Office of the Revisor of Statutes
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TITLE: Adopted Permanent Rules Relating to Groundwater Protection

AGENCY: Department of Agriculture

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MINNESOTA RULES: Chapter 1573

INCORPORATIONS BY REFERENCE: **[See attached]**

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(MN) SECRETARY OF STATE
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The attached rules are approved for
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John R. McCullough
Senior Assistant Revisor

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INCORPORATIONS BY REFERENCE:

Part 1573.0020:

GridMET dataset, University of Idaho: http://www.climatologylab.org/gridmet.html;

United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey (various published dates):
https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=MN;

Pollution Sensitivity of Near-Surface Materials Report, Minnesota Department of Natural Resources (2016): http://files.dnr.state.mn.us/waters/groundwater_section/mapping/mha/hg02_report.pdf; and

Fertilizer Guidelines for Agronomic Crops in Minnesota, Lamb, John; Kaiser, Daniel E.; Eliason, Roger; University of Minnesota Extension (2011):
http://www.extension.umn.edu/agriculture/nutrient-management/nutrient-lime-guidelines/fertilizer-recommendations-for-agronomic-crops-in-minnesota/docs/BU-6240S-PUB.pdf.

Available on the Department of Agriculture's Web site.

Department of Agriculture

Adopted Permanent Rules Relating to Groundwater Protection

1573.0010 DEFINITIONS.

Subpart 1. **Scope.** The terms used in this chapter have the meanings given them in this part. Other terms used in this chapter are defined in the part in which the terms are used. Terms used in this chapter that are not specifically defined in applicable federal or state law shall be construed in conformance with the context and in relation to the applicable section of the statutes pertaining to the matter and current professional usage.

Subp. 2. **Alternative management tools.** "Alternative management tools" means specific practices and solutions as described in part 1573.0090, subpart 1, other than nitrogen fertilizer best management practices, that are approved by the commissioner to address groundwater nitrate problems. Alternative management tools include precision agricultural methods that can be used for the precise, variable, and site-specific application of nitrogen fertilizer.

Subp. 2a. **Capture zone.** "Capture zone" means the subsurface area surrounding a well or well field through which water is likely to move toward and reach the well supplying a public water system with water.

Subp. 3. **Coarse textured soils.** "Coarse textured soils" means soils that are sand, loamy sand, fine sand, loamy fine sand, coarse sand, loamy coarse sand, very fine sand, loamy very fine sand, single grained, or any of these textures with the following textural modifiers: gravelly, cobbly, channery, and flaggy, based on the United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey.

Subp. 4. **Commissioner.** "Commissioner" means the commissioner of agriculture.

Subp. 5. **Cropland.** "Cropland" means land used primarily for the production or harvest of annual or perennial field, forage, food, fiber, or energy crops. Cropland includes pasture but does not include forestland.

Subp. 6. **Drinking water supply management area.** "Drinking water supply management area" has the meaning given in part 4720.5100, subpart 13.

Subp. 7. **Fall application.** "Fall application" means the application of nitrogen fertilizer to cropland after August 31 in each calendar year.

Subp. 8. **Frozen soil.** "Frozen soil" means soil frozen to a depth that does not allow for the proper placement and incorporation of nitrogen fertilizer. For purposes of this subpart, proper placement means that a responsible party is able to incorporate granular products within three days of application at a minimum depth of three inches below the surface of the soil.

Subp. 9. **Groundwater.** "Groundwater" has the meaning given in Minnesota Statutes, section 115.01, subdivision 6.

Subp. 10. **Groundwater monitoring network.** "Groundwater monitoring network" means a network of wells used by the commissioner to monitor and test nitrate-nitrogen concentrations in groundwater.

Subp. 11. **Growing season.** "Growing season" means the period of time from planting to physiological maturity of crops identified by the nitrogen fertilizer best management practices.

Subp. 12. **Lag time.** "Lag time" means the period of time it takes for nitrate to travel through an unsaturated zone to impact groundwater quality in an aquifer being monitored.

Subp. 13. **Leaching index.** "Leaching index" means the annual precipitation minus evapotranspiration for the years 1981-2010 as calculated at daily intervals using the gridMet dataset.

Subp. 14. **Local advisory team.** "Local advisory team" means a team of individuals approved by the commissioner who advise the commissioner regarding appropriate response activities for a specific local area.

Subp. 15. **Municipal public water supply well.** "Municipal public water supply well" has the meaning given in part 4720.5100, subpart 22. For the purposes of this subpart, municipal public water supply well also includes a rural water system.

Subp. 16. **Nitrogen fertilizer best management practices.** "Nitrogen fertilizer best management practices" means practices associated with nitrogen use that are adopted by the commissioner pursuant to Minnesota Statutes, section 103H.151, subdivision 2.

Subp. 17. **Nitrogen fertilizer.** "Nitrogen fertilizer" means a substance containing nitrogen that is used for its plant nutrient content, is designed for use or claimed to have value in promoting plant growth, and requires a guaranteed analysis under Minnesota Statutes, section 18C.215. Nitrogen fertilizer does not include animal and vegetable manures that are not manipulated, or marl, lime, limestone, biosolids, industrial by-product, industrial wastewater, irrigation water, or other products exempted by the commissioner. Chemicals or substances added to manure during storage to reduce odor or gas emissions or to prevent foaming, or added to manure to extend the time the nitrogen component of manure remains in the soil, are not considered a manipulation of manure.

Subp. 18. **Public well.** "Public well" means a community water system as defined in part 4725.0100, subpart 23a.

Subp. 19. **Residual soil nitrate tests.** "Residual soil nitrate tests" means soil tests conducted by or under the direction of the commissioner that are representative of changes in soil nitrate levels in soil below the root zone for cropland within a drinking water supply management area.

Subp. 20. **Responsible party.** "Responsible party" means the owner, operator, or agent in charge of cropland.

Subp. 21. **Section.** "Section" means a subdivision of a township typically one square mile in size as established under a public land survey system.

Subp. 22. **Spring frost-free date.** "Spring frost-free date" means the date where there is a ten percent probability of observing a temperature of 32 degrees Fahrenheit or colder based on the years 1981-2010 as published by the Minnesota State Climatology Office.

Subp. 23. **Vulnerable groundwater area.** "Vulnerable groundwater area" means land with:

A. coarse textured soils;

B. soils that are shallow to bedrock as identified in the United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey; or

C. karst, as identified in the Department of Natural Resources Pollution Sensitivity of Near-Surface Materials Report.

Vulnerable groundwater area does not include areas identified as ultra-low sensitivity in the Department of Natural Resources Pollution Sensitivity of Near-Surface Materials Report.

1573.0020 INCORPORATION BY REFERENCE.

A. The documents in subitems (1) to ~~(4)~~ (5) and subsequent revisions are incorporated by reference. The documents are not subject to frequent change and are available as indicated:

(1) GridMET dataset, University of Idaho:

http://www.climatologylab.org/gridmet.html;

(2) United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey (various published dates):

https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=MN;

(3) Pollution Sensitivity of Near-Surface Materials Report, Minnesota Department of Natural Resources (2016):

http://files.dnr.state.mn.us/waters/groundwater_section/mapping/mha/hg02_report.pdf; and

(4) Fertilizer Guidelines for Agronomic Crops in Minnesota, Lamb, John; Kaiser, Daniel E.; Eliason, Roger; University of Minnesota Extension (2011):

~~http://www.extension.umn.edu/agriculture/nutrient-management/nutrient-lime-guidelines/fertilizer-recommendations-for-agronomic-crops-in-minnesota/docs/BU-6240S-PUB.pdf.~~

https://conservancy.umn.edu/handle/11299/198924;

(5) Farm Nutrient Management Assessment Program (FANMAP), Minnesota Department of Agriculture:

http://www.mda.state.mn.us/farm-nutrient-management-assessment-program-fanmap.

B. The documents listed in item A can be found on the Department of Agriculture's Web site.

1573.0030 STATEWIDE WATER RESOURCE PROTECTION REQUIREMENTS.

Subpart 1. **Prohibitions.**

A. A responsible party must not make:

(1) a fall application of nitrogen fertilizer to cropland located in a drinking water supply management area from a municipal public water supply well with nitrate-nitrogen levels greater than or equal to 5.4 mg/L at any point in the previous ten years;

(2) a fall application of nitrogen fertilizer to cropland located in a quarter section where vulnerable groundwater areas make up 50 percent or more of the quarter section or government lot; or

(3) an application of nitrogen fertilizer to cropland with frozen soil located in:

(a) a vulnerable groundwater area; or

(b) a drinking water supply management area that has nitrate-nitrogen levels greater than or equal to 5.4 mg/L at any point in the previous ten years.

B. The commissioner shall annually develop a fall application restrictions map. The commissioner shall post the fall restrictions map on the department's Web site by ~~March 1~~ January 15 of each year.

C. Any responsible party in charge of cropland in a vulnerable groundwater area as depicted on the commissioner's vulnerable groundwater area map is subject to item A.

Subp. 2. **Exclusions.**

A. A responsible party in a county or a portion of a county is excluded from the fall application restriction requirements under subpart 1 if the county or the portion of the county meets one of the following conditions:

(1) the spring frost-free date in the county or a portion of the county is on or after May 22 and has a leaching index less than or equal to -12 inches as determined by the commissioner;

(2) the spring frost-free date in the county or a portion of the county is on or after May 29 and the leaching index is less than or equal to -10 inches as determined by the commissioner; or

(3) the spring frost-free date in the county or a portion of the county is on or after June 5 and the leaching index is less than or equal to -6 inches as determined by the commissioner.

B. The exclusion under this subpart applies to an entire county if a condition under item A is represented on 50 percent or more of the land area of the county.

C. For purposes of determining the exclusion under item A, the commissioner may subdivide a county by geographical boundary if there is a clear change in conditions represented in a specific area of the county.

D. The exclusion under this subpart does not apply to a drinking water supply management area with nitrate-nitrogen levels greater than or equal to 5.4 mg/L.

E. If cropland makes up less than three percent of a county's total land area, the county is excluded from the requirements in subpart 1, item A.

F. The commissioner ~~may~~ shall exclude responsible parties in a drinking water supply management area from the fall application restrictions in subpart 1 if the commissioner determines there is a point source of nitrate-nitrogen contamination, including but not limited to an improperly sealed well, an animal feedlot, or an agricultural chemical incident, that is a significant source of nitrate-nitrogen contamination in the drinking water supply management area's well. In determining whether there is a significant point source of nitrate-nitrogen contamination, the commissioner shall:

(1) review the evaluation of point sources identified in the wellhead protection plan approved under chapter 4720 for nitrate-nitrogen contributions to the municipal public water supply well; or

(2) conduct a detailed review of potential contaminant sources in the area; evaluate the condition and vulnerability of the municipal water supply well; determine the

hydrogeology and groundwater flow paths for groundwater flowing into the municipal public water supply well; and if necessary, sample soil or other wells in the area; and

(3) based on the information obtained in subitem (1) or (2), determine whether, but for the contamination from the point source, the municipal water supply well would not exceed the reference value of 5.4 mg/L. If the municipal water supply well would not exceed the reference value of 5.4 mg/L but for the contamination from the point source, the responsible parties within the drinking water supply management area are excluded from fall application restrictions under subpart 1, item A.

G. The commissioner ~~may~~ shall exclude part of a drinking water supply management area from the fall application restriction if the commissioner determines that the area is not contributing significantly to the contamination of the well in the drinking water supply management area. In determining whether an area is not contributing significantly, the commissioner shall apply the following:

(1) for drinking water supply management areas greater than 100,000 acres, only the designated capture zone and vulnerable groundwater areas are subject to the fall application restrictions under subpart 1, item A;

(2) for drinking water supply management areas that are less than 100,000 acres and for areas within a designated capture zone for drinking water supply management areas greater than 100,000 acres:

(a) areas within the wellhead protection plan as approved by the Department of Health under chapter 4720 that identify an area as low vulnerability are not subject to the fall application restrictions under subpart 1, item A; or

(b) areas within a drinking water supply management area that have a ten-foot or greater confining layer, as defined in part 4725.0100, subpart 24a, are not subject to fall application restrictions under subpart 1, item A, unless computer modeling indicates

that leaching and infiltration of nitrate from sources at or near the ground surface is predicted to result in nitrate exceeding 5.4 mg/L in the aquifer being monitored;

The commissioner shall regulate areas under this part by quarter section or by using the boundaries in the wellhead protection plan for the drinking water supply management area.

Subp. 3. **Exceptions.**

A. Notwithstanding subpart 1, a responsible party may make a fall application of nitrogen fertilizer in a vulnerable groundwater area or drinking water supply management area if the responsible party uses applicable nitrogen rates, as defined in item B, in the following situations only:

(1) when nitrogen fertilizer is required to establish winter grains planted in the fall;

(2) when nitrogen fertilizer is required for pasture fertilization;

(3) when nitrogen fertilizer is required for perennial crops;

(4) when nitrogen fertilizer is required for grass seed production. For purposes of this subitem, grass seed production does not include corn production;

(5) when nitrogen fertilizer is required for cultivated wild rice; or

(6) when nitrogen fertilizer is required for growing cover crops for the specific purpose of reducing commercial applications of soil fumigants to the subsequent potato crop.

B. For purposes of item A, "nitrogen rates" means:

(1) the nitrogen rates included in the nitrogen fertilizer best management practices adopted by the commissioner under Minnesota Statutes, section 103H.151, subdivision 2; or

(2) if applicable nitrogen rates have not been adopted by the commissioner under Minnesota Statutes, section 103H.151, subdivision 2, the nitrogen rates included in the Fertilizer Guidelines for Agronomic Crops in Minnesota as published by the University of Minnesota Extension.

C. Notwithstanding subpart 1 and in addition to item A, a responsible party may make a fall application in a vulnerable groundwater area in the following situations:

(1) when applying ammoniated phosphate or micronutrient formulations containing nitrogen, so long as the applied nitrogen rate does not exceed an average of 40 pounds per acre in a field. Fields that have had a soil analysis completed by a certified lab and determined to have low to very low phosphorus levels according to the Fertilizer Guidelines for Agronomic Crops in Minnesota are not subject to the 40 pounds per acre total nitrogen rate;

(2) when making a land application of agricultural-chemical-contaminated soil and other media according to Minnesota Statutes, section 18D.1052; or

(3) when making an application of nitrogen fertilizer for agricultural research and demonstrations for academic purposes. Application of nitrogen fertilizer for agricultural research and demonstrations is limited to 20 acres or less unless a higher acreage amount is approved by the commissioner.

1573.0040 DRINKING WATER SUPPLY MANAGEMENT AREA; MITIGATION LEVEL DESIGNATION.

Subpart 1. **Application.** This part applies to responsible parties in drinking water supply management areas.

Subp. 2. **Evaluation of nitrate-nitrogen concentrations in groundwater.** The commissioner shall evaluate nitrate-nitrogen concentrations in groundwater from public wells in drinking water supply management areas for purposes of making drinking water

supply management area mitigation level 1 and 2 designations. The commissioner shall use public well nitrate-nitrogen concentration data provided by the commissioner of health or the commissioner of health's designee under chapter 4720 for this purpose. The commissioner shall initially designate a drinking water supply management area as a mitigation level 1 or a mitigation level 2 drinking water supply management area according to the criteria in subpart 3. The commissioner shall make mitigation level determinations by January 15 for monitoring data received by the commissioner before July 15 of the previous year, unless there is good cause for delay. The data shall be submitted to the commissioner on forms or in a format specified by the commissioner and shall meet data requirements specified by the commissioner.

Subp. 3. **Criteria for initial mitigation level designation.**

A. The commissioner shall use the following criteria to make mitigation level designations for drinking water supply management areas.

(1) To be designated as a mitigation level 1 drinking water supply management area, the groundwater nitrate-nitrogen concentration of the public well in the drinking water supply management area has been greater than or equal to 5.4 mg/L but less than 8.0 mg/L at any point in the previous ten years.

(2) To be designated as a mitigation level 2 drinking water supply management area, the groundwater nitrate-nitrogen concentration data of the public well in the drinking water supply management area meets one of the following:

(a) the statistical analysis of the groundwater nitrate-nitrogen concentration data for the previous ten years demonstrates that the groundwater nitrate-nitrogen concentration of the public well is projected to exceed the health risk limit in the next ten years; or

(b) the nitrate-nitrogen concentration of the public well ~~is~~ has been 8.0 mg/L or greater at any point in the previous ten years.

B. For a nonmunicipal public water supply well, the commissioner may make exceptions for increasing a mitigation level designation based on:

~~(1)~~ whether there has been a ~~significant change in the amount of land used for agricultural production~~ change in cropland use within the drinking water supply management area~~;~~ and computer modeling or published leaching loss data indicates that the reduction in leaching of nitrate is predicted to result in the public well not exceeding the criteria for a mitigation level.

~~(2) the severity of the nitrate-nitrogen concentration found in other wells in the drinking water supply management area;~~

~~(3) the population affected by the groundwater contamination of nitrate-nitrogen; and~~

~~(4) other factors expected to influence nitrate-nitrogen concentrations.~~

C. The commissioner ~~may~~ shall exclude responsible parties in a drinking water supply management area from mitigation level ~~determinations~~ designations in subpart 2 if the commissioner determines there is a point source of nitrate-nitrogen contamination, including but not limited to an improperly sealed well, an animal feedlot, or an agricultural chemical incident, that is a significant source of nitrate-nitrogen contamination in the drinking water supply management area's well. In determining whether there is a significant point source of nitrate-nitrogen contamination, the commissioner shall:

(1) review the evaluation of point sources identified in wellhead protection plans approved under chapter 4720 for nitrate-nitrogen contributions to the municipal public water supply well; or

(2) conduct a detailed review of potential contaminant sources in the area; evaluate the condition and vulnerability of the public well; determine the hydrogeology and groundwater flow paths for groundwater flowing into the public well; and if necessary, sample soil or other wells in the area; and

(3) based on the information obtained in subitem (1) or (2), determine whether, but for the contamination from the point source, the public well would not exceed the criteria for increasing a mitigation level.

D. The commissioner ~~may~~ shall exclude part of a drinking water supply management area from a mitigation level designation if the commissioner determines that the area is not contributing significantly to the contamination of the public well ~~in the drinking water supply management area~~. In determining whether the area is not contributing significantly, the commissioner shall apply the following:

(1) areas within the wellhead protection plan as approved by the Department of Health under chapter 4720 that identify an area as low vulnerability shall not be included in the mitigation area designation; or

(2) the commissioner shall not include areas within a drinking water supply management area that have a ten-foot or greater confining layer, as defined in part 4725.0100, subpart 24a, in the mitigation level designation, unless computer modeling indicates that leaching and infiltration of nitrate from sources at or near the ground surface is predicted to result in nitrate exceeding 5.4 mg/L in the aquifer being monitored.

The commissioner shall regulate areas under this part by quarter section or by using the boundaries in the wellhead protection plan for the drinking water supply management area.

Subp. 4. **Determination of nitrogen fertilizer best management practices and mitigation levels.**

A. For a mitigation level 2 drinking water supply management area, the commissioner shall determine the nitrogen fertilizer best management practices applicable for that drinking water supply management area. The commissioner may form a local advisory team to consult on the determination of applicable nitrogen fertilizer best management practices.

B. The commissioner shall provide notice to the public of the designation of a drinking water supply management area as a mitigation level 2 and the nitrogen fertilizer best management practices that are applicable to that drinking water supply management area through publication in the legal newspaper for the affected drinking water supply management area and on the Department of Agriculture's Web site.

Subp. 5. **Monitoring.**

A. The commissioner shall monitor a drinking water supply management area's nitrate-nitrogen concentrations pursuant to Minnesota Statutes, section 103H.251, subdivision 2. For purposes of the monitoring required by this subpart, the commissioner may:

(1) use groundwater nitrate-nitrogen concentrations of a public well provided by the commissioner of health or the commissioner's designee; or

(2) establish a groundwater monitoring network to determine changes in water quality in the drinking water supply management area.

B. If the commissioner establishes a groundwater monitoring network, the commissioner must design the groundwater monitoring network to represent the drinking water supply management area or a portion of the drinking water supply management area being monitored.

C. The commissioner may conduct residual soil nitrate tests to evaluate changes in residual soil nitrate for cropland within a drinking water supply management area.

Subp. 6. **Nitrogen fertilizer best management practices evaluation.**

A. The commissioner shall conduct an evaluation in designated mitigation level 2 drinking water supply management areas to determine whether the nitrogen fertilizer best management practices approved by the commissioner have been implemented by responsible parties on at least 80 percent of the cropland, excluding soybean cropland. The commissioner shall not conduct an evaluation under this subpart for at least three growing seasons subsequent to the publication of the nitrogen fertilizer best management practices applicable to the drinking water supply management area. The commissioner may conduct periodic evaluations during the three growing seasons to monitor the drinking water supply management area's progress.

B. When conducting an evaluation under this subpart, the commissioner shall consider:

(1) cropland where a responsible party has implemented approved alternative management tools as being in compliance with nitrogen fertilizer best management practices applicable to that drinking water supply management area;

(2) cropland certified by the Minnesota Agricultural Water Quality Certification Program as being cropland in compliance with all nitrogen fertilizer best management practices;

(3) nitrogen fertilizer best management practices not to be implemented if the responsible party does not provide information or provides insufficient information to the commissioner to make a determination related to the implementation of nitrogen fertilizer best management practices on that cropland; and

(4) practices that do not meet the nitrogen fertilizer best management practices to be in compliance with the nitrogen fertilizer best management practices if the noncompliance is due to an agricultural emergency or other extreme circumstance as determined by the commissioner~~; and~~.

~~(5) cropland where a manure management plan has been implemented by the responsible party as cropland that has implemented nitrogen fertilizer best management practices if the manure management plan has been approved and determined to be implemented by the commissioner of the Pollution Control Agency or the commissioner's designee, and includes the nitrogen fertilizer best management practices determined applicable for the drinking water supply management area by the commissioner.~~

Subp. 7. **Mitigation level 2 drinking water supply management area; mitigation designation review.**

A. The commissioner shall review the water quality and monitoring data of a mitigation level 2 drinking water supply management area and either provide a new mitigation level designation or maintain the existing mitigation level designation for the drinking water supply management area after no fewer than three growing seasons or the lag time, whichever is longer, following the commissioner's initial mitigation level 2 designation. However, if residual soil nitrate testing is conducted, the review period shall not be less than three growing seasons. The commissioner shall review the mitigation level designation not less than every three growing seasons thereafter.

B. The commissioner shall designate a mitigation level 2 drinking water supply management area as a mitigation level 1 drinking water supply management area if the commissioner determines that the statistical analysis for nitrate-nitrogen concentrations in the public well is not projected to exceed the health risk limit and the groundwater nitrate-nitrogen concentration has been below 8.0 mg/L for ten years.

C. The commissioner shall designate a mitigation level 2 drinking water supply management area as a mitigation level 3 drinking water supply management area if responsible parties within the drinking water supply management area have implemented nitrogen fertilizer best management practices on less than 80 percent of cropland and:

(1) the statistical analysis of the nitrate-nitrogen concentration of the public well within the drinking water supply management area for the past ten years is projected to exceed the health risk limit in the next ten years; or

(2) the nitrate-nitrogen concentration of the public well within the drinking water supply management area is 8.0 mg/L or more at any point in the previous ten years.

D. The commissioner shall designate a mitigation level 2 drinking water supply management area as a mitigation level 3 drinking water supply management area if the net residual nitrate in soil below the root zone is increasing after not less than three growing seasons within the drinking water supply management area.

E. The commissioner shall designate a mitigation level 2 drinking water supply management area as a mitigation level 3 drinking water supply management area if the statistical analysis indicates the nitrate-nitrogen concentration is increasing for the public well or groundwater monitoring network.

F. The mitigation level remains a mitigation level 2 unless one of the criteria in items B to E is met.

G. If responsible parties within a drinking water supply management area have demonstrated progress ~~in addressing nitrates in groundwater~~ by changing agricultural or land use practices within the drinking water supply management area, so that the public well does not meet the criteria of a mitigation level 3 as shown by computer modeling data or residual soil nitrate testing, the commissioner may grant a onetime exemption from designating a mitigation level 2 drinking water supply management area as a mitigation

level 3 drinking water supply management area for a period equal to the period for the mitigation level designation decision under item A.

~~H. The commissioner may make exceptions for increasing a mitigation level designation if there has been a significant change in land use in a drinking water supply management area.~~

Subp. 8. **Mitigation level 3 drinking water supply management areas; mitigation level designation review.**

A. The commissioner shall review the water quality and monitoring data of a mitigation level 3 drinking water supply management area and either make a new mitigation level designation or maintain the existing mitigation level designation for the drinking water supply management area after no fewer than three growing seasons or the lag time, whichever is longer, following the commissioner's initial mitigation level 3 designation. However, if residual soil nitrate testing is conducted, the review period shall not be fewer than three growing seasons. The commissioner shall review the mitigation level designation not fewer than every three growing seasons thereafter.

B. The commissioner shall designate a mitigation level 3 drinking water supply management area as a mitigation level 1 drinking water supply management area if the commissioner determines that the statistical analysis for nitrate-nitrogen concentrations in the public well is not projected to exceed the health risk limit and the groundwater nitrate-nitrogen concentration has been below 8.0 mg/L for ten years.

C. The commissioner shall designate a mitigation level 3 drinking water supply management area as a mitigation level 4 drinking water supply management area if the nitrate-nitrogen concentration of the public well within the drinking water supply management area is 9.0 mg/L or higher for any three samples in the previous ten years unless a statistical trend analysis indicates nitrate-nitrogen concentrations have decreased.

D. The commissioner shall designate a mitigation level 3 drinking water supply management area as a mitigation level 4 drinking water supply management area if net residual nitrate in soil below the root zone is increasing after not less than three growing seasons within the drinking water supply management area.

E. The commissioner shall designate a mitigation level 3 drinking water supply management area as a mitigation level 4 drinking water supply management area if the statistical analysis of the nitrate-nitrogen concentration in the public well or in the groundwater monitoring network is increasing.

F. The mitigation level remains a mitigation level 3 unless one of the criteria in items B to E is met.

G. If responsible parties within a drinking water supply management area have demonstrated progress ~~in addressing nitrate in groundwater~~ by changing agricultural or land use practices, so that the public well does not meet the criteria of a mitigation level 4 as shown by computer modeling data or residual soil nitrate testing, the commissioner may grant a onetime exemption from designating a mitigation level 3 drinking water supply management area as a mitigation level 4 drinking water supply management area for a period equal to the period for the mitigation level designation decision under item A.

Subp. 9. **Mitigation level 4 drinking water supply management area; mitigation level designation review.**

A. The commissioner shall review the water quality and monitoring data of a mitigation level 4 drinking water supply management area and either make a new mitigation level designation or maintain the existing mitigation level 4 designation for the drinking water supply management area after no fewer than three growing seasons or the lag time, whichever is longer, following the commissioner's initial mitigation level 4 designation. However, if residual soil nitrate testing is conducted, the review period shall not be less

than three growing seasons. The commissioner shall review the mitigation level designation every three growing seasons thereafter.

B. The commissioner shall designate a mitigation level 4 drinking water supply management area as a mitigation level 3 drinking water supply management area if:

(1) the statistical analysis for groundwater nitrate-nitrogen concentrations in the public well shows that the well is not projected to exceed the health risk limit for a period of ten years; and

(2) the groundwater nitrate-nitrogen concentrations in the public well have not reached or exceeded 9.0 mg/L for any three samples in the past ten years.

Subp. 10. **Limitation on change in designation.** The commissioner shall not designate a drinking water supply management area more than one mitigation level higher than the drinking water supply management area's previous designation for a minimum of three growing seasons.

1573.0050 WATER RESOURCE PROTECTION REQUIREMENTS ORDER.

Subpart 1. **Commissioner's water resource protection requirements order.**

A. The commissioner shall issue a water resource protection requirements order to responsible parties in mitigation level 3 and 4 drinking water supply management areas that meet the criteria in part 1573.0040, subparts 7 to 9. The commissioner shall use the nitrate-nitrogen concentration results obtained in part 1573.0040, subpart 5, to issue a water resource protection requirements order for a mitigation level 3 or 4 drinking water supply management area.

B. If a groundwater monitoring network is installed or residual soil nitrate testing is conducted in the drinking water supply management area, then a commissioner's order applies to the entire drinking water supply management area.

C. If a groundwater monitoring network is not installed or residual soil nitrate testing is not conducted in the drinking water supply management area, then the commissioner's order applies to the area within the drinking water supply management area for which land surface practices may impact water quality within the monitored well after the recommended nitrogen fertilizer best management practices for the drinking water supply management area are first published by the commissioner. This area shall be determined based on the estimated travel time, including lag time, for nitrate-nitrogen to travel from the place of application to the well.

D. In prioritizing the issuance of water resource protection requirements orders throughout the state, the commissioner shall consider the following:

(1) the nitrate-nitrogen concentration in drinking water supply management areas as determined by the commissioner of health's public well data or the groundwater monitoring network data;

(2) the size of the population at risk receiving water from the public well in the drinking water supply management area due to high nitrate in groundwater;

(3) whether the drinking water supply management area has a water treatment system; and

(4) the potential cost for a new water treatment system or systems.

E. A commissioner's water resource protection requirements order shall include the following:

(1) the mitigation level of the drinking water supply management area;

(2) the drinking water supply management area that is subject to the water resource protection requirements order;

(3) the water resource protection requirements for the drinking water supply management area that is subject to the water resource protection requirements order;

(4) the effective date of the water resource protection requirements order; and

(5) information on a responsible party's right to request a contested case hearing regarding the water resource protection requirements order.

F. A commissioner's water resource protection requirements order applies to responsible parties in a drinking water supply management area that is subject to a water resource protection requirements order.

G. The commissioner may exclude part of a drinking water supply management area from the water resource protection requirements order if the commissioner determines that the area is not contributing significantly to the contamination ~~in the well or it is not practicable to include that part~~ of the well. In determining whether an area is not contributing significantly, the commissioner shall apply the following:

(1) areas within the wellhead protection plan as approved by the Department of Health under chapter 4720 that identify an area as low vulnerability are not subject to the water resource protection requirements order; or

(2) areas within a drinking water supply management area that have a ten-foot or greater confining layer, as defined in part 4725.0100, subpart 24a, are not subject to the water resource protection requirements order, unless computer modeling indicates that leaching and infiltration of nitrate from sources at or near the ground surface is predicted to result in nitrate exceeding 5.4 mg/L in the aquifer being monitored.

The commissioner shall regulate areas under this part by quarter section or using the boundaries in the wellhead protection plan for the drinking water supply management area.

H. The commissioner shall issue a water resource protection requirements order within 180 days of receiving all the information required in part 1573.0040, subparts 7, 8, and 9. For good cause shown, the commissioner may extend the deadline by 180 days.

Subp. 2. **Notice of proposed water resource protection requirements order.**

A. The commissioner shall hold at least one public informational meeting in the county of the mitigation area subject to the proposed water resource protection requirements order before publishing the proposed water resource protection requirements order.

B. The commissioner shall provide notice of the proposed water resource protection requirements order to all known affected responsible parties within the drinking water supply management area. If personal notification is not practicable, the commissioner shall publish notice of the proposed water resource protection requirements order in two consecutive issues of the legal newspaper for the affected drinking water supply management area and in the State Register.

C. The commissioner shall also provide the notice required under item B to the following entities whose jurisdiction includes a mitigation area:

(1) cities;

(2) township boards;

(3) counties;

(4) soil and water conservation districts; and

(5) watershed districts.

D. The commissioner shall also provide the notice required under item B to the executive director of the Board of Water and Soil Resources, the commissioner of natural resources, the commissioner of the Pollution Control Agency, the commissioner of health, and the executive director of the Environmental Quality Board.

E. The commissioner must provide or publish the notices required under this subpart at least 60 days before the proposed effective date of the water resource protection requirements order.

Subp. 3. **Contested case hearing.**

A. Following notice of the proposed water resource protection requirements order as required by subpart 2, any person or entity subject to the water resource protection requirements order may petition the commissioner for a contested case hearing to challenge a water resource protection requirements order.

B. A petition for a hearing must contain a statement of the issue or issues proposed to be addressed at the hearing as well as the part of the proposed water resource protection requirements order to be challenged. The petition must also contain the specific relief or resolution requested as well as the proposed findings of fact in dispute.

C. Upon receipt of a timely petition for a hearing, the commissioner shall order a public hearing. The commissioner shall publish the order for hearing in the legal newspaper for the affected drinking water supply management area and in the State Register at least 30 days before the public hearing. The public hearing shall be held within 60 days of the proposed effective date of the proposed water resource protection requirements order. The hearing shall be held before an administrative law judge in the county in which the mitigation area is located and in accordance with the requirements of Minnesota Statutes, chapter 14, and the rules relating to contested case proceedings.

D. The administrative law judge shall submit recommended findings of fact, conclusions of law, and the final order to the commissioner and each petitioner no later than 30 days from the conclusion of the public hearing.

E. Any party to the hearing may submit written exceptions and argument to the commissioner up to ten business days from the date of issuance of the recommendations from the administrative law judge.

F. Within 30 days of the issuance of the recommended findings of fact, conclusions of law, and final order by the administrative law judge, the commissioner shall issue a final water resource protection requirements order, which is the final decision of the agency for a contested case for purposes of judicial review under Minnesota Statutes, sections 14.63 to 14.69.

G. The commissioner shall publish notice of the final water resource protection requirements order in two consecutive issues of the legal newspaper for any affected drinking water supply management area.

The commissioner shall also provide the notice of the final water resource protection requirements order to the executive director of the Board of Water and Soil Resources, the commissioner of natural resources, the commissioner of the Pollution Control Agency, the commissioner of health, and the executive director of the Environmental Quality Board.

Subp. 4. **Final water resource protection requirements order.** If the commissioner does not receive any petitions requesting a hearing under subpart 3 within 60 days of the notice of the proposed water resource protection requirements order as required by subpart 2, the published proposed water resource protection requirements order is effective on the date provided in the proposed water resource protection requirements order.

Subp. 5. **Amendment to a water resource protection requirements order.**

A. The commissioner may amend the content of a water resource protection requirements order based on the content of part 1573.0070.

B. The commissioner shall provide notice of proposed amendments to a water resource protection requirements order to all known affected responsible parties within the

drinking water supply management area. If personal notification is not practicable, the commissioner shall publish notice of proposed amendments to a water resource protection requirements order in two consecutive issues of the legal newspaper for any affected drinking water supply management area and in the State Register at least 30 days before the proposed effective date of the amendments. The commissioner shall also provide notice of proposed amendments to a water resource protection requirements order to the executive director of the Board of Water and Soil Resources, the commissioner of natural resources, the commissioner of the Pollution Control Agency, the commissioner of health, and the executive director of the Environmental Quality Board at least 30 days before the proposed effective date of the amendments.

C. Any person or entity subject to proposed amendments to a water resource protection requirements order has 30 days from the date of notice of the amendments under item B to provide written comments to the commissioner on the proposed amendments.

D. The commissioner shall publish notice of the amended final water resource protection requirements order in two consecutive issues in the legal newspaper for any drinking water supply management area affected by the amendments to the water resource protection requirements order.

E. The amended final water resource protection requirements order is effective upon publication under item D.

Subp. 6. **Judicial review.**

A. Any person or entity subject to a final water resource protection requirements order or an amended water resource protection requirements order may seek judicial review pursuant to Minnesota Statutes, sections 14.63 to 14.69.

B. For judicial review of an amended water resource protection requirements order, only the amendments to the water resource protection requirements order are subject to judicial review.

Subp. 7. **Recording.** The commissioner shall record all final water resource protection requirements orders and amendments for water resource protection requirements in the appropriate county.

1573.0060 REQUIREMENTS FOR WATER RESOURCE PROTECTION REQUIREMENTS ORDERS.

A. A responsible party in a mitigation level 3 or 4 drinking water supply management area must comply with the following:

(1) maintain field-specific records for six years, starting with the effective date of the water resource protection requirements order. The records required to be kept under this subitem must document nitrogen fertilizer use, including but not limited to its application date, application rate, any credit given for organic and inorganic nitrogen sources, the timing of the nitrogen fertilizer application, the source of the nitrogen, and nitrogen's placement;

(2) provide records maintained under this part to the commissioner upon request;

(3) comply with the prohibitions on fall application and application to frozen soils under part 1573.0030, unless the application is excluded from the prohibitions under part 1573.0030, subpart 2; and

(4) comply with any water resource protection requirements orders that apply to the drinking water supply management area governing the cropland over which the responsible party has control.

B. This chapter is enforceable pursuant to Minnesota Statutes, chapter 18D.

1573.0070 WATER RESOURCE PROTECTION REQUIREMENTS ORDER CONTENTS.

Subpart 1. **Mitigation level 3.**

A. The commissioner shall consider including the following requirements for responsible parties in a water resource protection requirements order for mitigation level 3 drinking water supply management areas:

(1) nitrogen fertilizer best management practices approved by the commissioner pursuant to Minnesota Statutes, section 103H.151, subdivision 2;

(2) application guidelines for nitrogen fertilizer from the University of Minnesota;

(3) educational activities approved by the commissioner;

(4) field testing to determine nitrogen requirements for specific crops;

(5) testing of manure using a lab approved or certified by the commissioner;

(6) testing as needed to monitor nitrate-nitrogen concentrations in the groundwater;

(7) nitrogen crediting from previous crops, manure application, irrigation application, and all other sources of nitrogen;

(8) irrigation, fertilizer chemigation, water, manure, and nutrient management plans developed or approved by a qualified professional;

(9) soil amendments registered with the commissioner that reduce the need for or improve the use of nitrogen;

(10) plant amendments registered with the commissioner that improve the efficient use of nitrogen inputs;

(11) products delaying nitrification, approved by the commissioner; or

(12) products delaying plant available nitrogen, approved by the commissioner.

B. The commissioner may require alternative management tools to be used in drinking water supply management areas provided that a source of funding for increased costs related to the implementation of the alternative management tool is available to responsible parties. The commissioner shall select alternative management tools for purposes of this subpart in consultation with the local advisory team. The commissioner shall not restrict the selection of the primary crop.

Subp. 2. **Mitigation level 4.** The commissioner shall consider including the requirements in items A to C for responsible parties in a water resource protection requirements order for mitigation level 4 drinking water supply management areas:

A. any requirement listed in subpart 1;

B. specific nitrogen fertilizer rate requirements for crops. The commissioner shall not set rate requirements for nitrogen fertilizer below the lowest University of Minnesota recommended rate; and

C. water resource protection requirements as defined in Minnesota Statutes, section 103H.005, subdivision 15, and that meet factors under Minnesota Statutes, section 103H.275, subdivision 2a. The commissioner shall not restrict the selection of the primary crop.

Subp. 3. **Exceptions.** The commissioner may provide exceptions to a water resource protection requirements order ~~on a site-specific basis.~~ if the commissioner determines the order could not be implemented because of:

A. adverse weather conditions including late spring thaw, heavy rainfall, drought, or other extreme weather event;

B. crop failure for any reason including plant diseases or pest infestations; or

C. the required practice is agronomically or technically unsuitable for a specific field based on the soil types, topography, or the crops grown.

1573.0080 MINNESOTA AGRICULTURAL WATER QUALITY CERTIFICATION PROGRAM EXEMPTION.

A responsible party certified through the Minnesota Agricultural Water Quality Certification Program under Minnesota Statutes, sections 17.9891 to 17.993, is deemed to be in compliance with this chapter for the duration of the water quality certification.

1573.0090 ALTERNATIVE MANAGEMENT TOOLS; ALTERNATIVE PROTECTION REQUIREMENTS.

Subpart 1. **Alternative management tools.**

A. The commissioner shall maintain a list of alternative management tools on the Department of Agriculture's Web site.

B. The commissioner shall identify on the list of alternative management tools if an alternative management tool can be substituted for a nitrogen fertilizer best management practice in the nitrogen fertilizer best management practice evaluation.

C. A responsible party subject to a water resource protection requirements order may implement an alternative management tool as an alternative to a specific requirement in a water resource protection requirements order only if the commissioner states in the list of alternative management tools that the alternative management tool is a substitute for a nitrogen fertilizer best management practice. A responsible party must keep records of all alternative management tools used and the specific water resource protection requirements order that allows the alternative management tool to be used.

D. A responsible party may use an alternative management tool in addition to the requirements in the water resource protection requirements order.

Subp. 2. **Alternative protection requirements.**

A. A person subject to a water resource protection requirements order may apply to the commissioner to suggest an alternative protection requirement pursuant to Minnesota Statutes, section 103H.275, subdivision 2, paragraph (e).

B. All applications for alternative protection requirements shall be made on a form approved by the commissioner.

EFFECTIVE DATE. Minnesota Rules, part 1573.0030, is effective January 1, 2020.

MINNESOTA
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June 6, 2019

VIA EMAIL ONLY
Nancy Breems
Secretary of State, Elections Division
180 State Office Building
100 Rev Dr Martin Luther King Jr Blvd
St. Paul, Minnesota 55155-1299
official.documents@state.mn.us

Re: ***In the Matter of the Proposed Rules of the Department of Agriculture Governing Groundwater Protection***
OAH 71-9024-35205; R-4337

Dear Ms. Breems:

Enclosed for filing is an electronic copy of the above-entitled adopted rules.

Please send the agency copy of the rules to:

Katie Wolf
State Program Administrator Senior
Department of Agriculture
625 Robert St N
Saint Paul, MN 55155

If you have any questions regarding this matter, please contact Ian Lewenstein at (651) 361-7857, ian.lewenstein@state.mn.us, or via facsimile at (651) 539-0310.

Sincerely,

Carah Faggett
Legal Assistant

Enclosures
cc: Katie Wolf (via email)