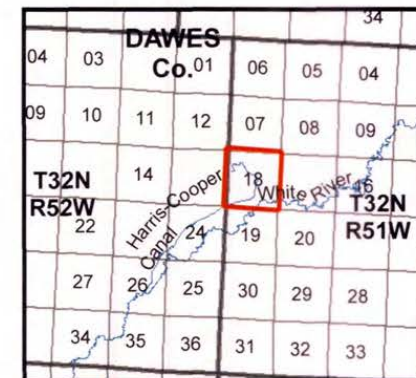
Dated: 4/20/2017

Approved by Order Dated
 June 15, 2017

Filed 5-30-2017

Surface Water Permit Modification

- PREL-5716 (D464A)
- REA-5717 (D464A)



0 660 1,320 2,640 Feet

2016 Aerial Photography
 Map No. 19609 (ID# 18260) **Page 1 of 1**



Date: 3/30/2017

November 26, 2018

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APPENDIX D
Department of Natural Resources Rules for Surface Water, Title 457, Chapter 23

NEBRASKA ADMINISTRATIVE CODE

Title 457 - DEPARTMENT OF NATURAL RESOURCES RULES FOR SURFACE WATER

Chapter 23 - MORATORIUM AREA VARIANCES FOR SURFACE WATER APPROPRIATIONS

001 PETITION FOR LEAVE TO FILE OR CONSIDER AN APPLICATION. Any person wanting to apply for a new surface water appropriation within a moratorium or stay area must file a petition in the Department requesting leave to file an application. The petition must be accompanied by a copy of the completed proposed application. The application shall not be considered filed at the time it is submitted with the petition. Anyone who currently has an unapproved application on file in the Department for a new appropriation for a project that is within a moratorium or stay area must file a petition requesting a variance to the moratorium or stay. The fee for filing the petitions shall be that described in § 33-105(8) R.R.S. 1943, as amended.

The petition shall include sufficient information to indicate:

001.01 The proposed project is for a non-consumptive use; or

001.02 The applicant has a credible proposal for replacing any consumptive use that will occur in a manner such that the project will not harm other users; or

001.03 The applicant has credible information that indicates there **may be** unappropriated water available at the proposed location at the time the depletion is likely to occur; or

001.04 The project existed prior to any informal moratorium, formal moratorium or stay.

001.05 There is a public safety issue that must be addressed and the proposed project addresses such issue.

001.06 The proposed use is a temporary use for public construction and the total volume requested is less than ten (10) acre-feet.

002 REVIEW. The Department shall review the information provided with the petition and shall make a determination as to whether it is sufficient to indicate good cause for allowing further consideration of the application.

003 DECISION. A written decision shall be issued. The decision shall either deny the petition and state the reasons for such denial, or grant the petition and state either (a) the petitioner may file the application and supporting documentation, or (b) the Department will proceed to process the existing filed application. Any decision approving a petition shall not bind the Director to approve any application

APPENDIX D
Department of Natural Resources Rules for Surface Water, Title 457, Chapter 23

to which it relates, or in any way be used as evidence of prejudice for the Director's future decisions concerning the specific approval requirements of such application. Allowance of a leave to file does not negate the necessity to meet the specific approval requirements for an appropriation.

004 APPEAL. If the petitioner wishes to appeal the decision of the Department, he or she may request a hearing before the Department within 15 days of the date the decision is rendered in accordance with the Department's Rules of Practice and Procedure, Title 454.

EFFECTIVE DATE: April 30, 2005