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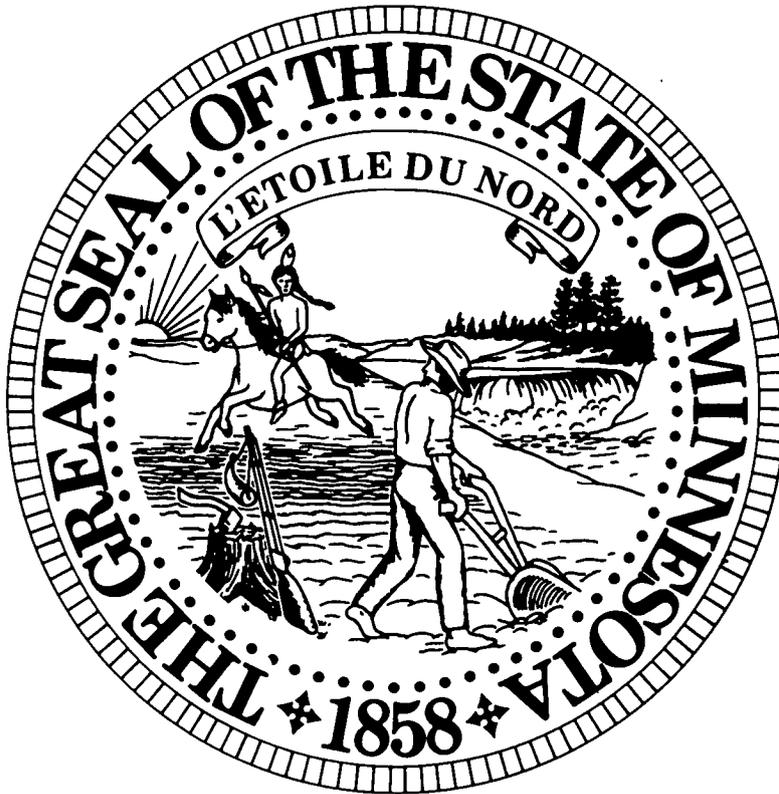
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STATE OFFICE BUILDING
ST. PAUL, MN 55155



Rules edition
Published every Monday
(Tuesday if Monday is a holiday)

Monday 17 August 1992
Volume 17, Number 7
Pages 305-368

State Register

Judicial Notice Shall Be Taken of Material Published in the *State Register*

The *State Register* is the official publication of the State of Minnesota, containing executive and commissioners' orders, proposed and adopted rules, official and revenue notices, state and non-state contracts, contract awards, grants, a monthly calendar of cases to be heard by the state supreme court, and announcements.

A *Contracts Supplement* is published every Thursday and contains additional state contracts and advertised bids, and the most complete source of state contract awards available in one source.

Printing Schedule and Submission Deadlines

| Vol. 17 Issue Number | *Submission deadline for Adopted and Proposed Rules, Commissioners' Orders** | *Submission deadline for Executive Orders, Contracts, and Official Notices** | Issue Date |
|----------------------------|--|--|---------------------|
| 7 | Monday 3 August | Monday 10 August | Monday 17 August |
| 8 | Monday 10 August | Monday 17 August | Monday 24 August |
| 9 | Monday 17 August | Monday 24 August | Monday 31 August |
| 10 | Monday 24 August | Monday 31 August | Tuesday 8 September |

*Deadline extensions may be possible at the editor's discretion; however, none will be made beyond the second Wednesday (12 calendar days) preceding the issue date for rules, proposed rules and executive orders, or beyond the Wednesday (5 calendar days) preceding the issue date for official notices. Requests for deadline extensions should be made only in valid emergency situations.

**Notices of public hearings on proposed rules and notices of intent to adopt rules without a public hearing are published in the Proposed Rules section and must be submitted two weeks prior to the issue date.

Instructions for submission of documents may be obtained from the *State Register* editorial offices, 504 Rice Street, St. Paul, Minnesota 55103, (612) 296-0929.

The *State Register* is published every Monday (Tuesday when Monday is a holiday) by the State of Minnesota, Department of Administration, Print Communications Division, 117 University Avenue, St. Paul, Minnesota 55155, pursuant to *Minnesota Statutes* § 14.46. A *State Register Contracts Supplement* is published every Thursday. The Monday edition is the vehicle for conveying all information about state agency rulemaking, including official notices; hearing notices; proposed, adopted and emergency rules. It also contains executive orders of the governor; commissioners' orders; state contracts and advertised bids; professional, technical and consulting contracts; non-state public contracts; state grants; decisions of the supreme court; a monthly calendar of scheduled cases before the supreme court; and other announcements. The Thursday edition contains additional state contracts and advertised bids, and the most complete listing of contract awards available in one source.

In accordance with expressed legislative intent that the *State Register* be self-supporting, the following subscription rates have been established: the Monday edition costs \$150.00 per year and includes an index issue published in August (single issues are available at the address listed above for \$3.50 per copy); the combined Monday and Thursday editions cost \$195.00 (subscriptions are not available for just the *Contracts Supplement*); trial subscriptions are available for \$60.00, include both the Monday and Thursday edition, last for 13 weeks, and may be converted to a full subscription anytime by making up the price difference. No refunds will be made in the event of subscription cancellation.

Both editions are delivered postpaid to points in the United States, second class postage paid for the Monday edition at St. Paul, MN, first class for the Thursday edition. Publication Number 326630 (ISSN 0146-7751).

Subscribers who do not receive a copy of an issue should notify the *State Register* circulation manager immediately at (612) 296-0931. Copies of back issues may not be available more than two weeks after publication.

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FOR LEGISLATIVE NEWS

Publications containing news and information from the Minnesota Senate and House of Representatives are available free to concerned citizens and the news media. To be placed on the mailing list, write or call the offices listed below:

SENATE

Briefly-Preview—Senate news and committee calendar; published weekly during legislative sessions.

Perspectives—Publication about the Senate.

Session Review—Summarizes actions of the Minnesota Senate.

Contact: Senate Public Information Office
Room 231 State Capitol, St. Paul, MN 55155
(612) 296-0504

HOUSE

Session Weekly—House committees, committee assignments of individual representatives; news on committee meetings and action. House action and bill introductions

This Week—weekly interim bulletin of the House.

Session Summary—Summarizes all bills that both the Minnesota House of Representatives and Minnesota Senate passed during their regular and special sessions.

Contact: House Information Office
Room 175 State Office Building, St. Paul, MN 55155
(612) 296-2146

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The *State Register* is the official source, and only complete listing, for all state agency rulemaking in its various stages. State agencies are required to publish notice of their rulemaking action in the *State Register*. Published every Monday, the *State Register* makes it easy to follow and participate in the important rulemaking process. Approximately 75 state agencies have the authority to issue rules. Each agency is assigned specific *Minnesota Rule* chapter numbers. Every odd-numbered year the *Minnesota Rules* are published. This is a ten-volume bound collection of all adopted rules in effect at the time. Supplements are published to update this set of rules. Proposed and adopted emergency rules do not appear in this set because of their short-term nature, but are published in the *State Register*.

If an agency seeks outside opinion before issuing new rules or rule amendments, it must publish a NOTICE OF INTENT TO SOLICIT OUTSIDE OPINION in the *Official Notices* section of the *State Register*. When rules are first drafted, state agencies publish them as **Proposed Rules**, along with a notice of hearing, or notice of intent to adopt rules without a hearing in the case of noncontroversial rules. This notice asks for comment on the rules as proposed. Proposed emergency rules and withdrawn proposed rules are also published in the *State Register*. After proposed rules have gone through the comment period, and have been rewritten into their final form, they again appear in the *State Register* as **Adopted Rules**. These final adopted rules are not printed in their entirety in the *State Register*, only the changes made since their publication as Proposed Rules. To see the full rule, as adopted and in effect, a person simply needs two issues of the *State Register*, the issue the rule appeared in as proposed, and later as adopted. For a more detailed description of the rulemaking process, see the *Minnesota Guidebook to State Agency Services*.

The *State Register* features partial and cumulative listings of rules in this section on the following schedule: issues 1-13 inclusive; issues 14-25 inclusive; issue 26, cumulative for issues 1-26; issues 27-38 inclusive; issue 39, cumulative for 1-39; issues 40-51 inclusive; and issue 52, cumulative for 1-52. An annual subject matter index for rules appears in August. For copies of the *State Register*, a subscription, the annual index, the *Minnesota Rules* or the *Minnesota Guidebook to State Agency Services*, contact the Print Communications Division, 117 University Avenue, St. Paul, MN 55155 (612) 297-3000 or toll-free in Minnesota 1-800-9747.

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Proposed Rules

Pursuant to Minn. Stat. §§ 14.22, an agency may propose to adopt, amend, suspend or repeal rules without first holding a public hearing, as long as the agency determines that the rules will be noncontroversial in nature. The agency must first publish a notice of intent to adopt rules without a public hearing, together with the proposed rules, in the *State Register*. The notice must advise the public:

1. that they have 30 days in which to submit comment on the proposed rules;
2. that no public hearing will be held unless 25 or more persons make a written request for a hearing within the 30-day comment period;
3. of the manner in which persons shall request a hearing on the proposed rules; and
4. that the rule may be modified if the modifications are supported by the data and views submitted.

If, during the 30-day comment period, 25 or more persons submit to the agency a written request for a hearing of the proposed rules, the agency must proceed under the provisions of §§ 14.14-14.20, which state that if an agency decides to hold a public hearing, it must publish a notice of intent in the *State Register*.

Pursuant to Minn. Stat. §§ 14.29 and 14.30, agencies may propose emergency rules under certain circumstances. Proposed emergency rules are published in the *State Register* and, for at least 25 days thereafter, interested persons may submit data and views in writing to the proposing agency.

Department of Health

Proposed Permanent Rules Relating to Wells and Borings

Notice of Intent to Adopt Rules Without a Public Hearing, Notice of Intent to Adopt Rules With a Public Hearing if 25 or More Persons Request a Hearing, and Notice of Intent to Cancel Hearing on the Proposed Rules if Fewer than 25 Persons Request a Hearing

I.

EXPLANATION OF ALTERNATIVE NOTICES

The Minnesota Department of Health (hereinafter "Department") hereby proposes to adopt rules without a public hearing under the rulemaking procedure of *Minnesota Statutes*, sections 14.22 to 14.28. However, if 25 or more persons request a hearing on the proposed rules, one will be held according to *Minnesota Statutes*, section 14.25. To expedite the rulemaking process should that occur, the Department is at the same time giving notice of hearing on the proposed rules according to *Minnesota Statutes*, sections 14.131 to 14.20. The hearing on the proposed rules will be cancelled if 25 or more persons do not request that one be held. With the comment period closing at 4:30 p.m. on September 16, 1992, there will be 14 days before the scheduled hearing date. This 14-day period will give interested persons time to contact the Department to find out whether the hearing will be cancelled.

II.

NOTICE OF INTENT TO ADOPT PROPOSED RULES WITHOUT A PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Minnesota Department of Health (hereinafter "Department") proposes to adopt the above-captioned rules without a public hearing unless 25 or more persons submit written requests for a public hearing with respect to the proposed rules. The Department has elected to follow the procedures set forth in *Minnesota Statutes*, sections 14.22 to 14.28.

Interested persons shall have 30 days from the date this notice is published in the *State Register* to submit comment in support of or in opposition to the proposed rules. The 30 days will expire at 4:30 p.m. on September 16, 1992. Comment is encouraged. Each comment should identify the portion of the proposed rules being addressed, the reason for the comment, and any change proposed to the rules by the commentator. The proposed rules may be modified if the modifications are supported by the data and views submitted to the Department and do not result in a substantial change in the proposed language.

In addition to submitting comments, interested persons may request, in writing, during the 30-day comment period that a hearing be held on the proposed rules. Any person requesting a hearing should state his or her name, address, and telephone number and is encouraged to identify the portions of the proposed rules addressed, the reason for the request, and any changes the commentator wants made to the proposed rules. If a person desires that a hearing be held on only a portion of the proposed rules, it is requested that the Department be informed of the specific portion of the rules on which a hearing is being requested at the time that the hearing request is made. This will enable the Department to limit the hearing, if one is held, to the specific issues of concern. A public hearing will be held only if 25 or more persons submit in writing requests for a hearing on the proposed amendments or a portion thereof by 4:30 p.m. on September 16, 1992, thus necessitating that one be held with respect to the proposed rules. If a hearing is required, it will be held in accordance with the provisions of *Minnesota Statutes*, sections 14.131 to 14.20 and the hearing notice provided in section III below.

Comments or written requests for a public hearing should be submitted to:

Environmental Health Division
Well Management Unit
Minnesota Department of Health
925 Southeast Delaware Street
Post Office Box 59040
Minneapolis, Minnesota 55459-0040
(612) 627-5161

The statutory authority of the Department to adopt the proposed rules is contained in *Minnesota Statutes*, section 1031.101, subdivisions 2 and 5, section 1031.221, subdivision 2; section 1031.301, subdivision 4; section 1031.621, subdivision 4; section 144.05, clause 1, (b) and (c); section 144.12, subdivision 1, clause 13; section 144.383; section 157.04; section 157.08; section 157.09 and section 157.13.

The proposed rules are published immediately following this notice in the *State Register* on August 17, 1992 and a free copy of the rules may be obtained from the Department by writing or telephoning Dan Wilson at the address or telephone number listed above.

The proposed rules govern wells, borings and underground uses that relate to the protection of groundwater. The proposed rules in Chapter 4725 revise standards for the construction, repair, and maintenance of wells and borings; revise isolation distances for water supply wells; propose new provisions on grouting, maintenance and sealing; streamline requirement for notices, permits and records; address standards for vertical heat exchangers and groundwater thermal exchange devices and clarify and reorganize provisions relating to licensure and registration. Amendments to part 4625 update the cross references for water supply requirements for food and beverage establishments. Amendments to part 4630.0600 revise outdated language applicable to manufactured home parks and recreational camping areas for consistency with well and public water supply laws and regulations. A complete copy of the proposed certified rules is attached to this notice.

A STATEMENT OF NEED AND REASONABLENESS that describes the need for and reasonableness of each provision of the proposed rules and identifies the data and information relied upon to support the proposed rules has been prepared and may be obtained from the Department by writing or telephoning Dan Wilson at the address or telephone number listed above.

After the close of the comment period on the proposed rules, if no hearing is required, the Department will submit to the Attorney General the proposed rules and notice as published, the rules as proposed for adoption, any written comments received by the Department, the statement of need and reasonableness, and a statement explaining any modifications to the proposed rules. The Attorney General will approve or disapprove the rules as to their legality and their form, including the issue of substantial change and determine whether the Department has the authority to adopt the rules and whether the record demonstrates a rational basis for the need for and reasonableness of the proposed rules. The Department will give notice to all persons who request to be informed that these materials have been submitted to the Attorney General. Persons who wish to be advised of the submission of these materials to the Attorney General should submit a written request to Dan Wilson at the address listed above. If the proposed rule has been modified, the notice will also state that fact and will state that a free copy of the proposed rule, as modified, will be available upon request from the Department.

LOCAL GOVERNMENT CONSIDERATIONS

The Department estimates no net fiscal impact on state and local public bodies in the two years following adoption of the proposed rules. The rules clarify existing requirements and procedures such as statutory requirements for notices, permits, construction standards and sealing. Activities of the Minnesota Department of Transportation, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and local municipalities have been and continue to be impacted by *Minnesota Statutes*, chapter 1031.

AGRICULTURAL LAND

The proposed rule amendments will not have a direct and substantial adverse impact on agricultural land; therefore, no further information need be provided under *Minnesota Statutes*, section 14.11.

SMALL BUSINESS CONSIDERATIONS

The Department is subject to *Minnesota Statutes*, section 14.115 regarding small business considerations in rulemaking. The Department's evaluation of the applicability of the methods contained in *Minnesota Statutes*, section 14.115, subdivision 2, for reducing the impact of the proposed rules is addressed in the statement of need and reasonableness.

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

III.

NOTICE OF INTENT TO ADOPT RULES WITHOUT A PUBLIC HEARING IF 25 OR MORE PERSONS REQUEST A HEARING ON THE PROPOSED RULES

PLEASE NOTE THAT IF 25 OR MORE PERSONS SUBMIT WRITTEN REQUESTS FOR A PUBLIC HEARING ON THE PROPOSED RULES WITHIN THE 30-DAY COMMENT PERIOD PURSUANT TO THE NOTICE GIVEN IN PART II ABOVE, A HEARING WILL BE HELD ON THURSDAY, OCTOBER 1, 1992, IN ACCORDANCE WITH THE FOLLOWING NOTICE OF PUBLIC HEARING. THE HEARING WILL BE CONTINUED TO OCTOBER 2, 1992 ONLY IF NOT COMPLETED ON OCTOBER 1.

NOTICE IS HEREBY GIVEN that a public hearing in the above-captioned matter will be held under *Minnesota Statutes*, sections 14.131 to 14.20, in the Chesley Room, Minnesota Department of Health, 717 Southeast Delaware Street, Minneapolis, Minnesota, on Thursday, October 1, 1992, commencing at 9:00 a.m. The hearing will continue on October 2, 1992 only if not completed on October 1, 1992.

All interested or affected persons, including representatives of associations or other interested groups, will have an opportunity to participate. Such persons may present their views either orally at the hearing or in writing at any time prior to 4:30 p.m. on the day of the close of the hearing record. All evidence presented should be pertinent to the matter at hand. Written material not submitted at the time of hearing which is to be included in the hearing record may be mailed to Peter C. Erickson, Administrative Law Judge, Office of Administrative Hearings, 100 Washington Square, Suite 1700, Minneapolis, Minnesota 55401-2138, telephone (612) 341-7606.

Unless a longer period not to exceed 20 calendar days is ordered by the administrative law judge at the hearing, the hearing record will remain open for the inclusion of written material for five working days after the hearing ends. Written material received during this period will be available for review at the Office of Administrative Hearings. The Department and interested persons may respond in writing within three business days after the submission period ends to any new information submitted. No additional evidence may be submitted during the three-day period. This rule hearing procedure is governed by *Minnesota Statutes*, sections 14.131 to 14.20 and by *Minnesota Rules*, parts 1400.0200 to 1400.1200. Questions about procedure may be directed to the administrative law judge.

The statutory authority for the Department to adopt the proposed rules is contained in *Minnesota Statutes*, section 1031.101, subdivisions 2 and 5, section 1031.221, subdivision 2; section 1031.301, subdivision 4; section 1031.621, subdivision 4; section 144.05, clause 1, (b) and (c); section 144.12, subdivision 1, clause 13; section 144.383; section 157.04; section 157.08; section 157.09 and section 157.13.

The proposed rules are published immediately following this notice in the *State Register* on August 17, 1992, and a free copy of the rule amendments may be obtained from the Department by writing or telephoning Dan Wilson listed above in Part II of this notice.

The proposed rules govern wells, borings and underground uses that relate to the protection of groundwater. The proposed rules in Chapter 4725 revise standards for the construction, repair, and maintenance of wells and borings; revise isolation distances for water supply wells; propose new provisions on grouting, maintenance and sealing; streamline requirement for notices, permits and records; address standards for vertical heat exchangers and groundwater thermal exchange devices and clarify and reorganize provisions relating to licensure and registration. Amendments to part 4625 update the cross references for water supply requirements for food and beverage establishments. Amendments to part 4630.0600 revise outdated language applicable to manufactured home parks and recreational camping areas for consistency with well and public water supply laws and regulations. A complete copy of the proposed certified rules is attached to this notice.

The proposed rules may be modified as a result of the rule hearing process. Persons who are potentially affected in any manner by the substance of the proposed rules are therefore advised to participate in the process.

Minnesota Statutes, Chapter 10A requires each lobbyist to register with the State Ethical Practices Board within five days after he or she commences lobbying. Questions should be directed to the Ethical Practices Board, First Floor South, Centennial Office Building, St. Paul, Minnesota 55155, telephone: (612) 296-5148.

NOTICE IS HEREBY GIVEN that a **STATEMENT OF NEED AND REASONABLENESS** is now available for review at the Department and at the Office of Administrative Hearings. This statement of need and reasonableness includes a summary of all the evidence which the Department anticipates presenting at the hearing justifying both the need for and the reasonableness of the proposed rules. Copies of the statement of need and reasonableness may be reviewed at the Department or the Office of Administrative Hearings and copies may be obtained from the Office of Administrative Hearings at the cost of reproduction.

Please note that any person may request notification of the date on which the administrative law judge's report will be available, after which date the Department may not take any final action on the proposed rules for a period of five working days. If you desire to be so notified, you may so indicate at the hearing. After the hearing, you may request notification by sending a written request to the administrative law judge. Any person may request notification of the date on which the rules were adopted and filed with the

Secretary of State. The notice must be mailed on the same day that the rules are filed. If you want to be so notified, you may so indicate at the hearing or send a request in writing to the Department at any time prior to the filing of the rules with the Secretary of State.

LOCAL GOVERNMENT CONSIDERATIONS

The Department estimates no net fiscal impact on state and local public bodies in the two years following adoption of the proposed rules. The rules clarify existing requirements and procedures such as statutory requirements for notices, permits, construction standards and sealing. Activities of the Minnesota Department of Transportation, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and local municipalities have been and continue to be impacted by *Minnesota Statutes*, chapter 1031.

AGRICULTURAL LAND

The proposed rule amendments will not have a direct and substantial adverse impact on agricultural land; therefore, no further information need to be provided under *Minnesota Statutes*, section 14.11.

SMALL BUSINESS CONSIDERATIONS

The Department is subject to *Minnesota Statutes*, section 14.115, regarding small business considerations in rulemaking. The Department's evaluation of the applicability of the methods contained in *Minnesota Statutes*, section 14.115, subdivision 2, for reducing the impact of the proposed rules is addressed in the statement of need and reasonableness.

IV.

**NOTICE OF INTENT TO CANCEL HEARING ON THE PROPOSED
RULES IF FEWER THAN 25 PERSONS REQUEST A HEARING
ON THE PROPOSED RULES**

PLEASE NOTE THAT THE HEARING, NOTICE OF WHICH IS GIVEN IN PART III ABOVE, WILL BE CANCELLED ON THE PROPOSED RULES IF FEWER THAN 25 PERSONS REQUEST A HEARING ON THE PROPOSED RULES IN RESPONSE TO THE NOTICE GIVEN IN PART II ABOVE.

To be informed whether a hearing noticed in Part III above will be held, please call or write Dan Wilson at the address or telephone number listed above before September 16, 1992, and leave your name, address, and telephone number. You will be notified after September 16, 1992, if the hearing has been cancelled. You may also call Dan Wilson at (612) 627-5161 after September 16, 1992, for oral confirmation regarding the scheduled hearing.

Dated: 31 July 1992

Marlene E. Marschall
Commissioner of Health

Rules as Proposed

4625.3901 PHYSICAL FACILITIES AND SANITATION.

Subpart 1. **Water supply.** Every food and beverage establishment must be provided with a supply of water which is adequate for the needs of the establishment. The water must be obtained from a public water supply system, or a source of supply and system which is located, constructed, and operated in accordance with rules governing public water supplies, ~~parts 4720.0100 to 4720.4600 chapter 4720~~ and water wells, ~~parts 4725.0100 to 4725.7600 chapter 4725.~~

[For text of subs 2 to 6, see M.R.]

4630.0600 WATER SUPPLY.

Subpart 1. **Requirement.** An adequate supply of water of safe, sanitary, and potable quality shall be provided in each mobile home park and recreational camping area. ~~When a satisfactory public water supply is not available, an individual water supply system may be developed and used, but such source of supply shall first be approved by the commissioner of health~~ Water supplies must meet the requirements of chapter 4720 for public water supplies, or chapter 4725 for wells.

[For text of subp 2, see M.R.]

Subp. 3. **Location.** In recreational camping areas, water from the drinking water supply shall be available within at least 400 feet of every campsite. ~~Every well or suction line of the water supply system shall be located and constructed in such a manner that neither~~

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underground nor surface contamination shall reach the water supply from any source. The following minimum distances between wells and various sources of contamination shall be required:

| Contamination Source | Distance in Feet Separating Well or Suction Line from Contamination Source |
|-------------------------|--|
| Building Sewer | 50 |
| Septic Tank | 50 |
| Disposal Field | 50 |
| Seepage or Leaching Pit | 75 |

Subp. 4. **Design.** ~~No well casings, pumps, pumping machinery, or suction pipes shall be placed in any pit, room, or space extending below ground level.~~ All water storage reservoirs shall be covered, watertight, and constructed of impervious material. Overflows and vents of such reservoirs shall be effectively screened. Manholes shall be constructed with covers which will prevent the entrance of foreign material. ~~The water piping system shall not be connected with nonpotable or questionable water supplies and shall be protected against the hazards of backflow and back siphonage.~~ The system shall be so designed and maintained as to provide a pressure of not less than 20 pounds per square inch under normal operating conditions at service buildings and other locations requiring a potable water supply. In mobile home parks and on recreational camping sites provided with individual water service connections, riser pipes shall be so located and constructed that they will not be damaged by the parking of mobile homes or recreational camping vehicles. Water riser pipes shall extend at least four inches above the ground elevation and the minimum pipe size shall be three-fourths inch. Adequate provisions shall be made to prevent freezing of service lines, valves, and riser pipes. If underground stop and waste valves are installed, they shall be at least ten feet from the nearest buried portion of the sewage system. Water risers on unoccupied sites shall be valved off. There shall be a horizontal distance of at least ten feet between water and sewer riser pipes; provided, that where the sewer riser is constructed of cast iron pipe and the water riser is constructed of copper pipe, the distance between may be less than ten feet. ~~When strict compliance with the provisions specified in this part is impractical, the commissioner of health may waive any of the requirements subject to such conditions as may be deemed desirable in the individual case. The commissioner shall grant a variance to subparts 2 to 4 only according to the procedures and criteria specified in parts 4717.7000 to 4717.7050.~~

4630.1801 VARIANCE TO RULES RELATING TO MOBILE HOME PARKS AND RECREATIONAL CAMPING AREAS.

The commissioner shall grant a variance to ~~part~~ parts 4630.0400; 4630.0600, subparts 2 to 4; and parts 4630.0900 to 4630.1700 only according to the procedures and criteria specified in parts 4717.7000 to 4717.7050.

4717.7000 VARIANCE REQUEST.

Subpart 1. **Request.** A party may ask the commissioner of health to grant a variance from the following rules:

[For text of items A to E, see M.R.]

F. manufactured home parks and recreational camping areas, parts 4630.0400; 4630.0600, subparts 2 to 4; and 4630.0900 to 4630.1700;

[For text of items G to P, see M.R.]

[For text of subps 2 and 3, see M.R.]

4725.0050 GENERAL.

This chapter is adopted according to and must be read in conjunction with Minnesota Statutes, chapter 103I, relating to wells, borings, and underground uses.

4725.0100 DEFINITIONS.

Subpart 1. **Scope.** Terms used in this chapter that are defined in Minnesota Statutes, section 103I.005, have the meanings given in statute. For the purposes of this chapter ~~adopted under Minnesota Statutes, chapter 103I,~~ the terms defined in this part have the meanings given them; ~~except where the context clearly indicates otherwise.~~

Subp. 4. [See repealer.]

Subp. 5. [See repealer.]

Subp. 8. [See repealer.]

Subp. 9. [See repealer.]

Subp. 10. [See repealer.]

Subp. 11. [See repealer.]

Subp. 12. [See repealer.]

Subp. 13. [See repealer.]

Subp. 14. [See repealer.]

Subp. 17. [See repealer.]

Subp. 19. **Annular space.** "Annular space" means the space between two cylindrical objects one of which surrounds the other, such as the space between a drillhole bore hole and a casing pipe, or between a casing pipe and liner pipe.

Subp. 20. [See repealer.]

Subp. 21. **Aquifer.** "Aquifer" means a water-bearing formation (soil unconsolidated material or rock horizon) that transmits capable of producing water in sufficient quantities to supply a well.

Subp. 21a. At-grade. "At-grade" means the termination of a well or boring at the established ground surface.

Subp. 21b. Bentonite. "Bentonite" means an aluminum silicate clay that contains at least 85 percent of the mineral montmorillonite and meets API specification 13A.

Subp. 21c. Bentonite grout. "Bentonite grout" means:

- A. water and a minimum of ten percent by weight of bentonite, with no additives to promote temporary viscosity; and
- B. an equal volume of washed sand, cuttings taken from the bore hole, or granular bentonite.

Subp. 22. **Casing.** "Casing" means an impervious durable a pipe or curbing placed in a well or boring to:

- A. prevent the walls from caving and to;
- B. seal off surface drainage; or undesirable water, gas, or other fluids to
- C. prevent their gas, water, or other fluids from entering the well and includes specifically but not limited to:

A. "Temporary casing" means a temporary casing placed in soft, sandy, or caving surface formation to prevent the hole from caving during drilling.

B. "Protective casing" means the permanent casing of the well or boring except through the screen, open hole, or perforated casing.

Subp. 22a. Casing vent. "Casing vent" means an outlet at the upper terminal of a casing to allow equalization of air pressure in the casing and escape of toxic or flammable gases when present.

Subp. 23. **Cesspool.** "Cesspool" means an underground pit into which raw household sewage or other untreated liquid waste is discharged and from which the liquid seeps into the surrounding soil or is otherwise removed.

Subp. 23a. Concrete grout. "Concrete grout" means a mixture of Portland cement, sand, and water in the proportion of 94 pounds of Portland cement and not more than an equal volume of dry sand and not more than six gallons of water. Admixtures to reduce permeability or control setting time must meet ASTM Standard C 494-86.

Subp. 24. [See repealer.]

Subp. 24a. **Confining layer.** "Confining layer" means a stratum or body of soil, sediment, or rock with low vertical permeability relative to the aquifers or beds above or below it a geologic material at least ten feet thick that has a hydraulic conductivity of less than 10⁻⁶ centimeters per second, including clay as defined by the United States Department of Agriculture in Handbook 18, and shale.

[For text of subp 24b, see M.R.]

Subp. 24c. Council. "Council" means the Advisory Council on Wells and Borings created under Minnesota Statutes, chapter 103I.

Subp. 24e 24d. **Dewatering well.** "Dewatering well" means a nonpotable well used to lower groundwater levels to allow for construction or use of underground space. A dewatering well does not include:

A. excavations 25 feet or less in depth for temporary dewatering during construction; or

B. a well used to lower groundwater levels for control or removal of groundwater contamination has the meaning given in Minnesota Statutes, section 103I.005, subdivision 4a.

Subp. 26. [See repealer.]

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Subp. 26b. **Drilling machine.** “Drilling machine” means a machine or mechanical device mounted on a truck, trailer, or skid used to excavate, drill, or bore a well or boring. A drilling machine includes a cable tool, hollow rod, auger, or rotary tool.

Subp. 27. **Dug well.** “Dug well” means a well in which the side walls may be supported by material other than standard weight steel casing, stainless steel casing, or plastic casing as specified in this chapter. Water enters a dug well through the side walls and bottom.

Subp. 27a. **Environmental bore hole.** “Environmental bore hole” has the meaning given in *Minnesota Statutes*, section 1031.005, subdivision 8, and includes excavations used to:

A. measure groundwater levels;

B. determine groundwater flow direction or velocity;

C. measure earth properties such as hydraulic conductivity, bearing capacity, or resistance;

D. obtain samples of geologic materials for testing or classification; or

E. remove gaseous pollution or contamination from groundwater or soil through the use of a vent, vapor recovery system, or sparge point.

Subp. 28. **Established ground surface.** “Established ground surface” means the intended or actual finished grade (elevation) of the surface of the ground at the site of the a well or boring.

Subp. 29. [See repealer.]

Subp. 29a. **Groundwater.** “Groundwater” has the meaning given in *Minnesota Statutes*, section 115.01, subdivision 21.

Subp. 30. **Grout.** “Grout” means a material used to fill the annular space around a casing, or to seal a well or boring. Grout is either neat cement grout, concrete grout, heavy drilling mud, or heavy bentonite water slurry grout, or high solids bentonite grout. Heavy drilling mud or heavy bentonite water slurry when used as grout shall be of sufficient viscosity to require a time of at least 70 seconds to discharge one quart of the material through an API (American Petroleum Institute) marsh funnel viscometer.

Subp. 30a. **High solids bentonite grout.** “High solids bentonite grout” means a fluid mixture of water and a minimum of 15 percent by weight of bentonite, with no additives to promote temporary viscosity.

Subp. 30b. [See repealer.]

Subp. 30c. **Hoist.** “Hoist” means a machine or mechanical device that is, mounted on a truck, trailer, or skid, which is used to:

A. remove or install a pump or pumping equipment, casing, screen, or pitless adapter, or pitless unit;

B. remove an obstruction from a well or boring; or

C. install grout a tremie pipe when sealing a well or boring.

Subp. 30d. **Holding tank.** “Holding tank” means a watertight tank for storage of sewage until it can be transported to a point of approved treatment and disposal.

Subp. 30e. **Individual well contractor.** “Individual well contractor” means an individual licensed according to *Minnesota Statutes*, section 1031.525.

Subp. 30f. **Licensee.** “Licensee” means a person who is licensed as a well contractor, limited well contractor, or elevator shaft contractor under this chapter and *Minnesota Statutes*, chapter 1031.

Subp. 30g. **Monitoring well.** “Monitoring well” has the meaning given in *Minnesota Statutes*, section 1031.005, subdivision 14.

Subp. 30h. **Neat cement grout.** “Neat cement grout” means a mixture in the proportion of 94 pounds of Portland cement and not more than six gallons of water. Bentonite up to five percent by weight of cement (4.7 pounds of bentonite per 94 pounds of Portland cement) may be used to reduce shrinkage. Admixtures to reduce permeability or control setting time must meet ASTM Standard C494-86.

[For text of subp 31a, see M.R.]

Subp. 31b. [See repealer.]

Subp. 32. **Pitless adapter.** “Pitless adapter” means a watertight device for above or below ground allowing discharge designed for attachment to through one or more openings through of a well casing, and constructed so as to prevent the entrance of contaminants into the well.

Subp. 33. **Pitless unit.** “Pitless unit” means an a watertight assembly with a cap which that extends the upper termination of the well casing above grade, and is constructed so as to prevent the entrance of contaminants into the well the established ground surface.

[For text of subp 34, see M.R.]

Subp. 34a. Portland cement. “Portland cement” means a construction material that conforms to ASTM Standard C150-85a, “Standard Specification for Portland Cement.”

[For text of subps 35 to 37, see M.R.]

Subp. 37a. **Public water supply.** “Public water supply” has the meaning given in part 4720.0100, subpart 16 means a system regulated under chapter 4720.

Subp. 38. [See repealer.]

Subp. 39. [See repealer.]

[For text of subp 40, see M.R.]

Subp. 40a. Rapid setting cement. “Rapid setting cement” means a Type III Portland cement as designated in ASTM Standard C150-85a, or any Portland cement containing an accelerated admixture.

Subp. 40b. Regional flood. “Regional flood” has the meaning given in *Minnesota Statutes*, section 103F.111, subdivision 10.

[For text of subp 41a, see M.R.]

Subp. 41b. Remedial well. “Remedial well” means a well used to lower a groundwater level to control or remove contamination in groundwater.

Subp. 41c. Representative. “Representative” means someone who acts on behalf of the licensee or registrant.

Subp. 41d. Rock. “Rock” means a consolidated or coherent, hard, naturally formed aggregation of mineral matter including the rocks described in part 4725.1851, subpart 4, item B. Rock excludes alluvium, glacial drift, glacial outwash, and glacial till.

Subp. 41e. Sealing. “Sealing” means either:

A- the temporary process of closing or covering a well or boring with a watertight cover or cap and the use of measures to protect the well from contamination; or

B- the process of preparing a well or boring to be permanently filled with grout and the process of permanently filling the well or boring with grout.

Subp. 42. Sewage. “Sewage” means the water carried waste products from residences, public buildings, including the excrementious or other discharges from the bodies of human beings or animals together with such groundwater infiltration and surface water as may be present has the meaning given in *Minnesota Statutes*, section 115.01.

Subp. 43. Seepage pit, leaching pit, or dry well. “Seepage pit,” “leaching pit,” or “dry well” means an underground pit into which a septic sewage tank discharges household sewage effluent or other liquid waste and from which the liquid seeps into the surrounding soil through the bottom and openings in the side of the pit.

[For text of subp 44, see M.R.]

Subp. 45. Sewer. “Sewer” means a pipe or conduit carrying sewage or into which sewage may back up, including floor drains and traps.

Subp. 46. Subsurface disposal field, seepage bed, drainfield, percolation system, or tile absorption field. “Subsurface disposal field,” “seepage bed,” “drainfield,” “percolation system,” or “tile absorption field” means a system composed of open jointed tile lines buried in stones and shallow trenches or beds for final disposal into the ground of that discharges sewage effluent from a septic tank. The septic tank effluent is applied to land by distribution beneath the surface to the soil through the open-jointed tile lines or perforated pipe buried in stones, shallow trenches, or beds. Subsurface disposal system includes the pipes or tile of a seepage bed, drainfield, percolation system, mound system, or tile absorption field.

[For text of subps 47 to 49, see M.R.]

Subp. 49a. [See repealer.]

Subp. 49b. Total coliform bacteria. “Total coliform bacteria” means all of the aerobic and facultative anaerobic, gram-negative, non-spore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 degrees centigrade.

Subp. 49c. Tremie pipe. “Tremie pipe” means a pipe or hose used to insert grout into an annular space, well, or boring.

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Subp. 49d. Unconsolidated materials. “Unconsolidated materials” means geological materials that are not rock and includes alluvium, glacial drift, glacial outwash, glacial till, and those materials specified in part 4725.1851, subpart 4, item A.

Subp. 50. [See repealer.]

Subp. 50a. Water supply well. “Water supply well” means a well as defined in Minnesota Statutes, section 1031.005, subdivision 21, that is not a dewatering well or a monitoring well. A water supply well includes wells used:

- A. for potable water;
- B. for irrigation;
- C. for agricultural, commercial, or industrial water supply;
- D. for heating or cooling; or
- E. as a remedial well.

Subp. 50b. Water table. “Water table” has the meaning given in part 7060.0300, subpart 8.

Subp. 51. Well. “Well” means well as defined has the meaning given in Minnesota Statutes, section 1031.005, subdivision 21. Well includes drinking water supply wells, dewatering wells, monitoring wells, wells used to lower groundwater levels for control or removal of groundwater contamination, and other water supply wells.

Subp. 51a. Well pump or pumping equipment. “Well pump or pumping equipment” means a device, machine, or material used to withdraw or otherwise obtain water from a well, and all necessary seals, fittings, and pump controls, and primary water storage tanks. Well pump or pumping equipment does not include:

- A. accessory water tanks, such as fire protection tanks, and elevated or ground storage tanks used for public water supplies except for buried pressure tanks;
- B. water sampling devices that are installed in a monitoring well to obtain a water sample and are then removed after the sample is collected; or
- C. devices used in the construction or rehabilitation of a well to construct or develop the well.

Subp. 52. [See repealer.]

Subp. 53. [See repealer.]

Subp. 54. [See repealer.]

4725.0150 INCORPORATIONS BY REFERENCE AND ABBREVIATIONS.

This part indicates documents, specifications, and standards that are incorporated by reference in this chapter. This material is not subject to frequent change, and is available from the source listed, for loan or inspection from the Barr Library of the Minnesota Department of Health, or through the Minutex interlibrary loan system. The abbreviations listed in parenthesis after the source name are used in this chapter.

A. American Association of State Highway and Transportation Officials (AASHTO), 341 National Press Building, Washington, D.C. 20004.

(1) AASHTO Standard H20-44, “Standard Specifications for Highway Bridges,” 14th Edition, 1989, part 3.7.2.

(2) AASHTO Standard M306-89, “Standard Specification for Drainage Structure Castings,” part 7.

B. American Petroleum Institute (API), 211 North Ervov, Suite 1700, Dallas, Texas 75201.

(1) Specification 13A, “API Specification for Oil Well Drilling Fluid Materials,” 11th Edition, July 1985 or Supplement One to the 11th Edition.

(2) API Standard 5L (May 31, 1985), “API Specification for Line Pipe.”

C. American National Standards Institute (ANSI), 1430 Broadway, New York, New York 10018.

(1) ANSI Schedule 5 and Schedule 40, “Dimensions of Welded and Stainless Steel Pipe” as contained in ASA Standard B36.19 - 1965, “Welded and Seamless Wrought Steel Pipe,” and the appendix to ASTM Standard A312-86a.

(2) ANSI Standard B36, 10M-1985, “Welded and Seamless Wrought Steel Pipe.”

(3) ANSI Standard Z34.1-1987, “American National Standards for Certification - Third Party Certification Program.”

D. American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania 19103.

(1) ASTM Standard A53-90b, “Standard Specifications for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.”

(2) ASTM Standard A589-89a, Types I, II, and III, "Standard Specification for Seamless and Welded Carbon Steel Water-Well Pipe."

(3) ASTM Standard A312-86a, "Standard Specification for Seamless and Welded Austenitic Stainless Steel Pipe."

(4) ASTM Standard C150-85a, "Standard Specification for Portland Cement."

(5) ASTM Standard C494-86, "Standard Specification for Chemical Admixtures for Concrete."

(6) ASTM Standard D2487-85, "Standard Test Method for Classification of Soils for Engineering Purposes."

(7) ASTM Standard F480-88, "Standard Specification for Thermoplastic Water Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR)."

(8) ASTM Standard F480-88, Table 3, "Thermoplastic Water Well Casing Pipe Couplings Socket Dimensions and Laying Length Dimensions."

(9) Schedule 40, as referenced in Polyvinyl Chloride (PVC) Materials, contained in the Annual Book of ASTM Standards, Volume 8, "Designation D1785-88 Standard Specifications for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120," Tables 1 and 2, published December 1988.

E. National Sanitation Foundation (NSF), 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, Michigan 48106.

(1) NSF Standard 14-1990, "Plastic Piping Components and Related Materials."

(2) NSF Standard 60-1988, "Drinking Water Treatment Chemicals - Health Effects."

(3) NSF Standard 61-1991, "Drinking Water System Components - Health Effects."

F. Sims, P.K. and Morey, G.B., "Geology of Minnesota: A Centennial Volume," pages 459-473, "Paleozoic Lithostratigraphy of Southeastern Minnesota" by George Austin, 1972.

G. United States Department of Agriculture, Agricultural Handbook Number 18, Soil Survey Manual pages 205 to 213, August 1951.

4725.0200 APPLICATION TO ALL WELLS, ENVIRONMENTAL BORE HOLES, AND EXCAVATIONS FOR ELEVATOR SHAFTS BORINGS.

Subpart 1. **Applicability.** This chapter applies to all wells, ~~environmental bore holes,~~ and borings for elevator shafts in Minnesota except exploratory borings regulated under chapter 4727 and those wells and borings specifically exempted by Minnesota Statutes, chapter 1031. ~~This chapter applies to state and local governments except that, pursuant to Minnesota Statutes, section 1031.112, state and local governments are exempt from fees required under this chapter.~~

Subp. 2. **Owner responsibility.** The owner of a well or boring is bound by all the provisions of ~~parts 4725.0100 to 4725.7600~~ this chapter which relate to location, construction, maintenance, and sealing of wells or borings.

4725.0410 VARIANCE.

[For text of subpart 1, see M.R.]

Subp. 2. **Additional standards for construction, repair, or sealing variance requests.** In addition to subpart 1, a request to vary a construction, repair, or sealing provision related to wells or borings in parts ~~4725.1860 and 4725.2300~~ 4725.2010 to 4725.7600 ~~4725.7450~~ must also include:

[For text of items A to C, see M.R.]

D. a scaled map showing the location of the well or boring in relation to all property lines, structures, utilities, and contamination sources cited in part ~~4725.2000~~ 4725.4450;

[For text of items E to I, see M.R.]

Subp. 3. **Additional standards for variance request from isolation distance.** In addition to the information in subparts 1 and 2, a variance request to ~~parts 4725.1900 to 4725.2200~~ part 4725.4450 must include:

A. information on special construction methods or precautions proposed to prevent contamination of the well, ~~boring, or~~ and groundwater;

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B. a description of the age, design, size, and type of construction of any existing or potential contamination source as specified in part 4725.2000 4725.4450;

[For text of items C to E, see M.R.]

LICENSING AND REGISTRATION

4725.0475 ACTIVITIES REQUIRING LICENSURE OR REGISTRATION.

Subpart 1. Activity requiring licensure or registration. Except for those persons exempted under Minnesota Statutes, section 1031.205, subdivision 4, paragraph (d), a person must hold a license or registration to:

- A. construct, repair, modify, or seal a well or boring;
- B. construct or seal a vertical heat exchanger or groundwater thermal exchange device;
- C. excavate a hole for an elevator shaft hydraulic cylinder;
- D. install a well pump or pumping equipment;
- E. install a screen, pitless unit, or pitless adapter; or
- F. modify or materially affect the yield, water quality, diameter, depth, or casing of a well or boring including:
 - (1) attachment of water conditioning or other devices to the casing of the well or boring;
 - (2) chemical treatment of the well or boring with acid or other chemicals; or
 - (3) development or stimulation of a well or boring including the use of explosives or hydrofracturing.

Subp. 2. Exceptions to licensure or registration. Nothing in this part shall prohibit:

A. a person from installing a water sampling device including a well pump or pumping equipment in a monitoring well to obtain a water sample if the device is immediately removed after the sample is collected;

B. a plumber or plumbing contractor from installing and servicing pressure water service lines according to chapter 4715, from the source of supply;

C. a water conditioning contractor from installing water conditioning equipment within a building according to chapter 4715; and

D. a limited well contractor from repairing, installing a pump or pumping equipment, or repairing or sealing a well that the limited well contractor is licensed to construct.

Subp. 3. Well contractor license. A person must be licensed as a well contractor to:

- A. construct, repair, modify, or seal a well or boring except exploratory borings;
- B. install a pump or pumping equipment; and
- C. any of the activities in subpart 1, item F.

Subp. 4. Limited well contractor licenses. A person performing any of the activities in items A to E must have either a well contractor's license or have a separate limited well contractor license for each of the limited licensure areas listed in items A to E.

A. limited licensure to construct, repair, modify as specified in subpart 1, item F, or seal a dug well or drive point well;

B. limited licensure to install or repair well screens or pitless units or adapters and well casings from the pitless unit or adaptor to the upper termination of the well casing;

C. limited licensure to install a well pump or pumping equipment or any of the activities in subpart 1, item F, subitems (1) and (2);

D. limited licensure to seal wells, remove obstructions from a well before sealing, remove or perforate well casing before sealing, or other activities to seal a well; or

E. limited licensure to construct, repair, seal, or modify as specified in subpart 1, item F, a dewatering well.

Subp. 5. Elevator shaft contractor license. A person must have an elevator shaft contractor's license to construct, repair, or seal excavations or borings for an elevator shaft hydraulic cylinder.

Subp. 6. Monitoring well contractor registration. A person must be either licensed as a well contractor or registered as a monitoring well contractor to:

- A. construct, repair, modify, or seal monitoring wells or environmental bore holes; or
- B. install pumps in monitoring wells.

Subp. 7. Individual well contractor license. A person who is licensed as an individual well contractor must meet the requirements for licensure for a well contractor, except the requirements for a bond as specified in part 4725.1250.

4725.0550 REPRESENTATIVE OR INDIVIDUAL WELL CONTRACTOR.

Subpart 1. Application to represent a licensee, registrant, or to be an individual well contractor. Anyone applying to be a representative of a licensee or registrant or an individual well contractor must submit to the commissioner a properly completed application. The applicant must submit written documentation of the experience required in part 4725.0650. Written documentation includes, but is not limited to, well or boring construction or sealing records, letters from employers verifying employment, and work reports.

Subp. 2. Application fee. The applicant to be a representative or individual well contractor must submit a nonrefundable application fee of \$50 to the commissioner.

Subp. 3. Ongoing qualifications. A representative and individual well contractor must have honesty and integrity.

A. The representative must be named on the license or registration for the licensee or registrant, or be an individual. A representative must not represent more than one licensee or registrant.

B. The representative must be responsible for conducting all operations under the representative's supervision and as delegated by the licensee or registrant in accordance with Minnesota Statutes, chapter 103I, and this chapter.

C. The representative and individual well contractor must annually complete the continuing education requirements in part 4725.1650.

D. When a representative no longer works for the registrant or licensee, the registrant or licensee must inform the commissioner within five days of that fact. If a licensee or registrant has only one representative and the representative no longer works for the registrant or licensee, the registrant or licensee must name an acting representative until a representative who meets the requirements in parts 4725.0550 to 4725.1000 is approved by the commissioner. The licensee or registrant may operate with an acting representative for no more than 90 days.

4725.0650 EXPERIENCE REQUIREMENTS.

Subpart 1. Well contractor. Anyone applying to be a representative of a well contractor or to be an individual well contractor must have four years of experience. A year of experience is a year in which the applicant personally, and under the supervision of a licensed well contractor, constructed and sealed wells and installed pumps for 1,000 hours, and:

A. constructed a minimum of five wells; or

B. constructed at least one or more multiple cased wells with an outer casing diameter of ten inches or more. The well depth or cumulative depth of the wells must exceed 700 feet.

Supervision of a drilling operation shall not be considered as an equivalent to personally drilling a well.

Subp. 2. Monitoring well contractor. Anyone applying to be a representative of a monitoring well contractor must meet the requirements in items A to C, or meet the requirements in item D.

A. The applicant must be:

(1) a professional engineer registered with the Board of Architecture, Engineering, Land Surveying, and Landscape Architecture according to Minnesota Statutes, sections 326.02 to 326.15;

(2) a hydrologist or hydrogeologist certified by the American Institute of Hydrology; or

(3) a geologist certified by the American Institute of Professional Geologists.

B. The applicant must have three years of experience. A year of experience is a year in which the applicant worked a minimum of 500 hours in construction, repair, and sealing of monitoring wells, or environmental bore holes including design, field supervision, or actual construction.

C. The applicant must have designed, field supervised, or actually constructed 50 monitoring wells or environmental bore holes.

D. The applicant must have three years of experience in construction, repair, and sealing of monitoring wells or environmental bore holes. A year of experience is a year in which the representative, personally and under the supervision of a registered monitoring

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well contractor or licensed well contractor, constructed a minimum of 20 monitoring wells, and constructed, sealed, and repaired monitoring wells or environmental bore holes for 1,000 hours.

Subp. 3. Limited well contractor; dug wells and drive point wells. Anyone applying to be a representative for a limited well contractor licensed to construct, repair, and seal dug wells and drive point wells must have three years of experience. A year of experience is a year in which the applicant personally constructed five dug wells or drive point wells and worked for a minimum of 1,000 hours constructing, repairing, or sealing dug wells or drive point wells, and installing pumps in dug wells or drive point wells. An applicant must have gained the experience under a licensed well contractor or a limited well contractor licensed to construct, repair, and seal dug wells and drive point wells.

Subp. 4. Limited well contractor; well screens, pitless adapters, and pitless units. Anyone applying to be a representative for a limited well contractor licensed to install or repair well screens or pitless adapters or units and well casing from the pitless device to the upper termination of the well must have two years of experience. A year of experience is a year in which the applicant worked a minimum of 1,000 hours and personally installed or repaired five well screens or pitless units or adapters and well casings from the pitless unit or adapter to the upper termination of the well. The experience must have been gained under the supervision of a licensed well contractor or limited well contractor licensed to install or repair well screens or pitless units or adapters and well casings from the pitless unit or adapter to the upper termination of the well.

Subp. 5. Limited well contractor; pumps and pumping equipment. Anyone applying to be a representative for a limited well contractor licensed to install a pump or pumping equipment must have two years of experience in pump installation and repair. The applicant must have personally installed 20 pumps. The work must include a minimum of 1,000 hours installing well pumps or pumping equipment.

Subp. 6. Limited well contractor; well sealing. Anyone applying to be a representative for a limited well contractor licensed to seal wells must have three years of experience. A year of experience is a year in which the applicant:

A. personally sealed a minimum of five wells; and

B. worked a minimum of 1,000 hours constructing wells, clearing obstructions, removing or perforating well casings, and grouting wells.

The applicant must have gained the experience under a licensed well contractor or limited well sealing contractor.

Subp. 7. Limited well contractor; dewatering wells. Anyone applying to be a representative for a limited well contractor licensed to construct, repair, or seal dewatering wells must have two years of experience. A year of experience is a year in which the applicant:

A. worked a minimum of 500 hours designing, constructing, or field supervising the construction, repair, or sealing of dewatering wells; and

B. designed, constructed, or field supervised the construction of a minimum of five dewatering wells.

Subp. 8. Elevator shaft contractor. Anyone applying to be a representative for an elevator shaft contractor licensed to construct, repair, or seal excavations for an elevator shaft hydraulic cylinder must have two years of experience related to the construction, repair, and sealing of excavations or borings for the installation of elevator shaft hydraulic cylinders. A year of experience is a year in which the applicant designed, supervised, or actually constructed three borings for elevator shaft hydraulic cylinders.

Subp. 9. Experience outside state. If all or part of the experience required in this part was gained by an applicant outside Minnesota, the applicant must provide the commissioner with information satisfactorily demonstrating that the experience was gained constructing, repairing, and sealing wells or borings in geological conditions substantially similar to conditions in Minnesota and in a jurisdiction with licensing or registration requirements comparable to those in Minnesota.

4725.1000 EXAMINATION.

Subp. 2. Examination. An applicant shall take an examination which may be a combination of written and oral questions as determined by the commissioner with the advice of the council on wells and borings established by Minnesota Statutes, section 1031.105. Satisfactory completion of the examination is a mandatory prerequisite for licensure or registration. The applicant must pass the examination within one year from the date notified by the commissioner that the applicant is qualified to take the examination. If, upon passing the examination, the applicant is not licensed as an individual well contractor or listed as a representative of a licensee or registrant within one year, reapplication as a representative must be made according to parts 4725.0550 to 4725.1000.

4725.1075 APPLICATION FOR LICENSURE; FEES.

Subpart 1. Application for licensure or registration; application fee. A person must apply for licensure or registration on a form provided by the commissioner.

A. The application must include the name, address, and telephone number of the person applying for licensure or registration and list the name, business address, and telephone number, if different, of all representatives of the licensee or registrant who meet

the qualifications in parts 4725.0550 to 4725.1000.

B. The application form must be signed by an officer or other legally authorized representative of the person making application for licensure or registration.

C. The application for licensure or registration must be accompanied by the nonrefundable fee specified in Minnesota Statutes, section 1031.525, subdivision 2.

Subp. 2. Licensure and registration fee. A person applying for licensure or registration must pay a nonrefundable fee of:

A. \$250 for a well contractor license; and

B. \$50 for an individual well contractor license, each of the categories of limited well contractor license, an elevator shaft contractor license, or a monitoring well contractor license.

4725.1250 BONDING.

At the time the fee is submitted for initial licensure or registration, or licensure or registration renewal, the ~~person licensee or registrant~~ must show proof of holding a corporate surety bond in the amount of \$10,000 as required by Minnesota Statutes, chapter 1031. A copy of the bond ~~shall~~ must be submitted to the commissioner. ~~For an applicant seeking more than one limited license under part 4725.0500, subpart 4, only~~ One bond is required for each licensee or registrant. ~~If on proof to the commissioner it is shown that multiple licenses or registrations are held by one licensee or registrant, the bond held by that licensee or registrant may cover all licenses and registrations. The licensee or registrant must be named as the principal. The bond must be signed by an official of the company who is legally authorized to represent the company.~~ The bond may be used by the commissioner to compensate persons injured or suffering financial loss because of failure of a licensee or registrant to properly perform the duties under part 4725.0450 and Minnesota Statutes, chapter 1031. The term of the bond ~~shall~~ must be continuous or concurrent with the term of the license or registration. The penal sum of the bond is noncumulative and is not to be aggregated every year that the bond is in force. The bond ~~shall~~ must be written by a corporate surety licensed to do business in Minnesota. The corporate surety shall be responsible for providing 30 days' written notice to the commissioner of cancellation of a licensee's or registrant's bond. If a bond is canceled, a licensee or registrant ~~shall~~ must not perform work under requiring the license or registration until the licensee or registrant obtains another bond meeting the requirements of this part ~~is obtained~~. ~~A person applying for An individual well contractor license, as described in Minnesota Statutes, section 1031.525, subdivision 1, paragraph (c), is exempt from the requirements of this part.~~

4725.1300 LICENSE OR REGISTRATION RENEWAL.

Licenses expire on January 31 of each year and registrations expire on December 31 of each year. Each licensee or registrant shall submit an application for license or registration renewal on forms provided by the commissioner no later than January 31 for licenses and December 31 for registrations. ~~The license or registration renewal application shall~~ must be accompanied by a fee of \$250 for a well contractor ~~the~~ license and \$50 for an individual well contractor license, a limited well contractor license, elevator shaft contractor license, or monitoring well contractor registration fees required by Minnesota Statutes, chapter 1031. A penalty fee of \$10 ~~shall~~ must also be paid if the renewal is submitted after the January 31 license or December 31 registration deadline. At the time of license or registration renewal, ~~the licensee or registrant shall provide written proof that the approved continuing education courses completed by the individual well contractor or representative as required by part 4725.1650 has been completed~~ must be listed and shall ~~the licensee or registrant must provide a copy of the license or registration bond required under part 4725.1250. A renewal license or registration card shall be sent to the licensee or registrant after the license or registration application has been submitted and after all other conditions of licensure or registration have been met. The renewal license or registration shall consist of a card in duplicate and contain the name of the licensee or registrant; the licensee's or registrant's representative, if applicable; expiration date; and the license or registration number. One card shall be kept posted with the original license or registration. The other shall be carried by the licensee or registrant or the licensee's or registrant's representative.~~

4725.1500 SUSPENSION OR REVOCATION OF LICENSE OR REGISTRATION DISCIPLINARY ACTION AGAINST LICENSEE OR REGISTRANT; RETURN OF DOCUMENTS.

Subpart 1. **Commissioner action.** The commissioner may suspend ~~or~~, revoke, or impose limitations or conditions on a license or registration if the registrant or licensee ~~has violated the provisions. The commissioner may initiate such proceedings:~~

A. violates a provision of this chapter or Minnesota Statutes, chapter 1031;

B. obtains a license or registration through error, fraud, or cheating;

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C. provides false or fraudulent information on renewal forms, construction or sealing reports, water sample reports, or other required reports;

D. knowingly aids or allows an unlicensed or unregistered person to engage in activities requiring a license or registration under Minnesota Statutes, section 1031.205;

E. engages in conduct, in the course of performing work requiring licensure or registration, that is likely to harm the public, or conduct that demonstrates a willful or careless disregard for the health or safety of a property owner or other person; or

F. has been convicted during the previous five years of a felony or gross misdemeanor reasonably related to the business of well or boring construction, repair, or sealing.

Subp. 2. [See repealer.]

Subp. 3. [See repealer.]

Subp. 4. **Revoked license or registration.** A suspended or revoked license or registration certificate along with the current renewal certification drilling machine and pump hoist registration decals must be returned to the commissioner when the license or registration of a well contractor who is subject to part 4725.0450, is revoked or suspended. The disciplinary action shall apply to both the licensee or registrant and the licensee's or registrant's representative.

4725.1600 REINSTATEMENT REAPPLICATION AFTER LICENSE OR REGISTRATION REVOCATION.

Subpart 1. **Revoked license or registration.** A revoked person whose license or registration has been revoked may not be reinstated reapply for licensure or registration within one year of the date of revocation. The A licensee or registrant whose license or registration has been revoked may be relicensed or reregistered by filing the usual applications and fees, and by taking the examination. The commissioner shall require an investigation or review to determine whether the person should be issued a new license or registration; provided, however, that in no case shall a new license or registration be issued prior to one year after the revocation has taken effect must reapply as required by part 4725.1075.

Subp. 2. [See repealer.]

Subp. 3. [See repealer.]

4725.1650 CONTINUING EDUCATION REQUIREMENTS.

A well contractor, limited well contractor, and elevator shaft contractor may not renew a license, and a monitoring well contractor may not renew a registration, without having An individual well contractor or representative must successfully completed complete six contact hours of continuing education activities acceptable to the commissioner during the year preceding the year for which the license or registration renewal is sought annually.

Applicants initially licensed or registered are An individual well contractor or representative is exempt from the continuing education requirements for the one year following year's license or registration renewal the completion of the examination in part 4725.1000.

Certificates of attendance or other documentation of attendance must be submitted with the renewal application An individual well contractor or representative who fails to complete six contact hours of continuing education annually must reapply and pass the examination as required by parts 4725.0550 to 4725.1000.

4725.1700 PLACEMENT OF DECALS AND LICENSE OR REGISTRATION NUMBER.

A licensee or registrant shall place in a conspicuous location on both sides of each drilling machine or hoist his or her the license or registration number in figures not less than three inches high and 1-1/2 inches wide. The figures shall must be in a contrasting color to the rest of the machine or hoist. Decals issued by the commissioner designating the year for which the license or registration was issued or renewed and the words, "MINNESOTA LICENSED WELL CONTRACTOR, LIMITED WELL CONTRACTOR, OR ELEVATOR SHAFT CONTRACTOR," or "REGISTERED MONITORING WELL CONTRACTOR," whichever is applicable, shall must be affixed directly adjacent to and below the license or registration number on each drilling machine or hoist. Contractors using small drilling machines or hoists or other devices for well or elevator shaft installation, well repair, or well or elevator shaft sealing shall attach their decal on a portable display to be shown at the well or boring site. The decals shall be issued by the commissioner upon licensure or registration and renewal.

4725.1820 NOTIFICATION FOR CONSTRUCTION OF WATER SUPPLY WELLS.

A well must not be constructed until The owner of the property where the a water supply well is to be located, the property owner's agent, a licensed well contractor, or a limited unconventional well contractor submits licensed to construct dug wells and drive point wells must submit notification of construction of the proposed well to the commissioner according to this part. This part does not apply to the construction of monitoring wells; dewatering wells; or drive point wells installed by the well owner on the owner's property for residential or agricultural use.

A. Notification is required for all wells A well must not be constructed by a licensed contractor and other persons allowed to

~~construct wells under *Minnesota Statutes*, section 1031.205, subdivision 4, paragraph (e), deepened through a confining layer or have casing installed or removed below the frost line until notification is made to the commissioner.~~

~~B. Notification is required for all public water supply wells as defined in part 4725.0100, subpart 37a. Notifications may be submitted with the plan required in part 4725.0300.~~

~~C. The property owner, the property owner's agent, a licensed well contractor, or a limited unconventional well contractor must submit the Notification must be made on a form provided by the commissioner. The notification must be legible, be accompanied by the fee required in this part, and be signed by the licensed contractor representative of the licensee or the owner of the property where the well is located, or the property owner's agent.~~

~~D. C.~~ A notification must be completed for each well.

~~E. D.~~ The notification must include the following information for each well:

- (1) the name, ~~business address, telephone number,~~ and license number of the licensed contractor;
- (2) the name, address, and telephone number of the well owner ~~or, and~~ property owner, if different;
- (3) the ~~legal description township number, range number, section and one quartile,~~ or street address if the property is located in an incorporated area, of the proposed well location ~~or a map having a scale at least one-half inch to the mile;~~ and
- (4) a determination of whether the anticipated capacity of the well pump will be less than or greater than 50 gallons per minute.

~~F. E.~~ The owner of the property where a well is to be located must pay a \$50 the notification fee for each well with a well pump capacity of less than 50 gallons per minute and a \$100 fee for each well with a well pump capacity of 50 gallons per minute or more required in *Minnesota Statutes*, section 1031.208.

~~G. F.~~ A new notification must be filed with the commissioner if:

- (1) a licensed contractor other than the one listed on the original notification completes the well; and/or
- (2) the well is completed on property other than that listed on the original notification.

A new fee is not required for a new notification filed under this item.

~~H. G.~~ The notification is valid for one year 18 months from the date it is filed. ~~If the property owner, property owner's agent, a licensed well contractor, or a limited unconventional well contractor submits a written request to the commissioner, and shows the well has not been completed or constructed, the commissioner may extend the expiration date for an additional six months.~~

4725.1825 DEWATERING WELL CONSTRUCTION PERMITS.

This part applies to all dewatering wells ~~as defined in part 4725.0100, subpart 24c,~~ including drive point wells used for dewatering. ~~Until June 30, 1992, this part does not apply to dewatering wells that are constructed and that operate down to 45 feet.~~

[For text of items A and B, see M.R.]

C. A permit application must be completed for each dewatering well or dewatering well project including any wells deepened through a confining layer, having casing installed or removed below the frost line, or converted to an at-grade well. The application must indicate whether the dewatering project will affect wells used for potable purposes, and if so, what measures will be taken to provide potable water to persons adversely affected by the dewatering project.

D. The permit ~~shall~~ application must include the following information for each well:

- (1) the name, ~~business address,~~ and license number of the limited dewatering well contractor or well contractor;
- (2) the name and address of the dewatering well owner ~~or, and~~ property owner, if different;
- (3) the ~~legal description township number, range number, section and one quartile,~~ or street address if the property is located in an incorporated area, of the proposed dewatering well location ~~or a map having a scale at least one-half inch to the mile;~~ and
- (4) the anticipated depth of the dewatering well.

[For text of items E and F, see M.R.]

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~~G.~~ The permit is valid for ~~one year~~ 18 months from the date it is issued. ~~If the permit holder submits to the commissioner a written request for an extension, and shows that the dewatering well has not been completed or constructed, the commissioner may extend the expiration date for an additional six months.~~

~~H.~~ The owner of the property where a dewatering well or wells are to be located must pay a ~~\$50~~ the permit fee for each dewatering well. ~~However, for a project consisting of more than ten wells, the fee is \$500 required by Minnesota Statutes, section 103I.208.~~

~~I.~~ A copy of the permit shall be made available at the dewatering site at all times during construction.

4725.1830 MONITORING WELL CONSTRUCTION PERMIT.

This part applies to all monitoring wells, including drive point wells used as monitoring wells.

~~A.~~ A monitoring well must not be constructed, deepened through a confining layer, have casing installed or removed below the frost line, or be converted to an at-grade well until a permit has been issued by the commissioner to the monitoring well contractor or well contractor.

~~B.~~ A permit is not required for monitoring wells sampled during drilling in an uncased hole that is sealed upon completion of drilling.

~~C.~~ A well contractor or monitoring well contractor must submit to the commissioner a ~~monitoring well~~ permit application on a form provided by the commissioner. The application must be legible and signed by the monitoring well contractor or well contractor and the property owner or agent.

~~D.~~ C. A permit application must be completed for each monitoring well. However, for monitoring wells used as leak detection devices at a petroleum bulk storage site or a motor fuel retail outlet, a single permit application may be completed for all wells on a site drilled under a single contract. A site consists of a single continuous piece of property on which the petroleum bulk storage facility or motor fuel retail outlet is located. The site does not include other properties on which monitoring wells are constructed to evaluate a spill or leak associated with the petroleum facility. All monitoring wells on a site must be listed on the permit.

~~E.~~ D. A permit application for a monitoring well owned by a person other than the property owner must verify that a written agreement exists according to *Minnesota Statutes*, section 103I.205, subdivision 8.

~~F.~~ E. The permit application must include the following information for each well:

(1) the name, ~~business address,~~ and registration number of the monitoring well contractor or license number of the well contractor;

(2) the name and address of the monitoring well owner and property owner, if different;

(3) the ~~legal description~~ township number, range number, section and one quartile, or street address if the property is located in an incorporated area, of the proposed monitoring well location ~~or a map having a scale at least one-half inch to the mile;~~ and

(4) the anticipated well depth.

~~G.~~ F. Permit applications for monitoring wells constructed through a confining layer or into rock must include the following information for each well in addition to that required in item ~~F~~ E:

(1) the diameter of the well;

(2) the drilling method;

(3) the casing materials;

(4) the materials and methods used to grout the well; and

(5) a cross-sectional diagram of the well.

~~H.~~ G. Permit applications for at-grade wells must include the following information for each well in addition to that required in item ~~F~~ E:

(1) an explanation of why the well casing cannot terminate 12 inches above the established ground surface;

(2) a map showing the location of the proposed well ~~referenced to a bench mark, a permanent landmark, or the corners of the property;~~ and

(3) a cross-sectional diagram of the well cap and vault or manhole.

~~I.~~ H. Permits are not transferable. Only the permit holder is authorized to construct the well.

~~J.~~ I. The permit is valid for ~~six~~ 18 months from the date it is issued. ~~If the permit holder submits to the commissioner a written request for an extension, and shows the monitoring well has not been completed or constructed, the commissioner may extend the~~

expiration date for an additional six months.

~~K.~~ J. The owner of the property on which a monitoring well is to be located must pay a \$50 permit fee for each monitoring well as required by Minnesota Statutes, section 1031.208. ~~One permit is required for monitoring wells drilled under a single contract, used as leak detection devices at a petroleum bulk storage site or retail motor fuel outlet. The permit fee is \$50 per site regardless of the number of wells. Subsequent wells drilled on the site under a separate contract are exempt from additional permit fees, but a new permit listing all new wells is required. A site consists of a single continuous piece of property on which the petroleum bulk storage facility or motor fuel retail outlet is located. The site does not include other properties on which monitoring wells are constructed to evaluate a spill or leak associated with the petroleum facility. Owners of petroleum retail outlets or bulk storage facilities installing more than one monitoring well must list each well on the permit.~~

~~L.~~ A copy of the permit shall be made available at the monitoring well site at all times during construction.

4725.1831 GROUNDWATER THERMAL EXCHANGE DEVICE PERMITS.

This part applies to the construction of a groundwater thermal exchange device (heat pump) with reinjection to an aquifer.

A. A groundwater thermal exchange device with reinjection to an aquifer must not be constructed until a permit has been issued by the commissioner to the property owner.

B. The property owner or the property owner's agent must submit to the commissioner a permit application on a form provided by the commissioner. The application must contain:

(1) the name, license number, and signature of the well contractor constructing the wells;

(2) the name, address, and signature of the owner of the property on which the device will be installed;

(3) the township number, range number, section, and one quartile, or the street address if the property is located in an incorporated area, of the proposed device location;

(4) a description of existing wells and any wells proposed to be constructed including the unique well numbers, locations, well depth, diameters of bore holes and casing, depth of casing, grouting methods and materials, and dates of construction;

(5) a description of the heat pump unit including the manufacturer's name, model number, maximum water flow rate in gallons per minute, name of proposed installer, and proposed installation date;

(6) water withdrawal information, pumping schedule with rates in gallons per minute, times and duration, and the total amount of water to be injected into the aquifer;

(7) the specifications for piping including the materials to be used for piping, the flow control valve setting, the provisions for pressure testing the system, and the provisions for disinfection of the completed system; and

(8) a diagram of the proposed piping system.

C. The diagram must show that the proposed piping system includes:

(1) a 15 psi pressure valve at the discharge well;

(2) a solenoid valve on the discharge side of heat pump unit;

(3) a pressure gauge in-line between the pressure valve and solenoid valve;

(4) a device to provide automatic shutdown of the system if the discharge line pressure is below 15 psi;

(5) an in-line thermometer in the heat pump inlet and outlet lines;

(6) a check valve in-line from the supply well;

(7) unthreaded taps and shutoff valves in the supply and discharge lines;

(8) a filter in the discharge line from the heat pump;

(9) a flow control valve and flow meter in the supply line;

(10) air release valves; and

(11) any other devices to be installed such as pressure tanks or isolation valves.

D. The system must comply with chapter 4715.

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E. The permit is valid for 18 months from the date issued.

F. The owner of the property where the groundwater thermal exchange device is to be located must pay the fees required in Minnesota Statutes, section 1031.208, for permit and notification.

4725.1832 NOTIFICATION FOR WELL SEALING.

This part applies to the sealing of wells as provided by Minnesota Statutes, sections 1031.231, 1031.301, and 1031.315.

A. A well must not be sealed until the owner of the property where the well is located, the owner's agent, or a licensee or registrant submits notification of proposed sealing of the well. Notification must be on a form provided by the commissioner or be made by telephone or facsimile. The notification must include the following information for each well:

- (1) the name and licensee number or registrant number;
- (2) the name, address, and telephone number of the well owner, and property owner if different; and
- (3) the township number, range number, section and one quartile, or street address if the property is located in an incorporated area.

B. A new notification must be filed with the commissioner if a licensee or registrant other than the one listed on the original notification seals the well.

C. The notification is valid for 18 months from the date filed.

4725.1833 VERTICAL HEAT EXCHANGER CONSTRUCTION PERMITS.

This part applies to the construction of vertical heat exchangers.

A. A vertical heat exchanger must not be constructed, except for normal maintenance, until a permit has been issued by the commissioner to the well contractor.

B. The well contractor must submit to the commissioner a vertical heat exchanger permit application on a form provided by the commissioner. The application must be legible and signed by the well contractor and the property owner or property owner's agent.

C. A permit application must be completed for each vertical heat exchanger and must include:

- (1) the name and license number of the well contractor;
- (2) the name and address of the owner of the property on which the vertical heat exchanger will be installed;
- (3) the township number, range number, section and one quartile, or the street address if the property is located in an incorporated area, of the proposed vertical heat exchanger;
- (4) a plan diagram showing the location of the vertical heat exchanger, property lines, and structures on the property;
- (5) a system piping diagram;
- (6) the number, diameter, and depth of all bore holes drilled to install the vertical heat exchanger piping;
- (7) the grout materials and grouting method;
- (8) the type of heat transfer fluid to be used; and
- (9) the system operating pressure.

D. Only the permit holder is authorized to construct the vertical heat exchanger.

E. The permit is valid for 18 months from the date issued.

F. The owner of the property where the vertical heat exchanger is located must pay the fee required in Minnesota Statutes, section 1031.208.

4725.1835 ELEVATOR SHAFT CONSTRUCTION PERMITS.

This part applies to an excavation or hole for installation of an elevator shaft or hydraulic cylinder for an elevator shaft.

A. After July 1, 1990, An excavation or hole for an elevator shaft must not be constructed until a permit has been issued by the commissioner to the elevator shaft contractor or well contractor.

B. An elevator shaft contractor or well contractor must submit to the commissioner an elevator shaft permit application on a form provided by the commissioner. The application shall must be legible and signed by the elevator shaft contractor or well contractor and the elevator shaft owner and property owner or agent.

C. The permit must include the following information for each hole or excavation for the elevator shaft:

- (1) the name, business address, and license number of the elevator shaft contractor or well contractor;

(2) the name and address of the elevator shaft owner ~~or, and~~ property owner, if different;

(3) the ~~legal description~~ township number, range number, section and one quartile, or street address if the property is located within an incorporated area, of the proposed excavation location ~~or a map having a scale at least one-half inch to the mile;~~ and

(4) the anticipated depth of the elevator shaft hole or excavation.

[For text of items D and E, see M.R.]

F. The permit is valid for ~~one year~~ 18 months from the date it is issued. ~~If the permit holder submits to the commissioner a written request for an extension, and shows the elevator shaft has not been completed or constructed, the commissioner may extend the expiration date for an additional six months.~~

G. The owner of the property where the elevator shaft is to be located must pay a \$50 ~~the~~ permit fee for each elevator shaft excavation or hole required by Minnesota Statutes, section 1031.208.

H. ~~A copy of the permit must be available at the elevator shaft excavation site at all times during excavation of the elevator shaft.~~

4725.1836 NOTIFICATION AND PERMIT FEES.

The ~~appropriate~~ fees specified in Minnesota Statutes, section 1031.208, must accompany all notifications and permit applications. Notification or permit fees may be paid electronically and the permit or notification may be submitted by facsimile. Notification and permit application fees shall ~~not~~ be refunded ~~if written application is received within 30 days of submission of incorrect fees, or if written application is received within one year of notification or issuance of a permit if a well or boring was not completed. The notification or permit application may be made by facsimile transmission.~~

4725.1837 EXCEPTION TO NOTICE AND PERMIT REQUIREMENTS.

A permit or notification is not required for installation of a pump ~~or~~ pumping equipment, pitless unit, pitless adapter, screen, or the repair of an existing well or boring if the repair does not involve deepening the well or boring, or removal or installation of casing through a confining layer or having casing installed or removed through the frost line.

4725.1848 WELL MAINTENANCE PERMITS.

[For text of subs 1 and 2, see M.R.]

Subp. 3. **Permit conditions.** The conditions in ~~items A to E~~ this subpart apply to maintenance permits.

[For text of items A to C, see M.R.]

~~D. All provisions of this chapter involving the proper isolation distance from contamination sources and necessary seals and safeguards apply to a well under a maintenance permit.~~

~~E.~~ The commissioner may deny a permit application or revoke a permit for violation of this chapter. The commissioner shall give the applicant or permit holder written notice of the permit application denial or permit revocation. The notice shall state the reason for denial or revocation.

Subp. 4. **Water supply well maintenance permits.** An annual well maintenance permit is required for an unsealed water supply well that is not in use, or that is inoperable, ~~or from which the power supply has been disconnected~~. The owner of the property on which such a well is located must submit ~~an~~ the annual \$50 permit fee as required by Minnesota Statutes, section 1031.208, along with the permit application, or have the well sealed.

Subp. 5. **Monitoring well maintenance permits.** The provisions in items A to C apply to monitoring well maintenance permits.

A. The owner of property on which an unsealed monitoring well is located must obtain a maintenance permit starting 14 months after construction of the well and must pay ~~a~~ the fee ~~of:~~ required by Minnesota Statutes, section 1031.208.

(1) \$50 for each monitoring well that is unsealed; or

(2) \$50 for each motor fuel retail outlet or petroleum bulk storage site that has unsealed monitoring wells located on the site.

The permit must be renewed annually until the well is sealed.

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[For text of items B and C, see M.R.]

Subp. 6. **Dewatering well maintenance permits.** The conditions in items A to C apply to dewatering well maintenance permits.

A. No later than 14 months after construction of a dewatering well, the owner of the property on which a dewatering well is located must obtain a maintenance permit for an unsealed dewatering well and must pay a ~~the fee of~~ the fee required in *Minnesota Statutes*, section 1031.208.

(1) \$25 for each dewatering well that is unsealed; or

(2) \$250 for a dewatering project consisting of ten or more unsealed dewatering wells.

The permit must be renewed annually for wells that are in use.

[For text of items B and C, see M.R.]

Rules as Proposed (all new material)

4725.1851 WELL AND BORING RECORDS.

Subpart 1. **General.** A licensee or registrant must submit a written record of well construction and sealing of a well or boring on forms containing the information in subparts 2 to 4 within 30 days after completion of the work.

A. A new record is required if a notification or permit is required under parts 4725.1820 to 4725.1837.

B. The licensee or registrant must furnish the owner or owner's agent one copy, retain one copy, and submit the remaining copies to the commissioner or the local board of health delegated under *Minnesota Statutes*, section 1031.111.

C. A single record may be used to report more than one well or boring if all the wells or borings on the record are located at the same depth and geological conditions on a continuous parcel of property.

Subp. 2. **Construction records.** Construction records for wells and borings must contain the information in subpart 3, items A to G, and the following information:

A. intended use;

B. depth;

C. drilling method;

D. casing material, diameter, and depth;

E. bore hole diameters and depths;

F. screen type and depth interval, or open hole interval;

G. static water level;

H. type, amount, and intervals of grout;

I. well head description including pitless adapter manufacturer and model if installed, and type of casing protection if installed;

J. date of completion; and

K. pump description.

Subp. 3. **Sealing record.** A sealing record signed by a representative must be submitted for all wells and borings sealed.

The sealing record must contain the following information:

A. name and address of the property owner;

B. name, license or registration number of the contractor doing the work, name of the driller performing the work, and the signature of the representative;

C. date work was completed;

D. in an unincorporated area, the county, township, range, section and three quartiles, and the street address or fire number of the well or boring;

E. in an incorporated area, the township, range, section and one quartile, and the numerical street address;

F. for records submitted under subpart 1, item C, the location data at the center of the project, the number of wells or borings included on the record, and a sketch map showing the location of each well or boring;

G. a description of the geological materials penetrated by the well or boring using terms in subpart 4 or ASTM Standard D2487-85;

H. the original and current well or boring depth;

- I. the approximate date of construction;
- J. the grout or sealing materials, quantities, and intervals;
- K. the casing type, diameter, and depth if present;
- L. the screen or open hole depth interval if present;
- M. a description of any obstruction or pump, if present; and
- N. the method of sealing the annular space around the casing, if present.

Subp. 4. **Geological materials.** The geological materials penetrated in drilling a well or boring must include the color, relative hardness, and be described using the following terms:

A. Unconsolidated materials:

| Material | Diameter | | Screen Slot No. | |
|----------------------|----------------|----------------|-----------------|-----|
| | Millimeters | Inches | From | To |
| (1) Clay | Up to 0.005 | Up to 0.0002 | — | — |
| (2) Silt | 0.005-0.062 | 0.0002-0.0025 | — | — |
| (3) Fine Sand | 0.062-0.250 | 0.0025-0.0100 | 2 | 10 |
| (4) Medium Sand | 0.250-0.500 | 0.0100-0.0200 | 10 | 20 |
| (5) Coarse Sand | 0.500-1.000 | 0.0200-0.0400 | 20 | 40 |
| (6) Very Coarse Sand | 1.000-2.000 | 0.0400-0.0800 | 40 | 80 |
| (7) Fine Gravel | 2.000-4.000 | 0.0800-0.1600 | 80 | 160 |
| (8) Coarse Gravel | 4.000-62.500 | 0.1600-2.5000 | 160 and larger | |
| (9) Cobbles | 62.500-250.000 | 2.5000-10.0000 | — | — |

B. Rock:

- (1) shale, which is rock consisting of hardened silts and clays;
- (2) sandstone, which is cemented or otherwise compacted sediment composed predominately of sand-sized particles generally of quartz;
- (3) limestone, which is rock that contains at least 80 percent of carbonates of calcium and has a strong reaction with hydrochloric, or muriatic acid;
- (4) dolomite, which is rock that contains at least 80 percent of carbonates of magnesium and has a weak reaction with HCl, or muriatic acid;
- (5) granite, which is an igneous rock composed primarily of quartz and feldspar;
- (6) basalt, which is a black volcanic igneous rock; and
- (7) igneous and metamorphic rock, which are hard crystalline rocks.

4725.1855 WELL CUTTING FORMATION SAMPLES.

A licensee or registrant must submit well-cutting samples as specified in this part when the commissioner determines that samples are needed to provide subsurface geological and hydrological information for the state water information system.

A. The commissioner shall notify licensees and registrants of the areas from which well-cutting samples are required and provide licensees and registrants operating within the areas with maps or lists indicating counties, townships, sections, or other designated areas where cutting samples are required.

B. Licensees and registrants so notified and supplied shall collect cutting samples during the course of drilling wells in the designated areas according to the requirements specified. Licensees or registrants not supplied with sample collecting materials but who drill in an area designated for sampling shall notify the commissioner. Licensees or registrants shall collect the cutting samples in a manner representative of the materials encountered. Samples must be taken at five-foot intervals and at every change in rock or sediment type. The cuttings must be placed in the sample bags provided, which shall have an attached tag on which the unique well number, well owner's name, well location, and sample depth must be written.

C. Licensees or registrants shall notify the commissioner within 30 days of a well's completion so that the cutting samples can

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be collected. Until collected, the licensee or registrant shall store the samples protected from weather and disturbance and segregated by unique well number and depth interval.

WELL AND BORING GENERAL CONSTRUCTION AND USE REQUIREMENTS

4725.2010 APPLICABILITY.

The general construction and use requirements specified in parts 4725.2010 to 4725.3950 apply to all wells and borings except exploratory borings regulated under chapter 4727.

4725.2020 INTERCONNECTION OF AQUIFERS PROHIBITED.

Subpart 1. **Aquifer interconnections.** A well or boring must not be constructed to interconnect aquifers separated by a confining layer. A permanent open bore hole or screened portion must not extend through more than ten feet of a confining layer.

Subp. 2. **Aquifers in unconsolidated materials.** Aquifers in unconsolidated materials separated by a confining layer ten feet or more in thickness must not be interconnected.

Subp. 3. **Aquifers in rock.** Aquifers in rock separated by the Decorah, Glenwood, basal Saint Peter, Saint Lawrence, and Eau Claire confining layers must not be interconnected. The confining layers specified are defined in "Geology of Minnesota: A Centennial Volume" by Sims, P.K. and Morey, G.B., pages 459-473, "Paleozoic Lithostratigraphy of Southeastern Minnesota" by George Austin, pages 205 to 213, which is incorporated by reference in part 4725.0150.

4725.2050 USE OF WELLS OR BORINGS FOR DISPOSAL PROHIBITED.

A well or boring must not be used for disposal of surface water, groundwater, or any other liquid, gas, or chemical.

A. Water used to cool parts of engines, air compressors or other equipment, or air conditioning equipment must not be returned to a well or any part of a potable water system except if permitted as a groundwater thermal exchange device under part 4725.1831 and *Minnesota Statutes*, section 1031.621.

B. A well may be used for the injection of water to conduct a slug test if the injected water was originally taken from that well.

4725.2150 REQUIRED DISTANCE FROM GAS PIPES, LIQUID PROPANE TANKS, AND ELECTRIC TRANSMISSION LINES.

Subpart 1. **General distance.** A well or boring must be at least ten feet horizontally from a pipe with flammable or volatile gas, an overhead or underground electric transmission line, or a liquid propane tank. If an electric transmission line is in excess of 50 kilovolts or of unknown voltage, a well must be at least 25 feet horizontally from the electric transmission line. This subpart does not apply to the electrical service line for the well or boring.

Subp. 2. **Exception.** During construction, repair, or sealing, a well or boring may be closer:

A. to an electric transmission line than the distance specified in subpart 1 if the line has been deenergized and visibly grounded, or insulating barriers not a part of or an attachment to the equipment or machinery have been erected to prevent physical contact with the line during well or boring construction, repair, or sealing;

B. to a gas pipe or propane tank than the distances specified in subpart 1 if the pipe or tank does not contain flammable or volatile gas.

The well or boring must be marked by the licensee or registrant with a permanent sign warning of the location of the electric transmission line and gas pipe if it is closer than the distance specified in subpart 1.

4725.2175 LOCATION OF WELL OR BORING WITHIN BUILDING.

Subpart 1. **Location in a building.** A well or boring must not be located within a building unless the building is constructed according to this part over the well or boring exclusively to protect the well, boring, pump, and water treatment equipment.

Subp. 2. **Access.** The building must have adequate access for maintaining and repairing the well, boring, pump, and water treatment equipment. The building must be constructed at or above the established ground surface. A floor drain must discharge to the established ground surface, a gravel pocket, or a sewer constructed to prevent backup of sewage within 50 feet of the bore hole. Materials or chemicals that may cause contamination of the well or groundwater, including fertilizers, pesticides, petroleum products, paints, and cleaning solvents, must not be stored in the building.

Subp. 3. **Protections.** A well or boring located in a separate building must:

A. have casing extending at least 12 inches above the floor;

B. be protected by a durable watertight concrete slab, platform, or floor, extending horizontally at least one foot in every direction from the casing, and be sloped to divert water away from the casing; and

C. have a watertight gasket or caulk between the casing and the platform, floor, or slab.

4725.2185 DISTANCE FROM A BUILDING.

A well or boring must be at least three feet horizontally from the farthest exterior projection of a building, including the walls, roofs, decks, and overhangs unless located in a building constructed according to part 4725.2175.

4725.2250 GENERAL CASING REQUIREMENTS.

Subpart 1. **Casing types.** If casing is used in a well or boring, the casing must be:

- A. steel casing as specified in part 4725.2350;
- B. stainless steel casing as specified in part 4725.2450;
- C. poured concrete or concrete curbing as specified for dug or bored water supply wells in part 4725.5750; or
- D. plastic casing as specified in part 4725.2550.

Subp. 2. **Watertight casing required.** All casing except concrete curbing must be watertight throughout its length, with threaded, solvent welded, or welded joints. Recessed couplings, reamed and drifted couplings, or other couplings that match the design, taper, and thread type of the casing must be used on threaded casing. Thread must not be exposed on the pipe when the casing is joined to the coupling.

Subp. 3. **New casing required.** Casing used in the permanent construction of a well or boring must be new casing produced to specifications. Casing salvaged within 120 days of installation is acceptable for reuse if it meets the specifications for new casing. A potable water well must be constructed with new casing or casing salvaged from a potable water well.

Subp. 4. **Casing markings required.** Steel, stainless steel, and plastic casing except flush-threaded PVC casing must be marked by the manufacturer in accordance with casing specifications in parts 4725.2350 to 4725.2550. Markings must be rolled, stamped, or stenciled by the manufacturer.

Subp. 5. **Casing testing.** Casing rejected by the manufacturer must not be used. The commissioner may require that casing be submitted to an independent testing agency to evaluate if it meets or exceeds specifications when the casing:

- A. lacks markings or has illegible or altered markings;
- B. contains pits, cracks, patches, partial welds, bends, or other manufacturing defects; or
- C. lacks mill certification papers from the original manufacturer.

Subp. 6. **Casing rejection.** The commissioner shall reject pipe for use in a well or boring if:

- A. the casing is not submitted for evaluation and verification when required by the commissioner;
- B. the casing fails to meet the specifications in part 4725.2350, 4725.2450, 4725.2550, or 4725.5750; or
- C. the lot of casing contains defective lengths, including casing with girth welded joints, casing with welded patches, and a lot having more than five percent of the casing with lengths less than five feet.

Subp. 7. **Temporary casing.** Casing installed temporarily during drilling is not required to meet the specifications for casing in parts 4725.2350 to 4725.2550, but must be of sufficient strength to withstand the structural load imposed by conditions both inside and outside the well or boring. The casing must be removed on completion of the well or boring.

Subp. 8. **Inner and outer casing.** An outer casing must have an inside diameter at least 3.25 inches larger than the outside diameter of the inner casing, couplings or bell-end, whichever is larger. The annular space between an inner casing and an outer casing must be grouted for its entire length by pumping neat cement through a tremie pipe or through the casing as specified in part 4725.3050. The inner casing must extend above the established ground surface at least 12 inches.

Subp. 9. **Outer casing in unconsolidated materials.** An outer casing installed in unconsolidated materials is not required to meet the specifications for casing in parts 4725.2350 to 4725.2550 if the casing is of sufficient strength to withstand the structural load imposed by conditions both inside and outside the well or boring and if an inner casing meeting the requirements of subpart 1 is installed and the annular space between the casings is filled with neat cement.

Subp. 10. **Casing inside diameter.** The inside diameter of a casing must not be less than two inches except that a well or boring less than 100 feet in depth may have a casing with a minimum 1.25 inches inside diameter.

Subp. 11. **Casing height.** A casing or casing extension must extend vertically at least 12 inches above the established ground surface

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or the floor of a building as specified in part 4725.2175. The established ground surface or floor immediately adjacent to the casing must be graded to divert water away from the casing. Termination of the top of the casing below the established ground surface, such as in a well pit, is prohibited except that an outer casing may terminate immediately below a pitless adapter installed on an inner casing.

Subp. 12. **Casing offsets.** Casing offsets are prohibited.

4725.2350 STEEL CASING REQUIREMENTS.

Subpart 1. **General.** Steel casing used in the permanent construction of a well or boring must be new casing produced to:

- A. ASTM Standard A53-90b;
- B. ASTM Standard A589-89a, Types I, II, and III; or
- C. API Standard 5L.

Steel casing must have the minimum weights and thicknesses specified in the table in subpart 2 subject to the tolerances in the specifications in this subpart.

Subp. 2. **Steel casing pipe weight and dimensions.**

| | Size in Inches | Plain End | Wgt. Lbs. Per Ft. Thrds. & Cplgs.* | Thrds. R&D Cplgs. | Thickness in Inches | Diameter-Inches | | Thrds. per Inch | Couplings | |
|-----------------|----------------------|--------------|--|----------------------|---------------------------|-----------------|----------|-----------------------|---|-----------------------------|
| | | | | | | External | Internal | | Minimum External Diameter Inches | Minimum Length Inches |
| Schedule 40 | 1 | 1.68 | 1.68 | 1.70 | .133 | 1.315 | 1.049 | 11-1/2 | 1.576 | 2-5/8 |
| | 1-1/4 | 2.27 | 2.28 | 2.30 | .140 | 1.660 | 1.380 | 11-1/2 | 1.900 | 2-3/4 |
| | 1-1/2 | 2.72 | 2.73 | 2.75 | .145 | 1.900 | 1.610 | 11-1/2 | 2.200 | 2-3/4 |
| | 2 | 3.65 | 3.68 | 3.75 | .154 | 2.375 | 2.067 | 11-1/2 | 2.750 | 2-7/8 |
| | 2-1/2 | 5.79 | 5.82 | 5.90 | .203 | 2.875 | 2.469 | 8 | 3.250 | 3-15/16 |
| | 3 | 7.58 | 7.62 | 7.70 | .216 | 3.500 | 3.068 | 8 | 4.000 | 4-1/16 |
| | 3-1/2 | 9.11 | 9.20 | 9.25 | .226 | 4.000 | 3.548 | 8 | 4.625 | 4-3/16 |
| | 4 | 10.79 | 10.89 | 11.00 | .237 | 4.500 | 4.026 | 8 | 5.200 | 4-5/16 |
| | 5 | 14.62 | 14.81 | 15.00 | .258 | 5.563 | 5.047 | 8 | 6.296 | 4-1/2 |
| | 6 | 18.97 | 19.18 | 19.45 | .280 | 6.625 | 6.065 | 8 | 7.390 | 4-11/16 |
| Standard weight | 8 | 28.55 | 29.35 | | .322 | 8.625 | 7.981 | 8 | 9.625 | 5-1/16 |
| | 10 | 40.48 | 41.85 | | .365 | 10.750 | 10.020 | 8 | 11.750 | 5-9/16 |
| | 12 | 49.56 | 51.15 | | .375 | 12.750 | 12.000 | 8 | 14.000 | 5-15/16 |
| | 14 | 54.57 | 57.00 | | .375 | 14.000 | 13.250 | 8 | 15.000 | 6-3/8 |
| | 16 | 62.58 | 65.30 | | .375 | 16.000 | 15.250 | 8 | 17.000 | 6-3/4 |
| | 18 | 70.59 | 73.00 | | .375 | 18.000 | 17.250 | 8 | 19.000 | 7-1/8 |
| | 20 | 78.60 | 81.00 | | .375 | 20.000 | 19.250 | 8 | 21.000 | 7-5/8 |
| | 22 | 86.61 | | | .375 | 22.000 | 21.250 | | | |
| | 24 | 94.62 | | | .375 | 24.000 | 23.250 | | | |
| | 26 | 102.63 | | | .375 | 26.000 | 25.250 | | | |
| | 30 | 118.65 | | | .375 | 30.000 | 29.250 | | | |
| | 32 | 126.66 | | | .375 | 32.000 | 31.250 | | | |
| | 34 | 134.67 | | | .375 | 34.000 | 33.250 | | | |
| | 36 | 142.68 | | | .375 | 36.000 | 35.250 | | | |

* Nominal weight based on length of 20 feet including coupling.

Steel casing up to ten inches in diameter must be Schedule 40.

Larger diameter casing must be standard weight.

4725.2450 STAINLESS STEEL CASING REQUIREMENTS.

Stainless steel casing used in the permanent construction of a well or boring must meet ASTM Standard A312-86a and meet at least:

- A. ANSI Schedule 5 for welded joints; or
- B. ANSI Schedule 40 for threaded joints.

4725.2550 PLASTIC CASING AND COUPLING REQUIREMENTS.

Subpart 1. **General requirements.** Plastic casing and couplings used in the permanent construction of a well or boring must:

- A. meet ASTM Standard F480-88; and
- B. withstand internal pressures of 200 pounds per square inch (psi).

Standard dimension ratios (SDR) and water pressure ratings (PR) at 23 degrees Celsius (73 degrees Fahrenheit) for nonthreaded polyvinyl chloride (PVC) and acrylonitrile-butadiene-styrene (ABS) plastic casing equal to or greater than 200 psi are as follows:

(1) pressure rating of PVC casing materials:

| SDR | PVC 1120 | PVC 1220 | PVC 2112 | PVC 2116 | PVC 2120 |
|------|----------|----------|----------|----------|----------|
| 13.5 | 315 psi | 315 psi | 200 psi | 250 psi | 315 psi |
| 17 | 250 psi | 250 psi | — | 200 psi | 250 psi |
| 21 | 200 psi | 200 psi | — | — | 200 psi |

(2) pressure rating of ABS casing materials:

| SDR | ABS 1316 | ABS 2112 |
|------|----------|----------|
| 13.5 | 250 psi | 200 psi |
| 17 | 200 psi | — |

Subp. 2. **Additional approved couplings.** In addition to the plastic couplings approved under subpart 1, couplings with socket dimensions meeting the requirements of ASTM Standard F480-88, Table 3 and having a water pressure rating of at least 200 psi are also approved.

Subp. 3. **NSF standard.** All plastic casings, couplings, components, and related joining materials including solvents, cements, or primers used in the construction of a well or boring must conform with the requirements of NSF Standard 61-1991 or the health effects portion of NSF Standard 14-1990 and be tested as conforming by an agency certified by the ANSI. Conformance to the NSF standard must be coded, stamped, or marked on the casings, couplings, components, and related joining materials including solvents, cements, or primers.

4725.2650 PLASTIC CASING INSTALLATION.

Subpart 1. **General.** When preparing to install plastic casing, a person must:

- A. inspect casing and couplings carefully for cuts, gouges, deep scratches, damaged ends, and other major imperfections and not use any plastic casing or coupling having such defects or imperfections;
 - B. use solvent cement meeting the requirements of the specifications for the plastic that will be used;
 - C. use only casing and coupling combinations that give interference fits;
 - D. use plastic couplings with molded or formed threads and thread lubricants suitable for the plastic material that will be used;
- and
- E. use a coupling appropriate for the specific transition intended when a nonplastic screen is attached to a plastic casing.

Subp. 2. **Cutting.** When cutting plastic casing, casing ends must be cut square using fine-tooth blades with little or no set or a plastic pipe cutter equipped with extra wide rollers and thin cutting wheels. Standard steel pipe or tubing cutters must not be used for cutting plastic casing.

Subp. 3. **Cleaning.** All dirt, dust, moisture, and burrs must be cleaned from casing ends and couplings using chemical or mechanical cleaners suitable for the particular plastic material. All burrs must be removed.

Subp. 4. **Primer.** A primer must be used when the casing and coupling surfaces must be softened and dissolved to form a continuous bond between the mating surfaces, or when the type of solvent cement used requires one.

Subp. 5. **Cementing.** An even coat of cement must be applied to the inside of the couplings to cover the distance of the joining surface only. An even coat of solvent cement must then be applied to the outside of the casing being joined to a distance equal to the depth of the casing coupling socket.

Subp. 6. **Assembling.** When assembling plastic casing, a person must:

- A. make the joint with solvent cement before the solvent cement dries;
- B. reapply cement before assembling if the solvent cement dries partially;
- C. turn the casing to evenly distribute the solvent cement while inserting the coupling into the coupling socket;
- D. insert the casing to the full depth of the coupling socket, and assemble casing by using casing joiners;

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- E. remove excess solvent cement from the exterior of the joint with a clean, dry cloth;
- F. tighten a threaded joint by no more than one full turn using a strap wrench;
- G. not disturb the coupling joint until after the solvent cement has set; and
- H. allow sufficient time for the solvent cemented joint to set.

Subp. 7. **Screws.** Screws must not be used to join plastic casing.

Subp. 8. **Drilling inside casing.** A person must not drill inside plastic casing. Drilling tools such as drill bits must not be inserted in plastic casing. This prohibition does not include the installation or repair of screens or development of the well or boring.

Subp. 9. **Limestone, dolomite restriction.** Plastic casing must not be used as an outside casing in wells and borings cased more than five feet into limestone or dolomite. In limestone and dolomite, plastic casing may be used as an inner casing if surrounded by an outer steel casing.

Subp. 10. **Driving prohibition.** Plastic casing must not be driven. Use of a drive shoe with plastic casing is prohibited.

Subp. 11. **Sealing, removal, or replacement.** A person installing plastic casing must either seal a well or boring or remove and replace all casing when:

- A. the plastic casing cannot be installed without driving the casing;
- B. a screen or pump cannot be installed without force; or
- C. the casing fails during construction or pumping of the well or boring.

4725.2750 SCREENS.

A screen must be attached or connected to the casing by a threaded, solvent-welded or welded joint or by a nontoxic packer. Lead packers must not be used. Leaders or blank screens must not extend more than ten feet above or below the screen.

4725.2850 GRAVEL PACKS.

Gravel packs, filter sand, or stabilizer materials must contain less than five percent calcareous material and must be graded, cleaned, and washed. Gravel packs, filter sand, or stabilizer materials must not extend more than ten feet above the static water level or more than ten feet above the top or below the bottom of the screen.

4725.2950 DRILLING FLUIDS.

Subpart 1. **Water.** Water used for drilling, development, or rehabilitation, other than water from the well or boring itself, must:

- A. come from a potable water system or from a well or boring of similar use and construction;
- B. contain a free chlorine residual at all times; and
- C. be conveyed in clean, sanitary tanks and water lines.

Subp. 2. **Drilling additives.** Drilling additives must meet the requirements of NSF Standard 60-1988 as determined by a person accredited by the ANSI under ANSI Standard Z34.1-1987. A drilling additive is a substance added to the air or water used in the fluid system of drilling a well or boring.

4725.2975 DISPOSAL OF MATERIALS.

The disposal of drilling mud, cuttings, treatment chemicals, and discharged water must be according to applicable state and local regulations. Drilling mud, cuttings, and discharged water must not be disposed in a manner that creates a health hazard. During test pumping, discharged water must be piped to a point of overland drainage.

4725.3050 GROUTING.

Subpart 1. **Grouting materials.** The following grout materials as listed in part 4725.0100 are approved:

- A. neat cement grout, except that rapid setting cement must not be used with plastic casing;
- B. concrete grout when used in the dry portion of the open annular space;
- C. bentonite grout when used in unconsolidated materials; and
- D. high solids bentonite grout when used in unconsolidated material. Shoveling of no more than an equal volume of sand, cuttings taken from the bore hole, or granular bentonite is allowed.

Subp. 2. **Grouting methods.** Grouting must start immediately on completion of drilling and be completed before placing a well or boring in service. Grout must be pumped into the annular space from the bottom up through the casing or through a tremie pipe except that a well or boring may be grouted with bentonite grout by shoveling the equal volume of washed sand, cuttings taken from the bore hole, or granular bentonite while pumping the mixture in part 4725.0100, subpart 21c, item A. The bottom of the tremie pipe must

remain submerged in grout while grouting. Neat cement grout or concrete grout must be allowed to set a minimum of 48 hours. Rapid setting cement must be allowed to set a minimum of 12 hours. Drilling, well development, or pump operation is prohibited during the time the cement is setting.

Subp. 3. **Grouting depth requirement.** When constructing a well or boring with a method such as mud or air rotary, auger, or jetting that creates an open annular space, a grouting material specified in subpart 1 and the grouting methods specified in subpart 2 must be used to fill the annular space between the casing and the bore hole.

A. If the depth of the casing is 30 feet or less, the grout must extend from the bottom of the casing or top of the gravel pack, to the established ground surface, or the base of the pitless adapter or unit.

B. If the depth of the casing is more than 30 feet, the annular space must be filled with grout from:

- (1) a depth of at least 30 feet to the established ground surface or the base of a pitless adapter or unit; or
- (2) the top of the gravel pack to the established ground surface or the base of a pitless adapter or unit.

C. The annular space below 30 feet in depth must be filled with grout except that the portion of the well or bore hole in unconsolidated formations below 30 feet in depth may be filled with cuttings taken from the bore hole.

Subp. 4. **Grouting between casings.** The annular space between an inner and outer casing constructed according to part 4725.2250, subpart 8, must be filled with neat cement grout according to subpart 2.

Subp. 5. **Driving casing.** When driving casing, a cone-shaped depression filled with bentonite grout, bentonite powder, granular bentonite, or high solids bentonite grout must be maintained around the outside of the casing. The bottom of driven casing must be equipped with a drive shoe.

Subp. 6. **Grouting near screen.** If a bore hole extends more than ten feet below the bottom of a screen, the bore hole must be filled with grout from the bottom of the bore hole to within ten feet or less of the screen.

Subp. 7. **Grouting in rock.** The additional requirements in items A to D apply to grouting a well or boring in rock.

A. When rock is encountered in the construction of a well or boring, the casing must be equipped with a drive shoe driven firmly into stable rock or the casing must be grouted with neat cement from the bottom of the casing to the top of the rock.

B. When the casing of a well or boring extends more than ten feet into rock, the casing must be installed in a bore hole 3.25 inches larger than the outside diameter of the casing or couplings, whichever is larger, except that a well or boring may be completed in a sandstone formation by driving steel or stainless steel casing in the sandstone if the sandstone:

- (1) is the first rock unit; and
- (2) has no shale, limestone, or dolomite layers greater than one foot in thickness.

C. A water supply well constructed in or below dolomite or limestone rock, in addition to the requirements in this subpart, must meet the requirements in subitems (1) to (3).

(1) If the pumping water level of a water supply well completed in limestone or dolomite is less than ten feet above the top of the dolomite or limestone rock formation, the bore hole must be at least 3.25 inches larger in diameter than the outside diameter of the casing or couplings, whichever is larger. The casing must extend at least ten feet below the pumping water level. The annular space must be grouted with neat cement grout or concrete grout.

(2) If a water supply well is constructed in a geological formation overlaid by limestone or dolomite, the casing must extend at least ten feet into the underlying formation. The bottom of the casing must be at least ten feet below the pumping water level. The bore hole extending through the limestone or dolomite formation and ten feet into the underlying formation must be at least 3.25 inches larger in diameter than the outside diameter of the casing or the couplings, whichever is larger. The rock portion of annular space must be grouted with neat cement grout or concrete grout and the unconsolidated materials portion of the annular space must be grouted according to subparts 1 to 3.

(3) A water supply well used to supply potable water must not be completed in limestone or dolomite rock unless the limestone or dolomite is overlaid by at least 50 feet of unconsolidated material or firm insoluble rock such as sandstone or shale that extends around the well for a one mile radius.

D. If a cavern more than twice the diameter of the bore hole exists or the grout level fails to rise after insertion of more than

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one cubic yard of grout, then the following grouting materials and methods may also be used in the portions where the conditions exist:

(1) pouring of a mixture of gravel or stone aggregate not larger than one-half inch in diameter while simultaneously pumping neat cement grout or concrete grout in a ratio not to exceed five parts aggregate to one part grout;

(2) pumping a mixture of gravel not larger than one-half inch in diameter and concrete grout or neat cement grout in a ratio not to exceed five parts gravel to one part Portland cement; or

(3) pumping of alternate, equal thickness layers of concrete or neat cement grout and pouring gravel or stone aggregate not larger than one-half inch in diameter. Individual layers of aggregate must not exceed 20 feet in thickness.

Neat cement grout or concrete grout must be pumped through the casing or through a tremie pipe. The aggregate must be poured into the bore hole at a rate that prevents bridging.

4725.3150 CASING CONNECTIONS.

Subpart 1. **Above ground.** A connection above the established ground surface into the top or side of a casing must be constructed to be weatherproof and insect proof. The connection must consist of:

A. a threaded connection;

B. a welded connection;

C. a rubber expansion sealer;

D. a bolted flange with rubber gasket;

E. an overlapping well cap with compression gasket; or

F. an extension of the casing at least one inch into the base of a power pump mounted and sealed on a concrete pedestal and at least 12 inches above the established ground surface or the floor of a building as specified in part 4725.2175.

Subp. 2. **Below ground.** A connection below the established ground surface into the side of a casing must be constructed to be watertight. The connection must consist of a:

A. threaded connection;

B. welded connection;

C. rubber expansion sealer;

D. bolted flange with rubber gasket; or

E. pitless adapter or pitless unit.

4725.3250 PUMPS AND PUMPING EQUIPMENT.

A pump or pump base installed on a well must be constructed so no unprotected openings exist into the interior of the pump or well casing.

A. A hand pump, hand pump head, stand, or similar device must have a closed spout, directed downward. The pump must have a concrete slab at least four inches thick extending horizontally at least one foot in every direction from the well casing and sloped to divert water away from the casing. A watertight seal which may be asphalt or a similar resilient material must be provided between the casing and the slab.

B. A reciprocating pump rod must operate through a stuffing box.

C. An oil lubricated vertical turbine pump must not be installed in a well.

4725.3350 INTERCONNECTIONS AND CROSS CONNECTIONS.

No connection between a well or boring and another well, boring, water supply system, or contamination source is allowed unless the connection is:

A. protected by an air gap as described in part 4715.2110;

B. protected with a backflow prevention device as specified in parts 4715.2000 to 4715.2170;

C. protected with a backflow prevention device as specified in parts 1505.2100 to 1505.2800 if the well is an irrigation well used for chemigation; or

D. between wells or borings that meet the construction standards of this chapter and are used for the same purpose.

4725.3450 FLOWING WELL OR BORING.

Subpart 1. **General construction.** A well or boring from which groundwater flows above the established ground surface without

pumping must be constructed to prevent erosion of the aquifer and the confining layer. Casing must be installed into the flowing aquifer to prevent water flowing up the outside of the casing. The casing must be grouted with neat cement grout from the bottom of the casing to the base of the pitless adapter or to the established ground surface according to part 4725.3050.

Subp. 2. **Special construction required.** A well or boring must be constructed according to the requirements in subpart 3 when:

- A. the artesian flow rate is greater than 70 gallons per minute;
- B. artesian pressure at the established ground surface exceeds ten pounds per square inch; or
- C. the commissioner designates an area where the use of standard construction techniques have resulted in uncontrolled flows, or where hydrogeologic conditions such as eroded or unstable confining layers require special construction to successfully complete a well or boring and confine the artesian pressure.

Subp. 3. **Special construction standards.** A well or boring requiring special construction must be constructed by:

- A. drilling a bore hole a minimum of 3.25 inches larger than the outside diameter of the casing or couplings, whichever is larger, into the confining layer overlying the flowing aquifer. The bore hole must not penetrate the entire thickness of the confining layer;
- B. installing steel casing into the confining layer;
- C. pumping neat cement grout into the annular space surrounding the casing from the bottom of the casing to the established ground surface;
- D. drilling through the confining layer into the aquifer a minimum of ten feet;
- E. installing an inner casing into the aquifer which is a minimum of 3.25 inches smaller in diameter than the outer casing or open hole; and
- F. grouting the annular space surrounding the inner casing with neat cement grout.

Grouting must be in accordance with part 4725.3050.

Subp. 4. **Flow control.** A flowing well or boring must be provided with flow control capable of stopping all flow, consisting of a valved pipe connection, watertight pump connection, specially designed pitless unit, or a receiving tank set at an altitude corresponding to that of the artesian head.

4725.3550 WELL LABEL.

Subpart 1. **Label required.** A person who has constructed a well must attach a well identification label provided by the commissioner to the well before placing the well into service unless the well is sealed within 90 days of construction.

Subp. 2. **Attachment.** The well identification label must be attached to the well casing in a visible location using a stainless steel clamp, metal band, or strap. Alternatively, the label may be attached to a concrete pump base or pedestal using screws or fasteners.

Subp. 3. **Maintenance.** The property owner must maintain the well identification label in a readable condition.

Subp. 4. **Removal; reattachment.** The well identification label must not be removed except to work on the well. On completing work, the label must be reattached.

4725.3650 REQUIREMENTS FOR DESIGNATED SPECIAL WELL CONSTRUCTION AREAS.

Subpart 1. **Plan review.** When the commissioner designates an area where contamination is detected as a special well construction area, a well must not be constructed, repaired, or sealed until the commissioner has reviewed and approved a proposed plan for well sealing, repair, construction, and location. In addition to the information on the permit or notification, the plan must include the:

- A. depth;
- B. location;
- C. casing type, diameter, and depth;
- D. method of construction, including grout materials and grout method;
- E. pumping rate; and
- F. well use.

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Subp. 2. **Water quality monitoring.** The commissioner may require water quality monitoring by the property owner or other person in a designated special well construction area if the commissioner finds monitoring is needed to determine the degree of contamination of a water supply.

Subp. 3. **Additional requirements.** The commissioner may specify well location and construction requirements more stringent than those specified in this chapter if the commissioner determines, based on an assessment of hydrogeologic conditions and contaminant characteristics, that additional requirements are needed to protect the public health or prevent degradation of the groundwater.

4725.3750 REPAIR OF WELLS AND BORINGS.

Subpart 1. **Repair or seal.** The property owner must have a defective part of a well or boring repaired, including broken, punctured, or otherwise defective or unserviceable casing, screen, fixture, seal, or well cap. A well or boring not repaired must be permanently sealed.

Subp. 2. **Materials.** Materials used in maintenance, replacement, or repair must meet the requirements of this chapter for new installation.

Subp. 3. **Casing removal.** When all casing is removed from a well or boring, the installation of new casing or the reinstallation of casing is considered new construction and must meet the requirements of this chapter for new construction.

Subp. 4. **Acid treatment.** Before acid treating a well or boring, all confined spaces must be blown out with fresh air before entry and a supply of fresh air must be provided during occupancy. When there is a question of adequate fresh air supply, a self-contained breathing apparatus must be worn.

4725.3850 SEALING WELL OR BORING.

Subpart 1. **Sealing with grout.** A well or boring must be sealed by filling the well or boring, including an open annular space, with grout. The grout must be pumped through a tremie pipe or the casing from the bottom of the well or boring upward to within two feet of the established ground surface or floor. The bottom of the tremie pipe must remain submerged in grout while grouting.

Subp. 2. **Removal of obstruction; debris.** Materials, debris, and obstructions that may interfere with sealing must be removed from the well or boring.

Subp. 3. **Casing.** Casing with an open annular space must be:

A. grouted in place;

B. removed; or

C. perforated for its entire length with a minimum in each foot of casing of at least two one-half square inch perforations on opposite sides of the casing.

If casing is to be removed from a collapsing formation, grout must be inserted so the bottom of the casing remains submerged in grout.

Subp. 4. **Additional sealing requirements for well or boring in unconsolidated materials.** The additional requirements in items A and B apply to the sealing of a well or boring in unconsolidated materials.

A. The portion of a well or boring in unconsolidated material must be filled with bentonite grout, high solids bentonite grout, or neat cement grout. Concrete grout is approved for grouting only in the dry portion of the hole. The grout must be pumped through a tremie pipe or the casing from the bottom of the well or boring upward to within two feet of the established ground surface. Clean sand or cuttings equal to the volume of grout may be poured into the well or boring while the grout is pumped through a tremie pipe. The sand or cuttings must be poured at a rate which prevents bridging.

B. In addition to the requirements in item A, a dug well 16 inches or greater in diameter, less than 200 feet in depth, and containing less than 20 feet of water may be sealed by pouring at a rate sufficient to completely fill the well without bridging using:

(1) uniformly mixed dry bentonite powder or granular bentonite and sand in a ratio of one part bentonite to five parts sand;

(2) clean unconsolidated materials with a permeability of 10^{-6} centimeters per second or less; or

(3) concrete grout.

Sealing materials must have bearing strength sufficient to prevent subsidence and support traffic or building loads.

Subp. 5. **Additional sealing requirements for well or boring in rock.** The requirements in items A to C apply to the sealing of a well or boring in rock.

A. The portion of a well or boring in rock must be sealed with neat cement grout.

B. The materials and methods described in item C are approved for sealing in those portions of a well or boring where the following conditions exist:

- (1) a cavern more than twice the diameter of the bore hole;
- (2) sandstone that is blasted and bailed; or
- (3) the grout level fails to rise after insertion of more than one cubic yard of grout.

C. The materials and methods in this item are approved in those portions of a well or boring where the conditions in item B exist:

- (1) pouring a mixture of gravel or stone aggregate not larger than one-half inch in diameter while simultaneously pumping neat cement grout or concrete grout in a ratio not to exceed five parts aggregate to one part grout;
- (2) pumping a mixture of gravel not larger than one-half inch in diameter and concrete grout in a ratio not to exceed five parts gravel to one part Portland cement; or
- (3) placing alternate, equal thickness layers of concrete or neat cement grout and gravel or stone aggregate not larger than one-half inch in diameter. Neat cement grout or concrete grout must be pumped through the casing or a tremie pipe. The aggregate must be poured into the bore hole at a rate that prevents bridging. Individual layers of aggregate must not exceed 20 feet in thickness except in blasted and bailed sandstone formations.

Subp. 6. **Sealing well or boring not in use.** A boring not in use or a well not in use that does not have a maintenance permit as specified in part 4725.1848 must be sealed according to this part.

Subp. 7. **Sealing flowing well.** The discharge from a flowing well must be stopped and the well sealed according to this part. When a well cannot be sealed as described in this part, the licensee must notify the commissioner.

4725.3875 RESPONSIBILITY FOR SEALING.

Subpart 1. **Who may seal.** A property owner must have a contractor licensed or registered in accordance with part 4725.0475 seal a well or boring.

Subp. 2. **Corrective orders.** When a licensee or registrant is under a corrective order, the licensee or registrant must seal a well or boring that the licensee or registrant has constructed in violation of this chapter.

Subp. 3. **Report of well or boring not in use.** A licensee or registrant must report to the commissioner a well or boring that the licensee or registrant knows is not in use and is not sealed.

WATER SUPPLY WELLS

4725.4050 APPLICABILITY.

Parts 4725.4050 to 4725.5850 are additional standards that apply to water supply wells.

4725.4350 DISTANCE FROM WATER BODIES; PROTECTIONS IN FLOOD AREAS.

Subpart 1. **Distance from water bodies.** A water supply well must be at least 50 feet horizontally from the ordinary high water level as defined in *Minnesota Statutes*, section 103G.005, subdivision 14, of a stream, river, pond, lake, or wetland.

Subp. 2. **Casing in flood areas.** The casing must extend at least five feet above the regional flood level. If the regional flood level is more than five feet above the established ground surface, a watertight seal may be installed in lieu of extending the casing beyond ten feet above the established ground surface.

4725.4450 DISTANCES FROM CONTAMINATION SOURCE.

Subpart 1. **Isolation distances.** A water supply well must be located where there is optimum surface drainage and at the highest practical elevation. A water supply well must be as far as practical from a contamination source, but no less than 150 feet upgrade from a sanitary landfill, dump, or waste stabilization pond.

A water supply well must be no less than:

A. 150 feet from an area used to prepare or store more than 25 gallons or 100 pounds dry weight of:

- (1) an agricultural chemical as defined in *Minnesota Statutes*, section 18D.01;
- (2) a hazardous substance as defined in *Minnesota Statutes*, section 115B.02; or
- (3) petroleum as defined in *Minnesota Statutes*, section 115C.02, unless a lesser distance is specified in this subpart;

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B. 150 feet from a sanitary landfill, dump, or waste stabilization pond. The separation distance of 150 feet between a water supply well and a sanitary landfill or waste stabilization pond is the minimum separation distance required. Because containment movement is highly variable, water supply wells should not be located between sanitary landfills and waste stabilization ponds and points of groundwater discharge to the ground surface;

C. 100 feet from:

- (1) a manure storage area as defined in part 7020.0300, subpart 14, except as provided in subpart 2;
- (2) an agricultural chemical storage or preparation area protected with containment as defined in parts 1505.3010 to 1505.3150;
- (3) an underground storage tank for hazardous substances or petroleum if protected with safeguards as defined in chapter 7150; and
- (4) an aboveground storage tank for hazardous substances or petroleum if protected with safeguards as defined in chapter 7100;

D. 75 feet from a cesspool, seepage pit, leaching pit, or dry well except as provided in subpart 2;

E. 50 feet from:

- (1) an agricultural chemical storage or preparation area protected with containment as defined in parts 1505.3010 to 1505.3150 and covered with a permanent watertight roof;
- (2) an animal feedlot as defined in part 7020.3000, subpart 3, except as provided in subpart 2;
- (3) a feeding or watering area within a pasture as defined in part 7020.3000, subpart 18;
- (4) an animal or poultry building except as provided in subpart 2;
- (5) a flammable waste interceptor;
- (6) a grave;
- (7) a sediment interceptor;
- (8) a septic tank, subsurface disposal field, sewage lift station, or nonwatertight sewage sump, holding tank, or privy except as provided in subpart 2;
- (9) an underground petroleum storage tank of 1,100 gallons or less;
- (10) an unused, unsealed well or boring;
- (11) a source of a pollutant, contaminant, or hazardous substance as defined in *Minnesota Statutes*, section 115B.02, that may drain into the soil except as provided in this part; and
- (12) a buried sewer that:
 - (a) serves as a collector or municipal sewer;
 - (b) is pressurized, except a sewer serving one single-family residence;
 - (c) is open-jointed; or
 - (d) is constructed of materials that do not meet the specifications, methods, and testing protocol in parts 4715.0530 and 4715.2820;

F. 20 feet from:

- (1) a watertight sewage sump constructed according to part 4715.2440;
- (2) a pit or unfilled space below the established ground surface except a basement or building crawl space;
- (3) an in-ground swimming pool;
- (4) an aboveground petroleum storage tank of 1,100 gallons or less;
- (5) a buried sewer or a pressurized sewer serving one single-family residence constructed of cast iron or plastic pipe according to the material specifications, methods, and testing protocol described in parts 4715.0530 and 4715.2820 other than in item E, subitem (12); and
- (6) a storm water drain pipe 12 inches or greater in diameter; and

G. ten feet from a frost-proof yard hydrant.

Subp. 2. **Exceptions to isolation distances.** The distances in items A and B are exceptions to the isolation distances in subpart 1.

A. A water supply well constructed without a watertight casing penetrating at least ten feet of a confining layer, or without 50 feet of watertight casing, must be located at least:

- (1) 200 feet from a manure storage area;
- (2) 150 feet from a cesspool, seepage pit, leaching pit, or dry well; and
- (3) 100 feet from a subsurface disposal field, animal feedlot, animal or poultry feeding or watering area, animal or poultry building, privy, or similar contamination source.

B. An irrigation well protected with the safeguards specified in part 1505.2300, subpart 2, items D and E, as proposed in *State Register*, Volume 16, Number 50, page 2656 (June 8, 1992), and as later adopted, must be at least 20 feet from an agricultural chemical supply tank.

4725.4550 MINIMUM PROTECTIVE DEPTH.

A potable water supply well must be cased to a depth of at least 15 feet from the established ground surface. The top of a gravel pack must terminate at least 15 feet below the established ground surface.

4725.4650 OTHER WATER SUPPLY WELL CONSTRUCTION REQUIREMENTS.

The following requirements also apply to a new or reconstructed water supply well.

A. A water supply well must be developed to remove drilling fluid, native silts and clays deposited during drilling, and the predetermined finer fraction of the natural formation or the gravel pack.

B. A water supply well must be constructed to provide for measurement of the static water level and pumping water level.

C. A water supply well may not produce more than five milligrams per liter (mg/l) of sand for potable water of 15 mg/l for irrigation purposes at the design capacity of the well provided that geological conditions permit.

4725.4750 LEAD PROHIBITION IN WATER SUPPLY WELL.

Materials used in construction of a water supply well that contact water must not exceed eight percent lead except that solders and flux must not contain more than 0.2 percent lead.

4725.4850 PITLESS ADAPTER OR PITLESS UNIT.

A connection to a casing made less than 12 inches above the established ground surface must be made with a pitless adapter or pitless unit. The connection must not be submerged in water at the time of installation. Native materials must be packed tightly around the pitless adapter or pitless unit to the ground surface. The pitless adapter or pitless unit must:

A. be constructed to provide complete clearance within the internal diameter of the casing;

B. be designed to be field-welded by holding the welding rod in a vertical or horizontal position, or bench-welded before field installation with a material as corrosion-resistant as the parent material;

C. have all threaded joints watertight with no threads exposed;

D. impart no taste, odor, or toxic material to the water; and

E. connect to the casing by a threaded connection, welded connection, bolted flange with gasket, clamp and gasket, or compression gasket.

Additionally, a pitless unit using a compression seal must provide for the well casing to extend at least 2.5 inches into the throat of the pitless unit. The compression collar must be held in place with corrosion-resistant bolts, nuts, and washers. The installer of a clamp-on or weld-on pitless adapter must use a guide or template for cutting the hole in the casing to accommodate the pitless adapter.

4725.4950 CAPPING WATER SUPPLY WELLS.

A water supply well must be covered with a weatherproof and insect proof:

A. overlapping well cap with compression gasket;

B. threaded or welded well cap;

C. base of a pump as specified in part 4725.3150; or

D. sanitary well seal with a one-piece top plate, compression gasket, and noncorrodible draw bolts. The cap or seal must be

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equivalent to the casing in weight and strength. If the well is in a building that meets the requirements in part 4725.2175, a two-piece top plate, compression gasket, and noncorrodible draw bolts may be used.

4725.5050 PRIMING WATER SUPPLY WELL PUMPS.

A pump that requires priming for ordinary use must not be installed on a water supply well unless the well is only used for a water irrigation system. An irrigation well pump must be primed only with water free of contamination and carrying a measurable chlorine residual. An irrigation well equipped with a centrifugal pump may be primed without chlorination when the pump is filled with water taken directly from the well.

4725.5150 WATER SUPPLY WELL SUCTION LINE.

Subpart 1. **Construction.** As specified in part 4715.0510, a suction line for a water supply well must be constructed of:

- A. copper;
- B. galvanized iron or steel;
- C. cast iron; or
- D. plastic pipe.

For well water irrigation systems, aluminum pipe may also be used.

Subp. 2. **Extensions.** A suction line extending outside the well casing must be protected by being:

- A. fully exposed in a building as specified in part 4725.2175;
- B. fully exposed above the established ground surface; or
- C. installed within an outer, concentric pipe with the annular space between the pipes filled with water from the system and maintained at system pressure.

Subp. 3. **Exception.** An unprotected suction line may be installed below the established ground surface for an irrigation well if the well is:

- A. located in an agricultural field;
- B. installed in an unconfined aquifer in unconsolidated material; and
- C. used for a manifold collection system under negative pressure.

4725.5250 PUMP DISCHARGE LINES.

A buried discharge line between a water supply well casing and the pressure tank in an installation, including a deep well turbine or a submersible pump, must not be under negative pressure at any time. If a check valve is installed in a buried water line between the well casing and the pressure tank, the water line between the well casing and the check valve must meet the requirements of part 4725.5150 unless equipped with a vacuum release device. Pump discharge lines must be constructed of materials approved in part 4715.0510.

4725.5350 PRESSURE TANKS.

Subpart 1. **Venting.** A pressure relief or air release valve on a pressure tank that contains subterranean gas and is located in a building must be vented to the outside.

Subp. 2. **Buried tanks.** A buried or partially buried pressure tank installed on a water supply well must:

- A. be identified with the manufacturer's name, a serial number, the allowable working pressure, and the year fabricated;
- B. have an interior coating that complies with NSF Standard 61;
- C. have a minimum one-fourth inch wall thickness for a steel pitless adapter tank attached directly to the well casing;
- D. have all connections to the pressure tank welded or threaded; and
- E. be installed above the water table.

4725.5450 VENTING WATER SUPPLY WELLS.

Subpart 1. **Venting exceptions.** A water supply well must be vented unless the well:

- A. is a flowing well;
- B. casing is used as a suction pipe;
- C. has a packer jet assembly;
- D. is used as a remedial well; or

E. is constructed with a watertight seal in lieu of a casing extension as specified in part 4725.4350, subpart 2.

Subp. 2. **Vent construction.** A well vent must:

A. be constructed of materials complying with parts 4725.2250 to 4725.2650;

B. have watertight joints and terminate at least two feet above the regional flood level unless provided with a watertight seal as specified in part 4725.4350, subpart 2;

C. be a minimum of 12 inches above the established ground surface or the floor of a building as specified in part 4725.2175; and

D. be screened and pointed downward.

Subp. 3. **Screened vents.** A screened vent incorporated into the underside of a well cap may be used.

Subp. 4. **Gas.** Any toxic or flammable gas must be vented from the well to the outside atmosphere.

4725.5550 WATER SUPPLY WELL DISINFECTION.

A water supply well must be disinfected according to this part. A disinfection procedure is presumed adequate when one or more water samples collected as specified in part 4725.5650 indicate the absence of total coliform bacteria.

A. A person installing a new well or pump must ensure that the well is pumped until three volumes of the water contained in the well are pumped or until the water is as clear as groundwater conditions allow, whichever is greater. After pumping, the person installing a new well or pumping equipment must disinfect the well and pumping equipment with chlorine at a concentration sufficient to produce 50 parts per million of chlorine in all parts of the well. The chlorine solution must contact the well surfaces above the static water level. The chlorine solution must remain in the well at least two hours before pumping all the chlorinated water from the well and flushing the solution from the distribution system.

B. A person repairing a well or pump must disinfect the well as specified in item A or disinfect at the start of the repair or reconditioning by applying chlorine at a concentration sufficient to produce 200 parts per million free chlorine in all parts of the well for the period of the well repair or reconditioning operation. Before taking water samples or returning the well to use, all chlorinated water must be pumped from the well.

C. Chlorine compounds with additives must not be used for disinfection.

4725.5650 WATER QUALITY SAMPLES FROM NEWLY CONSTRUCTED POTABLE WATER SUPPLY WELL.

Before the use of a newly constructed water supply well for drinking, the person constructing the well must assure that a water sample is collected from the well.

A. The person constructing the well must inform the well owner that until analysis of one or more water samples from the well indicates the absence of total coliform bacteria, the well must not be used for drinking.

B. The person constructing the well must assure that the water sample is properly collected and submitted to a laboratory certified under parts 4740.2010 to 4740.2040. The laboratory must be certified to analyze total coliform bacteria and nitrate under part 4740.2040, subparts 2, item B, and 3, item B.

C. The sample must be analyzed for total coliform bacteria and nitrate. The person constructing the well must assure that the property owner and the commissioner receive a copy of the analysis results. The copy of analysis results sent to the commissioner must include the unique well number, the property owner's name and address, and the dates of sample collection and analysis.

D. If a water sample collected according to this part indicates the presence of total coliform bacteria, the person constructing the well is responsible for actions needed to eliminate possible causes of total coliform bacteria, redisinfect the well, and resample for total coliform bacteria.

4725.5675 CASING EXTENSION ON REPAIRED WELLS.

A water supply well with the upper terminus of the casing buried below the established ground surface must have the casing or casing extension extended 12 inches above the established ground surface when the well is repaired.

4725.5750 DUG OR BORED WATER SUPPLY WELL.

Subpart 1. **Construction.** A dug or bored water supply well may only be constructed in an unconsolidated formation and must be:

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A. cased with concrete curbing at least 2.5 inches in thickness. The curbing must be reinforced with a maximum six-inch by six-inch steel wire mesh reinforcement. The annular space between the curbing and the bore hole must be grouted by pumping neat cement grout or concrete grout through a tremie pipe from the water table to the established ground surface or to a depth of 15 feet, whichever is greater; or

B. constructed with poured concrete at least four inches in thickness, poured in one operation. If an outside form is used, the annular space between the form and the bore hole must be grouted from the water table to the established ground surface or to a minimum depth of 15 feet, whichever is greater, by pumping neat cement grout or concrete grout through a tremie pipe from the water table to the established ground surface or to a minimum depth of 15 feet, whichever is greater.

Subp. 2. **Cover.** A dug or bored water supply well must be protected with a precast, overlapping, steel-reinforced, concrete cover at least four inches in thickness, or a locked, overlapping, metal cover at least 3/16 inch in thickness. The junction of cover with the well casing must be made with a watertight gasket and must be provided with a well vent according to part 4725.5450.

Subp. 3. **Watertight openings.** A pump opening and a connection below the established ground surface for a dug or bored water supply well must be made watertight with concrete or cement.

Subp. 4. **Location.** Unless a dug or bored water supply well is grouted from the surface to a depth of 50 feet or through a confining layer, the well must be located according to part 4725.4450, subpart 2, item A.

4725.5850 PUBLIC WATER SUPPLY WELLS.

Subpart 1. **Approval of plans and specifications.** A licensee must not construct a well for a public water supply system until plans and specifications have been approved according to part 4720.0010.

Subp. 2. **Site approval.** A licensee must not construct a well for a community public water system as defined in *Code of Federal Regulations*, title 40, section 141.2, until the site has been approved by the commissioner.

A. A well for a community public water system must be located according to the distances specified in part 4725.4450, but in no case less than 50 feet from a source of contamination except that the well must be at least:

(1) 30 feet from a gravel pocket receiving clear water discharge from a floor drain within a building as specified in part 4725.2175; and

(2) ten feet from a fire or flushing hydrant.

B. The established ground surface at the well site must be at least two feet above the highest known water elevation of a lake, pond, river, stream, or other body of surface water, the waters of which at the highest level would approach to within 50 feet measured horizontally of the well.

C. The established ground surface must be sloped to drain away from the well and be graded to prevent the accumulation and retention of surface water within 50 feet of the well. Filling must be protected from erosion by riprap or other suitable means.

D. Casing vents must be a minimum of 18 inches above the established ground surface or floor of a building as specified in part 4725.2175.

E. The owner of a community public water system well must own or legally control, through a permanent easement, the property within a 50-foot radius of the well.

Subp. 3. **Radial water collectors.** Projection of radial water collectors must be in areas and at depths approved by the commissioner.

A. The exact location of caisson construction joints and porthole assemblies must be indicated on the submitted plans.

B. The caisson wall must be reinforced.

C. Procedures must be used that assure minimum vertical rise of the collectors.

D. The top of the caisson must be covered with a watertight floor.

E. The pump opening must be curbed.

F. Pump discharge piping must not be placed through the caisson walls.

G. There must be no construction joint within 15 feet of the established ground surface.

4725.6050 REMEDIAL WELLS.

Subpart 1. **Additional requirements.** In addition to the general construction standards and standards for water supply wells, in parts 4725.2010 to 4725.5750, a remedial well must:

A. have spark arresters installed if petroleum products or other flammable or explosive materials are present;

B. be equipped with a casing vent or collect and treat gases, if toxic or flammable gases are present;

- C. have connections protected with an air gap or back flow prevention device as specified in part 4715.2110, if the well discharges to a sewer or surface water;
- D. be constructed according to part 4725.6850 for at-grade construction; and
- E. not be constructed below grade.

Subp. 2. **Exemptions.** A remedial well is exempt from the distance from contamination source requirements in parts 4725.4350, subpart 1, and 4725.4450; and the minimum protective depth requirements in part 4725.4550.

DEWATERING WELLS

4725.6150 DEWATERING WELL.

Subpart 1. **Scope.** This part applies to a dewatering well as defined in *Minnesota Statutes*, section 1031.005, subject to the exemption in *Minnesota Statutes*, section 1031.115. A dewatering well must be constructed in accordance with the general construction standards in parts 4725.1851 to 4725.3950. A dewatering well must not be used for a purpose other than dewatering. A dewatering well is exempt from the provisions in parts 4725.4050 to 4725.5650.

Subp. 2. **General construction requirements.** A discharge from a dewatering system must not connect to a potable water system.

Subp. 3. **At-grade dewatering wells.** A dewatering well cased and completed at-grade must conform to part 4725.6850.

Subp. 4. **Loss of potable supply.** A licensee who installs a dewatering well that causes the loss of an adequate private potable water supply must provide the private well owner with a temporary supply of potable water during the operation of the dewatering well. The supply must be adequate for drinking, cooking, and other household uses. The commissioner may require the private well to be tested to determine if a health risk exists before the licensee discontinues an alternate water supply. The licensee must assure that the required testing is completed and reported to the commissioner.

Subp. 5. **Sealing.** A dewatering well that is not in use must be sealed according to this chapter.

Subp. 6. **Exceptions.** A dewatering well in an unconsolidated formation installed for less than 18 months and less than 50 feet in depth must meet the requirements in items A to F.

A. Casing must be water tight, free of oil or other contaminants, and withstand the forces exerted on it during installation and removal.

B. The upper termination of the casing must be covered with a tamper-resistant overlapping cover on the casing as specified in part 4725.3150 and extend at least 12 inches above the working grade. The working grade is the temporary elevation of the ground surface during a construction project.

C. The gravel pack must not extend above the static water level.

D. An open annulus around the well must be filled with cuttings from the bore hole, bentonite grout, high solids bentonite grout, concrete grout, or neat cement grout to a depth of 30 feet or to the top of the static water level, whichever is greater.

E. At 18 months after construction or sooner, the well must be sealed according to this chapter. A dewatering well installed for 18 months or less not encountering a confining layer may be sealed according to part 4725.7450, subpart 4.

F. The commissioner may require additional construction standards in special well construction areas as described in part 4725.3650.

MONITORING WELLS

4725.6450 APPLICABILITY AND USE.

In addition to the general construction and use requirements in parts 4725.2010 to 4725.3950, a monitoring well that is not in use must be sealed.

4725.6650 CONSTRUCTION OF MONITORING WELLS.

Subpart 1. **PVC materials.** A monitoring well must be constructed according to parts 4725.2010 to 4725.3950, except that a monitoring well may be constructed with flush threaded polyvinyl chloride (PVC) casing and screens if:

A. the screen intersects the surface of the water table at the time of installation and the well is constructed so the joint between the two deepest casing sections is above the surface of the water;

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- B. the total depth of the monitoring well is 50 feet or less;
- C. the monitoring well is completed in unconsolidated materials; and
- D. the flush threaded PVC casing used meets the standards in Schedule 40 as referenced in ASTM Standard 1785-88.

Subp. 2. **Grouting of annular space.** The annular space of a monitoring well must be grouted from ten feet or less above the screen or open bore hole to the established ground surface according to part 4725.3050, except that no cuttings from the bore hole must be added to the grout. The neat cement or concrete grout may terminate six inches below the manhole or vault for an at-grade installation. One layer of bentonite pellets is allowed when the total depth of the annular space to be grouted is less than 80 feet, the depth of water in the annular space is less than 50 feet, and limestone or dolomite rock formations have not been encountered. When bentonite pellets are used, the layer of bentonite pellets must:

- A. not exceed five feet in thickness;
- B. not extend more than ten feet above the top of the screen; and
- C. be poured without voids or bridging.

Subp. 3. **Exception to drilling fluids.** Drilling fluids used to construct a monitoring well must comply with part 4725.2950, except that a free chlorine residual is not required.

4725.6750 PROTECTION OF MONITORING WELLS.

Subpart 1. **Capping.** The casing of a monitoring well or a protective outer casing as specified in subpart 2, item B, must be closed with a watertight, locked cap or a wrench-tightened, threaded metal cap.

- A. The metal cap must be equivalent to the casing in strength and weight.
- B. The top of the well must be at least five feet above the regional flood level. If the regional flood level is more than five feet above the established ground surface, a watertight seal may be installed in lieu of extending the casing beyond ten feet above the established ground surface.
- C. A monitoring well cased with plastic must be protected as specified in subpart 2, item B.
- D. The inner casing must be capped.

Subp. 2. **Protection.** A monitoring well must be protected by:

- A. surrounding the casing with a concrete pyramid or cone that has horizontal dimensions of at least 24 inches by 24 inches at the established ground surface, that rises 12 inches above the established ground surface at the casing, and has a base with a mass of at least three cubic feet below the established ground surface;
- B. using ASTM Schedule 40 steel outer casing at least 3.25 inches in diameter greater than the inner casing, extends at least two feet above and four feet below the established ground surface, and has neat cement grout or concrete grout in the annular space between the casings from the bottom of the outer casing to the established ground surface; or
- C. placing three posts at least four inches square or four inches in diameter around the well at equal distances from each other and two feet from the casing. The posts must extend two feet above and four feet below the established ground surface or to a depth of two feet if each post is set in concrete to a depth of two feet. The posts must be made of reinforced concrete, decay-resistant wood, or ASTM Schedule 40 steel pipe capped with an overlapping, threaded, welded steel or iron cap, or be filled with cement.

4725.6775 REPAIR; SEALING OF MONITORING WELL.

A monitoring well owner must repair or seal a damaged monitoring well within seven days after the property owner becomes aware of the damage.

4725.6850 AT-GRADE MONITORING WELL.

Subpart 1. **At-grade termination.** A monitoring well must terminate at least 12 inches above the established ground surface unless the commissioner determines that no location exists for such a well to provide monitoring information equivalent to an at-grade well.

Subp. 2. **Termination location; map.** A monitoring well casing may terminate at grade only on a roadway, sidewalk, driveway, or a parking area. The location of the well identified by unique well number must be marked on a scaled map with angles and directions from surveyed property corners, a permanent benchmark, or the corners of a permanent structure. The map must be submitted to the commissioner with the well record.

Subp. 3. **Construction.** An at-grade monitoring well must be constructed as specified in this subpart.

- A. At-grade well casing must terminate no lower than the established ground surface.
- B. The well must be contained in a protective manhole cover or vault. The top of the manhole cover or vault must be no less than two inches above the established ground surface.

C. The established ground surface must be sloped to divert surface water or spills away from the well and to allow for traffic movement and snow plowing.

D. The manhole cover or vault must be installed in a concrete pad at least four inches in thickness and four feet square or four feet in diameter and of sufficient load-bearing capacity to support vehicular traffic.

E. The manhole cover or vault must be labeled with the words "Monitoring Well" cast or stamped in letters at least one centimeter or one-half inch in height.

F. All materials used to construct the manhole cover or vault must be resistant and impervious to water, petroleum products, and chemicals likely to be present.

G. The manhole cover or vault must have a watertight, impervious compression O-ring or gasket.

H. The manhole cover or vault must meet AASHTO Standards H20-44 and M306-89.

I. The well casing must be secured with a locking cap or cover. The manhole cover or vault must be secured with a lock or tamper-resistant bolts.

J. The well label must be placed on the well casing, manhole cover, or vault, or the unique well number may be stamped on the vault.

4725.7050 VERTICAL HEAT EXCHANGERS.

Subpart 1. **Construction.** The provisions in items A to G apply to vertical heat exchanger construction.

A. Piping used must be 160 psi pressure-rated high density polyethylene or polybutylene.

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

C. 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.

D. The annular space between the vertical heat exchanger piping and the bore hole must be grouted with neat cement grout in rock or neat cement grout or bentonite grout in unconsolidated materials according to the procedures in part 4725.3050, subpart 2.

E. Only food-grade or USP-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.

F. A flow meter must be installed.

G. Water make-up lines to the vertical heat exchanger must be protected with a backflow prevention device approved in part 4715.2110.

Subp. 2. **Notice of loss or leak.** The owner of the vertical heat exchanger must notify the commissioner of heat loop leakage or loss of pressure within 24 hours after the owner becomes aware of the loss or leak.

4725.7250 ELEVATOR SHAFT HYDRAULIC CYLINDERS.

Subpart 1. **General.** A bore hole drilled to install an elevator shaft hydraulic cylinder must be cased, sealed, and maintained according to this chapter to prevent the vertical movement of water.

Subp. 2. **Casing.** The bore hole must be cased to the bottom of the excavation.

Subp. 3. **Exception.** The bore hole is exempt from the requirements in part 4725.2150.

Subp. 4. **Hydraulic fluid leakage protection.** Hydraulic fluid must be protected from leakage by:

A. attaching a watertight cap or plate to the bottom of the casing and setting the casing half way into at least six inches of neat cement or concrete;

B. filling the inside of the casing with at least two feet of concrete or cement; or

C. encasing the cylinder in a schedule 30 plastic outer pipe or sleeve with the bottom of the pipe or sleeve capped and the top extending above the pit floor.

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4725.7450 ENVIRONMENTAL BORE HOLE.

Subpart 1. **Construction.** An environmental bore hole that is cased must be constructed to conform to the monitoring well requirements in parts 4725.6650, 4725.6750, and 4725.6775.

Subp. 2. **At-grade bore holes.** An environmental bore hole cased and completed at-grade must conform to part 4725.6850.

Subp. 3. **Sealing.** An environmental bore hole that is not in use or that serves as a potential or actual source of contamination must be sealed according to this chapter.

Subp. 4. **Exception to sealing requirements.** An environmental bore hole less than 50 feet in an unconsolidated formation and not encountering a confining layer may be sealed by removing the casing and screen and allowing the bore hole to collapse.

A. The bore hole must not encounter pollution or contamination or have been installed to detect pollution or contaminants.

B. The collapse must not be induced other than by removal of the screen or casing.

C. The bore hole above the collapse must be sealed as specified in part 4725.3850 with bentonite grout, high solids bentonite grout, neat cement grout, or concrete grout.

RENUMBERER. *Minnesota Rules*, part 4725.0100, subparts 9 and 10, are renumbered as subparts 24c and 30f respectively.

REPEALER. *Minnesota Rules*, parts 4725.0100, subparts 4, 5, 8, 9, 10, 11, 12, 13, 14, 17, 20, 24, 26, 29, 30b, 31b, 38, 39, 49a, 50, 52, 53, and 54; 4725.0300; 4725.0450; 4725.0500; 4725.0700; 4725.1000; 4725.1050; 4725.1325; 4725.1350; 4725.1400; 4725.1500, subparts 2 and 3; 4725.1600, subparts 2 and 3; 4725.1860; 4725.1900; 4725.2000; 4725.2100; 4725.2200; 4725.2300; 4725.2400; 4725.2500; 4725.2600; 4725.2700; 4725.2800; 4725.2900; 4725.3100; 4725.3200; 4725.3300; 4725.3400; 4725.3500; 4725.3600; 4725.3700; 4725.3800; 4725.3900; 4725.4000; 4725.4100; 4725.4200; 4725.4300; 4725.4400; 4725.4500; 4725.4600; 4725.4700; 4725.4800; 4725.4900; 4725.5000; 4725.5100; 4725.5200; 4725.5300; 4725.5400; 4725.5500; 4725.5600; 4725.5700; 4725.5800; 4725.5900; 4725.6000; 4725.6100; 4725.6200; 4725.6300; 4725.6400; 4725.6500; 4725.6600; 4725.6700; 4725.6750; 4725.6800; 4725.6900; 4725.7000; 4725.7100; 4725.7200; 4725.7400; 4725.7500; 4725.7600; and 4725.7605, are repealed.

Adopted Rules

The adoption of a rule becomes effective after the requirements of Minn. Stat. §14.14-14.28 have been met and five working days after the rule is published in *State Register*, unless a later date is required by statutes or specified in the rule.

If an adopted rule is identical to its proposed form as previously published, a notice of adoption and a citation to its previous *State Register* publication will be printed.

If an adopted rule differs from its proposed form, language which has been deleted will be printed with strikeouts and new language will be underlined. The rule's previous *State Register* publication will be cited.

An emergency rule becomes effective five working days after the approval of the Attorney General as specified in Minn. Stat. §14.33 and upon the approval of the Revisor of Statutes as specified in §14.36. Notice of approval by the Attorney General will be published as soon as practicable, and the adopted emergency rule will be published in the manner provided for adopted rules under §14.18.

Pollution Control Agency

Adopted Permanent Rules Relating to Emission Facility Offsets

The rules proposed and published at *State Register*, Volume 16, Number 39, pages 2098-2101, March 23, 1992 (16 SR 2098), are adopted with the following modifications:

Rules as Adopted

7005.3030 DEFINITIONS.

Subp. 7a. **Major stationary source.** "Major stationary source" means:

A. a major stationary source as defined in *Code of Federal Regulations*, chapter 1, title 40, ~~section~~ part 51, appendix S, as amended (1990); or

7005.3040 CONDITIONS FOR PERMIT.

Subpart 1. **In general.** No person shall commence construction of a major stationary source or major modification in:

B. in an attainment area or unclassifiable area if that major stationary source or major modification would cause or contribute

to a violation of a national ambient air quality standard in a nonattainment area as determined by the significance levels established in *Code of Federal Regulations*, title 40, chapter I, part 51, appendix S, part III, ~~as amended (1991)~~, unless the requirements of *Code of Federal Regulations*, title 40, chapter I, part 51, appendix S, as incorporated in subpart 2a, are first satisfied.

Subp. 2a. **Modified federal standard.** Persons subject to subpart 1 must comply with *Code of Federal Regulations*, title 40, chapter I, part 51, appendix S, ~~as amended (1991)~~, with the following exceptions:

A. *Code of Federal Regulations*, title 40, chapter I, part 51, appendix S, part IV, section A, condition 1, footnotes 4 and 5, ~~as amended (1991)~~, do not apply;

C. *Code of Federal Regulations*, title 40, part 51, appendix S, part IV, section A, condition 3, footnote 7, ~~as amended (1991)~~, does not apply.

D. *Code of Federal Regulations*, title 40, part 51, appendix S, part IV, section A, footnote 8, ~~as amended (1991)~~, does not apply.

E. *Code of Federal Regulations*, title 40, part 51, appendix S, part IV, section B, ~~as amended (1991)~~, does not apply.

F. *Code of Federal Regulations*, title 40, part 51, appendix S, part IV, section C, ~~as amended (1991)~~, applies except that, consistent with *Code of Federal Regulations*, title 40, section 51.165(3)(i)(A), as amended, the offset baseline shall be the actual emissions of the source from which offset credit is obtained.

~~7005.3050 BANKING.~~

~~A major stationary source that has reduced actual emissions shall be permitted to bank that reduction for future use as an offset as allowed by *Code of Federal Regulations*, title 40, part 51, appendix S, part IV, section C,(5), as amended.~~

REPEALER. *Minnesota Rules*, parts 7005.3010; 7005.3030, subparts 1a, 1b, 2, 2a, 2b, 5, 6, 7, 8, 9, 11, 12, 13, and 14a; ~~and~~ 7005.3040, subparts 2, 3, 4, 5, 7, and 8; ~~and~~ 7005.3050, are repealed.

Department of Revenue

Adopted Permanent Rules Relating to Motor Fuels Taxation

The rules proposed and published at *State Register*, Volume 16, Number 48, pages 2512-2518, May 26, 1992 (16 SR 2512), are adopted as proposed.

Secretary of State

Adopted Permanent Rules Relating to Election Changes

The rules proposed and published at *State Register*, Volume 16, Number 49, pages 2609-2616, June 1, 1992 (16 SR 2609), are adopted with the following modifications:

Rules as Adopted

8210.9920 INSTRUCTIONS TO ABSENTEE VOTERS, SPECIFIED BY PART 8210.0500.

INSTRUCTIONS TO ABSENTEE VOTERS

Follow these instructions carefully.

Before you vote by absentee ballot you must have a witness.

Step 1. Locate one of the following people to serve as your witness:

- a. an eligible voter who lives in your county;
- b. a notary public; ~~or~~
- c. any person having authority to administer oaths; or
- d. a United States Postal Service official, if available.

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

Adopted Rules

8210.9925 INSTRUCTIONS TO ABSENTEE VOTERS WHO ARE REGISTERED TO VOTE, SPECIFIED BY PART 8210.0500.

INSTRUCTIONS TO ABSENTEE VOTERS

Follow these instructions carefully.

Before you vote by absentee ballot you must have a witness.

Step 1. Locate one of the following people to serve as your witness:

- a. an eligible voter who lives in your county;
- b. a notary public; ~~or~~
- c. any person having authority to administer oaths; or
- d. a United States Postal Service official, if available.

8210.9930 STATEMENT OF ABSENTEE VOTER, SPECIFIED BY PART 8210.0600, SUBPART 1.

STATEMENT OF ABSENTEE VOTER

(print voter's name)

(print voter's address)

I certify that on election day I will meet the eligibility requirements to vote provided by law.

(signature of voter)

STATEMENT OF WITNESS

I certify that the above named voter showed the enclosed ballots to me unmarked; that in my presence the voter marked the ballots in secrecy, or if the voter was physically unable to mark the ballots they were marked by another individual under the personal direction of the voter, and enclosed and sealed them in the ballot envelope; that if the above-named voter registered to vote by enclosing a voter registration card in the Absentee Ballot Return Envelope, then proof of residence was provided as indicated below.

(date)

(signature of witness)

(print witness' name)

(print witness' address)

(title if witness is not an eligible voter in the county)

For those who need to register: Proof of residence used by absentee voter ~~for voter registration~~ (check one).

Driver's License, Permit, ID
card or Receipt Number _____
Registration in the same precinct _____

Notice of Ineffective Registration received from
county auditor or municipal clerk _____
Student ID Number _____

(signature of registered voter in the precinct who
attested to residence of the absentee voter in the
precinct)

(print name of registered voter who attested to
residence of absentee voter in the precinct)

(print address of registered voter in the precinct
who attested to residence of the absentee voter
in the precinct)

Office of Waste Management

Adopted Permanent Rules Relating to Pollution Prevention Grant Program

The rules proposed and published at *State Register*, Volume 16, Number 7, pages 242-246, August 12, 1991 (16 SR 242); and Volume 16, Number 21, pages 1223-1224, November 18, 1991 (16 SR 1223), are adopted as proposed.

Revenue Notices

Effective July 1, 1991, the Department of Revenue has authority to issue revenue notices. A revenue notice is a policy statement made by the department that provides interpretation, details, or supplementary information concerning the application of law or rules. This authority was provided by the Legislature in 1991 Session Laws Chapter 291, article 21, section 6 and will be codified at *Minnesota Statutes* section 270.0604.

Department of Revenue

Revenue Notice #92-17: Sales and Use Tax—Taxability of Public Library Purchases

General Rule

Since June 1, 1992, a new law states that sales to libraries that are operated by counties, cities, or local municipalities and townships, are subject to the sales and use tax. The new law allows an exemption for purchases of books, periodicals, audio-visual materials and equipment, photocopiers for use by the public, all cataloging and circulation equipment, and cataloging and circulation software. Following are some guidelines to help libraries determine what is taxable.

Application

Audio-visual equipment and repair parts

Audio-visual materials and equipment are exempt from the sales tax. However, parts the library purchases to repair audio-visual equipment are taxable.

Bibliographic information on compact discs

The purchase of compact discs that contain the bibliographic information and are used in the library's computers for cataloging purposes are exempt.

Blank video cassettes

The purchase of blank video cassettes are exempt provided the cassettes became part of the library's collection. If the cassettes are used for administrative purposes such as training, the tapes are taxable.

Books, periodicals, etc.

The purchase or rental of items that become part of the library's collection and that are available to the public can be purchased exempt. The items that can be purchased exempt include books, periodicals, toys, puzzles, records, tapes, and films.

Cataloging and circulation equipment and software

All equipment and software used for cataloging and circulation of collection items is exemption from the sales and use tax.

Change machines

There is no tax due on the change machines located in a library.

Coin-operated typewriters

The gross receipts from a coin-operated typewriter are subject to sales tax. If the library owns the typewriter, the library should remit the tax. If the typewriter is owned by a vendor who collects the revenue from the typewriter, the vendor should remit the tax to the state.

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

Revenue Notices

Computers

The purchase of computers used for circulation, cataloging, and acquisitions are exempt. Computers purchased for other purposes are taxable.

Furniture and workstations

All purchases of furniture are taxable. The purchase of workstations are taxable since they are considered to be furniture.

Machines and tools

Machines and tools that a library uses to apply the processing materials are taxable. Examples are laminating machines, binding machines, tape dispensers, and scissors.

All supplies, forms, cables and small tools used for the automated circulation systems are subject to the tax.

Our Friends groups

If the Our Friends groups have been granted exempt status by the Department of Revenue, they may purchase items that they donate to the library, exempt from the sales tax.

If a taxable item is purchased by a library, the library must pay tax, even if the library is reimbursed by the Our Friends group. Only the items purchased directly by the Our Friends group could be purchased exempt, assuming they had been granted exempt status.

Photocopy machines

Purchases of photocopy machines for use by the public are exempt from the sales and use tax. However, the gross receipts from coin-operated photocopy machines are subject to sales tax.

Processing materials and accessories

Items that are applied to and become part of the library's collection and other items that are lent to the library's clients along with the collection item can be purchased exempt. This includes, but is not limited to, items such as plastic covers for books; bar code labels that are attached to books; laminating materials; tape that is applied to pages; and cases, bags, and containers for records, audio-visuals, puppets, or other items in the library's collection.

Telephone services

The charges for dedicated lines and cellular phones are taxable even though they are used to link the library's circulation system. The law only allows an exemption for cataloging and circulation equipment and the Department has taken the position that this would not extend to phone services.

Training materials

Both the rental and the purchase of training materials by the library for use by library management and staff are taxable.

Dated: 17 August 1992

Michael E. Boekhaus, Director
Appeals and Legal Services Division

Official Notices

Pursuant to the provisions of Minnesota Statutes § 14.10, an agency, in preparing proposed rules, may seek information or opinion from sources outside the agency. Notices of intent to solicit outside opinion must be published in the *State Register* and all interested persons afforded the opportunity to submit data or views on the subject, either orally or in writing.

The *State Register* also publishes other official notices of state agencies, notices of meetings, and matters of public interest.

Ethical Practices Board

Requests for Advisory Opinions Re: Campaign Spending Limit

The Ethical Practices Board solicits comments regarding the following request for an advisory opinion received from Thomas J. Bieter. Written comments should arrive at the Board office, 1st Fl. S., Centennial Bldg., 658 Cedar St., St. Paul, MN 55155, prior to August 25, 1992, for consideration at the Board's meeting of August 27, 1992.

August 8, 1992—I am the treasurer of the Volunteers for Miletich committee (1-2735 7). My purpose in writing is to request an advisory opinion regarding campaign spending limits. I filed the initial Principal Campaign Committee Registration and Statement of Organization form on May 19, 1992. Mr. Miletich filed the Public Subsidy Agreement form thereafter. We refiled both forms after July 7, 1992. We have been issuing political contribution receipts (form EP-3) to our contributors. We also understand that Mr. Miletich can elect to rescind the Public Subsidy Agreement form prior to September 1, 1992.

Assuming that we were to rescind the Public Subsidy Agreement form before September 1, 1992, we ask the following questions: 1) What would be the spending limit applicable to the period ending July 7, 1992 relative to the 1992 election? 2) Would there be any limit on campaign expenditures made in Calendar Year 1992?

Metropolitan Council and Metropolitan Airports Commission

Notice of Public Hearings on the Draft Report, *Twin Cities Aviation Strategy: An Outline of a Decision Document for the Dual-Track Major Airport Strategy*

The Metropolitan Council and the Metropolitan Airports Commission will hold two public hearings to receive comments on the draft report, *Twin Cities Aviation Strategy: An Outline of a Decision Document for the Dual-Track Major Airport Strategy*. The *Decision Document* will contain recommendations for a long-term aviation strategy for the Twin Cities and lay out the key data, analysis and reasons for the recommendations. The hearings are scheduled as follows: Tuesday, Sept. 22, 7 p.m., Rosemount High School Student Center, 3335 142nd St. W., Rosemount and Wednesday, Sept. 23, 7 p.m., Richfield High School Auditorium, 7001 Harriet Av. S., Richfield. All interested persons are encouraged to attend the hearings and offer comments. People may register in advance to speak by calling Jenn Unruh at 726-8189. Written comments, which must be received by 5 p.m. on Oct. 7, should be sent to either John Kari, Metropolitan Council, 230 E. Fifth St., St. Paul, MN 55101 or Nigel Finney, Metropolitan Airports Commission, 6040 28th Av. S., Mpls., MN 55450. Free copies of the public hearing draft may be obtained from the Council's Data Center, 291-8140, or from Jenn Unruh.

Pollution Control Agency

Hazardous Waste Division

Notice of Intent to Solicit Outside Information Regarding Proposed Rule Governing Burning of Hazardous Waste in Boilers and Industrial Furnaces and the Listing of Petroleum Refinery/Separator Sludges

NOTICE IS HEREBY GIVEN that the Minnesota Pollution Control Agency (Agency) is seeking information or opinions from outside sources in preparing to propose the adoption of rules governing burning of hazardous waste in boilers and industrial furnaces and the listing of petroleum refinery/separator sludges. The adoption of the rules is authorized by *Minnesota Statutes* § 116.07, subd. 2 (1990), which allows the Agency to adopt rules and standards to properly manage the state's hazardous waste.

The Agency requests information and opinions concerning the subject matter of the rules, including without limitation, the small quantity burner exemption. Interested persons or groups may submit data or views in writing or orally. Written or oral statements or comments should be directed to:

Placida L. Venegas
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155
Telephone: (612) 297-8370

Oral statements will be received during regular business hours, 8:00 a.m. to 4:30 p.m., Monday through Friday.

All statements of information and opinion will be accepted until September 18, 1992. Any written materials received by the Agency shall become part of the rulemaking record in the event that the rules are adopted.

Charles W. Williams
Commissioner

State Grants

In addition to requests by state agencies for technical/professional services (published in the State Contracts section), the *State Register* also publishes notices about grant funds available through any agency or branch of state government. Although some grant programs specifically require printing in a statewide publication such as the *State Register*, there is no requirement for publication in the *State Register* itself.

Agencies are encouraged to publish grant notices, and to provide financial estimates as well as sufficient time for interested parties to respond.

Department of Health

Public Review and Comment Sought on Preventive Health and Health Service Block Grant for Federal Fiscal Year 1993

The Minnesota Department of Health has prepared an application for the Preventive Health and Health Services Block Grant for Federal Fiscal Year 1993. The following is a financial summary of the activities funded in the application:

| State Public Health Objective | Amount |
|--|-------------|
| | \$ 683,678 |
| I. To reduce the occurrence and severity of chronic disease. | |
| A. Health Behavior, Development and Education | |
| B. Chronic Disease Epidemiology | |
| C. Radiation Control | |
| | \$1,592,187 |
| II. To reduce the incidence of acute disease. | |
| A. Acute Disease Epidemiology | |
| B. EMS Regional Projects | |
| C. Poison Information Centers | |
| | \$ 804,232 |
| III. To increase the effectiveness and efficiency of Minnesota's public health infrastructure. | |
| A. Community Development | |
| B. Public Health Nursing | |
| C. Community Environmental Services | |
| D. Minority Health | |
| E. Surveillance and Data Systems | |
| | \$ 417,403 |
| IV. General Support. | |
| A. Rape Prevention | |
| B. Indirect Cost | |

The Department invites public review and comment. Copies of the application are available upon request. Requests should be sent to David Hovet, Director, Section of Financial Management, Minnesota Department of Health, P.O. Box 9441, Minneapolis, Minnesota 55440.

Minnesota Housing Finance Agency

Capacity Building Grant Program Funds Available

The Minnesota Housing Finance Agency (MHFA) announces the availability of \$100,000 in grant funds from the Capacity Building Grant Program. The Legislature authorized this program to assist nonprofit organizations, local units of government, Indian Tribes, and Indian Tribal Organizations to expand their capacity to provide affordable housing and housing related services (*Minnesota Statutes*, Sect. 462A.21, subd. 3b). The program's purpose is to fund projects and activities which will enable an organization to more effectively address the housing needs of low income persons and families within the organization's service area.

ELIGIBLE APPLICANTS: Eligible applicants are nonprofit organizations, housing and redevelopment authorities, regional development commissions, Minnesota cities and towns, and Indian tribes, bands, or communities or Indian tribal organizations.

ELIGIBLE USES OF GRANT FUNDS: The maximum grant amount awarded will be \$10,000. Grants may be awarded to the following activities: (1) Studies and analyses of housing needs within the applicant's service area and the development of plans and strategies to meet those needs. (2) Staff training related to the management of the organization, real estate development, housing management, or other housing related activities. (3) Legal and other professional services associated with the establishment or incorporation of an organization as a provider of housing or housing related services. (4) Other activities and projects that expand the capacity of the applicant to meet housing needs in the applicant's service area.

FUNDING PRIORITIES: Funding priority will be given to: (1) Applicants that include low income persons in their membership, have provided housing or housing related services to low income persons, and demonstrate a commitment of local resources, including in-kind contributions. (2) Applicants requesting funds to restructure their organization to qualify as a Community Housing Development Organization under the Federal HOME Program.

APPLICATION PROCESS: Applicants should request an application form from MHFA staff:

Minnesota Housing Finance Agency
400 Sibley Street, Suite 300
St. Paul, MN 55101
Attn: Diane Bauleke (612) 296-9829

Applications must be received at the Minnesota Housing Finance Agency by 5:00 p.m. Friday, September 25, 1992.

Any questions concerning the Capacity Building Grant Program or the application process should be directed to Diane Bauleke (612) 296-9829 at MHFA.

This Request for Proposals (RFP) is subject to all applicable federal, state, and municipal laws, rules, and regulations. MHFA reserves the right to modify or withdraw this RFP at any time and is not able to reimburse any applicant for costs incurred in the preparation or submittal of applications.

Department of Human Services

Chemical Dependency Program Division

Request for Proposals (RFP) for Chemical Dependency Programs for Pregnant Women and Women with Children

The Chemical Dependency Program Division of the Minnesota Department of Human Services (hereinafter CDPD) is soliciting proposals for initiation of new or enhancement of existing services to increase treatment slots and positive treatment outcomes for chemically dependent pregnant women and women with children. \$250,000 is available for one or more grantees. Eligible applicants are licensed halfway houses or primary alcohol and drug treatment programs knowledgeable in the areas of chemical dependency, child development, parenting skills, and housing who are willing to develop a new or expand an existing project for chemically dependent women in alcohol and drug treatment and aftercare where their children (ages 0-12) can be with them and be connected with services that provide pre/postnatal care. Proposals may be submitted for the development of new or continuation of existing residential or non-residential chemical dependency treatment services for women and their children (ages 0-12).

Funds may be used for operating costs, transportation, child development, subsidized housing and parenting education. It is anticipated that the work called for would begin by November 1, 1992 or upon such date as the grant agreement is executed as to encumbrance by the Commissioner of Finance, whichever occurs later. The funds contemplated for this RFP are state funds. State funds are available for use through June 30, 1993.

This Request for Proposals is contingent on the availability of funds. The State reserves the right to reject any and all proposals and to apply the funds to another purpose. The state will not reimburse for the costs of proposal preparation or participation in proposal consideration procedures. Eight copies of the proposal must be received by CDPD no later than 4:20 p.m. on Thursday, August 20, 1992, or have a legible postmark date no later than August 19, 1992. Proposals must follow the CDPD proposal format. Grant application forms are available on request from the Chemical Dependency Program Division (612/296-3991). Copies of the RFP are available on request from Pamela Young (612/296-4589). Proposals should be sent to:

Dorrie Hennagir, Grants Manager
Chemical Dependency Program Division
Department of Human Services
444 Lafayette Road
St. Paul, Minnesota 55155-3823

State Grants

Requests for information concerning program issues should be addressed to Pamela Young (612/296-4589) and budget/fund usage questions should be addressed to Dorrie Hennagir (612/296-4617).

Department of Jobs and Training

Notice of Request for Proposal for Independent Living—Part A 1992

The Minnesota Department of Jobs and Training, Division of Services for the Blind, is publishing notice that the request listed below is available and will be awarded for the current year 1992 (September 30, 1992 to December 31, 1992).

Division of Services for the Blind of the Department of Jobs and Training (DJT) is seeking organizations to conduct recreational programs that will enhance the personal and/or vocational independence and involve community integration for blind and visually impaired Minnesotans. The program must involve independent living skills and must be provided between September 30, 1992 and December 31, 1992.

The Director of said organizations will be responsible to the SSB Facility Manager in respect to program performance. SSB's total contribution towards the activity described in the RFP will not exceed \$7,200 (seven thousand two hundred dollars). Any additional costs incurred in the facilitation of this program is the sole responsibility of bidder.

Inquiries and requests for copies of the RFP should be directed to:

Douglas Tourville, Facilities Manager
Services for the Blind and Visually Handicapped
1745 University Avenue West
St. Paul, Minnesota 55104-3690
Telephone: 612/642-0399

All proposals must be received by the close of business (4:30 p.m.), September 11, 1992.

Professional, Technical & Consulting Contracts

Department of Administration procedures require that notice of any consultant services contract or professional and technical services contract which has an estimated cost of over \$10,000 be printed in the *State Register*. These procedures also require that the following information be included in the notice: name of contact person, agency name and address, description of project and tasks, cost estimate, and final submission date of completed contract proposal. Certain quasi-state agencies are exempted from some of the provisions of this statute.

Northern States Power Company

Department of Administration

Qualification Statements Sought for Consulting Services on Energy Efficiency Improvement on State of Minnesota Owned or Leased Buildings in the NSP Service Territory

Northern States Power, in conjunction with the Department of Administration, requests qualification statements from consultants to provide energy audits and engineering services primarily for mechanical and electrical systems within State-owned buildings.

Background

NSP, with the Commissioner of Administration, in consultation with the Department of Public Service, will conduct an energy conservation program on state owned buildings and wholly-leased buildings. 300 buildings and 20 million square feet may be retrofitted through this program. A 5 year program is anticipated to complete the retrofits.

Scope of Services

Consultants will be engaged to perform energy audits, retrofit design and specifications for bidding, evaluate bidders, inspect work performed by contractors and approve payment requests. Consultants will also be asked to predict the improvement in energy performance of facilities and provide guidance to measure and insure the performance of the retrofits.

Timing of the Program

Completed Qualification Statements must be mailed to Northern States Power at the above address by September 30, 1992. The program is in its beginning phase at this time, however, it is anticipated the program will ultimately begin audits on about 250,000

Professional, Technical & Consulting Contracts

square feet each month. This program will be continuous when in full operation so it will not be necessary to repeat the qualification process unless there are significant changes in the capabilities of the firm.

Auditing and engineering services will be required on a building or facility basis from September 1992 through July 1996.

Selection of Consultants

1. Interested consultants should mail a letter of interest with descriptive information on the company to NSP at the address below.
2. Along with more information on the scope of the program, NSP will return a qualification statement form to request more specific information.
3. Consultants will be evaluated and a limited number will be invited to submit specific proposals for those projects where their qualifications and size are appropriate. The request for proposals for specific projects will be a separate process.
4. NSP specifically invites minority, women-owned and disabled person-owned firms to submit Qualification Statements.

Request for Qualification Statement forms and letter of interest should be sent to:

Northern States Power
414 Nicollet Mall, RS-9
Minneapolis, MN 55401
Attn: Bruce Zirbes

Secretary of State

Request for Proposal for Professional Services to Design and Program a Computerized Database Application for the Central Notification System for Farm Product Liens

Publication of this RFP does not obligate the State of Minnesota to go forward with a full contract.

Project Scope and Goals

The Office of the Secretary of State is requesting a proposal for professional services to design and write the computer programs for a new electronic database application, a central notification system for farm product liens. The Minnesota central notification system was created by Chapter 525 of the 1992 *Laws of Minnesota* and is a mechanism for parties who lend money for the purpose of producing farm products to notify buyers of these farm products of the lenders' financial interest in the crop being sold.

The central notification system is governed by both federal and state law and requires that the Office of the Secretary of State collect, store and retrieve information filed in any of the offices of the 87 county recorders or at the Office of the Secretary of State. An electronic communications network has already been established which connects the 87 county recorders and the mainframe computer at the Office of the Secretary of State. The new database application will use the same communications network.

The Office of the Secretary of State is also required to produce monthly lists of crop information on microfiche, computer diskette, computer magnetic tape or paper and distribute them to buyers of farm products that have registered with the Office. Lists are to be organized by crop and within a crop may be requested on a statewide basis, by specific county or counties, alphabetically by debtor name or arranged by the debtor's unique identification number. The primary goal of the project is to make available from a centralized place information organized in the ways the agricultural community needs to make timely and effective business decisions.

Background

The Office of the Secretary of State is the primary repository for official records of the State. The Secretary serves as the chief election judge and the Office oversees the administration of elections in the state. In addition, the Office is responsible for registering different types of business organizations and accepts filings made according to the Uniform Commercial Code. Computer databases currently index and maintain 2,700,000 voter registration records, over 1,000,000 Uniform Commercial Code filings from around the state, 9,000 state trademarks, 88,000 assumed business name records, 45,000 nonprofit corporations, 90,000 for-profit corporations and 11,000 non-Minnesota corporations registered to do business in Minnesota. We also offer the public direct computer access to the business and Uniform Commercial Code records through modems and personal computers. There are presently 65 employees in the Office. In the Computer Services Section, there are four (4) full-time employees who are proficient in MAPPER and work in the MAPPER environment.

Computer Hardware

The Office operates a Unisys 2200/611 mainframe computer with approximately 70 terminals and PCs within the Office and an additional 185 terminals in the offices of the 87 county recorders and auditors throughout the State of Minnesota. The terminals in the county offices are Memorex 1191 devices (IBM 3270 compatible) connected to the Office via Unisys SNA/Net on a Unisys DCP/30.

Professional, Technical & Consulting Contracts

The Office also provides dial-up view-only access to its existing databases through modems. There are approximately 250 customers for the dial-up service.

The database environment is the Unisys MAPPER 1100 System. At present there are two MAPPER systems running on the 2200 computer containing a combined total of approximately 33,000,000 lines of data. Access to the MAPPER 1100 System may be through a terminal or a Local Area Network workstation.

Project Tasks

The Contractor will be required to complete the following major tasks:

- 1) Read and analyze the federal statute, the Food Security Act of 1985, 7 U.S.C. Sec. 1631 *et. seq.*, the federal regulations, 9 C.F.R. Part 205 and Chapter 525 of the 1992 *Minnesota Laws* to determine the required elements of a central notification system which will meet the requirement for certification by the United States Department of Agriculture.
- 2) Identify and analyze the needs of the various customer groups of the central notification system and reflect those needs in the design of the computerized system.
- 3) Design a database in the MAPPER environment that meets the requirements of federal and state law, which is parallel to the existing Uniform Commercial Code database and further allows the customers to use the central notification system effectively and efficiently.
- 4) Write the necessary programs using MAPPER as the primary language, with COBOL and other computer languages as appropriate, to implement the database design and meet the requirements of federal and state law.
- 5) Thoroughly test the completed database programs to ensure that they are performing as designed and doing all of the needed functions.
- 6) Provide thorough written documentation of each phase of the system design and programming as it is completed.
- 7) Write and edit training manuals and user guides for the central notification system.

Two printed copies of all documentation and documents and an electronic copy on computer diskette will be required. The Office of the Secretary of State reserves all copyright and reproduction rights to the design, programs, documentation and other written materials. The Office of the Secretary of State further reserves all rights to reproduce, distribute and modify any of the materials created by Contractor.

Proposal Contents

All proposals must contain the following minimum information. Failure to include any part of the requisite information will result in rejection of the submitted proposal.

- 1) A description of the responder's firm including the location of the principal place of business and a list of all management and technical personnel who will be assigned to this project. For each individual listed, state their role, expected level of involvement, relevant education and experience and include a copy of their résumé.
- 2) A brief description of the specific previous experiences that are relevant to this project and a list of clients for whom you have provided similar services and who may be contacted for references. A description of the services provided for each client referenced must be included.
- 3) As part of the proposal the responder must provide:
 - a) A restatement of the project's scope and goals to show that the responder fully understands the Office's goals.
 - b) A description of the approach that will be used to complete the project.
 - c) A detailed work plan which identifies major tasks to be accomplished, number of billable hours needed to complete each task and the billable hourly rate. The submitted plan will be used as a scheduling and managing tool as well as a projected payment schedule.
- 4) A detailed description of each deliverable to be provided.
- 5) A specific time line for completion of deliverables, as well as a reporting and feedback mechanism that will be used to monitor performance and ensure that the project stays on schedule.
- 6) The role Office of the Secretary of State technical and/or other staff will be expected to play in the project as well as any other support services and equipment expected to be provided by the Office.

Affirmative Action

In accordance with *Minnesota Statutes* Section 363.073, for all contracts estimated to be in excess of \$50,000, all responders having more than 20 full-time employees at any time during the previous 12 months must have an affirmative action plan approved by the Commissioner of Human Rights before a proposal may be accepted. Your proposal will be rejected unless it includes one of the following:

- a) A copy of your firm's current certificate of compliance issued by the Commissioner of Human Rights; or
- b) A letter from the Department of Human Rights certifying that your firm has a current certificate of compliance; or
- c) A notarized letter certifying that your firm has not had more than 20 full-time employees in Minnesota at any time during the previous 12 months.

State Contracts and Advertised Bids

Department Contact

Prospective responders desiring further information regarding this Request for Proposal may write or call:

Mr. Donald Bostrom
Director, Computer Services
612/297-8760

Ms. Katie Engler
Staff Attorney
612/297-5163

Office of the Secretary of State
180 State Office Building
St. Paul, Minnesota 55155

No other persons are authorized to respond to questions concerning this Request for Proposal.

Submission of Proposals

All proposals must be sent to:

Donald Bostrom
Director, Computer Services
Office of the Secretary of State
180 State Office Building
St. Paul, MN 55155

All proposals are due no later than 3:00 p.m. on September 18, 1992. Submit five (5) copies of the proposal. Late proposals will not be accepted. At least one copy must have the original signature of an officer or principal of the firm in ink.

Project Completion Date

The project is schedule to begin no later than October 5, 1992 and will be completed by May 1, 1993.

Project Costs

The Office has estimated that the cost of this phase of this project shall not exceed \$65,000.

Project Evaluation

All proposals received by the deadline will be evaluated by Office staff based on the following factors:

1. Qualifications and experience of both the company and its personnel assigned to the project. The education and experience of project personnel will be given greater weight than that of the firm. Knowledge of and experience in state government data processing operations will be given significant weight. Relevant experience on similar projects will also be weighed. 50%
2. Expressed understanding of project goals, as evidenced by the proposal content. 20%
3. Project work plan, as developed in the responder's proposal. 20%
4. Project cost detail, as listed in the responder's proposal. 10%

State Contracts and Advertised Bids

Pursuant to the provisions of Minn. Stat. § 14.10, an agency must make reasonable effort to publicize the availability of any services contract or professional and technical services contract which has an estimated cost of over \$2,000.

Commodities contracts with an estimated value of \$15,000 or more are listed under the Materials Management Division, Department of Administration. All bids are open for 7-10 days before bidding deadline. For bid specifics, time lines, and other general information, contact the appropriate buyers whose initials appear in parentheses next to the commodity for bid, by calling (612) 296-6152.

Awards of contracts and advertised bids for commodities and printing, as well as awards of professional, technical and consulting contracts, appear in the midweek STATE REGISTER Contracts Supplement, published every Thursday. Call (612) 296-0931 for subscription information.

Materials Management Division—Department of Administration:

Contracts and Requisitions Open for Bid

Call 296-2600 for information on a specific bid, or to request a specific bid.

State Contracts and Advertised Bids

COMMODITY CODE KEY

A = Sealed Bid
B = Write for Price
C = Request for Proposal
D = Request for Information
E = \$0-\$1,500 Estimated Dollar Value
F = \$1,500-\$5,000 Estimated Dollar Value

G = \$5,000-\$15,000 Estimated Dollar Value
H = \$15,000-\$50,000 Sealed Bid
I = \$50,000 and Over Sealed Bid/Human Rights Compliance Required

J = Targeted Vendors Only
K = Local Service Needed
L = No Substitute
M = Installation Needed
N = Pre-Bid Conference
O = Insurance or Bonding Required

Commodity: Genuine repair parts for Navistar trucks
Contact: Dale Meyer 612-296-3773
Bid due date at 2pm: August 26
Agency: Various
Deliver to: Various
Requisition #: Price Contract

Commodity: Genuine repair parts for Champion motor graders
Contact: Dale Meyer 612-296-3773
Bid due date at 2pm: August 25
Agency: Various
Deliver to: Various
Requisition #: Price Contract

Commodity: Genuine Etnyre distributor repair parts
Contact: Dale Meyer 612-296-3773
Bid due date at 2pm: August 24
Agency: Various
Deliver to: Various
Requisition #: Price Contract

Commodity: Energy absorption systems products repair parts
Contact: Patricia Anderson 612-296-3770
Bid due date at 2pm: August 28
Agency: Transportation
Deliver to: Various
Requisition #: Price Contract

Commodity: B E—Network supplies
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Building Construction Division
Deliver to: Cloquet
Requisition #: B 02310-33698

Commodity: A I—IBM tape controller
Contact: Bernadette Vogel 612-296-3778
Bid due date at 2pm: August 24
Agency: Minnesota Department of Jobs & Training
Deliver to: St. Paul
Requisition #: B 21200-52454

Commodity: B F—Projection panel
Contact: Bernadette Vogel 612-296-3778
Bid due date at 2pm: August 19
Agency: Community College Board
Deliver to: Willmar
Requisition #: B 27142-93007

Commodity: A H—3865X/16 computers
Contact: Bernadette Vogel 612-296-3778
Bid due date at 2pm: August 24
Agency: Hibbing Extension Duluth Center
Deliver to: Duluth
Requisition #: B 27165-65094

Commodity: B E—Vacuum gauge
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 24
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34143

Commodity: B F—Speciality gases
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34170

Commodity: B G—Vitalink ENP Bridge/Router
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32600-34208

Commodity: B G K—DX/33 computer
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Building Construction Division
Deliver to: Cloquet
Requisition #: B 02310-33702

Commodity: B F L—Outbound Notebound Notebook Computer
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Community College Board
Deliver to: Fergus Falls
Requisition #: B 27142-93006

Commodity: B F—H P printers
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 24
Agency: Minneapolis Community College
Deliver to: Minneapolis
Requisition #: B 27151-93007

Commodity: B E—Ultra sonic cleaner
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 24
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34142

State Contracts and Advertised Bids

Commodity: B E—Lab furniture
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34145

Commodity: B E—Clean air system
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34171

Commodity: B G—Moving of 3 buildings
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 24
Agency: I R R & R B
Deliver to: Chisholm
Requisition #: B 43000-70165

Commodity: B F K M—Copier—Rebid
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 26
Agency: Indian Affairs Council
Deliver to: Various Places
Requisition #: B 19000-00149-1

Commodity: A H L—Geodimeter
Contact: Jack Bauer 612-296-2621
Bid due date at 2pm: August 26
Agency: Department of Natural Resources—Bureau of Engineering
Deliver to: St. Paul
Requisition #: B 29000-59360

Commodity: B F—Sweeper attach/J D tractor
Contact: Mary Jo Bruski 612-296-3772
Bid due date at 4:30pm: August 24
Agency: I R R & R B
Deliver to: Chisholm
Requisition #: B 43000-70170

Commodity: A H—Tables
Contact: Jack Bauer 612-296-2621
Bid due date at 2pm: August 26
Agency: North Hennepin Community College
Deliver to: Brooklyn Park
Requisition #: B 27153-21448

Commodity: B F—Xerox maintenance
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 19
Agency: Minnesota Office of Waste Management
Deliver to: St. Paul
Requisition #: B 99650-91081

Commodity: B E—Gaskets
Contact: Mary Jo Bruski 612-296-3772
Bid due date at 4:30pm: August 19
Agency: St. Peter Regional Treatment
Deliver to: St. Peter
Requisition #: B 55105-09226

Commodity: B F—H.P. printers
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 24
Agency: Minneapolis Community College
Deliver to: Minneapolis
Requisition #: B 27151-93007-1

Commodity: B E—Ultra sonic cleaner
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 24
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34142-1

Commodity: B E—Lab Furniture
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34145-1

Commodity: B E—Clean air system
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34171-1

Commodity: B F—Reach in freezer
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Minnesota Department of Jobs & Training
Deliver to: St. Paul
Requisition #: B 21200-52478

Commodity: B G—Plastimounter
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Moorhead State University
Deliver to: Moorhead
Requisition #: B 26072-03942

Commodity: B G—Kitchen equipment
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Fergus Falls Regional Treatment Center
Deliver to: Fergus Falls
Requisition #: B 55101-03197

Commodity: A H—386SX/16 computers
Contact: Bernadette Vogel 612-296-3778
Bid due date at 2pm: August 26
Agency: Hibbing Extension Duluth Center
Deliver to: Duluth
Requisition #: B 27165-65094-1

Commodity: B E—Vacuum guage
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 24
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34143-1

Commodity: B F—Speciality gases
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 19
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34170-1

State Contracts and Advertised Bids

Commodity: A H—Radio detection cable locator—Rebid
Contact: Pam Anderson 612-296-1053
Bid due date at 2pm: August 24
Agency: Minnesota Department of Transportation
Deliver to: Fort Snelling
Requisition #: B 79000-24029-1

Commodity: B F—Refrigerator
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Minnesota Department of Jobs & Training
Deliver to: St. Paul
Requisition #: B 21200-52479

Commodity: B F—Osiris database
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Winona State University
Deliver to: Winona
Requisition #: B 26074-14675

Commodity: Poly tube stock
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Faribault Regional Center
Deliver to: Faribault
Requisition #: B 55303-93340-1

Commodity: B F—Software—Wordperfect
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Minnesota Higher Education Coordinating Board/Accounting
Deliver to: St. Paul
Requisition #: B 60000-08227

Commodity: B F—Ear plugs
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 26
Agency: Department of Natural Resources—Division of Enforcement
Deliver to: St. Paul
Requisition #: B 29000-59347

Commodity: B F—Paper shredder
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 26
Agency: Minnesota Correctional Facility
Deliver to: St. Cloud
Requisition #: B 78830-11488

Commodity: B F K M—FAX
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 26
Agency: Bemidji State University
Deliver to: Bemidji
Requisition #: B 26070-14838

Commodity: B G—Chair refurbishing
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 24
Agency: Minnesota Veterans Home
Deliver to: Minneapolis
Requisition #: B 75200-80235

Commodity: B G—Services for visually handicapped
Contact: Teresa Manzella 612-296-7556
Bid due date at 4:30pm: August 20
Agency: Minnesota Department of Jobs & Training
Deliver to: St. Paul
Requisition #: B 21701-52491

Commodity: B G—Simms memory for Mac
Contact: Bernadette Vogel 612-296-3778
Bid due date at 4:30pm: August 21
Agency: Mankato State University
Deliver to: Mankato
Requisition #: B 26071-48235

Commodity: B F M—Glass install
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 24
Agency: Mankato State University
Deliver to: Mankato
Requisition #: B 26071-09748

Commodity: B G—Audio video equipment
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 24
Agency: Winona State University
Deliver to: Winona
Requisition #: B 26074-14642

Commodity: A H L—Audio visual equipment
Contact: Pam Anderson 612-296-1053
Bid due date at 2pm: August 26
Agency: I R R & R B
Deliver to: Chisholm
Requisition #: B 43000-70147

Commodity: B F—Bridge bearing pads
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 24
Agency: Minnesota Department of Transportation
Deliver to: St. Cloud
Requisition #: B 79350-01239

Commodity: B G—Melting point apparatus
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Winona State University
Deliver to: Winona
Requisition #: B 26074-14671

Commodity: B F—Medical training manikins
Contact: Teresa Manzella 612-296-7556
Bid due date at 4:30pm: August 24
Agency: Austin Community College
Deliver to: Austin
Requisition #: B 27139-93011

Commodity: B F—Nitrogen evaporator
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 26
Agency: Minnesota Department of Agriculture
Deliver to: St. Paul
Requisition #: B 04661-30986

Commodity: B G—Audio video equipment
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 24
Agency: Winona State University
Deliver to: Winona
Requisition #: B 26074-14640

Commodity: B G—Air sampler
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 26
Agency: Minnesota Pollution Control Agency
Deliver to: St. Paul
Requisition #: B 32200-34144

Commodity: B G—Lumber/hardware
Contact: Pam Anderson 612-296-1053
Bid due date at 4:30pm: August 24
Agency: Minnesota Veterans Home
Deliver to: Silver Bay
Requisition #: B 75300-93048

State Contracts and Advertised Bids

Commodity: B F—Lighting equipment
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: St. Cloud State University
Deliver to: St. Cloud
Requisition #: B 26073-24100

Commodity: B F—Lab supplies
Contact: Joan Breisler 612-296-9071
Bid due date at 4:30pm: August 24
Agency: Winona State University
Deliver to: Winona
Requisition #: B 26074-14672

Commodity: A H—Streetlights
Contact: Joan Breisler 612-296-9071
Bid due date at 2pm: August 24
Agency: Brainerd Regional Human Services Center
Deliver to: Brainerd
Requisition #: B 55304-09203

Commodity: B E L—CBS chair
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 26
Agency: Minnesota Correctional Facility
Deliver to: Red Wing
Requisition #: B 78760-03217

Commodity: B F—Steam coils
Contact: Mary Jo Bruski 612-296-3772
Bid due date at 4:30pm: August 26
Agency: Mankato State University
Deliver to: Mankato
Requisition #: B 26071-87012

Commodity: B F—Environmental control maintenance contract
Contact: Mary Jo Bruski 612-296-3772
Bid due date at 4:30pm: August 25
Agency: Worthington Community College
Deliver to: Worthington
Requisition #: B 27000-93502

Commodity: B G—Decals
Contact: Jack Bauer 612-296-2621
Bid due date at 4:30pm: August 26
Agency: Department of Natural Resources—Ecological Service
Deliver to: St. Paul
Requisition #: B 29000-59294

Commodity: B F—Chemical absorbent kit
Contact: Mary Jo Bruski 612-296-3772
Bid due date at 4:30pm: August 26
Agency: Department of Administration
Deliver to: St. Paul
Requisition #: B 02307-34240

Commodity: B G—Personnel lift
Contact: Mary Jo Bruski 612-296-3772
Bid due date at 4:30pm: August 26
Agency: Moorhead State University
Deliver to: Moorhead
Requisition #: B 26072-03941

Department of Administration: Print Communications Division

Printing vendors for the following printing contracts must review contract specifications in printing buyers office at 117 University Avenue, Room 134-B, St. Paul, MN.

Printing vendors NOTE: Other printing contracts can be found in the Materials Management Division listing above, and in the Professional, Technical & Consulting Contracts section immediately following this section.

Commodity: Minnesota card brochures, fact sheets and posters; Brochure: 100M, barrel fold, dylux, 8 panels; Fact sheets: 100M, 2pp, dylux, band in 250s; Poster: 10M, 11" x 24", colorkey
Contact: Printing Buyer's Office
Bids are due: August 17
Agency: Human Services
Deliver to: St. Paul
Requisition #: 24874

Commodity: 1993 Credit class schedule, camera ready copy, two-sided, 4 issues, 40 pp includes cover, 30# white newsprint, saddle stitch or glue
Contact: Printing Buyer's Office
Bids are due: August 20
Agency: Lakewood Community College
Deliver to: White Bear Lake
Requisition #: 24882

Commodity: Today newspaper, 4 qtrly issues of 20 pp, 53M; 1 add'l issue of 16M 4 pp, camera ready copy
Contact: Printing Buyer's Office
Bids are due: August 20
Agency: Mankato State University
Deliver to: Mankato
Requisition #: 24642

Commodity: All-terrain and watercraft decals and registration cards (5), type to be set, no shortages, shrink-wrapping, sample available, sunfast fade resistant inked, colorkey proofs, quantities: 5M, 35M, 300M, 30M and 45M
Contact: Printing Buyer's Office
Bids are due: August 20
Agency: Natural Resources
Deliver to: St. Paul
Requisition #: 24815-6-7-8-9

Minnesota's North Shore

Historic Sites and Place Names of Minnesota North Shore. Stories recounted by a retired DNR Forester about the North Shore's timbermen, pioneer settlers, commercial fishermen, and others who knew the area first hand. Stock #9-11. 35pp. \$4.95 + tax.

Up North. A memorable collection of essays and stories that capture the mystic moods, seasonal subtleties and colorful characters that fill the landscape up north. Stock #19-16. \$16.95 + tax.

A Family Guide to Minnesota's North Shore. The 150 miles from Duluth to the Canadian border offer travelers wilderness experiences, places of historic significance, and visions of astonishing beauty. Stock #19-84. \$3.95 + tax.

Boundary Waters. Almost 100 pages of beautiful color photographs of Minnesota's canoe country, by Jerry Stebbins with rich text by Greg Breining. Stock #19-69. \$24.99 + tax.

A Paddler's Guide to the Boundary Waters Canoe Area, 78 pages of detailed maps and descriptions of 31 wilderness canoe routes in the Superior National Forest of Northern Minnesota. Includes what to bring along on canoe trips, regulations, canoe tips and detailed information for self-guided tours. Stock #19-17, \$4.95.

TO ORDER: Send to Minnesota's Bookstore, 117 University Avenue, St. Paul, MN 55155. Call (612) 297-3000, or toll-free in Minnesota: 1-800-657-3757. Minnesota residents please include 6½% sales tax. On all orders, add \$2.00 per order for handling. Prepayment is required. Please include daytime phone. VISA/MasterCard, American Express and Discover orders accepted over phone and through mail. **Prices are subject to change.** FAX: (612) 296-2265.



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What's your school system like?



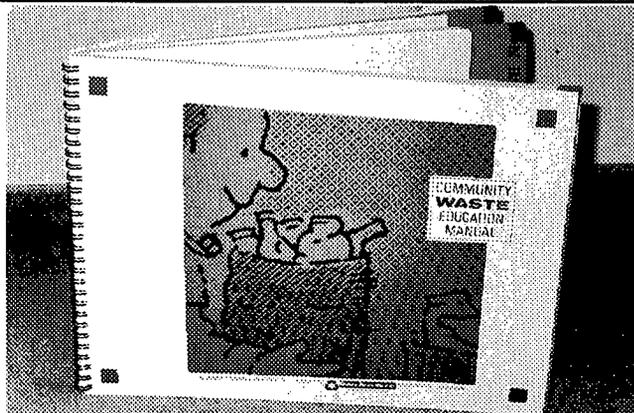
School District Profile 1989-90. Comparative enrollment, staffing and financial data on Minnesota's school districts. Includes an evaluation of the statistical content with commentary on trends and patterns. 56 pp. Stock #5-3. \$5.00.

The School Book 1990-91. Before you enroll your child in school, read this comprehensive guide to elementary schools in the Twin Cities. Lists school addresses/phone, staffing information, MTC bus connections, class size, student/teacher ratio, grading and curriculum. From the Citizens League. 554 pp. Stock #40-9. \$12.95.

Education Directory 1991-92. Complete list of schools, and school districts, their principals and superintendents. Also includes non-public schools, regional public library systems, state agencies, boards, and councils. 170 pp. Stock #1-93. \$9.95.

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101 Ways to Promote Academic Excellence. A collection of nuts-and-bolts methods educators have successfully used to foster academic achievement. These are techniques that directly help students, can be replicated easily, are cost-effective, and that work in meeting the public education's great challenge: helping every single child learn. Code #5-1, \$4.50.

1989 Pollution Control Laws. Laws dealing with water pollution, disposal facilities, solid waste management, the Minnesota Environmental Rights Act, recycling, and more. Code #2-21, \$24.95.

1991 Hazardous Waste Rules. Governs the production, storage, transportation and disposal of hazardous waste. *Minnesota Rules* Chapter 7045 and 7046. Code #3-71, \$17.95.

Real Estate Rules 1991. Chapters 2800, 2805 and 2810 from the *Minnesota Rules. Essential* for both students and established brokers and salespersons. It contains all education and licensing requirements. Code #3-99, \$6.00.

Police Report Writing Style Manual 1989. A common framework for report writing throughout the state. Discusses the general purpose of police reports, reviews field notetaking, offers instructions on completing common report forms and introduces the Data Practices Law. Code #14-13, \$15.00.

OTHER PUBLICATIONS

Voices of the Loon. Includes introduction, loon call identification, distant chorus, tremolo duet, wail duet, border confrontation, wails with morning songbird chorus, tremolos while running, wails during thunderstorm and coyotes calling with loons. Cassette tape. Code #19-73, \$12.00.

Secrets of the Congdon Mansion. A complex, intriguing murder case set in one of Minnesota's most spectacular mansions. Now a top Minnesota tourist attraction on Duluth's famous Lake Superior North Shore Drive. By Joe Kimball. Code #19-56, \$5.95.

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