

**Upper Elkhorn Natural Resources District
Ground Water Management Plan
Rules & Regulations**



**FOR THE ENFORCEMENT OF THE NEBRASKA GROUND WATER
MANAGEMENT AND PROTECTION ACT**

**(Order issued on March 27, 2017 and become effective May 1, 2017)
(Order issued on December 18, 2017 and become effective February 1, 2018)
(Order issued on December 17, 2018 and become effective February 1, 2019)**

RULES & REGULATIONS
FOR THE ENFORCEMENT OF THE NEBRASKA GROUND WATER
MANAGEMENT AND PROTECTION ACT
Adopted by the Upper Elkhorn Natural Resources District

GENERAL PROVISIONS AND PROCEDURES FOR ENFORCEMENT

- 1. AUTHORITY** – These rules and regulations are adopted pursuant to the authority granted in, the Nebraska Ground Water Management and Protection Act (Act), Neb. Rev. Stat. §§ 46-701 to 46-754.
- 2. PURPOSE** – The purpose of these rules and regulations is to implement the Upper Elkhorn Natural Resources District’s (UENRD) Ground Water Management Plan (GWMP or Plan). The Act provides authority to the District to establish a Ground Water Management Area (GWMA) to protect ground water quality and quantity and for the prevention or resolution of conflicts between users of ground water and appropriators of surface water, which ground water and surface water are hydrologically connected. The District-wide GWMA, which was originally for the purpose of protecting ground water quality, will, in the future, also facilitate the proper management of ground water with respect to issues concerning quantity and integrated management. The Upper Elkhorn NRD was designated as a water quality management area on June 1, 1997.
- 3. APPLICABILITY – Creation of Areas:** These rules and regulations apply to all lands within the District which have been designated as the District-wide GWMA, LB962-04 (fully appropriated) and LB483-09 Designations. The GWMA and associated rules and regulations originally became effective on January 1, 1997 and LB483 rules in July 27, 2009. The controls adopted pursuant to the authority in the Act are set forth beginning with Rule 13 of these rules and regulations.
- 4. MAPS** – A map of the area subject to the District-wide GWMA is attached to these rules and regulations. Maps of Phase areas and/or sub districts (Map A) and the Fully Appropriated Areas or LB483 (Map B) areas are also attached to these rules and regulations.

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RULE 1

DEFINITIONS:

- 1.0 **Abandoned Water Well** - shall mean any water well 1) the use of which has been accomplished or permanently discontinued, 2) which has been decommissioned as described in the rules and regulations of the Nebraska Department of Health and Human Services Regulation and Licensure, and 3) for which notice of abandonment required by Neb. Rev. Stat. § 46-602(8) has been filed with the Nebraska Department of Natural Resources by the licensed water well contractor or pump installation contractor who decommissioned the water well or by the water well owner if the owner decommissioned the water well.
- 1.1 **Act** - shall mean the Nebraska Ground Water Management and Protection Act.
- 1.2 **Active Status Water Well** - shall mean a water well that is actively engaging in the intended purpose of operation and is not an illegal water well.
- 1.3 **Alleged Violator** - shall mean the ground water user, landowner, or operator of the land who allegedly has failed to comply with any of these rules and regulations.
- 1.4 **Application for a Late Permit** - shall mean an application for a water well construction permit that was not timely filed. Such permit shall be reviewed by the District in accordance with Neb. Rev. Stat. § 46-736.
- 1.5 **Application for a Water Well Construction Permit** - shall mean an application on a form supplied by the District for the construction of a water well in accordance with Neb. Rev. Stat. §§ 46-735 through 46-738.
- 1.6 **Best Management Practices** - shall mean schedules of activities, maintenance procedures, and other management practices utilized for purposes of irrigation efficiency, to conserve or affect a savings of ground water, or to prevent or reduce present and future contamination of ground water. Best management practices relating to contamination of ground water may include, but not be limited to, irrigation scheduling, proper rate and timing of fertilizer application, and other fertilizer and pesticide management programs. In determining the rate of fertilizer application, the District shall consult with the University of Nebraska or a certified crop advisor certified by the American Society of Agronomy.
- 1.7 **Board, Board of Directors, or Directors** - shall mean the Board of Directors of the Upper Elkhorn Natural Resources District and/or its employees and agents *acting at the direction* of the Board of Directors.
- 1.8 **Certification** - shall mean a current certificate of completion issued by the District to the operator for completion of the necessary educational programs outlined by the District.
- 1.9 **Certified Irrigated Acre** - shall mean any acre of land for which the landowner has provided District approved documentation and which has been approved by the Board for the application of ground water.

- 1.10 Certified Operator** - shall mean the person or persons responsible for making decisions on any type of applications of nitrogen fertilizer on an area greater than one (1) acre and applying more than fifty (50) pounds per acre of actual nitrogen fertilizer on any agricultural land within the Upper Elkhorn Natural Resources District, either commercially or privately, who must be certified by the District once every four (4) years by attending and participating in a nitrogen certification class given by the District or by neighboring natural resources districts, pending approval by the Board. After the initial certification and if an operator needs to recertify and cannot attend the scheduled classes a take home test or on-line certification will be available. A passing score of 70% will be required.
- 1.11 Commencement of Construction** – means the beginning of the boring, drilling jetting, digging, or excavation of the actual water well from which ground water is to be withdrawn.
- 1.12 Commingled Wells** - shall mean two (2) or more ground water wells that are commingled, combined, clustered, or joined and shall be considered for the purpose of these rules and regulations as one (1) water well. Other than a water source used to water range livestock, the combined capacity of commingled water wells shall require a water well construction permit pursuant to these rules and regulations and shall be subject to the same rules and regulations as any water well located within the District.
- 1.13 Complainant** - shall mean any person who files a complaint alleging violation of these rules and regulations in accordance with Rule 3.
- 1.14 Compliance Officer** - shall mean an employee, agent, or director of the District authorized to perform the functions assigned thereto by these rules and regulations.
- 1.15 Consumptive Use** - shall mean the amount of water that is consumed under appropriate and reasonably efficient practices to accomplish without waste the purposes for which the appropriation or other legally permitted use is lawfully made.
- 1.16 Contamination or contamination of ground water** – shall mean nitrate-nitrogen or other material, which enters the ground water due to the action of any person and causes degradation of the quality of ground water sufficient to make such ground water unsuitable for present or reasonably foreseeable beneficial uses.
- 1.17 Controls** – means any requirement, obligation, duty, or restriction placed upon a landowner and/or operator of the land by these rules and regulations.
- 1.18 County Tax Record** - shall mean a property valuation completed by each county and certified by an official county employee that has a recorded amount of irrigated acres located for each landowner in the District.
- 1.19 Decommission** - when used in relation to a water well, shall mean the act of filling, sealing, and plugging water well in accordance with the Department of Health and Human Services Regulation and Licensure rules and regulations.
- 1.20 Department, or NeDNR** – means the Nebraska Department of Natural Resources

- 1.21 Dewatering Water Well** - shall mean a water well constructed and used solely for the purpose of lowering the ground water table elevation.
- 1.22 District or UENRD** - shall mean the Upper Elkhorn Natural Resources District.
- 1.23 Domestic Water Well** - shall mean a water well designed and constructed to pump fifty (50) gallons per minute or less, used by a person or by a family unit or household for normal household uses and for the irrigation of lands not exceeding two (2) acres in area for the growing of gardens, orchards, and lawns, and keeping domestic animals. Domestic water wells are exempt from the application of these rules and regulations.
- 1.24 Educational Programs** - shall mean informational and educational training sessions designed to acquaint landowners and/or operators with best management practices in the operation of their irrigation and cropping systems.
- 1.25 Flow Meter or Meter** – means a device of a type or design approved by the Board, which measures the total amount of ground water withdrawn, and is installed, operated and maintained according to manufacturer’s specifications.
- 1.26 Formal Notice** - shall mean written notice provided from the District to an alleged violator of an alleged violation of the Ground Water Management Area rules and regulations.
- 1.27 Fully Appropriated Area** – shall mean the area of the UENRD that has been determined to be fully appropriated by the Nebraska Department of Natural Resources.
- 1.28 Good Cause Shown** - shall mean a reasonable justification for granting a variance for a consumptive use of water that would otherwise be prohibited by rule or regulation and which the District reasonably and in good faith believes will provide an economic, environmental, social, or public health and safety benefit that is equal to or greater than the benefit resulting from the rule or regulation from which a variance is sought. Evidence of good cause shown and the subsequent variance must be presented by the requesting landowner in front of the Board, and determination of good cause shown will be left to the discretion of the Board.
- 1.29 Ground Water** - shall mean that water which occurs in or moves, seeps, filters, or percolates through ground under the surface of the land.
- 1.30 Groundwater Reservoir Life Goal** – shall be the goal of the District to protect the quality and quantity of ground water, and to support reasonable and beneficial uses for the District’s ground water for an infinite period of time.
- 1.31 Ground Water User** - shall mean a person who at any time pumps, extracts, withdraws, or confines ground water at a rate greater than fifty (50) gallons per minute for any use, except for livestock, by him/herself or allows such use by other persons. Whenever the landowner and operator are different, ground water user shall mean both the landowner and the operator.
- (a) Agricultural user means a ground water user who uses ground water for livestock, irrigation or other purposes, which requires pumping ground water to the surface of the land.

- (b) Municipal user means a ground water user that is an incorporated city or village, rural water district or sanitary improvement district, or other public water system that withdraws ground water from a water well to serve its customers.
- (c) Other user means a ground water user that uses ground water for purposes other than those described in the definitions of agricultural and municipal user and includes, but is not limited to; recreational, wildlife, manufacturing and industrial uses.

1.32 Helper Water Well - shall mean any water well or wells that is used in conjunction with other irrigation well(s) and is used for the purpose of supplementing the rate of withdrawal, in gallons per minute, of the irrigation well or series of irrigation wells without increasing the number of acres irrigated.

1.33 High Capacity Livestock Well – means a well or commingled wells with pumping capacity of over 50 gallons per minute that is used for the watering of livestock and other uses of water directly related to the operation of a feedlot or other confined livestock or dairy operation.

1.34 Historically Irrigated Acre – for purposes of Rule 22, shall mean any acre of land with required documentation proving that it was historically supplied with ground water through irrigation works, mechanisms, or facilities.

1.35 Hydrologic Unit Code (HUC) - USDA/NRCS 10-Hydrologic Unit Code

1.36 Illegal Water Well - shall mean

- a. Any water well operated or constructed without or in violation of a permit required by the Act;
- b. Any water well not in compliance with the rules and regulations adopted and promulgated pursuant to the Act;
- c. Any water well not properly registered in accordance with Neb. Rev. Stat. §§ 46-602 to 46-604; or
- d. Any water well in violation of spacing requirements specified in the District’s Water Well Permit Restrictions or by Neb. Rev. Stat. 46-609 and 46-651
- e. Any water well used for the application of chemical materials in violation of Neb. Rev. Stat. 46-1011 to 46-1148 as such statutes may be amended and supplemented, and such rules and regulations as may be adopted from time to time by the Nebraska Department of Environmental Quality.
- f. Any water well located within fifty (50) feet of the bank of any natural stream and used for irrigation purposes without a permit issued pursuant to Neb. Rev. Stat. 46-637 and 46-735.
- g. Any well or pit from which water is transported to an adjoining state in violation of Neb. Rev. Stat 46-613.01 and
- h. Any well from which water flows under natural pressure in excess of the amounts specified in Neb. Rev. Stat. 46-281.
- i. Any water well not in compliance with other applicable laws of the State of Nebraska or with rules and regulations adopted and promulgated pursuant to such laws.

1.37 Improper Irrigation Runoff - shall mean the occurrence of irrigation runoff water after January 1, 1977, which causes or contributes to (a) the accumulation of water upon or beneath the surface of the lands of any other person(s) to their detriment; or (b) the deterioration of water quality by depositing sediment and/or associated chemicals in surface waters within the area.

- 1.38 Inactive Status Water Well** - shall mean a water well that is not currently in use and is in a good state of repair and for which the landowner has provided evidence of intent for future use by maintaining the water well in a manner which meets the following requirements:
- a. The water well does not allow impairment of the water quality in the water well or of the ground water encountered by the well;
 - b. The top of the water well or water well casing has a water-tight welded or threaded cover or some other water-tight means to prevent its removal without the use of equipment or tools to prevent unauthorized access, to prevent a safety hazard to humans and animals, and to prevent illegal disposal of wastes or contaminants into the well water;
 - c. The pump and the pumping column have been removed;
 - d. All entrances and discharge piping to the water well are effectively sealed to prevent the entrance of contaminants; and
 - e. The water well is marked so as to be easily visible and located and is labeled or otherwise marked so as to be easily identified as a water well and the area surrounding the water well is kept clear of brush, debris and waste material.
- 1.39 Industrial or Commercial Water Well** - shall mean any water well or series of wells that pumps ground water at a rate in excess of fifty (50) gallons per minute for use in non-municipal manufacturing, commercial, and/or power generation. Commercial use shall include, but not be limited to, maintenance of the turf of a golf course and injection wells.
- 1.40 Information and Education** –Information and Education means the collection, compilation and dissemination of ground water data as well as training, demonstration and educational instruction.
- 1.41 Inspector** - shall mean an employee, agent, or director of the District authorized to perform the functions assigned thereto by these rules and regulations.
- 1.42 Irrigated Acre** - shall mean any acre of land that is being supplied with ground water through irrigation works, mechanisms, or facilities.
- 1.43 Irrigation Run-off Water** - shall mean ground water used for irrigation purposes which escapes from land owned, leased, or otherwise under the direct supervision and control of a ground water user.
- 1.44 Irrigation Distribution System** - shall mean the necessary appurtenances to a water well(s), including the pump to convey irrigation water to irrigated acres. This includes, but is not limited to, any combination of set-move, solid-set, traveler, center pivot, or linear move sprinkler system(s), subsurface drip system, and gravity, furrow, border, or flood irrigation utilizing water from a ditch, canal, reuse pit, ground water excavation pit, or pipe.
- 1.45 Irrigation Water Well** - shall mean any water well pumping greater than fifty (50) gallons per minute that pumps ground water through irrigation works, mechanisms, or facilities.
- 1.46 Landowner** - shall mean any person who owns or is the power of attorney.
- 1.47 Livestock Operation** - shall mean 1) livestock kept in buildings, lots or pens, which normally are not used for the growing of crops or vegetation; 2) any livestock kept in any livestock facility that is

required by the Livestock Waste Management Act or state livestock waste regulations to obtain a permit from the Department of Environmental Quality; or 3) livestock which are confined for more than ninety (90) days per year. Livestock operation shall not mean livestock that are kept in pastures, on rangeland, or on other grazing lands and allowed to feed on vegetation growing therein.

- 1.48 Livestock Operation Water Well** - shall mean any water well or series of wells pumping greater than fifty (50) gallons per minute that is used as a ground water source for a livestock operation.
- 1.49 Management Area** - shall mean any area designated by the District pursuant to Neb. Rev. Stat. § 46-712.
- 1.50 Management Plan or Plan** – means the ground water management plan developed and maintained by a Natural Resources District and approved by the Department of Natural Resources pursuant to Neb. Rev. Stat. 46-709 to 46-711.
- 1.51 Maximum Contaminant Level or MCL** – shall mean the maximum permissible level of a contaminant in water, which is delivered to any user of a public, or private water system as established by the Environmental Protection Agency (EPA). The MCL represents a level of a contaminant beyond which serious health problems have occurred or can occur.
- 1.52 Means to Irrigate** – shall mean the landowner is in possession of an Irrigation Distribution System.
- 1.53 Monitoring Period** – means the period of time which ground water information is collected and analyzed for making management decisions.
- 1.54 Monitoring Water Well** - shall mean a water well that is designed and constructed to provide ongoing hydrologic or water quality information and is not intended for consumptive use.
- 1.55 Municipal Well** – shall mean any water well or series of wells pumping greater than fifty (50) gallons per minute which is owned by a municipality and is used for municipal purposes.
- 1.56 Nitrogen Fertilizer** – shall mean livestock waste or chemical compound in which the percentage of nitrogen is greater than the percentage of any other nutrient in the compound or, when applied, results in an average application rate of more than fifty (50) pounds of nitrogen per acre over the field to which it is being applied.
- 1.57 Non-regulated Well** – shall mean a ground water well designed and constructed to pump fifty (50) gallons per minute or less, unless it is a Commingled Well utilized for range/pasture management.
- 1.58 Non-Point Source Contamination** – shall mean any source of pollution resulting from the dissolution and disbursement of widespread, relatively uniform contaminants of a nonspecific origin.
- 1.59 Observation Water Well** - shall mean a water well that has been cased and is used for the purpose of monitoring static water levels and quality parameters.
- 1.60 Offset** – shall mean the transfer or retirement of water use from one source, to allow an increase in use for another source at another location.

- 1.61 Operator** - shall mean that person who has the most direct control over day-to-day operations of the land, which may include any landowner and/or any tenant.
- 1.62 Person** - shall mean a natural person, partnership, limited liability company, association, corporation, municipality, irrigation district, and any agency or political subdivision of the State of Nebraska, or a department, agency, or bureau of the United States.
- 1.63 Permit** - shall mean an approved document applied for by a person and obtained from and approved by the District, in accordance with Neb. Rev. Stat. §§ 46-735 through 46-738, Neb. Rev. Stat. §§ 46-739(1)(k), 46-742 and 46-691.03, and the District's rules and regulations for the enforcement of the Act.
- 1.64 Point source pollution** – shall mean any discernible, confined, and discrete 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 Nebraska Department of Environmental Quality has regulatory authority and from which a substance which can cause or contribute to contamination of ground water is discharging or may discharge.
- 1.65 Range Livestock** - shall mean livestock that are kept in pastures, on rangeland, or on other grazing lands and allowed to feed on vegetation growing therein.
- 1.66 Range Livestock Water Well** - shall mean water well that is used for the watering of range livestock regardless of capacity.
- 1.67 Recreational Use** – shall mean utilizing water from a Regulated Well for any form of play, amusement or relaxation.
- 1.68 Replacement Water Well** - shall mean a water well which, if the purpose is for irrigation, delivers water to the same tract of land served by the original water well and is (a) constructed to provide water for the same purpose as the original water well; (b) operating in accordance with any applicable permit from the Department and any applicable rules and regulations of the District; (c) the replacement well irrigates the same number of acres; and (d)(i) replaces a decommissioned water well within one hundred eighty (180) days after the decommissioning of the original water well; (ii) replaces a water well that has not been decommissioned but will not be used after construction of the new water well and the original water well will be decommissioned within one hundred eighty (180) days after such construction, except that in the case of a municipal water well, the original municipal water well may be used after construction of the new water well but shall be decommissioned within one year after completion of the replacement water well; or (iii) the original water well will continue to be used but will be modified and equipped within one hundred eighty (180) days after such construction of the replacement water well to pump fifty (50) gallons per minute or less and will be used only for range livestock, monitoring, observation, or any other non-consumptive or de-minimis use and approval by the District.
- 1.69 State** – shall mean the State of Nebraska
- 1.70 Sub-area** - shall mean a geographic area within the district as designated by the Board of Directors.

- 1.71 Surface Irrigation** – shall mean irrigation by gravity, furrow or flood utilizing water from a ditch, canal, pipe, or other conveyance directly to the surface of the ground. Such water is distributed across the field through a channel or furrow by the force of gravity.
- 1.72 Test Hole** - shall mean a hole designed solely for the purpose of obtaining information on hydrologic or geologic conditions.
- 1.73 Transfer of Ground Water** – means any arrangement approved by the Department and/or the Board through the granting of a permit in which the point of withdrawal, location of use, type of use, addition of type of use, or location of certified irrigated acres is altered.
- 1.74 Variance** - shall mean the approval of the District to act in a manner contrary to existing rules or regulations of the District whose rule or regulation is otherwise applicable.
- 1.75 Water Bank** – shall mean an accounting system administered by the District to track credits and debits of ground water consumptive use within the Management Area. Monetary value may be assigned to ground water for offset purposes.
- 1.76 Water Well** - shall mean any excavation that is drilled, cored, bored, washed, driven, dug, jetted or otherwise constructed for the purpose of exploring for ground water, monitoring ground water, utilizing the geothermal properties of the ground, obtaining hydrogeology information or extracting water from or injecting fluid as defined in Neb. Rev. Stat. § 81-1502 into the underground water reservoir. Water well includes any excavation made for any purpose if ground water flows into the excavation under natural pressure and a pump or other device is placed in the excavation for irrigation. For such excavations, construction means placing a pump or other device into the excavation for the purpose of withdrawing water for irrigation. Water well shall not include any excavation made for obtaining or prospecting for minerals, oil or natural gas or for inserting media to repressure minerals, oil or natural gas bearing formation regulated by the Nebraska Oil and Gas Commission or the Nuclear Regulatory Commission or any structure requiring a permit by the Department used to exercise a surface water appropriation.

RULE 2

Enforcement:

Any person who fails to comply with any of the Upper Elkhorn Natural Resources District's Rules and Regulations shall not be eligible to participate in any programs or receive payments that are administered by the District. Programs requiring compliance include but are not limited to the following: UENRD Groundwater Management Plan – Phase I & II Rules and Regulations; Chemigation Act; Irrigation Runoff and Erosion and Sediment Control. Cost share programs that may be affected due to lack of compliance include but are not limited to the following: Nebraska Soil and Water Conservation Program; Upper Elkhorn NRD Conservation Program – Land Treatment Fund; Wild Nebraska/Wildlife Habitat Improvement Program; Nebraska Buffer Strip Program; Corners for Wildlife; Liquid/NH₃ Application Program; Livestock Manure Analysis Program; Domestic Water Quality Program; Nitrogen Management Program; and , the Water Well Decommissioning Program. Anyone who is already a participant in any of these programs or may be a participant will not receive any payments as long as they fail to comply with any District Rules and Regulations.

The District shall enforce the provisions of the Nebraska Ground Water Management and Protection Act and all rules and regulations adopted pursuant thereto by issuance of a formal notice of an alleged violation and/or through the issuance of cease and desist orders, in accordance with the procedure hereinafter specified, and by bringing appropriate actions in the district court of the county in which any violations occur. Cease and desist orders may be issued for the following reasons:

- a. Construction or operation of an illegal well as defined in these rules and regulations
- b. Operation of an irrigation system in the Management Area that is in non-compliance with the allocable use of ground water as set forth in these rules and regulations.
- c. Operation of a cropping system in the Management Area in violation of the controls provided for in these rules and regulations.
- d. Operation of a cropping system in the designated Management Area without being certified in the education programs required by the District.
- e. In addition to the authority set forth in NEB. REV. STAT. §§ 46-745 and 46-746 and 46-707, the District may enforce the Management Area Rules and Regulations through voluntary compliance and/or through a formal enforcement action. In accordance with Neb. Rev. Stat 46-745 (Reissue 2004), any person who violates a cease and desist order issued by the district shall be subject to a civil penalty of not less than one thousand dollars and not more than five thousand dollars (\$5,000) for each day an intentional violation occurs.

RULE 3

Complaints:

Any person who owns land, leases land, or resides within the District, or any non-resident person, who can show that the water use of any landowner or operator within the District directly adversely affects him/her; or the District Compliance Officer; or the Board of Directors on its own motion, may file a written complaint. Said complaint shall be filed against a landowner or operator alleging a violation of these rules and regulations or other violations of laws governed by these rules and regulations.

- a. Complaints shall be filed at the office of the District at 301 N. Harrison, O'Neill, Nebraska, on complaint forms prepared and provided by the District.
- b. Forms shall be made available at such office or other offices designated by the Board of Directors.
- c. To the extent permitted by law, the District shall attempt to keep confidential the name of the person initiating the complaint.

RULE 4

Inspections:

- a. In the case of a formal, written complaint alleging a violation of these rules and regulations, a Compliance Officer may initiate an inspection to determine whether the landowner or operator is, or was, in violation of these rules and regulations.
- b. The land where the alleged violation occurred may be inspected by the Inspector within five (5) days after the complaint is filed (excluding Saturdays, Sundays, and legal holidays).
- c. The Inspector, upon proper identification and after informing the person in control of the land of the Inspector's purpose either in person, by postal mail, by telephone, by certified mail, by registered mail, or by leaving notice posted at the ground water user, landowner, or operator's last known address of the complaint, is authorized to enter upon the land, if necessary, for the purpose of making an inspection of the alleged violation.
- d. Upon completion of the inspection, the Inspector shall file a report of his/her findings in the District office and shall deliver a copy of the complaint and said report to the alleged violator and to the complainant, if other than the Compliance Officer or the Board, in person or shall transmit the same by certified, registered mail.

RULE 5

Submission of Inspection Report Alleging Violation and Alleged Violator's Alternatives.

- a. If the Inspector finds in his/her report that there is reasonable cause to believe that a landowner or operator is or was in violation of these rules and regulations, then said Inspector's report, prepared and delivered in accordance with Rule 4.d., shall be accompanied by a formal notice of the alternative actions available to the alleged violator. Alternative actions shall be:
 - i. Agree with and accept as true and correct the Inspector's findings that the alleged violation has, in fact, occurred or is occurring and consent in writing to cease and desist from continuing or allowing the reoccurrence of such violation. As may be appropriate, he/she may submit a schedule for corrective action pursuant to Rule 6; or
 - ii. Reject the findings of the Inspector's report and request in writing that a formal hearing be scheduled and conducted in accordance with the rules and regulations of the District.
- b. The alleged violator shall respond as specified in Rule 5 within ten (10) days.

RULE 6

Schedule of Compliance.

- a. If the alleged violator agrees with the Inspector's findings and further agrees to submit a plan to conform with these rules and regulations, the ground water user, landowner, or operator shall submit a plan within ten (10) days (excluding Saturdays, Sundays, and legal holidays) following the notification provided by the District. Failure to submit a plan within ten (10) days shall be deemed a rejection of the findings and shall be deemed a request for a formal hearing.

RULE 7

Voluntary Compliance - Subsequent to the submission of a plan to take corrective action, the District shall review the investigation report, the plan, and any other related or pertinent document necessary to evaluate the plan.

- a. The District shall determine whether the actions agreed to by the ground water user, landowner, or operator will, when implemented, bring the ground water user, landowner, or operator into compliance with these rules and regulations. If the District determines that the proposed actions of the ground water user, landowner, or operator are adequate and will prevent future violations within a reasonable time period, such action or plan will be approved and the District shall notify the ground water user, landowner, or operator of the District's approval and provide a schedule of compliance to complete the plan.
- b. If the District determines that implementation of the proposed plan or schedule of compliance would be inadequate to prevent further violation of the rules and regulations, the District shall inform the ground water user, landowner, or operator of its disapproval and shall make proposed changes or additions to the plan to obtain conformance with these rules and regulations. The alleged violator shall have five (5) days (excluding Saturdays, Sundays, and legal holidays) from the receipt of the proposed changes from the District to consent to such additions or changes, agree to negotiate, or reject such changes and request a formal hearing.

RULE 8

Formal Hearing.

- a. If voluntary measures cannot be agreed upon between the ground water user and the Board, the Board shall hold a formal hearing when requested by an alleged violator, complainant, Compliance Officer, or Board member. The alleged ground water user, landowner or operator shall be given the opportunity to contest the investigation report or the schedule of compliance required by the District, at a Board hearing or formal public hearing to be held no sooner than fifteen (15) days and not more than forty-five (45) days after receipt of the initial notice. Notice of the hearing shall be provided to the ground water user, landowner or operator and other necessary persons.
- b. Notice of the hearing shall be delivered to the alleged violator and the complainant in person or shall be transmitted to the same by certified or registered mail.

RULE 9

Board Action Following a Hearing.

- a. Following a hearing as requested by an alleged violator, complainant, Compliance Officer, or Board member, the Board shall determine either:
 - i. The alleged violator has not violated or is not violating any of these rules and regulations; or
 - ii. A violation of these rules and regulations has occurred or is occurring.
- b. If the Board determines that no violation has occurred or is occurring, no further action will be taken by the Board against the alleged violator.
- c. If the Board determines that a violation of these rules and regulations has occurred or is occurring, it shall take any and all actions that it deems necessary to cause the ground water user, landowner or operator to comply with these rules and regulations.

- d. A cease and desist order directing such violator to immediately cease and desist from all activities determined by the Board to be in violation of these rules and regulations may be issued after the hearing.
 - i. Said order shall be transmitted to the violator in person or by certified or registered mail.

RULE 10

Board Action if Alleged Violator Fails to Respond or Appear.

- a. When an alleged violator has been notified of the alternative actions available in accordance with Rule 5 and such alleged violator has failed to respond, or when an alleged violator has been notified of Board action to hold a scheduled formal hearing in accordance with Rule 8 and has failed to appear at such hearing, the Board shall:
 - i. Review the complaint and the Inspector's Report, if an inspection was necessary, as well as any other pertinent information; and
 - ii. Issue such order, as described in Rule 12 and in accordance with these rules and regulations, as deemed necessary.

RULE 11

Alleged Violator's Actions Following the Issuance of Cease and Desist Order.

- a. Once a cease and desist order has been issued by the Board and transmitted to the alleged violator either in person or by registered or certified mail, the alleged violator shall be given seven (7) working days (excluding Saturdays, Sundays, and holidays) to comply with said order.
- b. If, after seven (7) working days (excluding Saturdays, Sundays, and holidays), the alleged violator does not respond either by compliance or a plan for compliance or responds stating that he/she refuses to comply with said order, the order will be provided to the appropriate county attorney with a request that the matter be prosecuted.

RULE 12

Board Authorization to Initiate Court Action.

- a. The Board may initiate appropriate legal actions in the district court of the county in which the violation has occurred whenever necessary to enforce any actions or orders of the District in accordance with these rules and regulations.

RULE 13

Ground Water Management Area Regulation Authorities.

- a. Following a public hearing, the District may manage the use of water in a Management Area for water quality or quantity purposes pursuant to Neb. Rev. Stat. § 46-739, which includes, but is not limited to, the following:
 - i. Rotation of use of ground water;
 - ii. Well-spacing requirements more restrictive than those found in statute;
 - iii. Reduction of irrigated acres;
 - iv. Best management practices;

- v. Requiring the analysis of water or deep soils for fertilizer and chemical content;
- vi. Educational programs designed to protect water quality;
- vii. Requiring the submittal of reports or forms;
- viii. Closing the area to the issuance of any additional new well permits; or
- ix. Instigating an allocation system to ensure practical water use.

RULE 14

Water Well Permits.

- a. Any person intending to construct a water well on land which he/she owns, leases, or controls in any manner at any location within an Upper Elkhorn Natural Resources District Ground Water Management Area shall, before commencing construction, apply for a permit on forms provided by the District, with the following exemptions:
 - i. No permit shall be required for test holes or dewatering wells with an intended use of ninety (90) days or less;
 - ii. No permit shall be required for water wells designed and constructed to pump fifty (50) gallons per minute (gpm) or less;
 - iii. Commingled wells with a combined capacity of fifty (50) gallons per minute or less with exception of range livestock wells.
- b. A water well which falls under any exemption mentioned in Rule 14.a. shall be required to obtain a permit if such well is modified into a well for which a permit is required in these rules and regulations. The permit shall be obtained prior to commencement of modification.
- c. The applicant for such a water well permit shall pay a nonrefundable \$50.00 filing fee to the District upon filing the permit application.
- d. Any person who fails to obtain a water well permit as required by these rules and regulations shall apply for a late permit on forms provided by the District, accompanied by a nonrefundable \$250.00 filing fee.
- e. The District shall review permit applications and either issue, with or without conditions, or deny permits within thirty (30) days after the application is filed.
 - i. The District may approve a permit with conditions as deemed appropriate.
- f. A water well permit pursuant to Rule 14, whether late or otherwise, shall be granted unless the District finds:
 - i. The location or operation of the proposed water well is in conflict with any of these rules and regulations;
 - ii. The proposed water well is located within fifty (50) feet of the bank of a channel of any natural stream;
 - iii. In the case of an irrigation water well, the proposed water well is within six hundred (600) feet of another irrigation well not currently registered to the applicant;
 - iv. In the case of a irrigation or industrial water well, the proposed water well is within one thousand (1,000) feet of a public water supplier or industrial water well not currently registered to the applicant;
 - v. The proposed well conflicts with the purpose or purposes for which a District's Ground Water Management Area was designated;
 - vi. The proposed use would not be a beneficial use of water; or
 - vii. In the case of a late permit only, that the applicant did not act in good faith in failing to obtain a timely permit.

- viii. A water well permit that has been applied for and would be utilized for ground water irrigation must have those acres certified with the Upper Elkhorn NRD prior to permit approval.
- g. If the District finds that the application for a permit is incomplete or needs corrections, it shall return the application to the applicant for any necessary corrections.
 - i. Corrections must be made within sixty (60) days or the application will be canceled.
- h. The District shall transmit one copy of each permit issued to the Nebraska Department of Natural Resources.
- i. The issuance by the District of a water well construction permit, or the registration of a water well by the Department pursuant to Neb. Rev. Stat. § 46-602, shall not vest in any person the right to violate any District rule, regulation, or control in effect on the date of issuance of the permit or the registration of the water well, or to violate any rule, regulation, or control properly adopted after such date.
- j. When any permit is approved, the applicant shall commence construction of the water well as soon as possible after the date of permit approval and shall complete such construction and equip the water well prior to the date specified:
 - i. Approved permits will have until October 1st after the date of approval to complete well, irrigate approved acres and install flowmeter.
 - ii. Well permits approved prior to October 1st 2012 and are outside of the Lower Platte River Basin/Lower Niobrara River Basin 10/50 area will have until October 1st of 2013 to complete well, irrigate approved acres and install flowmeter.
 - iii. If the applicant fails to complete the project under the terms of the permit, the District may withdraw the permit.

RULE 15

Nitrogen Certification. The person or persons responsible for making decisions on any type of nitrogen fertilizer application on an area larger than one (1) acre and applying more than fifty (50) pounds per acre of actual nitrogen on any crop within the UENRD, either commercially or privately within an Upper Elkhorn Natural Resources District Ground Water Management Area shall be certified by the District once every four (4) years.

- a. The person or persons will be considered the certified operator. The certification requirement will include attending educational classes established by the District with assistance from the county extension, University of Nebraska Research and Extension personnel, and others;
- b. Nitrogen certification offered by the State, from other NRDs, will be accepted as fulfillment of the UENRD nitrogen certification class requirement;
- c. Proof of certification and other relevant data shall be required if an operator is certified by another NRD;
- d. Recertification can be completed by a Board-approved take-home test provided by a NRD.

RULE 16

Irrigation Well Sampling. Upon completion of the nitrogen certification course upon passage (70% correct) of the take home test, any person who approves fertilizer decisions on lands within the Upper Elkhorn NRD Ground Water Management Area, must submit analysis of nitrate-nitrogen content of a water sample taken from each irrigation well they operate. This water sample analysis must be completed within the upcoming growing season of completing the certification course or passing the take home test to complete the certification. Upon completion of the certification requirements the cooperators will receive a nitrogen certification card that will be valid for (4) years. Nitrogen certification cards will expire on December 31st of the fourth year of the certification license. The sample must be collected by landowner/operator and analyzed using a certified lab or by the District. A methodology for sample collection and proper analysis procedures will be included as part of the District's educational program.

RULE 17

Annual Deep Soil Analysis. In those areas of the District designated as a Phase II Ground Water Quality Management Area (see Map A), the District will require the certified operator to accomplish a deep soil sampling analysis (mandatory two-foot sample; three-foot sample encouraged) for total nitrate-nitrogen content on each irrigated field larger than forty (40) acres with more than fifty (50) pounds per acre of actual nitrogen fertilizer applied.

- a. Soil samples taken must represent an area no larger than eighty (80) acres on each field.
- b. The sample must be collected and analyzed using UENRD approved methods.
- c. Samples must be analyzed by a certified lab with results provided to the UENRD in the annual Phase II report. Approved sampling and analysis techniques will be included as part of the District's educational program.
- d. A variance allowing sampling to be required every four (4) years maybe granted should a landowner prove to the Board with consistent soil sampling that no nitrate-nitrogen above three (3) parts per million (ppm) is available in the soil profile.

RULE 18

Annual Phase II Reports. In those areas of the District designated as a Phase II and Phase III Ground Water Quality Management Area (see Map A), certified operators must submit a cropping report to the Upper Elkhorn NRD by December 31st following each crop year on forms provided by the District for irrigated fields larger than forty (40) acres where more than fifty (50) pounds per acre of actual nitrogen fertilizer is applied for each crop type. Following a legume crop where less than 50 pounds of actual nitrogen fertilizer is applied for each crop type, the District will require only Section 1 of the annual Phase II report to be completed by each landowner.

- a. The report consists of four sections and includes, but is not limited to, the following information:

Section I. Field Information (based on information about field)

- a) Legal description
- b) County
- c) Field name used by operator
- d) Most recent irrigation season crop type
- e) Most recent irrigation season cropping year

Section II. Nutrient Management (based on information from *previous year*)

- a) Field size in acres
- b) Average soil nitrates in ppm from required annual deep soil analysis
- c) Soil sample depth (minimum two foot required)
- d) Results of water nitrate-nitrogen analysis (in ppm) from each irrigation well
- e) Total nitrogen credit from inches of water applied
- f) Legume credit from previous year's crop, if applicable
- g) Any additional nitrogen credit applied, such as manure
- h) Organic matter result from soil sampling analysis
- i) UNL formula for realistic yield goal for the field (5 year average plus 5%)
- j) Actual total nitrogen applied in pounds per acre
- k) Actual yield for the field

Section III. Irrigation Management (based on information from *previous year*)

- a) Well registration number(s) from Department of Natural Resources
- b) Total field acres irrigated
- c) Crop water use for the crop type and field
- d) Flow rate of the well
- e) Total hours pumped for that cropping season
- f) Irrigation system type and/or nozzle packaging
- g) Total rainfall on the field
- h) Total annual flowmeter readings (where applicable/available)

Section IV. Pesticide Applications (based on information from *previous year*)

- a) Type of pesticide applied by pesticide name
- b) Application rates for each pesticide in one of the following rates:
 - i. oz/acre
 - ii. pt/acre
 - iii. qt/acre

The District reserves the right to request additional information.

RULE 19

Restriction on Nitrogen Application. In those areas of the District designated as a Phase II Ground Water Quality Management Area (see Map A), Fall (September 23 to December 20) and winter (December 21-March 1) application of all commercial nitrogen fertilizer will not be allowed before November 1st. Application will be discouraged until after March 1 on all soils. Exceptions will be allowed for spring and fall small grain crops and meadows if the actual nitrogen application rate is less than twenty (20) pounds per acre.

RULE 20

Hydrologic Evaluation Report Required:

- a. Any industrial or commercial user intending to commence pumping more than five hundred (500) acre feet (162,925,700 gallons) annually for a single development will be required to submit a hydrologic evaluation prior to commencing or expanding water use. The hydrologic evaluation will be developed at the cost of the water well owner.
- b. The information required to be included in the hydrologic evaluation includes, but is not limited to, the following:
 - i. Inventory of all wells within a two (2) mile radius of the proposed well(s) location
 1. Static water levels
 2. Yield capacities
 3. Ownership information
 4. NeDNR registration numbers
 5. Water level trends within the two (2) mile radius
 6. Overall well development assessment within the two (2) mile radius of industrial or commercial user
 - ii. Physical properties of area aquifer(s)
 1. Transmissivity
 2. Aquifer composition
 3. Conductivity
 4. Specific yield
 5. Saturated thickness
 6. Depth to shale
 - iii. All available test holes and bore hole logs from wells within two (2) mile radius
 1. Summary of depths to and thickness of each aquifer formation and water availability
 2. Copy of all available test hole and bore hole logs
 - iv. Contingency plan in case of negative impact on area wells
 1. Complaint form
 2. Impact scenarios
 3. Potential water restrictions
 - a. Water offsets
 4. Other conservation practices
 - v. Overall summary of required data and conclusion of impacts to area aquifers
 - vi. Other information deemed necessary by Board

RULE 21

Required Flowmeters. All new or replacement irrigation, municipal, commercial, industrial or commingled wells pumping greater than fifty (50) gallons per minute, and expansion of irrigated acres or transfer of irrigated acres greater than 40 acres will be required to install a flowmeter.

a. Installation of Flowmeters:

- i. Installation will be done by a person qualified through training to install flowmeters to ensure correct installation.
- ii. All flow meters are required to measure the entire amount of water pumped by a regulated well in conformance with all specifications and requirements contained with these rules and regulations. In cases where water from two or more wells is commingled, one flow meter

may be installed at a point after the water has been commingled. Total amount of water pumped annually in must be submitted to the District by December 31st of the following year.

- a. The District may request pumping amounts for different time periods for reporting other than annually.
- iii. All flowmeters must be verified by the UENRD for proper installation.
- iv. The District will maintain a list of all approved flowmeters.
- v. District personnel will have access to the well or commingled wells and flowmeter(s).
- b. Flowmeter specifications and requirements – All flow meters installed and maintained for purposes of compliance with these rules and regulations are required to meet or exceed the following specifications and requirements:
 - i. Each flowmeter is required to be installed (physically attached) according to the manufacturer’s specifications and calibrated to the pipe size. Calibration must maintain an accuracy of plus or minus two (2) percent of normal flow range of comparable measurement.
 - ii. The meter registry will have a visual volume recording totalizer, which is protected from the elements, with sufficient capacity to record for the period of one year the quantity of water diverted from each well or commingling of wells. All flow meters also will have a clearly visible and readable analog or digital display that provides a real time reading of the rate of flow of water through the flowmeter.
- c. Flowmeter reading, inspections and maintenance:
 - i. District personnel will have access to the well or commingled wells and flowmeter(s) at any reasonable time to read and record flowmeter readings.
 - ii. Flowmeters installed that do not meet manufacturers’ or District standards must be corrected.
 - iii. Flowmeters may be periodically inspected for performance, accuracy and evidence of tampering.
 - iv. Each flowmeter is required to be kept in working order and clear of debris, vegetative growth or other material that would impede operation.
 - v. Landowners and operators are responsible to ensure that flowmeters are fully functional, properly maintained and operational. The District, at the request of the landowner or operator, may perform maintenance and operational service to flowmeters, at the landowners or operators cost. A form, provided by the District, will authorize this service and the District may enter onto property to provide this service. This service will be provided in the off-season and will not interfere with the normal operation of the meter or the well.
 - vi. Flowmeters that have been required by these Rules and Regulations or cost shared through local NRD, State, Federal cost share programs, or grants must maintain an operating flowmeter during and after the funding source contract expires.
 - vii. Any malfunctioning flowmeter will be reported to the District office at O’Neill, NE within twenty-four (24) hours after discovery. Malfunctioning flowmeters discovered on any day other than workdays (weekends and holidays) will be reported before the office closes on the first working day following the discovery. During the malfunctioning period, the landowner or operator shall use a method prior approved by the District to determine water-pumpage/yield. The District and landowner or operator is required to make a diligent effort to put the flowmeter back in service as soon as possible. When flowmeters are removed for servicing or replacement, the landowner or operator must keep records of the flowmeter reading. Failure to report inoperative meters may result in the loss of the certified irrigated acres for the next crop year.

- viii. The District may require any ground water user to provide information that will enable the District personnel to determine the amount of energy used to operate any well on which a flowmeter is required. The groundwater user is required to provide such information, or the groundwater user shall notify the entity providing such power of authorization for District personnel to procure such information. District personnel will seek such information in the event a flowmeter is malfunctioning, or if the landowner, operator or the District personnel have reason to believe the flowmeter reading is incorrect. If any power source on a well within the Management Area is equipped with an hour meter, the District may require the ground water user to provide appropriate readings from said hour meter.
- d. Damage to or tampering with flowmeters.
 - i. It shall be a violation of these rules and regulations 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, without District consent, for the purpose or with the intent to produce an incorrect, inaccurate or misleading measurement or to cause, procure or direct any other person to do so. Removing a seal placed on a flowmeter by the District will be considered tampering with a flowmeter. Following a hearing before the Board, it is found that tampering has affected the accuracy or use of the meter, the District may withhold the costshare or any local, state or federal program funds administered through the district.

RULE 22

Certification of Irrigated Acres. After the effective date of these rules/controls, and except as otherwise provided herein, no acres will be irrigated with ground water unless those acres have been certified for irrigation by the UENRD. Any irrigated acres that are not certified on or before dates listed will not be allowed to have ground water applied to them for any purpose (unless approved by the board).

Certification of irrigated acres will be subject to the following requirements:

- a. Any lands that have been converted to ground water irrigation from surface water appropriations shall be certified for irrigation by the UENRD. As a condition to certification of such lands, the landowner must present proof that the surface water appropriation to such lands has been relinquished to the Nebraska Department of Natural Resources.
- b. Acres that have been irrigated within the Lower Niobrara River Basin Fully-Appropriated designation at least (1) time during the calendar years 2003-October 16, 2007 shall receive full certification credit and will be certified provided documentation described in Rule 22 j is timely provided. Certification for irrigation of all acres shall be completed by December 31, 2015.
- c. Acres that have been irrigated within the Lower Platte River Basin-at least (1) time during the calendar years 2004-December 16th, 2008 shall receive full certification credit and will be certified provided documentation described in Rule 22 j is timely provided. Certification for irrigation of all acres shall be completed by December 31, 2015
- d. Acres that have been irrigated outside of the Lower Niobrara and Lower Platte River Basin 10/50 line at least (1) time during the growing season between the calendar years of 2008 and 2012 shall receive full certification credit and will be certified provided documentation described in Rule 22 j is timely provided. Certification for irrigation of all acres shall be completed by December 31, 2015.
- e. Acres that were historically irrigated prior to 2003 (Lower Niobrara River Basin Designation) and prior to 2004 (Lower Platte River Basin Designation) and prior to 2008 for the acres outside the 10/50 line of these respective areas and have documentation required by Rule 22.f-j, shall receive

95% certification of the total amount of irrigated acres should the person certifying the acres decide to reactivate those acres for irrigation purposes.

- f. Acres with documented irrigated history but currently enrolled in any local, state, or federal conservation programs that would prevent the landowner from irrigating, as described by Rule 22.4 (j), shall receive 95% certification for the total amount of irrigated acres should they choose to proceed with the certification process with the following conditions:
 - i. Acres must be certified respectfully by dates associated with Rule 22 (b) and (c) and (d).
 - ii. Proof of historical use shall be by submission of information specified in Rule 22 (j) and had the means to irrigate during that time period.
- g. For all acres for which a person seeks certification, the following information is required to be reported on a form provided by the District and will be completed by a landowner or power of attorney in order to complete the certification process:
 - i. Landowner contact information;
 - ii. Operator contact information;
 - iii. Location of historically irrigated acres by legal description to the nearest quarter section;
 - iv. The total number of historically irrigated acres
 - v. Last calendar date of active irrigation
 - vi. The NeDNR registration number(s) of any ground water well(s) associated with the irrigation of the land to be certified;
 - vii. Identification of any other sources of irrigation water other than ground water;
 - viii. If relevant, documented proof of enrollment in any local, state, or federal conservation programs as described by 22.(l); and
 - ix. Any other information requested by the District.
- h. Documentation of historical irrigation on acres to be certified will be required along with a signed application form to complete the certification process. The landowner or power of attorney for the landowner will obtain and submit to the District corresponding Farm Service Agency (FSA) documentation (Form #578 Report of Acreage) and a delineated FSA aerial photograph or county assessor tax records of when last taxed as irrigated or other board approved documentation with the historically irrigated acres to be certified identified by the landowner.
- i. A variance to the FSA documentation form /County Tax Records requirement will be granted if a landowner or power of attorney submits board approved documentation for historically irrigated acres along with the application form.
 1. Such documentation includes:
 - a) Other documentation that accurately identifies the historically irrigated acres, subject to Board approval.
 - b) Acres irrigated by multiple water sources may not be duplicated and certified with each source in the acre certification process. Each acre will have only one primary source of irrigation.
- j. Certification of acres will be complete upon submission to the District of the following items:
 - i. Completed District provided certification form
 - ii. FSA #578 form or County Tax Records associated or other board approved documentation as designated in 22(h).
 - iii. Update well registration with the Department, indicating current ownership and accurate acre assessment of the irrigation well based on District acre certification
- k. Modifications to certified irrigated acres must be applied for through the District and are subject to Board approval and need to adjust irrigated acres with the NRD:
 - i. The Board has up to ninety (90) days upon reception of the application for modification to either approve or deny the certified irrigated acres as they are applied for.

- l. Historically irrigated acres currently enrolled with the Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Environmental Quality Incentive Program (EQIP), or other federal, state or local conservation program must be certified in accordance with Rule 22 if future irrigation of those acres is desired.
- m. Active irrigation wells on ground that have not been certified as irrigated shall be subject to the following conditions by October 18, 2015 or otherwise be deemed an illegal well according to Neb. Rev. Stat. § 46-706.05:
 - i. Decommissioning of the well and filing a notice of abandonment form with the Department
 - ii. Listing the registration on the irrigation well as inactive status with the Department and effectively sealing the well to prevent ground water contamination in accordance to Neb. Rev. Stat. § 54-311
 - iii. Modifying the well use into a well pumping fifty (50) gallons per minute or less and filing a modification form with the Department.

RULE 23

Transfers:

- a. **Ground Water Transfers:** Ground water users intending to withdraw and physically transfer ground water, transfer certified irrigated acres, transfer the type of use, or add a type of use of ground water within the Management Area shall, before making any such transfer, apply for and be approved for the transfer by the Board. Application period for agricultural transfers will occur during November 1st to March 1st. Fees for transfers will follow fee structure in Rule 24, (b) (iii) 1 & 2.
 - i. The withdrawal and transfer of ground water for domestic purposes that is subject to Neb. Rev. Stat. § 46-691.01 will not be subject to Rule 23.
 - ii. The withdrawal and transfer of ground water within the District solely for the purpose of providing water to range livestock will not be subject to Rule 23
 - iii. Permanent transfers may occur only if the following conditions are met:
 - 1. All transfers of ground water or use must occur within the sub-district USDA/NRCS 10-Digit Hydrologic Unit Code (HUC) where the ground water was originally withdrawn or within Rule 23 aiii 6 below;
 - 2. Transfers to an adjacent HUC will be allowed if the adjacent HUC as described in Rule 23 (iii) 8 has not suffered a static ground water level decline of more than three feet based on the 20-year trend line calculated by the UENRD.
 - 3. The section to which the certified irrigated acres to be transferred does not have a higher stream depletion factor as evidenced by data provided to the District through the Elkhorn-Loup Modeling project or other updated model.
 - 4. The certified irrigated acres are within the same, single, HUC. For purposes of this subsection, the term “HUC” does not include those areas or lands that the Nebraska Department of Natural Resources has determined to be in more than one basin.”
 - 5. Transfers from lands within the HUC of the 10/50 area that are within the area overlapped by the Lower Niobrara River Basin and the Lower Platte River Basin will remain within the same overlapped area. This may be lifted after December 31, 2015 or upon the Nebraska Department of Natural Resources basin determination if neither basin is labeled fully appropriated at that time.

6. Transfers within the two mile border of a HUC are not to be transferred beyond two miles of the adjoining HUC.
 - i. Transfers will not be allowed to be transferred within the two mile border of an adjoining HUC if that HUC is showing a ground water decline of more than three feet based on the 20-year trend line.
- b. Agricultural Transfers: After the effective date of these rules, an agricultural user intending to withdraw and physically transfer certified irrigated acres off of the overlying land which he or she controls or transfer the certified irrigated acres shall, before making such transfer, apply for and be subject for Board approval for the transfer.
 - i. Agricultural transfers shall not exceed the historic consumptive use and or the certified irrigated acres. Transfer of acres must be irrigated within one year of board approval and must remain on that legal description for a minimum of 5 years before being transferred again.
 - ii. Transfers to the adjacent section or within the same section are not subject to Rule 23.a.iii. except the following;
 1. Transfers within the District may not occur in any HUC determined by the Board of Directors to be undergoing significant ground water declines; and
 2. Ground water use or acres will not be transferred to a section designated with a higher stream depletion factor as evidenced by data provided to the District through the Elkhorn-Loup Modeling project or other updated model.
 - iii. The permanent transfer of certified irrigated acres may be accomplished by either decommissioning the well, changing status of well with NeDNR to inactive or modifying it into a well pumping fifty (50) gallons per minute or less.
 1. If decommissioning the well filing a notice of abandonment form with the Department or if modifying a well filing a modification form with the Department within 180 days of the transfer; and
 2. The person to whom the acres are to be transferred must re-certify the acres with the District as well as submit county assessor and/or the USDA/FSA documentation that they are recorded as irrigated.
 - iv. Transfers of certified irrigated acres off of land that is also served by surface water will not be permitted unless the surface water appropriation is relinquished for that parcel of land or an offset is provided to the District for the new acres to be irrigated.
- c. Transfers of Type of Use: Any person who withdraws ground water from a well located within the District and transfers the type of use of that water (e.g. irrigation to industrial) or adds a type of use of ground water to the well (e.g. adds an industrial use to an existing irrigation well), shall apply for a transfer permit on forms provided by the District before beginning any such transfer.
 - i. No change in the type of ground water use shall be approved unless such change results in no increase in the historical consumptive use of the ground water to be transferred or an offset is provided for any increase in historical consumptive use.
 - ii. No transfer will be approved if the water use moves to another section with a higher stream depletion factor as determined by the Elkhorn-Loup Modeling Project or other updated model.
 - iii. No person shall use a water well for purposes other than its registered purpose or until the water well registration has been changed to the intended new use or the additional use has been added to the registration.

1. In the case of a replacement well, a person may modify and equip the original water well to be used for range livestock, monitoring, observation, or any other non-consumptive or de minimis use approved by the District.
 2. The change to a new use or the addition of a use shall be made by filing a water well registration modification with the Department and the change must be in conformance with Neb. Rev. Stat. §§ 46-609(1) and 46-651.
- d. Municipal Transfer Permits The District shall approve, without the filing of a District transfer permit application, the withdrawal and transport of ground water when a public water supplier providing water for municipal purposes, so long as that water supplier submits a notification of application to the District. If a public water supplier files an application for a permit from the Department under the Municipal and Rural Domestic Ground Water Transfers Permit Act, then the permit applicant shall advise the District of its filing.
- e. Industrial Transfer Permits
- i. Transfers for which permits or approval for transfer have been obtained pursuant to the Industrial Ground Water Regulatory Act are not required to apply for a transfer permit from the District. Commercial and industrial users who are required to file for a permit from the Department under the Industrial Ground Water Regulatory Act shall advise the District of such application.
- f. Transfer Out of District
- i. Requests for transfer of ground water out of the District pursuant to Neb. Rev. Stat. § 46-613.01 shall require District action to approve or deny the transfer request prior to submission of the required transfer permit application to the Department.
 - ii. When the Department initiates the consultation with the District regarding a permit application, the District shall respond according to the following provisions:
 1. The District shall advise the Department of any of the applicant's unmet obligations under District rules (e.g., variance not yet applied for or granted).
 2. Any formal action taken by the Board adopting any offset determined by the Department or the District to be necessary to maintain compliance with any formal agreement or to mitigate any effects to surrounding ground water users or surface water appropriators for uses other than municipal or industrial/commercial.
 3. If the District determines an offset on behalf of the user, the nature of the offset and of the enforcement provisions that will be required.
 - iii. A water well construction permit shall not be issued until a permit to transfer ground water to an adjoining District has been obtained from the Department and a copy of the permit is on file with the original District.
- g. Application for and Approval of Transfers
- i. In accordance with Neb. Rev. Stat. § 46-739(k) the District may deny or condition its approval of any transfers to the extent such conditions are necessary to:
 1. Ensure the consistency of the transfer with the purpose or purposes for which the management area or HUC was designated;
 2. Prevent adverse effects on other ground water users or on surface water appropriators;
 3. Prevent adverse effects on the state's ability to comply with an interstate compact or decree or to fulfill the provisions of any other formal state contract or agreement; and
 4. Otherwise protect the public interest and public welfare.
 - ii. In making its decision regarding a transfer application, the Board may consider relevant information, including but not limited to:

1. Information obtained from studies within the HUC;
 2. Whether the proposed use is a beneficial use of ground water;
 3. Alternative sources of surface water or ground water available to the applicant for the proposed withdrawal, transport, and use;
 4. Any negative effect of the proposed withdrawal, transfer and use on ground water or surface water supplies needed to meet reasonable future demands for water within the state;
 5. Ground water quality of the area being transferred to;
 6. Whether the proposed withdrawal, transfer, and use is consistent with the goals and objectives of the Ground Water Management Plan or the integrated management plan;
 7. The trend in the change of ground water levels in the HUC;
 8. Other transfers into the area in proximity to the well proposed to be used;
 9. The total usage in proximity to the well proposed to be used; and
 10. Other factors that would increase the rate of consumptive use in the area of the well proposed to be used.
- iii. An application for a transfer shall include, but not be limited to the following:
1. Names and addresses for each landowner involved in the proposed transfer and the name and address of the operator if different than the landowner;
 2. Legal description of the land involved in the proposed transfer along with well registration numbers of all wells proposed to be used;
 3. The nature of the proposed use,
 4. Identification of any other alternative sources of surface water or ground water available to the applicant for the proposed use and the reasons why use of such alternative source or sources are not being sought;
 5. Proof of ownership from the United States Farm Service Agency or county tax assessor for each certified irrigated acre to be involved in the transfer request;
 6. If exceeding limits set out in Rule 20 a, an assessment of the effects of the proposed withdrawal, transfer, and use on existing ground water users, on existing surface water appropriators, and on ground water and surface water supplies needed to meet present or reasonable future demands within the State;
 7. If exceeding limits set out in Rule 20 a, an assessment of the effects of the proposed withdrawal, transfer, and use on the environment in the vicinity of the proposed withdrawal and proposed use;
 8. Any other information the applicant deems relevant to the District's criteria for approval of the proposed withdrawal, transfer, and use;
 9. Signatures from all of the landowners involved;
 10. Aerial photograph(s) showing all certified irrigated acres involved in the transfer.

RULE 24

1. **PURPOSES AND AUTHORITY:** The purposes of these rules and regulations are, in accordance with Neb. Rev. Stat. § 46-714(12) and § 46-707(1), to:
 - (a) Allow a limited number of total new ground water irrigated acres annually;
 - (b) Maintain the status of "not fully appropriated" under Neb. Rev. Stat. § 46-713; and
 - (c) Limit the number of new permits so that total new ground water irrigated acres do not exceed 2,500 acres annually as set forth in letter (d) below. Lands from which certified irrigated acres have been

transferred are not eligible to apply or replace acres transferred under this allotted 2,500 acre annual expansion limit.

(d) After December 31, 2012, the Upper Elkhorn NRD will allow up to a maximum of 2500 acres annually to be developed throughout the whole district.

2. LIMITATION ON EXPANSION OF IRRIGATED ACRES: Effective immediately, there shall be no expansion of groundwater irrigated acres within the Upper Elkhorn NRD as stated in Rule 24 1(d)) *unless* the development is approved by the Upper Elkhorn NRD in accordance with these rules and regulations.
3. ENFORCEMENT: The NRD will enforce this limitation consistent with its authority under the law and its rules and regulations. In addition, a violation of these provisions may be grounds for denying an application to develop new groundwater irrigated acres under the ranking criteria set forth below.
4. WELL PERMITS: If a request for expansion of irrigated acres requires installation of a new ground water well, the respective well permit application will not be deemed complete until authorization is granted by the Upper Elkhorn NRD for the expansion of those irrigated acres.
5. PROCESS FOR APPLICATIONS TO EXPAND IRRIGATED ACRES: The process that allows expansion of groundwater irrigated acres shall be as follows:
 - (a) The application period for 2013 and proceeding years will occur during the month of October, starting 2012. Any application received outside of an application period will be returned to the applicant as incomplete.
 - (b) The application shall be made on forms provided by the district. The Board instructs staff to prepare the relevant forms and submit them to the Board for approval.
 - (i) The application shall include the most recent aerial photo delineating the new acres being applied and, as applicable, the proposed location of the new well or location of existing well to be used.
 - (ii) If the acres will be irrigated with an existing well, the application shall include the well registration number. If the acres will be irrigated with a new well, the application shall include the approximate legal description for the new well, well logs and test pump data (if any).
 - (iii) The application shall be accompanied with a non-refundable filing fee:
 - (1) Fee for 25 acres or less is \$125.00
 - (2) Application Fee for over 25 acres is \$5.00 per acre;
 - (3) Applications not approved with or without modifications will have to reapply annually with a \$75.00 fee.
 - i. Modifications to an application will be charged at above rates stated in (1) & (2).
 - (iv) The application shall be signed by the current landowner or power of attorney.
 - (v) Application is non-transferable
 - (vi) Application does not include the Permit Fee to Construct a Water Well.
 - (vii) Application may be declined if it is incomplete or information is inaccurate.
 - (c) The applicants will be notified on the status of their applications within 60 days following the application period.
6. RANKING CRITERIA: The Upper Elkhorn NRD will review the application for expanding groundwater irrigated acres based on discretionary factors, including but not limited to, whether the application would promote the health and welfare of the NRD by contributing to the conservation, protection, development, and sound management of natural resources within this District. The Board will establish ranking criteria to assist with evaluating applications. Factors to be considered in the ranking criteria include but are not limited to: (i) irrigation type; (ii) groundwater quality and quantity levels; (iii) irrigation concentration; (iv) soil classification (i.e., Highly Erodible Lands, or HEL); (v) stream depletion factors; (vi) compliance with Nitrogen Certification Guidelines of the Upper Elkhorn NRD's Ground Water Management Plan; (vii) compliance with Upper Elkhorn NRD rules and regulations, including compliance with the limitation on expansion of groundwater irrigated acres under these provisions; and (viii) such other factors that assist in

determining whether the application would promote conservation of the natural resources and the health and welfare of the residents of the NRD.

7. **FLOWMETERS REQUIRED:** Installation of a flowmeter approved by the Upper Elkhorn NRD staff is required as a condition for any application for expansion of groundwater irrigated acres. Data from flowmeters shall be collected by District staff on an annual basis on or before December 31 of each year. As a condition of approval to expand ground water irrigated acres, District staff shall be granted free access to all lands to read the flowmeter. Data obtained from the flowmeters will assist the District in better understanding water use and aid in future water management activities throughout the District.
8. **GRANTED APPLICATIONS:** Applications granted under these provisions are deemed unique and special with regard to the specific application, and do not create a precedent for future application or matters pertaining to other lands, whether or not they are similarly situated. Expansion of irrigated acres approved within 60 days following the 2012 January application period, under LB483 have until October 1, 2012 of the application year to complete well installation, install flowmeter and irrigate acres. Applications approved within 60 days following the October 2012 application period and thereafter will have until September 30 of each application year to complete well installation, install flowmeter and irrigate acres.
 - a) Within a year of approval of acre expansion or transfer of certified irrigated acres; the landowner must submit documentation to the Upper Elkhorn NRD for certification that they have verified with the county assessors or USDA/FSA that these acres should be documented as irrigated.
9. **CANCELLATION OF APPROVED EXPANSION:** The Upper Elkhorn NRD may cancel or void an approved expansion application at any time for violation of the NRD's rules and regulations.

RULE 25 DESIGNATION and CONTROLS

Groundwater Quality Management Area Designation and Controls. The Upper Elkhorn Natural Resources District has monitored groundwater quality in the District since 1974. Since this time, the District has expanded its monitoring program to include approximately 600 irrigation wells. These monitoring programs along with additional research programs and aril studies have identified areas of varying degrees of nitrate contamination in groundwater within the District. Although other contaminants have also been identified in the District's groundwater, levels are well below Health Advisory Levels (HALs) or Maximum Contaminant Levels (MCLs) as established by the Environmental Protection Agency (EPA). However, approximately 15% of wells monitored for nitrate are also monitored for other contaminants, primarily pesticides, on a five-year staggered basis.

To address the varying degrees of nitrate in the groundwater, the District has adopted controls to prevent any further human-induced (anthropologic) contribution to the problem and possibly reverse the trend. Most of these controls are Best Management Practices (BMPs), which are designed to not only protect the environment, but also increase management efficiency.

The varying degree of nitrate contamination is not widespread, and it is not uniform throughout the entire District. Thus, the District will be divided into management areas referred to as Groundwater Quality Management Areas (GWQMAs). There are three phases of GWQMAs, with each corresponding to a particular range of nitrate concentrations in the groundwater. Phase I GWQMAs correspond to areas with

nitrate-nitrogen levels of 0 to 7.5 ppm (parts per million or mg L⁻¹). The entire UENRD was designated a Phase I Groundwater Quality Management Area on 06/30/97; Phase II GWQMAs correspond to areas with nitrate-nitrogen levels of >7.5 to 9.5 ppm; and Phase III GWQMAs correspond to areas with nitrate-nitrogen levels of >9.5 ppm. Changes to Phase levels were made when the order was issued and became effective on May 1, 2017. Upon this date Phase I GWQMAs will range from 0 to 5.0 ppm. In the future, problem areas with nitrate-nitrogen levels greater than 5.0 ppm will receive a higher phase designation and may be subject to additional controls, some of which may be more restrictive than those found in lower phase areas. Existing Designated Areas will maintain the same Phase category upon changes to the Rules and Regulations until criteria is met to label those areas a different Phase level.

Prior to the establishment of any GWQMA, there will be a public hearing held to allow testimony in favor or against the establishment of the proposed GWQMA. A public hearing must also be held prior to the redesignation of a GWQMA from a lower to a higher phase area or vice-versa.

DESIGNATION OF GROUND WATER QUALITY MANAGEMENT AREAS

- **Phase I Groundwater Quality Management Area - 0% to 50% of the MCL
(0 – 5.0 ppm nitrate-nitrogen)**

Following a public hearing and evidence presented at the hearing, the entire Upper Elkhorn Natural Resources District (UENRD) was designated a Phase I Groundwater Quality Management Area (GWQMA) June 30th, 1997. A Phase I GWQMA primarily promotes the implementation of Best Management Practices (BMPs) through educational programs. Specific criteria are outlined in the “Groundwater Quality Management Area Controls” section of this document.

- **Phase II Groundwater Quality Management Area - >50% to 90% of the MCL.
(> 5.0 - 9.0 ppm nitrate-nitrogen)**

As data or other evidence indicated, the first Phase II GWQMAs was designated on January 1, 2003, following a public hearing. Additional Phase II areas were labeled October 1, 2012. This timeline has been established only to show the District’s commitment to addressing the nitrate problem.

Phase II GWQMAs will be designated by townships within the Upper Elkhorn Natural Resources District (UENRD) unless data collected from the District’s monitoring program or other hydrogeologic evidence indicates a definite boundary whereby only a portion of a township or sub-area should be designated a Phase II GWQMA. This designation will be done by the UENRD staff and Board of Directors. The District will monitor an adequate number of registered active irrigation wells and dedicated monitoring wells to accurately describe the average contaminate concentrations in proposed and established Phase II GWQMAs. Specific criteria and controls are outlined in the “Groundwater Quality Management Area Controls” section of this document.

Before a Phase II GWQMA can be designated, the average nitrate concentration in the monitored irrigation wells and monitoring wells must be greater than 50% of the Maximum Contaminant Level (MCL), which is currently 10 ppm (parts per million or mg L⁻¹) for a minimum of three consecutive years.

However, the District reserves the right to designate a Phase II GWQMA at any time in lieu of these criteria, if deemed necessary.

In areas with less than ten registered irrigation wells and nitrate concentrations exceeding 50% of the MCL, the District will work with the individual operator(s) to implement BMPs. However, if the area is adjacent to a predesignated Phase II or Phase III GWQMA, the operator(s) will be required to abide by the rules and regulations of that predesignated phase area. Applicability of this requirement is at the Board's discretion.

After initial Phase II designation, it will be determined to redesignate a Phase II GWQMA area as a Phase I GWQMA if data from monitored irrigation and dedicated monitoring wells show a decrease in nitrate concentrations and the average nitrate concentration falls below 50% of the MCL in the wells monitored by the District for a minimum of (3) consecutive years. Areas will remain as Phase II GWQMAs if the average nitrate concentrations from the monitored wells exceed 50% of the MCL, but are equivalent to or less than 90% of the MCL in the wells monitored by the District. An area will be designated a Phase III GWQMA if it meets the criteria outlined below.

- **Phase III Groundwater Quality Management Areas - >90% of the MCL.
(> 9.0 ppm nitrate-nitrogen)**

As data or other evidence indicates, the first Phase III GWQMAs will be following a public hearing. This timeline has been established only to show the District's commitment to addressing the nitrate problem since several areas in the District currently meet the criteria for designation as a Phase III GWQMA. Phase III GWQMAs can be established prior to and following the cutoff date of January 1, 2018 as data and other evidence indicate.

Phase III GWQMAs will be designated by townships within the Upper Elkhorn Natural Resources District (UENRD) unless data collected from the District's monitoring program or other hydrogeologic evidence indicates a definite boundary whereby only a portion of a township should be designated a Phase III GWQMA. This designation will be done by the UENRD staff and Board of Directors. The District will monitor an adequate number of registered active irrigation wells and dedicated monitoring wells to accurately describe the contaminate concentrations in proposed and established Phase III GWQMAs. Specific criteria and controls are outlined in the "Groundwater Quality Management Area Controls" section of this document.

Before a Phase III GWQMA can be designated, an area must have been designated a Phase II GWQMA for a minimum of three consecutive years, and the irrigation wells and monitoring wells monitored by the District must have an average nitrate concentration greater than 90% of the Maximum Contaminant Level (MCL), which is currently 10 ppm (parts per million or mg L^{-1}). However, the District reserves the right to designate a Phase III GWQMA at anytime in lieu of these criteria, if deemed necessary.

In areas with less than ten registered irrigation wells and nitrate concentrations exceeding 90% of the MCL, the District will work with the individual operator(s) to implement BMPs. However, if the area is adjacent to a predesignated Phase III GWQMA, the operator(s) will be required to abide by the rules and regulations of that predesignated Phase III GWQMA. Applicability of this requirement is at the Board's discretion.

After initial designation, it will be determined to redesignate a Phase III GWQMA area as a Phase II GWQMA if data from monitored irrigation wells and monitoring wells shows a decreasing trend in nitrate concentrations the average nitrate concentration falls below 90% of the MCL, but exceed 50% of the MCL in the wells monitored by the District for a minimum of (3) consecutive years. A Phase III GWQMA will be redesignated a Phase I GWQMA if data from monitored irrigation wells shows a decreasing trend in nitrate concentrations and the average nitrate concentration falls below 50% of the MCL in the wells monitored by the District. Areas will remain as Phase III GWQMAs if the average nitrate concentrations from monitored irrigation wells and monitoring wells exceed 90% of the MCL in the wells monitored by the District. Specific criteria and controls are outlined in the “Groundwater Quality Management Area Controls” section of this document.

RULE 26

Testing for Other Contaminants. At this time, the District has not identified any widespread contamination problems in the groundwater except excessive nitrates. Currently, approximately 15% of wells sampled for nitrate are also sampled for seventeen common pesticides and pesticide metabolites. Other potential contaminants are not monitored on a regular basis, but periodically, specific studies are conducted to assess the quality of groundwater in the District. In addition, the District investigates concerns and complaints from the general public. If a contamination problem is identified, the District will specifically address the contaminant of concern by increasing monitoring and delineating the extent of contamination. For those contaminants with an established Maximum Contaminant Level, MCL, the District will take the following actions at the specified levels:

- **50% of the MCL**
Recommend increased monitoring and further review of the problem

- **75% of the MCL**
In conjunction with the U.S. Environmental Protection Agency (EPA), U.S. Department of Agriculture (USDA), Nebraska Department of Natural Resources (NeDNR), Nebraska Department of Health and Human Services (NDHHS), the Nebraska Department of Environmental Quality (NDEQ), other agencies and organizations, and the general public, amend the UENRD’s Groundwater Management Plan to include activities and recommendations which address the contaminant of concern.

Rule 27

Static Water Level triggers

Effective February 1, 2018

The Upper Elkhorn NRD (“UENRD”) has developed sub-districts throughout the UENRD management area to manage groundwater. As part of such management, UENRD has determined a baseline static water level within each of the sub-districts, which will be the lowest static water level reading prior to 2014.

Triggering Mechanisms:

1. When spring static water levels within a sub-district are determined to be between 24 inches and 12 inches above the lowest spring reading, the following shall occur:

- a) The UENRD will conduct an informational and educational campaign for landowners that own and operate irrigation distribution systems that are supplied by individual or commingled high capacity wells yielding more than 50 GPM. Landowners will be informed within that sub-district that this level has been reached and upon subsequent spring static water level readings, additional regulations may be warranted the following year.
 - b) Historical certified irrigated acres that were not being irrigated by ground water prior to this trigger will not be allowed to be developed for irrigation as long as these criteria are met.
2. When spring static water levels in a sub-district are determined to be within 12 inches above the lowest spring static reading, the following shall occur:
- a) Flowmeters will be required on 10% of the landowner's irrigation distribution systems within that sub-district that are supplied by individual or commingled high capacity wells yielding more than 50 GPM.
 - b) Installation of flowmeters must be installed to manufacturer's specifications. A legal description must be submitted to UENRD and flowmeters must be installed by December 31st of the current year of meeting the above static water level.
 - c) If the ground water irrigation distribution system owner owns less than ten ground water irrigation distribution systems, they will be required to install one flowmeter if the above criteria is met.
 - d) If the ground water irrigation distribution system owner already has 10% of their ground water irrigation distribution systems equipped with flowmeters within this sub-district, this requirement will be satisfied.
 - e) Flowmeter readings will need to be submitted to UENRD by December 31st each year on forms developed by UENRD and may be spot-checked for compliance.
 - f) Any ground water irrigation distribution system that is currently equipped or is to be equipped with a flowmeter must certify their irrigated acres if they have not already been certified.
 - g) Historical ground water certified irrigated acres that were not being irrigated prior to this trigger will not be allowed to be developed for irrigation as long as the above criteria is met.
3. When spring static water levels in a sub-district remain and are determined to be within 12 inches above the lowest spring static reading in subsequent or non-subsequent years, the following shall occur:
- a) Flowmeters will be required on an *additional* 10% of the landowner's irrigation distribution systems within that sub-district that are supplied by individual or commingled high capacity wells yielding more than 50 GPM.
 - b) Installation of flowmeters must be installed to manufacturer's specifications. A legal description must be submitted to UENRD and flowmeters must be installed by December 31st of the current year of meeting the above static water level.
 - b) If the ground water irrigation distribution system owner owns less than ten ground water irrigation distribution systems, they will be required to install an additional flowmeter within this sub-district.
 - c) Flowmeter readings will need to be submitted to UENRD by December 31st each year on forms developed by UENRD and may be spot-checked for compliance.
 - d) Historical ground water certified irrigated acres that were not being irrigated prior to this trigger will not be allowed to be developed for irrigation as long as the above criteria is met.

4. When spring static water levels in a sub-district are determined to be twelve inches above the lowest reading, the flowmeter installation requirement will discontinue until the spring static water levels are determined to be *within* twelve inches above the lowest static water level reading.
5. When spring static water levels in a sub-district are determined to be within 12 inches below the lowest spring static water level reading, the following shall occur:
 - a) Flowmeters will be required on 60% of the landowner's irrigation distribution systems within that sub-district that are supplied by individual or commingled high capacity wells yielding more than 50 GPM.
 - b) Installation of flowmeters must be installed to manufacturer's specifications. A legal description must be submitted to UENRD and flowmeters must be installed by December 31st of the current year of meeting the above static water level.
 - c) Flowmeter readings will need to be submitted to UENRD by December 31st each year on forms developed by UENRD and maybe spot-checked for compliance.
 - d) Historical ground water certified irrigated acres that were not being irrigated prior to this trigger will not be allowed to be developed for irrigation as long as the above criteria is met.
6. When spring static water levels in a sub-district remain and are determined to be within 12 inches below the lowest spring static reading in subsequent or non-subsequent years, the following shall occur:
 - a) Flowmeters will be required on 100% of the landowner's irrigation distribution systems within that sub-district that are supplied by individual or commingled high capacity wells yielding more than 50 GPM . No allocation will be implemented at this time.
 - b) Installation of flowmeters must be installed to manufacturer's specifications. A legal description must be submitted to UENRD and flowmeters must be installed by December 31st of the current year of meeting the above static water level.
7. When the spring static water levels in a sub-district are determined to be below 12 inches of the lowest spring static water level reading, then an allocation system will be implemented within that sub-district and the following shall occur:
 - a) Flowmeters will be required on 100% of the landowner's irrigation distribution systems within that sub-district that are supplied by individual or commingled high capacity wells yielding more than 50 GPM.
 - b) Installation of flowmeters must be installed to manufacturer's specifications. A legal description must be submitted to UENRD and flowmeters must be installed by December 31st of the current year of meeting the above static water level.
 - c) Variances may be granted upon a demonstration of good cause.
 - d) Allocations will be allotted the following year of the spring reading reaching this static water level. Each ground water certified irrigation distribution system will be allocated for a period of 5 years and receive 75 acre inches.
 - e) Flowmeter readings will need to be submitted to UENRD by December 31st each year on forms developed by UENRD and may be spot-checked for compliance.
 - f) Historical ground water certified irrigated acres that were not being irrigated prior to this trigger will not be allowed to be developed for irrigation as long as the above criteria is met.
8. When spring static water levels in a sub-district are determined to be below 12 inches of the lowest spring static water level in one spring static water level measuring cycle, the following shall occur:

- a) Flowmeters will be required on 100% of the landowner's irrigation distribution systems within that sub-district that are supplied by individual or commingled high capacity wells yielding more than 50 GPM *and* an allocation will be enforced on all ground water irrigation distribution systems within the sub-district.
- b) Allocations will be allotted the following year of the spring reading reaching this static water level.
- c) Allocations will be maintained for a minimum of 5 years. Any time within this period the UENRD board of directors reserves the right to adjust the allocation amount based on static water levels, trend lines, and weather conditions.
- d) Flowmeter readings will need to be submitted to UENRD by December 31st each year on forms developed by UENRD and may be spot-checked for compliance.
- e) Historical ground water certified irrigated acres that were not being irrigated prior to this trigger will not be allowed to be developed for irrigation as long as the above criteria is met.

9. Upon static water levels reaching Subpart 8 above:

- a) Expansion of ground water irrigated acres will not be allowed.
- b) Each ground water certified irrigation distribution system will be allocated for a period of 5 years and receive 75 acre inches.
- c) New helper wells will not be allowed once a sub-district has been determined to be triggered.
- d) Transfers of historical or active ground water irrigated acres will not be allowed.
- e) Inactive certified historical acres that are not currently irrigated upon a sub-district being triggered will not receive an allocation.
- f) Historical certified irrigated acres that began irrigating within the five years prior to being triggered will only receive 15 acre inches multiplied by the number of years documented by Farm Service Agency or County Assessor records.
 - I. (For example, if documentation demonstrates land was irrigated 3 out of the previous 5 years, such land would receive only 45 acre inches for the 5 year allocation starting the year it was triggered.)
- g) Situations where ground water historical irrigated acres are utilized to complete circle or add to a certified irrigation distribution system will be calculated as such.
 - I. (For example, if 5 acres were added to 127 acre pivot and 3 years' worth of documentation are available, 5 acres x 45 inches = 225 acre inches. 127 acres have 75 acre inches, or 9,525 acre inches. So, add (225 acre in + 9,525 acre in) /132 acres = 73.86 acre inches for the 5 year allocation.)
- h) Balance of allocations will be based on an annual allocation of 15 acre inches.
- i) Once levels rise two feet above the lowest level, the UENRD Board will decide as to whether a sub-district can sustain more consumptive use and determine if ground water historical acres that are not being currently irrigated will be allowed to be irrigated.
- j) Allocation Carry-Over:
 - I. Any unused allocation at the end of the 5 year time period would only be allowed to carry 5 acre inches into the next allocation. (Starting with a new 75 acre inch allocation + 5 acre inches of carry over = 80 acre inches for next 5 year time period.)
 - II. Landowners would have to notify on a form provided by UENRD the amount and location where a portion of an allocation is to be moved. This notification would have to occur by January 15th of each year.
 - III. Moving of allocation as stated above would only be allowed when:
 - a) Properties are within the same ownership;
 - b) Within sub-districts developed by UENRD; and

- c) Are to a lower stream depletion factor within the same hydrologic unit code (“HUC”) within the same sub-district.
 - o Allocation would be allowed to move within 2 miles of adjacent HUC meeting above criteria.

k) Penalties:

- I. At the end of the 5 year allocation, any amount of ground water used over the 75 acre inch allocation will be rounded to the next consecutive inch, multiplied by 5, and subtracted from the next new subsequent allocation.
- II. If the district removes the sub-district from an allocation, those ground water irrigation distribution systems that was to be penalized by a reduction will remain with an allocation for another year. This 1 year allocation will be based on the annual 15 acre inch allocation minus the penalty.
 - a) (For example, if a landowner used 1.2 acre inches more than the 75 acre inch allocation, 1.2 acre inches rounded to 2 acre inches times 5 equals 10 acre inches. 15 acre inches (annual) minus 10 acre inches (penalty) = 5 acre inches for year 6.)
- III. Acres that are being irrigated that have not been certified by the ground water irrigation distribution owner with UENRD will have their allocation reduced on their certified ground water irrigated acres for that ground water distribution irrigation system. Certified irrigated acres will be reduced by a multiplier of 10.
 - a) (For example, landowner has 127 acres and irrigated 3 acres more that was not certified as irrigated. Landowner would be penalized 3 (acres) x 10 (multiplier) = 30 acres of reduction on that impacted irrigation distribution system for a minimum of 1 year. If this violation occurs during an allocation period, penalty will carry on for completion of existing allocation period and on to next full allocation. If allocation for that sub-basin is removed then the penalty will be enforced for 1 year.

Groundwater Quality Management Area Controls

● Phase I Groundwater Quality Management Areas - 0 to 50% of the MCL (0 - 5.0 ppm nitrate-nitrogen)

1. The person or persons responsible for making final decisions on any type of applications of nitrogen fertilizer on a area larger than **one acre** and applying more than 50 pounds per acre of actual nitrogen on any irrigated crop within the UENRD, either commercially or privately, must be certified by the District once every four (4) years. The person or persons will be considered the *certified operator(s)*. The certification requirement will include attending educational classes established by the District with assistance from the County Extension, University of Nebraska Research and Extension personnel, and others. Nitrogen certification from bordering NRDs will be accepted as fulfillment of the UENRD nitrogen certification requirement pending UENRD Board approval. This is possible since most NRDs will be using essentially the same educational program being developed statewide in coordination with the University of Nebraska Cooperative Extension. To address specific issues in the UENRD, additional educational materials may be given to operators certified in other neighboring NRDs.
2. A groundwater analysis for nitrate-nitrogen content in all registered wells used for irrigation of crops must be accomplished by the certified operator once every four (4) years prior to recertification. The results of this analysis must be submitted to the UENRD by the following December 31st report deadline. The sample must be collected and analyzed using UENRD approved methods. A methodology for sample collection and proper analysis procedures will be included as part of the District's educational program. Information from this analysis will give the certified operator knowledge of usable nitrate-nitrogen already present in the groundwater. This information will *not* be used in determining a Phase Area.
3. With the passage of LB 981(1994), all new wells constructed in a control or management area (including a GWQMA) must have a permit from the local NRD prior to construction (see Rule 14). Exceptions include, test holes, dewatering wells with intended use of ninety days or less, and water wells which are designed and constructed to pump fifty gallons per minute or less. A copy of this permit will be retained at the District office and with the Nebraska Department of Natural Resources. The cost of permitting and penalties applied will be consistent with the laws of the state of Nebraska.
4. Certified operators are encouraged to set a realistic yield goal for crops where more than 50 lbs of actual nitrogen fertilizer per acre is to be applied. A realistic goal is based on the last five years actual yield averaged plus five percent.
5. Residents residing in communities within the UENRD who apply nitrogen fertilizer will be encouraged to attend Nitrogen Awareness Programs established by the District with assistance from the County Extension, University of Nebraska Research and Extension personnel, and others.
6. Fall (*September 23 to December 20*) and Winter (*December 21 to March 1*) applications of commercial nitrogen fertilizer will be discouraged on all soils. Spring (*March 2 to June 20*) applications of commercial nitrogen fertilizer greater than **100 pounds of actual nitrogen fertilizer per acre** will be encouraged through split applications (i.e. preplant, planting, weed and feed, post emergence side-dressing, and, if applicable, through an irrigation distribution system).

7. The District encourages voluntary testing of all domestic and stock wells for nitrate-nitrogen content.
8. The District encourages a deep soil sampling analysis (two or three foot sample if applicable) for nitrate-nitrogen content on each field larger than **40 acres** with more **than 50 lbs per acre of actual nitrogen fertilizer** applied. Approved sampling and analysis techniques will be included as part of the educational program. This analysis will give the certified operator knowledge of usable and inaccessible (below the root zone) nitrogen in the soil profile.
9. The District encourages the use of calibration monitors on all applications of fertilizers and pesticides. Proper maintenance of all fertilizer and pesticide equipment is also encouraged.
10. The District encourages producers to use alternative irrigation and fertility management technology as it becomes available to increase efficiency and protect the environment.

● **Phase II Groundwater Quality Management Areas - > 50% to 90% of the MCL (>5.0 - 9.0 ppm nitrate-nitrogen)**

1. A continuation of Phase I activities will remain in effect unless modified or negated by Phase II requirements.
2. The District will require the certified operator to accomplish an annual deep soil sampling analysis (mandatory two foot sample, three foot sample encouraged, if applicable) for nitrate-nitrogen content on each field larger than **40 acres** with more than **50 lbs per acre of actual nitrogen fertilizer** applied. The sample must be collected and analyzed using UENRD approved methods. Approved sampling and analysis techniques will be included as part of the District's educational program. This analysis will give the certified operator knowledge of usable and inaccessible nitrogen (below the root zone) in the soil profile.
3. Certified operators must submit a report to the Upper Elkhorn NRD by **December 31st** following each crop year on forms provided by the District for areas larger than **40 acres** where more **than 50 lbs per acre of actual nitrogen fertilizer** is applied. The report will consist of three sections and will include, but is not limited to, the following information:

Section I. Nutrient Management (based on information from *previous* year)

- a) Field identification and size.
- b) Type of crop(s)
- c) Results of the water nitrate-nitrogen analysis (in parts per million) from each irrigation well must be reported (Phase I, 2).
- d) Results of the soil sampling analysis if required (average pounds of residual nitrate-nitrogen to the depth sampled).
- e) UNL nitrogen fertilizer recommendations.
- f) Nitrogen credits from water, residual soil nitrogen, and other nitrogen sources such as manure applications.
- g) The actual pounds of nitrogen fertilizer applied per acre.
- h) Actual yield.
- i) A realistic yield goal for next year's crop.

Section II. Pest Management (based on information from *previous year*)

- a) Field identification and size.
- b) Type of crop(s).
- c) Names and types of pesticides applied.
- d) Types of pests intending to control.
- e) Application rates.

Section III. Irrigation Management (based on information from *previous year*)

- a) Field identification and size.
- b) Type of crop(s).
- c) Area irrigated.
- d) Total evapotranspiration.
- e) Amount of irrigation water applied in inches.
- f) Total precipitation.

An informational packet will be provided to each of the certified operators containing any necessary information and a list of possible information sources. Similar reports are used by the Natural Resources Conservation Service and other NRDs. This continuity allows for greater information exchange and dissemination. Many different entities will be available to certified operators should questions arise. The District reserves the right to request additional information needed to assist in the successful implementation of this groundwater management plan.

4. The District will encourage certified operators to incorporate credits from application of animal waste (solid or effluent) and municipality waste into the total nitrogen requirement for the specific crop where this application of waste is made. An analysis of waste slurry will be encouraged to determine nitrogen content. Operators are encouraged to apply animal and municipality waste evenly over as many acres as possible. The following rules and regulations apply to the application of animal and municipal waste, accordingly:
 - a) All required livestock waste facilities must be properly permitted by the State of Nebraska.
 - b) Nitrogen application including livestock waste (solid or effluent) should not exceed agronomic rates for a crop.
 - c) Waste application on land subject to frequent flooding (see County Soil Survey) will be discouraged.
 - d) Waste applications within 200 feet of, and draining into, adjacent water bodies will be discouraged.
 - e) Spreading of animal and municipality waste on frozen or snow covered ground will be discouraged. Animal and municipality waste should be applied to land where slopes are four percent (4%) or less or adequate erosion control practices are used.
 - f) The application of waste disposal on tilled ground with greater than ten percent (10%) slopes is discouraged unless adequate erosion control practices are present.
 - g) A nitrogen analysis of animal waste slurry will be encouraged.
5. Fall (September 23 to December 20) and Winter (December 21- March 1) application of all commercial nitrogen fertilizer will not be allowed before **November 1**. It will be discouraged until after **March 1** on all soils. Exceptions will be allowed for Spring and Fall seeded crops and meadows if the actual nitrogen application rate is **less than 20 pounds per acre**.

6. The use of monitoring equipment (i.e., flow meters, rain gauges, hour meters, etc.) and distribution equipment (i.e. pressure regulators, low pressure nozzles, etc.) for efficient fertilizer and water distribution will be encouraged by the District.

● **Phase III Groundwater Quality Management Areas - > 90% of the MCL (> 9.0 ppm nitrate-nitrogen)**

1. All rules and regulations established for Phases I & II will remain in effect unless modified or negated by Phase III requirements.
2. If the groundwater analysis from Phase I, #2 and reported in Phase II, #3(c) shows nitrate-nitrogen levels greater than (90)% of the MCL, then the groundwater analysis for nitrate-nitrogen in Phase I, #2 must be made annually and results submitted in the report discussed in Phase II, #3 (c). In other words, the groundwater analysis required prior to recertification (once every four years) in a Phase I GWQMA, now must be conducted on an annual basis if the nitrate-nitrogen levels exceed 90% of the MCL or 9.0 ppm in the case of nitrate-nitrogen.
3. If a town, village, or city lies within a Phase III Area, will be encouraged to complete a Well Head Protection Area Plan. The Upper Elkhorn NRD will provide assistance to the communities for completing this plan.
4. Randomized soil sampling will be conducted in the Phase III areas to identify fields, which are larger than 40 acres with more than 50 lbs/ac of actual nitrogen applied, with high residual soil nitrate-nitrogen. UENRD staff or contracted workers/agronomists will collect deep soil samples (three foot samples) based on proper soil sampling protocol from University of Nebraska-Lincoln (UNL) NebGuide G1740, "Guidelines for Soil Sampling." Following these guidelines, for every 40 acres, 10-15 randomly collected surface cores (0-8" deep) and 6-8 subsoil cores (8-36" deep) will be collected and analyzed for nitrate-nitrogen analysis.
 - a. **Analysis:** Samples will be shipped to and analyzed by an NRD approved agricultural analysis laboratory. Soil sample analysis will be conducted for each sampled field for pounds of nitrate-nitrogen per acre (lbs/ac) and will fall within the following Trigger Levels:
No Trigger: 0 – < 40 lbs/ac
Level 1: ≥ 40 – < 50 lbs/ac
Level 2: ≥ 50 – < 60 lbs/ac
Level 3: ≥ 60 lbs/ac
 - i. If any portion of the field triggers a higher level, the whole field will be considered to trigger the higher level. For example, if a field is analyzed by the north half and south half, and if the north half is 30 lbs/ac and the south half is 40 lbs/ac, the entire field will be considered Level 1.
 - b. **Timing:** Samples will be collected in the fall, after harvest, to determine the amount of nitrate-nitrogen left in the soil. Samples will be taken from fields in either a one or three year program. Samples will only be taken from fields with more than 50 lbs/ac of actual nitrogen applied (i.e., corn fields) in Year 1, seeing as little to no nitrogen is commonly applied to beans. If the field has < 40 lbs/ac residual nitrate-nitrogen in Year 1, the field will not need to be retested. If the field is ≥ 40

lbs/ac residual nitrate-nitrogen, the same field will also be tested in Year 2 and Year 3. This is because of the common crop rotation of corn then beans, so the field will need to be tested in Year 2 (beans) and again in Year 3 (corn) to assess the producer's nitrogen management.

- c. **Triggers:** The landowner, operator, and/or nitrogen applicator (henceforth "the party") will be notified of their lbs/ac of nitrate-nitrogen every year that the field is sampled. If the field has > 40 lbs/ac of residual nitrate-nitrogen, the party will be provided a list of potential Best Management Practices (Appendix A) which are reasonably considered to achieve compliance with Phase III Controls. If the field does not trigger (< 40 lbs/ac) in Year 1, the party will be notified of their result and no more testing for Phase III will be required, unless selected in the future.
- i. If a field triggers Level 1: The landowner, operator, and/or nitrogen applicator will be required to reduce the amount of residual nitrate-nitrogen the following years to below 40 lbs/ac. The field will be sampled for a minimum of two more years.
1. **If in Year 2, the field triggers:**
 - a. No Trigger: The field will be tested for one more year.
 - b. Level 1: The party will be required to reduce level below 40 lbs/ac. The field will be tested for one more year.
 - c. Level 2 or 3: The party will meet with UENRD, and will be required to reduce level below 40 lbs/ac. The field will be tested for one more year. The landowner will be required to pay for the cost of the soil sample for Year 3.
 2. **If in Year 3, the field triggers:**
 - a. No Trigger: No more testing will be required, unless selected in the future.
 - b. Level 1: The party will be required to reduce level below 40 lbs/ac. The field will be tested for a minimum of one more year, and the landowner will be required to pay for the cost of the soil sample for Year 4 and beyond; see Section 4.C.iv.
 - c. Level 2 or 3: The party will meet with UENRD, and will be required to reduce level below 40 lbs/ac. The field will be tested for a minimum of one more year, and the landowner will be required to pay for the cost of the soil sample for Year 4 and beyond; see Section 4.C.iv.
- ii. If a field triggers Level 2: The field will be sampled for a minimum of two more years and will be required to reduce the amount of residual nitrate-nitrogen the following years to below 40 lbs/ac.
1. **If in Year 2, the field triggers:**
 - a. No Trigger: The field will be tested for one more year.
 - b. Level 1: The field will be tested for one more year. The party will be required to reduce level below 40 lbs/ac.
 - c. Level 2 or 3: The field will be tested for one more year. The party will meet with UENRD, and will be required to reduce level below 40 lbs/ac. "Failure to Reduce" procedures may go into effect, see Section 4.D. The landowner will be required to pay for the cost of the soil sample for Year 3.
 2. **If in Year 3, the field triggers:**
 - a. No Trigger: No more testing will be required, unless selected in the future.
 - b. Level 1: The party will be required to reduce level below 40 lbs/ac. The field will be tested for a minimum of one more year, and the landowner will be required to pay for the cost of the soil sample for Year 4 and beyond; see Section 4.C.iv.

- c. Level 2 or 3: The party will meet with the UENRD, and will be required to reduce level below 40 lbs/ac. The field will be tested for a minimum of one more year, and the landowner will be required to pay for the cost of the soil sample for Year 4 and beyond; see Section 4.C.iv. “Failure to Reduce” procedures may go into effect, see Section 4.D.
 - iii. If a field triggers Level 3: The landowner, operator, and/or nitrogen applicator will be required to meet with the UENRD Water Committee to explain why the residual nitrate-nitrogen was above the limit for that field for that season. The field will be sampled for a minimum of two more years and will be required to reduce the amount of residual nitrate-nitrogen the following years to below 40 lbs/ac.
 - 1. **If in Year 2, the field triggers:**
 - a. No Trigger: The field will be tested for one more year.
 - b. Level 1: The field will be tested for one more year. The party will be required to reduce level below 40 lbs/ac.
 - c. Level 2 or 3: The field will be tested for one more year. The party will meet with UENRD, and will be required to reduce level below 40 lbs/ac. “Failure to Reduce” procedures may go into effect, see Section 4.D. The landowner will be required to pay for the cost of the soil sample for Year 3.
 - 2. **If in Year 3, the field triggers:**
 - a. No Trigger: No more testing will be required, unless selected in the future.
 - b. Level 1: The party will be required to reduce level below 40 lbs/ac. The field will be tested for a minimum of one more year, and the landowner will be required to pay for the cost of the soil sample for Year 4 and beyond; see Section 4.C.iv.
 - c. Level 2 or 3: The party will meet with the UENRD, and will be required to reduce level below 40 lbs/ac. The field will be tested for a minimum of one more year, and the landowner will be required to pay for the cost of the soil sample for Year 4 and beyond; see Section 4.C.iv. “Failure to Reduce” procedures may go into effect, see Section 4.D.
 - iv. Year 4 and beyond: If a field has yet to get below 40 lbs/ac after the first three years, continued soil sampling will occur. The landowner will be responsible for the cost of the soil sample. Sampling will occur yearly until the field is below 40 lbs/ac.
 - d. **Failure to Reduce**: Any party that fails to reduce residual nitrate-nitrogen to levels below 40 lbs/ac as described above, will receive a notice of violation and may receive a cease and desist order. The cease and desist order may order the immediate cessation of the application of nitrogen, the reduction or cessation of irrigation, the reduction or removal of certified irrigated acres, or such other measure authorized pursuant to Neb. Rev. Stat. 46-739, that are reasonably considered to achieve compliance with this section, as determined by the Upper Elkhorn Board of Directors.
 - e. **Field Selection**: Fields will be randomly selected within the Phase III designated townships annually. The UENRD staff or contracted workers/agronomists will contact the landowner and/or operator to determine crop for that field; only fields that are larger than 40 acres with more than 50 lbs/ac of actual nitrogen applied during that growing season will be tested.
5. The application of commercial nitrogen fertilizer is prohibited on all soils until after **March 1**. Spring (*March 1 to June 20*) application of commercial nitrogen fertilizer at a rate of **over 100**

pounds of actual nitrogen per acre will require split applications (i.e. pre-plant, post emergence side dress, weed and feed, planting time, and through the center pivot, if applicable).

6. If the Board of Directors deems it necessary to maintain, enhance, or protect groundwater quality, or to address concerns regarding conjunctive use and adverse effects on groundwater quality, the UENRD may choose to implement additional controls as listed in Nebraska State Statutes 46-739. Some of the controls in this Statute are groundwater allocation and irrigated acre reduction.

● **Phase III Groundwater Quality Management Areas - > 90% of the MCL
(> 9.0 ppm nitrate-nitrogen)**

Appendix A:

List of potential Best Management Practices:

- Soil moisture probes/tensiometers
- Flowmeters and flowmeter monitoring and management
- Irrigation scheduling, rain gauges, etc.
- Rain interrupters on irrigation systems
- Irrigation allocations / Irrigation rotation / Reduce irrigated acres
- Proper timing of fertilizer application
- Nitrogen inhibitors/slow release nitrogen
- Use of UNL fertilizer recommended rate
- Split application / utilization of chemigation
- Review nitrogen receipts (and compare to UNL recommendation)
- Review yield receipts
- Chlorophyll meters / Crop growth infrared sensors
- Pre-cropping reporting and post-cropping reporting
- New well drilling rules regarding depth and casings
- Test plots
- Denitrification ponds/buffer strips
- Cover crops
- Crop rotation
- Further requirements for livestock waste (lab analysis, credit must be taken)
- Or other criteria allowed under Neb. Rev. Stat. 46-739