

North Dakota Department of Health Public Notice
Reissue of an AFO Permit

Public Notice Date: 4/17/2018

Public Notice Number: ND-2018-007

Purpose of Public Notice

The Department intends to take public comment to ensure the following Animal Feeding Operations AFO Permit follows the authority of Section 61-28-04 of the North Dakota Century Code.

Permit Information

Application Date: 10/22/2015

Application Number: NDAFO0620

Applicant Name: Joshua Alsager Feedlot

Mailing Address: 6015 158th Ave SE, Walcott, ND 58077

Telephone Number: 701.261.5714

Proposed Permit Expiration Date: 4/30/2023

Facility Description

The facility is located approximately 8 miles west, and a 1/4 mile south of Walcott, ND, in the S 1/2 of the NE 1/4 of Section 5, Township 135 N, Range 51 W, in Richland County.

Please note copies of the draft "Approval to Operate" (permit) and related items are also available for review at the Auditor's Office in Wahpeton, ND and the post office in Walcott, ND.

Tentative Determinations

The submitted application and supporting documentation have been reviewed by the Department. They assure that State Water Quality Standards will be protected and the system will be constructed and can be operated in compliance with the North Dakota state requirements for storage and handling of manure and wastewater for an Animal Feeding Operation.

Information Requests and Public Comments

Copies of the application, draft permit, and related documents are available for review. Comments or requests should be directed to the ND Dept of Health, Div of Water Quality, 918 East Divide Ave, Bismarck ND 58501-1947 or by calling 701.328.5210.

All comments received by May 18, 2018 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice. If you require special facilities or assistance relating to a disability, call TDD at 1.800.366.6868.

LIVESTOCK FACILITY FACT SHEET FOR

Joshua Alsager Expansion

NDAFO - 0620

Applicant:	Joshua Alsager, Owner.														
Location:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Quarter</th> <th style="text-align: left;">Section</th> <th style="text-align: left;">Township</th> <th style="text-align: left;">Range</th> <th style="text-align: left;">County</th> <th style="text-align: left;">Latitude</th> <th style="text-align: left;">Longitude</th> </tr> </thead> <tbody> <tr> <td>S ½ NE ¼</td> <td>5</td> <td>135N</td> <td>51W</td> <td>Richland</td> <td>46.536227°N</td> <td>-97.120211°W</td> </tr> </tbody> </table> <p>6015 158th Ave SE, Walcott, ND – 8 miles west, 1/4 mile south of Walcott, ND.</p>	Quarter	Section	Township	Range	County	Latitude	Longitude	S ½ NE ¼	5	135N	51W	Richland	46.536227°N	-97.120211°W
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S ½ NE ¼	5	135N	51W	Richland	46.536227°N	-97.120211°W									
Existing:	The current facility is permitted for 950 beef cattle in a contained open lot system. The drainage pattern flows into an un-named tributary of the Sheyenne River.														
Planned:	The owner is planning to collect the dirty water from the feedlot to use it for fertilization of his crop land. The facility will expand to have a maximum of 6,500 beef cattle, with an average weight of 750 lbs.														

Site Review

Geology:	<p>The facility lies in the Red River Valley section of the Central Lowlands physiographic province. (Claud H. Baker, Jr., 1967)</p> <p>The site is mapped as sand of the Sheyenne Delta that has been modified windblown sand to form of Moderate relief. The site lies on the Sheyenne Delta upland that is bordered by deeply incised intermittent drainages that have extended headward from the Sheyenne River Valley that lies from 50 to 75 feet below the upland. (Claud H. Baker, Jr., 1967)</p> <p>The area has a surface expression that is characterized by sand hills or dunes resulting in a rolling topography. (Claud H. Baker, Jr., 1967)</p>
Slope:	The average slope in the lot area will be 5%. The existing lots have a 3.8% slope in lot area.
Runoff:	The runoff from the 40.4-acre feedlot will be contained in a storage pond. The existing storage pond contains 10.4 acres of runoff.
Elevation:	1,050 feet (Approx. based on USGS Quadrangle maps)
Site drainage:	Both the new area and old lots for the facility drains west toward an unnamed drainage, a class III water body, and then north into the Sheyenne River, a class IA water body.
Water bodies:	The Sheyenne River, class IA water body, is located about one and a half miles north of the site.
Soils:	<p>The primary soils at the site, as indicated by NRCS soil survey, Zell-Eckman silt loams, Mantador-Delamere-Wyndmere fine sandy loams, Aylmer-Bantry fine sands, and Helca-Garborg loamy fine sands.</p> <p>These soils consist mostly of silty sand (SM), silty sand to clayey sand (SM-SC), clayey sand to silty sand (SC-SM), clayey sand (SC), silty loam (ML), clayey loam (CL), clay of high plasticity, fat clay (CH), poorly graded sand to silty sand (SP-SM), and clayey loam to silty loam (CL – ML) (Natural Resources Conservation Service (NRCS), Web Soil Survey). (See Table 2 on page 13)</p>

<p>Aquifers:</p>	<p>The site overlies the Sheyenne Delta Aquifer that formed as glacial meltwater from the Sheyenne River valley that deposited its sediment load upon entering glacial Lake Agassiz. In Richland County the aquifer consists of three units: (1) A lower unit of silt with inter-bedded clay and sand that is more than 150 feet thick near the delta's eastern margin and thins westward where it is absent at the delta's western margin; (2) An upper unit of well-sorted sand that is thickest in the west and thins eastward. This unit is as much as 100 feet thick at the Richland-Ransom County boundary but is absent at the delta's eastern margin. The sand grain size generally decreases eastward from medium and coarse along the Richland-Ransom County boundary to very fine sand along the delta's eastern margin; and, (3) A thin layer of windblown sand that covers the entire delta that is generally less than 10 feet thick but may be as much as 50 feet thick in areas of high-relief dunes. (Claud H. Baker, Jr. and Q.F. Paulson, 1967)</p> <p>The upper unit of well-sorted deltaic sand and the overlying wind-blown sand form the main part of the Sheyenne Delta Aquifer. The lower silt unit is generally too fine grained to yield water to pumping wells. Ground water in the upper unit is under water table conditions (unconfined) and fluctuates seasonally but is generally within 10 feet of the surface. (Claud H. Baker, Jr. and Q.F. Paulson, 1967)</p> <p>Regional ground water flow is consistent with topography that slopes to the northeast, although local flow patterns are influenced by streams and depressions. There were State Water Commission observation wells within one mile of the facility that have been subsequently destroyed. The wells were screened between 52 and 70 feet deep in a sand unit at least 30 feet thick, and each of the logs described at least 9 feet of inter-bedded silt or clay overlying the sand unit. (Part 2, Claud H. Baker, Jr. ,1966)</p>
<p>Public wells:</p>	<p>There are no public wells or irrigation wells located within two miles of the site. The facility uses a well to obtained water for the feedlot.</p>
<p>Private wells:</p>	<p>Within two miles of the site there are numerous wells are shown. Wells in the general area are from 9.5 feet to 255 feet deep. The owner's well is approximately 93 feet deep. (North Dakota State Water Commission Well Data)</p>
<p>Groundwater Monitoring Plan: * pg 51</p>	<p>Ground water monitoring is not recommended for this operation because of the CL material identified at the pond locations. Potential seepage from the manure runoff pond would likely occur as evaporative discharge along the intermittent stream valley wall.</p>

Specifications

* Page reference for North Dakota Department of Health Guidelines for Approval of Livestock Manure Systems

Manure Storage Structures																																	
Expected Manure Quantities:	<p>North existing Pond</p> <p><u>Runoff quantities from design plans (open lot system with holding pond):</u></p> <table border="0"> <tr> <td>Feedlot area</td> <td><u>10.4 ac</u></td> <td>Sludge: 17 cu yd x 10.4 ac =</td> <td><u>176.8 cu yd or 4,774 cu ft</u></td> </tr> <tr> <td>25-year, 24-hour rainfall:</td> <td><u>4.2 in</u></td> <td>25-year, 24-hour runoff:</td> <td><u>3.1 in</u></td> </tr> <tr> <td>Annual rainfall:</td> <td><u>20 in</u></td> <td>365-day runoff:</td> <td><u>4.6 in</u></td> </tr> <tr> <td>Annual evaporation:</td> <td><u>30 in</u></td> <td></td> <td></td> </tr> </table> <p>Total volume needed for runoff storage: ...<u>291,852 cu ft/year or 2.2 Mgal</u></p> <p>South Pond</p> <p><u>Runoff quantities from design plans (open lot system with holding pond):</u></p> <table border="0"> <tr> <td>Feedlot area</td> <td><u>40.4 ac</u></td> <td>Sludge:</td> <td><u>0 cu yd x 40.4 ac = 0 cu yd</u></td> </tr> <tr> <td>25-year, 24-hour rainfall:</td> <td><u>4.2 in</u></td> <td>25-year, 24-hour runoff:</td> <td><u>3.1 in</u></td> </tr> <tr> <td>Annual rainfall:</td> <td><u>20 in</u></td> <td>365-day runoff:</td> <td><u>4.6 in</u></td> </tr> <tr> <td>Annual evaporation:</td> <td><u>30 in</u></td> <td></td> <td></td> </tr> </table> <p>Total volume needed for runoff storage: ...<u>42,865 cu yd, 1,157,355 cu ft or 8.66 Mgal</u></p>	Feedlot area	<u>10.4 ac</u>	Sludge: 17 cu yd x 10.4 ac =	<u>176.8 cu yd or 4,774 cu ft</u>	25-year, 24-hour rainfall:	<u>4.2 in</u>	25-year, 24-hour runoff:	<u>3.1 in</u>	Annual rainfall:	<u>20 in</u>	365-day runoff:	<u>4.6 in</u>	Annual evaporation:	<u>30 in</u>			Feedlot area	<u>40.4 ac</u>	Sludge:	<u>0 cu yd x 40.4 ac = 0 cu yd</u>	25-year, 24-hour rainfall:	<u>4.2 in</u>	25-year, 24-hour runoff:	<u>3.1 in</u>	Annual rainfall:	<u>20 in</u>	365-day runoff:	<u>4.6 in</u>	Annual evaporation:	<u>30 in</u>		
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Required manure storage:	<p>Type: North Runoff pond</p> <p>Pond Dimensions</p> <p>Design Volume: <u>10,809 cu yd, 291,852 cu ft or about 2.2 Mgal</u></p> <p>Pump-out Depth: <u>3.5 ft</u></p> <p>Depth: <u>6.0 ft</u></p> <p>Dimensions are irregular. Volume was calculated using the area and the depth of each area. The bottom has surface area 2,178 square feet and a top liquid area of 35,283 square feet.</p> <p>Planned Freeboard: <u>2.0 ft</u></p> <p>Surface area: <u>Approx 0.81 ac or 35,283 sq. ft</u></p> <p>The facility has the capacity to store the designed runoff from the 10.4-acre lot.</p> <p>Type: South Runoff pond</p> <p>Pond Dimensions</p> <p>Design Volume: <u>47,294 cu yd, 1,276,938 cu ft or about 9.48 Mgal</u></p> <p>Pump-out Depth: <u>3.5 ft</u></p> <p>Depth: <u>6.0 ft</u></p> <p>Dimensions are irregular. Volume was calculated using the area and the depth of each area. The bottom has surface area 190,038 square feet and a top liquid area of 235,612 square feet.</p> <p>Planned Freeboard: <u>2.0 ft</u></p> <p>Surface area: <u>Approx 6.38 ac or 277,789 sq. ft</u></p> <p>The facility has the capacity to store the designed runoff from the 40.4-acre lot.</p>																																

<p>Earthen runoff pond:</p>	<p><u>Location:</u> (north pond)</p> <p>The proposed location appears suitable based on soil survey and ground water survey information. Soil borings were completed by NRCS. The borings indicate that the Unified classification for the subsoil at the site is generally CL to a depth of about 10 Feet. The soil was moist, and a water table was encountered at 7 feet below ground surface within the holding pond area. See the chart of the borings at end of document.</p> <p><u>General Requirements:</u> <u>Pond design:</u> Inside slope <u>3:1</u> Outside slope ...<u>3:1</u> Top width.....<u>10 ft</u> Compaction & Settling Factor: 5%</p> <p><u>Location:</u> (south pond)</p> <p>The proposed location appears suitable based on soil survey and ground water survey information. Soil borings were completed by K2S. The borings indicate that the Unified classification for the subsoil at the site is generally CL to a depth of about 13 feet. The bottom of the pond is proposed to be at a relative elevation of 86 feet. See the chart of the borings at end of document.</p> <p><u>General Requirements:</u> <u>Pond design:</u> Inside slope <u>4:1</u> Outside slope ...<u>4:1</u> Top width.....<u>10 ft</u> Compaction & Settling Factor: 32% combined total</p>
<p>Clay liner construction testing:</p>	<p><u>Liner:</u> Existing pond did not require a clay liner due to suitable material. A clay liner is not required in the south pond since in situ soils meet the Department's requirements. However, if unsuitable material is located under a portion of the pond, the engineer has indicated this area will be over excavated and replaced with two feet of compacted clay material.</p> <p>Liner Materials NA Density & Moisture Content NA Permeability NA</p>
<p>Manure transfer components: * pg 37</p>	<p><u>Manure Storage Structure Considerations:</u> The facility has incorporated a solids separator into the design. All of the runoff will go through the separator. The solids separator will be constructed from reinforced concrete with a base thickness of five inches and a wall thickness of eight inches. The walls will be connected to the base with reinforcement bars and a key way to reduce the amount of seepage at the joint. The separators will have a 20 foot by 20-foot base with a four-foot wall along three sides. The solids separator will have removable plastic screens to retain solids and to ease cleaning. There are two underground pipes that take the dirty water from the solids separator to the runoff pond.</p>

<p>Inlet lines and outlet structures:</p>	<p><u>North Pond (Existing):</u> A concrete inlet apron will be placed in the bottom of the dirty water diversion where it enters the holding pond. The apron will be v-shaped. A concrete stop will be placed at the end of the apron to slow the water and to spread the water.</p> <p><u>South pond:</u> The solids separator and transfer pipes will outlet into the runoff pond with the protection of a 4-inch thick concrete chute that will have a width of 6 feet and v-notch depth of 1 foot. The chutes will extend from around the top of the pipes to the bottom of the pond. The runoff will then continue onto splash pads with 4-inch thick concrete with a length and width of 6 feet and a concrete curb 3.5 inches high and 6 inches wide. The bottom of the chutes will be set into the pond bottom 5 inches. All concrete is reinforced with #4 rebar at 12 inches center to center, both ways.</p>
<p>Plumbing:</p>	<p>NA</p>
<p>Diversions: *page 16</p>	<p><u>North Pond (Existing):</u> The facility will utilize a small clean water diversion on the south of the feed road. The diversion has a small drainage area and its main purpose is to divert snow melt from the trees around the facility. The diversion will have a bottom width of ten feet and minimum depth of 1.5 feet with 4:1 side slopes. The design engineer has indicated that the drainage area was small, so no calculation was completed.</p> <p><u>Design Criteria:</u> Sizing Expected runoff from a 25-year, 24-hour storm event Freeboard 0.3 feet (minimum) Side Slopes..... 4:1 max Ridge Width 4 feet minimum Settlement Factor . 10%</p> <p><u>South pond:</u> There is no clean water diversions incorporated into the design. The access roads, runoff containment pond dike, and dirty water diversion dikes will serve as protection from clean water entering the system.</p> <p><u>Design Criteria:</u> Sizing Expected runoff from a 25-year, 24-hour storm event Freeboard 0.3 feet (minimum) Side Slopes..... 3:1 max 6:1 recommended when equipment crossing is expected Ridge Width 4 feet minimum Settlement Factor . 10%</p> <p>The channel grade must be designed such that the velocity will not cause excessive erosion for the type of soil and vegetation or other lining. The maximum acceptable channel velocity may range from 2.0 ft/sec on sandy soils with no vegetation to 3.5 ft/sec on clayey soils with vegetation.</p>
<p>Earth fill:</p>	<p>The design plans indicate vegetation and organic material will be stripped and removed from the footprint of the embankment. Organic materials or frozen soil will not be used in fill material. Class C compaction shall be used for earth fill unless otherwise noted. Appropriate topsoil as deemed by the engineer will be used as cover material on the outside slopes of the embankment. The embankment will be seeded to a shallow rooted perennial grass. Pens will be sloped to drain properly towards the solids separators.</p>

Operation & maintenance plan:

*pg 40

- Accumulated solids and sediment build-up in diversions must be cleaned and re-graded to original condition to maintain design volume and minimize transport of solids into runoff ponds.
- Earth work must be inspected regularly, for signs of seepage, rodent damage, settlement, or erosion and especially following heavy rains and spring runoff and repaired as needed. Damaged or impacted areas need to be repaired to original design grades and specifications.
- Vegetation on the Dikes and diversions must be clipped and maintained annually as a minimum and only when areas are dry and firm. Avoid excessive travel on any portion that will harm or destroy vegetative cover. All trees and woody growth will be kept off dikes and diversions, and weeds controlled. Regrade, seed and mulch any areas which become damaged immediately. Plant species for reseeding on pond dikes shall be as specified in the design or other approved shallow rooted plant species.
- Check all rip rap and erosion control matting section for accelerated weathering and displacement of materials. Replace to original shape and grade if necessary.
- Planting of row crops will not be permitted within the diversion channels.
- Inspect and maintain necessary safety features including fences, gates, and safety sign.
- Lubricate pond pump out pumps, motors and exposed metal subject to corrosion.
- The pipes, culverts, and solid separators shall be maintained and cleared of all debris to allow for proper drainage and function. They shall be inspected after all storm events. Any damaged or deteriorated components shall be repaired to original condition immediately.
- Land leveling, and pen slopes constructed shall be maintained to provide flow to the settling channel and diversion channel. Recommend the pen areas are cleaned regularly.
- The runoff pond level must be maintained at the pump out level to maintain the designed storage. Any runoff accumulated above the pump out level must be pumped out and applied in accordance with the nutrient management plan. The runoff pond may need to be pump at a minimum once a year except on drier than normal years when the water may evaporate or more than once a year on wetter years. A marker will indicate when the runoff ponds will need to be pumped down to maintain design capacity.
- Removal of accumulated sediment and manure solids may be necessary over time to maintain design volume in runoff ponds. Care shall be taken to prevent damage to pond liner and pond design dimensions.
- Manure shall be applied as specified in the Nutrient Management Plan.
- All erosion, accelerated weathering, settlement, or cracks in the access roads should be investigated. Remove debris, rodents, or burrowing animals that are causing damage. Repair any damage. Replace to original grades if necessary. Regrade road surface as needed. Replace gravel on the drive lanes as needed to prevent rutting and deteriorating of the geotextile.
- Concrete feed aprons with deterioration should be immediately patched. Maintain the sealant in the joints with the recommended design material. Any new cracks should be immediately cleaned and sealed with recommended material.
- Pasture areas or light use areas used for occasional feeding shall be maintained so that existing vegetation is allowed to regrow. If these areas are later found to be contributing nutrients and/or pollutants these areas may need to be considered for some type of containment or alternative treatment.

Nutrient Management Plan, Manure Handling, and Mortality Disposal

Record keeping:	<p>The large AFOs must make the following records available to the department for review upon request for a minimum of 5 years from the date they are created:</p> <ul style="list-style-type: none"> • Document routine visual inspections of the production area and containment structures. • Maintain a rain gauge at the production area and record measurable rainfall events. • How, when and where the manure, litter, or process wastewater was reused or disposed. • Weather conditions at the time and 24 hours prior to manure application. • Mortalities management and practices used. • The date, time and estimated volume of any overflow outside of the containment area. • Annual nutrient sampling of: manure, litter and/or process wastewater and soil samples where manure has been applied that year. • An explanation of how the manure application rates were determined with calculations of the planned and actual total nitrogen and phosphorus to be applied to each field. • The crops grown and crop yields on application sites. • Inspection of manure application equipment. • Setbacks, vegetated buffers or other alternative practices used when land applying manure near surface water or potential conduits to surface water. • If manure, litter or dirty water is transferred to other persons or entities; the recipient's name and address, approximate amount transferred, and the date of the transfer documented. • Any actions taken to correct deficiencies. 															
Manure Handling Description:	<p>The south dirty water diversion will be constructed along the south side of the feedlot. The diversion will collect runoff from pens 20, 18, 16, 14, 13 and 11. These pens will be sloped away from the waterers and bunk line and towards the diversion. The diversion will convey the runoff from the east to the west towards the solids separator that empties into the runoff containment pond. The north dirty water diversion runs through the middle of the operation. A dirty water diversion ditch located to the east of pen 6 and the hay storage area runs north to south, emptying into the north dirty water diversion. The north dirty water diversion will collect the runoff from pens 19, 17, 15, 12, 10, 9, 8, 7 and 6. These pens will be sloped away from the waterers and bunk line and towards the diversion. The diversion will convey the runoff from the east to the west towards the solids separator.</p>															
Application Rates: *page 23	<p>Manure will be scraped from the lots in the spring and will be land applied primarily in the fall. Tests on the manure and dirty water along with soil samples from the fields being applied will help determine the best location for spreading based on crop needs. Manure will be land applied at a rate not to exceed high phosphorus levels, so it will be utilized for crop production and so manure will not get into waters of the state. Producer will utilize spreader trucks to spread approximately 10 tons and acre. The manure will be incorporated into the cropland. Some of the manure is currently transferred to neighbors.</p>															
General Conditions: *page 22	<p>Best Management Practices (BMPs) must be exercised when managing and applying manure to ensure surface waters are not impacted and minimize nuisance concerns for nearby residents. Factors to consider when choosing methods of management and application include but are not limited to; the volume of manure, the topography, location of surface and ground water sources, and distance from neighboring residents.</p>															
Expected manure volumes & nutrients:	<p>Expected Manure Quantities:</p> <table border="1" data-bbox="332 1640 1055 1795"> <thead> <tr> <th></th> <th>Daily</th> <th>365 Days</th> </tr> </thead> <tbody> <tr> <td>Volume of animal manure</td> <td>29,901 gal/day</td> <td>10.913 Mgal</td> </tr> <tr> <td>Nitrogen (N)</td> <td>1,463 lbs./day</td> <td>533,813 lbs.</td> </tr> <tr> <td>Phosphorus (P₂O₅)</td> <td>1,048 lbs./day</td> <td>382,566 lbs.</td> </tr> <tr> <td>Potassium (K₂O)</td> <td>1,233 lbs./day</td> <td>450,182 lbs.</td> </tr> </tbody> </table> <p>* Values from USDA Ag Manure Management Field Hand Book, Chapter 4</p> <p>Nitrogen losses anticipated: Storage: 45% for manure pack and open pond Land apply method: 25% for surface applying and incorporating</p>		Daily	365 Days	Volume of animal manure	29,901 gal/day	10.913 Mgal	Nitrogen (N)	1,463 lbs./day	533,813 lbs.	Phosphorus (P ₂ O ₅)	1,048 lbs./day	382,566 lbs.	Potassium (K ₂ O)	1,233 lbs./day	450,182 lbs.
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<p>Land application of manure:</p>	<p><u>Estimate of land needed for manure application:</u></p> <p>If the nutrient management plan's phosphorus risk assessment indicates a medium to low risk of movement of phosphorus, facilities are allowed to apply at agronomic nitrogen rates in accordance with the phosphorus index.</p> <p>If the nutrient management plan's phosphorus risk assessment indicates a high potential for movement or if soil test show phosphorus levels in the high range, the facility is required to apply the manure at agronomic phosphorus rates.</p> <table border="0"> <thead> <tr> <th style="text-align: left;"><u>Nutrient</u></th> <th style="text-align: left;"><u>Rate</u></th> </tr> </thead> <tbody> <tr> <td>Phosphorus (w/no losses)</td> <td>**40 lbs. P₂O₅/acre</td> </tr> <tr> <td>Nitrogen (w/ 47.5% losses)</td> <td>**100 lbs. N/acre</td> </tr> </tbody> </table> <p>Anticipated crop grown: <u>Corn Silage, Corn, Soybeans, Alfalfa</u></p> <p>Risk assessment for phosphorus: <u>Low, Medium, High.</u></p> <p>Amount of land estimated for spreading at agronomical rates: <u>2,202 acres</u></p> <p>Amount of land identified by applicant for land application: <u>approximately 482 acres; verified 353 acres. The operator received easements from neighbors that manure will be transferred to. The neighbors' have approximately 4,153 acres available for spreading.</u></p> <p>The Department realizes that the nitrogen in manure is not all available to the crop the first year and therefore the manure will typically be applied at rates higher than the rates listed above. However, the organic nitrogen becomes available the following years, so the manure cannot be applied at the same rate subsequent years. These figures are used to estimate the total acres that would be needed over several years of application using proper rotation of crop-land and/or calculating nitrogen that are carried over to the following years.</p> <p>**Average rates, actual rates depend upon crops grown and projected yield</p>	<u>Nutrient</u>	<u>Rate</u>	Phosphorus (w/no losses)	**40 lbs. P ₂ O ₅ /acre	Nitrogen (w/ 47.5% losses)	**100 lbs. N/acre
<u>Nutrient</u>	<u>Rate</u>						
Phosphorus (w/no losses)	**40 lbs. P ₂ O ₅ /acre						
Nitrogen (w/ 47.5% losses)	**100 lbs. N/acre						
<p>Mortality disposal:</p>	<p>Currently dead animals are buried in a pit located on the east side of cropland directly west of the current pens.</p>						
<p>Disclaimer:</p>	<p>This design review is intended to assess a livestock facility's ability to contain, divert, store and properly apply manure and/or runoff water to meet department requirements, to prevent detrimental impacts the quality of waters of the state, and to minimize the potential for odor concerns from livestock facilities. It does not include an assessment of the structural integrity of livestock facilities or manure handling structures such as those made of concrete, metal, wood, plastic, or other material.</p>						

Odor Setback

<p>Potential Sources:</p> <p>*page 11</p>	<p>Significant odor sources identified are the storage pond, open lots and the land application of manure. Odors from the ponds and open lots may be minimized with good house-keeping practices. However, if odors are shown to be a concern, steps must be taken to control them. Viking Township does regulate zoning for feedlot operations, the state setbacks do not apply. The facility obtained a zoning certificate on October 9, 2017, from the township. The nearest residence not owned by the facility is approximately 0.5 miles from the site.</p>
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Approval Conditions:

1. The application indicated the facility will 6,500 beef cattle. The Department must be notified in writing if there is an expansion in the number of livestock, change in ownership of the facility, significant changes in the physical operation of the facility or if the lot area where livestock are concentrated is expanded. Changes may require an update to the approval or issuance of a new approval.
2. Operation and Maintenance plans and standard operating procedures must be followed as submitted to the department. Changes to the Operation and Maintenance plan must be approved by the Department prior to being implemented. There must be regular and adequate maintenance and upkeep to prevent degradation of the structures, to ensure the system continues to operate as designed, to ensure the storage pond does not overflow, and to ensure manure or waste water does not discharge into waters of the state. Operation and maintenance plans mean description of the equipment, methods, and schedules for: inspection, monitoring, operation and maintenance of the animal feeding operation (manure storage structures, water pollution control structures, and the production area); and controlling water pollution and air pollution including odors to protect the environment and public health. (Design manual, 6.7, page 42)
3. Pasture areas or light use areas used for occasional feeding shall be maintained so that existing vegetation is not greatly disturbed and is allowed to regrow. These areas must be kept clean and maintained to prevent impacts to water of the state. Animals may be in the area no more than 45 days in a twelve-month period. If these areas are later found to be contributing nutrients and/or pollutants these areas will need to be considered for some type of containment or alternative treatment.
4. Notice of Completion and all results of testing completed on the clay liner or the manure storage structures must be sent to the Department when construction is complete.
5. All embankments must be constructed of relatively impervious materials and compacted sufficiently to form a stable structure. An appropriate liner material must be used to prevent excess seepage from the storage pond. Seepage from the storage pond shall not exceed 1/16 inch per day and shall not detrimentally impact waters of the state.
6. Dead animals must be disposed of in accordance with NDCC section 36-14-19, in a manner acceptable to the North Dakota Board of Animal Health, and so they will not impact waters of the state
7. Land application of manure must be in accordance with the nutrient management plan. Manure must be applied in a manner, so it will not be washed into waters of the state. The Department may require immediately incorporating the manure into the soil or leaving a buffer distance to prevent impacts to waters of the state or impacts from odors.
8. The following records pertaining to nutrient management must be maintained for a minimum of 5 years. The crops grown and expected realistic crop yields; the date(s) manure, litter or process wastewater is applied to each field; weather conditions during application, 24 hours prior and following application; test methods used to sample and analyze manure, litter, wastewater and soil; results from annual testing of manure, litter, and process wastewater, and annual soil sample results for land where manure was applied that year; an explanation of how the application rates were determined in accordance with standards established by the department; calculations showing nutrients applied to each field, including other nutrient sources; total amount of nutrients actually applied to each field, including documentation of calculations for the total amount applied; method used to apply the manure, litter or process wastewater; inspection of manure application equipment including method, frequency, dates and repairs made if leaks were found; and setbacks, vegetated buffers or other alternative practices used when land applying manure near surface water or potential conduits to surface water. (Design manual, 7.7, number 2, page 49)
9. If manure is transferred to other persons or entities not associated with the facility, the following conditions shall apply: owners/operators shall provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis prior to transfer; the analysis provided shall be consistent with the requirements of section 7.4 in design manual; and the owners/operators of the CAFO shall retain records for five years after the transfer date documenting the recipient's name and address, the approximate amount of manure transferred, and the date the manure was transferred. (Design manual, 7.7, number 3, page 50)

10. The owner/operator of a CAFO shall conduct the following routine visual inspections of the production area: weekly inspections of all storm water diversion devices, runoff diversion structures and devices channeling runoff to the manure storage structure; daily inspection of water lines, including drinking water or cooling water lines; and weekly inspections of the manure storage structures noting the level of liquid in the structure as indicated by the depth marker.
11. All open storage structures shall: maintain a depth marker which clearly indicates the minimum capacity necessary to contain the Manure generated and direct precipitation from a 25-year, 24-hour rainfall event.
12. Any deficiencies discovered during the inspections shall be corrected as soon as possible; chemicals or other contaminants handled on site shall not be disposed of in a structure used for storage or treatment of manure, process wastewater or storm water unless it is specifically designed for that purpose; and the operator of a livestock facility requiring a permit should maintain a rain gauge at the production area and record measurable rainfall events. (Design manual, 6.2, page 40)
13. The owner/operator of a CAFO must make the following records available to the department for review upon request: records documenting the visual inspections; weekly records of the depth of the manure and process wastewater in the liquid manure storage structure as indicated by the depth gauge in storage structure; records documenting any actions taken to correct deficiencies; deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction; records of management and practices used; record documenting current design of any manure storage structures, including solids accumulation volume, design treatment volume, total design volume and the approximate number of days of storage capacity; records of the date, time and estimated volume of any overflow; and records documenting the land application of manure. (Design manual, 6.5, page 41)
14. The owner/operator of a CAFO shall submit an annual report which includes: the number and type of animals whether in open lots or confined under roof; estimated amount of total manure generated in the previous 12 months; estimated amount of total manure transferred to another party in the previous 12 months; total number of acres for land application covered by the Nutrient Management Plan; person who prepared the Nutrient Management Plan; total number of acres under the control of the facility that were used for land application of manure in the previous 12 months; summary of all manure discharges from the production area that have occurred including date, time, and approximate volume. (Design manual, 6.6, page 42)
15. This approval shall in no way permit or authorize the discharge of any objectionable odorous air contaminant which is in excess of the limits established in North Dakota Administrative Code Ch. 33-15-16 of the North Dakota Air Pollution Control Rules. If the Department determines odors from the facility exceed limits, appropriate steps will be required, within a reasonable time, to control and reduce odors from the facility site. This may include requiring the installation of odor control measures.
16. This approval shall in no way permit or authorize the maintenance of a public nuisance or danger to public health or safety.
17. There must be regular and adequate maintenance and upkeep to prevent degradation of the structures, to ensure the system continues to operate as designed, to ensure the containment system does not overflow, and to ensure manure or waste water does not discharge into waters of the state.
18. The Department must be notified if there is a change in address or other contact information for the facility.
19. The facility must maintain adequate storage capacity to contain a 25-year, 24-hour storm event.

Table 1: North Dakota State Water Commission Well Data

Location	Use	Depth (feet)	Dia. (Inches)	Aquifer
13505102CDC	Domestic	50	2	Sheyenne Delta
13505103BAA	Domestic	110	4	
13505103BAA	Domestic	90	2	Sheyenne Delta
13505103DDC	Domestic	64	4	
13505104AAA	Observation – Destroyed	107	1.25	
13505104BAD	Domestic, Stock	95	2	Sheyenne Delta
13505104CCC	Observation – Destroyed	60	0	
13505104CCC2	Observation	83	1.25	Sheyenne Delta
13505105AAA	Domestic, stock	93	2	Sheyenne Delta
13505106AAD	Observation – Destroyed	57	1.25	
13505106ABA	Observation – Destroyed	55	1.25	
13505106ACD	Stock	40	4	
13505106ACD	Stock	60	4	
13505106DAA	Observation – Destroyed	52	1.25	
13505106DDD	Observation – plugged	57	1.25	Sheyenne Delta
13505107	Stock	25	4	
13505107DDD	Observation – Destroyed	61	2	Sheyenne Delta
13505110AAA	Observation – Destroyed	97	1.25	
13505110ADA	Domestic	60	1.25	Sheyenne Delta
13505110CCBB	observation	9.5	2	Sheyenne Delta
13505110CCC	Observation – Destroyed	62	1.25	
13505110DAA	Domestic	45	1.25	Sheyenne Delta
13505111CB	Domestic	34	4	Sheyenne Delta
13505115AAA	Domestic	50	1.25	Sheyenne Delta

13505115CD	Domestic	63	4	
13505115CDB	Domestic	45	1.25	Sheyenne Delta
1350517ACC	Stock	45	4	
1350517BDD	Stock	40	4	
13505201BCB	Observation – Destroyed	135	1.25	
13505201BCB3	Observation	68	1.25	Sheyenne Delta
13505201BCB4	Observation	18	1.25	Sheyenne Delta
13505201BCB5	Observation – Destroyed	60	4	
13505201BCB7	Observation	14	4	Sheyenne Delta
13505201BCB9	Observation	61	4	Sheyenne Delta
13505213CCC	Observation – Destroyed	77	1.25	Sheyenne Delta
13605127AAA	Domestic, Stock	25	1.25	Sheyenne Delta
13605127AAC	Domestic	28	4	
13605127BAA	Stock	255	3	till and associated glacioaqueous deposits
13605127CCD	Observation – Destroyed	113	1.25	Sheyenne Delta
13605128BBA	Domestic, Stock	30	1.25	Sheyenne Delta
13605128CBC	Observation – Destroyed	28	1.25	Sheyenne Delta
13605128CBC2	Observation	30	1.25	Sheyenne Delta
13605128CDC	Domestic	66	4	
13605128DAA	Observation – Destroyed	113	1.25	Sheyenne Delta
13605129ABC	Domestic, Stock	70	1.25	Sheyenne Delta
13605129ADA	Domestic	41	4	
13605129BAA	Domestic	26	4	
13605129BAA	Domestic, Stock	30	2	Sheyenne Delta
13605129BAB	Observation – Destroyed	42	1.25	Sheyenne Channel
13605129CDC	Domestic, Stock	25	36	Sheyenne Delta
13605129DAD	Observation – Destroyed	53	1.25	Sheyenne Delta
13605130BAC	Domestic	35	5	

13605130DDC	Domestic, Stock	25	36	Sheyenne Delta
13605130DDD	Observation – Destroyed	42	1.25	Sheyenne Delta
13605131AAA	Domestic, Stock	22	1.25	Sheyenne Delta
13605131ACB	Domestic, Stock	30	1.25	Sheyenne Delta
13605131ADA	Observation - plugged	34	2	Sheyenne channel
13605131DAA	Observation - plugged	32	1.25	Sheyenne channel
13605131DAD	Observation - plugged	57	1.25	-
13605131DDD	Observation - plugged	55	1.25	-
13605132AAA	Observation – Destroyed	55	1.25	
13605132BBA	Domestic, Stock	30	1.25	Sheyenne Delta
13605132BCA	Domestic, Stock	201	2	till and associated glacioaqueous deposits
13605132BCD	Stock	30	4	
13605132CCC	Domestic, Stock	25	1.25	Sheyenne Delta
13605132CCCC	observation	29.5	2	Sheyenne Delta
13605132DAA	Domestic	68	4	
13605133BCC	Observation – Destroyed	55	1.25	
13605134AAA	Observation – Destroyed	55	1.25	
13605134DBD	Stock	35	-	Sheyenne Delta
13605225CCB	Observation – Destroyed	135	1.25	Sheyenne Delta
13605225CCB5	Observation – Destroyed	60	4	Sheyenne Delta
13605225DDA	Stock	12	1.25	Sheyenne Delta

Information retrieved from North Dakota State Water Commission web site. (see references)

Table 2: Natural Resource Conservation Service Soil Survey Data

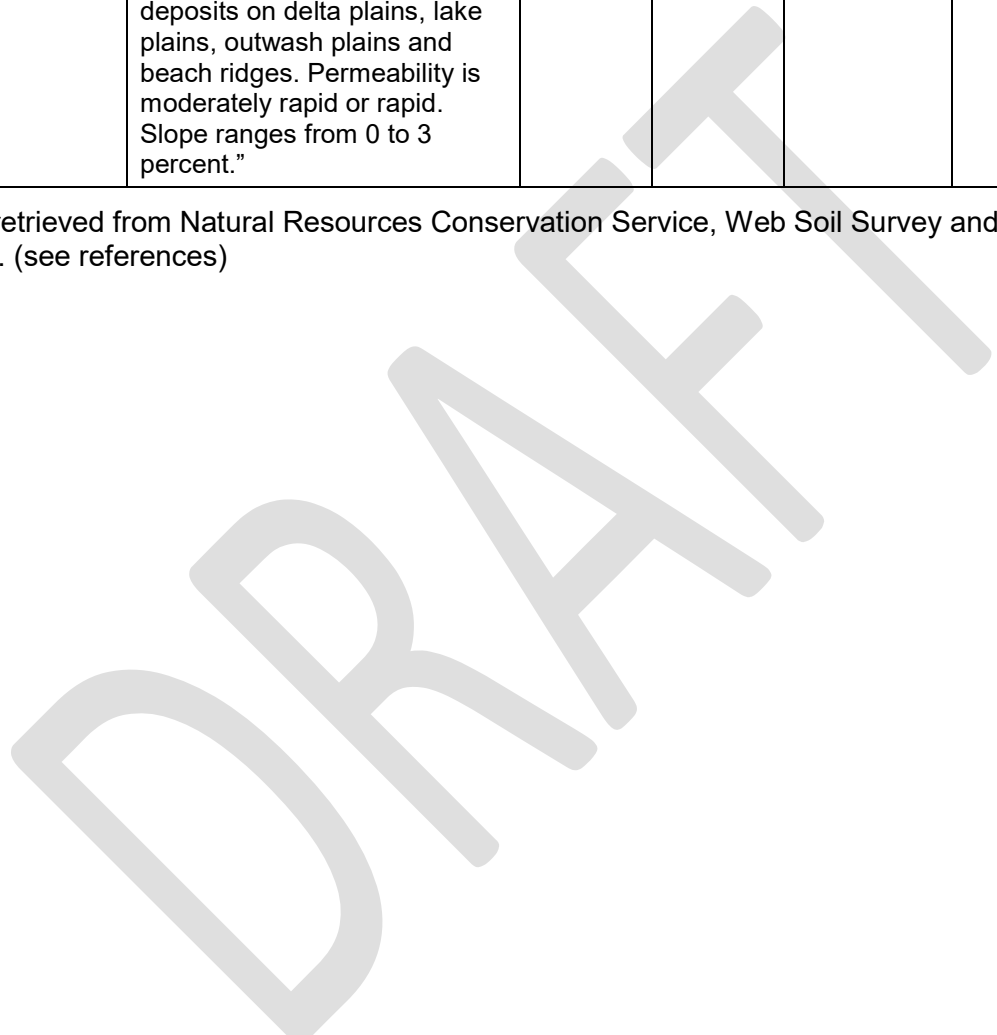
Map unit	Name	Description	Bedrock depth	Seasonal water table	Unified soil class*	Perm in/hr	Lagoon Restrictions
I202E	Zell-Eckman silt loams, 15 to 25 percent slopes.	<p>“Zell series consists of very deep, well drained moderately permeable soils formed in glaciolacustrine sediments. These upland soils have slopes ranging from 0 to 25 percent.”</p> <p>“The Eckman series consists of very deep, well drained, moderately permeable soils that formed in calcareous stratified glaciolacustrine deposits. These soils are on glacial lake plains and stream terraces. Slopes ranges from 0 to 25 percent.”</p>	0-80"	> 200 cm	CL, CL-ML, ML, SC	0.01 –1.42	Very Limited.

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I215A	Mantador-Delamere-Wyndmere fine sandy loams, slightly saline, stratified substratum, 0 to 2 percent slopes.	<p>“The Mantador series consists of very deep, somewhat poorly drained, moderately rapidly permeable soils formed in calcareous moderately coarse glaciolacustrine deposits. These soils are on delta and lake plains. Slope ranges from 0 to 3 percent.”</p> <p>“The Delamere series consists of very deep, somewhat poorly drained, moderately or moderately rapidly permeable soils that formed in glaciolacustrine or glaciofluvial deposits. These soils are in swales and flats on deltas, interbeach areas and outwash plains. Slope ranges from 0 to 2 percent.”</p> <p>“The Wyndmere series consists of very deep, somewhat poorly drained, moderately rapidly permeable soils formed in calcareous moderately coarse and coarse glaciofluvial and glaciolacustrine deposits. These soils are on delta, outwash and glaciolacustrine plains, and on beach ridges. Slope ranges from 0 to 3 percent.”</p>	0-80"	76 cm	SM, ML, SC-SM, SC, CL-ML, CL, CH, SP-SM	0.01 - 0.14	Very Limited.
I348B	Aylmer-Bantry fine sands, 0 to 6 percent slopes.	<p>“The Aylmer series consists of very deep, moderately well drained, rapidly permeable soils that formed in wind worked sand on outwash plains and delta plains. These soils have slopes of 0 to 6 percent.”</p> <p>“The Bantry series consists of very deep, somewhat poorly drained, rapidly permeable soils that formed in windblown glaciofluvial deposits. These soils are on sandy delta plains and outwash plains. They have slopes of 0 to 6 percent.”</p>	0-79"	122 cm	SM, SC-SM	1.42 – 14.17	Very Limited.

I363A	Helca-Garborg loamy fine sands, 0 to 2 percent slopes.	<p>“The Hecla series consists of very deep, moderately well drained soils formed in sandy sediments on lake plains and glacial outwash plains. Permeability is moderately rapid or rapid. Slopes range from 0 to 6 percent.”</p> <p>“The Garborg series consists of very deep, somewhat poorly drained soils formed in eolian, glaciofluvial or glaciolacustrine deposits on delta plains, lake plains, outwash plains and beach ridges. Permeability is moderately rapid or rapid. Slope ranges from 0 to 3 percent.”</p>	0-79"	122 cm	SM, SC-SM, SP-SM	1.42 – 14.17	Very Limited.
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Information retrieved from Natural Resources Conservation Service, Web Soil Survey and Official Soil Series Descriptions. (see references)



Soil Boring information: North Pond (Existing)

Depth	SB 1	SB 2	SB 3	SB 1A	SB 2A	SB 3A	SB 4A	SB 5A	SB 6A	SB 2B
0 - 1	TS	CL	CL	TS	TS	TS	TS	TS	TS (0.5')	TS
1 - 2	TS	CL	CL	SC	TS	TS	TS	TS	CL	TS
2 - 3	TS	CL	CL	SC	SC	SC	SC	CL	CL	SC
3 - 4	SC	CL	CL	SC	SC	SC	SC	CL	CL	SC
4 - 5	SC	CL	CL	SC	SC	CL	SC	CL (water 5')	CL	SC

5 - 6	SC	CL	CL	SC	SC (water 6')	CL	SC	CL	CL	SC
6 - 7	SC	CL	CL	SC	SC	CL	CL (water 7')	CL	CL	SC
7 - 8	SC	CL	CL	SC	SC	CL	CL	CL	CL	SC
8 - 10	SC (water 9')	CL (water 14')	CL (water 18.5')	SC	SC	CL (water 10')	CL	CL	CL	SC (9') (water 9') ML

Information retrieved from Engineering Design submitted by applicant.

Soil Boring Information: South Pond

	TP 1	TP 2	TP 3
Elevation	82	83	87
0 to 1	CL	CL	CL/ML
1 to 2	CL	CL	CL/ML
2 to 3	CL	CL	ML/SC
3 to 4	CL	CL	ML/SC
4 to 5	CL	CL	CL
5 to 6	SC/CL	CL	CL
6 to 7	SC/CL	CL	CL
7 to 8	SC/CL	CL	CL
8 to 9	SC/CL	CL	CL
9 to 10	CL	CL	CL
10 to 11	CL	CL	CL
11 to 12	CL	CL	CL
12 to 13	CL	CL	CL

Information retrieved from Engineering Design submitted by applicant.

References

Baker, Claud H. Baker, Jr., 1967, Geology and Ground Water Resources of Richland County, North Dakota; Part I, North Dakota State Water Commission County Ground-Water Studies 7-Part 1 and North Dakota Geological Survey Bulletin 46-Part I, pp. 6-7.

Baker, Claud H. Baker, Jr., 1966, Geology and Ground Water Resources of Richland County, North Dakota; Part 2, North Dakota State Water Commission County Ground-Water Studies 7-Part 2 and North Dakota Geological Survey Bulletin 46-Part 2, pp. 71-72.

Baker and Paulson, Claud H. Baker, Jr. and Q.F. Paulson, 1967, Geology and Ground Water Resources of Richland County, North Dakota; Part III, North Dakota State Water Commission County Ground-Water Studies 7-Part III and North Dakota Geological Survey Bulletin 46-Part III, pp. 17.

State Water Commission & Office of the State Engineer, Map and Data Resources, Ground-Surface Water and Private Contractor logs, database. http://www.swc.state.nd.us/info_edu/map_data_resources/

Natural Resources Conservation Service (NRCS), Web Soil Survey, database.
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Natural Resources Conservation Service (NRCS), Official Soil Series Descriptions, database.
<https://soilseries.sc.egov.usda.gov/osdname.aspx>

North Dakota Livestock Program Design Manual, North Dakota Department of Health, January 7, 2005.

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APPROVAL TO OPERATE

A Concentrated Livestock Operation

In compliance with Chapter 33-16-03.1 of the North Dakota Department of Health rules as promulgated under Chapters. 61-28 and 23-25 of North Dakota Century Code (NDCC), approval of the **Joshua Alsager** livestock facility located in the S 1/2 of the NE 1/4 of Section 5, Township 135 N, Range 51 W, in Richland County, North Dakota is granted provided the following conditions are met:

1. The application indicated the facility will 6,500 beef cattle. The Department must be notified in writing if there is an expansion in the number of livestock, change in ownership of the facility, significant changes in the physical operation of the facility or if the lot area where livestock are concentrated is expanded. Changes may require an update to the approval or issuance of a new approval.
2. Operation and Maintenance plans and standard operating procedures must be followed as submitted to the department. Changes to the Operation and Maintenance plan must be approved by the Department prior to being implemented. There must be regular and adequate maintenance and upkeep to prevent degradation of the structures, to ensure the system continues to operate as designed, to ensure the storage pond does not overflow, and to ensure manure or waste water does not discharge into waters of the state. Operation and maintenance plans mean description of the equipment, methods, and schedules for: inspection, monitoring, operation and maintenance of the animal feeding operation (manure storage structures, water pollution control structures, and the production area); and controlling water pollution and air pollution including odors to protect the environment and public health. (Design manual, 6.7, page 42)
3. Pasture areas or light use areas used for occasional feeding shall be maintained so that existing vegetation is not greatly disturbed and is allowed to regrow. These areas must be kept clean and maintained to prevent impacts to water of the state. Animals may be in the area no more than 45 days in a twelve-month period. If these areas are later found to be contributing nutrients and/or pollutants these areas will need to be considered for some type of containment or alternative treatment.
4. Notice of Completion and all results of testing completed on the clay liner or the manure storage structures must be sent to the Department when construction is complete.
5. All embankments must be constructed of relatively impervious materials and compacted sufficiently to form a stable structure. An appropriate liner material must be used to prevent excess seepage from the storage pond. Seepage from the storage pond shall not exceed 1/16 inch per day and shall not detrimentally impact waters of the state.
6. Dead animals must be disposed of in accordance with NDCC section 36-14-19, in a manner acceptable to the North Dakota Board of Animal Health, and so they will not impact waters of the state
7. Land application of manure must be in accordance with the nutrient management plan. Manure must be applied in a manner, so it will not be washed into waters of the state. The Department may require immediately incorporating the manure into the soil or leaving a buffer distance to prevent impacts to waters of the state or impacts from odors.
8. The following records pertaining to nutrient management must be maintained for a minimum of 5 years. The crops grown and expected realistic crop yields; the date(s) manure, litter or process wastewater is applied to each field; weather conditions during application, 24 hours prior and following application; test methods used to sample and analyze manure, litter, wastewater and soil; results from annual testing of manure, litter, and process wastewater, and annual soil sample results for land where manure was applied that year; an explanation of how the application rates were determined in accordance with standards established by the department; calculations showing nutrients applied to each field, including other nutrient sources; total amount of nutrients actually applied to each field, including documentation of calculations for the total amount applied; method used to apply the manure, litter or process wastewater; inspection of manure application equipment including method, frequency, dates and repairs made if leaks were found; and setbacks, vegetated buffers or other alternative practices used when land applying manure near surface water or potential conduits to

surface water. (Design manual, 7.7, number 2, page 49)

9. If manure is transferred to other persons or entities not associated with the facility, the following conditions shall apply: owners/operators shall provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis prior to transfer; the analysis provided shall be consistent with the requirements of section 7.4 in design manual; and the owners/operators of the CAFO shall retain records for five years after the transfer date documenting the recipient's name and address, the approximate amount of manure transferred, and the date the manure was transferred. (Design manual, 7.7, number 3, page 50)
10. The owner/operator of a CAFO shall conduct the following routine visual inspections of the production area: weekly inspections of all storm water diversion devices, runoff diversion structures and devices channeling runoff to the manure storage structure; daily inspection of water lines, including drinking water or cooling water lines; and weekly inspections of the manure storage structures noting the level of liquid in the structure as indicated by the depth marker.
11. All open storage structures shall: maintain a depth marker which clearly indicates the minimum capacity necessary to contain the Manure generated and direct precipitation from a 25-year, 24-hour rainfall event.
12. Any deficiencies discovered during the inspections shall be corrected as soon as possible; chemicals or other contaminants handled on site shall not be disposed of in a structure used for storage or treatment of manure, process wastewater or storm water unless it is specifically designed for that purpose; and the operator of a livestock facility requiring a permit should maintain a rain gauge at the production area and record measurable rainfall events. (Design manual, 6.2, page 40)
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14. The owner/operator of a CAFO shall submit an annual report which includes: the number and type of animals whether in open lots or confined under roof; estimated amount of total manure generated in the previous 12 months; estimated amount of total manure transferred to another party in the previous 12 months; total number of acres for land application covered by the Nutrient Management Plan; person who prepared the Nutrient Management Plan; total number of acres under the control of the facility that were used for land application of manure in the previous 12 months; summary of all manure discharges from the production area that have occurred including date, time, and approximate volume. (Design manual, 6.6, page 42)
15. This approval shall in no way permit or authorize the discharge of any objectionable odorous air contaminant which is in excess of the limits established in North Dakota Administrative Code Ch. 33-15-16 of the North Dakota Air Pollution Control Rules. If the Department determines odors from the facility exceed limits, appropriate steps will be required, within a reasonable time, to control and reduce odors from the facility site. This may include requiring the installation of odor control measures.
16. This approval shall in no way permit or authorize the maintenance of a public nuisance or danger to public health or safety.
17. There must be regular and adequate maintenance and upkeep to prevent degradation of the structures, to ensure the system continues to operate as designed, to ensure the containment system does not overflow, and to ensure manure or waste water does not discharge into waters of the state.
18. The Department must be notified if there is a change in address or other contact information for the

facility.

19. The facility must maintain adequate storage capacity to contain a 25-year, 24-hour storm event.

The above conditions are considered part of the proper operation of the facility. If any of the above conditions are not met, the Department must be notified in writing, within five (5) days. Any noncompliance with the approval conditions or with state requirements must be reported to the Department as soon as possible after the facility becomes aware of the noncompliance condition. Failure to meet these requirements may result in monetary fines and/or revocation of this approval to operate.

Permission to begin construction becomes effective upon signature of this Approval by the Department. The approval is based on construction being completed as per the design plans reviewed by the Department. If any structural changes are made that are different than these design plan, the Department must be notified in writing, prior to making these changes.

Authorized Department personnel shall be permitted access to the facility to determine compliance with Department rules and regulations. Department inspections will abide by all security measures implemented by the owner or operator to protect the health and safety of the workers and animals at the facility.

The owner/operator of this facility shall comply with all State and Federal environmental laws and rules, and shall also comply with all local building, fire, zoning and other applicable ordinances, codes, and rules.

This approval becomes effective when construction is completed, and Notice of Completion and results of testing completed on the clay liner or the manure storage structures are received by the Department.

I certify that I have read and understand the above information and agree to operate the facility in a manner that will meet all the conditions listed herein.

OWNER/OPERATOR CONSENT

FOR THE NORTH DAKOTA
DEPARTMENT OF HEALTH

By _____
(signature)

By _____

By _____
(print name here)

By Karl Rockeman, Director
Water Quality Division

Date _____

Date _____