

**UPPER REPUBLICAN  
NATURAL RESOURCES DISTRICT**

**TECHNICAL MANUAL**

**TM-26**

**EFFECTIVE MAY 8, 2003  
IN CONCERT WITH  
THE  
RULES AND REGULATIONS FOR GROUNDWATER CONTROL  
ORDER NO.26  
OF THE  
UPPER REPUBLICAN NATURAL RESOURCES DISTRICT  
MANAGEMENT AREA**

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UPPER REPUBLICAN NATURAL RESOURCES DISTRICT  
TECHNICAL MANUAL OF POLICIES AND PROCEDURES  
TM-26

PART I

LEGISLATION ESTABLISHING  
NATURAL RESOURCES DISTRICTS

Section 2-3201: Natural Resources, Declaration of Intent.

*The Legislature hereby recognises and declares that it is essential to the health and welfare of the people of the State of Nebraska to conserve, protect, develop and manage the natural resources of this state. The legislature further recognises the significant achievements that have been made in the conservation, protection, development and management of our natural resources and declares that the most efficient and economical method of accelerating these achievements is by creating natural resources districts encompassing all of the area of the state, as provided by this Act.*

*The Legislature further declares that the functions heretofore performed by Soil and Water Conservation Districts, Watershed Conservancy Districts, Watershed Districts, Advisory Watershed Improvement Boards and Watershed Planning Boards shall be consolidated and made functions for the Natural Resources Districts," and the governing boards of such districts and boards shall complete, before July 1, 1972, the necessary transfers and arrangements so that such boards may on that date, begin the operation of Natural Resources Districts, as provided by this Act.*

This legislation created twenty-four Natural Resources Districts in the State of Nebraska. The initial twenty-four (now 23) NRD District boundaries were based on the approximate hydrologic boundaries of the recognised river basins of the State.

The Upper Republican Natural Resources District, which encompasses Dundy, Perkins, and Chase Counties, began operations on July 1, 1972. On that date, the District accepted the assets, liabilities, and obligations of the Dundy, Chase, and Perkins County Soil and Water Conservation Districts.

**PART II**  
**PURPOSE, GOALS AND OBJECTIVES**  
**OF THE**  
**UPPER REPUBLICAN NATURAL RESOURCES DISTRICT**

**Purpose**

The Board of Directors of the URNRD recognise that the underground aquifer partially underlying the District is a laterally confined aquifer and that there have developed, and will continue to develop, conflicts among users. Such conflicts have been based on a steadily declining water table within the aquifer in the URNRD. Therefore, the actions of the Board become of utmost importance in protecting all uses of groundwater, which include domestic, agricultural, municipal, industrial, wildlife, and recreational uses, from unmanageable declines and from degradation in quality.

**Goals**

It is the goal of the Upper Republican Natural Resources District Board of Directors to extend groundwater reservoir life to the greatest extent practicable consistent with beneficial use of the groundwater and best management practices, and to protect the quality of the groundwater aquifers within the District boundaries.

The primary short-term goal of the Upper Republican Natural Resources District is to measure, monitor and allocate the groundwater resource within the District.

**Objectives**

One objective of the Board is to ascertain the amount of groundwater being withdrawn from the aquifer within the Management Area. A second objective is to reduce the amount of groundwater being withdrawn from the aquifer within the Management Area, relative to the amount that might be withdrawn if no restraints were imposed upon groundwater users. A third objective is continued monitoring of groundwater quality to ensure that the groundwater quality remains the same or is improved.

Information from monitoring of groundwater quality and use is to be used to set groundwater allocations so that the groundwater aquifer will be available for present and future generations. It is believed that reduced consumption of groundwater and protection of groundwater quality within the Management Area will result in a longer economic life for the aquifer and thereby, continued and enhanced prosperity will ensue.

## PART III

### GOVERNANCE OF THE URNRD

An eleven member Board of Directors governs the Upper Republican Natural Resources District. All eligible electors of the District may vote for Board Members at general elections. The District is divided into ten sub-districts. One Board Member is elected from each sub-district and one at-large member is elected.

Candidates for sub-district Board positions must reside in the sub-district for which they are elected. The at-large Board member must reside within the boundaries of the Upper Republican Natural Resources District. The Board of Directors will appoint an eligible person to fill any unexpired term.

#### **Board Of Directors**

The Board is responsible for establishing District policies, programs, rules and regulations, and adopting the necessary budget, in order to fulfil the responsibilities of the District as authorized and required by law. The Board is also responsible for overseeing management to insure that the policies, programs, regulations, and budget are carried out as intended, and for approving District expenditures. The day-to-day management is the General Manager's responsibility. In general, the Board sets policy and the staff carries it out.

The Board holds regularly scheduled monthly meetings on the first Tuesday of each month, at which time the Board shall take action and make determinations as necessary and required by law. These meetings shall comply with the Open Meetings Law, and each Director shall receive a copy of meeting notices and agendas.

A majority of the voting members of the Board shall constitute a quorum, and the concurrence of a majority of the Directors present at any regular or special meeting at which such quorum is present shall constitute official action of the entire Board. If less than a quorum is present at a meeting, no official action shall be taken, and the presiding officer shall adjourn the meeting. If a quorum cannot convene for any reason, the General Manager shall have the authority to approve recurring bills and salaries, and forward them to the District Treasurer for his or her signature, as funds are available in the District treasury.

Each Director present at regular or special meetings shall be entitled to one vote upon each matter submitted to a vote, including the chairman if he chooses to vote. The Board shall follow Robert's Rules of Order in conducting District business. Action taken on any question or motion, duly moved and seconded, shall be by roll call vote of the Board in open session, and the record shall state how each member voted, or if the member was absent or abstaining.

**URNRD Board Members**

Sub-District 1  
Kenneth Frasier, Jr.  
Max, NE

Sub-District 2  
Terry Martin  
Benkelman, NE

Sub-District 3  
Robert Ambrosek, Chairman  
Haigler, NE

Sub-District 4  
Vacant

Sub-District 5  
Kenneth E. Owens  
Secretary - Treasurer  
Imperial, NE

Sub-District 6  
Dean Large  
Wauneta, NE

Sub-District 7  
Tom Terryberry  
Imperial, NE

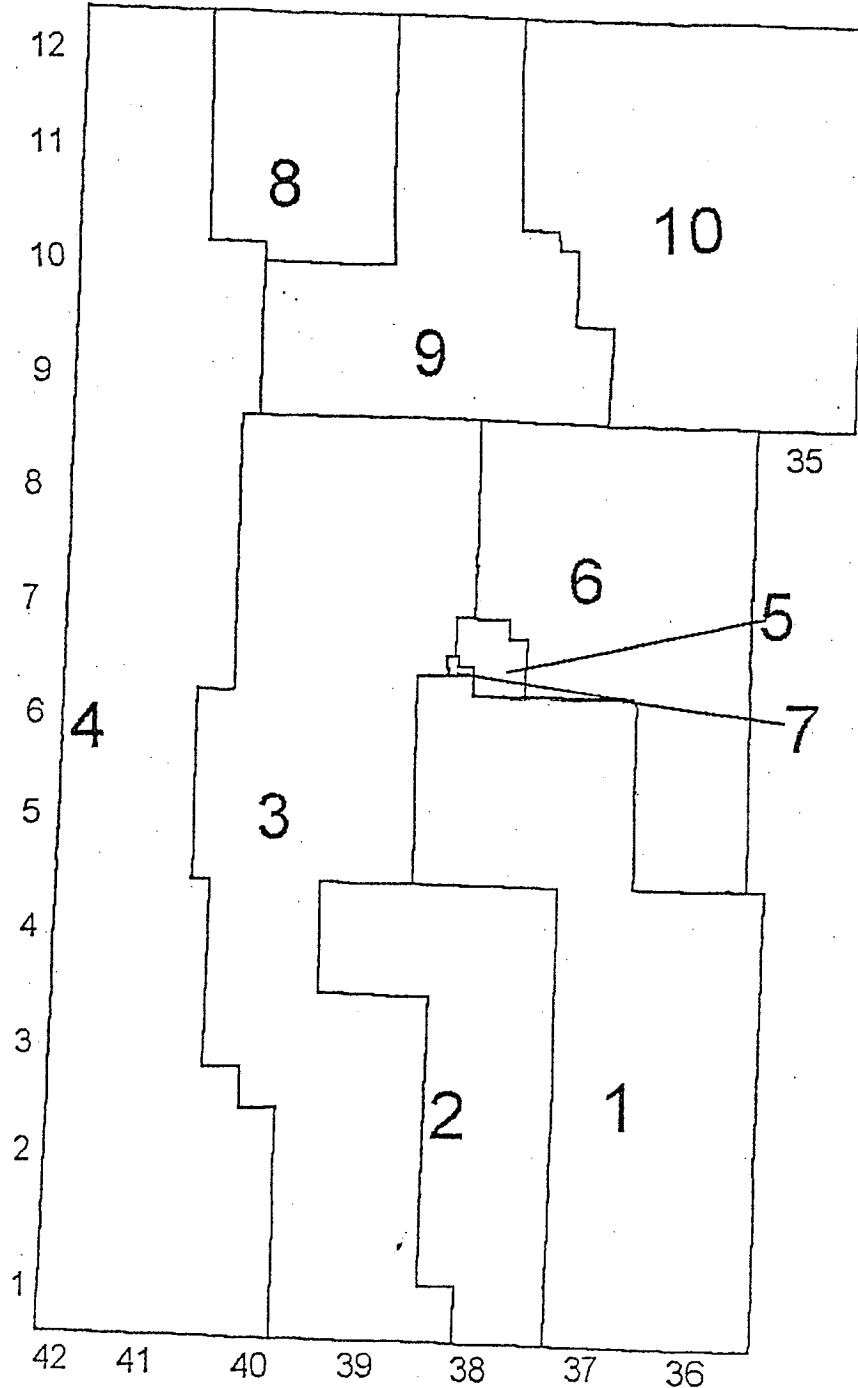
Sub-District 8  
Mike Mosel, State Director  
Ogallala, NE

Sub-District 9  
Donn Gengenbach  
Grant, NE

Sub-District 10  
Greg Pelster, Vice Chairman  
Elsie, NE

Member At Large  
Jerry Kuenning  
Imperial, NE

**URNRD SUB DISTRICTS MAP  
2000 CENSUS DATA**



## OFFICERS OF THE BOARD

Officers of the Board shall include Chairperson, Vice Chairperson, Secretary, and Treasurer. The officers of the Board are elected by majority vote of Board members present.

The officers shall hold office for a one (1) year term and until his/her successor has been duly elected and qualified, or until he/she vacates the office due to death, disability resignation, relocation, removal, or other disqualification. A vacancy in any office on the Board due to death, disability, resignation, removal, or other disqualification shall be filled by election of the Board for the unexpired term of the office.

### Duties

- A. Chairperson shall be the principal officer of the Board and subject to the control of the Board. The Chair shall be empowered to make non-policy decisions between meetings in carrying out the works, policies, and intents of the District. He/she will preside at all meetings of the Board of Directors. He/she may sign, with any proper officer, any agreements, contracts, or other instruments, which the board has authorized to be executed. Exceptions would be in cases when the signing and execution shall be expressly delegated by the District Board, or by the bylaws, to some other officer of the Board, or shall be required by law to be otherwise signed and executed. The Chairman shall perform all duties incident to the office of chairman, and the Board may prescribe such other duties.
- B. Vice Chairperson, in the absence of the Chairperson or in the event of his inability to act, shall perform the duties of the Chairperson. When so acting, he will have all the powers of, and be subject to all the restrictions upon, the Chairperson. The vice-chairperson shall perform other duties from time to time that may be assigned to him/her by the Chairperson or by the Board.
- C. Secretary- Treasurer shall keep the minutes of the Board, see that all notices are given in accordance with Board policies or as required by law. In general, the incumbent will perform all the duties incident to the office of Secretary-Treasurer and such other duties from time to time that may be assigned to him by the Chairperson or by the Board. He/she shall keep an accurate account of all funds received and expended by the District, be bonded in the amount required by statutes, and see that all approved bills payable are paid and receipts received, and be empowered to sign checks on the District's account to retire approved bills and debts of the District.

In case of temporary absence of any officer for any reason that the Board may deem sufficient, the Board may delegate the powers and duties of such officer to any other officer, or to any other Director of the Board, for the time of the temporary absence, provided a majority of the Board concurs.

## Committee Responsibilities

Committee Responsibilities are divided into different sections represented by five standing Board Committees. The Executive Committee shall appoint membership to the other four standing committees. The committees shall have and exercise duties in the best interests of the District. The committees have individual responsibilities of overseeing District functions and activities and making recommendations to the Board of Directors as necessary to carry out the responsibilities of the District. The Chairperson or the Board, may, from time to time, assign additional duties to specific committees.

- A. Executive Committee: The Executive Committee, consisting of the Chairperson, The Vice- Chairperson, and the Secretary- Treasurer, is responsible for Board organization, functions, ethics, and discipline. The Committee oversees personnel (including salary, wages, and benefits), buildings, and equipment needs, as well as general management of the District, and makes recommendations to the Board regarding these responsibilities.
- B. Budget Committee: The Budget Committee oversees the financial management and long range planning of the District. The annual budget of all the District's activities are reviewed and approved by this Committee which then makes recommendations to the Board, prior to Board consideration of approval of the budget.
- C. Variance Committee: The Variance Committee meets with all individuals who request a variance from the rules and regulations of the Board. The Committee reports to the Board at a Regular Board meeting. The variance requests are reviewed by the Board and placed on the agenda for the next Regular Board meeting for decision.
  1. All information for a variance request should be brought to the NRD Office at Imperial and discussed with the Manager.
  2. The Manager will distribute all information concerning the variance to the Variance Committee, all other Board members, and person(s) requesting the variance.
  3. The Variance Committee will meet with person(s) requesting a variance at the time set by the Manager to hear the variance request.
  4. The Variance Committee will report to the Board at a regular or special Board meeting the information received for the variance requested.
  5. The variance request will be voted on at the next regular Board meeting. At that time the Variance Committee will make a recommendation to the Board concerning the variance request.
- D. Groundwater Control Committee: The Groundwater Control Committee reviews all information received from the staff, and state and federal agencies. The Committee shall make recommendations to the full Board on needed studies and research projects; amendments to the Groundwater Control Rules and Regulations; date, time, and place to hold information meetings and public hearings; and material that should be made available to the public at information meetings and public hearings.
- E. Education and Information Committee: The Committee oversees both the education and information dissemination activities of the Board, which include the following: habitat, tree planting, public relations, education, and informing the public of District activities.



## Standing Committee Membership

### Executive Committee

Robert Ambrosek, Chairman  
Greg Pelster, Vice Chairman  
Kenneth E. Owens, Secretary/Treasurer

### Information and Education Committee

Jerry Kuenning, Chairman  
Mike Mosel  
Terry Martin

### Budget Committee

Donn Gengenbach, Chairman  
Kenny Frasier  
Kenneth E. Owens  
Greg Pelster

### Variance Committee

Kenny Owens, Chairman  
Terry Martin  
Donn Gengenbach  
Jerry Kuenning

### Groundwater Control Committee

Greg Pelster, Chairman  
Tom Terryberry  
Dean Large

## Upper Republican NRD Staff

### Imperial Office

308-882-5173

Bob Hipple, Manager  
Debra Hayes, Administrative Assistant  
Mike Nesbitt, Conservation Programs Coordinator  
Mike Smith, Water Programs Coordinator  
Heather Francis, Conservation & Information Specialist  
John Lemon, Conservation Technician  
Todd Burrell, Conservation Technician  
Nicloe Watkins, Conservation Technician  
Sid Bartels, Water Quality Conservation Technician

### URNRD Field Office Secretaries

Located in NRCS Offices  
Rebecca Spady, Imperial 308-882-4263  
Patricia Clough, Grant 308-352-4776  
Wilma Zimbelman, Benkelman 308-424-2696

PART IV  
CONVERSION TABLES  
And  
ANNUAL ALLOWABLE WITHDRAWAL FORMULA

WATER EQUIVALENTS

1-acre-foot	326,850 gallons
1 acre-inch	27,154 gallons
1 acre-foot covers 1 acre of land 1 foot deep	
1 acre-inch covers 1 acre of land 1 inch deep	
10.833 acre-feet	1 in./ac. on 130 acres
157.08 acre-feet	14.5 in./ac. on 130 acres
98.05 hr. @ 600 gpm	1 in./ac. on 130 acres
73.54 hr. @ 800 gpm	1 in./ac. on 130 acres
58.83 hr. @ 1000 gpm	1 in./ac. on 130 acres

ANIMAL UNIT EQUIVALENTS

Slaughter Steer/Heifer	1.0
Cow --1000 Pounds	1.0
Dairy Cow	1.4
Cow/Calf Pair	1.4
Sheep (Ewe )	0.1
Swine- -Under 55 pounds	0.05
Swine --Over 55 pounds	0.4
Horse --{Medium Size)	1.0

## ANNUAL ALLOWABLE WITHDRAWAL FORMULA

In the evaluation of the Annual Allowable Withdrawal for any purpose, the following three-mile radius circle formula shall be used:

$$A = \frac{640(D)(S.Y.) 3.1416 R^2 H}{(1.0 - Ir)t} + \frac{640(f)(Pr) 3.1416 R^2}{12(1.0 - Ir)}$$

where,

**A** = Annual allowable withdrawal within the circle being evaluated in  
acre-feet per year

**D** = Allowable depletion (expressed as a decimal)

**S.Y.** = Specific yield (dimensionless)

**R** = Radius of circle (miles)

**H** = Average saturated thickness within the circle (feet)

**t** = Time period during which depletion, **D**, occurs (years)

**Pr** = Precipitation recharge (inches/yr.)

**f** = Fraction of **Pr** that is available for appropriation in the circle (dimensionless)

**Ir** = Fraction of **A** that returns to the aquifer as deep percolation, i.e., irrigation return  
(dimensionless)

The constants in the above equation are:

$$D = 0.26, R = 3 \text{ miles}, t = 100 \text{ years}, f = 0.2 \text{ and } Ir = 0.15$$

**Saturated thickness, H**, shall be determined by evaluation of the 3 year average contour maps developed from spring well measurements conducted by the NRD as well as other pertinent available water level data.

**Specific yield, S.Y.**, and **Precipitation Recharge, Pr**, will be determined from Figure 19, page 34 and Figure 20, Page 40, respectively, "Simulated Response of the High Plains Aquifer to Ground-Water Withdrawals, Upper Republican Natural Resources District, Nebraska," Water-Resources Investigations Report 95-4014, USGS, 1995, as well as other pertinent available water level data.

This formula was developed by the State of Colorado and is available in the publication:

### **RULES AND REGULATIONS FOR THE MANAGEMENT AND CONTROL OF DESIGNATED GROUND WATER**

#### **2 CCR 410-1**

Effective Date: May 1, 1992 - Amended: March 30, 1995 - Re-amended: April 1, 1997

Re-amended: February 1, 2001

#### **STATE OF COLORADO GROUND WATER COMMISSION**

Hal D. Simpson  
Executive Director  
1313 Sherman Street  
Denver, Colorado 80203

**Definitions** - Unless expressly stated otherwise the following terms when used in these Rules shall have the meaning indicated in this Rule.

**"Allowed Average Annual Amount of Withdrawal"** means the average amount of water in acre-feet that a permittee may withdraw from a well in a calendar year.

**"Saturated Aquifer Material(s)"** means those aquifer materials containing sufficient water that can be drained by gravity and placed to beneficial use.

**"Specific Yield"** means the volume of water which can be drained by gravity from a saturated volume of aquifer material divided by the volume of material. This ratio can be expressed as a percentage.

**"Three-Mile Circle" or "Circle"** means a circle with a radius of three miles centered at the location of the well or proposed well used to appropriate water from the Highplains Aquifer.

**An Example Calculation using the AAW Formula to solve for -**

**A = Annual allowable withdrawal within the circle being evaluated in acre-feet per year**

where,

- D = .26** Allowable depletion (expressed as a decimal)
- S.Y. = 0.2** Specific yield (dimensionless)
- R = 3** Radius of circle (miles)
- H = 200** Average saturated thickness within the circle (feet)
- t = 100** Time period during which depletion, D, occurs (years)
- Pr = 2** Precipitation recharge (inches/yr.)
- f = 0.2** Fraction of Pr that is available for appropriation in the circle (dimensionless)
- Ir = 0.15** Fraction of A that returns to the aquifer as deep percolation, i.e., irrigation return (dimensionless)

$$A = \frac{640(D)(S.Y.) 3.1416 R^2 H}{(1.0 - Ir)t} + \frac{640(f)(Pr) 3.1416 R^2}{12(1.0 - Ir)}$$

$$A = \frac{(640)(.26)(0.2)(3.1416)(3^2)(200)}{(1.0 - 0.15)100} + \frac{(640)(0.2)(2)(3.1416)(3^2)}{12(1.0 - 0.15)}$$

$$A = \frac{(904.78)(200)}{85} + \frac{804.26(9)}{10.2}$$

**A = 2838.53 Acre Feet of annual allowable withdrawal**

This number is compared to the total acre feet of allocated water for all the Certified Irrigated Acres contained within the circle as part of the evaluation of the impact of any proposed transfers or other water management techniques.

**PART V**  
**PROPOSED RULES**

**Proposed Rule 1**

**BANKING**

The Board hereby authorizes the establishment of a groundwater bank to facilitate the transfer of groundwater for beneficial uses within the District. No deposits or withdrawals will be allowed until September 1, 200X.

A. Definition:

1. **Account** shall mean the right-to-use all or a portion of an allocation held in the Bank in the name of a particular entity.
2. **Bank** is the institutional entity operated by the Upper Republican Natural Resources District with authority to hold and distribute rights-to-use allocations that have been deposited.
3. **Deposit** shall mean the right-to-use all or a portion of an allocation that has been removed from a groundwater user's allocation for a use to be facilitated by the Bank.
4. **Offset** shall mean the amount of groundwater deducted from a Deposit prior to withdrawal and held in the account of the District for conservation or other purposes
5. **Withdrawal** shall mean removal of a deposit for use by the groundwater user that deposited the same, or by another groundwater user with the consent of the depositor and the Bank.

B. Operation of the Bank

1. Groundwater users having unused groundwater allocation, whether granted for irrigation, commercial livestock, industrial or municipal purposes, may deposit the right-to-use same in the Bank by designating in acre- feet the amount to be deposited.
2. Withdrawals of groundwater from the Bank must be designated in acre-feet and be withdrawn only by an authorized user.
3. The District shall operate the Bank.
4. Deposits must be accepted and withdrawals must be approved by the Board prior to implementation.
5. Variances may be granted by the Board to facilitate approved withdrawals.
6. All offsets shall be held in the account of the District for retirement, conservation or other uses.
7. Records of deposits and withdrawals shall be maintained by the District and shall be available to the public.

C. Offsets

Upon further deliberation, and notice and hearing, the Board may require offsets of groundwater, expressed in acre-feet, to be deducted from deposits prior to withdrawals and held in the account of the District pursuant to the following principles:

1. Withdrawals for use on the same Certified Irrigated Tract, as defined herein, shall not be subject to offset.
2. Withdrawals for use by the person that made the deposit, or with the consent of that person, on lands not contiguous but within a one-mile radius shall be subject to an offset of up to 5%.
3. Withdrawals for use by the person that made the deposit, or with the consent of that person, on lands not contiguous but within a three-mile radius shall be subject to an offset of up to 10%.
4. Withdrawals for use by the person that made the deposit, or with the consent of that person, on lands not contiguous and outside the three mile radius shall be subject to an offset of up to 10% plus up to 1% for each mile beyond said three mile radius.
5. In addition to the offset imposed by the distance of the withdrawal, additional offsets may be imposed as follows:
  - a. When the saturated thickness of the aquifer at the point of withdrawal is less than the saturated thickness of the aquifer at the point of deposit, an offset of up to 5% for each 20 feet of difference in saturated thickness, or part thereof, shall be imposed.
  - b. Withdrawals for use in Critical Townships of deposits from Non-Critical Townships shall be subject to an additional offset of up to 26%.
  - c. Withdrawals for industrial or manufacturing use of deposits of irrigation, commercial livestock, or municipal allocations shall be subject to an additional offset of up to 20%.
6. All offsets shall be determined by the Board.



- elbow or other obstructions, which might create turbulent flow or as, recommended by the manufacturer. There shall also be at least one pipe diameter of unobstructed flow on the downstream side of the meter.
- L. The meter propeller shaft shall be positioned parallel to and aligned with the centerline of the pipe.
  - M. Diversions from wells connected to serve multiple points of use shall not be made prior to the water passing through the meter for the individual wells. Wells with diversions before the meter in place and connected to serve multiple points of use, shall be modified no later than April 1, 2003 to comply with this rule.
  - N. Meters should be kept clear of debris and other material, which might impede operation.
  - O. When meters are removed for servicing or replacement, records of meter readings should be kept.
  - P. It shall be unlawful for any person to willfully injure, alter, remove, reset, adjust, manipulate, obstruct, or in any manner interfere with or tamper with any flowmeter within the Management Area for the purpose or with the intent to produce an incorrect, inaccurate or misleading measurement, without District consent, or to cause, procure or direct any other person to do so.
  - Q. The District staff shall periodically check flowmeters on a random basis for reading and proper operation. The District staff may seal all flowmeters within the Management Area. The District will notify the groundwater user in advance that it intends to enter upon his land for such purposes. No seal shall be removed without prior approval of the District.
  - R. Any malfunctioning flowmeter must be reported to the District Office at Imperial, Nebraska, within Twenty-four (24) hours after discovery. During the malfunctioning period, a substitute meter from the District, if available, shall be used to determine water consumption. If no such meter is available, any reasonable method of determining water consumption may be utilized.
  - S. The District may require any groundwater user to provide information that will enable the District Staff to determine the amount of energy used to operate any well on which a meter is required. The groundwater user shall provide such information, or the groundwater user shall authorize the District Staff to procure such information from the entity, which provided such power. The District Staff shall seek such information in the event a flowmeter is malfunctioning, or if either the owner or operator or the District Staff has reason to believe the flowmeter reading is incorrect. If any power source on any well within the groundwater management area is equipped with an hour meter, the District may require the groundwater user to provide appropriate readings from said hour meter.

### Supplemental Rule 3

### IRRIGATED ACRES AND TRACTS

*{See also Rules and Regulations (R&R), especially Rule 3 "Irrigated Acres and Tracts", page 4, R&R..}*

The following regulation applies to the determination, identification and certification of Certified Irrigated Acres and Certified Irrigated Tracts.

- A. The number of Certified Irrigated Acres belonging to or under the control of groundwater users who were irrigating their lands prior to May 1, 1978, shall be the number of acres irrigated by such groundwater user during 1977, or the average number of acres irrigated during the years 1972 through 1976, whichever is greater.
- B. The number of Certified Irrigated Acres for lands placed under irrigation after May 1, 1978, shall be



determined by the Board at a public meeting after consideration of the following criteria.

1. Local F.S.A. records, if available.
  2. County Assessors records, if available.
  3. Suitable aerial photographs.
  4. Evidence adduced by the groundwater user or the District at any public meeting of the Board.
- C. Certified Irrigated Tracts shall be identified by government survey descriptions. In all cases the description of each groundwater user's irrigated tract, or tracts, as contained in any recorded deed, or lease, shall be definitive.
- D. No Certified Irrigated Tract may exceed 640 contiguous acres.

**Supplemental Rule 4**

**CRITICAL TOWNSHIPS**

*{See also Rules and Regulations (R&R), especially Rule 4 "Critical Townships", page 4, R&R.}*

- A. The saturated thickness of the aquifer shall be the average saturated thickness of the aquifer for the three-year period ending with spring observation and March continuous recorder well groundwater level measurements throughout the Management Area. The groundwater table shall be determined by averaging the annual groundwater measurement for the three-year period ending with spring observation and March continuous recorder well measurements. Computations made shall be made by the "water level contouring procedure". Continuous recorder well shall mean a well installed for continuous recording of groundwater levels; and an observation well shall mean an irrigation, domestic, industrial, or other well measured for groundwater table changes by the District each spring and fall.
- B. On September 1, 2002, the following Townships are designated, or remain designated as critical:

<u>Township North</u>	<u>Range West</u>	<u>Dundy County Date Designated or Re-Designated</u>	<u>Minimum Period Ends</u>
1	37	2002	2007
1	38	2003	2008
1	39	2001	2006
2	36	2000	2005
2	37	2002	2007
2	38	2002	2007
2	39	2003	2008
2	40	1999	2004
2	41	1999	2004
2	42	1999	2004
3	37	2002	2007
3	38	2001	2006
3	39	2001	2006
3	40	2002	2007
3	41	1999	2004
3	42	1999	2004
4	36	2003	2008
4	37	2001	2006
4	38	2002	2007

<u>Township North</u>	<u>Range West</u>	<u>Date Designated or Re-Designated</u>	<u>Minimum Period Ends</u>
4	39	2002	2007
4	40	2002	2007
4	41	2002	2007
4	42	2003	2008

**Chase County**

<u>Township North</u>	<u>Range West</u>	<u>Date Designated or Re-Designated</u>	<u>Minimum Period Ends</u>
5	37	1999	2004
5	38	2000	2005
5	39	1999	2004
5	40	1999	2004
5	41	2002	2007
5	42	2003	2008
6	37	2001	2006
6	38	2001	2006
6	39	2000	2005
6	40	1999	2004
6	41	2002	2007
6	42	2002	2007
7	36	2002	2007
7	37	2001	2006
7	38	2000	2005
7	39	1999	2004
7	40	2003	2008
7	41	2002	2007
7	42	2002	2007
8	36	2001	2006
8	37	2001	2006
8	38	2001	2006
8	39	2000	2005
8	40	2001	2006
8	41	2002	2007
8	42	2002	2007

**Perkins County**

<u>Township North</u>	<u>Range West</u>	<u>Date Designated or Re-Designated</u>	<u>Minimum Period Ends</u>
9	35	2001	2006
9	36	2002	2007
9	37	2002	2007
9	38	2003	2008
9	39	2003	2008
9	40	2002	2007
9	41	2003	2008
10	35	2003	2008
10	36	2003	2008
10	37	2001	2006
10	38	2001	2006

<u>Township North</u>	<u>Range West</u>	<u>Date Designated or Re-Designated</u>	<u>Minimum Period Ends</u>
10	39	2001	2006
10	40	2001	2006
10	41	2001	2006
11	35	2003	2008
11	36	2003	2008
11	37	2001	2006
11	38	2001	2006
11	39	2001	2006
11	40	2001	2006
11	41	2001	2006
12	35	2002	2007
12	36	2001	2006
12	37	2001	2006
12	38	2001	2006
12	39	2001	2006
12	40	2002	2007
12	41	2000	2005

**Supplemental Rule 5**

**WELL SPACING**

*{See also Rules and Regulations (R&R), especially Rule 5 "Well Spacing", page 5, R&R.}*

The following regulation applies to the spacing of all wells subject to these rules and regulations and receiving permits from the Upper Republican Natural Resources District.

**(PLEASE SEE TABLE ON NEXT PAGE FOR DETAILS)**

## MINIMUM SPACING REQUIREMENTS FOR WELLS DRILLED AFTER AUGUST 31, 1999

TYPE OF NEW WELL	NEW WELLS		REPLACEMENT WELLS			
	Non-Critical Townships	Critical Townships	Non-Critical Townships		Critical Townships	
			Well to be replaced is not within 1320 feet of another land owner's well(s)	Well to be replaced is within 1320 feet of another land owner's well(s)	Well to be replaced is not within 1320 feet of a domestic or livestock well, or 5280 feet of any other well(s) belonging to another land owner	Well to be replaced is within 1320 feet of a domestic or livestock well, or 5280 feet of any other well(s) belonging to another land owner
	----- Minimum distance to any well(s) belonging to another land owner -----					
Domestic	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Livestock	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Commercial Livestock	1320 feet from well(s) owned by others	1320 feet from domestic and livestock wells & 5280 feet from all other well(s) owned by others	1320 feet from domestic, livestock, irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced	1320 feet from domestic or livestock well, and 5280 feet from irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced
Irrigation	1320 feet from well(s) owned by others	1320 feet from domestic and livestock wells & 5280 feet from all other well(s) owned by others	1320 feet from domestic, livestock, irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced	1320 feet from domestic or livestock well, and 5280 feet from irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced
Industrial	1320 feet from well(s) owned by others	1320 feet from domestic and livestock wells & 5280 feet from all other well(s) owned by others	1320 feet from domestic, livestock, irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced	1320 feet from domestic or livestock well, and 5280 feet from irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced
Municipal	1320 feet from well(s) owned by others	1320 feet from domestic and livestock wells & 5280 feet from all other well(s) owned by others	1320 feet from domestic, livestock, irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced	1320 feet from domestic or livestock well, and 5280 feet from irrigation, industrial, commercial livestock, or municipal well(s) owned by others	Replacement well must be drilled within 150 ft of well to be replaced

## Supplemental Rule 9

## ALLOCATIONS OF GROUNDWATER

*{See also Rules and Regulations (R&R), especially Rule 9 "Allocations of Groundwater" pages 7 & 8, R&R. }*

- A. A basic allocation of 72.5 acre inches per Certified Irrigated Acre shall be granted for the 5-year allocation period.
1. The amount of carryforward for each Certified Irrigated Tract shall be determined on December 31, of the last year of the allocation period.
  2. The carryforward so determined may be used by the groundwater user owning or controlling the irrigated tract in any manner not otherwise prohibited by these rules and regulations.
  3. Certified Acres irrigated by wells in service for the entire allocation period shall receive the basic allocation.
  4. Certified Acres irrigated by wells drilled and equipped after commencement of the allocation period shall receive a reduced allocation. The reduction shall be computed as follows:
    - a. The basic allocation shall be divided by the number of calendar years in the allocation period.
    - b. Acres irrigated by wells drilled and equipped prior to July 1 of any calendar year during the allocation period shall not receive an allocation for any prior year, but shall receive a full allocation for that year.
    - c. Acres irrigated by wells drilled and equipped between July 1 and August 31 of any calendar year in the allocation period shall not receive an allocation for any prior year and shall receive one-half of that year's allocation.
    - d. Acres irrigated by wells drilled and equipped after August 31 of any calendar year during the allocation period shall not receive an allocation for any prior year, nor for that year.
- B. Acres being removed from the Federal Conservation Reserve program shall be granted the carryforward allocated to the acres at the time of enrollment, provided:
1. Such acres were equipped to be irrigated at the time they were enrolled in the Conservation Reserve Program.
  2. Upon removal from the Conservation Reserve Program such acres shall then be considered as acres becoming first irrigated on the day said acres are re-equipped to be irrigated, and an allocation for the remaining portion of the relevant allocation period shall be determined.
- C. The carryforward so determined may be used by the groundwater user owning or controlling the irrigated tract in any manner not otherwise prohibited by these rules and regulations.
- D. Each municipality using groundwater withdrawn from the Management Area is hereby granted without further application, an allocation of groundwater for each calendar year beginning with 1988, computed as follows:
1. An allocation of gallons equal to the number produced by multiplying the population of the municipality as determined by the most recent Federal Census by 91,260; and
  2. An additional allocation of acre inches stated in gallons equal to the number produced by multiplying one third (1/3) of the non-agricultural acres of land within the municipality by the annualized allocation for irrigated acres as stated in Paragraph A. Each municipality shall report the total number of non-agricultural acres within its limits to the Board at the time of any annexation or elimination of territory to or from its limits.

E. For every flowmeter under the ownership or control of each groundwater user, the District Staff shall take the final meter reading no sooner than September 15, and not later than December 31, of the same year on forms provided by the District. In addition, the District shall make random year-end meter readings as well as spot checks during the irrigation season. The District will, after year-end readings, notify each groundwater user of the amount of water withdrawn during the foregoing year and the amount of carryforward and allocation remaining.

#### Supplemental Rule 11

#### TRANSFERS

*{See also Rules and Regulations (R&R), especially Rule 11 "Transfers", page 9, R&R}*

Transfers of allocations from a Tract or for a use for which the same has been granted to another tract or use may be accomplished only under the following conditions:

- A. The tracts must be under the ownership or control of the same groundwater user except as provided for in Rule 12, Order No.26. No transfer may occur without the knowledge and consent of the owners of all lands involved, including any lands over which the groundwater is transported.
- B. Groundwater allocations in non-critical townships may not be transferred to tracts within Critical Townships.

#### Supplemental Rule 13

#### GROUND WATER QUALITY

*{See also Rules and Regulations (R&R), especially Rule 13 "Groundwater Quality", page 9, R&R.}*

Definitions:

- A. Contamination or Contamination of Groundwater shall mean nitrates or other material that enter the ground water due to action of any person and cause degradation of the quality of ground water sufficient to make such ground water unsuitable for present or reasonably foreseeable beneficial uses.
- B. Subirrigation or Subirrigated Land shall mean the natural occurrence of a ground water table within the root zone of agricultural vegetation, not exceeding ten feet below the surface of the ground.
- C. Best Management Practices shall mean schedules of activities, maintenance, procedures, and other management practices utilized to prevent or reduce present and future contamination of ground water which may include irrigation scheduling, proper timing of fertilizer and pesticide application and other fertilizer and pesticide management programs.
- D. Point Source shall mean any discernible, confined and discreet conveyance, including, but not limited to, any pipe, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, vessel, other floating craft, or other conveyance, over which the Department of Environmental Quality has regulatory authority and from which a substance which can cause or contribute to contamination of ground water is being or may be discharged.
- E. Rotation shall mean a recurring series of use and non-use of an irrigation well on an hourly, daily, weekly, monthly, or yearly basis.

- F. Phase I shall mean all areas within the District in which levels of nitrate nitrogen contamination, or any contaminant harmful to health or the environment is 0% to 40% of, the allowable level as determined by the Nebraska Department of Environmental Quality. On the effective date of this Order the entire territory of the Upper Republican Natural Resources District is Phase I.
- G. Phase II shall mean all areas within the District boundaries so designated by the Board in which levels of nitrate nitrogen contamination, or any contaminant harmful to health or the environment, are over 40%, but less than 60%, of the allowable level as determined by the Nebraska Department of Environmental Quality. Phase II areas shall be designated only after dissemination to the public the boundaries of such proposed areas and the rules and regulations pertaining thereto and the conduct of one or more public information meetings followed by a public hearing after which the Board may designate Phase II areas of not less than 6 square miles with rules and regulations pertaining to ground water quality in such areas.
- H. Phase III shall mean all areas within the District boundaries so designated by the Board in which levels of nitrate nitrogen contamination, or any contaminant harmful to health or the environment are 60%, or over, of the allowable level as determined by the Nebraska Department of Environmental Quality. Phase III areas shall be designated only after dissemination to the public of the boundaries of such proposed areas and the rules and regulations pertaining thereto and the conduct of one or more public information meetings followed by a public hearing after which the Board may designate Phase III areas of not less than 6 square miles with rules and regulations pertaining to ground water quality in such areas.
- I. Certified Laboratory shall mean any laboratory within or outside the State of Nebraska certified and approved by the Nebraska Department of Environmental Quality.
- J. Ground Water Quality Controls shall mean the rules and regulations which may be proposed or adopted for ground water quality and based on the three (3) phase program defined above.
- K. Chemical means any fertilizer, fungicide, herbicide, or pesticide mixed with the water supply.
- L. Fertilizer means any formulation or product used as a plant nutrient, which is distributed on lands in the District, and/or intended to promote plant growth, and contains one or more plant nutrients recognized by the Association of American Plant Food Control Officials in its official publications.

#### Implementation Processes and Procedures:

Deep soil testing, ground water well testing and standard soil sampling will be used to determine contaminant levels throughout the district and to determine the geographic and stratigraphic boundaries of any territory for which controls for ground water quality may be proposed.

- A. Controls, rules, and regulations that may be proposed for ground water quality will be based on a three-phase program. Phase I shall include all territory in which levels of nitrate nitrogen contamination, or any contaminant harmful to health or the environment, are 0% to 40% of the allowable level as determined by the Nebraska Department of Environmental Quality. Phase II shall include all territory in which levels of nitrate nitrogen contamination, or any contaminant harmful to health or the environment is over 40%, but less than 60%, of the allowable level as determined by the Nebraska Department of Environmental Quality. Phase III shall include all territory in which levels of nitrate nitrogen contamination, or any contaminants harmful to health or the environment, is 60%, or over, of the allowable level as determined by the Nebraska Department of Environmental Quality.
- B. In Phase I territories yearly monitoring ground water samples will be conducted by the District.

- C. When it is determined by the District, or there is reasonable cause to believe that the identified contamination is point source contamination; the District will request the Nebraska Department of Environmental Quality to make a determination if the contamination is point source.
- D. The District will take ground water and deep soil samples to determine whether ground water is contaminated. Ground water samples will be taken in not less than fifty (50) locations throughout the District. If a particular sample indicates contamination in excess of the levels established for Phase II or Phase III, the District will take a minimum of twelve (12) additional ground water samples in a radius of three (3) miles or the identified contamination. The District will make a map of the subject area divided into four (4) equal areas from the location of the ground water sample source, which shows contamination. The total area of said map would be approximately 6 miles square. Should 26% of the not less than twelve (12) samples taken indicate contamination of more than 40% of the allowable level is determined by the Nebraska Department of Environmental Quality, the subject shall become designated a Phase II area. Should 26% of the not less than twelve (12) samples taken indicate contamination of 60%, or more of the allowable level as determined by the Nebraska Department of Environmental Quality, the subject shall become designated a Phase III area. If villages, cities or towns lie in the said three- (3) mile radius, the water samples shall be taken the municipal wells as one of the required twelve (12) samples.
- E. The District will initiate education programs for ground water users regarding non-point and point source pollution.
- F. The District will initiate a ground water quality study which will include deep soil testing, ground water sampling to identify types of contamination, identification of the best management practices to control contamination, and other research as funds become available.
- G. In Phase II areas the District may:
1. Require ground water users to take nitrate nitrogen and irrigation management training and education.
  2. Implement irrigation scheduling.
  3. Require ground water users to limit commercial fertilizer applications to University of Nebraska published recommendations.
  4. Require that soil samples be taken to determine nitrates remaining in the soil at 1, 2 and 3 foot levels.
  5. Require nitrogen application use be reported to the District on forms to be provided.
  6. Require all types of commercial fertilizer use to be reported to the District on forms to be provided
- H. In Phase III areas the District may:
1. Implement any rule, regulation or control authorized for Phase II areas.
  2. Restrict the use of fall and winter application of commercial nitrogen fertilizers in designated fields for spring planted crops unless inhibitors approved by the District are used in conjunction with such applications.
  3. Implement other restrictions on chemical use as determined necessary or advisable by investigations, studies, or research.
- I. All Areas in the District are considered as Phase I areas at least until September 1, 2003.



{See also Rules and Regulations (R&R), especially Rule 17 "General Enforcement Provisions", page 10, R&R.}

The District shall enforce the provisions of the Groundwater Management and Protection Act, and all rules and regulations adopted pursuant thereto by the issuance of cease and desist orders and by bringing, or defending, appropriate actions in the district court of the county in which any violations occur for enforcement of such orders. Cease and desist orders may be issued for any violation of any rule or regulation of the District.

- A. Any person within the District, or the Board on its own motion, may file a written complaint. Complaints shall be filed at the District office, 135 West 5th Street, Imperial, Nebraska. 69033.
- B. The District shall investigate the alleged violation. Upon completion of the investigation, the District Staff shall file a report with the Board and deliver copies of the report to the alleged violator and to the complainant, if other than the Board, in person, or shall transmit the same by certified mail.
- C. If the District staff finds there is reasonable cause to believe that a groundwater user is at the time of investigation, or was at the time complained of, in violation of District rules and regulations, then said report shall be accompanied by a formal notice of the alternative actions available to the alleged violator. Alternative actions available to the person complained against shall be:
  1. Agree with and accept as true and correct the District staffs findings that the alleged violation has in fact occurred or is occurring, consent to cease and desist from continuing or allowing the reoccurrence of such violation, and submit a plan and schedule of compliance. The District shall determine whether the plan and schedule will bring that user into compliance with District rules and regulations. If the Board determines that the proposed plan and schedule are adequate, it shall approve such plan and schedule of compliance.
  2. Reject the findings of the report, and within 30 days request a formal adjudicatory hearing.
- D. The Board shall notify the person filing the complaint of any action. If no objections to the action of the Board are received, the action of the Board on the written complaint shall be considered as final.
- E. If the person filing the complaint objects to the Board action, he may within 30 days of the Board action, request a formal adjudicatory hearing.
- F. An official record shall be made of the formal adjudicatory hearing requested by the alleged violator, by the complainant, or by the Board on its own motion. The Board shall deliberate the record and take action on the issue. The recourse to Board action by either the complainant or the alleged violator is by appeal with the district court
- G. When an alleged violator has been notified of Board action and such alleged violator has failed to respond thereunder, or has failed to appear at any properly scheduled formal adjudicatory hearing, the Board shall:
  1. Review the complaint and the report, as well as any other pertinent information; and
  2. Issue such order or orders in accordance with these rules and regulations, as it deems appropriate.

## Supplemental Rule 18

## FORMAL ADJUDICATORY HEARINGS

*{See also Rules and Regulations (R&R), especially Rule 18 "Formal Adjudicatory Hearings", page 11, R&R.}*

- A. Formal Adjudicatory Hearings will be conducted by the District for the following purposes:
  - 1. Any purpose set out in the Rules and Regulations of the District or in the Technical Manual, which is in effect in concert therewith.
  - 2. From an adverse decision on a request for variance when judicial review will be sought by the applicant for said variance.
  - 3. To resolve disputes between groundwater users or others, pertaining to illegal irrigation groundwater run off or any other dispute on a majority vote by the Board of Directors.
  - 4. Prior to the issuance of a cease and desist order on a majority vote of the Board of Directors.
- B. Any groundwater user aggrieved by any action of the District may request a formal adjudicatory hearing within 30 days of the action complained of.
- C. A hearing examiner shall conduct formal hearings. The presence of Board members shall not be required at any hearing. The hearing examiner shall be a person deemed to be knowledgeable in the procedures set out in these rules and regulations and shall conduct the hearing in a manner that provides fairness to all parties.
- D. The District shall prepare a notice setting the time and place of the formal hearing.
- E. The Board may grant continuances and the Board may at any time order a continuance on its own Motion.
- F. The Board may require stipulations on procedure to define the issues, or for any purpose designed to expedite the matter or to insure substantial due process or fairness.
- G. Ordinarily, opening statements and/or oral arguments following the close of the presentation of evidence will be permitted only insofar as such statements and/or arguments relate to the presentation and explanation of evidence.
- H. Submission of briefs may be requested or permitted by the Board
- I. An official record of any official hearing conducted pursuant to statute or the rules and regulations of the Board shall be preserved in the official record taken at the hearing. Such records shall include all testimony and exhibits presented at the hearing. Such record shall whenever possible be kept by a court reporter to be procured by the District. Such record or a copy thereof shall be kept on file in the office of the District. The costs of the record and the hearing examiner, and other related costs may be assessed against the unsuccessful party or parties either after a final decision is rendered by the Board, or after the conclusion of any litigation that may ensue.
- J. The Board may deliberate the record as a quasi-judicial body under the provisions of 84-1409(i)(ii), R.R.S. without complying with the Nebraska public meetings laws.
- K. All orders and decisions of the Board shall be transmitted to the parties directly involved in the hearing by certified mail.
- L. The Board may at any time order the District staff to make an investigation into any matter within the jurisdiction of the Board or order any hearing which the Board is authorized either by law or inherent power to conduct. In the event of an investigation, the Board may request the attendance of any party.

**Supplemental Rule 19      DISTRICT TECHNICAL MANUAL**

All contents of Part IV, Supplemental Rules and Regulations herein of the District Technical Manual are incorporated into, and considered an integral part of the District groundwater rules and regulations, and are applicable in concert with the Rules and Regulations for Groundwater Control of the Upper Republican Natural Resources District Management Area - Order No.26 (R&R).

**Supplemental Rule 20      SEVERABILITY OF RULES**

If any part of this District Technical Manual or any rule or part of any rule in the Rules and Regulations for Groundwater Control of the District shall be declared invalid or unconstitutional, such declaration shall not affect the validity or constitutionality of the remaining portions thereof.

Adopted this 11th day of April 2003.

This Technical Manual for the Upper Republican Natural Resources District shall be effective in concert with the Rules and Regulations for Groundwater Control of the Upper Republican Natural Resources District Management Area (Order No.26), commencing May 8, 2003.

**UPPER REPUBLICAN NATURAL RESOURCES DISTRICT**

By \_\_\_\_\_  
Robert Ambrosek, Chairman

**ATTEST:**

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Kenneth E. Owens, Secretary