WATER, ENERGY, AND ENVIRONMENT, DEPARTMENT OF

TITLE 134, WATER WELL STANDARDS AND CONTRACTORS' PRACTICE REGULATION

EFFECTIVE 06-28-2026

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001. SCOPE AND AUTHORITY.

These regulations are promulgated pursuant to Neb. Rev. Stat. § 46-602 and the Nebraska Water Well Standards and Contractors' Practice Act (Act), codified at Neb. Rev. Stat. §§ 46-1201 to 46-1241, and govern the licensure of professionals; the minimum requirements for the construction, location, and decommissioning of water wells, the installation of pumps and pumping equipment, the collection of water samples from water wells, and the inspection of installed water well equipment and chemigation devices; and fees.

002. DEFINITIONS.

As used in this Title:

ABANDONED WATER WELL means 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 Department, and (3) for which the notice of abandonment required by Neb. Rev. Stat. § 46-602(2) has been filed with the Department by the licensed water well contractor or licensed pump installation contractor who decommissioned the water well or by the water well owner if the owner decommissioned the water well.

ACTIVE STATUS WATER WELL means a water well which is in use and which is not an illegal water well.

ANNULAR FILL means materials placed in the annular space between the surface seal required in 134 NAC 4-001.10(d) and the primary aquifer required in 134 NAC 4-001.10(a).

ANNULAR SPACE means the space between the well casing and the well borehole wall and/or the space between two or more strings of well casing.

AQUIFER means a geological formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield adequate quantities of water to wells and springs.

AQUIFER SEAL means a grout seal placed in the annular space of a well.

BACKFLOW PREVENTER means an assembly, a device, or a construction practice that prohibits the backflow of water from the distribution piping into the water well. This includes but is not limited to check valves, curb stops, or air gaps.

BENTONITE means a highly plastic, colloidal sodium clay composed largely of montmorillonite.

BENTONITE SEAL means a bentonite-based material used as a seal or plug.

BOARD means the Water Well Standards and Contractors' Licensing Board.

BORED OR DUG WELL means a well consisting of a large diameter borehole, usually two feet or more, lined with concrete, clay tile, brick, or stone.

CASING means a structural retainer which is installed in the borehole to support loose formation, provide a conduit for movement of fluids, and/or house pumping equipment.

CERTIFICATE OF COMPLETION means evidence or documentation provided to the Department showing attendance and completion of a continuing education program.

CESSPOOL means an underground catch and discharge basin for household sewage or other liquid waste.

CLASSIFICATION NOTICE means a written notice informing the recipient landowner that the Department has classified a water well on the property of the recipient landowner as an illegal water well.

CLAY means a fine-grained inorganic material which has very low permeability. For purposes of this definition, a grain is considered fine if the grain measures less than 0.0005 of a millimeter in diameter.

CLOSED LOOP HEAT PUMP WELL means a well constructed for the purpose of installing the underground piping necessary to recirculate heat transfer fluid.

CONFINING LAYER means a geologic layer of either unconsolidated or consolidated material having permeability distinctly lower than the adjacent aquifer(s).

CONSTRUCTION OF WATER WELLS includes all acts necessary to make a water well usable for the purpose for which it is intended including, without limitation, the siting of and excavation for the water well and its construction, alteration, or repair, but excludes the installation of pumps and pumping equipment.

CONTAMINATION means the addition of unwholesome or undesirable parts that degrades the quality of the larger whole.

CONTINUING EDUCATION means the education required as a condition of licensure under the Act, for the maintenance of skills necessary for the protection of groundwater and public health, competent construction of water wells, installation of pumps and pumping equipment, and water well monitoring which has been approved by the Board in accordance with this Chapter.

CONTINUING EDUCATION PROGRAM means instruction or information provided to licensees for the purpose of maintaining skills necessary for protecting groundwater and public health, and competent practice of construction of water wells, installation of pumps and pumping equipment, water well monitoring, the inspection of chemigation systems, and inspection and servicing of flow meters.

DECOMMISSIONED, when used in relation to a water well, means the act of filling, sealing, and plugging a water well in accordance with the rules and regulations of the department.

DEPARTMENT means the Department of Water, Energy, and Environment.

DEWATERING WELL means a water well constructed for the purpose of lowering the ground water surface elevation, either temporarily or permanently.

DIRECTOR means the Director of the Department of Water, Energy, and Environment.

DISCHARGE PIPE means any and all piping beginning at the discharge head, or pitless unit tapping, extending to the first backflow prevention device.

DISTRIBUTION PIPING means all piping extending beyond the discharge pipe.

DRIVEN SANDPOINT WELL means a well that is driven, washed, or jetted into an aquifer with the sandpoint attached directly to the pump suction line.

means gallons per minute.

GRAVEL PACK means filter material placed in the annular space around the well screen.

GROUND WATER means that water which occurs in or moves, seeps, filters, or percolates, through ground under the surface of the land.

GROUNDWATER HEAT PUMP WELL means a well constructed for the purpose of utilizing the geothermal properties of the ground.

GROUT means materials composed of bentonite clays and/or portland cements, and, if needed, other additives that, when combined, form a low permeability seal not greater than one times ten to the negative seven centimeters per second ($1x10^{-7}$ cm/sec). Grout material is designed to seal the annular space when used for well construction and the well cavity when used for decommissioning.

HORIZONTAL CLOSED LOOP SYSTEM means a boring, trench, or pit, essentially parallel to the horizon and into which a closed loop pipe is

placed for the purpose of utilizing the geothermal properties of the ground.

ILLEGAL WATER WELL means any water well which has not been properly decommissioned and which meets any of the following conditions: the water well is in such a condition that it cannot be placed in active or inactive status; any necessary operating equipment has been removed and the well has not been placed in inactive status; the water well is in such a state of disrepair that continued use for the purpose for which it was constructed is impractical; the water well was constructed after October 1, 1986, but not constructed by a licensed water well contractor or by an individual on land owned by him or her and used by him or her for farming, ranching, or agricultural purposes or as his or her place of abode; the water well poses a health or safety hazard; the water well is an illegal water well in accordance with Neb. Rev. Stat. § 46-706; or the water well has been constructed after October 1, 1986, and such well is not in compliance with the standards developed under the Water Well Standards and Contractors' Practice Act.

INACTIVE STATUS WATER WELL means a water well that is in a good state of repair and for which the owner has provided evidence of intent for future use by maintaining the water well in a manner which meets the following requirements: the water well does not allow impairment of the water quality in the water well or of the ground water encountered by the water well; 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 water well; all entrances and discharge piping to the water well are effectively sealed to prevent the entrance of contaminants; and 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.

INSTALLATION OF PUMPS AND PUMPING EQUIPMENT means the procedure employed in the placement and preparation for operation of pumps and pumping equipment at the water well location, including connecting all wiring to the first control and all construction or repair involved in making entrance to the water well, which involves the breaking of the well seal.

LANDOWNER means a person who owns land on which a water well is or will be located.

LICENSED NATURAL RESOURCES GROUND WATER TECHNICIAN means a natural resources ground water technician who has taken a training course, passed an examination based on the training course, and received a license from the department indicating that he or she is a licensed natural resources ground water technician.

LICENSED PUMP INSTALLATION CONTRACTOR means an individual who has obtained a license from the department and who is a principal officer,

director, manager, or owner-operator of any business engaged in the installation of pumps and pumping equipment or the decommissioning of water wells.

LICENSED PUMP INSTALLATION SUPERVISOR means any individual who has obtained a license from the department and who is engaged in the installation of pumps and pumping equipment or the decommissioning of water wells. Such supervisor may have discretionary and supervisory authority over other employees of a pump installation contractor.

LICENSED WATER WELL CONTRACTOR means an individual who has obtained a license from the department and who is a principal officer, director, manager, or owner-operator, of any business engaged in the construction or decommissioning of water wells.

LICENSED WATER WELL DRILLING SUPERVISOR means any individual who has obtained a license from the department and who is engaged in the construction or decommissioning of water wells. Such supervisor may have discretionary and supervisory authority over other employees of a water well contractor.

LICENSED WATER WELL MONITORING TECHNICIAN means any individual who has obtained a license from the department and who is engage solely in the measuring of ground water levels, the collection of ground water samples from existing water wells, or the inspection of installed water well equipment or pumping systems. A licensed water well monitoring technician shall not supervise the work of others.

LICENSEE/LICENSE HOLDER means a person who holds an unexpired license to practice under the Act, regardless whether such license is suspended or of any limitation, term, or condition, placed on the license.

/l means milligrams per liter.

MILITARY SERVICE means full-time active military service of the United States, a National Guard call to active service for more than 30 consecutive days, or active service as a commissioned officer of the Public Health Service or the National Oceanic and Atmospheric Administration. Military service may also include any period during which a servicemember is absent from duty on account of sickness, wounds, leave, or other lawful cause.

MONITORING WELL means a well constructed for purposes of monitoring water quality and/or quantity.

NATURAL RESOURCES GROUND WATER TECHNICIAN means any individual employed by a natural resources district and engaged in the inspection of chemigation systems, measuring and recording static water levels, inspection and servicing of flow meters, and water sampling practices and techniques. Natural resources ground water technician does not include: (1) An individual who constructs a water well or installs or repairs pumps or pumping equipment or a water well; (2) a water well monitoring

technician; or (3) an individual who carries out the measurement, sampling, or inspection of a water well which is on land owned by him or her and used by him or her for farming, ranching, or agricultural purposes or as his or her place of abode.

NON-POTABLE WELL means a water well constructed to produce water not intended for human consumption.

OBSERVATION WELL means a non-potable water well constructed for the purpose of measuring water levels and/or collecting water quality samples that is not located in a zone of contamination.

OPEN HOLE WELL means a water well that results from the drilling of a hole into certain rock formations and often finished with no casing or screen adjacent to the water-yielding portion of the rock.

OPEN LOOP HEAT PUMP WELL means a well that transfers heat via pumped ground water which is discharged above and/or below ground. For below ground discharge refer to Title 122 of the Nebraska Administrative Code.

PERCHED GROUNDWATER means an isolated zone of saturation above the regional water table. It occurs when an impervious layer within the unsaturated zone impedes the downward movement of water.

PERSON means any individual; partnership; limited liability company; association; public or private corporation; trustee; receiver; assignee; agent; municipality or other governmental subdivision; public agency; other legal entity; or any officer or governing or managing body of any public or private corporation, municipality, governmental subdivision, public agency, or other legal entity.

PETITION FOR RECLASSIFICATION means a written petition submitted to the Department requesting the Department reclassify an illegal water well as an active status water well, an inactive status water well, or an abandoned water well.

PITLESS UNIT means an underground discharge assembly for a water well which attaches directly to the casing and provides watertight subsurface connections for suction lines or pump discharge without the use of a well pit and includes the underground distributor and the steel extension to the ground surface.

PLUG means a watertight seal installed in an open borehole or well casing to prevent movement of fluids.

POLLUTION means an impairment of water quality to a degree that restricts the intended use of ground water.

POTABLE WELL means a water well constructed to produce water for human consumption.

means parts per million.

PRACTICE means work performed under the Act that requires a license.

PRIMARY AQUIFER SEAL means a non-slurry bentonite or high solids bentonite slurry grout interval placed in the annular space on top of the gravel pack just above the screened openings, and/or beginning at the base of the first layer of silt/clay above the production zone, and/or at or immediately below the static water level, whichever provides the most aquifer protection.

PROVIDER means an institution, organization, or individual that presents continuing education programs to licensees and requests approval from the Board for such programs.

means pounds per square inch.

PUBLIC WATER SYSTEM means a system for providing the public with water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days per year. Public water system includes (i) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system and (ii) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Public water system does not include a special irrigation district. A public water system is either a community water system or a noncommunity water system.

PUMPS AND PUMPING EQUIPMENT means any equipment or materials utilized or intended for use in withdrawing or obtaining ground water including, but not limited to, seals, tanks, fittings, and controls.

RECOVERY WELL means a water well constructed for the purpose of, or in conjunction with, the removal of contamination from an aquifer or aquifers.

SANITARY WELL SEAL means a device used to cap a water well or to establish and maintain a junction between the casing or curbing of a water well and the piping or equipment installed therein, the purpose or function of which is to prevent pollutants from entering the water well.

SCREEN APERTURES means a series of openings in a water well casing, made either before or after installation of the casing, to permit the entrance of water into the well.

SCREENED VENT means an inverted, U-shaped tube, or the equivalent, the open end of which is covered with a wire mesh, that is inserted into the top of a well to equalize the air pressure inside the well with that of the atmosphere.

SECURE COVER OR CAP means an object placed over a borehole or water well, the purpose of which is to prevent the degradation of ground water quality and/or personal injury. If the secure cover or cap is left open for more than 10 days, then the secure cover or cap must be watertight.

STATIC WATER LEVEL means the distance from a fixed reference point to the water level in a well when the well is not being pumped.

SUBSTANTIALLY EQUIVALENT means any procedure or material to be used for water well construction, pump installation, or water well decommissioning which provides equal protection to ground water resources from potential pollution and protects public health equivalent to the procedures or materials prescribed in 134 NAC 4.

SUBSURFACE DISPOSAL SYSTEM means any system that utilizes the soil for subsequent absorption of treated sewage; such as a lateral field, absorption trench, seepage bed, or seepage pit.

SURFACE SEAL means a grout interval placed in the annular space within the first 15 feet below the surface.

SUPERVISION means the ready availability of the person licensed pursuant to the Water Well Standards and Contractors' Practice Act for consultation and direction of the activities of any person not licensed who assists in the construction of a water well, the installation of pumps and pumping equipment, or decommissioning of a water well. Contact with the licensed contractor or supervisor by telecommunication shall be sufficient to show ready availability.

TEST HOLE means a hole or excavation designed to obtain information on hydrogeologic conditions and includes any geotechnical boring.

TREMIE PIPE means a pipe or hose that carries grout or gravel pack to the placement depth.

VERTICAL CLOSED LOOP SYSTEM means a borehole essentially perpendicular to the horizon into which a closed loop pipe is placed and includes the horizontal closed loop header piping for the purpose of utilizing the geothermal properties of the ground.

WATER BEARING ZONE means an area in the subsurface with the same characteristic of an aquifer. However, there may be multiple water bearing zones within an aquifer or a single water bearing zone may be described a one aquifer.

WATER SAMPLING PRACTICES means acts by which groundwater samples are obtained from a water well or pumping system in which the water well seal is broken.

WATER WELL means 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 hydrogeologic information, or extracting water from or injecting fluid, as defined in Neb. Rev. Stat. § 81-1502, into the underground water reservoir. Water well does not include any excavation described in Neb. Rev. Stat. §§ 46-601.01(1)(b) and (1)(c).

WATERTIGHT CASING means a watertight pipe that is of sufficient wall thickness to permit threading, gluing, or welding; is capable of withstanding the pressures exerted during installation and forces imposed by the surrounding materials; and will resist corrosion by soil and water environments.

WATERTIGHT SECURE COVER means a welded, solvent welded, threaded, or bolted watertight cover for a water well that is secured in such a way so as to prevent its removal without the use of tools.

WELL DEVELOPMENT means the act of repairing alterations to the formation during construction of the well and enhancing the porosity and permeability of materials surrounding the intake portion of the well. The development process is the application of mechanical devices and/or the use of chemicals to remove drilling fluids and debris left in the filter pack and formation as a result of the drilling process.

WELL PIT means a structure that is set at or below grade and houses a pump and/or pumping equipment and is large enough to allow an individual to fully enter the structure to work on such equipment and is not watertight.

WELL REPAIRS means any change, replacement, or other alteration of any water well, pump, or pumping equipment or any other activity which requires a breaking or opening of the well seal.

WELL SCREEN means the section of the well with openings that allows water to pass from an aquifer into the well or from the well into an aquifer.

WELL SEAL means an arrangement or device used to cap a water well or to establish and maintain a junction between the casing or curbing of a water well and the piping or equipment installed therein, the purpose or function of which is to prevent pollutants from entering the water well.

Enabling Legislation: Neb. Rev. Stat. §§ 461225, 46-1227, 46-1229(2); 46-1230.

001. LICENSE REQUIREMENTS.

In addition to the requirements established in the Act, the following requirements must be met before a license is issued.

001.01 CONTRACTORS. Contractors must:

001.01(a) Furnish to the Department proof that there is in force a policy of public liability and property damage insurance issued to the applicant for at least one hundred thousand dollars in United States currency ($100,000.00); and

001.01(b) Be at least 19 years of age.

001.02 FINANCIAL RESPONSIBILITY. All applicants must be paid up on all fees associated with the application and licensing processes.

001.03 INITIAL APPLICATION. All initial applicants must fill out and submit an application provided by the Department.

002. LICENSURE EXAMINATION.

002.01 WHEN REQUIRED. Unless otherwise provided in this Chapter, examination is required under the Act for:

002.01(a) Applicants for initial licensure;

002.01(b) Former licensees whose license expired pursuant to 005.02 of this Chapter; and

002.01(c) Persons required to take and pass an examination as a condition of discipline.

002.02 WHEN PROHIBITED. Examinations must not be administered to any individual who within the previous two years:

002.02(a) Was involved in developing an examination; or

002.02(b) Is otherwise prohibited from taking an examination as a condition of discipline.

002.03 FORMAT. All examinations are written unless an examination accommodation has been provided.

002.04 TIME AND PLACE. The Department will hold examinations at least four times each year, with no less than one examination during each calendar quarter, in locations determined by the Department.

002.05 ADDITIONAL SUBJECTS. In addition to the subjects enumerated in the Act, applicants for Water Well Monitoring Technicians, Water Well Contractors, Pump Installation Contractors, Water Well Drilling Supervisors, and Pump Installation Supervisors, must also be tested on

the Act, the rules and regulations adopted pursuant to the Act, and other laws and regulations applicable to groundwater and the water well industry.

002.06 EXAMINATION DEVELOPMENT. The Department, with the approval of the Board, may contract with examination development consultants and/or technical experts to prepare the examinations.

002.07 PASSING SCORES. A score of at least 70% on an examination must be considered a passing score.

002.08 BOARD REPRESENTATION AT EXAMINATIONS. Examinations will be administered by at least one Board member or a Board-approved proctor.

002.09 REVIEW MATERIALS. The Board must provide applicants with a list of materials necessary for exam preparation. The list must specify that materials listed thereon may not necessarily cover all matters tested.

002.10 EXAMINATION ACCOMMODATIONS.

002.10(a) Any individual in need of an examination accommodation must so indicate in their application or in an attachment thereto. All accommodation requests must clearly state the reason for the accommodation and a description of the accommodation requested.

002.10(b) The Board must notify the Director in writing of all decisions denying a requested accommodation. The Director retains the right to overrule a denial of the Board of a requested accommodation.

002.11 HARDSHIP LICENSING. Upon a finding by the Board that a business is operating under the license of a deceased contractor or for other good cause, the Board may recommend that the Department issue a temporary hardship license without examination if the applicant meets all other qualifications for the requested license.

002.11(a) H An individual seeking a temporary hardship license must submit in writing to the Board a request containing:

002.11(a)(1) A completed license application; and

002.11(a)(2) A written description of the hardship.

002.12 NOTICE TO EXAMINEES. The Department will provide applicants eligible for examination with:

002.12(a) The date, time, and place, of the examination; and

002.12(b) An admission card or receipt.

002.13 EXAMINATION SECURITY.

002.13(a) A No person will be provided advance copies of or access to current or past examinations or answer keys, except:

002.13(a)(1) Department staff;

002.13(a)(2) Board members;

002.13(a)(3) Legal representatives; or

002.13(a)(4) Designated Department or Board consultants.

002.13(b) E All examination materials must be kept secured when not:

002.13(b)(1) Under review by:

002.13(b)(1)(i) Department staff;

002.13(b)(1)(ii) Department legal counsel;

002.13(b)(1)(iii) Board members;

002.13(b)(1)(iv) Test consultants; or

002.13(b)(1)(v) An examinee or their legal representative pursuant to the examination review procedures of this Chapter; or

002.13(b)(2) In use during an examination.

002.13(c) E The Department must maintain a log of persons provided access to examination materials.

002.14 EXAMINATION DAY.

002.14(a) P The only materials an examinee is permitted to bring with them to the examination are:

002.14(a)(1) A government-issued photo identification; and

002.14(a)(2) The admission card or receipt referred to in 002.12(b) of this Chapter.

002.14(b) L No late admissions to the examination room will be allowed.

002.14(c) E A proctor will provide the instructions for the examination.

002.14(d) A The proctor will not answer any questions concerning examination content during the examination.

002.14(e) E If an examinee thinks a test item is misprinted or incorrect, the examinee will be told to answer the question as it reads.

002.14(f) L

002.14(f)(1) T Examinees may be permitted to go to the restroom unescorted one at a time. A proctor must hold the examinee's cell phone, test book, sheet, and/or answer sheet during the examinee's absence. No additional testing time will be allowed.

002.14(f)(2) P If an examinee must leave the examination because of an emergency or illness, the examinee's test materials will be collected. To ensure proper security of test materials, examinees are discouraged from leaving during the last 10 minutes of the testing time.

002.14(g) C Examinees must not communicate with anyone other than the proctor after the examination questions have been distributed.

002.14(h) O No persons are allowed in the examination room other than the examinees, Board members, Department staff, designated proctors, or their representatives administering the examination.

002.14(i) D An examinee who exhibits disruptive behavior or interferes with testing for other examinees will be removed from the examination room after failure to comply with one warning.

002.14(j) I An examinee who is suspected of giving, copying, or otherwise receiving, unauthorized information about the contents of the examination will be removed from the examination room and have their application returned as unaccepted.

002.15 ACCESS TO EXAMINATIONS. All persons who fail an examination may review their answers subject to the following conditions:

002.15(a) Examinee review may take place only after examination results have been issued by the Department.

002.15(b) An examinee must show a government-issued photo identification before being allowed to review their examination.

002.15(c) Review must take place in the offices of the Department during regular business hours.

002.15(d) Review may take place only in the presence of a Board member or approved representative.

002.15(e) The answer sheet may not be taken from the site designated for review.

002.15(f) Answers may not be copied. Notes may be made but must be limited to the question number and any objections, challenges, or questions concerning the examination. The Department will review notes and may confiscate them if the notes are likely to compromise the integrity of the examination.

002.15(g) No question may be asked of or answered by the Board or approved representative during review. Questions, objections, or challenges can be submitted to the Board in writing for its consideration.

002.15(h) The examinee may have legal counsel present during review or authorize, in writing, legal counsel to review the examination and answer sheet in the examinee's absence. Review by counsel is subject to the same conditions and terms as those for the examinee.

002.16 DISCOVERY DURING APPEALS. No copies of examination materials will be provided except upon written order of the Director or a court of competent jurisdiction. The Director may place reasonable restrictions on records provided under this Section to safeguard examination integrity and prevent unauthorized distribution of an examination.

003. CONTINUING COMPETENCY.

003.01 GENERAL. On or before December 31 of each even-numbered year, individuals holding an active license in Nebraska must complete at least 12 hours of approved continuing education during the preceding 24-month period.

003.02 EXCEPTIONS. Continuing education hours are not required for individuals who were first licensed within the 24-month period immediately preceding the renewal date.

003.03 APPROVAL AND REAPPROVAL OF CONTINUING EDUCATION PROGRAMS.

003.03(a) B

003.03(a)(1) P The Board will evaluate applications from licensees and providers for approval of continuing education programs. The Board will grant approval for a specific number of hours of continuing education and will indicate to which occupational activities the program applies.

003.03(a)(2) A After the Board has granted written approval of an application, the provider is entitled to state upon its publications: "This program is approved for [number of credit hours] hours of continuing education credit under

the Nebraska Water Well Standards and Contractors' Practice Act."

003.03(b) P

003.03(b)(1) A To obtain approval of a continuing education program, a provider/licensee must submit a written application to the Department containing:

003.03(b)(1)(i) The name, address, and telephone number of the applicant;

003.03(b)(1)(ii) The name, address, and telephone number of the provider;

003.03(b)(1)(iii) A detailed description of the program content;

003.03(b)(1)(iv) A description of the program objectives;

003.03(b)(1)(v) A description of the qualifications of the presenter(s);

003.03(b)(1)(vi) The number of continuing education hours for which approval is requested; and

003.03(b)(1)(vii) A description of how attendance will be verified and records of attendance maintained.

003.03(b)(2) W The Board must receive a completed application at least 65 days prior to the date on which the program is to be presented. Board action on applications submitted less than 65 days prior to the date on which the program is to be presented may be deferred until the next regularly scheduled Board meeting.

003.03(b)(3) P Continuing education program content must relate directly to ground water or the water well industry. Examples of permitted content include standards for water wells and water well pumps; geologic characteristics of the State; state groundwater laws and regulations; the practices and techniques of water well construction and pump installation; water well monitoring; inspection of chemigation devices; and the inspection or repair of flow meters.

003.03(c) P

003.03(c)(1) W Once the Board has approved an application for a continuing education program, reapproval is not required if the program or program requirements have not changed. Each time an approved continuing education program is presented, the program provider must send to the Department a written notification containing:

003.03(c)(1)(i) The program date(s);

003.03(c)(1)(ii) The number of hours presented; and

003.03(c)(1)(iii) A statement that the program presented was not changed.

003.03(c)(2) W If a program approved by the Department has changed, then the provider must reapply for approval of the new program pursuant to the regular approval process provided in 003.03(b).

003.04 CONTINUING EDUCATION PROGRAM PROVIDERS.

003.04(a) P Continuing education program providers must be qualified by education, experience, or Board-approved training.

003.04(b) P

003.04(b)(1) R Unless issuing Certificates of Completion pursuant to 134 NAC 2-003.04(b)(2), continuing education providers must report to the Department no later than 30 days after the completion of a continuing education program each piece of information required under 134 NAC 2-003.04(b)(2)(i)—(vii).

003.04(b)(2) C If a continuing education provider chooses not to report continuing education program attendance to the Department, then the continuing education provider must issue to each attendee a certificate of completion containing the:

003.04(b)(2)(i) Name of the attendee;

003.04(b)(2)(ii) License number of the attendee;

003.04(b)(2)(iii) Program name;

003.04(b)(2)(iv) Name of program provider;

003.04(b)(2)(v) Program location;

003.04(b)(2)(vi) Date(s) of the program; and

003.04(b)(2)(vii) Number of credits the attendee earned.

003.04(b)(3) W Continuing education providers must provide attendees with the certificate of completion prescribed in 003.04(b)(2) after the completion of a continuing education program.

003.04(c) E
P A licensee who serves as a program provider for a continuing education program may receive continuing education credits only for

their initial presentation during a single renewal period, regardless of the number of times a program is presented.

003.05 PROOF OF COMPLETION. Licensees must submit to the Department a copy of a certificate of completion.

003.06 RECORDKEEPING. All program providers and attendees must maintain for at least three years copies of all attendance documentation.

003.07 AUDIT. The Board has the right to audit the continuing education filing(s) of any program provider by requesting production of documentary and/or testimonial evidence.

003.08 LOSS OF APPROVAL.

003.08(a) Program providers are subject to the same disciplinary standards as licensees.

003.08(b) The Board has the authority to withdraw or suspend approval of a program if the Board determines the program provider failed to comply with the Act, failed to comply with the rules or regulations promulgated under the Act, or engaged in dishonest conduct.

004. LICENSE RENEWAL.

004.01 RENEWAL APPLICATION. Applicants seeking renewal must fill out and submit a renewal application provided by the Department.

004.02 WAIVER PROVISIONS.

004.02(a) M A licensee who has served in the regular armed forces of the United States during part of the licensing period immediately preceding the renewal date, or is actively engaged in military service, is not required to pay the renewal fee or to meet the continuing competency requirements if acceptable documentation proving such service is submitted to the Department.

004.02(b) W The Department may fully or partially waive continuing competency requirements upon a licensee's submission of documentation that circumstances beyond the licensee's control prevented completion of these requirements.

005. LICENSE EXPIRATION.

005.01 WHEN EXPIRATION OCCURS. Unless otherwise provided in this Chapter, a license expires at midnight on the expiration date listed on the face of the license.

005.02 AUTOMATIC EXPIRATION. A license automatically expires without further notice or opportunity for hearing if a licensee fails by the license

expiration date to:

005.02(a) Submit documentation of continuing competency;

005.02(b) Complete the required number of continuing competency hours;

005.02(c) Submit a renewal application;

005.02(d) Pay the required renewal fee; or

005.02(e) If a contractor, submit liability insurance.

005.03 EFFECT OF EXPIRATION. Upon expiration:

005.03(a) The licensee will have 60 days to renew their license, during which a licensee may still practice, but after which the license will be considered invalid.

005.03(b) A licensee whose license has become invalid must meet and complete all of the requirements of an initial licensee.

005.04 EFFECT OF DISCIPLINARY ACTION. Upon denial, suspension, revocation, or other disciplinary action:

005.04(a) The licensee may reapply 30 days after denial.

005.04(b) The licensee may reapply after the terms of the suspension have been met. If the suspension term exceeds 24 months, the licensee must meet and complete all of the requirements of an initial licensee.

005.04(c) The licensee may reapply two years after revocation and must meet and complete all of the requirements of an initial licensee.

005.04(d) The licensee may reapply after the terms of other disciplinary action have been met. If the disciplinary term exceeds 24 months, then the licensee must meet and complete all of the requirements of an initial licensee.

001. LICENSE FEES.

License Type	Fee
Initial	$400
Temporary hardship	$400
Renewal	$ below
Water well contractor	$300
Pump installation contractor	$300
Combination water well and pump installation contractor	$400
Water well drilling supervisor	$200
Pump installation supervisor	$200
Combination water well and pump installation supervisor	$300
Water well monitoring technician	$200
Water well contractor and water well monitoring technician	$300
Water well supervisor and water well monitoring technician	$250
Natural resources groundwater technician	$200

002. PROGRAM FEES.

Fee Type	Fee
Declaratory ruling	$100
Variance	$100

003. ADMINISTRATIVE FEES.

Fee Type	Fee
Late-renewal fees	$200 + renewal fee
After 60 days of renewal expiration, initial fees and late-renewal fees must be paid and all exam retakes passed before a new license will be issued	$400 initial fee + $200 late-renewal fee.

004. WELL REGISTRATION FEES.

004.01 GENERAL.

Fee Type	Fee
Well designed to pump 50 gallons per minute or less	$40
Well designed to pump greater than 50 gallons per minute	$80

These fees are set by the Water Well Standards and Contractors' Licensing Board pursuant to 46-1224 and do not comprise the entire well registration fee.

001. GENERAL PROVISIONS.

These requirements apply to all water wells constructed under this Chapter, except as modified in 002 through 008 of this Chapter.

001.01 WELL PITS. A well must not be located/constructed in a well pit.

001.02 PROTECTION FROM CONTAMINATION. A water well must be protected from surface drainage, flooding, and seepage, from sources of contamination and pollution by:

001.02(a) Locating the well site to promote drainage away from the well; and

001.02(b) Terminating the top of the well and vent above 100-year flood plain; or

001.02(c) Locating on a berm and/or within a dike to protect the well from a 100-year flood; or

001.02(d) Plugging the vent and seal at the top of the well if yield is less than 50 gpm.

001.03 SEPARATION DISTANCES. Separation distances must at a minimum comply with the distances established in this section. Be aware that other state, natural resource district, and local statutes and regulations may have more restrictive requirements. If locations are found to not comply with more stringent standards of other state or local regulations that apply, the Department may notify the appropriate authority.

001.03(a) All water wells except those covered in 005 of this Chapter must meet the minimum separation distances in accordance with Chart 1 below.

Chart 1

Minimum Distance in Feet	From
1,000	Any Title 179 community water supply wells under different ownership.
1,000	Any industrial wells under different ownership*
600	Any irrigation wells under different ownership*
100	Any wastewater lagoon
100	Any privy, cesspool, subsurface disposal system
100	Any septic lateral field (soil absorption system)
100	Any animal waste containment structure (lagoon, holding pond, pit, debris basin)
100	Any holding pens associated with an animal feeding operation, as defined in Neb. Rev. Stat. § 54-2417(1)

Minimum Distance in Feet	From
100	Any other known sources of contamination or pollution
50	Any pressurized sanitary sewer line
50	Any non-water tight sanitary sewer line
10	Any water tight sanitary sewer line
10	Any storm sewer line
50	Any septic tank
10	Any storm water way
10	Any frost proof hydrant
10	Any well pit

* Only applies to drilling industrial and irrigation wells.

001.03(b) A well driller may locate a well as indicated in Chart 2 below only if:

001.03(b)(1) Compliance with the separation distances established in Chart 1 cannot be met;

001.03(b)(2) The well driller notifies the Department in writing of his/her intent and receives Department written approval prior to construction;

001.03(b)(3) The water well is grouted the full length of the annular space from immediately above the gravel pack above the screened openings to the surface with chip bentonite; and

001.03(b)(4) The subsurface geology includes sufficient silts and/or clays that will provide a protective seal to the groundwater when combined with chip bentonite.

Chart 2

These Separation Distances Require Prior Written Approval from the Department	
Distance in Feet	**From**
50–100	Any wastewater lagoon
50–100	Any privy, cesspool and subsurface disposal system
50–100	Any septic lateral field (soil absorption system or reserve area)
50–100	Any animal waste contaminant structure (lagoon, holding pond, pit, debris basin)
50–100	Any holding pens associated with an animal feed operation, as defined in Neb. Rev. Stat. § 54-2417(1)
50–100	Any other known sources of contamination or pollution
25–50	Any pressurized sanitary sewer line
25–50	Any non-watertight sanitary sewer line
5–10	Any watertight sanitary sewer line

These Separation Distances Require Prior Written Approval from the Department	
Distance in Feet	**From**
5–10	Any storm sewer line
25–50	Any septic tank
5–10	Any stormwater way
5–10	Any frost proof hydrant

001.03(c) If a person wants to locate a well closer than the listed separation distances in Chart 2, a request for a declaratory ruling may be submitted to the Department in accordance with 011 of this Chapter.

001.04 SANITATION. All water wells must be constructed to prevent the introduction of biological, chemical, or radiological substances which may degrade the groundwater.

001.04(a) D The water well contractor must use precautions to ensure that all down hole equipment used in the construction of water wells is free of contaminated or polluted materials.

001.04(b) S All water wells must be protected with a secure cover or cap. All inactive water wells must be capped with a watertight secure cover. When the pump is in place, it must be made secure and watertight in accordance with 009.03.

001.05 WELL SCREENS. All well screens must meet the following requirements:

001.05(a) M Well screens must be constructed of durable non-toxic materials of sufficient strength to withstand the pressure to which they may be subjected. They must also be resistant to any corrosion which may result from the characteristics of the water and aquifer materials in which they are placed.

001.05(b) S Screen apertures must be formed by the continuous slot method, louver, punched casing, molded, or mill-slotted. Torch-slotted casing must not be used. The method of construction must allow for control of aperture width. In general, the aperture width should retain a minimum of 85% of the gravel pack, if used, or a minimum of 50% of the aquifer material if gravel pack is not used.

001.06 WELL CASING. All wells other than test holes and closed loop heat pump wells must be cased. Well casing must be composed of nontoxic durable material compatible with the water quality encountered.

001.06(a) C The wall thickness of water well casing must be sufficient to withstand the pressures exerted by the

surrounding materials, forces imposed on it during installation, and corrosion by soil and water environments.

001.06(b) C The casing must be centered in the borehole in areas of grout so there is a minimum two-inch uniform annular space.

001.06(c) W The casing and joints must be:

001.06(c)(1) Watertight;

001.06(c)(2) Constructed of:

001.06(c)(2)(i) Steel;

001.06(c)(2)(ii) Polyvinyl chloride (PVC);

001.06(c)(2)(iii) Fiberglass; or

001.06(c)(2)(iv) Teflon; and

001.06(c)(3) Manufactured expressly for water well casing.

001.07 GRAVEL PACK. Gravel pack must consist of clean sand or gravel of selected grain size and gradation. Gravel Pack, screen size, and gradation must be determined based upon the grain size and gradation of the portion of the aquifer to be screened. Gravel pack must be designed to stabilize the aquifer material and to permit the fine fraction to move into the water well during development. Gravel pack, when used, must extend to a length equal to at least 2.5 times the casing diameter above the screen apertures.

001.08 GROUT. Cement-based grouts must not contain fly ash. The Department has approved the following grout materials:

001.08(a) N . Neat cement grout slurry must consist of a mixture of portland cement and no more than six gallons of clean water per bag (one cubic foot or 94 pounds) of cement. Non-toxic additives may be used to minimize shrinkage and cracking.

001.08(b) S . This grout must consist of a mixture of portland cement, sand and water in the proportion of no more than two parts by weight of sand to one part of cement with no more than six gallons of clean water per bag of cement (one cubic foot or 94 pounds).

001.08(c) N Non-slurry bentonite grout must consist of chip, chunk, or pelletized, bentonite varieties that are hydrated to manufacturer’s specifications.

001.08(d) C Cement/bentonite grout slurry must consist of a mixture of portland cement and bentonite in

the following proportion: no more than 6.5 gallons of water and three to five pounds of bentonite per 94-pound sack of portland cement.

001.08(e) H High solids bentonite grout slurry must consist of an inorganic mixture of:

001.08(e)(1) Soda ash for pre-treatment of makeup water;

001.08(e)(2) A minimum of 20% by weight active solids bentonite-to-water ratio; and

003.08(e)(3) Fine to medium grade sand added at a minimum ratio of four-to-one sand to bentonite by weight; and, if needed

001.08(e)(4) Additives designed for yield/rate control for bentonite products that form a low permeability seal not greater than one times ten to the negative seven centimeters per second ($1x10^{-7}$ cm/sec) which resists flow of fluid through the seal, is pumpable, and is mixed to the manufacturer's specifications.

001.08(f) B Bentonite grout slurry must consist of an inorganic mixture of:

001.08(f)(1) Soda ash for pretreatment of makeup water; and

001.08(f)(2) A minimum of 20% solids by weight bentonite that forms a low permeability seal not greater than one times ten to the negative seven centimeters per second ($1x10^{-7}$ cm/sec) which resists flow of fluid through the seal, is pumpable, and is mixed to the manufacturer's specifications; and, if needed

001.08(f)(3) Additives designed for yield/rate control for bentonite products that form a low permeability seal not greater than one times ten to the negative seven centimeters per second ($1x10^{-7}$ cm/sec) which resists flow of fluid through the seal, is pumpable, and is mixed to the manufacturer's specifications.

001.09 PLACEMENT OF GROUT. Placement of grout must be as follows:

001.09(a) S Grout slurry must be placed by tremie or by pumping. Cement-based grout must not be allowed to free-fall more than 10 feet. Cement-based grout must be separated from bentonite grouts by a two-to-four-foot interval of fine sand.

001.09(b) N Pellet, chip, chunk bentonite, or any combination of those materials, must be placed, measured frequently, and hydrated, before installing another interval to confirm the grout is placed without bridging and provides a tight homogeneous seal.

001.10 AQUIFER PROTECTION. A water well must be filled and sealed in a manner that protects the water bearing formations from contamination

from surface runoff and from subsurface contaminants.

001.10(a) P . A water well must have a five-foot primary aquifer seal of non-slurry bentonite or high solids bentonite slurry, as defined in 001.08(c) and 001.08(e), respectively. The primary aquifer seal must be placed in the borehole at one or more of the following locations to provide optimal aquifer protection:

001.10(a)(1) On top of the gravel pack just above the screened openings (Figure 1A);

001.10(a)(2) Beginning at the base of the first layer of silt/clay above the production zone (Figure 1B); and/or

001.10(a)(3) At or immediately below the static water level (Figure 1C).

001.10(b) P . The following wells do not require a primary seal:

001.10(b)(1) Bored wells (002.04 and 003.04);

001.10(b)(2) Temporary dewatering wells (004.02);

001.10(b)(3) Wells that require surface casing and additional gravel pack throughout the life of the well (003.06); and

001.10(b)(4) Wells that must be screened above static water for monitoring purposes may have less than five feet of seal (005.01).

001.10(c) F . The annular space of all wells except closed loop heat pump wells that are part of a closed loop heat pump system in 008.03(e) must be filled from the top of the primary aquifer seal to the bottom of the surface seal (001.10(d)) with:

001.10(c)(1) Non-slurry bentonite grout;

001.10(c)(2) Non-slurry bentonite grout mixed with gravel pack in a one-to-one ratio by weight;

001.10(c)(3) Sand and granular bentonite mixed in a two-to-one sand-to-bentonite ratio by weight;

001.10(c)(4) High solids bentonite slurry as defined in 001.08(e);

001.10(c)(5) A mixture of bentonite/clay, drilling fluid, and gravel pack; or

001.10(c)(6) Cement-based grouts.

001.10(d) S . The annular space of all wells, except bored wells and temporary dewatering wells, must have at least five feet of non-slurry bentonite, high solids bentonite slurry, or sand cement

grout, placed between five and 15 feet below grade or at the static water level, whichever is less (Figure 2A). If a pitless unit is used to terminate the top of the well, the surface seal must extend five feet down the borehole below the bottom of the pitless adapter (Figure 2B).

001.10(e) A . Cased water wells that terminate in a pump house must be protected with a concrete floor measuring a minimum of four inches thick by 12 inches beyond the borehole wall and sloping away from the water well. Watertight casing must extend 12 inches above the floor of the pump house.

001.10(f) S . The earth surrounding the casing must slope away from the water well and must be firmly tamped to prevent water from seeping down around the casing.

001.10(g) C Where multiple aquifers that are separated by a confining layer are penetrated by the same borehole, they must be separated from each other utilizing watertight casing and a primary aquifer seal.

001.10(h) C All water bearing zones which contain groundwater which is known to be contaminated with materials hazardous to human health, must be effectively sealed utilizing watertight casing and non-slurry bentonite grout throughout the length of such zones, unless the well does not penetrate any other water bearing zone. Watertight casing must conform with 001.06.

001.11 WELL DEVELOPMENT. All cased water wells must be developed to repair the alterations to the formation during the construction of the well and to enhance the porosity and permeability of materials surrounding the intake portion of the well. The development process is the application of mechanical devices and/or the use of chemicals to remove drilling fluids and debris left in the filter pack and formation as a result of the drilling process.

001.12 TEST PUMPING A WELL. Test pumping must be utilized to determine the most efficient production rate for the well. The pumping water level must be recorded during the period of test pumping.

001.13 REPAIRING A WELL. Only the portion(s) of a well being repaired must meet the same minimum standards as it would if it were within a new well with regard to design, construction, and material. Bored and dug wells must be repaired so that they meet the standards of a bored well (Figure 3).

001.14 WELL LOGS. The well log must be available to the Department for inspection and copying during reasonable hours or the regular business hours of the contractor. In addition to the information required by the Act, the well log must include Global Positioning System coordinates of the location of the water well or test hole.

001.14(a) W The well log shall include the following information.

001.14(a)(1) Legal description of the water well;

001.14(a)(2) Description and depth of geologic materials encountered;

001.14(a)(3) Depth and diameter or dimension of constructed water well and test hole;

001.14(a)(4) Depth and diameter or dimension of excavated hole if applicable;

001.14(a)(5) Depth of formation stabilizer or gravel pack and size of particles if used;

001.14(a)(6) Depth and thickness of grout or other sealing material if applicable;

001.14(a)(7) Casing information, including length, inside diameter, wall thickness, and type of material if applicable;

001.14(a)(8) Screen information, including length, trade name, inside and outside diameter, slot size, and type of material if applicable;

001.14(a)(9) Static water level;

001.14(a)(10) Water level when pumped at the designated rate, giving the rate of pumping and amount of time pumped, if applicable;

001.14(a)(11) Yield of water well in gpm;

001.14(a)(12) Signature of water well contractor;

001.14(a)(13) Dates drilling commenced and construction completed;

001.14(a)(14) Intended use of the water well;

001.14(a)(15) Name and address of the owner;

001.14(a)(16) Identification number of any permit for the water well issued pursuant to any provision of law, including Chapters 46 and 66 of the Nebraska Revised Statutes;

001.14(a)(17) Name, address, and license number of any license issued pursuant to the Water Well Standards and Contractors' Practice Act of any person, other than the owner of the water well, who constructed the water well; and

001.14(a)(18) Other data as the board reasonably requires.

001.15 REGISTRATION. A licensed water well contractor must register all wells with the Department on forms provided by the Department within 60 days of completion, except as otherwise provided by Neb. Rev. Stat. § 46-602.

002. POTABLE WELL CONSTRUCTION.

A water well contractor must verify the purpose of a new water well with the owner or the system's engineer at the time of construction. If the water well is to serve water to the public, see 006.

002.01 SANDPOINT WELL. A potable water well to be used for human consumption must not be constructed as a driven sandpoint well.

002.02 CASING A POTABLE WELL. A potable water well must be cased with unused watertight casing in the following manner:

002.02(a) S The top of the well must extend at least 12 inches above the grade of the land surface. The earth surrounding the well must slope away from the well and must be firmly tamped to prevent water from seeping down the casing.

002.02(b) N Non-steel cased wells must be fitted with a watertight connection to 0.237 of an inch wall minimum steel casing through the frost zone, unless terminating in a pump house. Non-steel watertight casing must be manufactured expressly for well casing, and must meet the following specific requirements:

002.02(b)(1) Casing strength must be not less than 160 pounds per square inch or Standard Dimension Ratio (SDR) 26.

002.02(b)(2) Plastic or other non-steel casing must bear the National Sanitation Foundation (NSF) Standard 61 stamp of approval.

002.02(c) S Special Engineered (SE) plastic piping systems must meet the requirements of 002.02(b)(2).

002.02(d) T Packaging of thread compounds, sealants and lubricants must bear the NSF Standard 61 stamp of approval.

002.03 POTABLE WELL SHOCK DECONTAMINATION. When a well which will produce water for human consumption is constructed or altered, it must be decontaminated.

002.03(a) I The water well contractor/pump installation contractor must supply the landowner with an informational brochure that tells the owner why the owner should test

the owner’s water and what the results mean.

002.03(b) S Shock decontamination must be accomplished by:

002.03(b)(1) Using a solution equivalent to 200 parts per million chlorine (Table 1);

002.03(b)(2) Pouring the solution directly into the well; splashing the well pump, piping, casing, and other well equipment as much as possible; agitating the water in the well by surging the pump or by other means to mix the solution with the water or recirculating the water into the well, always washing down the casing or drop pipe;

002.03(b)(3) Letting the mixture stand in the well for a minimum of four hours;

002.03(b)(4) Opening all water taps and pumping the well until evidence of the solution is detected at all taps. The system must be allowed to stand idle for a minimum of two additional hours and then the entire system must be flushed to waste.

002.04 BORED (SEEP OR CISTERN) WELLS. Bored wells must be constructed to the same minimum standards for potable wells with the following exceptions (Figure 3):

002.04(a) C Casing materials may be concrete, tile, or other material approved in 001.06(c).

002.04(b) A . The annular space below the surface seal must be filled with gravel.

002.04(c) S . Watertight casing and grout must be placed from 10 feet below the surface or the static water level, whichever is less, to the surface or the bottom of the pitless unit.

002.05 OPEN HOLE WELLS. Open hole wells must be constructed to the same minimum standards for potable wells and in the following manner (Figure 4).

002.05(a) C The casing must extend at least two feet into the open borehole. A seal must be created between the casing and the lower borehole to ensure that the annular fill material remains in the upper borehole. This can be accomplished by using a collar attached to the casing, a drive shoe, or other sealing device.

002.05(b) P A minimum five-foot primary aquifer seal must be placed in the annular space directly above the collar, drive shoe, or other sealing device.

002.05(c) M Open hole wells in multiple water bearing zones within the same aquifer must be constructed to

the same minimum standards for potable wells and must comply with 002.05(a), 002.05(b), and 003.05(c), of this Chapter (Figure 5).

002.05(c)(1) The screened section must be gravel packed.

002.05(c)(2) The gravel pack must extend both above and below the screen for a length equal to 2.5 times the diameter of the well.

002.05(c)(3) A five-foot minimum primary aquifer seal must be placed directly above the gravel pack.

003. NON-POTABLE WELL CONSTRUCTION.

A water well contractor must verify the purpose of a new well with the owner or the system's engineer at the time of construction.

003.01 SANDPOINT WELLS. Driven sandpoint wells are permitted only for temporary use and must be decommissioned within 90 days of installation. They must meet the requirements specified in 001.

003.02 OBSERVATION WELLS. Observation wells must be located as required in 001.03(a).

003.03 CASING. A non-potable water well must be cased with unused watertight casing in the following manner:

003.03(a) C
The following apply for this diameter of casing.

003.03(a)(1) S The top of the well must extend at least12 inches above the grade of the land surface. The earth surrounding the well must slope away from the well and must be firmly tamped to prevent settling around the casing.

003.03(a)(2) N Non-steel cased wells must be fitted with a watertight connection to 0.237 of an inch wall minimum steel casing or fitted inside a metal sleeve secured and cemented in the borehole. The metal sleave must be placed a minimum of 48 inches below grade. The annular space between the metal sleeve and the casing must be a minimum of two inches and must be filled with an approved grout (*see* 001.08 of this Chapter) or annular fill (*see* 001.10(c) of this Chapter) (Figures 6 & 7).

003.03(a)(2)(i) *Observation Wells.* Non-steel cased observation wells completed above ground must be enclosed with a metal casing/sleeve, buried a minimum of two feet below the ground surface, and covered with an overlapping, vandal-resistant secured metal cap.

003.03(b) C
(6⅝) I The following apply for this diameter of casing (Figure 8).

003.03(b)(1) S The casing must extend a minimum of 6 inches above the grade of the land surface.

003.03(b)(1)(i) The well must have a concrete pad a minimum of 40 inches by 40 inches by 8 inches thick. Prefabricated slabs are acceptable. The concrete must contact the entire circumference of the casing, unless a pitless unit is utilized.

003.03(b)(1)(ii) The earth surrounding the well must slope away from the well and must be firmly tamped to prevent settling around the casing.

003.03(b)(2) T Watertight steel casing must be a minimum of 0.219 of an inch wall thickness.

003.03(b)(3) S Watertight non-steel casing must be manufactured expressly for well casing and must meet the following specific requirements:

003.03(b)(3)(i) Casing strength must not be less than 160 pounds per square inch or Standard Dimension Ratio (SDR) 26 for 8⅝ inches (8.625 in) or less OD casing. Casing strength must not be less than schedule 40 for casing larger than 8⅝ inches (8.625 in) OD; and

003.03(b)(3)(ii) Non-steel casing must bear the National Sanitation Foundation (NSF) 61 stamp of approval.

003.03(b)(4) S Special Engineered (SE) plastic piping systems must meet the requirements of 002.02(b)(2) of this Chapter.

003.03(b)(5) T Packaging of thread compounds, sealants, and lubricants must bear the NSF 61 stamp of approval.

003.04 BORED (SEEP OR CISTERN) WELLS. Bored wells must be constructed to the same minimum standards for non-potable wells with the following exceptions (Figure 3):

003.04(a) C Casing may be concrete, tile, or other material approved in 001.06(c) of this Chapter;

003.04(b) A The annular space must be filled with gravel;

003.04(c) S Watertight casing is required and grout must be placed from 10 feet below the surface or the static water level, whichever is less, to the surface or the bottom of the pitless unit.

003.05 OPEN HOLE WELLS. Open hole wells must be constructed to the same minimum standards for non-potable wells with the following

exceptions (Figure 4).

003.05(a) C The casing must extend at least two feet into the open borehole. A seal must be created between the casing and the lower borehole to ensure that the annular fill material remains in the upper borehole. This can be accomplished by using a collar attached to the casing, a drive shoe, or other sealing device.

003.05(b) P A minimum five-foot primary aquifer seal must be placed in the annular space directly above the collar, drive shoe, or other sealing device.

003.05(c) M Multiple water bearing zones within the same aquifer must be constructed to the same minimum standards for non-potable wells and must comply with 003.05(a) and 003.05(b) of this Chapter. The screened section must be gravel packed. The area of gravel pack must extend both above and below the screen for a length equal to 2.5 times the diameter of the well. A minimum five-foot primary aquifer seal must be placed directly above the gravel pack (Figure 5).

003.06 WELLS LOCATED IN THE ARIKAREE FORMATION SUBJECT TO SUBSIDENCE. A water well located in the Arikaree Formation subject to subsidence must be constructed to the same minimum standards as non-potable wells with the following exceptions (Figure 9).

003.06(a) S The borehole for the surface casing must allow for a uniform annular space of four inches or larger than the surface casing.

003.06(b) A A minimum six-inch annular space must exist between the surface casing and the well casing to provide for gravel placement.

003.06(c) S The metal surface casing must be a minimum of 20 feet in length.

003.06(d) S A minimum of five feet of concrete must be placed between the borehole wall and the surface casing and allowed to set, encasing the bottom five feet of surface casing.

003.06(e) S A minimum layer of five feet of non-slurry bentonite must be placed between the borehole wall and the surface casing above the concrete, with an additional five feet of concrete placed on top of the non-slurry bentonite. The concrete must be set prior to drilling inside the surface casing.

003.06(f) G The metal gravel chute must be straight and a minimum of 6⅝ inches OD. The top of the chute must extend a minimum of six inches above the concrete pad and be equipped with a vandal-resistant, secure cover or cap. The bottom of the gravel chute must extend from the surface casing a minimum of two feet below

grade. The gravel chute and the upper five feet of surface casing must be encased in concrete.

003.06(g) S The concrete pad must extend a minimum of12 inches beyond the surface casing borehole and be a minimum of five feet by five feet which surrounds the gravel chute. The thickness must be a minimum of 12 inches above grade and an additional minimum of 12 inches below grade within the boreholes.

004. DEWATERING WELLS.

Wells must be constructed to the same minimum standards as non-potable wells with the following exceptions.

004.01 PERMANENT INSTALLATION. Permanently constructed dewatering wells must be constructed to the same standards as non-potable wells.

004.02 TEMPORARY INSTALLATIONS. Temporary installations must be constructed in a manner that prevents the introduction of contaminants into the ground water. They must be decommissioned within 30 days after completion of the project.

004.02(a) L Dewatering wells must be located or the site graded so that surface drainage is away from the well.

004.02(b) S Temporary dewatering wells must be constructed to prevent the introduction of microbiological, chemical, or radiological substances which may be toxic into the aquifer or aquifers penetrated.

004.02(c) W Screens must be composed of nontoxic, durable material and be re-used.

004.02(d) C Casing may be re-used.

004.02(e) C The wall thickness of temporary dewatering well casing must be sufficient to withstand the forces imposed on it during installation and removal, and pressures exerted on it by the surrounding materials.

004.02(f) S Any temporary dewatering well which is under construction must be protected with a secure cover or cap when it is unattended.

004.02(g) R All temporary dewatering well repairs must be done in accordance with current standards.

005. GROUND WATER MONITORING AND RECOVERY WELLS.

Wells must be constructed in the following manner.

005.01 WELL SCREEN. The top of the screen aperture may extend to within two feet of the land surface. The gravel pack thickness may be reduced so as to not compromise the surface seal.

005.01(a) M Screen material must be compatible with water quality and be chemically resistant to all contaminants which are expected to be encountered.

005.02 CASING. The watertight casing must extend at least 12 inches above ground level except for construction in sidewalks, roadways, driveways, parking lots, other heavily trafficked areas, or wherever else the situation requires flush mounted installation with watertight caps.

005.02(a) M Casing material must be compatible with water quality and be chemically resistant to all contaminants which are expected to be encountered.

005.02(b) W Casing must be equipped with a watertight cap or plug in conjunction with both flush mount and above-ground protectors.

005.03 GROUTING THE ANNULAR SPACE. A non-slurry bentonite seal with a minimum thickness of five feet must be placed on top of the gravel pack immediately above the screen. All wells must be grouted from immediately above the non-slurry bentonite seal/fine sand to the surface in accordance with 001.09 of this Chapter.

005.04 ABOVE GROUND PROTECTION. Non-steel cased wells completed above ground must be enclosed with a steel casing embedded in the concrete pad and covered with an overlapping, vandal-resistant secured metal cap.

005.05 PAD. Ground water monitoring and recovery wells must have a concrete pad extending a minimum of 12 inches past the walls of the original borehole and must be a minimum of 3.5 inches thick. The concrete must contact the entire outer circumference of the protective casing or flush mount cover.

005.06 WELL LOGS. The location of each well must be shown on a site diagram in addition to the driller’s log, to be provided in accordance with § 46-1241.

005.07 NESTED WELL DESIGN. Wells constructed for ground water investigations may use a nested design (Figure 10).

005.07(a) V Individual casings must be separated vertically by a minimum of two feet of non-slurry bentonite grout between casings of different lengths within the borehole. A one foot minimum non-slurry bentonite grout must be placed on top of each gravel pack interval. The annular space must be grouted, as per 001.08 and 001.09 of this Chapter, between non-slurry bentonite grout

and the next gravel pack interval.

005.07(b) H Individual casings must be separated horizontally by a two-inch annular space, including two inches between the outermost casing and the borehole wall.

005.08 TEMPORARY WELL INSTALLATION. The Department must be notified advance if a temporary well is planned to be in use longer than 10 days (does not apply to temporary dewatering wells). The notification must indicate what type of surface seal will be provided. Temporary wells must be decommissioned within 90 days of installation and cannot be used as a monitoring, recovery, or test well on a permanent basis unless the construction complies with the provisions of 001.06(b) of this Chapter, or the Department issues a declaratory ruling, pursuant to 011 of this Chapter, permitting such use before the well is constructed.

006. PUBLIC WATER SUPPLY SYSTEMS.

If a well is to serve water to the public, the contractor must verify if the well is to serve a community or a non-community system.

006.01 COMMUNITY. Community public water wells must be sited, constructed, and/or relined, in accordance with Title 179 of the Nebraska Administrative Code requirements, including Department-approved plans and specifications. Examples of community public water systems include, but are not limited to mobile home parks, subdivisions, and nursing homes or assisted living residences.

006.02 NON-COMMUNITY. Non-community public water systems include, but are not limited to gas stations, factories, schools, rest areas, and recreation camps. When a well is intended to be a non-community public water supply well, the contractor may drill the well in accordance with the requirements of this Chapter only when:

006.02(a) The capacity of the well is less than 100 gpm in a water system with a total system capacity not exceeding 200 gpm;

006.02(b) The top of its well screen is greater than 50 feet from the original ground surface;

006.02(c) The location of the well is greater than 200 feet from a surface water source; and

006.02(d) The owner supplies the contractor with written confirmation from the Department that states the well may be drilled according to Title 134 NAC 4 standards.

006.03 FAILS TO MEET STANDARDS. Any public water system wells not meeting the criteria in this Chapter must be constructed in accordance with Title 179 plans and specifications prepared by a registered Nebraska engineer and approved by the Department.

007. TEST HOLES.

Test holes, constructed in conjunction with ground water investigations must not be retained for more than 10 days, must be covered when not in use, and must be properly decommissioned, pursuant to 010.09(a) of this Chapter, within 10 days of drilling completion.

007.01 LOCATION. A test hole must be located so that it is protected from surface waters and seepage from sources of contamination and pollution.

007.02 SURFACE CASING. When onsite conditions dictate, surface casing is permitted but must be protected with a secure cover or cap when left unattended, and decommissioned, pursuant to 010.09(a) of this Chapter, within 10 days of drilling completion.

008. GROUND WATER HEAT PUMP WELLS.

A water well contractor must verify the purpose of a new well with the owner or the system's engineer.

008.01 OPEN LOOP HEAT PUMP RETURN WELLS. Water wells intended only to inject ground water must comply with Title 122 of the Nebraska Administrative Code.

008.01(a) O Water wells intended only to withdraw water to supply an open loop heat pump must comply with 002 of this Chapter.

008.02 CLOSED LOOP HEAT PUMP WELLS. Water wells for closed loop heat pump systems must be constructed in accordance with the following standards. These wells should be registered as Ground Heat Exchange Wells.

008.02(a) P For a closed loop heat pump system that has 10 or more boreholes, the Department must be pre-notified a minimum of 14 working days prior to initial construction with the following information:

008.02(a)(1) Location of project;

008.02(a)(2) Name and address of licensed water well contractor supervising the installation of the heat pump system; and

008.02(a)(3) A completed copy of the information referenced in Neb. Rev. Stat. § 46-1241, showing proposed construction and installation of the closed loop heat pump system.

008.02(b) L All water wells constructed for closed loop heat pump systems must be located in accordance with 001.02 and 001.03 of this Chapter. Be aware that other state and local statutes and regulations may have more restrictive requirements. If locations do not

comply with more stringent standards of other applicable state or local regulations, the Department may notify the appropriate authority, which could require the well to be decommissioned.

008.02(b)(1) L
Closed loop heat pump wells located geologically in areas that are prone to salt water will require the following.

008.02(b)(1)(i) *Proof*. The contractor will need to furnish either water results from the portion of the aquifer tested or an e-log verifying salinity.

008.02(b)(1)(ii) *Department Approval.* A well located in saline groundwater must apply for a declaratory ruling pursuant to 011 of this Chapter for an alternative grout that is compatible with saline groundwater of greater than one thousand milligrams per liter (1,000 mg/L).

008.02(b)(2) L The location of a closed loop heat pump well must comply with 001.03(a) of this Chapter with the following exceptions:

008.02(b)(2)(i) *Non-community*. A water well constructed for a closed loop heat pump system must be located more than 100 feet from a non-community public water system well.

008.02(b)(2)(ii) *Community*. A closed loop heat pump system must be located more than 1,000 feet from a community public water system well with the following exception.

008.02(b)(1)(ii)(A) *Professional report to the Director.* The Department will consider approval for location of closed loop heat pump wells at closer proximity than 1,000 feet horizontal separation distance, when the licensed professional engineer or licensed professional geologist representing the owner(s) of the closed loop heat pump wells, demonstrates to the Director or Director’s designee that such location will not constitute a pollution hazard to the safety of the water supply, and that the owner(s) of the community water system has no objection to the location of the closed loop heat pump wells.

The engineer or geologist must submit the supporting data as appropriate to make a case for approval of the proposed location of heat pump wells to the Department 30 working days prior to the date on which action by the Director or Director’s designee is desired. The contractor must not begin construction until the Department has approved the location.

008.02(c) B The borehole diameter of a closed loop heat pump well must be of sufficient size to allow placement of the pipe and placement of a tremie to emplace the grout. The borehole diameter must be a minimum of four inches larger than the total

outside diameter of the loop pipes.

008.02(d) P Pipe material must be composed of polyethylene, grade p34, minimum cell classifications PE 355434C or PE 345434C, when tested under ASTM Standard 3350.

008.02(e) P Heat fusion methods for pipe joining must be the socket or butt heat fusion technique as referenced in ASTM Standards D3261 or D2683.

008.02(f) P The installed system must be pressure tested to a minimum of 100 psi. After six hours it is permissible for the pressure to drop a maximum of 15% of the initial psi due to expansion of the HDPE piping. A pressure loss greater than 15% in six hours is an indication of a leak in the circulating system. If a pressure loss is detected, the cause must be properly repaired, the material replaced, or the well must be properly decommissioned.

008.02(g) P After a loop system is installed and pressure tested, and prior to introducing additives to the circulating fluid, the entire loop, header and associated plumbing must be purged at a minimum rate of five feet per second to remove any debris that has entered the loop during construction.

008.02(h) C When food grade propylene glycol is added to water for antifreeze protection, it must be non-toxic in nature when combined with the circulating fluid additives in a closed loop heat pump system. If needed, the addition of corrosion inhibitors and biocides may be used in circulating fluid if such additives are also:

008.02(h)(1) Non-toxic;

008.02(h)(2) Compatible with food grade propylene glycol; and

008.02(h)(3) Non-hazardous materials upon disposal or a change of circulating fluid.

008.03 COMPLETION OF A VERTICAL CLOSED LOOP SYSTEM. Completion of a borehole for a closed loop heat pump well must be finished within six hours from the time the borehole is drilled.

008.03(a) D Drilling muds or cuttings cannot be used as completion materials.

008.03(b) T The tremie pipe must not be left in the borehole.

008.03(c) G Systems that have 10 or more boreholes must be grouted full-length with high solids bentonite slurry in accordance with 001.08(e) of this Chapter and requires pre-notification (Figure 11A).

008.03(d) F
C Systems that have fewer than ten (10) boreholes must be grouted full-length with high solids bentonite slurry in accordance with 001.08(e) of this Chapter when they are located less than 1,000 feet of a community public water well. This requires written permission from the community public water supplier before construction begins (Figure 11B).

008.03(e) F
C Systems that have fewer than 10 boreholes and are located 1,000 feet or more from a community public water well must use one of the following methods to complete construction of the boreholes (Figure 11C):

008.03(e)(1) High solids bentonite slurry that meets the requirements of 001.08(e) of this Chapter must be used to grout the full length of the borehole; or

008.03(e)(2) Sand or gravel must be placed through a sodium bentonite fluid with a viscosity that allows the sand to settle through the fluid from the bottom of the borehole to the static water level by tremie or free fall method.

008.03(e)(2)(i) A five foot interval of bentonite chips must be placed at the static water level.

008.03(e)(2)(ii) The remainder of the borehole must be sand/gravel packed through the sodium bentonite fluid to within 30 feet of the surface minus excavation for the header piping.

008.03(e)(2)(iii) The remaining annular space must be filled with non-slurry bentonite chips.

008.04 HORIZONTAL CLOSED LOOP SYSTEM. A horizontal closed loop heat pump system must meet the construction standards above with the following exceptions:

008.04(a) T A horizontal closed loop system that is constructed by trenching or digging is exempt from the grouting requirements of closed loop systems provided that no part of the horizontal loop is constructed at or below the ground water level.

008.04(b) D A horizontal closed loop heat pump system constructed by boring or drilling must be grouted with high solids bentonite slurry grout that meets the requirements of 001.08(e) of this Chapter.

009. INSTALLATION OF PUMPS AND PUMPING EQUIPMENT.

A pump installation contractor must verify the use of the pump or pumping equipment.

009.01 GENERAL REQUIREMENTS. The following are general requirements and apply to the installation of all pumps and pumping equipment not already regulated, such as public water systems under Title 179.

009.01(a) C Pumps and pumping equipment must be installed in a manner that prevents contaminants from entering the well.

009.01(b) D Disinfection solution must be equivalent to 50 parts per million chlorine solution (Table 2).

009.01(b)(1) T Care must be taken so that all tools used in the removal of pumps and pumping equipment are disinfected periodically, or as needed. It is not permissible to lay the drop pipe, pump, pumping equipment, or wire directly on the ground.

009.01(b)(2) P When a pump for a potable well is installed or repaired the well must be disinfected.

009.01(b)(2)(i) *Landowner Waiver.* Disinfection may be waived in writing by the landowner. The waiver must be worded in accordance with Attachment 1, Waiver of Disinfection. The water well contractor/pump installation contractor must supply the landowner with an informational brochure that tells the owner why s/he should test his/her water and what the results mean.

009.01(c) S Any water well which is being serviced or repaired must be protected with a secure cover or cap during periods when the water well is left unattended.

009.01(d) P Packaging of thread compounds, sealants, and lubricants must bear the NSF Standard 61 stamp of approval or be labeled as food grade.

009.01(e) N When designing and installing a new water supply system, the electrical components must comply with the state electrical code. Electrical work that does not appear to meet standards may be reported to the State Electrical Board.

009.01(f) R
Upon the removal of, or the repair and/or modification to the pump or pumping equipment in which replacement of original equipment is required, current pump and pumping equipment installation standards must be followed. This includes replacement of, or modification to the electrical wiring and/or controls located in the electrical layout serving the pump and pumping equipment including connection to the load side of the service disconnect or breaker. Any upgrade of this electrical system must be in compliance with all current applicable state or national electrical codes and be installed according to the

manufacturer's specifications.

009.01(g) C If a vent is used, the vent must terminate in a down-turned position, at or above the top of the casing or pitless unit and be covered with a 24 mesh corrosion-resistant screen.

009.02 INSTALLATION OF PUMPS. All pump installation must comply with 009.01 and 009.03 of this Chapter.

009.02(a) L Line shaft pumps must be equipped with a pump base and be designed so the weight of the pump and column pipe is supported by the casing or is resting on a concrete platform which rests upon natural ground and they must be secured to prevent movement.

009.02(b) S The drop pipe must be steel pipe, NSF Standard 61 approved plastic material, or fiberglass. There must be at least one check valve within the casing which may be furnished with the pump.

009.02(c) C Centrifugal and jet pumps do not require a relief valve. They must be equipped in the following manner:

009.02(c)(1) O The suction pipe must be encased in a sleeve from the basement or well pit wall to the well. In the instance of a packer jet system, the pressured pipeline can serve as a sleeve for the suction line.

009.02(c)(2) P The priming port must be located higher than the discharge of the pump. Discharge of the priming port may be controlled with a shut off valve. Potable water must be used for priming the pump. Priming valve must be sealed when not in use to prevent contamination from accumulating above the valve.

009.02(d) R Reciprocating pumps must be equipped with a pump base. The pump base must be designed so the weight of the pump pipe and cylinder is supported by steel casing or a metal sleeve embedded in concrete. It must be secured to prevent movement.

009.03 INSTALLATION OF PUMPING EQUIPMENT. Pumping equipment must be installed in a manner that prevents contaminants from entering the well.

009.03(a) P Pitless units must meet all of the following criteria:

009.03(a)(1) Bear the Pitless Adapter Standard (PAS) stamp of approval of the Water Systems Council.

009.03(a)(2) Be factory assembled and ready for installation from a point of connection with the well casing to the unit cap or cover.

009.03(a)(3) Be a threaded, welded, screwed, or flanged, gasket compression connection to the well casing.

009.03(a)(4) Be of watertight construction throughout, except for any required vent.

009.03(a)(5) Be made of steel through the frost zone and be compatible with the casing.

009.03(a)(6) Have a field connection to the lateral discharge from the pitless unit of threaded, flanged, or mechanical, joint connection.

009.03(a)(7) Terminate at least 12 inches above final ground elevation. Where a water well needs to be located in an area of high traffic and physical damage to the pitless unit is probable, the contractor must finish off the water well even with the grade of the surrounding land surface and protect it by terminating it in a pitless unit covered by a watertight flush mount cover capable of withstanding high vehicle traffic conditions. In all cases where the top of the pitless unit is enclosed in a watertight flush mount vault, the vent opening must be sealed and all electrical conduit fittings must be watertight. If the entrance of the electrical conduit is below ground level, then the opening around the wire must be sealed (Figure 12).

009.03(a)(8) Provide:

009.03(a)(8)(i) Access to the well for disinfecting or other purposes;

009.03(a)(8)(ii) A properly constructed vent for wells with a pumping rate greater than 50 gpm;

009.03(a)(8)(iii) A watertight secure cover at the upper terminal of the well that will prevent the entrance of contamination;

009.03(a)(8)(iv) A contamination-proof entrance connection for electrical cable; and

009.03(a)(8)(v) An inside diameter sufficient for the insertion and removal of the pump and pumping equipment.

009.03(b) P Pressure relief valves must be installed on any pump capable of developing a pressure higher than 115 psi, or exceeding the safe working pressure rating of the water supply system. Relief valve must be of adequate size and the plumbing where the relief valve is located must have sufficient capacity to accommodate 50% of the rated pump volume.

009.03(c) B The discharge piping from any pump and pumping equipment must be equipped with a backflow preventer. A backflow preventer must be placed before any other device or branches in the distribution piping. Check valves must not be buried at the well for backflow prevention. The device must be located within one foot of the discharge head and prior to any other devices.

009.03(d) D Discharge piping includes any and all piping beginning at the discharge head or pitless unit tapping, extending to the first shut off valve or backflow preventer.

009.03(d)(1) A Above ground discharge piping must:

009.03(d)(1)(i) Be protected against the entrance of contamination;

009.03(d)(1)(ii) For potable water use, be constructed of materials appropriate to each specific service;

009.03(d)(1)(iii) Be equipped with a backflow preventer, chemigation valve, or air gap;

009.03(d)(1)(iv) For air gap protection, daylight above the high water line of any tank, pond, stream, or reservoir;

009.03(d)(1)(v) Be properly anchored to prevent movement; and

009.03(d)(1)(vi) Be protected against water hammer.

009.03(d)(2) U Underground discharge piping must be equipped with a curb stop valve and schedule eighty (80) plastic or metal riser within one foot of the discharge, and be in compliance with 009.01 of this Chapter.

009.03(e) S Distribution piping must include a sample point. Location of the sample point must be as follows:

009.03(e)(1) Sample point must terminate no less than 12 inches above the floor of the basement, well pit, or pump house floor.

009.03(e)(2) A primary sample point must not be located down flow from any filter, trap, or conditioning equipment. A secondary sample point may be located down flow from a filter, trap, or conditioning equipment to verify the proper operation of such equipment.

009.03(f) S When storage tanks are used, they must meet the following criteria.

009.03(f)(1) P Hydro-pneumatic or captive-air design.

009.03(f)(1)(i) Tank construction must be of materials approved for use in potable water systems; and

009.03(f)(1)(ii) Tanks must be equipped with identification as to size, maximum working pressure, and name of manufacturer; and

009.03(f)(1)(iii) Tanks and combinations of tanks and mechanical or electronic short cycle prevention devices must be of adequate size and design to prevent short cycling of the pump motor as per the pump motor manufacturer's specifications.

009.03(f)(2) N Reservoirs, cisterns, and standpipes.

009.03(f)(2)(i) Underground storage tanks must be constructed of material that is structurally adequate to withstand being buried below ground surface without collapsing when emptied;

009.03(f)(2)(ii) Vent must be turned downward and be covered with a #24 mesh screen;

009.03(f)(2)(iii) Vent piping must be of adequate size to prevent either a positive or negative pressurization of the buried tank; and

009.03(f)(2)(iv) Vent piping must be constructed of materials approved for use in potable water systems. Inspection hatch and vent must extend 12 inches above grade. Inspection hatch must have a watertight seal to prevent contaminants from entering the tank.

009.03(g) A A pump house may be utilized to prevent the freezing of pipes. If used, the pump house must be mounted on a concrete platform which slopes away from the well in all directions. The casing must extend a minimum of 12 inches above the concrete platform and the space between the casing and the pump pipe must be closed with a sanitary well seal. The well seal must be watertight and if vented, must be provided with a screened vent.

009.03(h) W The installation of pumping and storage equipment in a pit directly over a well is not allowed. A pit for housing the equipment must be located at least 10 feet away from a well.

010. WATER WELL DECOMMISSIONING.

010.01 GENERAL REQUIREMENTS. The well cavity, casing, and annular space, of all water wells to be decommissioned must be filled, plugged, and sealed, in accordance with the appropriate procedure described below. Any licensed water well contractor constructing a water well for

any customer must, as a part of the agreement, include the proper decommissioning of each water well and test hole constructed to explore for ground water pursuant to the agreement. A landowner may only decommission a driven sandpoint water well on land owned by him/her and used by him/her for farming, ranching, or agricultural purposes or as his/her place of abode. For wells constructed after October 1, 1988, but not constructed according to this Chapter, the Department must issue a declaratory ruling pursuant to 011 of this Chapter prior to decommissioning.

010.02 PRELIMINARY WORK. Prior to decommissioning a water well, the depth of the well and the static water level must be measured, and an investigation must be made to determine the details of the well construction, including annular fill material and seal placement. Potential sources of well construction details include:

010.02(a) The personal records of the owner;

010.02(b) The contractor that drilled the well;

010.02(c) The registration forms on file with the Nebraska Department of Natural Resources, available on its website;

010.02(d) Water well contractors familiar with the area; and

010.02(e) Water well records on file with the University of Nebraska-Lincoln Conservation and Survey Division, School of Natural Resources.

010.03 DECONTAMINATING. Disinfectant equivalent to at least 200 ppm chlorine must be introduced into the well before any material is placed into the well (Table 1). The disinfectant can be in a liquid, granular, or pellet form. This will also decontaminate the fill material placed adjacent to the water-bearing zones.

010.04 OBSTRUCTIONS. Every effort must be made to remove obstructions. If they cannot be removed, the well cavity must be filled with approved fill material in accordance with 001.10(c) of this Chapter from the bottom of the well to a point immediately above the obstruction. If this is not possible, a five foot non-slurry bentonite grout plug must be placed above the obstruction.

010.05 MATERIAL VOLUME. The volume of material required to decommission a water well can be determined using Table 3. Volumes for each interval that is to be either filled or sealed must be calculated prior to beginning. Materials used and calculated volumes must be consistent. If they are not, then:

010.05(a) Additional material must be added to replace lost volumes until the interval is filled or sealed; or

010.05(b) If material bridges in the well (evidenced by calculated amount of filler/sealer being too much), operations must stop until the

bridge is removed by high pressure jetting, drilling, or other, methods.

010.06 WELL DECOMMISSIONING MATERIALS. Approved fill material (001.10(c), 010.06(b) of this Chapter) or grout material (010.06(a) of this Chapter) must be used to decommission water wells. Grout plugs and seals must be used to prevent water movement into or between water-bearing zones; approved fill material may be used where grout plugs or seals are not required.

010.06(a) G Grout material found in 001.08 of this Chapter can be used as a seal in decommissioning water wells.

010.06(b) F Fill material to be used in water wells in intervals where grout plugs or seals are not required, must be disinfected sand, gravel, or crushed stone except that native earth material may be used in large diameter bored or dug wells greater than 24 inches in diameter because of the volume required. All fill material must be free of potentially toxic chemical residue and trash such as leaves and foreign materials. All fill material must be sized and introduced into the well at a rate to avoid bridging.

010.07 GENERAL PROCEDURES FOR ALL WELLS WITH ANNULAR SPACE.

010.07(a) P Place five-foot grout plugs inside the casing at all of the following locations whenever possible (Figure 13):

010.07(a)(1) In the bottom of the well if there is no water in the well.

010.07(a)(2) At the water table.

010.07(a)(3) Directly across from all primary seals.

010.07(a)(4) Within 10 feet of the surface.

010.07(b) C Remove the upper three feet of casing in all cased wells unless (Figure 14A):

010.07(b)(1) The well is located in an area surrounded by permanent pavement (asphalt or concrete) (Figure 14B); or

010.07(b)(2) The top of the casing is already at least three feet below the land surface.

010.07(c) C A cap must meet the following criteria (Figures 14A & 14B):

010.07(c)(1) The cap must consist of either non-slurry bentonite or sand cement grouts. Concrete or asphalt may be utilized in situations as outlined in 010.07(b)(1) of this Chapter.

010.07(c)(2) The cap must be a minimum of one foot thick and extend 1 foot past the original borehole wall except in situations as outlined in 010.07(b)(1) of this Chapter.

010.07(d) S The cap may be covered with native earth which should be mounded to prevent settling. Asphalt or concrete may be utilized in situations outlined in 010.07(b)(1) of this Chapter (Figures 14A & 14B).

010.08 RESERVED.

010.09 PROCEDURES FOR SPECIFIC WELL TYPES.

010.09(a) T

010.09(a)(1) I All obstructions must be removed prior to decommissioning. Test holes must be sealed with a five-foot grout plug placed at static water level and/or confining layer and a five-foot grout plug near the surface. Fill material must be placed from the five-foot grout plug at the static water to the surface seal which must be placed within the top 10 feet. The fill material may be any grout (001.08 of this Chapter), annular fill material (001.10(c) of this Chapter), or clean cuttings.

010.09(a)(2) A Test holes drilled in areas of known contamination must be sealed full length with non-slurry bentonite grout.

010.09(b) D
S

010.09(b)(1) P Place five-foot grout plugs inside the casing/borehole at all of the following locations whenever possible:

010.09(b)(1)(i) In the bottom of the well if there is no water in the well.

010.09(b)(1)(ii) At the water table.

010.09(b)(1)(iii) Within 10 feet of the surface.

010.09(b)(2) F If the well bore is greater than 24 inches, then natural earth may be used.

010.09(b)(3) C Remove the upper three feet of casing in all cased wells unless (*see* Figure 14A):

010.09(b)(3)(i) The well is located in an area surrounded by permanent pavement (asphalt or concrete) (*see* Figure 14B); or

010.09(b)(3)(ii) The top of the casing is already at least three feet below the land surface.

010.09(b)(4) C A cap must meet the following criteria (*see* Figures 14A & 14B):

010.09(b)(4)(i) The cap must consist of either non-slurry bentonite or sand cement grouts. Concrete or asphalt may be utilized in situations as outlined in 010.07(b)(1) of this Chapter.

010.09(b)(4)(ii) The cap must be a minimum of one foot thick and extend one foot past the original borehole wall except in situations as outlined in 010.07(b)(1) of this Chapter.

010.09(b)(5) S The cap may be covered with native earth which should be mounded to prevent settling. Asphalt or concrete may be utilized in situations outlined in 010.07(b)(1) of this Chapter (*see* Figures 14A & 14B).

010.09(c) D

010.09(c)(1) Fill the entire casing with grout to the top and cut off the casing three feet below the ground surface or water level. Place a one foot grout seal one foot beyond the casing and backfill the remainder of the hole with native soil mounded for settlement (*see* Figure 14A), or

010.09(c)(2) If the casing is pulled, decommission like a test hole as described in 010.09(a) of this Chapter.

010.09(d) F The entire casing of a full-length grouted well must be filled with non-slurry bentonite grout. The rest of the well must be decommissioned, pursuant to 010.07 of this Chapter.

010.09(e) M

010.09(e)(1) ANNULAR SEALS. If the installation of an annular seal is required or necessary to further protect the groundwater, every effort must be made to place them in appropriate locations during decommissioning. Each annular seal must be a minimum of five feet in length. Methods of placing the seals may include but not be limited to injection into the annulus or by ripping, breaking, or perforating the casing and placing the seal from inside the casing.

010.09(e)(1)(i) M Water wells that obtained water from more than one distinct aquifer that is separated by a confining layer must have a grout plug not less than five feet in length placed inside the casing adjacent to each seal at each confining layer and a five-foot grout plug placed inside the casing at the static water level. If no primary seals were placed at the confining layer, then every effort must be made to place a five-foot primary seal at each confining layer according to methods outlined in 010.09(e)(1) of this Chapter

and plugs must be placed inside the casing adjacent to the newly installed primary seals (*see* Figure 15).

010.09(e)(1)(ii) F Decommissioning these wells requires stopping the flow of water through the casing and/or annular space. If water is flowing through the casing, the well must be shut-in to ensure that flow will not come up the annular space.

010.09(e)(1)(ii)(A) If water is flowing through the casing, the well must be shut-in or capped to ensure that flow will not come up the annular space or outside the casing for a driven well with open hole below.

010.09(e)(1)(ii)(B) If the well was constructed without primary seals or water flows up the annulus, a five-foot seal must be placed in the annular space adjacent to the confining layer according to 010.09(d)(1) of this Chapter. Neat cement must be utilized for these seals. The seal must be allowed to cure a minimum of 24 hours prior to continuing the decommissioning process in 010.09(e)(1)(ii)(D) of this Chapter.

010.09(e)(1)(ii)(C) If the well was constructed with primary seals and water does not flow up the annulus, stop the flow of water through the casing by placing a neat cement plug in the casing or well cavity through a tremie line or by using an expandable plug. This plug should be placed across from the primary seal.

010.09(e)(1)(ii)(D) Once the flow is stopped, five-foot plugs must be placed in the casing across from each annular seal. Bentonite grouts can be used for these plugs above the confining layer once flow has been stopped. The rest of the well must be de commissioned as described in 010.07 of this Chapter.

010.09(e)(1)(ii)(E) The exact location of these wells must be flagged for at least one year after decommissioning.

010.09(f) C

010.09(f)(1) Remove all heat transfer fluid from the closed loop; and

010.09(f)(2) Dig down to the top of the borehole and cut off the loop pipe at least six feet below the surface. Pump the remaining loop full of bentonite or cement slurry. The remainder of the borehole is to be decommissioned as described in 010.07(d) or 010.09(b)(4) of this Chapter; or

010.09(f)(3) Pump the header and loops full of bentonite or cement slurry if the loop field is under a paved parking lot or building.

010.10 DOCUMENTATION. A record that includes the materials used, the quantity of those materials, location of placement thereof, and mix specifications, including the type and viscosity of bentonite grouts, must be maintained on every decommissioned water well, including test holes.

010.11 REPORTING DECOMMISSIONING. A notice of decommissioning for all water wells except test holes must be submitted to the Director of the Department of Natural Resources on the Notice of Decommissioning form supplied by the Department of Natural Resources within 60 days of the decommissioning of the water well as required in Neb. Rev. Stat. § 46-602 as follows:

010.11(a) The pump installation contractor or water well contractor must submit written notice of the decommissioning of a water well to the Department of Natural Resources.

010.11(b) If both a water well contractor and a pump installation contractor are involved in the decommissioning of a water well, the pump installation contractor must submit the notice of decommissioning to the Department of Natural Resources.

010.11(c) If a landowner decommissions a driven sandpoint water well on land owned by him/her and used by him/her for farming, ranching, or agricultural purposes or as his/her place of abode, the landowner must report the decommissioning to the Department of Natural Resources.

011. DECLARATORY RULING OF SUBSTANTIALLY EQUIVALENT PROCEDURE OR MATERIAL.

011.01 Any water well contractor, pump installation contractor or any other individual carrying out activities subject to this Chapter who desires to carry out such work by a procedure inconsistent herewith or using materials other than herein prescribed but which the contractor or other individual believes to be substantially equivalent to the standards prescribed in this Chapter may submit a request for a declaratory ruling by the Department.

011.02 Such a request must be submitted by a licensed Well Drilling or Pump Installation Contractor in writing at least 10 days prior to the initiation of construction or alteration of the well(s) involved, unless good cause is shown for a shorter review period.

011.03 The request must include a description of the material(s) and/or construction procedure(s) proposed, identify the procedure or material required by the prescribed standards and include proof of the alleged equivalency and such written arguments as are deemed appropriate by

the requesting party.

011.04 Such request must be made on forms provided by the Department.

011.05 The Department may in situations when the submission of a request 10 days in advance would result in an immediate environmental threat, significant economic hardship on, or pose a health threat to the owner or other individuals, waive the 10 day review period.

012. VARIANCES.

The Department may grant a variance from any rule, regulation, or standard adopted and promulgated by the Department relating to the construction of a water well upon proof by a licensed water well contractor or well owner that the enforcement of the rule, regulation, or standard would create an unreasonable hardship or be unreasonable, impractical, or not feasible under the circumstances. A variance is limited to the construction of a water well to replace an existing water well. A variance may only be requested after a declaratory order about substantially equivalent procedure or material has been requested and denied.

012.01 PROCEDURES FOR REQUESTING A VARIANCE. The party requesting the variance or renewing a variance must submit the variance request to the Department along with any applicable fee. The request for a variance must be submitted in writing at least 10 days prior to the planned initiation of construction of the well involved. Variances may only be granted in writing by the Department. All variance requests must contain the following:

012.01(a) The name, address, telephone number, and signature of the individual(s) requesting the variance;

012.01(b) The specific rule(s) for which the variance is requested (if more than one rule is affected then each must be listed);

012.01(c) The reason the rule(s) cannot be met, with supporting evidence;

012.01(d) The length of time for which the variance is requested;

012.01(e) The alternative or protective measure that will be taken to assure a comparable degree of protection to health or environment;

012.01(f) Construction plans and specifications of the proposed water well with all the relevant and required information listed in Neb. Rev. Stat. § 46-1241; and

012.01(g) A scaled map showing the location of the well in relation to property lines, structures, utilities, and contamination sources.

012.02 VARIANCE CONDITIONS. A variance may be under such terms and conditions and for such time as the Department may prescribe. The Department must notify the requesting party in writing of the decision to grant or deny the variance. If a variance is granted, the notification must specify conditions or alternative measures imposed upon the variance, if any. If the variance is denied, the Department will specify the reasons for the denial.

012.03 ALTERNATIVE MEASURES OR CONDITIONS. Alternative measures or conditions attached to a variance have the force and effect of the applicable regulation. If the alternative measure or condition attached to the variance is violated, the party may be enjoined from continuing such activities. The injunction may include an order to properly decommission the water well.

012.04 RENEWAL OF A VARIANCE. A request for a renewal of a variance must be submitted in writing to the Department within 30 days of the expiration date. A renewal request must contain the information in 012.01 of this Chapter. A variance may be renewed if the party continues to satisfy the criteria for granting the variance and demonstrates compliance with the alternative measures or conditions imposed at the time the original variance was approved.

013. PETITIONING FOR RECLASSIFICATION OF ILLEGAL WATER WELL.

013.01 IN GENERAL. Whenever the Department determines that any water well is an illegal water well, the Department may classify the water well as an illegal water well.

013.02 NOTICE. If the Department classifies a water well as an illegal water well, then the Department will provide to the landowner a classification notice.

013.03 FILING DEADLINE. If the landowner desires to have the illegal water well reclassified as an active status water well, an inactive status water well, or an abandoned water well, then the landowner shall, within 90 days of receiving the classification notice, file with the Department a petition for reclassification. To be considered timely, the Department must receive the petition for reclassification within 90 days of the landowner's receipt of the classification notice.

013.04 PETITION, REQUIRED CONTENTS. Any petition for reclassification filed under this Chapter shall contain:

013.04(a) A If requesting reclassification as an abandoned water well:

013.04(a)(1) A statement describing for what, if anything, the water well is currently being used, or explaining whether the use of the water well has been accomplished or permanently discontinued;

013.04(a)(2) A statement certifying that the water well has been decommissioned, as well as:

013.04(a)(2)(i) The date on which the water well was decommissioned;

013.04(a)(2)(ii) The name(s) and contact information of the person(s) who performed the water well decommissioning; and

013.04(a)(2)(iii) A copy of the notice of abandonment filed with the Department of Natural Resources pursuant to Neb. Rev. Stat. § 46-602(2).

013.04(b) A If requesting reclassification as an active status water well:

013.04(b)(1) An explanation of whether the water well is currently in use and, if so, a description of the particular use; and

013.04(b)(1) An explanation of what steps, if any, have been taken to bring the water well into compliance with the standards of this Title such that classification as an illegal water well is no longer proper.

013.04(c) I If requesting reclassification as an inactive status water well:

013.04(c)(1) A statement with supporting labeled photographs explaining and documenting that the water well is in a good state of repair;

013.04(c)(2) An explanation of the intended future use, if any, of the water well;

013.04(c)(3) A description of the steps taken, if any, to prevent impairment of the water quality in the water well or of the ground water encountered by the water well;

013.04(c)(4) A statement with supporting labeled photographs explaining and documenting that 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;

013.04(c)(5) A statement with supporting labeled photographs explaining and documenting that all entrances and discharge piping to the water well are effectively sealed to prevent the entrance of contaminants; and

013.04(c)(6) A statement with supporting labeled photographs explaining and documenting that 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.

013.05 UNTIMELY RECEIPT OF PETITION FOR RECLASSIFICATION. If the Department does not timely receive from the landowner a petition for reclassification, then the landowner shall decommission the illegal water well within 60 days of the expiration of the 90-day reclassification petition filing deadline.

013.06 DEPARTMENT ACTION ON PETITION. Whenever the Department timely receives a petition for reclassification from the landowner, the Department will grant the petition, deny the petition, or hold the petition in abeyance.

013.07 GRANTING A PETITION FOR RECLASSIFICATION.

013.07(a) C If the Department is satisfied that the petition for reclassification contains evidence sufficient to properly reclassify the water well as the requested status, then the Department will grant the petition for reclassification.

013.07(b) N The Department will provide the landowner with written notice upon granting the petition for reclassification.

013.08 DENYING A PETITION FOR RECLASSIFICATION.

013.08(a) C The Department will deny the petition for reclassification if the Department is not:

013.08(a)(1) Satisfied that the petition for reclassification contains evidence sufficient to properly classify the water well as the requested status; and

013.08(a)(2) Convinced that the landowner could, within 60 days, bring the water well into compliance such that the water well could properly be reclassified as the requested status.

013.08(b) N The Department will provide the landowner with written notice upon denying the petition for reclassification.

013.08(c) E The landowner shall, within 60 days of receiving the notice described in 013.08(b) of this Chapter, properly decommission the water well and provide to the Department a signed statement certifying that the water well has been properly decommissioned.

013.09 HOLDING A PETITION FOR RECLASSIFICATION IN ABEYANCE.

013.09(a) C The Department will hold a petition for reclassification in abeyance if the Department is:

013.09(a)(1) Not satisfied that the petition for reclassification contains evidence sufficient to properly classify the water well as the requested status; and

013.09(a)(2) Convinced that the landowner could, within a reasonable amount of time, bring the water well into compliance such that the water well could properly be reclassified as the requested status.

013.09(b) N

013.09(b)(1) The Department will provide the landowner with written notice upon holding the petition for reclassification in abeyance.

013.09(b)(2) The written notice will:

013.09(b)(2)(i) Identify the particular deficiencies that must be corrected in order to bring the water well into compliance such that the water well can properly be reclassified as the requested status; and

013.09(b)(2)(ii) Specify the date by which such deficiencies shall be corrected. The date so specified will not be extended.

013.09(c) A The period of time between the petition being held in abeyance and the date on or before which corrections must be completed constitutes an additional, one-time compliance period. Within 60 days of receiving the written notice provided under 013.09(b) of this Chapter, the landowner shall:

013.09(c)(1) Cause the water well to be brought into compliance such that the water well can properly be reclassified as the requested status; and

013.09(c)(2) Make a supplemental submission to the Department containing:

013.09(c)(2)(i) A signed statement certifying that the deficiencies identified in the written notice have been corrected; and

013.09(c)(2)(ii) Any photographs the landowner believes supports reclassification.

013.09(c)(3) To be considered timely, the Department must receive the supplemental submission within 60 days.

013.09(d) A

013.09(d)(1) If, after reviewing the supplemental submission, the Department is satisfied that the water well may properly be reclassified as the requested status, then the Department will grant the petition for reclassification.

013.09(d)(2) If, after reviewing the supplemental submission, the Department is not satisfied that the water well may properly be reclassified as the requested status, then the Department will deny the petition for reclassification.

013.09(e) N The Department will provide the landowner with written notice of the action taken on the supplemental submission.

013.09(f) E The landowner shall, within 60 days of receiving the notice described in 013.09(e) of this Chapter, properly decommission the water well and provide to the Department a signed statement certifying that the water well has been properly decommissioned.

001. BOARD DUTIES.

The duties of the Board include, but are not limited to:

001.01 Setting construction standards for water wells;

001.02 Setting fees; and

001.03 Approving regulations.

002. COMMITTEES.

No committees thus established will have authority to take final action on any matters assigned to it but will report its findings and make recommendations to the full Board for action as necessary.

003. CONDUCT OF BUSINESS.

The Board must conduct business as follows:

003.01 PARLIAMENTARY RULES. The Board will at all officially convened meetings conduct its business in accordance with the current edition of Robert's Rules of Order, except insofar as they may be inconsistent with these rules and regulations.

004. PUBLIC HEARINGS.

The Board must conduct public hearings as follows:

004.01 CALLING PUBLIC HEARINGS. The Board may at any time, on its own motion, order any public hearing which the Board is authorized, either by law or by inherent authority, to conduct and, after giving notice, conduct such hearing in the manner appropriate to the nature of the hearing as hereinafter provided.

004.02 FORMAL ADJUDICATORY HEARINGS. The Board will set a formal adjudicatory hearing when requested by any individual appealing a decision of the Board. The Board hereby adopts by reference for its rules of practice and procedure in any formal adjudicatory hearing Title 184, Chapter 1 of the Nebraska Administrative Code, except that the word Board will be substituted for Department.

004.03 INFORMAL, NON-ADJUDICATORY HEARINGS. All Board hearings, except hearings held pursuant to 004.02 of this Chapter, will be informal, non-adjudicatory hearings governed by this rule and regulation.

004.03(a) N

004.03(a)(1) G Notice will be given for all public hearings held by the Board.

004.03(a)(2) R The Department will, at a minimum, publish notice:

004.03(a)(2)(i) On the Department's website;

004.03(a)(2)(ii) At least once in a Nebraska newspaper of general circulation; and

004.03(a)(2)(iii) In any other manner required by law.

004.03(a)(3) S The Department may, in its discretion, supplement the notice required in 004.03(a)(2) of this Chapter.

004.03(a)(4) W Notice in the manners described in 004.03(a)(2) and 004.03(a)(3) of this Chapter will be given at least ten (10) days before the date of the hearing.

004.03(a)(5) C All notice published under this Chapter must contain the date, time, location, and purpose, of the meeting. An agenda may be provided, as appropriate.

004.03(b) P

004.03(b)(1) D Unless delegated in the manner prescribed in 004.03(b)(2) of this Chapter, the Chair of the Board must preside over all hearings.

004.03(b)(2) D

004.03(b)(2)(i) The Chair has the power to delegate to another Board member the presiding officership.

004.03(b)(2)(ii) All presiding officer delegations must be documented in a writing that:

004.03(b)(2)(ii)(A) Is signed and dated by the Chair; and

004.03(b)(2)(ii)(B) Identifies the Board member to whom the presiding officership was delegated.

004.03(b)(2)(iii) A delegation of the presiding officership automatically expires upon the adjournment of the Board meeting held immediately after the presiding officership delegation is made or the vacation of the Chair from office, whichever is sooner.

004.03(b)(2)(iv) A copy of the delegation documented pursuant to 004.03(b)(2)(ii) of this Chapter must be entered into the hearing record.

004.03(b)(3) P The presiding officer has the power to:

004.03(b)(3)(i) Open the proceedings;

004.03(b)(3)(ii) Enter into the record the notice given for the hearing;

004.03(b)(3)(iii) Take appearances;

004.03(b)(3)(iv) Accept and ensure exhibits are numbered properly;

004.03(b)(3)(v) Answer questions asked or call upon other persons present to answer questions asked; and

004.03(b)(3)(vi) Close the proceedings.

004.03(b)(4) L The presiding officer, acting alone, has not the power to take any action involving a final determination from the proceedings when action of the full Board is required by law.

004.03(b)(5) C The record in any hearing will not be affected by any change of presiding officers during the conduct of that hearing.

004.03(c) H The presiding officer may appoint a hearing examiner to assist the presiding officer in exercising the powers described in 004.03(b)(3) of this Chapter. The conduct of the hearing officer is subject to the provisions of 004.03(b)(4) and 004.03(b)(5) of this Chapter.

004.03(d) O No person will be required to be sworn or take an oath prior to presenting any comments, which may consist of any oral or written question, statement relevant to the subject of the hearing, and any document.

004.03(e) R

004.03(e)(1) S Comments at a public hearing will be received in the following sequence:

004.03(e)(1)(i) Board members and staff;

004.03(e)(1)(ii) Other state agencies; and

004.03(e)(1)(iii) All other persons in the order the presiding officer chooses.

004.03(e)(2) O All persons present will be given the opportunity to be heard on matters relevant to the

business and purpose of the hearing.

004.03(f) P All persons presenting comments at a hearing must first state their full name and address, and declare whether they are appearing on their own behalf or on behalf of another person or organization, in which case the person or organization represented must be named.

004.03(g) P All comments presented at the hearing are to be directed at the business and purpose of the hearing. Any comments not directed at the business and purpose of the hearing, or which are cumulative or repetitive, must, at the request of the presiding officer or hearing examiner, be terminated and excluded from the record.

004.03(h) S In addition to comments presented by other persons, the Board may, through the Board staff or otherwise, secure and present such comments as it may consider necessary or desirable. A copy of the notice given for the public hearing and a statement explaining the business and purpose of the hearing will be made as part of the hearing record.

004.03(i) R A record of the hearing will be made with the comments presented being a part thereof. Such record may consist of written statements and other documents, along with tape recordings of oral evidence or transcripts as deemed necessary by the Board.

004.03(j) R The record of public hearings may be held open for a specific period of time at the discretion of the presiding officer for submission of any comments not available or presented at the time of the hearing. At the designated time the hearing will be closed by the presiding officer after the inclusion of any comments submitted and accepted.

005. APPROVAL.

The Department, with the approval of the Board, must adopt and promulgate rules and regulations for the establishment of standards for the:

005.01 Construction of water wells;

005.02 Installation of pumps and pumping equipment; and

005.03 Decommissioning of water wells.

006. REQUESTS FOR REPORTING.

The Board will routinely, as part of each meeting, request reports from each agency represented on the Board. In advising the Department as provided under the Act, the Board will, following such reports, assign any subjects or proposals requiring Board advice, consultation, or advice and consent to any standing or special committee of the Board for further

investigation or work and will upon report of any such committee to the Board take such further action as deemed appropriate. The Board may take such action at any regular or special meeting of the Board with or without a public hearing.