

Ramsey County

**Amendment to South Minnewaukan Township Zoning
Ordinance for Animal Feeding Operations: Approved
September 28, 2006 by the South Minnewaukan Township
Board. 26**

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Chairman Ervin Giese Date 9-26-2006

Supervisor Kim Bukela Date 9-26-06

Supervisor Tom Merten Date 9-26-06

clerk
Supervisor Michelle Fritz Date 9-26-06

Clerk _____ Date _____

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ANIMAL FEEDING OPERATIONS PROVIDED THEY MEET THE FOLLOWING REQUIREMENTS:

(a) Definitions: Terms used in this ordinance have the same meaning as given by the laws and rules of the state of North Dakota, specifically chapter 33-16-03 of the North Dakota Administrative Code. The definitions for these terms and additional terms are:

1. "Animal feeding operation" means a place where livestock have been, are, or will be confined, concentrated and fed for 45 days in any 12 month period, pasture, crops, or other vegetation are not normally managed or sustained for grazing during the normal growing season; and, animal waste or manure accumulates. This term does not include an animal wintering operation. Adjoining animal feeding operations under common ownership are considered to be one animal feeding operation, if they use common areas or system for manure handling.
2. "Animal wintering operation" means the confinement of cattle or sheep used or kept for breeding purposes in a feedlot or sheltered area at any time between October 15 and May 15 of each production cycle under circumstances in which these animals do not obtain a majority of their feed and nutrients from grazing. The term includes the weaned offspring of cattle and sheep, but it does not include (1) breeding operations of more than 1000 animal units or (2) weaned offspring which are kept longer than 120 days and that are not retained for breeding purposes.
3. "Bedding material" means an absorbent substance applied to dirt or concrete flooring systems, including wood shavings, wood chips, sawdust, shredded paper, cardboard, hay, straw, hulls, sand, and other similar, locally available materials.
4. "Best management practices" means schedules of activities, prohibitions of practices, conservation practices, maintenance procedures, and other management strategies to prevent or reduce the pollution of waters of the state. Best management practices also include treatment requirements, operating procedures, and practices to control production area and land application area runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
5. "Concentrated animal feeding operation" means an animal feeding operation that is defined as a large concentrated animal feeding operation (Definition 11) or as a medium concentrated animal feeding operation (Definition 18), or is a small or other type of animal feeding operation designated as a concentrated animal feeding operation in accordance with North Dakota Administrative Code Chapter 33-16-03.1-04 (Designation of concentrated animal feeding operations). For purposes of determining animal numbers, two or more feeding operations under common ownership are considered to be a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.
6. "Discharge of a pollutant" and "discharge of pollutants" each means any addition of any pollutant to the waters of the state from any source, including the disposal of pollutants into wells.
7. "Department" means the North Dakota department of health.

8. "Earthen storage pond or pond" means an earthen pond used to store manure, process wastewater and runoff from the production area of a livestock facility.
9. "Engineer" means a professional engineer registered to practice in the state of North Dakota.
10. "Facility or livestock facility" has the same meaning as animal feeding operation (Definition 1) or concentrated animal feeding operation (Definition 5).
11. "Large concentrated animal feeding operation" means any animal feeding operation that stables or confines an animal unit capacity of 1,000 or more animal units. For livestock numbers see p.8, equivalent animal numbers.
12. "Litter" means a mixture of fecal material, urine, animal bedding material, and sometimes waste feed.
13. "Manure or livestock manure" means fecal material and urine, animal-housing wash water, bedding material, litter, compost, rainwater, or snow melt that comes in contact with fecal material and urine, and raw or other materials commingled with fecal material and urine or set aside for disposal.
14. "Manure handling system" means all of the water pollution control structures used at the production area of a livestock facility.
15. "Manure storage pond" means an earthen storage pond that stores liquid manure and process wastewater from indoor confined animal feeding operations.
16. "Manure storage structure" means any water pollution control structure used to contain or store manure or process wastewater. It includes, but is not limited to: earthen manure storage ponds; runoff ponds; concrete, metal, plastic, or other tanks; and stacking facilities.
17. "Medium animal feeding operation" means any animal feeding operation that stables or confines an animal unit capacity between 300 and 999 animal units. For livestock numbers see p.8, equivalent animal numbers.
18. "Medium concentrated animal feeding operation" means a medium animal feeding operation that meets either one of the following conditions:
 - a. Pollutants are discharged into waters of the state through a man-made ditch, flushing system, or other similar man-made device; or
 - b. Pollutants are discharged directly into waters of the state which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.
19. "Nuisance" means any Concentrated Animal Feeding Operation which allows or permits offensive or unhealthful odors or effluent to emanate there from, which such odors or effluent substantially impair the use, enjoyment, or value of any property. The spraying, spreading or application of any such waste or effluent from any such operation within the county is likewise declared to be a nuisance.
20. "Nutrient management plan" means a written description of the equipment, method(s) and schedule(s) by which (1) manure, litter and process wastewater is beneficially reused in an environmentally safe manner such as being applied to land at appropriate agronomic rates as nutrients or fertilizers, and (2) water pollution and air pollution (including odors) are controlled sufficiently to protect the environment and public health.
21. "Open lot" means livestock pens, feeding or holding areas at the production area of an animal feeding operation which are outside and not under roof, and where rain can fall directly on the lot area.
22. "Open manure storage structure" means an earthen pond or storage tank for holding liquid manure which is not covered so rainfall can fall directly into the pond or tank.

23. "Operation and maintenance plan" means a written description of the equipment, methods, and schedules for: (1) inspection, monitoring, operation, and maintenance of the animal feeding operation (manure storage structures, water pollution control structures, and the production area); and (2) controlling water pollution and air pollution (including odors) sufficient to protect the environment and public health. It includes emergency response actions for spills, discharges or failure of a collection, storage, treatment, or transfer component.
24. "Operator" means an individual or group of individuals, partnership, corporation, joint venture, or any other entity owning or controlling, in whole or in part, one or more animal feeding operations.
25. "Overflow" means the discharge of manure or process wastewater resulting from the filling of wastewater or manure storage structures beyond the point at which no more manure, process wastewater, or storm water can be contained by the structure.
26. "Pollutant" means "wastes" as defined in subsection 2 of North Dakota Century Code Section 61-28-02, including dredged soil, solid waste, incinerator residue, garbage, sewage, sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharge into water.
27. "Process wastewater" means water directly or indirectly used in the operation of the animal feeding operation for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other animal feeding operation facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with any raw materials, products, or byproducts, including manure, litter, feed, milk, eggs, or bedding material.
28. "Production area" means those areas of an animal feeding operation used for animal confinement, manure storage, raw materials storage, and waste containment. The animal confinement area includes, but is not limited to, open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milking rooms, milking centers, cattle yards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under-house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes, but is not limited to, feed silos, silage bunkers, and bedding materials. The waste containment area includes, but is not limited to, settling basins, area within berms, and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility and any area used in the storage, handling, treatment, or disposal of mortalities.
29. Risk Classification. The environmental risk posed by the use of surface impoundments and land application for the treatment and disposal of wastes and wastewaters may be classified as follows:
- (a) High risk environments.
- (1) Surface water with sandy soil, high risk environment based on close proximity (less than one (1) mile) to alluvial terrace deposits, sand dunes, and other highly permeable subsurface environments.
- (2) Large watershed. High risk environment based on high volume storm water runoff potential based on surface topography, proximity to streams and creeks, erosion potential,

and size of watershed up gradient from disposal area, especially if downstream users of surface water for private and/or public drinking water supply and agricultural water supply.

(3) Unconfined aquifer, shallow, private/public water supply, high risk environment based on shallow depth to groundwater that is or could be locally used for private and/or public drinking water.

(4) Health/Property. High risk environment based on less than one (1) mile proximity to existing neighboring business, residences, agricultural work areas, or other highly used structure, public or private, that would be adversely impacted by air or water pollutants generated by the facility, including but not limited to chemicals, sulfur compounds, nitrogen compounds, dusts, pollens, airborne disease, and malodorous odors.

(b) Moderate risk environments.

(1) Surface water, moderate risk environment based on distance to nearest intermittent stream less than two (2) miles and greater than required setbacks.

(2) Unconfined aquifer, deep, private/public water supply. Moderate risk environment based on deep groundwater that is or could be locally used for public and/or private drinking water and can be considered to be a sole source aquifer.

(3) Unconfined aquifer, shallow, other uses. Moderate risk environment based on shallow depth to groundwater that is or could be locally used only for agricultural purposes and where a deeper groundwater is available and has been or could be used for private and/or public drinking water.

(4) Health/Property. Moderate risk environment based on less than three (3) miles proximity to existing neighboring business, residences, agricultural work areas, or other highly used structure, public or private, that could be adversely impacted by air or water pollutants generated by the facility, including but not limited to chemicals, sulfur compounds, nitrogen compounds, dusts, pollens, airborne disease, and malodorous odors.

(c) Other. Other environmental or public health risk not otherwise classified may be identified by the county and used to determine appropriate siting and waste management requirements.

30. "Runoff" means rainwater or snow melt that comes in contact with manure at an open lot or open manure storage area and, therefore, is defined as manure.

31. "Runoff pond" means an earthen storage pond that is used to collect and store runoff from an open lot or from a manure storage area.

32. "Sensitive groundwater area" means vulnerable hydro geologic settings as determined by the department such as glacial outwash deposits or alluvial or aeolian sand deposits that are critical to protecting current or future underground sources of drinking water. Areas designated as sensitive groundwater areas by the department include alluvial or aeolian sand deposits shown on Geologic Map of North Dakota (Clayton, 1980, North Dakota geological survey) and glacial drift aquifers listed in North Dakota Geographic Targeting System and Groundwater Monitoring (Radig, 1997, North Dakota department of health), or most recent editions of these publications, with DRASTIC scores greater than or equal to 100 based on methodology described in DRASTIC: A Standardized System For Evaluating Groundwater Pollution Potential (Aller et al, 1987, United States environmental protection agency).

33. "Small animal feeding operation" means any animal feeding operation that stables or confines less than the numbers of animals specified for a medium animal feeding operation (Definition 17).

34. "Small concentrated animal feeding operation" means any animal feeding operation that stables or confines less than the number of animals specified for a medium animal feeding

operation (Definition 17) and is designated as a CAFO in accordance with North Dakota Administrative Code 33-16-03.1-04.

35. Surface Impoundment Classifications. Surface impoundments associated with animal waste feeding operation wastewater treatment systems are classified according to the system configuration as follows:

(a) Total Retention. Total retention surface impoundments are impoundments designed and constructed without an outfall structure (e.g., no discharge pipe, trench, or spillway). Surface impoundments are assumed to have the potential to discharge to groundwaters of the state by leakage and seepage at rates not to exceed those specified by the state.

(b) Flow Through. Flow-through surface impoundments are impoundments designed and constructed with an outfall structure, which allows the controlled discharge of wastes to surface waters of the state (e.g., discharge pipe, trench or spillway). Surface impoundments are assumed to have the potential to discharge to groundwaters of the state by leakage and seepage at rates not to exceed those specified by the state.

(c) Cells. Surface impoundments may be divided into several smaller divisions called cells which share a common wall. Cells that receive flow in series can be considered either one total impoundment or several individual impoundments depending on the complexity of the waste, the production of sludge's, wastes or other concerns, and the type of treatment used.

(d) Treatment trains. Treatment trains are multiple surface impoundments or one impoundment with more than one cell in series whereby each impoundment or cell is used for a particular treatment method designed to reduce the concentration or toxicity of pollutants of concern.

(e) Other configurations. Other configurations will be classified by County Commissioners on a case-by-case basis.

36. "Surface water" means waters of the state that are located on the ground surface, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, and all other bodies or accumulations of water on the surface on the earth, natural or artificial, public or private.

37. "Unconfined glacial drift aquifer" means a glacial drift aquifer that does not have an impervious soil layer which acts to prevent or minimize movement of water into, through, or out of the aquifer.

38. Waste Classification. Wastes and wastewaters are classified as follows:

Class I: Wastes and wastewaters, including storm water, contained or suspecting to contain pollutants at concentrations and volumes which could be deleterious to humans, aquatic life, wildlife, or the beneficial use of the environment if discharged to ground and/or surface water and are generated by a batch or continuous process. Examples include but are not limited to, mobile metals, dissolved salts (>2000ppm), soluble hydrocarbons, nitrogen compounds (>500 ppm), biochemical oxygen demand (BOD) (>1000 ppm), or pH (<4 or >9) or most wet manure systems.

(b) Class II: Wastes and wastewater, including storm water, containing pollutants listed in Class I but at either significantly less concentration or significantly less volume and/or containing wastes not listed in Class I, in concentrations that may, if discharged to ground and/or surface water may cause degradation of the beneficial use of the water or harm the environment. Examples include but are not limited to, nitrogen compounds (<500 ppm), total dissolved salts (<2000 ppm), temperature, biological and chemical oxygen demands (<1000 ppm), phosphorus, and suspended solids or most dry manure systems.

- (c) Class III: Dilute wastewaters or treated wastewaters, including storm water, in concentrations that may, if discharged to surface water may cause degradation of the beneficial use of the water or harm the environment. Examples include but are not limited to, nitrogen compounds (<150 ppm), total dissolved salts (<500 ppm), temperature, biological and chemical oxygen demands (<250 ppm), phosphorus, and suspended solids or some dry manure systems with dilute wastewater.
- (d) Class IV: Wastes and wastewaters generated during a spill, by-pass, or unit process failure that would not normally enter the waste management system, but does or is likely to, as a result of the spill, by-pass, or unit process failure.
- (e) Class V: Other wastes and wastewaters, including storm water, not otherwise classified.
39. Waste Management System Classifications. Surface impoundments are classified according to the waste management system treatment and purpose as follows:
- (a) Dry Manure Systems. Waste management that utilizes the dry manure system includes those CAFOs that provide areas for generation and collection of feces and urine on open ground, partially covered area, concrete floors, or other surfaces that does not utilize or otherwise allow liquid to transport the waste from the generation site to the treatment site, except as storm water runoff (e.g., dairy or beef cattle raised on dirt or concrete feedlot, poultry dry litter systems, other animals corralled on dirt or concrete feedlot).
- (1) Storm water Runoff Disposal Lagoon. Storm water runoff disposal lagoons associated with dry manure systems are considered to contain only liquids collected after a storm event that contains waste from the feedlot area that is transported from point of generation to the lagoon by storm water runoff via land surface, piping, or other natural and/or man-made conveyances and held in the lagoon for disposal by evaporation, seepage, and/or disposal by land application
- (2) Storm water Runoff Treatment Lagoon. Storm water runoff treatment lagoons associated with dry manure systems are considered to contain only liquids collected after a storm event that contains waste from the feedlot area that is transported from point of generation to the lagoon by storm water runoff via land surface, piping, or other natural and/or man-made conveyances and held in the lagoon for treatment prior to disposal by evaporation, seepage, and/or disposal by land application.
- (3) Manure Solids Holding Areas. Manure solids holding areas associated with dry manure systems that are used to store manure solids prior to removal for use as a fertilizer or other beneficial reuse.
- (b) Wet Manure Systems. Waste management systems utilizing wet manure system includes those CAFOs that provide areas for generation and collection of manure (ie., feces and urine) and that rely on a liquid transport system to collect and remove the waste from the confinement area to the treatment areas a liquid slurry.
- (1) Concrete Pits Under Barns. Waste management for wet manure systems generally include a concrete pit with a maximum depth of 2 feet that is constructed under a slatted floor as a part of the barn foundation. The concrete pit includes all appurtenances used to wash manure from the inside of the barn down through the slotted floors into the pits and to wash the manure from the pits to the lagoon.
- (2) Anaerobic Digesters. Waste management for wet manure systems may include the use of anaerobic digesters to reduce the volatile solids loading on the anaerobic lagoon. Digesters are designed to maximize anaerobic degradation of manure solids while minimizing the loss of nutrients.

- (3) Short-term Anaerobic Lagoons. Waste management systems for wet manure systems may include the use of an anaerobic lagoon (liquid depth greater than 10 feet) to use biological degradation to reduce the amount of organic loading prior to disposal by discharge or disposal by land application. The short-term anaerobic lagoon provides temporary storage (ie., less than one year) of wastes prior to disposal.
- (4) Long-term Anaerobic Lagoons. Long-term anaerobic lagoons provide long-term storage (greater than one year, generally greater than five years) and treatment of organic wastes and generally do not include discharge to the environment or to land application disposal systems in order to maintain quiescent conditions.
- (5) Aerobic Lagoons. Aerobic lagoons are shallow lagoons (liquid depth less than 10 feet) that utilize oxygen-based biological degradation to reduce the organic loading of the waste prior to disposal by discharge or by land application. Lagoon may also be considered to be aerobic if mechanical aerators or other methods of introducing oxygen to the wastewater are employed as waste management controls.
- (6) Composting. Composting of herbivorous manure only.
- (c) Batch process. A batch process is a process that generates wastewater in an intermittent time period where the facility can be operating normally and not generate wastewater for extended periods of time. A batch process means that the facility can continue to operate without generating wastewater, except for contaminated storm water. For example, a dry manure system that only generates wastewater as a result of contaminated storm water runoff can be considered a "batch process" because the wastewater is only generated during a storm event.
- (d) Continuous process. A continuous process is a process that generates wastewater on a regular basis where the facility can be operating normally and expect to generate wastewater either daily or weekly regardless of the generation of contaminated storm water. A continuous process means the facility would have to shut down partially or totally in order to prevent the generation of wastewater. For example, a wet manure system at a swine facility generates wastewater on a daily basis and must discharge to the treatment system on a regular basis.
- (40) "Water pollution control structure" means a structure built or used for handling, holding, transferring, or treating manure or process wastewater, so as to prevent it from entering the waters of the state. The term also includes berms, ditches, or other structures used to prevent clean water from coming in contact with manure.
- (41) "Waters of the state" (NDCC 61-28-02.11.) means all waters within the jurisdiction of this state including all streams, lakes, ponds, impounding reservoirs, marches, watercourses, waterways, and all other bodies of accumulations of water on or under the surface of the earth, natural or artificial, public or private, situated wholly or partly within or bordering upon the state, except those private waters that do not combine or effect a junction with natural surface or underground waters just defined.
- (42) Additional term and associated chart. Equivalent Animal Numbers. An "animal unit equivalent" is a unit less number developed from the nutrient and volume characteristics of manure for a specific livestock type. The term "animal units" is used to normalize the number of animals (e.g., head) for each specific livestock type which produce comparable bulk quantities of manure. The animal unit equivalents for types of livestock and the numbers of livestock for facility size thresholds of 300 animal units (a.u.), and so forth, are listed in the following table.

Equivalent Numbers of the Livestock (hd) for Four Sizes (a.u.) of Animal Feeding Operations

Livestock Type	Animal Unit Equivalent	300 a.u.	1,000 a.u.	2,000 a.u.	5,000 a.u.
1 Horse	2.0	150 hd	500 hd	1,000 hd	2,500 hd
1 dairy cow	1.33	225	750	1,500	3,750
1 mature beef cow	1.0	300	1,000	2,000	5,000
1 beef feeder-finishing	1.0	300	1,000	2,000	5,000
1 beef feeder backgrounding	0.75	400	1,333	2,667	6,667
1 mature bison	1.0	300	1,000	2,000	5,000
1 bison feeder	1.0	300	1,000	2,000	5,000
1 swine, >55 lbs	0.4	750	2,500	5,000	12,500
1 goose or duck	0.2	1,500	5,000	10,000	25,000
1 sheep	0.1	3,000	10,000	20,000	50,000
1 swine, nursery	0.1	3,000	10,000	20,000	50,000
1 turkey	0.0182	16,500	55,000	110,000	275,000
1 chicken	0.01	30,000	100,000	200,000	500,000

b. ENFORCEMENT

Enforcement, inspections and emergency response. Neither the approval of construction plans, specifications, or the waste management system, nor the issuance of a permit or certification by the county, shall not prohibit the county from taking any enforcement action if the animal waste management system fails to protect the waters of the state, meet any specified effluent criteria, or comply with state surface and groundwater quality standards. In addition, this approval, issuance, or certification shall not constitute a defense by the operator regarding violation of any statute, regulation, permit condition, or requirement.

(1) On-site inspections. The operator shall allow the county representative, or other county-authorized personnel, upon the presentation of credentials and other documents as may be required by law, to perform the following regulatory functions:

A) Entry. Enter the premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of these or applicable CAFO-related state and federal regulations.

B) Access to records. Have access to and photocopy, at reasonable times, any records that must be kept at the facility under conditions of these or applicable CAFO-related state and federal regulations.

C) Inspection. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required by these or applicable CAFO-related state and federal regulations.

D) Sample or monitor. Sample or monitor, at reasonable times, for the purpose of assuring compliance with permit conditions and these regulations or applicable CAFO-related state and federal regulations.

E) Observe. Observe the use and application of chemicals, water and waste transfer equipment, and all aspects of the waste management system, including land application of wastes and wastewaters and sludges, and the use of land application equipment.

F) Search warrant. Should the county or their agents be denied access to any land where such access is sought for the purpose authorized, the county may apply to any court of competent jurisdiction for a search warrant authorizing access to such land for such purposes. The court, upon such application, may issue the search warrant for the purpose requested.

(2) Spill response. When a spill of chemicals or other toxic materials occurs or is suspected to have occurred at the facility or at the land application area that may reasonably pose a threat to public health or the environment, the operator shall cooperate with county representative, or other authorized personnel, upon the presentation of credentials and other documents as may be required by law to:

(A) Entry. Enter the premises where the spill is alleged to have occurred using emergency response personnel, from both the facility and the county at any time of the day or night, when necessary, in order to observe the immediate effects of the spill.

(B) Access to records and emergency response personnel. Have access within 12 hours of the spill to records, including equipment specifications and personnel testimony that may indicate the type of waste spilled, the amount of the spill, how the spill occurred, and what was done by the facility after the spill occurred.

(i) Minimum information at time of spill. The county shall have access to certain information immediately upon notification of the spill, including the Material Safety Data Sheet for the chemical or toxic material that was spilled, and the approximate volume of the spill. If the spill is significant, additional information may be required by the county.

(ii) Spill report. The spill report shall be submitted to the county within ten (10) working days of the spill, unless a greater time is granted by the county. The spill report shall contain, at a minimum, the following information:

(a) When and where the spill occurred and when it was discovered, including date and time of day and the person(s) that discovered the spill.

(b) How the spill occurred, the purpose of any associated device(s), and how the spill can be prevented in the future.

(c) Damage assessment, including the volume of chemicals or other toxic materials were released, extent of release into the waste management system, the wastewater treatment system, and/or the environment and immediate and potential damages associated with the spill into surface waters, groundwaters and soils, the volume of spilled chemical or materials that can be reclaimed, and other information as required by the county during the investigation.

(d) Corrective action planned or performed to reduce adverse impacts on surface water, groundwaters, and soils and all sampling and analysis related to the spill.

(C) Inspection. Perform an emergency inspection, at a time close to the spill as possible, of any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required by these or applicable CAFO-related state and federal regulations.

(D) Sample and monitor. Sample or monitor, at a time as close to the spill as possible, for the purpose of determining the extent of damage to public health or the environment. If the operator is also sampling and/or monitoring the spill, the county reserves the right to ask for a split sample whenever possible.

(E) Abatement procedures. Require the operator to implement emergency clean-up procedures in addition to those already employed by the operator upon observation of a significant threat to public health or the environment.

(F) Follow-up inspection. Perform follow-up inspection(s) of the spill area or areas of the facility connected with the spill in order to determine the effectiveness of the abatement procedures carried out by the operator.

(3) Compliance with proper operation and maintenance.

(A) Need to halt or reduce not a defense. It shall not be a defense for a permittee in an enforcement action to plead that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of these regulations or the permit.

(B) Duty to mitigate. The operator shall take all reasonable steps to minimize or prevent any discharge in violation of these regulations which has a reasonable likelihood of adversely affecting human health or the environment or creating a public nuisance.

(C) Proper operation and maintenance. The operator shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the regulations.

(i) Proper operation and maintenance includes the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with these regulations.

(ii) The operator shall provide an adequate operating staff which is duly qualified and certified to carry out operation, maintenance and testing functions required to insure compliance with the regulations.

(D) Unit failure report. The operator shall report to the county and state immediately when a unit failure has occurred that results in a release of wastes, wastewaters or sludges outside of the normal waste management system and/or into the environment (e.g., berm failure, severe leakage from lagoon, pipe burst, irrigation equipment failure, etc.). The unit failure written report shall be submitted to the county within ten (10) working days of the failure and contain at a minimum, the following:

(i) When and where the unit failure occurred and when it was discovered, including date and time of day and the person(s) that discovered the failure.

(ii) How the unit failed, the purpose of the device(s), and how the failure can be prevented in the future (e.g., pipe burst).

(iii) Why the unit failed (e.g., backpressure on the pipe due to traps not cleaned properly).

(iv) Damage assessment, including the volume of wastewater released extent of release into the environment and immediate and potential damages associated with release into surface waters, groundwaters and soils, volume that can be reclaimed, and other information as required by the county during the investigation.

(v) Corrective action planned or performed to reduce adverse impacts on surface water, groundwaters, and soils and all sampling and analysis related to failure.

(E) Anticipated non-compliance. The operator shall give advance warning to the county of any planned changes in the facility or activity which may result in noncompliance with permit conditions or standard condition of these regulations.

(F) Fines and other legal actions. Penalties for violations of any duty to obtain a permit, violation of orders, rules and permits, and other violations of duties imposed pursuant to law, may include:

(i) Criminal penalties. In accordance with NDCC Title 36.

(ii) Civil penalties. Violations in civil proceedings shall be subject to penalties of not more than \$500.00 per violation; each day the violation continues shall be a separate violation.

(a) Administrative penalties. Violations in administrative proceedings shall be subject to assessment of an administrative penalty not to exceed \$250.00 per day of noncompliance.

(b) Falsification of data. False statements, falsification of data, omission of material data and similar acts are a violation of NDCC Section 12.1-11-02 or successor statutes.

4. Severability

If any paragraph, sentence, clause or phrase of this ordinance is for any reason held to be invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portion of this ordinance.

(c) PERMIT PROCEDURES

(1) Duty to apply. Any person engaged in an activity requiring registration and/or permit as provided by law and this rule shall first complete, sign and file with the county an appropriate registration form or permit application. An application shall be required for a new permit, major modification of an existing permit, or new ownership of an existing facility that does not have a permit but is required to obtain a permit as provided by law and these regulations.

(2) Requirement for registration. Concentrated animal feeding operations that have an animal unit capacity between 300 and 999 animal units are required to register with the county. The registration of these facilities is for purposes of determining the waste loading within watersheds of the county. The registration information shall be used to assist the county in determining long-term adverse impacts these small facilities may have on the environment in a cumulative impact scenario.

(3) Requirement to obtain a permit under the dual permitting program. It shall be unlawful for any person to carry on the following activities at a concentrated animal feeding operation with animal unit capacity of 1000 animal units or more without first obtaining a county construction or operating permit from the county, as set forth in these regulations.

(A) The construction, installation, operation, and closure of any surface impoundment or treatment system, or the use of any existing unpermitted surface impoundment or treatment system with the jurisdiction of the county and which is proposed to be used for the containment or treatment of CAFO waste and wastewater.

(B) The construction, installation, or operation of any CAFO subject to the permitting authority of the county, the operation of which would cause an increase in the discharge of waste into waters of the state or would otherwise alter the physical, chemical, or biological properties of any waters of the state in any manner not already lawfully authorized by the county.

(C) The construction or use of any new outfall or impoundment for the discharge or seepage of any CAFO waste and wastewater or pollutants into waters of the state:

(D) Any major addition, extension, expansion, operational change or other change proposed for a facility permitted pursuant to these rules shall require the approval of the county through the major modification of the facility's permit prior to construction or implementation of such addition, extension, or change.

(E) Any major expansion shall require a construction permit if the expansion increases the animal unit capacity of the existing facility to 1000 animal units or more.

(F) Construction, installation, or operation of any CAFO with animal unit capacity between 300 and 1000 animal units, if it is determined by the county that the facility represents a significant water pollution potential.

(G) Multiple CAFO's with animal unit capacity less than 1000 animal units but located within one mile of each other, either in a straight line or at each unproductive corner of a section or combination of sections, whose total animal unit capacity would be 1000 animal units or more may be considered to be one facility and may be required to be permitted as one facility, if the multiple CAFO's are commonly owned or operated, the source of pollution is commonly owned, or they share a common waste management system, including but not limited to impoundments, piping, and land application or permitted separately with cumulative impacts as the criteria for requiring a permit if separately owned or operated.

(4) Duration of permit and renew. The duration of permits issued by the county pursuant to these rules shall be as follows:

(A) Construction permit. For a term of 270 days during which time the applicant must commence construction or reapply for a construction permit. The construction permit is a one-time permit issued prior to commencement of construction. The applicant shall apply for and operating permit within six (6) months of commencement of operation.

(B) Permit review. Permits will be reviewed every 5 years. The review will encompass all provisions of the original permitting process.

(C) Expansion. Expansion, either singularly or multiple expansions, of an existing permitted facility that is less than 20 percent (20%) of the animal unit capacity may be permitted by modifying the existing operating permit. Expansion of an existing permitted facility greater than 20% shall be permitted with a construction permit for the expansion and as a major modification of the existing operating permit. Expansion of an existing nonpermitted facility that will result in animal unit capacity greater than 1000 animal units shall be permitted with a construction permit for the expansion and issuance of an operating permit for the entire facility.

(5) Application submittal. Applications for registration or permits shall be submitted on forms approved and provided by the county, with necessary attachments, as follows:

(A) All application must be typewritten or otherwise clearly legible.

(B) Reduced or enlarged forms are not acceptable and will be returned.

(C) When a facility is owned by one person(s) but is operated by another person(s), it is the operator's duty to complete the appropriate forms and provide necessary attachments and file them with the county on behalf of the owner.

(6) Signature requirements. All applications must be duly signed by the appropriate person. Photostatic copies will not be accepted. The application signature shall be made as follows:

(A) If the applicant is a private corporation, the application must be signed by:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, and

(ii) The person responsible for safety and/or environmental affairs.

(B) If the applicant is a partnership, sole proprietorship, or individual person, the application must be signed, respectively by a general partner, the proprietor, or the individual.

(C) If the applicant is a municipality, political subdivision, the State or Federal government or other public agency or entity, the application must be signed by the principal executive officer of the entity or the ranking elected official.

(7) Time to apply. The following schedules shall be followed when applying for county approval of animal feeding operations:

(A) Registration. A registration form shall be filed with the county thirty (30) days prior to commencement of construction for all new facilities that require only registration. Existing facilities that only require registration with the county shall file a registration form within 180 days of the effective date of these rules.

(B) New construction or expansion. An application for new or expansion construction permit shall be filed with the county a minimum of one hundred and twenty (120) days prior to proposed commencement of construction date of any activity requiring a permit.

(C) Existing facilities. An application for an existing facility that requires a permit shall be filed with the county within one (1) year of the effective date of these regulations.

(D) New operating facilities. Facilities that are constructed after the effective date of these regulations shall obtain a construction permit prior to construction and shall obtain an operating permit after the facility has operated a maximum of 120 days by submitting amendments to the construction permit application that describe any changes between the proposed construction design and the "as-built" design for the facility.

(8) Construction and operation without authority. The filing of an application form itself shall not be construed as authority to carry on such activity. Activities carried on without a permit are unlawful and shall be subject to applicable enforcement provisions and penalties contained in this regulation and all applicable federal and state regulations and law. Unauthorized activities must cease until a proper permit is obtained from the county, including but not limited to administrative hearings and public notice processes. Initiation of construction before the issuance of a new or modified county permit shall be deemed to be solely at the risk of the owner or operator of the facility. The determination by the county to issue a permit shall not be influenced by the capital investment of an owner or operator that has constructed the facility without proper issuance of a county permit.

(9) Necessary attachments. *****

(A) Site selection and assessment standards

(i) Objective

This section describes the information required to evaluate the location of a new or expanding CAFO or AFO. Site selection is the single most important factor in protecting water and air quality resources from animal waste. Adequate surface and subsurface information is necessary to limit the potential of new or expanding facilities to degrade water and air quality resources.

(a) Site Selection Standards

Geologic and hydrologic conditions that control the movement of manure or wastewater to surface water or ground water sources are preferred for new or expanding facilities. Upland sites underlain by low permeability soil and located away from surface water are ideal for minimizing the migration of pollutants to surface water and ground water. Facilities that are located at less desirable sites typically require engineered improvements (e.g., above-ground storage tanks or constructed clay liners) to obtain approval for operation.

(b) The following site conditions shall be considered when evaluating the location of a CAFO or AFO:

1. Proximity to surface water;
2. Surface and subsurface soil types (e.g., the presence of sand lenses versus continuous clay liners);
3. Depth to ground water;

4. Surface topography; and
 5. Distance to nearby residents, particularly in the prevailing downwind direction.
- Site conditions shall be evaluated by the county during the permit application review process and shall be considered when developing approval conditions for an animal facility.

(ii) General requirements

(a) New and expanding CAFOs, AFOs and manure storage areas shall be located a minimum of 100 feet from a public water supply well, 50 feet from a private water supply well and not within 500 feet of any down gradient water supply well.

(b) Manure Storage Considerations

The location of storage structures for an animal manure system should be as close as practicable to the manure source. Open storage structures should be located so that the prevailing wind direction will not be toward nearby occupied areas. Consideration should also be given to topography, vegetative screening and building location to minimize visual or air quality impacts from an operation. Water supply wells at existing operations should be protected from animal waste impacts.

(iii) Site Assessments Standards

(a) Scope of Site Assessment

The scope of a site assessment is dependent on the size and location of the proposed livestock feed facility. Larger facilities or those located in sensitive hydrogeologic settings generally require more information to adequately evaluate the site. The assessment work required for these facilities is discussed in paragraph (b). Smaller facilities located in less sensitive hydrogeologic settings generally require less information. The scope of work required at these facilities is discussed in paragraph (c). Contact the county commissioners or their representatives with any site assessment questions.

In general, the following operations require more subsurface soil information:

(a-1) New large CAFOs, with the exception of open lot beef facilities with fewer than 2,000 animals and less than 20 acres in size;

(a-2) Existing operations expanding to large CAFO status, with the exception of open lot beef facilities with fewer than 2,000 animals and less than 20 acres in size; or

(a-3) New, existing or expanding AFOs that meet any of the following criteria:

(3-A) The site overlies or is located within 1 mile of a glacial drift aquifer (see attached map)

(3-B) The site overlies a sensitive ground water area, as defined by the Heath Department (see attached map);

(3-C) Soils at the site have a sandy loam, loamy sand, sand or gravel textural classes as defined by Natural Resources Conservation Service (NRCS) soil survey maps;

(3-D) A water supply well is screened at a depth within 30 feet of the ground surface at the facility;

(3-E) The site is within ¼ mile of a neighboring private water supply well, within ½ mile of a non-community public water supply well or within 1 mile of a community public water supply well;

(3-F) The site is located within a delineated wellhead or source water protection area (see attached map); or

(3-G) The facility will use a storage pond that stores manure and waste water from an enclosed facility, as opposed to a pond that stores runoff from an open lot facility.

(b) Site Assessment Requirements for Large Facilities and Those Located in Sensitive Hydrogeologic Settings.

Data regarding subsurface soil types shall be obtained by advancing soil borings, using a method that retrieves a relatively undisturbed soil sample. The soil borings shall be advanced to at least 25 feet below ground surface or at least 10 feet below the base of the waste pond whichever depth is greater. There shall be a minimum of three borings in the waste pond area or one boring per acre of pond area, whichever is greater. In outdoor feedlot areas, there should be one additional soil boring per 10 acres of feedlot area drilled to at least 25 feet below ground surface. Soil borings should be spaced throughout the proposed facility to enable an accurate assessment of the subsurface geology.

The borings shall be continuously logged, and the soil shall be classified using the Unified Soil Classification System (as outlined in ASTM D-2487) or the equivalent. Soil types shall be recorded in a soil boring log, along with soil colors, soil moisture conditions and the depth of any ground water encountered during drilling. The ground surface elevation at each location shall be obtained to evaluate the boring elevation in relation to the base of the waste pond. The elevation data shall either be reported in feet above mean sea level or referenced to an arbitrary site benchmark.

All soil borings shall be completed and abandoned by a certified monitoring well or water well contractor, according to the requirements established in NDAC Chapter 33-18-20 (Ground Water Monitoring Well Construction Requirements).

Depending on site geology or facility location, the county may require additional soil borings to adequately characterize soil and ground water. Additional borings may be required at sites with complex subsurface geology, such as sites with rapid transition from fine-to coarse-textured soil.

(c) Site Assessment Requirements for Smaller Facilities Not Located in Sensitive Hydrogeologic Settings.

Site assessments at facilities that do not meet any of the conditions of Section 3.1 typically require less detailed subsurface assessment. The assessment may be conducted using soil borings or by an alternative soil evaluation method that is approved by the county prior to site assessment.

Subsurface soils should be evaluated and logged to at least 12 feet below ground surface or at least 8 feet below the base of the waste pond, whichever depth is greater. There shall be a minimum of three soil evaluations in the waste pond area or one soil evaluation per acre of pond area, whichever is greater. In outdoor feedlot areas, there should be one additional soil evaluation per 10 acres of feedlot, to a depth of at least 12 feet below ground surface.

Subsurface soils shall be continuously logged, and soil shall be classified using the Unified Soil Classification System (as outlined in ASTM D-2487) or the equivalent. Soil types shall be recorded on a soil boring log, along with soil colors, soil moisture conditions and the depth of any ground water encountered during drilling. The ground surface elevation at each boring location shall be obtained to evaluate the boring elevation in relation to the base of the waste pond. The elevation data shall either be reported in feet above mean sea level or referenced to an arbitrary site benchmark.

If soil borings are used for evaluating subsurface soil, they shall be completed and abandoned by a certified monitoring well or water well contractor, according to requirements established in NDAC Chapter 33-18-20 (Ground Water Monitoring Well Construction Requirements).

Excavated or disturbed areas resulting from the use of alternative soil evaluation methods shall be filled with compacted soil to achieve permeability equal to or less than the existing geologic formation.

(B) The facility's legal location and mailing address.

- (C) A topographic map of the area where the facility is located showing the specific production area.
- (D) Specific information about the number, size, and type of animals proposed for the facility; the number of days per year animals will be handled; and the type of confinement (open or housed under roof).
- (E) The type of containment and storage (anaerobic lagoon, roofed storage shed, storage ponds, under-floor pits, above-ground storage tanks, underground storage tanks, concrete pad, impervious soil pad, other) and total capacity for manure, litter, and process wastewater storage (tons/gallons).
- (F) The total number of acres under control of the applicant and available for land application of manure, litter, or process wastewater.
- (G) Estimated amounts of manure, litter, and process wastewater generated per year (ton/gallons).
- (H) Estimated amounts of manure, litter, and process wastewater transferred to other persons per year (tons/gallons).
- (I) Designs for all manure storage and water pollution control structures and site-specific background information.
- (J) An operation and maintenance plan**
The required elements of an Operation and Maintenance Plan for a concentrated animal feeding operation shall include at least:
 - (i) the names, addresses, and telephone number of the operator and of the operation and all owners of animals confined at the operation;
 - (ii) the location, including latitude and longitude, and number of acres of the operation;
 - (iii) a map indicating the general layout of the operation, including the location of each building or other structure, the location of all portions of the containment system, the location and flow of any surface water, the location of water supply wells, and the direction and degree of all grades within the property lines of the operation;
 - (iv) a certification by the operator that the operator will be responsible for and will ensure compliance with the Operation and Maintenance Plan and the requirements of this ordinance and a certification by each owner of one (1) or more animals confined at the operation acknowledging the potential joint liability of the animal owner if the operator violates the terms of the permit or the requirements of this ordinance with respect to a discharge from the operation;
 - (v) an estimate of the annual animal production and the annual quantity of each type of animal waste produced by the operation;
 - (vi) the crop or vegetative cover schedule for any agricultural lands owned or leased by the operator;
 - (vii) information necessary to determine the land area required for the application of animal waste from the operation as determined in accordance with the requirements of this ordinance and any crop or vegetative cover schedule specified in the plan;
 - (viii) a schedule for periodic testing of soil nutrient levels;
 - (ix) a schedule for periodic testing of animal waste nutrient levels;
 - (x) information necessary to determine the land area available to the operator for application of animal waste, including copies of deeds of title and written agreements for use of lands not owned by the operator for application of animal waste;

- (xi) if methods of disposal for animal waste other than land application by or on behalf of the operator will be used, a description of those methods and the annual quantity of animal waste to be disposed of by each of these methods;
- (xii) a description of the methods, structures, or practices that the operator will use to prevent soil loss, surface water pollution and ground water pollution while minimizing odors and pests caused by animal waste during collection, storage, and application;
- (xiii) a description of methods, procedures, and practices that the operator will use for:
 - ** operation, monitoring, maintenance, and inspection of animal waste storage operations; and
 - ** handling, transportation, application, and treatment of animal waste, including storage volume, schedules for emptying storage operations, and application schedules, rates, and locations;
- (xiv) a description of contingency measures that the operator will use to minimize environmental pollution resulting from any unexpected waste leak or discharge;
- (xv) a description of practices and procedures that the operator will use for maintaining records detailing compliance with the Operation and Maintenance Plan and this ordinance and;
- (xvi) any additional requirements imposed by the county.

(K) Nutrient utilization plan. All new CAFOs with animal unit capacity of 1000 or more shall develop a nutrient utilization plan as a part of the permit application. All new permitted CAFOs shall implement the plan upon commencement of operation of a permitted facility. Existing CAFOs with animal unit capacity of 1000 animal units or more shall develop and implement a plan within (1) year of the effective date of these regulations.

(i) County requirements for swine facilities. Each nutrient utilization plan shall address site-specific conditions for land application of manure, wastewater and other nutrient sources, comply with the requirements of state law and regulations, and contain at a minimum, the following;

- (a) A site map of all land application areas, including section, township and range.
- (b) Crop rotations on the land application areas.
- (c) Annual records of soil tests, manure nutrient analyses, and calculations required by state law and regulations and this ordinance.
- (d) Nutrient budgets for the land application areas.
- (e) Rates, methods, frequency and timing of application of manure, wastewater and other nutrient sources to the land application areas.
- (f) The amounts of nitrogen and phosphorous applied to the land application areas.
- (g) Precipitation records and the amounts of irrigation and other water applied.
- (h) Records of inspections and preventative maintenance of equipment required by state law and regulation and this ordinance.
- (i) Copies of all landowner agreements for land that is not owned by the swine facility and is scheduled to receive manure or wastewater.
- (j) Names of employees and contractors whom the operator of the swine facility identified pursuant to law to supervise the process of transferring manure or wastewater to land application equipment and the process of land application.
- (k) Records of training of all personnel who supervise and conduct land application of manure or wastewater, as required by law; and
- (l) Any other information required by the county to facilitate approval.
- (m) Conduct soil tests, including but not limited to the following:
 - (m-1)** Tests for nitrogen, phosphate, chloride, copper and zinc, on the land application areas prior to preparation of the nutrient utilization plan and at least annually thereafter, or as often

as required by best available soil science and standards relative to the soils of, and crops to be grown on, the land application areas, and

(m-2) Include the results of such tests in the nutrient utilization plan.

(n) Conduct manure nutrient analyses of manure and wastewater prior to preparation of the nutrient utilization plan and at least every two years thereafter and include the results of such analyses in the nutrient utilization plan.

(n-1) Compare the manure nutrient analyses with the soil tests to calculate needed fertility and application rates for pasture production and crop target yields on the land application areas prior to the preparation of the nutrient utilization plan and each time thereafter when new soil tests or manure nutrient analyses are conducted or required.

(n-2) Include such calculations in the nutrient utilization plan.

(o) If a swine facility finds that the soil tests indicate that the phosphorus holding capacity for any soils in the facilities land application areas may be exceeded within five years, the facility shall promptly initiate the process to obtain access to the additional land application areas needed, or make other adjustments, to achieve the capability to apply manure or wastewater at appropriate agronomic rates.

(p) The facility may be required to apply manure or wastewater on all or a portion of the facility's land application areas at a rate within the agronomic phosphorus needs of the crops or pasture, or the soil phosphorus holding capacity, in less than the time originally allowed in the approved nutrient utilization plan if the county finds that the land application actions of the facility are contributing to the impairment of groundwater or surface water.

(q) The plans shall include compliance with the requirement that manure or wastewater shall not be land applied on bare ground by any process, other than by incorporation into the soil, within 2,500 feet of any habitable structure, wildlife refuge or city, county, state or Federal Park, unless:

(q-1) The manure or wastewater has been subjected to physical, biological, or biochemical treatment or other treatment method for odor reduction approved by the county.

(q-2) The manure or wastewater is applied with innovative treatment or application that is best available technology for swine facilities and best management practices for swine facilities or other technology approved by the county, or

(q-3) The owner of the habitable structure has provided a written waiver to the facility.

(r) **Classification of waste, wastewater analysis.** Prior to the first land application event, the permittee shall provide a wastewater analysis of the wastewater intended to be disposed of by land application. The sampling shall include at least three composite samples composed of grab samples at several depths in the impoundment to insure that the resulting analyses represents the quality of wastewater to be land applied. Analyses shall include at a minimum the following parameters:

(r-1) Nitrogen content (mg/l and lbs/gallon), including total Kjeldahl nitrogen, ammonium-nitrogen, nitrite-nitrogen, and nitrate-nitrogen.

(r-2) Phosphorus content (mg/l and lbs/gallon), including total phosphorus in liquid and total phosphorus in solids.

(r-3) Biochemical oxygen demand (mg/l and lbs/gallon) (BOD five day method).

(r-4) Zinc and copper (mg/l).

(r-5) Total dissolved solids (mg/l TDS and lbs/gallon).

(s) **Calculations of nutrient content.** Calculate nitrogen and phosphorus content showing all expected losses throughout the waste management system to justify the final amount, including but not limited to losses due to volatilization and adsorption.

- (t) **Management of other pollutants of concern.** Calculate the loading of salts, metals, and BOD based on the volume of wastewater that must be disposed of at each crop cycle. Compare the waste loading to acceptable loading rates for metals, salts, and BOD as used in land application of municipal wastewater and sludges. If the acreage required for waste loading is higher than that used for nutrient loading, use the higher acreage requirement.
- (u) **Soil testing prior to land application.** The county may require soil testing beyond that required by the state on a case-by-case basis as a condition of the permit. The operator shall provide the soil testing data to the county.
- (v) **Surface water and groundwater information.** Provide groundwater information on each land application site, including the depth to groundwater, direction of groundwater flow, and the legal description of each well used to determine groundwater information.
- (v-1) **Maps.** Provide a topographic map containing 1 foot contours of the land application sites clearly indicating all waters of the state, including immediate watershed and topography that would cause stormwater runoff to enter waters of the state.
- (v-2) **Water quality monitoring.** Provide the number, design specifications, total depth, depth of completion, and legal description of the monitoring wells proposed for or located at a land application site, including well logs or driller logs, if available. Indicate the elevation of each well as surveyed, the depth to static water level, and the date the static water level was measured.
- (v-3) **Existing wells.** Provide information on existing wells located in the land application area and within 500 feet of the outside boundary of each land application site, and whenever possible from well completion records in the public files, provide information including the total depth, depth of completion, and static water level of each well and date static water level was measured, and show locations on a topographic map of the site and surrounding area.
- (w) **Amendments.** Changes to the nutrient utilization plan shall be submitted to the county as amendments to the plan and shall be incorporated into the permit upon review of the county permit, unless modification of the permit is warranted.
- (ii) **County requirements for non-swine facilities.** The county may require a nutrient utilization plan to be developed for non-swine facilities as a condition of the permit on a case-by-case basis. The non-swine nutrient utilization plan shall contain at a minimum, the following:
- (a) **Nutrient utilization plan.** All portions of the swine nutrient utilization plan that are applicable to non-swine facilities, such as waste classification, nutrient calculation, crop needs, maps, records of precipitation and amounts of irrigation, records of disposal, soil tests, and those requirements that may occur.
- (b) **Amendments.** Changes to the nutrient utilization plan shall be submitted to the county as amendments to the plan and shall be incorporated into the permit upon review of the county permit, unless modification of the permit is warranted.
- (c) **Rates and frequencies of land application.** When setting limits on animal feeding operations waste and wastewater disposal by land application (including loading, hydraulic, and application rates, and frequency and timing of application), the county shall base its determination on the parameters to be monitored and sampled and criteria and factors set forth in classifications of waste and wastewater and environmental risk. The loading requirements for animal feeding operation waste and wastewater disposal by land application shall be subject to the following factors and criteria, at a minimum:
- (c-1) **Hydraulic loading rates.** At a minimum, the hydraulic loading shall not result in uncontrolled and contaminated surface water runoff or persistent ponding or flooding.

Hydraulic loading rates shall be determined using regional and local Plant Available Nitrogen (PAN) evaporation rates, precipitation rates, properties of the soil indicative of water capacity and agronomic water requirements.

(c-2) Concentration or mass loading rates. Concentration or mass loading rates of metals, biochemical oxygen demand, salts, and other toxic waste constituents shall be determined and shall be limited to values that at a minimum, provide for average crop yields during the life of the facility and do not exceed the annual assimilative capacity of the soil for non-nutrients, especially for salinity, metal toxicity, and biochemical oxygen demand. Persistent or conservative pollutants that can cause irreparable harm to the soil shall be monitored to determine when fifty percent (50%) of the assimilative capacity of the soil has been consumed.

(c-3) Nutrient loading rates. The amount of nutrients to be land applied (lbs/acre/year) shall be determined for nitrogen, phosphorus, and potassium.

(3-A) A comparison shall be made between the PAN and the nitrogen uptake of the vegetation sustained on the land. Soil tests used to determine residual nitrogen as required by the PAN equation shall be at a minimum one composite sample per two feet depth to a total depth of the soil profile if soil is not dominated by sandy materials or to a depth of 10 feet if the soil profile is dominated by sandy materials in order to determine the depth of penetration of nitrogen compounds below the root zone.

(3-B) Nitrogen loading rates shall be maintained to minimize the formation and infiltration of nitrates in concentrations that may adversely impact groundwater and/or create a stormwater runoff that may adversely impact surface water.

(3-C) At no time shall the nitrogen loading rate exceed the plan nitrogen uptake rate for the average yield of the intended crop.

(3-D) Phosphorus loading rates shall be maintained to minimize stormwater runoff that may adversely impact surface water. Soil tests used to determine residual phosphorous shall be at a composite sample for each two inches of soil to a total depth of four inches.

(3-E) At no time shall the phosphorus loading on the soils exceed agronomical rates in compliance with the nitrogen management in the direct watershed of an impaired stream.

(c-4) Enteric bacteria (e.g., Salmonella). The land application of waste and wastewater, including contaminated stormwater shall be performed in such a manner to prevent or reduce the viability of enteric bacteria on the soil surface, especially Salmonella.

(4-A) Soils shall be tested once a year at fourteen days past the land application event to determine if Salmonella is still visible in the soil profile.

(4-B) If Salmonella is found to be viable, the operator shall develop a strategy to reduce the recurrence by the next land application event and incorporate that strategy, if successful, into the nutrient utilization plan.

(d) Post-application evaluation. The county may require soil testing after land application to determine the transport and fate of applied nutrients and wastes to determine if the loading rates used are appropriate for the assimilative capacity of the soil for BOD, salts, metals, and other pollutants of concern and the crop nutrient needs for nitrogen and phosphorus. Analytical results shall be submitted to the county and used to amend the nutrient utilization plan as needed.

(e) Emergency response. The operator shall have an emergency response plan dedicated to unit failure of the land application equipment, including pumps, piping, fittings, safety valves, anti-pollution devices, irrigation equipment, and stormwater runoff controls.

(e-1) On-site observation. At no time shall wastes and wastewaters be land applied without direct on-site observation by the operator of the facility. The observer shall be trained in emergency response and have procedures to handle unit failure in such a manner as to reduce or minimize the amount of wastes and wastewaters that are released as a result of normal operation and in the case of unit failure.

(e-2) Reporting. The operator shall notify the county within four (4) hours or sooner if possible, upon first knowledge of an emergency situation in the land application area and fulfill the requirements of a unit failure report.

(iii) Land Application and Sludge Disposal The following general requirements apply to all CAFOs with animal unit capacity of 1000 animal units or more that utilize land application as a method of disposal of CAFO generated wastes, wastewater and/or sludges.

(a) Beneficial Use. No person may apply sludge or wastewater to the land except for the purpose of beneficial use, unless it is shown that the land application will not pollute or tend to pollute the environment, nor pose a risk to human health, nor cause any deterioration of the long-term use of the site, land surfaces, soils, surface water, and/or ground waters.

(a-1) Timing. Timing and rate of land applications shall be in response to crop needs, assuming usual nutrient losses, excepted precipitation, and soil conditions.

(a-2) Nutrient benefit. Land application of wastes, wastewaters, and sludges shall not exceed the nitrogen uptake of the crop coverage or planned crop planting. If the local water quality is threatened by phosphorus, the land application rate shall not exceed the phosphorus uptake rate of the crop coverage or planned crop planting.

(a-3) Crop restrictions. Land application of wastes and wastewaters shall not be applied on any human consumptive food crop that may be eaten raw. Land application of wastes and wastewaters may be land applied on secondary human consumptive crops, such as corn, wheat, and oats, provided a period of thirty (30) days elapses between the last application and harvest.

(b) Prevention of deterioration of soils. Land application of wastes and wastewaters, including stormwater, shall be performed using conservative evaluation between waste loading, nutrient loading, and hydraulic loading, such that the following are met:

(b-1) Assimilative capacity. The assimilative capacity of the environment shall not be exceeded beyond 50% of the reasonable assimilative capacity of metals, salts, and other conservative pollutants.

(b-2) Viability of soil. At no time shall the loading occur to the point that the soil is no longer viable for normal agricultural purposes.

(b-3) Crop rotation. Crop rotation and other similar agricultural practices shall be utilized to insure that the soil is maintained for long-term agricultural uses and to prevent erosion.

(b-4) Highly erodible soils. Land application shall not occur on lands classified as highly erodible according to the conservation compliance provisions of the federal food security act of 1985, as in effect on the effective date of these regulations, and classified as highly erodible on the basis of erosion resulting from water runoff, unless approved by the county.

(b-5) Soil pH. Any site with soil having a natural pH of less than 5.5, or a pH otherwise not conducive to optimum crop yield, shall not be used for the land application of wastes and wastewaters unless the soil pH is amended prior to application and documentation of such amendment is recorded on site as lbs amendment per acre and the final pH determined with soil tests meets or exceeds these requirements.

(c) Climate restrictions. Wastes, wastewaters, and sludges shall not be applied to the land when the ground is frozen or saturated or during rainfall events, regardless of soil conservation practices allowed by the state. The practice of land application shall be performed to reduce or

minimize ponding or puddling of wastewater and shall be limited to those discreet times when crop uptake of nutrients warrants the application of wastes and wastewaters. The operator shall plan ahead and maintain enough storage volume in the waste management system to allow storage until the appropriate climate conditions and crop nutrient requirements prevail.

(d) Discharges and runoff prohibited. Wastes, wastewaters, and sludges shall not be land applied in wetlands or any other waters of the state nor allowed to enter such as surface runoff or by other means. All discharges to waters of the state due to contaminated stormwater runoff, infiltration to shallow groundwater and subsequently surface water, and other hydrologic means from land application sites are prohibited unless a permit has been obtained from the county that specifically authorizes such discharge in an environmentally sound manner.

(e) Sludge incorporation. Sludge applied to the surface of the land shall be incorporated into the soil before the end of each working day.

(f) Odors, disease vectors, and spray drift. Land application of wastes, wastewaters and sludges shall be done in a manner and at certain times of the day that minimize or prevents the occurrence of nuisance conditions, such as odors; shall control disease vectors, such as flies, and rodents; shall avoid spray drift from the land to which it is applied; and shall prevent contamination of soils, ground water and surface water.

(g) Waste classification. The wastes, wastewaters, and sludges shall be sampled and analyzed to determine the presence and concentration of pollutants of concern in order to determine the waste classification, including but not limited to total nitrogen, ammonia-nitrogen, nitrate-nitrogen, phosphorus, potassium, total dissolved solids (TDS), biochemical oxygen demand, Salmonella, and metals, such as copper and zinc.

(h) Soil condition. The type of soils shall be identified according to standard soil classification used by the NRCS using both soil surveys and field verification. All background and required soil sampling and analyses shall be, at a minimum, of a composite sample taken from an area 80 acres or less in size at each site proposed or used for land application of wastes and wastewaters. The number of composite samples shall be sufficient to identify all types of soils located within the land application area as identified in the county soil survey. The county may approve a larger sampling area or require a smaller sampling area as a condition of the permit.

(i) Site and location requirements. The following requirements apply to all land proposed to be used for land application of CAFO generated wastes, wastewaters, and sludges:

(i-1) Proximity to habitable structures. At no time, shall wastes, wastewaters, or sludges be land applied within 500 feet of a habitable structure.

(i-2) Proximity to surface water. At no time, shall wastes, wastewaters, or sludges be land applied within 300 feet of surface water.

(i-3) Habitable structures, refuge, and parks. At no time shall untreated wastes and wastewaters be land applied on bare ground, without incorporation into the soil on the same day, within 2,500 feet of any habitable structure, wildlife refuge, or city, county, state or federal park or the surveyed plat or federally funded plan thereof that was in existence on the effective date of these regulations.

(3-A) If the operator submits soil conservation practices to the state to allow land application of raw waste or wastewater to the soil without incorporation, the county shall review the practices and make a determination as a condition of the permit.

(3-B) If the operator submits innovative technology basis to the state to allow land application of raw waste or wastewater to the soil without incorporation, the county shall review the technology and make a determination as a condition of the permit.

(3-C) If the operator submits a waiver from the owner of the habitable structure as a condition for the state to allow land application of raw waste or wastewater, the county shall require said waiver to be filed as a restriction of the deed prior to a determination as a condition of the permit.

(i-4) **Alluvial terrace deposits and sand dunes.** Land associated with alluvial terrace deposits, sand dunes, or excessive erosion shall be avoided, especially if also associated with shallow groundwater hydrologically connected to surface water.

(i-5) **Topography.** The land application site(s) shall have minimal slope or be contoured to prevent ponding and soil erosion.

(5-1) No application shall occur on land having a slope exceeding five percent (5%) unless erosion and runoff control provisions are implemented.

(5-2) Land having a slope of ten percent (10%) or less may be utilized for the land application of dewatered or dried sludges if they are knifed in or otherwise incorporated into at least the top six (6) inches of soil.

(i-6) **Grassed strips.** Edge-of-field, grassed strips shall be used, at a minimum, to separate water courses from contaminated stormwater runoff carrying eroded soil, manure particles, and other pollutants of concern.

(i-7) **Wildlife.** Land application shall not occur if it is likely to adversely affect a threatened or endangered species listed under Section 4 of the Federal Endangered Species Act, 16 U.S.C. 1533(c), or the critical habitat of such species, or other wildlife protected by the state as a threatened species.

(j) **Wellhead protection.** Land application of wastes and wastewaters and sludges shall not occur within 300 feet of a private or public drinking water well nor within 100 feet of any facility water well.

(L) **Closure and financial assurance instruments.**

(i) The Ramsey County Commissioners shall establish by rule the conditions and standards for proper closure of a concentrated animal feeding operation upon cessation of operations. These shall address at a minimum lagoon draining, cleaning and filling, removal of waste handling facilities and equipment, and other conditions to assure public health and safety.

(ii) Financial assurance instruments (irrevocable letter of credit, cash surety bonds or cash bonds) shall be posted in an amount sufficient to ensure proper closure. The exact amount shall be site-specific and shall be determined by a study conducted by a professional engineer or consultant licensed by the state. The cost of the engineer's or consultant's study will be paid for by the developers (posting entity).

(iii) Upon proper closure, as determined by an inspection by the Health Department and/or County Representative the financial assurance instrument shall be returned to the posting entity.

(iv) If upon inspection by the Health Department and/or County Representative it is determined that conditions exist that do not comply with the closure rules, funds shall be acquired from the financial assurance instrument to achieve such compliance. Any unspent portion of such financial assurance instrument shall be returned to the posting entity.

(v) If the County Commissioners determine that an emergency situation requiring immediate corrective action exists, they can utilize the financial assurance instrument to correct the emergency situation. The financial assurance instrument will be reimbursed to the original

amount by the duly signed person(s) on the permit or registration application within ninety (90) days of the emergency or as agreed upon by the County Commissioners.

(vi) The County Commissioners must sign on the bond between the facility and the bonding company. If there is any change in the bond, security, or surety, the County must be immediately notified in writing.

(vii) Closure requirements. The following closure requirements are intended for all new CAFOs located in Ramsey County that have an animal unit capacity of 1000 animal units or more. Existing facilities may use these closure regulations voluntarily as a part of their environmental program. The county reserves the right to require closure of any impoundment using these requirements that is shown to pose imminent and substantial harm to human health or the environment.

(a) Notice of termination. The owner, operator or permittee (if permitted) shall provide the county with a minimum of thirty (30) days written notice prior to permanent cessation or abandonment of the animal feeding operation or any part of the wastewater treatment system. Written notice shall contain, at a minimum, the following information:

(a-1) Name, address, and title of person(s) who is in charge or will remain in charge of or otherwise have continuing management responsibility of the facility or site and who will retain an ownership interest in personal or real property affected by the permitted action.

(a-2) A detailed schedule of proposed closure activities of the operation and/or any part of the abandoned wastewater treatment system.

(a-3) Forwarding addresses and names of each present owner and/or operator and the forwarding addresses and names of any other person listed in a County Permit for the facility, in the case of closure of the operation.

(b) Requirements are mandatory. It shall be a violation of these rules to permanently cease the use or abandon any facility or site or any part of the wastewater treatment system, including but not limited to pits, lagoons, impoundments, piping, disposal areas, storage areas, and land application sites without complying with notice and closure requirements.

(c) Correction of environmental damage. The county may require such continuing monitoring, sampling, reporting, or other remedial measures as deemed appropriate and necessary to correct environmental damage resulting from the activities subject to the requirements of these rules. Appropriate and necessary remediation measures shall be reviewed and approved and/or determined by the county on a case-by-base basis as allowed by this regulation and other applicable rules and laws. The county may require that the permittee or person(s) responsible for proper closure of the facility to provide such information to the county as is necessary to determine what remedial measures are appropriate and necessary.

(d) Conditions requiring closure and time for closure. When any part of a wastewater treatment system, including but not limited to concrete pits, surface impoundments, sludge disposal areas, carcass disposal areas, and land application sites, is to be permanently taken out of the intended service or if the contents of the system or use of the system poses an direct, imminent, or substantial risk to the health and environment or irreparable harm to waters of the state, the owner or operator or permittee (whichever is applicable) shall be required to properly close the part of the wastewater treatment system within six (6) months, unless a longer amount of time is granted by the county.

(d-1) Imminent harm. The county may order or otherwise require closure within a shorter period of time as allowed by law in appropriate circumstances, such as in cases where it is necessary to protect human health and welfare or to protect wildlife or beneficial uses of waters of the state.

(d-2) Waiver of closure requirements. The county may waive some or all closure requirements if the surface impoundments or other aspects of the wastewater treatment system must be closed under federal (e.g., RCRA regulations) or state regulations (e.g. N.D. regulations), if such regulations provide equivalent protection of the health and environment as provided by these county regulations.

(d-3) Prevention of formation of nitrates. The closure of surface impoundments that contained wastes and wastewaters generated by a wet manure system shall be considered a priority in order to prevent the formation of nitrates by any accumulation of ammonium-saturated soils that when environmental conditions change may be biologically changed to nitrates.

(d-4) Empty surface impoundments. At no time shall a surface impoundment be placed into operation if allowed to dry to the point of erosion and cracking of the soil liner system without physical improvement to the liner system, a new assessment of the liner permeability and seepage, and approval by the county to utilize the lagoon as part of the wastewater treatment system for a wet manure system.

(d-5) Liner integrity. The partial or total closure of surface impoundments shall be required if the liner integrity has been jeopardized beyond reasonable repair, including but not limited to the following situations:

(5-A) Flexible membrane liner bubbles. If the flexible membrane liner develops bubbles that push the liner material from the subgrade material. A partial closure may be required to remove the liquid in the lined lagoon prior to remedying the problem area. A total closure may be required, if the integrity of the liner has been jeopardized beyond reasonable repair.

(5-B) Soil or clay liner erosion. If the soil or clay liner has eroded beyond reasonable repair causing the potential for leakage into the subsurface, a partial or total closure may be required.

(e) Closure requirements. The following closure requirements apply to any animal feeding operation wastewater treatment system which is permitted by the county or contains or has contained wastes regulated by the county:

(e-1) Pre-closure site investigation. Prior to submitting a closure plan to the county, the owner or operator or permittee, whichever is appropriate, shall perform a pre-closure site investigation after the county has approved the pre-closure site investigation and sampling plan.

(1-A) Plan submittal. A pre-closure site investigation and sampling plan shall be prepared and submitted to the county for approval at least thirty (30) days prior to any pre-closure sampling, monitoring, or other site investigation. The plan shall include the following:

(1-A-i) Narrative description of the proposed pre-closure site investigation including a list of all systems, impoundments, appurtenances, structures, disposal areas, and other areas of environmental concern will be evaluated for potential sites for sampling, monitoring, or other names of investigation used to determine closure activities.

(1-A-ii) A detailed description of any groundwater, surface water, and/or soil sampling including a facility map showing intended sites for sampling; description of sampling methods, list of analytical parameters including EPA method, detection limit, and units of reporting; and intended purpose for each type of sampling and analysis.

(1-B) Monitoring plan. Any monitoring plan shall include the applicable requirements as listed by the state and this ordinance.

(1-C) Approval of plan. The county will review the pre-closure site investigation and sampling plan within thirty (30) days of submittal to the county and respond to the submitter

with either a list of deficiencies or an approval of the plan. If deficiencies are identified by the county, the submitter shall promptly correct such deficiencies and submit a revised plan.

(1-D) Site investigation and reporting. The owner or operator or permittee, whichever is applicable, shall perform the site investigation and report to the county the results of all groundwater, surface water, and soil analyses, as well as prepare a brief summary of all critical environmental problems that will be addressed in the closure plan.

(e-2) Closure procedure. The following procedure shall be used for proper closure of animal feeding operation wastewater treatment systems:

(2-A) Plan submittal. A written closure plan shall be submitted to the county at least ninety (90) days prior to commencing closure, unless a lesser amount of time is granted by the county.

(2-B) Closure action. Closure activities shall occur as specified in the closure plan.

(2-B-i) The county shall be notified at least five (5) working days prior to the commencement of closure in order to facilitate on-site inspection or other site visit.

(2-B-ii) If the wastewater treatment system contained Class I or Class II wastewater or is located in a high risk environment, the closure activities shall be overseen by a professional engineer registered in the State of North Dakota or if approved by the county, by an environmental specialist with formal training in wastewater treatment and groundwater pollution controls.

(2-C) Amendments. Any amendments to the closure plan shall be submitted in writing to the county for review and approval before any closure activity is altered, replaced, or deleted. Arrangements may be made with county for verbal approval of changes during closure activities, when necessary

for safe and effective closure, providing that the changes are immediately submitted in writing for inclusion in the public file.

(2-D) Commence activities. Closure activities shall not commence until the closure plan and all amendments thereto have been evaluated by the county and the county has issues a written determination that, based upon information provided to the county, the closure plan or the amended closure plan meets the requirements of the county and these regulations.

(2-E) Certification of closure. A closure shall not be considered complete until the county has received written certification of closure, which shall include the following:

(2-E-i) A statement that all activities listed in the county-approved closure plan were performed.

(2-E-ii) A list of all closure activities that were performed (e.g., filed notes from the attending engineer) and a narrative discussion of all inspections, sampling and analysis, and other pertinent information as may be required by the county.

(2-E-iii) If the wastewater treatment system contained a Class I or Class II wastewater, the certification shall be prepared and signed by a professional engineer registered in the state of ND, or if approved by the county, by an environmental specialist with formal training in wastewater treatment and groundwater pollution controls.

(e-3) Closure plan content requirements. At a minimum, the written closure plan shall include the following information, as well as information as requested by the county:

(3-A) General information. The following general information shall be provided in all closure plans:

(3-A-i) Purpose of closure. State the purpose of closure indicating the reason why the waste management system, in part or in whole, is or is proposed to be no longer in use.

(3-A-ii) Permit number. Provide the federal, state and county permit numbers for the facility. If the facility has not been permitted, the county may require information usually submitted with a permit application.

(3-A-iii) Owner/operator. Provide the name, address, and telephone number for the owner of the facility and the operator of the facility.

(3-A-iv) Consent. If the operator is not the sole record owner of the land, surface property interests and all water rights, then the operator shall provide a written document from such owner(s) indicating that the owner(s) have read the proposed written closure plan and consent to any specified on-site or off-site disposal of wastes, wastewaters, contaminated soils, construction debris, and other potential wastes identified during closure.

(3-A-v) Time schedule. Provide a time schedule indicating the major closure activities, the approximate time to complete each activity, and the estimated time required to achieve completion of all closure activities.

(3-A-vi) Certification. If the waste management system, in part or in whole, that is proposed to be closed contained Class I or Class II waste or wastewaters, the closure plan shall be reviewed and signed by a licensed professional engineer registered in the State of ND with a certification statement that the closure plan activities will be protective of human health and the environment, including water of the state.

(3-B) Site assessment. The following minimum information about the site shall be provided in the closure plan:

(3-B-i) Soil information. Identify the type of soil(s) by soil series name impacted and include a description of the soil profile and the depth to bedrock and/or to the producing aquifer. List chemicals and physical properties of the soil, and their average values for the site, that predict the transport and fate of the pollutants of concern in the waste contained in the waste management system to be closed. Photocopies of soil maps from the Soil Conservation Service and/or recent aerial photographs shall be included.

(3-B-ii) Groundwater information. Identify major and minor groundwater aquifers, recharge areas, depth to groundwater for both shallow and drinking water sources, local and regional direction of flow, and estimated or actual background water quality of the shallow and drinking water source. Topographic, geologic, hydrologic, and other maps shall be used to indicate location and extent of groundwater at the site, including local and regional direction of groundwater flow.

(3-B-iii) Surface water information. Identify surface water bodies that may be hydraulically connected to the groundwater or are immediately downgradient of the drainage area around the waste management system, including the land application area to be closed. Trace the drainage to the nearest major watercourse on a topographic map of appropriate scale.

(3-B-iv) Plans and specification. Provide the engineering plans and specification that details the "as-built" conditions of the waste management system to be closed indicating the dimensions of the impoundments, location of and materials used for piping and appurtenances, location of inflow and outflow piping, location and thickness of sludge, and depth of wastewater in each impoundment.

(3-B-v) Land application area. Provide records that state the amount and type of wastewater land applied to the land application area, the type of crops grown, number of crops grown using wastewater, annual volumes of wastewater applied, wastewater analysis (es), and soil tests.

(3-C) Waste characterization. The following minimum information about the wastes currently contained and historically contained in the waste management system shall be provided in the closure plan.

(3-C-i) Historically contained wastewater. Provide an inventory of wastes and other records that indicate the types and concentration of wastes and wastewaters that are contained in the waste management system to be closed. Indicate the frequency and volume of each type of waste that was or may have been contained or otherwise placed in the system, including but not limited to pesticides, rat and fly bait, pharmaceuticals, manure and urine, disinfectants, feed additives (e.g., metals, nutrients, and other conservative materials) and any solid waste, such as dead animals, placentas, waste feed, and sharps. Include spill response data sheets.

(3-C-ii) Currently contained wastewater. Provide a wastewater analysis of the waste or wastewater currently contained in the waste management system using composite samples for overall characterization and grab samples that are representative of the most concentrated portions of the waste to determine areas of priority clean-up.

(3-D) Sampling, analysis, and monitoring plans. Sampling, analysis, and monitoring used before, during, and after closure shall be proposed to the county in a written plan as follows:

(3-D-i) Sampling and analysis plan. All sampling and analysis of the currently contained wastewater shall be performed according to a pre-approved written sampling and analysis plan developed using regulations for "pre-closure sampling".

(3-D-ii) Monitoring plan. All monitoring shall be performed according to a pre-approved written monitoring plan developed using regulations for "monitoring plan".

(3-D-iii) Sampling and monitoring locations. All sampling and monitoring locations shall be clearly indicated on a facility map accompanied with a description of the location of each site, purpose of each sampling and monitoring site, and duration of sampling and monitoring at each site.

(3-E) Treatment, removal, and disposal. The closure plan shall include the following minimum discussion of treatment, removal, and disposal activities, as well as any additional information required by the county or deemed necessary for clarification:

(3-E-i) Treatment. Describe all treatment methods to be used to treat or reduce any wastewater and/or sludge in the impoundment (e.g., chemical or physical treatment, phase separation, waste stabilization, or other method). Provide a written rationale for each treatment method to be used, the anticipated outcome of that treatment, and sufficient evidence of its effectiveness.

(3-E-ii) Removal. Describe all removal activities for all wastes, wastewaters, sludges, liner materials, and contaminated subsoils (e.g., volume to be removed, equipment used, dust control, spill response, containers, transport, and other activities).

(3-E-iii) Backfill. If the waste management system, part or in whole, is to be closed by backfilling with soil, estimate the volume of soil needed considering compaction and settling. Include discussion of the material used as backfill, its source, method of compaction, and other activities.

(3-E-iv) Disposal. Provide the name and location of all off-site facility(ies) to be used to dispose of materials removed from the site, including but not limited to piping and fittings, tanks, concrete, liner materials, appurtenances, construction debris, contaminated subsoils, wastes and wastewaters (both treated and raw waste), and provide the name of the issuing agency (if disposal permit is required), permit number or other information necessary to determine proper authorization can and will be obtained for such disposal.

(3-F) In-place closure requirements. In addition to the other requirements listed in these closure regulations, the following additional requirements shall apply for "in-place closure":

(3-F-i) Pollutants of concern. List the types and potential concentrations of the pollutants of concern that are or may be present in the wastes and wastewaters, sludges, and contaminated subsoils.

(3-F-ii) Alternatives. If the pollutants cannot be physically removed in total or must otherwise be closed in place, the closure plan shall include a discussion or remediation alternatives evaluated prior to the decision to use "in-place closure" (ie., closing with some portion of the pollution in-place). Typical alternatives include: clean closure, waste reduction, or chemical, physical, or biological treatment and documentation as to the effectiveness of each alternative.

(3-F-iii) Containment. Include a discussion of containment alternatives (e.g., waste stabilization, impervious cap, or other system of protecting waters of the state, public health and the environment) and documentation as to the effectiveness of the containment measure.

(3-F-iv) Partial remediation. Include a proposal of which remediation and/or containment alternative(s) will be implemented for each portion of the waste management system to be closed. Include sampling and analysis plan that will provide information about the type and concentration of pollutants left in the closed facility and portions thereof that are part of the waste management system closed.

(3-F-v) Post-closure activities. Include discussion of all post-closure activities, such as groundwater monitoring, surface water monitoring, water or land use restriction, or deed restrictions.

(3-G) Clean closure requirements. In addition to other requirements listed in these closure regulations, the following additional requirements shall apply for "clean closure":

(3-G-i) Pollutants of concern. List the types and potential concentrations of the pollutants of concern that are or may be present in the wastes and wastewaters, sludges, and contaminated subsoils.

(3-G-ii) Alternatives. Provide an evaluation of the feasibility of "clean closure" (ie., complete removal all wastes and wastewaters, contaminated subsoils, liner materials, equipment, piping, concrete, etc. and insuring contaminated subsoils are at a level similar to background concentration or at a level that will not adversely impact the environment, waters of the state, or public health). Include a discussion of available technology to be used, extent of contamination, effectiveness of technology, and other decision factors.

(3-G-iii) Full remediation. Include a proposal of which remediation and/or containment alternative(s) will be implemented for each portion of the waste management system to be closed. Include sampling and analysis plan that will provide information about the type and concentration of pollutants left in the closed facility and portions thereof that are part of the waste management system closed.

(3-G-iv) Clean-up target. Discuss target clean-up level of pollutants of concern in the wastes and wastewaters, sludges, and contaminated subsoils, and the sampling and analytical methods to be used to determine that clean closure has been achieved for the pollutants of concern.

(3-G-v) Post-closure activities. Include discussion of all post-closure activities, such as groundwater monitoring, surface water monitoring, water or land use restrictions, or deed restrictions.

(10) Permit conditions. The county may impose any reasonable condition upon a state animal feeding operation permit including:

- A. Sampling, testing, and monitoring of the facilities or manure, process wastewater, or runoff.
- B. Prevention and abatement of nuisance conditions caused by operation of the facility.
- C. Record keeping and reporting.
- D. Compliance schedules for existing facilities needing upgrades to meet the requirements of this chapter.
- E. The operator must notify the county within thirty days of construction completion and provide certification from the engineer that construction of manure storage and water pollution control structures was completed according to designs provided with the application or subsequent approved changes.
- F. Permit review. The operating permit will be reviewed every 5 years. The review will encompass all provisions of the original permitting process.
- G. Ownership change. An operator of a facility that includes an animal feeding operation having a permit granted by this ordinance shall notify the county of the sale, or the transfer of the ownership of that operation.
- H. Operating change. An operator of a facility that includes an animal feeding operation having a permit granted by this ordinance shall notify the county of intent to include an alternate livestock type. The notice shall be given at least 120 days prior to the anticipated date of the change.

(11) Facility requirements.

- A. An animal feeding operation shall be located, maintained, and operated in accordance with this ordinance, and its county animal feeding operation permit. In addition, best management practices shall be applied to prevent pollution of waters of the state.
- B. All concentrated animal feeding operations shall be located, maintained, and operated in accordance with this ordinance and its county animal feeding operation permit. In addition, best management practices shall be applied to prevent pollution of waters of the state.
- C. Operation and maintenance plan. Operators of animal feeding operations and concentrated animal feeding operations requiring a permit shall submit an operation and maintenance plan that indicates how the manure and process wastewater will be disposed of or recycled. The operator shall indicate how the manure and process wastewater will be managed to minimize the impact of odors on neighbors. This plan will be maintained in the facility.
- D. Nutrient management plan. A nutrient management plan shall be submitted and maintained in the facility.
- E. A closure plan will be submitted and maintained in the facility.
- F. Manure storage structures. All animal feeding operation requiring permits under this ordinance and all concentrated animal feeding operations requiring permits and which are constructed or expanded after June 15th, 2004, shall meet the following requirements:
 - (i). All facilities regulated under this ordinance shall have manure storage structures designed and constructed to store runoff from a 25-year, 24-hour rainfall event, except swine, chicken, turkey, and veal calf facilities which shall be designed and constructed to store runoff from a 100-year, 24-hour rainfall event. In addition, all facilities shall collect and store all manure, process wastewater and runoff for a minimum of two hundred and seventy days. No discharge is allowed from storage structures except overflow due to a chronic or catastrophic rainfall event in excess of those specified.
 - (ii). A groundwater site assessment is required for all manure storage structures.

(iii). All manure storage structures shall be designed and maintained to withstand natural forces and to prevent impacts to waters of the state. The maximum seepage allowed from the storage structures shall not exceed one-sixteenth of an inch per day

(iv). Other manure storage structure requirement specified in this ordinance shall be met.

(v). The county may specify additional design or monitoring requirements as needed to ensure facilities will satisfactorily prevent pollution to waters of the state.

(G) Liquid storage facilities. Facilities that store liquid manure, process wastewater, or manure-contaminated runoff must meet the following requirements:

i. New facilities, expanding facilities significantly increasing their number of livestock, or those facilities that have not housed livestock within five years shall not be located over an unconfined glacial drift aquifer unless a variance is granted by the county.

ii. New facilities constructed after June 15th, 2004, or those with upgrades to water pollution control structures (other than minor repairs) shall be designed by or under the supervision of an engineer. After completion, the engineer shall certify that the construction was completed according to design plan.

iii. Other requirements specified by the county.

(H) Odor management. An operator shall manage a facility to minimize the impact of odors on neighbors and comply with the odor requirements of section 11 of NDCC Chapter 23-25, chapter 33-15-16 of NDAC Article 33-15, and any other requirements by the county.

(I) Best management practices. An operator is responsible for applying best management practices to ensure compliance with the requirements of this ordinance and the permit and to prevent pollution of waters of the state. The best management practices used shall be included in the operation and maintenance plan or in the nutrient management plan.

(12) Record keeping and reporting requirements.

A. The operator of an animal feeding operation shall record and maintain the following for a period of not less than three years: (1) any sampling, testing and monitoring results; (2) maintenance and inspection records; and (3) reports and data required by this ordinance and the permit. This period of record retention shall be extended if requested by the county or during the course of any unresolved litigation regarding the discharge of pollutants by the operation. The information shall be provided to county representatives upon request.

B. Sampling, testing, and monitoring results; maintenance and inspection records; reports and data obtained by an operator shall be submitted to the county in accordance with the schedule prescribed in the county permit. Reports shall be submitted at least annually on the appropriate forms supplied by the county or in a manner specified by the county.

(d) Purpose of setback distances. The purpose of setback distances includes but is not limited to, reducing impacts of odors on neighboring habitable structures, providing biosecurity to humans due to human-animal transferable disease, reducing impacts of air pollution other than odors on neighboring habitable structures (e.g., sulfur compounds, carbon monoxide, ammonia, dust, dander and other allergens), to minimize the potential for property value reduction due to the proximity of an existing habitable structure to a new or expanding confined animal feeding operation without due compensation, and to provide protection to wildlife refuges and public facilities.

(1)The operator of a new animal feeding operation that has more than 1,000 animal units shall not locate or establish that operation:

A. Within a delineated source water protection area for a public water system. The source water protection areas for water supply wells include the entire wellhead protection area. For the surface-water intakes of public water systems, source water protection areas include all or portions of the surface water that supplies the water for the public water system, including all or portions of the surface-water's shoreline.

B. Within 1,200 feet (365.6 meters) of a private ground water well which is not owned by the operator or within 1,500 feet (457.1 meters) of a public ground water well which does not have a delineated source water protection area.

C. Within 1,000 feet (304.7 meters) of surface water which is not included in a source protection area.

(2) Odor Setbacks

The operator of a facility for an animal feeding operation shall not locate that operation within the extra territorial zoning jurisdiction of an incorporated city. An owner of property shall locate and establish a residence, business, church, school, public park or zone for residential use so as to provide a separation distance from any existing animal feeding operation. The separation distances or setbacks are listed in the following table. An owner of property who is an operator may locate the owner's residence or business within the setbacks. County Commissioners may vary the setback distance after review of the permitting process. See definition 29(c) (Risk Classification).

Setback Distance for Animal Feeding Operations

	Animal units	Hog Operations	Other Animal Operations
Established Residences	Less than 300	½ Mile	½ Mile
	300 to 1,000	1 Mile	1 Mile
	1,001 to 10,000	1½ Miles	1 Mile
	More Than 10,000	3 Miles	2 Miles
Churches, businesses, Commercially Zoned Areas, Recreational Areas, Schools	Less Than 300	½ Mile	½ Mile
	300 to 1,000	1 Mile	1 Mile
	1,001 to 10,000	1 ½ Mile	1 Mile
	More Than 10,000	3 Miles	2 Miles
Incorporated City Limits and Unincorporated Platted Limits	Less Than 300	½ Mile	½ Mile
	300 to 1,000	2 Miles	2 Miles
	1,001 to 10,000	1½ Miles	2 Miles
	More Than 10,000	4 Miles	4 Miles
Federal or State Highway ROW	Less Than 300	½ Mile	½ Mile
	300 to 1,000	½ Mile	½ Mile
	1,001 to 10,000	½ Mile	½ Mile
	More Than 10,000	½ Mile	½ Mile

County Road ROW and Adjacent Property Lines	Less Than 300	½ Mile	½ Mile
	300 to 1,000	150 Feet	150 Feet
	1,001 to 10,000	150 Feet	150 Feet
	More Than 10,000	150 Feet	150 Feet

(e) Public Participation

(1) All orders of rulemaking referenced in this Ordinance shall be adopted only pursuant to state laws governing administrative rules and regulations, with full public review and comment and public hearings upon draft rules.

(2) Upon submission of an application for a construction permit and waste management plan, there shall be a public notice in a county newspaper of general circulation, and by personal notice to all landowners within a three mile radius of the concentrated animal feeding operation. The public notice shall include at a minimum the location and animal capacity of the facility, general construction design and waste management features and a topographical map of the land application sites. The complete permit application and waste management plan shall be available for public viewing at the public library in the county and at the office of the county clerk; this availability shall be stated in the public notice. The applicant shall pay for all costs associated with the public notice provisions.

(3) A reasonable period shall be provided for public comment on the waste management plan and the construction permit application – such period shall be no less than 30 days. These comments shall be shared with the applicant, and the applicant may be given the opportunity to revise the design and waste management plans as a result of the public comments. The county shall issue a written report on all significant public comment and shall indicate how the public comments effected decisions to approve, reject, or modify the permit application.

(4) The county may hold a single public hearing upon the written requests of 20 impacted voting citizens, and shall follow the same procedures as in 3 above.

Livestock Permit Application (More than 999 Animal Units)

Name of Applicant: _____

Individual _____ Corporation _____ Partnership _____ Other _____

Name of Livestock Operation:

Address of Owner or Applicant and Title _____
(911 Street address or P O Box)

(City) _____ (Zip Code) _____ (Telephone #) _____

Location of Livestock Enterprise: (Legal Land Description)

_____ 1/4 _____ 1/4 Section _____ Township _____ Range _____

County _____ Lat. _____ Long _____

Type of Facility:

(a) Existing _____ Planned _____ Addition _____

(b) Confined in barn _____ Have access to outside lot _____

(c) Unpaved or dirt _____ Hard surfaced _____ Other _____

Type and Number of Livestock:

Days/year livestock concentrated on-site: _____
(For example, Dec-May, 180 days)

Existing number and maximum number of livestock at the facility:

<u>Existing Number</u>	<u>Maximum Design Number</u>	<u>Type</u>	<u>Average Weight</u>
Exp. <u>130</u>	<u>250</u>	<u>Beef Cattle</u>	<u>1,200 lbs</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Basic Information:

List the area of any outside livestock lots: _____ acres.

Area contributing surface flow from outside the lot (not diverted): _____ acres.

Is the runoff from a 100 year/24-hour rain event contained on the property:

_____ (This varies from 3.7 to 4.9 inches of rain).

Soil type at waste storage site and livestock lot: (From soil survey)

Soil type in areas of land application of wastes, wastewater and or sludges.

Depth from ground surface to the seasonal high water table at:

Land application and sludge disposal areas _____

Waste storage site _____ Livestock holding area _____

This was determined by: (check one) Soil boring _____ Estimate _____

How much land is available for disposing of waste: _____ acres.

How will dead animals be disposed of? _____

The maps and site information submitted should be as detailed and accurate as possible.

A. Submit the following information with this application form.

1. A current map of the area and land application areas with at least a three-mile radius that has the following marked to the best of your knowledge:
 - a. All inhabitable farms or dwellings.
 - b. All land within this three-mile radius on which waste will be applied
 - c. Any livestock waste ponds and dugouts
 - d. Any well within $\frac{1}{4}$ mile and any public or irrigation wells within 2 miles. Also, list any abandoned wells you are aware of and their status.
 - e. If dead animals are disposed of on-site, indicate on the map where this is done.

2. A sketch of the facility site with the following information:

- a. Dimensions and distances include depth of wells on-site.
- b. All existing and proposed structures, with labels (e.g., barns, diversions, fences).
- c. Identify drainage patterns through the facility site.

B. Please check on the following information and, if it is available, include it when submitting this form.

1. Any applicable zoning requirements (city, county, township).
2. Any water quality information you are aware of, such as:
 - a. Well water quality analyses.
 - b. Surface water analyses (stock ponds, creeks, etc.).
 - c. Analyses of livestock waste or runoff.

3. Any geologic/hydraulic or soils information you are aware of:

- a. Well logs for wells at the facility.
- b. Geologic, ground water, and surface water studies done in the area and who did the studies.
- c. Personal observation (gravel pits, wetlands, etc.).

At the time of application the initial fee will be \$4,000. If the cost exceeds \$4,000, an additional fee will be required. Any fees remaining after permit review will be refunded.

I certify that, to the best of my knowledge, this information is correct and accurate.

Erwin Biese, Chairman of Board
(Signature and Title)

9-26-06
Date