

WINNESHIEK COUNTY PUBLIC HEALTH

PHONE 382-4662

201 WEST MAIN

DECORAH, IOWA 52101

May 9, 1995

Bill Bunn
726 Minnesota Ave.
Kansas City, KS 66101

Site: <u>Decorah EngP</u>
ID # <u>IAD984621318</u>
Break: <u>LL</u>
Other: <u>5-9-95</u>

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MAY 11 1995

OFFICE OF THE DIRECTOR
WSTM DIVISION

Dear Bill,

I have enclosed the information concerning the construction of monitor wells along with the requirements of obtaining the permits to construct such wells as you requested.

I did contact the Iowa Department of Natural Resources concerning some of the issues you raised. Their response was this type of installation was under both county and State jurisdiction. In other words, you will need to obtain the proper permits to install these wells along with meeting the construction requirements. In addition, you will need to have a State of Iowa Certified Well contractor on site during all phases of construction.

If you need any further explanation concerning this position, you can contact Mike Anderson, IDNR, at 515-281-6599 for any comments.

Sincerely,

Ron Fairchild

Ron Fairchild
Winneshiek County Public Health Sanitarian



30323803



Superfund

CHAPTER 38
PRIVATE WATER WELL CONSTRUCTION PERMITS

567—38.1(455B) Definitions.

"Abandoned well" means a water well which is no longer in use or which is in such a state of disrepair that continued use for the purpose of accessing groundwater is unsafe or impracticable.

"Agreement" means a signed document between the department and the county board of supervisors with which the department delegates the authority to issue private well drilling permits to the county board of supervisors or its designee.

"Construction" means the physical act or process of making a water well including, but not limited to, siting, excavation, construction and installation of equipment and materials necessary to maintain and operate the well.

"Contiguous" means any number of parcels of land that physically touch one another, including tracts of land separated by roads, railroads or streams, except that for the purpose of reporting on other existing wells on the property, the radius of a contiguous piece of land shall be limited to one mile from the site of the new well constructed.

"Contractor" means a person engaged in the business of well construction or reconstruction. The term may include a corporation, partnership, sole proprietorship, association or any other business entity, as well as any employee or officer of the entity.

"Department" means the Iowa department of natural resources.

"Director" means the director of the department or a designee.

"Groundwater" means any water below the surface of the earth.

"Inactive water well" means a water well which is not currently in use and is capped or sealed to prevent the entrance of contaminants into the well, but is in such a condition that it can be activated to produce a safe supply of water.

"Landowner" means an individual, trust, partnership, corporation, government or governmental subdivision or agency, association or other legal entity that has legal or equitable title to a piece of land.

"Landowner's agent" means a person who acts for or in place of the landowner by authority from the landowner.

"Private water well" means a well that does not supply a public water supply system.

"Protected source" means a surface water or groundwater source recognized by rule as deserving special protection in order to ensure its long-term availability, in terms of either quality or quantity, or both, to preserve the public health and welfare.

"Public water supply system" means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. The term includes (1) any collection, treatment, storage, and distribution facilities under control of the supplier of water and used primarily in connection with the system, and (2) any collection (including wells) or pretreatment storage facilities not under the control which are used primarily in connection with the system.

"Water well" means an excavation that is drilled, cored, bored, augered, washed, driven, dug, jetted, or otherwise constructed for accessing groundwater. Water well does not include an open ditch or drain tiles.

567—38.2(455B) Forms. The following application form is currently in use:
Application For a Permit To Construct a New Private Water Well. 11/87. 542-0988.

567—38.3(455B) Permit requirement.

38.3(1) When permit required. A landowner or landowner's agent shall not drill or construct a new private water well without first obtaining a well construction permit issued by the department or by a county board of supervisors or the board's designee authorized to is-

sue permits pursuant to rule 38.15(455B). Examples of private water wells requiring well construction permits include, but are not limited to: domestic wells, livestock wells, irrigation wells, recreational-use wells, monitoring wells, heat pump wells, industrial wells, and dewatering wells, except that dewatering wells shall be exempt from the construction standards of Chapter 49 (nonpublic water wells).

38.3(2) Exemptions. The following types of excavations do not need private water well construction permits: soil borings, percolation test holes, sand and gravel and limestone exploration holes, excavations for storing and extracting natural gas or other products, gravel pits and quarries and all monitoring wells required as part of a permit or a construction approval issued by the department. Test holes, used to determine the availability, quality or depth of groundwater are also exempt provided that all the following conditions are met.

a. The use of the test hole is limited to the conduct of the test only.

b. The duration of the test is not more than seven consecutive days.

c. The test hole is properly closed immediately after the test is completed in accordance with Chapter 39 "Requirements for Properly Plugging Abandoned Wells."

38.3(3) Caveat. Nothing in these rules shall be construed as exempting public water supply wells from the construction permit and water withdrawal permit provisions of the environmental protection commission rules, 567—Iowa Administrative Code.

567—38.4(455B) Form of application. Application shall be made on forms supplied by the department. However, counties that have active delegation of authority to issue new private well construction permits pursuant to rule 38.15(455B) may develop and use their own application forms subject to the approval of the department. Each application shall list all wells, including abandoned wells, on the applicant's property contiguous to the well site described in the application and shall describe the location of each well site. The location shall be given in the form of a legal land description (section, township and range) to the nearest quarter of a quarter of a section and noted on a map or aerial photograph. The list of wells to be registered shall include but is not limited to abandoned wells, inactive wells, agricultural drainage wells, irrigation wells, domestic wells and livestock wells.

567—38.5(455B) Fees.

38.5(1) Fee payment. Each application shall be accompanied by a nonrefundable fee of \$25 in the form of a check or money order payable to the department of natural resources, unless a county board of supervisors or the board's designee is authorized to issue private well construction permits pursuant to rule 38.15(445B). In cases where the permitting authority is delegated to the county, the county board of supervisors may set a different fee and shall designate the terms for fee payment. More than one proposed well on one contiguous piece of property may be listed on one application and only one fee need be paid irrespective of the number of wells listed on the application form. A proper application shall consist of a fully and properly completed form and nonrefundable fee.

38.5(2) Exemption. The department is exempt from the fee payment requirements of these rules.

567—38.6(455B) Well maintenance and reconstruction. A private well construction permit is required for all replacement wells. A private well construction permit is not required for the repair, maintenance, rehabilitation or reconstruction of an existing well. Changes in physical dimensions included in these exemptions include, but are not limited to: deepening the well and changing the diameter or length of the casing or the screen.

567—38.7(455B) Emergency permits.

38.7(1) Granting of emergency permit. Each county board of supervisors or the board's designee may grant an emergency permit to a landowner or the landowner's agent if emergency drilling is necessary to meet an immediate need for water. The emergency permit and ap-

CHAPTER 82
WELL CONTRACTOR CERTIFICATION

567 -82.1(455B) Definitions. In addition to the definitions in Iowa Code sections 455B.171 and 455B.190 and Iowa Code Supplement section 455B.190A, which are hereby adopted by reference, the following definitions shall apply to this chapter:

"Classification" means one of four levels of well contractor certification, designated as either well contractor, pump installer, provisional certified well contractor or provisional pump installer. All four are referred to as certified well contractor in the following rules unless specifically identified otherwise.

"Continuing education unit (CEU)" means ten contact hours of participation in an organized education experience under responsible sponsorship, capable direction, and qualified instruction.

"Direct charge" means the certified well contractor at the well site responsible for assuring that the well services are performed as required in 567 - Chapters 38, 39, 43, 49 and 110.

"Pump services" means the installation, repair or maintenance of water well pumps.

"Water well" means any excavation that is drilled, cored, bored, augured, washed, driven, dug, jetted, or otherwise constructed for the purpose of exploring for groundwater, monitoring groundwater, utilizing the geothermal properties of the ground, or extracting water from or injecting water into the aquifer. "Water well" does not include an open ditch, or drain tiles or an excavation made for obtaining or prospecting for oil, natural gas, minerals, or products mined or quarried.

"Well services" means new well construction, well reconstruction, installation of pitless equipment, or well plugging.

567-82.2(455B) General.

82.2(1) Any well services or pump services provided on or after July 1, 1993 shall be performed by a well contractor who has been certified by the department pursuant to this chapter.

82.2(2) Certified well contractors certified as well contractors or provisional certified well contractors are limited to providing well services. Certified well contractors certified as pump installers or provisional pump installers are limited to providing

pump services and well plugging. To provide both well services and pump services, a certified well contractor shall be certified as a well contractor or provisional certified well contractor, and a pump installer or provisional pump installer.

82.2(3) A certified well contractor shall be present at the well site and in direct charge of the well services or pump services being performed or provided.

82.2(4) Any person who is responsible for providing well services or pump services shall be certified.

82.2(5) A certified well contractor currently certified, may obtain a duplicate certificate upon payment of the same fee as required for renewal of a certificate.

82.2(6) RESERVED

82.2(7) RESERVED

82.2(8) Any certified well contractor who possesses a certificate must report to the department a change in address within 30 days after the change.

82.2(9) RESERVED

567- 82.3(455B) Classification of well contractors.

82.3(1) Classifications. There shall be four classifications of certified well contractors.

1. well contractor;
2. provisional certified well contractor;
3. pump installer; and
4. provisional pump installer.

82.3(2) A certified well contractor has met all of the education and experience requirements, has successfully completed the well contractor certification test and has been issued a certificate by the department.

82.3(3) A provisional certified well contractor or provisional pump installer does not meet all the education or experience requirements for a certified well contractor but does meet the following requirements:

a. Signs a statement on the application form that there is a shortage of certified well contractors in the geographical area of the state in which they desire to operate;

b. Completes and submits an application documenting at least one year of work experience in well services or pump services performed under the direct supervision of a certified well contractor;

boundaries in order to define locations for monitoring wells. Downgradient monitoring well placement may consider the convergence of groundwater paths to minimize the overall length of the downgradient dimension.

110.10(2) *Water table wells.* At least three downgradient water table monitoring wells shall be installed at each facility. The maximum spacing between wells shall be 600 feet.

110.10(3) *Uppermost aquifer monitoring wells.* If different than water table monitoring wells, at least three uppermost aquifer monitoring wells shall be installed at each facility. Uppermost aquifer monitoring wells shall be spaced no more than 600 feet apart. If the uppermost aquifer is located more than 50 feet below the water table, this requirement may be relaxed, although at least one downgradient uppermost aquifer monitoring well will be required.

110.10(4) *Other downgradient monitoring wells.* Additional downgradient monitoring wells will be required if the water table and uppermost aquifer monitoring wells do not intercept most vertical flow paths from the site. In such situations, monitoring wells shall be placed at the appropriate depths to intercept the remaining flow paths and shall be spaced at no more than 600 feet apart.

110.10(5) *Upgradient monitoring wells.* Upgradient monitoring wells shall not be affected by the site. At least one upgradient monitoring well shall be installed into each stratum being monitored by downgradient monitoring wells. If it is not possible to actually locate a monitoring well upgradient of the site, the well should be placed as near the site as feasible without being affected by the site.

110.10(6) *Monitoring point identification system.* The various types of monitoring points should be identified as follows:

Monitoring Well	MW# _____
Surface Water Monitoring Point	SW# _____
Piezometer	PZ# _____

Each monitoring point must have a unique number, regardless of the type of monitoring point, and that number must never change.

567—110.11(455B) Monitoring well/soil boring construction standards.

110.11(1) *General considerations.*

a. Contractors involved in construction of monitoring wells and piezometers and soil boring activities shall be registered with the department as required in 567—Chapter 37.

b. To the extent possible, all monitoring well construction materials must not absorb, desorb, react or otherwise alter the screened soil stratum or the quality of the groundwater being sampled. Galvanized metal, glues, welding solvents, pipe thread lubricants and other foreign substances must not be used.

c. All monitoring well construction materials must be protected from contamination prior to installation.

d. A typical cross section of a properly constructed monitoring well is shown in Figure 1 at the end of this chapter.

110.11(2) *Casings.*

a. As a minimum, the diameter of the inner casing (see Figure 1) of a monitoring well must be at least two inches.

b. Plastic cased wells must be constructed of materials with threaded, nonglued joints which do not allow water infiltration under natural subsurface pressure conditions or when the well is evacuated for sampling.

c. Well casings must provide structural stability to prevent casing collapse during installation as well as drill hole integrity when installed. Flush joint casing is required for small diameter wells installed through hollow stem augers.

d. Well casings must be constructed of inert materials such as polytetrafluorethylene, stainless steel or polyvinyl chloride. The department may approve other casing materials if the owner

or operator can demonstrate the material has a low potential for biasing the water quality parameters of samples. The department may approve the construction of composite well casings (casings with less inert materials in the unsaturated zone).

110.11(3) Well screens.

a. Slot size will be based on sieve analysis of the sand and gravel stratum or filter pack. The slot size must hold out 35 percent to 60 percent of the formation material and not less than 90 percent of the filter pack.

b. Slot configuration and open area must permit effective development of the well.

c. Screen length. Maximum screen length shall be 10 feet except for water table wells in which the screen must be of sufficient length to accommodate expected seasonal fluctuations of the water table. The screen should be placed 5 feet above and below the observed water table, unless local conditions are known to produce greater fluctuations. Screen length for piezometers should be 2 feet or less.

Multiple screened single-cased wells are prohibited.

110.11(4) Filter pack.

a. To prevent other materials from coming in contact with the well screen, extend the filter pack 18 inches above and 12 inches below the well screen.

b. Size must be based on sieve analysis of sand and gravel stratum. The filter pack material must be 2.5 to 3 times larger than 50 percent grain size of the zone being monitored.

110.11(5) Grouting.

a. The annular space above the filter pack must be sealed with expanding cement or bentonite grout. The vertical dimension of this seal must be a minimum of three feet.

b. The annular space between the seal and to just below the frostline must be backfilled with an impervious material such as bentonite or expanding cement.

c. The remaining annular space must be sealed with bentonite grout to the ground surface.

d. Grouting materials must be installed from the top of the filter pack up in one continuous operation with a tremie tube.

110.11(6) Well protection.

a. Plastic cased wells. A protective metal casing must be installed around the well casing. The inside diameter of the protective metal casing should be at least two inches larger than the outside diameter of the well casing. Extend the protective metal casing from a minimum of one foot below the frostline to slightly above the well casing top. The protective casing should be shortened or omitted if it covers part of the well screen. Seal or immobilize the protective casing with a concrete plug around the outside. The bottom of the concrete plug must extend at least one foot below the frostline. The concrete plug should be shortened if it covers part of the well screen. Extend the top of the plug approximately three to six inches above the ground surface and slope it away from the well approximately three feet. Soil may be placed above the plug. Seal the inside of the protective casing with a bentonite grout. Place a vented cap on the well casing and a protective locking cap on the metal casing. The lockable cap must be kept locked when the well is not in use.

b. Metal cased wells. Extend the concrete plug from at least one foot below the frostline to approximately three to six inches above the ground surface and slope it away from the well approximately three feet. Soil may be placed on top of the concrete plug. Place a vented, locking cap on the casing. The lockable cap must be kept locked when the well is not in use. See Figure 1.

c. To protect against accidental damage, a ring of brightly colored posts or other protective devices must be installed around all wells.

110.11(7) Well drilling.

a. The owner or operator must ensure that in all phases of drilling, well installation and completion, the methods and materials used do not introduce substances that may alter the results of water quality analyses.

b. Well drilling equipment coming into contact with contaminants in the borehole or above ground must be thoroughly cleaned to avoid spreading contamination to other depths or locations. Contaminated materials or leachate from wells must not be discharged onto the ground surface or into ponds or streams so as to cause environmental harm in the processes of drilling or well development.

c. The owner or operator must ensure that, at a minimum, the following well design and construction, log information be retained at the site and a copy of this information be sent to the department.

Date/time of construction;
 Name and address of the driller;
 Drilling method and drilling fluid used;
 Soil sampling methods;
 Surveyed location (± 0.5 ft.);
 Soil and rock classifications;
 Field observations;
 Well name/number;
 Borehole diameter and well casing diameter;
 Well depth (± 0.1 ft.);
 Water level measurements;
 Drilling and lithologic logs;
 Casing materials, inside diameter and weight or wall thickness;
 Screen materials;
 Casing and screen joint type;
 Screen slot size/length;
 Filter pack material/size; (depths from ___ to ___)
 Filter pack volume;
 Filter pack replacement method;
 Sealant materials; (depths from ___ to ___)
 Sealant volume;
 Sealant placement method;
 Grouting schedule and materials;
 Surface seal design/construction; (depths from ___ to ___)
 Type of protection well cap;
 Ground surface elevation (± 0.1 ft.);
 Well cap elevation (± 0.01 ft.);
 Top of casing elevation (± 0.01 ft.); and
 Detailed drawing of well (include dimensions).

110.11(8) *Well development.* Prior to use of the monitoring well for water quality monitoring purposes, well development is required to ensure the collection of representative groundwater samples. Procedures used in well development involve using a surge block, bailing or surging by pumping of compressed inert gas to produce a movement of water at alternately high and low velocities into and out of the well screen and gravel pack in order to loosen and remove fine materials. Development of low hydraulic conductivity wells may require the circulation of water down the well casing, out through the screen and gravel pack, and up the open borehole prior to the placement of grout or seal in the annulus. Any additional water used must be of a quality so as not to interfere with future groundwater quality determinations. Following surging, the well is pumped until the water does not contain significant quantities of suspended solids.

567—110.12(455B) *Sealing abandoned wells and boreholes.* Boreholes, piezometers and observation wells not used for groundwater monitoring must be sealed. Document in writing the location of the abandoned well or borehole with reference to the landfill's coordinate

system and method of sealing. The document must be retained at the landfill with a copy sent to the department.

110.12(1) Sealing boreholes. Fill the borehole by extending a tremie tube to the bottom of the hole. Apply bentonite or expanding cement grout through the tube to the bottom of the hole and raise the tremie tube as the hole is filled from the bottom upward. Keep the end of the tremie tube submerged in the grout while filling. Fill the borehole from the base of the boring all the way to the ground surface.

110.12(2) Sealing abandoned monitoring wells.

a. Well is known to be constructed properly with impermeable grout that was installed from the bottom up using a tremie tube. Remove any existing protective metal casing by vertically pulling it off the well. Using a tremie tube, fill the inner well casing with an impermeable grout slurry from the bottom to ground surface. After 24 hours, retop the grout if it has settled below the existing ground surface.

b. Well construction is improper or undocumented. Attempt to remove the well casing. If this fails, either drill round the well casing using a hollow stem auger of large inside diameter or drill out the well casing using a standard casing bit or solid stem auger with a boring diameter greater than the initial diameter of the hole. Drill to the maximum depth of the previously drilled boring. Clean the drilling debris from the interior of the auger or borehole. Seal the borehole with an impermeable grout using a tremie tube. If the soil conditions permit the sealing to be conducted in a continuous operation, keep the tremie tube submerged in the grout at all times. After 24 hours, retop the grout if it has settled below the ground surface.

c. Monitoring wells in future fill areas. Remove well and seal as described in the procedures for sealing boreholes per 110.12(1).

567—110.13(455B) Variance from design, construction, and operation standards. Pursuant to the authority of Iowa Code section 455B.303, a variance from the specific requirements of Chapter 110 may be issued, modified, or denied by the director. The request should also include any supporting information to be considered by the director in the formulation of a decision.

These rules are intended to implement Iowa Code section 455B.304.

WATER REGULATION

No. 1

Submitted to the Winneshiek County Board of Supervisors for approval this 13th day of April, 1970.

S/Kenneth R. Nessel
Kenneth R. Nessel Secretary
Winneshiek County Board of Health

Approved by the Winneshiek County Board of Supervisors this 27th day of April, 1970.

S/Albert Quass
Albert Quass Chairman of the Board of Supervisors
Winneshiek County, Iowa.

Published in the Decorah Public Opinion May 12, 1970.

WATER AND VERTICAL HEAT EXCHANGER REGULATION

No. 2

A REGULATION ESTABLISHING MINIMUM STANDARDS FOR THE CONSTRUCTION OF WATER WELLS AND QUASI PUBLIC WATER SUPPLIES; AND ESTABLISHING MINIMUM STANDARDS FOR THE CONSTRUCTION OF VERTICAL HEAT EXCHANGER SYSTEMS; PROVIDING MINIMUM REQUIREMENTS FOR BACK FILLING OR CLOSING HOLES DRILLED FOR THE PURPOSE OF INSTALLING VERTICAL HEAT EXCHANGE LOOPS; PROVIDING MINIMAL SEPARATION DISTANCES; PROVIDING CONSTRUCTION STANDARDS; PROVIDING MAINTENANCE PROCEDURES AND STANDARDS; PROVIDING FOR PERMITS AND PERMIT FEES; AND PROVIDING PENALTIES FOR VIOLATION OF THE PROVISIONS HEREOF.

The Winneshiek County Board of Health and Winneshiek County Board of Supervisors hereby amends Water Regulation No. 2 adopted May 12, 1970, as amended, to wit:

Section 1

DEFINITIONS

The following words shall have the following meanings for the purpose of this Regulation.

(a). **Board of Health.** The Winneshiek County Board of Health.

(b). **Health Department.** The Winneshiek County Health Department.

(c). **Health Officer.** The Chairman of the Winneshiek County Board of Health or his authorized representative the Winneshiek County Sanitarian.

(d). **Person, Firm or Corporation.** Any person, firm or association, organization, partnership, business, trust, agency, or any federal, state or local governmental agency or instrumentality or other entity recognized by law as the subject of rights and duties. The masculine, feminine, singular or

plural is included in any circumstance.

(e). **Private Water Supply.** A private water supply means any excavation that is drilled, bored, driven or dug in the earth to provide a source of water.

(f). **Quasi Public Water Supply.** A quasi public water supply means any excavation that is drilled, bored, driven or dug in the earth to provide a source of water for domestic use by more than one dwelling, or a business that has public usage of a private water supply, excepting those serving a municipality or a water district.

(g). **Water well.** A water well shall mean any method for procuring water from subsurface locations and shall include dug, drilled, bored, driven or sand point.

(h). **Permit.** A permit is a formal written order to construct or reconstruct a private or quasi public water well.

(i). **Reconstruction.** Reconstruction shall mean replacement, extension or removal of all or a portion of a well casing or of a vertical heat exchanger system.

(j). **Modification.** Modification of a well shall mean the increasing of the diameter of an existing well and/or increasing the depth of an existing well. Modification of a vertical heat exchanger system shall mean the increasing of the diameter of and/or increasing the depth of bore hole(s) in an existing vertical heat exchanger system, or drilling a new vertical heat exchanger bore hole.

(k). **Owner.** As used in this regulation, the term "owner" shall include the legal title holder, equitable title holder and/or any tenant in possession of the property.

(l). **Vertical Heat Exchanger.** Shall mean an open or closed loop system used for heating or cooling which involves a penetration of more than 20 ft. in vertical depth into the surface of the earth.

(m). **Vertical Heat Exchanger Bore Hole.** Shall refer to any bore hole drilled into the earth a distance of 20 ft. or more to accommodate a vertical heat exchanger system.

Section 2

PRIVATE & QUASI PUBLIC WATER SUPPLIES AND VERTICAL HEAT EXCHANGER SYSTEMS

(a). No person, firm, or corporation shall begin construction, reconstruction or modification of any private or quasi-public water supply or a vertical heat exchanger system in the County of Winneshiek, State of Iowa, without having first obtained a permit as set out in Section 3.

(b). No dwelling or structure wherein persons reside shall be occupied unless it is served by an approved, safe, potable water supply.

Section 3

APPLICATION FOR PERMIT TO CONSTRUCT OR RECONSTRUCT A PRIVATE OR QUASI-PUBLIC WATER SUPPLY OR VERTICAL HEAT EXCHANGER SYSTEM

(a). Any person, firm or corporation desiring a permit to construct, reconstruct or modify a private water supply system or

vertical heat exchanger system must file with the Winneshiek County Public Health Department an application stating therein the owner's name, correct house number, name of street or roadway, legal description and such other pertinent information as may be required.

(b). A permit for reconstructed or modification of an existing well will only be issued after a water sample has been drawn at the owner's or tenant's expense. Said water sample will be drawn by the Health Officer or his authorized agent. The water sample shall be submitted to the University Hygienic Laboratory at Iowa City or to another approved lab for coliform bacteria and nitrate analysis. If the laboratory report states that coliform bacteria level exists in the water sample and/or a nitrate level is present in the water sample at greater than 45 parts per million (ppm), the contractor and/or the owner (tenant) must submit a plan in writing to the Health Officer or his agent. Said plan shall specify the proposed steps to be taken by the contractor in the reconstruction or modification of an existing well, which steps are intended to reduce the coliform bacteria level to zero (0) and/or the nitrate level to less than 45 ppm. The Health Officer will, within ten (10) days of the date of submission of the plan approve or reject the plan. In the event the Health Officer accepts the plan, a permit will be issued. In the event the Health Officer rejects a plan, the Health Officer will issue an order, in writing, to the contractor and owner (tenant). Said order shall specify the reasons for rejecting the plan proposed by the contractor and/or owner (tenant). The contractor and/or owner (tenant) may resubmit an amended plan within seven (7) days of the date of the Health Officer's order. The submission of an amended plan shall not toll the time period for an appeal to the Board of Health pursuant to Section 8 of this regulation.

(c). Upon approval of the application and payment of the fee, the Health Officer or his representative shall issue a permit for the construction or reconstruction of said private or quasi-public water supply or vertical heat exchanger system.

(d). The permit must be displayed during construction period so as to be plainly visible at the site.

(e). Permits are not transferable.

(f). In making an application for a permit, the owner of the subject property or the owner by its contractor, expressly consents to allowing the Health Officer or his representative to enter the property, described in the application for a permit, for the purposes set forth in Sections 5, 5A, 5B, 6 and 7.

(g). Validity -- Permits shall have validity for a maximum of twelve (12) months from the time of issuance.

Section 4

FEEES

(a). The fee for the permit for the construction or reconstruction of a private well shall be \$25 payable to the Winneshiek County Treasurer to be credited to the Winneshiek County Board of Health fund.

(b). The fee for the permit for the construction or reconstruction of a quasi-public well and distribution system shall be \$25.00.

(c). The fee for the permit for the construction or reconstruction of a vertical heat exchanger shall be established by the local Board of Health and shall be posted at the office of the Winneshiek County Public Health Nurse and the office of the Winneshiek County Sanitarian. Said fee shall be payable to the Winneshiek County Treasurer to be credited to the Winneshiek County Board of Health Fund.

(d). Permit fees are not refundable.

Section 5

STANDARDS FOR PRIVATE OR QUASI-PUBLIC WATER SUPPLY SYSTEMS

(a). **Well Construction.** Wells may be either drilled bored, dug or driven (sandpoint). All wells shall meet construction and sanitary standards as outlined in the Iowa State department of Health Standards for Water Well, 1965, or latest revision thereof. Specifically, in Winneshiek County, Iowa, when drilling through the water bearing formations for purposes of well construction, reconstruction or modification, the well shall be cased and pressure grouted from just above the water bearing formation to the surface to separate the formations and to prevent intermingling and possible contamination to other water bearing formations. The process of casing and pressure grouting will take place at each water bearing layer which included but are not limited to these specific formation: St. Peter, Prairie Du Chien and Jordan layer of formation. At all times attention must be given to the depth at which safe water can be obtained and to methods of excluding surface run-off and shallow contaminated groundwater. Driven or sandpoint wells shall be no less than fifteen (15) feet below the ground surface and a monolithic, reinforced, concrete platform of sufficient thickness and depth to prevent cracking due to frost heave, which slopes away from the well, shall be installed at ground surface for a distance of not less than three (3) feet in all directions from the casing.

(b). **Pump Installation.** All pumps either hand operated or power driven shall be constructed and installed with a positive seal against entry of contaminated water, or other potentially contaminating material.

(c). **Pitless Adapters.** Any well located outside the basement of a dwelling shall have a pitless adapter. Pump pits shall not be considered in lieu thereof.

(d). **Distribution System.** All pressure systems shall be closed systems except for air introduced in hydropneumatic system.

(e). **Cross Connection.** Under no circumstances shall two sources of water supply be connected into a single closed pressure system.

(f). **Certificate of Use.** All wells must have a certificate from an approved laboratory showing that the water produced therefrom is safe for human consumption before it can be connected to a dwelling water system. In the event an existing well, well casing, or well pump is replaced or repaired, a laboratory analysis of the water is required, and a certification from an approved laboratory showing that the water from said well is safe for human consumption shall be secured within 30 days

after completion of well.

(g). **Well Disinfection.** In construction, reconstruction or modification, all wells or pump installations shall be thoroughly pumped to waste until all dirt and foreign materials are removed and the water is reasonably clear. Super chlorination, with calcium or sodium hydrochloride compounds with a concentration of at least 100 parts per million (ppm) shall then be accomplished simultaneously throughout the water well distribution system by the owner.

(h) **Drilling Records.** Within thirty (30) days of the date of completion of any water well construction, reconstruction or modification, the contractor shall submit drilling records. Said records shall provide the information required at Iowa Administrative Code Chapter 567-37.6(2), or any subsequent regulations adopted therein.

(i) **Notice of Grouting.** The owner and contractor of any well required to be grouted as set forth in Section 5(b) shall be responsible for contacting the Health Officer at least twenty-four (24) hours prior to the time that the well is to be pressure grouted. The Health Officer shall be permitted to inspect the well prior to and at the time of the pressure grouting.

Section 5A

STANDARDS FOR VERTICAL HEAT EXCHANGER SYSTEMS

(a). **Location.** Vertical heat exchanger systems shall be located with reference to the same separation distances as are required with wells pursuant to Iowa Administrative Code Chapter 567-49.5(455B).

(b). **CONSTRUCTION.** The provisions in items 1 to 7 apply to vertical heat exchanger construction, reconstruction or modification.

1. Piping used must be 160 PSI pressure-rated high density polyethylene or polybutylene.

2. Connections to piping must use socket fusion or butt fusion joining methods.

3. Piping must be pressure tested with air or potable water for 15 minutes at a pressure of 1.5 times the system operating pressure after installation in the bore hole.

4. Piping shall be installed and tested by the owner, heating and cooling contractor, and the certified well drilling contractor and approved by the Health Officer. The owner, heating and cooling contractor and certified well drilling contractor shall be responsible for back filling the vertical heat exchanger bore holes within 48 hours of drilling with sealant materials defined in Iowa Administrative Code Chapter 567-49.8(3), or any subsequent regulations adopted therein pertaining to sealant materials.

5. Only food-grade or United State Pharmacopoeia-grade propylene glycol or calcium chloride must be used as heat

transfer fluid. No other materials or additives must be used except for potable water. A permanent sign must be attached to the heat pump specifying that only approved heat transfer fluids must be used.

6. A flow meter must be installed.

7. Water make-up lines to the vertical heat exchanger must be protected with a back flow prevention device approved by the county sanitarian.

8. The owner and contractor of any bore hole required to be grouted as set forth herein shall be responsible for contacting the Health Officer and/or his representative, the Winneshiek County Sanitarian, at least 24 hours prior to the time that the bore hole is to be pressure grouted. The Health Officer shall be permitted to inspect the bore hole(s) prior to and at the time of the pressure grouting.

Section 5B

NOTICE OF LOSS OR LEAK

The owner of the vertical heat exchanger must notify the Winneshiek County Board of Health or their authorized representative of heat loop leakage or loss of pressure within 24 hours after the owner becomes aware of the loss or leak.

Section 5C

DRILLING RECORDS

Within 30 days of the date of completion of any vertical heat exchanger system, reconstruction or modification, the contractor shall submit drilling records. Said records shall provide the same information as would be required at Iowa Administrative Code Chapter 567-37.6(2), or any subsequent regulations adopted therein pertaining to wells.

Section 6

SEPARABILITY OF PROVISIONS

If any section, paragraph, clause or provision of this regulation shall be held invalid, the validity of such section, paragraph, clause or provision shall not affect any of the remaining provisions of this regulation.

Section 7

ENFORCEMENT

(a). It shall be the duty of the Health Officer to enforce the provisions of this regulation, and this duty may be delegated to an authorized representative. No variance of any of the requirements set forth in this regulation shall be permitted

absent the written approval of the Health Officer.

(b). All wells or vertical heat exchange systems which have been constructed, reconstructed or modified must be inspected by the Health Officer before they become operational. The Health Officer shall have the authority to issue an order requiring compliance with these regulations. Said compliance with these regulations must be performed within twenty (20) days of the date of the order. An order by the Health Officer stating that the well construction, reconstruction or modification is in compliance with these regulations shall not constitute a warranty or guarantee as to the performance of the well system or that the water obtained from the well system will be safe for human consumption. An order by the Health Officer stating that the vertical heat exchanger system construction, reconstruction or modification is in compliance with these regulations shall not constitute a warranty or guarantee as to the performance of the vertical heat exchanger system.

Section 7A

COSTS AND ENFORCEMENT

(a). All expenses incurred by the Winneshiek County Board of Health in proceeding to enforce any order issued by the Health Officer may be recovered by suit in the name of the Winneshiek County Board of Health, or said Board may certify the amount of said expense, together with a description of the property, to the County Auditor, who shall enter the same upon the tax books as cost for obtaining compliance with the order of the Winneshiek County Board of Health and said amount shall be collected as other taxes.

(b). Peace officers, when called upon by the local Board of Health or its authorized representatives, shall assist in the enforcement of the rules, regulations and lawful orders of said Board.

(c). No person shall interfere with members of the local Board, its authorized agents, or peace officers in the discharge of any duty imposed by law or rules of the State Health Department of the local Board.

(d). The local Board of Health or its authorized representatives may enter any building, property or other place for the purpose of examining any possible violation of the regulations of the local Board of Health, or the rules or regulations of any State Agency which the local Board of Health is, by law, required to enforce.

(e). In case any member of the local Board or its authorized representative shall be refused entry to any place, a complaint may be made under oath to any Court of competent jurisdiction and said Court shall thereupon enter its order authorizing any member of the local Board or its authorized representatives to enter such place for the purpose of enforcing the provisions of these regulations.

(f). The Winneshiek County Board of Health or its

authorized representatives may investigate written complaints submitted upon a form provided by the Board of Health. Complaint forms will be available at the Winneshiek County Public Health Nurse's Office in the Winneshiek County Courthouse.

Section 8

HEARINGS

In the event any person is aggrieved by any order made by the Health Officer, he may within 20 days of the date of such order appeal to the Board of Health and in writing state his reasons for requesting such order to be rescinded or modified. The Board of Health shall review the actions of the Health Officer, and if reasonable grounds exist, shall modify, withdraw or order compliance with said order. Appeal from any order of the Board of Health may be taken within 20 days to the District Court of Winneshiek County, Iowa.

Section 9

JURISDICTION

The provisions of this Regulation shall apply throughout Winneshiek County, Iowa, including cities and towns therein unless and until any such city or town shall obtain a certificate of acceptance and a joint or separate agency under the provisions of Section 14, Subsection 2, House File 480, Sixty-Second General Assembly, of the State of Iowa.

Section 10

PENALTY

Any person violating this Regulation or any provision thereof, and/or fails to comply with an order of the Health Officer as provided in Sections 7, 7A and 8, herein, may be fined not more than \$100 or imprisoned in jail for a period not to exceed thirty (30) days or be directed to comply with Order of the County Sanitarian and/or Health Officer. Each day that a violation occurs or continues constitutes a separate offense.

Section 11

REGULATION EFFECTIVE UPON PUBLICATION

This regulation being deemed urgent and necessary for the preservation of the public health, shall be in force and effect from and after its passage and publication as provided by law.

Submitted to the Winneshiek County Board of Supervisors for approval this _____ day of _____, 1995.
