

**Excerpt from
Mountrail County Zoning Ordinance
Dated October 16, 2012
(See www.co.mountrail.nd.us for current Zoning Ordinance)**

Sec. VII Animal Feeding Operations

A. General Provisions

1. 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 for additional terms are:
 - a. Animal feeding operation means a place where: livestock have been, are, or will be confined, concentrated and fed for 45 or more 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 systems for manure handling.
 - b. 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 1,000 animal units or (2) weaned offspring which are kept longer than 120 days and that are not retained for breeding purposes.
 - 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. 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.
 - e. Class I (Waste Classification): 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.

- f. Class II (Waste Classification): 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.
- g. Concentrated animal feeding operation (CAFO) means an animal feeding operation that is defined as a large concentrated animal feeding operation (Definition p) or as a medium concentrated animal feeding operation (Definition s), 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.
- h. 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.
- i. 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).
- j. Due Process involves two essential elements; (1) notice and (2) an opportunity for a hearing. The notice must adequately describe the potential action that might affect the person(s) being notified and it must provide the person(s) a reasonable time to respond. If the person(s) request(s) a hearing, the hearing must be fair and allow the person(s) to present relevant evidence and arguments.
- k. 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.
- l. Existing means in place and operating on the date this ordinance is effective.
- m. Facility or livestock facility has the same meaning as animal feeding operation (Definition a) or concentrated animal feeding operation (Definition g).
- n. Ground water means waters beneath the earth's surface between saturated soil and rock that supplies wells and springs.

o. High risk environment.

- i) 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.
- ii) 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.
- iii) Unconfined aquifer, shallow, private/public water supply, high risk environment based on shallow depth to ground water that is or could be locally used for private and/or public drinking water.
- iv) 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.

p. 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.10, equivalent animal numbers.

q. Livestock means any animal raised for food, raw materials or pleasure, including, but not limited to, beef and dairy cattle, bison, sheep, swine, poultry and horses. Livestock also includes fur animals raised for pelts.

r. Manure means fecal material and urine from livestock, as well as animal-housing wash water, bedding material, rainwater or snow melt that comes in contact with fecal material or urine.

s. 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.10, equivalent animal numbers.

t. Medium concentrated animal feeding operation means a medium animal feeding operation that meets either one of the following conditions:

- i) Pollutants are discharged into waters of the state through a man-made ditch, flushing system, or other similar man-made device; or
- ii) 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.

u. 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.

- v. Operator means an individual or group of individuals, a partnership, a corporation, a joint venture, or any other entity owning or controlling one or more animal feeding operations or animal wintering operations.
- w. Pollutants mean “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.
- x. 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.
- y. 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.
- z. 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.
- aa. Shall means that the requirement is mandatory, rather than optional.
- bb. 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 s).
- cc. 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 s) and is designated as a CAFO in accordance with North Dakota Administrative Code 33-16-03.1-04.
- dd. Surface water means waters of the state located on the ground surface such as lakes, reservoirs, rivers and creeks.
- ee. Waters of the state means all waters within the jurisdiction of this state, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, and all other bodies or 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.

- ff. 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.

B. 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.

Livestock Type	Animal Unit Equivalent	Equivalent Numbers of the Livestock (hd) for Four Sizes (a.u.) of Animal Feeding Operations			
		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 < 55 lbs	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

C. Environmental Protection

The operator of a new facility for animal feeding is expected to locate, construct, operate and maintain the facility so as to minimize, reduce or abate effects of pollution on environmental resources and on public safety and health. The operator of an existing facility is expected to operate and maintain the facility so as to minimize, reduce or abate effects of pollution on environmental resources and on public safety and health. Each operator shall comply with applicable state laws and rules, including the laws and rules administered by the North Dakota Department of Health and with any permits granted by that department.

1. Enforcement

In the event of a violation of this ordinance or a judgment on a civil action by the North Dakota Department of Health, the local unit of government, after due process, can order cessation of a facility for animal feeding within a reasonable period of time and until such time as the operator corrects or abates the cause(s) of the violation. If the cause(s) of the violation are not remedied within a reasonable period of time as set by the local unit of government, the permit may be revoked.

2. 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.

D. Setback Requirements

1. Water Resources Setbacks

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 water protection area.

2. Odor Setbacks

The operator of a new 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. The Planning & Zoning Commission, upon approval of the County Commissioners may vary the setback distance after review of the permitting process.

Setback Distances for Animal Feeding Operations			
	Number of Animal Units	Hog Operations	Other Animal Operations
Established Residences	5-50	0.50 mi	Not Applicable
	51-299	2.00 mi	0.50 mi
	300 – 1000	2.00 mi	0.50 mi
	1001 or more	2.00 mi	0.50 mi
	2001 or more	2.00 mi	0.75 mi
	5001 or more	2.00 mi	1.00 mi
Churches, Businesses, Commercially Zoned Areas,	5-50	0.50 mi	Not Applicable
	51-299	2.00 mi	0.50 mi

Recreational Areas, Schools	300 – 1000	2.00 mi	0.50 mi
	1001 or more	2.00 mi	0.50 mi
	2001 or more	2.00 mi	0.75 mi
	5001 or more	2.00 mi	1.00 mi
Incorporated City Limits, Unincorporated Platted Limits, and Exterior Boundary of City Zoning Limits	5-50	0.50 mi	Not Applicable
	51-299	2.00 mi	0.50 mi
	300 – 1000	2.00 mi	0.50 mi
	1001 or more	2.00 mi	0.50 mi
	2001 or more	2.00 mi	0.75 mi
	5001 or more	2.00 mi	1.00 mi
Federal or State Highway ROW	Fewer than 300	0.25 mi	0.25 mi
	300 – 1000	0.25 mi	0.25 mi
	1001 or more	0.25 mi	0.25 mi
	2001 or more	0.25 mi	0.25 mi
	5001 or more	0.25 mi	0.25 mi
County & Township Road ROW and Adjacent Property Lines	Fewer than 300	150 Feet	150 Feet
	300 – 1000	150 Feet	150 Feet
	1001 or more	150 Feet	150 Feet
	2001 or more	150 Feet	150 Feet
	5001 or more	150 Feet	150 Feet

The operator of a new animal feeding operation shall locate the site of that operation from existing residences, businesses, churches, schools, public parks and areas of property that are zoned residential so as to exceed the corresponding listed setback from these places.

If notified in writing by an operator of a planned future expansion of an animal feeding operation, the local unit of government may implement the corresponding odor setback for a temporary time period not to exceed two years, after which time the setback will remain in effect only if the expansion was completed.

A local unit of government may, upon recommendation of the zoning commission or land use administrator, increase or decrease a setback distance for a new animal feeding operation after consideration of the proposed operation's plans, if it determines that a greater or lesser setback distance is necessary or acceptable, respectively, based upon site conditions or demonstrable safety, health, environmental or public welfare concerns.

E. Conditional Uses

1. Permit Procedures

a. Applicability

The operator of a new livestock facility or an existing livestock facility, which meets the definition of an animal feeding operation and which is a conditional (or special) use of land as listed below, shall apply for and obtain a conditional (or special) use permit.

- i) A new animal feeding operation that would be capable of handling, or that expands to handle, more than 50 animal units is a conditional (or special) use of land.

- ii) An existing animal feeding operation that expands to handle more than 50 animal units is a conditional (or special) use of land.
- iii) Whenever the capacity of an animal feeding operation is expanded to handle more than 2,000 or 5,000 animal units, the operator shall apply for a new conditional (or special) use permit.

b. Procedure

The local unit of government may practice any or all of the provisions in the following subparagraphs in harmony with the permitting process of its general zoning regulations.

- i) Application for a conditional use (or special use) permit shall be submitted to the local unit of government for tentative approval. The local unit of government shall notify the Department of Health that it has received such application.
- ii) A non-refundable fee of \$500.00 shall be paid by the applicant upon filing an application for a conditional use (or special use) permit for an animal feeding operation.
- iii) The local unit of government shall notify by certified mail all property owners having property within the corresponding odor setback distance of a proposed new animal feeding operation. This notification must occur within 21 days of receiving the application. The approval process utilized by the local unit of government may include at least one advertised public hearing.
- iv) Following tentative approval or denial of the application by the local unit of government, the applicant shall be notified by letter of the decision, including conditions imposed, if any.
- v) The applicant shall then forward its application for a conditional (or special) use permit, together with the tentative approval by the local government, to the North Dakota Department of Health.
- vi) Following a review by the Department of Health of the operator's application for a state permit, the Department of Health will notify the local unit of government of its decision.
- vii) The conditional (or special) use permit will become final following the granting of a permit by the Department of Health.
- viii) A conditional (or special) use permit granted to the operator of a new animal feeding operation shall be put into use within twenty-four (24) months, or the permit shall lapse and the operator may re-apply.

c. Application Requirements

The application for a conditional use (or special use) permit to operate a facility for an animal feeding operation shall include a scaled site plan. If the facility will handle more than 1,000 animal units, the scaled site plan shall be prepared by a registered land surveyor, a civil engineer or other person having comparable experience or qualifications.

The local unit of government may require any or all of the following elements, or require additional elements, in its site plan review process when needed to determine the nature and scope of the animal feeding operation.

- i) Proposed number of animal units.
- ii) Total acreage of the site of the facility.
- iii) Existing and proposed roads and access ways within and adjacent to the site of the facility.
- iv) Surrounding land uses and ownership, if the operation will have the capacity to handle more than 1,000 animal units.
- v) A copy of the permit application submitted by the applicant to the Department of Health.

2. Ownership Change

An operator of a facility that includes an animal feeding operation having a permit granted by this ordinance shall notify the local unit of government of the sale, or the transfer of the ownership of that operation.

3. Operating Change

An operator of a facility that includes an animal feeding operation having a permit granted by this ordinance shall notify the local unit of government 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.

F. Closure and Financial Assurance Instruments

The Mountrail 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.

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).

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.

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.

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. 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.

1. Closure Requirements

The following closure requirements are intended for all new CAFOs located in Mountrail 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:
 - i) 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.
 - ii) A detailed schedule of proposed closure activities of the operation and/or any part of the abandoned wastewater treatment system.
 - iii) 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-case 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.

- i) 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.
- ii) 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., Resource Conservation & Recovery Act (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.
- iii) 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 environmentally conditions change may be biologically changed to nitrates.
- iv) 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.
- v) 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:
 - 1) Flexible membrane liner bubbles. If the flexible membrane liner develops bubbles that push the liner material from the sub grade 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.
 - 2) 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.
- vi) 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:
 - 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.

- 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 including the following:
 - 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.
 - ii. A detailed description of any ground water, 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.
 - b. Monitoring plan. Any monitoring plan shall include the applicable requirements as listed by the state and this ordinance.
 - 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.
 - 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 ground water, 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.
- 2) Closure procedure. The following procedure shall be used for proper closure of animal feeding operation wastewater treatment systems:
- 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.
 - b. Closure action. Closure activities shall occur as specified in the closure plan.
 - 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.
 - 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 ground water pollution controls.

- 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.
 - 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 issued 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.
 - 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:
 - i. A statement that all activities listed in the county-approved closure plan was performed.
 - ii. A list of all closure activities that were performed (e.g., field 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.
 - 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 North Dakota, or if approved by the county, by an environmental specialist with formal training in wastewater treatment and ground water pollution controls.
- 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:
- a. General information. The following general information shall be provided in all closure plans:
 - 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.
 - 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.
 - iii. Owner/operator. Provide the name, address, and telephone number for the owner of the facility and the operator of the facility.
 - 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.

- 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.
 - 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.
- b. Site assessment. The following minimum information about the site shall be provided in the closure plan:
- 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.
 - ii. Ground water information. Identify major and minor ground water aquifers, recharge areas, depth to ground water 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 ground water at the site, including local and regional direction of ground water flow.
 - iii. Surface water information. Identify surface water bodies that may be hydraulically connected to the ground water or are immediately down gradient 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.
 - 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.
 - v. Land application area. Provide records that state the amount and type of wastewater 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.

- 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.
 - 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.
 - 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.
- 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:
 - 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”.
 - ii. Monitoring plan. All monitoring shall be performed according to a pre-approved written monitoring plan developed using regulations for “monitoring plan”.
 - 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.
- 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:
 - 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.
 - 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).

- 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.
- 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.
- 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”:
 - 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.
 - 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.
 - 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.
 - 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.
 - v. Post-closure activities. Include discussion of all post-closure activities, such as ground water monitoring, surface water monitoring, water or land use restriction, or deed restrictions.

- g. Clean closure requirements. In addition to other requirements listed in these closure regulations, the following additional requirements shall apply for “clean closure”:
- 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.
 - 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.
 - 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.
 - 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.
 - v. Post-closure activities. Include discussion of all post-closure activities, such as ground water monitoring, surface water monitoring, water or land use restrictions, or deed restrictions.