

SOUTH CAROLINA DEPARTMENT OF  
HEALTH AND ENVIRONMENTAL CONTROL



R.61-43  
Standards for the Permitting  
of Agricultural Animal Facilities

Effective June 28, 2002

**Bureau of Water  
2600 Bull Street  
Columbia SC 29201**

**DISCLAIMER**

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**Part 50 - General Definitions** . For purposes of this regulation, the following definitions apply:

- A. ***Agricultural animal***@ means an animal confined in an agricultural facility.
- B. ***Agricultural facility***@ means a lot, building, or structure, which is used for the commercial production of animals in an animal facility.
- C. ***Agronomic rate***@ is the animal manure and other animal by-products application rate designed: (1) to provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land and (2) to minimize the amount of nitrogen in the animal manure that passes below the root zone of the crop or vegetation grown on the land to the groundwater and (3) to provide the amount of other organic and inorganic plant nutrients which promote crop or vegetative growth, such as calcium-carbonate equivalency and (4) to provide the amount of phosphorus needed by the crop or vegetation grown on the land without causing an excessive build up of phosphorus in the soil.
- D. ***Animal***@ means any domesticated animal.
- E. ***Animal by-product***@ means a secondary or incidental product of animal production that may include bedding, spilled feed, water or soil, milking center washwater, contaminated milk, hair, feathers, dead animals or other debris. This definition may also refer to dead animal or animal manure compost.
- F. ***Animal facility***@ means an agricultural facility where animals are confined and fed or maintained for a total of forty-five days or more in a twelve-month period and crops, vegetative, forage growth, or post harvest residues are not sustained in the normal growing season over any portion of the lot or facility. Structures used for the storage of animal manure and other animal by-products from animals in the operation also are part of the animal facility. Two or more animal facilities under common ownership or management are considered to be a single animal facility if they are adjacent or utilize a common system for animal manure storage.
- G. ***Animal Facility Management Plan***@ means a plan prepared by the United States Department of Agriculture's Natural Resources Conservation Service or a professional engineer detailing the management, handling, treatment, storage, or utilization of manure generated in an animal facility. This plan shall include facility management details and a detailed map of each manure utilization area showing all buffer zones and setbacks, a description of the land use, the crops grown on the site, the timing for application of swine manure to the land and a land use agreement if the site is not owned by the permittee.
- H. ***Animal manure***@ means animal excreta or other commonly associated organic animal manures including, but not limited to, bedding, litter, feed losses, or water mixed with the manure.
- I. ***Annual animal manure application rate***@ is the maximum amount of animal manure that can be agronomically applied to a unit area of land during any 365-day period.
- J. ***Annual constituent loading rate***@ means the maximum amount of a constituent that can be applied to a unit area of a manure utilization area during any 365-day period.
- K. ***Average animal live weight***@ means the sum of the average exit weight of the animal from the facility and the average entry weight divided by two, as shown by the following formula:  
$$\text{Average animal live weight} = (\text{Average Exit Weight} + \text{Average Entry Weight})/2$$

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- L. **ABroker@**means a person who accepts or purchases dry animal manure from agricultural facilities and transfers this product to a third party for land application.
- M. **AClosed facility@**means an animal facility that has ceased operations (no confined animals at the facility) and is no longer in production.
- N. **ACommercial Facility@**means an animal facility that produces animals or animal by-products for commercial sale, boards animals, rents animals, or provides a service utilizing the animals for a fee. The facility is considered commercial if the owner earned at least one thousand dollars gross farm income in at least three of the first five years.
- O. **ACompost@**is an organic soil conditioner that has been stabilized to a humus-like product, is free of viable human and plant pathogens and plant seeds, does not attract insects or vectors, can be handled and stored without nuisance, and is beneficial to the growth of plants.
- P. **AComposting@**is the biological decomposition and stabilization of organic substrates, under conditions that allow development of thermophilic temperatures as a result of biologically produced heat, to produce a final product that is stable, free of pathogens and plant seeds, and can be beneficially applied to land. Composting requires special conditions of moisture and aeration to produce thermophilic temperatures.
- Q. **AConstituent limit@**is a numerical value that describes the amount of a constituent allowed per unit amount of animal manure (e. g., milligrams per kilogram of total solids); the amount of a constituent that can be applied to a unit area of land (e. g., pounds per acre); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre).
- R. **ACover crop@**is a small grain crop, including, but not limited to, oats, wheat, or barley; grasses; or other crop grown for agronomic use or to maintain topsoil and prevent soil erosion.
- S. **ACumulative constituent loading rate@**means the maximum amount of a constituent that can be applied to an area of land.
- T. **ACumulative impacts@**means an increase or enlarging of impact to the environment or community by the successive addition or accumulation of animal facilities in an area.
- U. **ACWA@**means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117, 33 U.S.C. 1251 et seq. Specific references to sections within the CWA shall be according to Pub. L. 92-500 notation.
- V. **ADeemed Permitted Facility@**means an agricultural animal facility that held a valid permit from the Department for their swine facility prior to July 1, 1996, or for their animal facility prior to June 26, 1998.
- W. **ADepartment@**means the South Carolina Department of Health and Environmental Control.
- X. **ADry manure@**means manure, bedding, litter, feed losses, or composted animal material (animal manure or dead animals) that is not in a liquid form. Dry animal manure can normally be easily handled with a shovel or other similar equipment and it can be placed in piles without liquid manure or leachate drainage occurring.

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- Y. **ADry weight basis**@means calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass (i.e., essentially 100 percent solids content).
- Z. **AEPA**@means the United States Environmental Protection Agency.
- AA. **AEphemeral stream**@means a stream that flows only in direct response to rainfall or snowmelt in which discrete periods of flow persist no more than twenty-nine consecutive days per event.
- BB. **AExcessive Mortality**@means total animal mortality in any one 24-hour period that exceeds the design capacity of the normal method of dead animal disposal.
- CC. **AExpansion**@ means an increase in the permitted number of animals or normal production live weight at the facility that will result in physical construction at the facility. For facilities with a lagoon, treatment system or manure storage pond, expansion means an increase due to construction in the maximum capacity of the existing lagoon, treatment system or manure storage pond as determined using the appropriate design standards of the United States Department of Agriculture's Natural Resource Conservation Service. An Animal manure treatment lagoon that is converted to animal manure storage pond is considered an expansion of the facility. For facilities permitted prior to 1998, where the treatment/storage design function was not clearly specified, the Department shall review the facility's operation records and compliance history to determine the current function and condition of the manure handling structures. If the existing structure can handle additional animals, without physical alteration, significant changes in the original function of the structure, or any significant increase in odor, the Department may allow this increase in animals without classifying the change as an expansion.
- DD. **AFEMA**@means the Federal Emergency Management Agency.
- EE. **AFeed crops**@are crops produced primarily for consumption by animals. These include, but are not limited to: corn, grains, and grasses.
- FF. **AFiber crops**@are crops including, but not limited to, flax and cotton.
- GG. **AFloodplain**@ means land adjacent to water bodies that periodically becomes temporarily inundated with water during or after rainfall events. The land inundated from a flood whose peak magnitude would be experienced on an average of once every 100 years is the 100-year floodplain. The 100-year flood has a 1% probability of occurring in one given year.
- HH. **AFood crops**@are crops produced primarily for human consumption. These include, but are not limited to, fruits, vegetables, and tobacco.
- II. **AGroundwater**@is water below the land surface in the saturated zone.
- JJ. **AIntegrator**@ or **ANtegrating company**@ means any entity or person(s) who contracts with agricultural animal producers to grow animals to be supplied to this person(s) at the time of removal from the animal growing houses or facilities and exercises substantial operational control over an animal facility along with the owner/operator of the facility. Substantial operational control includes, but is not limited to, the following: directs the activities of persons working at the animal facility either through a contract, direct supervision, or on-site participation; owns the animals; or specifies how the animals are grown, fed, or medicated. This definition does not include independent producers that contract with other independent producers to accomplish a portion of the animal growing process under contract.

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- KK. ***Intermittent stream***@means a stream that generally has a defined natural watercourse, which does not flow year-round but flows beyond periods of rainfall or snowmelt.
- LL. ***Lagoon***@ means an impoundment used in conjunction with an animal facility, the primary function of which is to store or stabilize, or both, manure, organic wastes, wastewater, and contaminated runoff.
- MM. ***Land application***@is the spraying or spreading of manure onto the land surface; the injection of manure below the land surface into the root zone; or the incorporation of manure into the soil so that the manure can either condition the soil or fertilize crops or vegetation grown in the soil.
- NN. ***Large Animal Facility***@means an animal facility (excluding swine facilities) that has a capacity for more than 500,000 pounds of normal production animal live weight at any one time.
- OO. ***Large Swine Facility***@means a swine facility with a capacity for greater than 500,000 pounds of normal production animal live weight at any one time.
- PP. ***Liquid manure***@ means manure that by its nature, or after being diluted with water, can be pumped easily and which is removed either intermittently or continuously from an animal lagoon, manure storage pond or treated effluent from other types of animal manure treatment systems.
- QQ. ***Manure***@means the fecal and urinary excretion of livestock and poultry. This material may also contain bedding, spilled feed, water or soil. It may also include wastes not associated with livestock excreta, such as milking center washwater, contaminated milk, hair, feathers, or other debris. Manure may be described in different categories as related to solids and moisture content, such as dry manure and liquid manure.
- RR. ***Manure storage pond***@means a structure used for impounding or storing manure, wastewater, and contaminated runoff as a component of an agricultural manure management system. Manure is stored for a specified period of time, one year or less, and then the pond is emptied. This definition does not include tanks or other similar vessels.
- SS. ***Manure utilization area***@ means land on which animal manure (including swine manure) is spread as a fertilizer and is synonymous with land application site or land application area.
- TT. ***mg/l***@means milligrams per liter.
- UU. ***NRCS***@ is the Natural Resources Conservation Service of the United States Department of Agriculture.
- VV. ***NRCS-CPS***@is the Natural Resources Conservation Service's Conservation Practice Standards as given in the USDA-NRCS, SC Handbook of Conservation Practices.
- WW. ***Normal production animal live weight at any one time***@means the maximum number of animals at the facility at any one time multiplied by the average animal live weight of those animals.
- XX. ***Nuisance***@means a condition causing danger or annoyance to a limited number of persons or to the general public.
- YY. ***Pasture***@ is land on which animals feed directly on feed crops including, but not limited to, legumes, grasses, grain stubble, or stover.

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- ZZ. **APerson@** means any individual, public or private corporation, political subdivision, association, partnership, corporation, municipality, State or Federal agency, industry, copartnership, firm, trust, estate, any other legal entity whatsoever, or an agent or employee thereof.
- AAA. **APotable water well@** means any well designed and/or constructed to produce potable water for consumption by humans or animals.
- BBB. **AProducer@** is a person who grows or confines animals; a person responsible for the manure produced at an animal facility; a person processing manure; and/or a person responsible for the land application of manure.
- CCC. **AProfessional Engineer@** or **AEngineer@** is a person who, by reason of his special knowledge of the mathematical and physical sciences and the principles and methods of engineering analysis and design, acquired by professional education and practical experience, is qualified to practice engineering, all as attested by his legal registration as a professional engineer in this State.
- DDD. **ARange land@** is open land with indigenous vegetation.
- EEE. **AResidence@** means a permanent inhabited dwelling, any existing church, school, hospital, or any other structure which is routinely occupied by the same person or persons more than twelve hours per day or by the same person or persons under the age of eighteen for more than two hours per day, except those owned by the applicant.
- FFF. **ARunoff@** is rainwater or other liquid that drains overland on any part of a land surface and runs off of the land surface.
- GGG. **ASeasonal High Water Table@** is the surface between the zone of saturation and the zone of aeration, where the pore water pressure is equal to atmospheric pressure, and which exhibits the shallowest average water depth in relation to the surface during the wettest season.
- HHH. **ASmall Animal Facility@** means an animal facility (other than swine) that has a capacity for 500,000 pounds of normal production animal live weight or less at any one time.
- III. **ASmall Swine Facility@** means a swine facility with a capacity for 500,000 pounds of normal production animal live weight or less at any one time.
- JJJ. **ASource Water Protection Area@** means an area either above and/or below ground that is the source of water for a public drinking water system via a surface water intake or a water supply well that is designated by the State for increased protection.
- KKK. **AState@** means the State of South Carolina.
- LLL. **ASwine@** means a domesticated animal belonging to the porcine species.
- MMM. **ASwine by-product@** means a secondary or incidental product of swine production that may include bedding, spilled feed, water or soil, milking center washwater, contaminated milk, hair, feathers, dead swine or other debris. This definition may also refer to dead swine or swine manure compost.
- NNN. **ASwine facility@** means an agricultural facility where swine are confined and fed or maintained for a total of forty-five days or more in a twelve-month period and crops, vegetative, forage growth,

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or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. Structures used for the storage of swine manure from swine in the operation also are part of the swine facility. Two or more swine facilities under common ownership or management are considered to be a single swine facility if they are adjacent or utilize a common system for swine manure treatment and/or storage. For any new or expanding swine facility, the combined normal production of all swine facilities owned by the producer, and of all swine facilities owned by corporations having a common majority shareholder in common with the producer, within twenty five miles of the new or expanding facility shall be used to determine the normal production of the new or expanding facility. For example, when a new facility has a proposed capacity of 300,000 pounds of normal production and the producer owns two other swine facilities within twenty-five miles of the new or expanding swine facility and the normal production of each facility is 400,000 pounds, the proposed swine facility's normal production is 1,100,000 (300,000 + 400,000 + 400,000) pounds.

- OOO. **ASwine manure@** means swine excreta or other commonly associated organic animal manures including, but not limited to, bedding, litter, feed losses, or water mixed with the manure.
- PPP. **AFg/l@** means microgram per liter.
- QQQ. **AVector@** means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.
- RRR. **AWastewater@** means any water which during the confinement of animals or the handling, storage, or treatment of manure, dead animals, litter, etc. comes into contact with the animals, manure, litter, spilled feed, etc. Wastewater includes, but is not limited to, wash waters, contaminated milk, and storm water (except storm water runoff from land application areas where the application of manure has been properly applied) that comes into contact with manure.
- SSS. **AWatershed@** means a drainage area contributing to a river, lake, or stream.
- TTT. **AWaters of the State@** means lakes, bays, sounds, ponds, impounding reservoirs, springs, artesian wells, rivers, perennial and navigable streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits of the State, and all other bodies of water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially within or bordering the State or within its jurisdiction. This definition does not include ephemeral or intermittent streams. This definition includes wetlands as defined in this section.
- UUU. **AWetlands@** means lands that have a predominance of hydric soil, are inundated or saturated by water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions, and, under normal circumstances, do support a prevalence of hydrophytic vegetation. Normal circumstances refer to the soil and hydrologic conditions that are normally present without regard to whether the vegetation has been removed. Wetlands shall be identified through the confirmation of the three wetlands criteria: hydric soil, hydrology, and hydrophytic vegetation. All three criteria shall be met for an area to be identified as wetlands. Wetlands generally include swamps, marshes, and bogs.

**Part 100 - Swine Facilities**

**100.10 Purpose, Applicability, Inactive Facilities, and Facilities Permitted Prior to the Effective Date of Regulation.**

A. Purpose.

1. To establish standards for the growing or confining of swine, processing of swine manure and other swine by-products, and land application of swine manure and other swine by-products in such a manner as to protect the environment, and the health and welfare of citizens of the State from pollutants generated by this process.
2. To establish standards, which consist of general requirements, constituent limits, management practices, and operational standards, for the utilization of swine manure and other swine by-products generated at swine facilities. Standards included in this part are for swine manure and other swine by-products applied to the land.
3. To establish standards for the frequency of monitoring and record keeping requirements for producers who operate swine facilities.
4. To establish standards for the proper operation and maintenance of swine facilities.
5. To establish criteria for swine facilities and manure utilization areas location as they relate to protection of the environment and public health and welfare as outlined by statute. The location of swine facilities and manure utilization areas as they relate to zoning in an area is not covered in this regulation. Local county or municipal governments may have zoning requirements and these regulations neither interfere with nor restrict such zoning requirements. Permit applicants should contact local municipal and county authorities to determine any local requirements that may be applicable.

B. Applicability.

1. This part applies to:
  - a. All new swine facilities;
  - b. All expansions of existing swine facilities; and
  - c. New manure utilization areas for existing swine facilities.
2. This part applies to all swine manure and other swine by-products applied to the land.
3. This part applies to all land where swine manure and other swine by-products are applied.

C. Inactive Facilities.

1. If a swine facility is closed for two (2) years or less, a producer may resume operations of the facility under the same conditions by which it was previously permitted by notifying the Department in writing that the facility is being operated again.



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2. For swine facilities that have been closed for more than two years but less than five years, the Department shall review the existing permit and modify its operating conditions as necessary prior to the facility being placed back into operation.
3. For swine facilities that have been closed for more than five years, the producer shall properly close out any lagoon, treatment system or manure storage pond associated with the facility. The closeout shall be accomplished in accordance with Regulation 61-82. The permittee shall submit a closeout plan that meets at a minimum NRCS-CPS within a time frame prescribed by the Department. Additional time may be granted by the Department to comply with the closeout requirement or to allow a producer to apply for a new permit under this regulation, as appropriate.
4. If a swine facility closes for more than five years, the requirements under this part shall be met before the facility can resume operations.

### D. Facilities Permitted Prior to the Effective Date of Regulation.

1. All existing swine facilities with permits issued by the Department before July 1, 1996 do not need to apply for a permit as they are deemed permitted (deemed permitted swine facilities) unless they have been closed for more than two years or expand operations. These facilities shall meet the following sections of Part 100: Section 100.20 (Permits and Compliance Period); Section 100.90 items A, G, and N - T (General Requirements for Lagoons, Treatment Systems and Manure Storage Ponds); Section 100.100 items B.1.-22. (Manure Utilization Area Requirements); Section 100.110.G.-J. (Spray Application System Requirement); Section 100.120 A,C, and D (Frequency of Monitoring for Swine Manure); Section 100.130 A,B, C item 2-3 (Dead Swine Disposal Requirements); Section 100.140 A, C-J (Other Requirements); Section 100.150 B-G (Odor Control Requirements); Section 100.160 B-D (Vector Control Requirements); Section 100.170 (Record Keeping); Section 100.180 (Reporting); Section 100.190 A. - F.(Training Requirements); and Section 100.210 (Violations). The capacity of a deemed permitted facility is the maximum capacity of the existing lagoon, treatment system or manure storage pond as determined using swine lagoon, treatment system or manure storage pond capacity design standards of the United States Department of Agriculture's Natural Resource Conservation Service.
2. All existing swine facilities with permits issued by the Department between July 1, 1996 and the effective date of these regulations do not need to apply for a new permit if they hold a valid permit from the Department, unless they have been closed for more than two years. These facilities shall meet all the requirements of these regulations.
3. All existing swine facilities that were constructed and placed into operation prior to July 1, 1996, but have never received an agricultural permit from the Department, shall apply for a permit from the Department. These facilities shall meet all the requirements of this regulation as the Department determines appropriate. The Department shall review the site and make a determination on a case-by-case basis on which requirements are applicable.
4. An existing facility may be required to submit for approval an updated Animal Facility Management Plan on a case-by-case basis by the Department. The Department shall notify the permittee in writing of this requirement. The permittee shall submit this updated plan within a time frame prescribed by the Department. Failure to submit the updated plan within this time frame is a violation of the Pollution Control Act and these regulations, and may result in permit revocation.

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5. Both the setbacks and other requirements for manure utilization areas shall be met when a new manure utilization area is added by the owner of any swine facility regardless of when the facility was permitted.
6. If an existing facility regulated under Part 200 of these regulations proposes to convert to a swine facility, it shall be considered a new swine facility under these regulations. Converted facilities shall be permitted as new swine facilities and meet all criteria for new swine facilities before they begin operation as a swine facility.
7. If an existing swine facility proposes to expand operations or increase the number of permitted swine such that it falls into a new size classification, the facility shall be considered a new swine facility in that size classification under these regulations. The facility shall meet all the requirements for the new classification.

**100.20 Permits and Compliance Period.**

- A. **Permit Requirement.** Swine manure and other swine by-products from a new or expanded swine facility can only be generated, handled, stored, treated, processed, or land applied in the State in accordance with a permit issued by the Department under the provisions of this part. Existing producers that are required by the Department to update their Animal Facility Management Plan shall meet the requirements of this part to the extent practical as determined by the Department.
- B. Large Swine Facilities with 1,000,000 pounds or more normal production live weight must also apply for an individual National Pollutant Discharge Elimination System (NPDES) permit for Confined Animal Feeding Operations (CAFO) in accordance with the provisions of Regulation 61-9.
- C. Permits issued under this regulation are no-discharge permits.
- D. The requirements in this part shall be implemented through a permit issued to any producer who operates a swine facility where swine manure and other swine by-products are generated, handled, treated, stored, processed, or land applied.
- E. The requirements under this part may be addressed in permits issued to producers who only land apply swine manure and other swine by-products.
- F. **Notification Requirements.** The permittee shall notify the Department in writing and receive written Departmental approval, except as otherwise noted, prior to any change in operations at a permitted facility, including, but not limited to, the following:
  1. Change in ownership and control of the facility. The Department has thirty days from the receipt of a notification of transfer of ownership to either: request additional information regarding the transfer or the new owner; deny the transfer; or approve the transfer of ownership. If the Department does not act within thirty days, the transfer is automatically approved. If additional information is requested by the Department in a timely manner, the Department shall act on this additional information, when it is received, within the same time period as the initial notification.
  2. Increase in the permitted number of swine.
  3. Increase in the normal production animal live weight of the existing permitted swine facility.

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4. Addition of manure utilization areas.
  5. Change in swine manure and other swine by-products treatment, handling, storage, processing or utilization.
  6. Change in method of dead swine disposal.
- G. Permit Modification. Permit modifications for items 100.20.F.3 and 100.20.F.5 for facilities regulated under this part which shall result in expansions shall adhere to the requirements of this part and other applicable statutes, regulations, or guidelines.
- H. Permit modification for items 100.20.F.2-3 which result in an expansion may be required to obtain new written waivers or agreement for reduction of setbacks from adjoining property owners (if applicable).

**100.30 Exclusions.** The following do not require permits from this part unless specifically required by the Department under Section 100.30.G.

- A. Existing swine facilities that are deemed permitted under Section 100.10.D.1. are excluded from applying for a new permit unless an expansion is proposed, a new manure utilization area is added, or it is required by the Department. New manure utilization areas added to an existing facility shall meet the appropriate requirements in this part. However, deemed permitted facilities shall meet the requirements of this regulation as outlined in Section 100.10.D.1. (Purpose, Applicability, Inactive Facilities, and Facilities Permitted Prior to the Effective Date of Regulation).
- B. Except as given in Section 100.30.G, swine facilities that do not have a lagoon, manure storage pond or liquid manure treatment system having 10,000 pounds or less of normal production animal live weight at any one time are excluded from obtaining a permit from the Department. However, these facilities shall have and implement an Animal Facility Management Plan for their facility that meets the requirements of this regulation.
- C. Except as given in Section 100.30.G, swine facilities that do not have a lagoon, manure storage pond or liquid manure treatment system having more than 10,000 pounds of normal production animal live weight at any one time and less than 30,000 pounds of normal production animal live weight at any one time are excluded from obtaining a permit from the Department. However, these facilities shall submit an Animal Facility Management Plan to the Department and implement an Animal Facility Management Plan for their facility that meets the requirements of this regulation.
- D. Except as given in Section 100.30.G, ranged swine facilities where the size of the range area is sufficient to allow for natural degradation or utilization of the swine manure with no adverse impact to the environment are excluded from obtaining a permit from the Department. Ranged facilities shall also maintain adequate vegetative buffers between the swine range and waters of the State.
- E. Except as given in Section 100.30.G, swine facilities that do not produce swine for commercial purposes are excluded from obtaining a permit from the Department.
- F. Except as given in Section 100.30.G, swine facilities that hold valid permits issued by the Department are not required to obtain a new permit if they decide to replace in kind any of the

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swine growing houses. If the permittee chooses to leave the old swine houses in place to utilize for another purpose other than housing animals, the Department shall perform a preliminary site inspection for the proposed location of the replacement houses and approve the site prior to construction.

- G. Facilities exempted under Sections 100.30.A, B, C, D, E and F may be required by the Department to obtain a permit. The Department shall visit the site before requiring any of these facilities to obtain a permit.

### **100.40 Relationship to Other Regulations.** The following regulations are referenced throughout this part and may apply to facilities covered under this regulation.

- A. Nuisances are addressed in Regulation 61-46.
- B. Application and annual operating fees are addressed in Regulation 61-30.
- C. The proper closeout of wastewater treatment facilities is addressed in Regulation 61-82. This includes swine lagoons and manure storage ponds.
- D. Permitting requirements for concentrated animal feeding operations as defined by Regulation 61-9 are contained in Regulation 61-9.
- E. Setbacks and construction specifications for potable water wells and monitoring wells shall be in accordance with Regulation 61-71.
- F. Permits for air emissions from incinerators are addressed in Regulation 61-62.
- G. Disposal of swine lagoon sludge in a municipal solid waste landfill unit is addressed in Regulation 61-107.258.
- H. Disposal of swine manure with domestic or industrial sludge is addressed in Regulation 61-9.
- I. Procedures for contested cases are addressed in Regulation 61-72 and Rules of the State's Administrative Law Judge Division.
- J. Laboratory Certification is addressed in Regulation 61-81
- K. Water Classifications and Standards are addressed in Regulation 61-68.

### **100.50 Permit Application Procedures** (Animal Facility Management Plan Submission Requirements).

- A. Preliminary Site Evaluations. The Department shall perform a preliminary evaluation of the proposed site at the request of the applicant. Written requests for preliminary site inspection shall be made using a form, as designated by the Department. The Department shall not schedule a preliminary site inspection until all required information specified in the form has been submitted to the Department. This evaluation should be performed prior to preparation of the Animal Facility Management Plan. Once the preliminary site inspection is performed, the Department shall issue an approval or disapproval letter for the proposed site.

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- B. A producer who proposes to build a new swine facility or expand an existing swine facility shall make application for a permit under this part using an application form as designated by the Department. The following information shall be included in the application package.
1. A completed application form.
  2. An Animal Facility Management Plan prepared by qualified Natural Resources Conservation Service personnel or a SC registered professional engineer. Other qualified individuals, such as soil scientists, etc., may prepare the land application component of an Animal Facility Management Plan. The Animal Facility Management Plan shall at a minimum contain:
    - a. Facility name, address, telephone number, county, and National Pollutant Discharge Elimination System Permit or other permit number (if applicable);
    - b. Facility location description and the zoning or land use restrictions in this area (this information is available from the county);
    - c. Applicant's name, address, and telephone number (if different from above);
    - d. Operator's name;
    - e. Facility capacity;
      - i. Number of swine;
      - ii. Pounds of normal production animal live weight at any one time;
      - iii. Amount in gallons of swine manure generated per year;
      - iv. Description of swine manure storage and storage capacity of lagoon, treatment system, or manure storage pond (if applicable); and
      - v. Description of swine manure and other swine by-products treatment (if any).
    - f. Concentration of constituents in swine manure including but not limited to the constituents given below:
      - i. Nutrients.
        - (a) Nitrate. (Only needed for aerobic treatment systems)
        - (b) Ammonium-Nitrogen.
        - (c) Total Kjeldahl Nitrogen (TKN).
        - (d) Organic Nitrogen (Organic Nitrogen = TKN - Ammonium Nitrogen)
        - (e) P<sub>2</sub>O<sub>5</sub>.
        - (f) K<sub>2</sub>O (potash).

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- ii. Constituents.
  - (a) Copper.
  - (b) Zinc.
- iii. For new swine facilities, swine manure analysis information does not have to be initially submitted as the Department shall use swine manure analysis from similar sites or published data (such as: Clemson University, American Society of Agricultural Engineers, Midwest Planning Service Document, NRCS Technical Guide or equivalent) in the review of the application. Analysis of the actual swine manure generated shall be submitted to the Department six months after a new swine facility starts operation or prior to the first application of swine manure to a manure utilization area, whichever occurs first. If this analysis is significantly different from the estimated analysis used in the permitting decision, the Department may require a permit modification as necessary to address the situation. Analysis shall be conducted by a laboratory certified by the Department. This laboratory shall have and maintain certification for the constituents to be analyzed.
- g. Swine manure and other swine by-products handling and application information shall be included as follows:
  - i. A crop management plan which includes the time of year of the swine manure and other swine by-products application and how it relates to crop type, crop planting, and harvesting schedule (if applicable) for all manure utilization areas;
  - ii. Name, address, and telephone number of the producer(s) that will land apply the swine manure and other swine by-products if different from the permittee;
  - iii. Type of equipment used to transport and/or spread the swine manure and other swine by-products (if applicable); and
  - iv. For spray application systems, plans and specifications with supporting details and design calculations for the spray application system.
- h. Facility and manure utilization area information shall be included (as appropriate):
  - i. Name and address of landowner and location of manure utilization area(s);
  - ii. List previous calendar years that swine manure and other swine by-products were applied and application amounts, where available;
  - iii. Facility and manure utilization area location(s) on maps drawn to approximate scale including:
    - (a) Topography (7.5' minutes or equivalent) and drainage characteristics (including ditches);

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- (b) Adjacent land usage (within 1/4 mile of property line minimum) and location of inhabited dwellings and public places showing property lines and tax map number;
  - (c) All known water supply wells on the applicant's property and within 500 feet of the facility's footprint of construction or within 200 feet of any manure utilization areas;
  - (d) Adjacent waters of the State (including ephemeral and intermittent streams) or the nearest waterbody;
  - (e) Swine manure utilization area boundaries and buffer zones;
  - (f) Right-of-Ways (Utilities, roads, etc.);
  - (g) Soil types as given by soil tests or soil maps, a description of soil types, and boring locations (as applicable);
  - (h) Recorded Plats, Surveys, or other acceptable maps that include property boundaries; and
  - (i) Information showing the 100-year floodplain as determined by FEMA.
- iv. For manure utilization areas not owned by the permit applicant, a signed agreement between the permit applicant and the landowner acceptable to the Department detailing the liability for the land application. The agreement shall include, at a minimum, the following:
- (a) Producer's name, farm name and county in which the farm is located;
  - (b) Landowner's name, address, phone number;
  - (c) Location (map with road names and county identified) of the land to receive manure application;
  - (d) Field acreage, acreage less setbacks, and crops grown;
  - (e) Name of manure hauler;
  - (f) Name of manure applier;
  - (g) A statement that land is not included in any other management plans and manure or compost from another farm is not being applied on this land; and
  - (h) A signed statement which informs the landowner that he is responsible for spreading and utilizing this manure in accordance with the requirements of the Department and Regulation 61-43.
- v. For other manure utilization areas that are included in multiple Animal Facility Management Plans identify the names of all facilities that include this manure utilization area in their plan.

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3. Groundwater monitoring well details and proposed groundwater monitoring program (if applicable).
  4. The Animal Facility Management Plan shall contain an odor abatement plan for the swine facility, lagoon, treatment system, manure storage pond, and manure utilization areas. For more specific details, see Section 100.150 (Odor Control Requirements).
  5. A Vector Abatement Plan shall be included for the swine facility, lagoon, treatment system, manure storage pond, and manure utilization areas. For more specific details, see Section 100.160 (Vector Control Requirements).
  6. Dead Swine Disposal Plan. The plan shall include written details for handling and disposal of dead swine. Plans should include method of disposal, any construction specifications necessary, and management practices. See Section 100.130 for specific requirements on dead swine disposal.
  7. Soil Monitoring Plan. A soil monitoring plan shall be developed for all manure utilization areas, see Section 100.100 (Manure Utilization Area Requirements) for more detailed information.
  8. Plans and specifications for all other manure treatment or storage structures, such as holding tanks or manure storage sheds.
  9. All ANotice of Intent to Build or Expand a Swine Facility@ forms as provided by the Department and a tax map (or equivalent) to scale showing all neighboring property owners and identifying which property has inhabited dwellings that are required to be notified. See Section 100.60 (Public Notice Requirements) for more detailed information.
  10. An Emergency Plan. The emergency plan shall at a minimum contain a list of entities or agencies the producer shall contact in the event of a structural failure (such as a dike/dam breach), major animal mortality, fire, flood or other similar type problem. For facilities in the coastal areas of the State, the emergency plan shall address actions to be taken by a producer during hurricane season (such as providing additional freeboard during that time) and when advance warning is given on any extreme weather condition.
  11. All waivers as specified in Section 100.80 (Facility, Lagoon, Treatment System, and Manure Storage Pond Siting Requirements), if applicable.
  12. Application fee and the first year's operating fee as established by Regulation 61-30.
- C. The Department may request an applicant to provide any additional information deemed necessary to complete or correct deficiencies in the swine facility permit application prior to processing the application or issuing, modifying, or denying a permit.
- D. Applicants shall submit all required information in a format acceptable to the Department.
- E. An application package for a permit is complete when the Department receives all of the required information which has been completed to its satisfaction. Incomplete submittal packages may be returned to the applicant by the Department.



- F. Application packages for permit modifications only need to contain the information applicable to the requested modification.

**100.60 Public Notice Requirements.**

- A. Small Swine Facilities (500,000 pounds or less of normal production live weight).
  - 1. For persons seeking to construct a new small swine facility, the Department shall have the applicant notify all adjoining property owners and people residing on property within 1/4 mile (1320 feet) of the proposed location of the facility (footprint of construction) of the applicants intent to build a swine facility. The applicant shall use a notice of intent form provided by the Department. The Department shall also post up to four notices on the perimeter of the property or in close proximity to the property, in visible locations as determined by the Department. The notice of intent shall advise adjoining property owners that they can send comments on the proposed animal facility directly to the Department.
  - 2. For existing small swine facilities seeking to expand their current operations, the Department shall post up to four notices of intent to expand a swine facility on the perimeter of the property or in close proximity to the property, in visible locations as determined by the Department.
  - 3. For small swine facilities, the Department shall review all comments received. If the Department receives twenty (20) or more letters from different people requesting a meeting or the Department determines significant comment exists, a meeting shall be held to discuss and seek resolution to the concerns prior to a permit decision being made. All persons who have submitted written comments shall be invited in writing to the meeting. First Class US mail service or hand delivery to the address of the interested party shall be used by the Department for the meeting invitation. However, if the Department determines that the number of persons who submitted written comments is significant, the Department shall publish a notice of the public meeting in a local newspaper of general circulation instead of notifying each individual by first class mail. In addition, the Department shall notify all group leaders and petition organizers in writing. Agreement of the parties is not required for the Department to make a permit decision.
- B. Large Swine Facilities (greater than 500,000 pounds normal production live weight).
  - 1. For persons seeking to construct a new large swine facility or expand an established large swine facility, the applicant shall:
    - a. Notify property owners within 1/4 mile (1320 feet) of the proposed location of the facility (footprint of construction) utilizing a form provided by the Department; and
    - b. Notify persons residing on adjoining property;
  - 2. For persons seeking to construct a new large swine facility or expand an established large swine facility, the Department shall at the expense of the applicant:
    - a. Publish a notice of intent to construct or expand an established swine facility in a local newspaper of general circulation;
    - b. Notify the appropriate county commission;

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- c. Notify the appropriate water supply district (owners or operators of any potable surface water treatment plant located downstream from the proposed swine facility that could reasonably be expected to be adversely impacted if a significant problem arose); and
    - d. Notify any person who asked to be notified;
  3. First Class US mail service or hand delivery to the address of a person to be notified shall be used by the Department for the notifications in Section 100.60.B.2.b-d. If the Department determines that members of the same group or organization have submitted comments or a petition, the Department shall only notify all groups, organization leaders, and petition organizers in writing. The Department shall ask these leaders and organizers to notify their groups or any concerned citizens who signed the petitions.
  4. The notice shall contain instructions for public review and comment to the Department on the proposed construction and operation of the swine facility. The notice shall allow for a minimum thirty-day comment period.
  5. When the Department receives twenty (20) or more letters from different people requesting a hearing or the Department determines there is significant public interest, the Department shall conduct a public hearing and shall provide notice of the public hearing in accordance with the notice requirements provided for in Section 100.60.B.2.a-d. The initial public notice and hearing notice can be combined into one notice. The Department shall provide at least thirty days (30) notice of the hearing.
- C. Additional requirements for large swine facilities with 1,000,000 pounds or more normal production live weight.
  1. For persons seeking to construct a new large swine facility or expand an established large swine facility with 1,000,000 pounds or more normal production live weight, the applicant shall notify all property owners and person(s) residing on property within one mile (5280 feet) of the proposed location of the large swine facility (footprint of construction) by certified mail. The notification must include the following information:
    - a. Name and address of the person proposing to construct a large swine facility;
    - b. The type of swine facility, the design capacity, and a description of the proposed swine manure management system;
    - c. The name and address of the preparer of the Animal Facility Management Plan;
    - d. The address of the local Natural Resources Conservation Service office; and
    - e. A statement informing the adjoining property owners and property owners within one mile of the proposed facility that they may submit written comments or questions to the Department.
  2. The applicant shall conduct a minimum of one public meeting to present to the public the proposed project, its purpose, design, and environmental impacts. The applicant shall provide at least thirty days (30) notice of the meeting date and time by advertisement in a local newspaper of general circulation in the area of the proposed facility. The public meeting notice can be combined into one notice in combination with the notice run by the

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Department. However, the applicant must provide information concerning the date, time and location of the public meeting at the time of application. The minutes of the public meeting, proof of advertisement, and opinions derived from the meeting must be submitted to the Department.

3. The Department shall conduct a public hearing and shall provide notice of the public hearing in accordance with the notice requirements provided for in Section 100.60.C.2.a-d. The initial public notice and hearing notice can be combined into one notice. The Department shall provide at least thirty days (30) notice of the hearing.
- D. For properties that have multiple owners or properties that are in an estate with multiple heirs, the Department, at the expense of the applicant, shall publish a notice of intent to construct an animal facility in a local paper of general circulation in the area of the facility. This notice in the newspaper shall serve as notice to these multiple property owners of the producers intent to build a swine facility. The cost to run this notice is not included in the application fee, and therefore shall be billed directly to the permit applicant for payment. This notice fee shall be paid prior to the issuance of the permit.
- E. When comments are received by electronic mail, the Department shall acknowledge receipt of the comment by electronic mail. These comments shall be handled in the same manner as written comments received by postal mail.
- F. The Department shall consider all relevant comments received in determining a final permit decision.
- G. The Department shall send notice of the permit decision to issue or deny the permit to the applicant, all persons who commented in writing to the Department, and all persons who attended the public hearing or meeting, if held. First Class US mail service or hand delivery to the address of a person to be notified shall be used by the Department for the decision notification. However, if the Department determines that members of the same group or organization have submitted comments or a petition, the Department shall only notify all group leaders and petition organizers in writing. The Department shall ask these leaders and organizers to notify members of their groups or any concerned citizens who signed the petitions.
- H. For permit issuances, the Department shall publish a notice of issuance of a permit to construct or expand a swine facility in a local newspaper of general circulation in the area of the facility.
- I. For permit denials, the Department shall give the permit applicant a written explanation which outlines the specific reasons for the permit denial.
- J. For permit denials, the Department may publish a notice of decision in a local newspaper of general circulation in the area of the facility. If the number of concerned citizens who submitted written comments is small, the department may send each concerned citizen a letter by first class mail in lieu of the newspaper notice.
- K. The Department shall include, at a minimum, the following information in the public notices: the name and location of the facility, a description of the operation and the method of manure and other swine by-products handling, instructions on how to appeal the Department's decision, the time frame for filing an appeal, the date of the decision, and the date upon which the permit becomes effective.

**100.70 Permit Decision Making Process.**

- A. No permit shall be issued before the Department receives a complete application package.
- B. The agricultural program of the Department is not involved in local zoning and land use planning. Local government(s) may have more stringent requirements for agricultural animal facilities. The permittee is responsible for contacting the appropriate local government(s) to ensure that the proposed facility meets all the local requirements.
- C. After the Department has received a complete application package, a technical review shall be conducted by the Department. The Department may request any additional information or clarification from the applicant or the preparer of the Animal Facility Management Plan to help with the determination on whether a permit should be issued or denied. If a permit application package meets all applicable requirements of this part, a permit may be issued.
- D. A site inspection shall be made by the Department before a permit decision is made.
- E. The Department shall consider the cumulative impacts including, but not limited to; impacts from evaporation; storm water; and other potential and actual point and nonpoint sources of pollution runoff; levels of nutrients or other elements in the soils and nearby waterways; groundwater or aquifer contamination; pathogens or other elements; and the pollution assimilative capacity of the receiving waterbody. These cumulative impacts will be considered prior to permitting new or expanded swine facilities. Alternative manure and other swine by-products treatment and utilization methods may be required in watersheds which are nutrient-sensitive waters, or impaired by pathogens.
- F. The Department shall act on all permits to prevent, so far as reasonably possible considering relevant standards under state and federal laws, an increase in pollution of the waters and air of the State from any new or enlarged sources.
- G. The Department also shall act on all permits so as to prevent degradation of water quality due to the cumulative and secondary effects of permit decisions. Cumulative and secondary effects are impacts attributable to the collective effects of a number of swine facilities in a defined area and include the effects of additional projects similar to the requested permit proposed on sites in the vicinity. All permit decisions shall ensure that the swine facility and manure treatment and utilization alternative with the least adverse impact on the environment be utilized. To accomplish this, new and expanding facilities, except large swine facilities with 1,000,000 pounds or more normal production live weight, shall use the best available technology economically achievable for the handling, storage, processing, treatment, and utilization of manure. New and expanding large swine facilities with 1,000,000 pounds or more normal production live weight shall use the best available technology for the handling, storage, processing, treatment, and utilization of manure. Cumulative and secondary effects shall include, but are not limited to; runoff from land application of swine manure and a swine facility; evaporation and atmospheric deposition of elements; ground-water or aquifer contamination; the buildup of elements in the soil; and other potential and actual point and nonpoint sources of pollution in the vicinity.
- H. Setback limits given in this part are minimum siting requirements (with exception to those that are not labeled as minimum requirements, which are absolutes). On a case-by-case basis the Department may require additional separation distances applicable to swine facilities. The Department shall evaluate the proposed site including, but not limited to, the following factors when determining if additional distances are necessary:

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1. Proximity to 100-year floodplain;
  2. Geography and soil types on the site;
  3. Location in a watershed;
  4. Classification or impairment of adjacent waters;
  5. Proximity to a State Designated Focus Area; Outstanding Resource Water; Heritage Corridor; Historic Preservation District; State Approved Source Water Protection Area; state or national park or forest; state or federal research area; and privately-owned wildlife refuge, park, or trust property;
  6. Proximity to other known point source discharges and potential nonpoint sources;
  7. Slope of the land;
  8. Swine manure application method and aerosols;
  9. Runoff prevention;
  10. Adjacent groundwater usage;
  11. Down-wind receptors; and
  12. Aquifer vulnerability.
- I. The appeal of a permit decision is governed by the SC Administrative Procedures Act, Regulation 61-72, and the Rules of the State's Administrative Law Judge Division.
- J. When a permit is issued it shall contain an issue date, an effective date, and when applicable a construction expiration date. The effective date shall be at least twenty (20) days after the issue date to allow for any appeals. If a timely appeal is not received, the permit shall be effective on the effective date.
- K. The swine facility, lagoon, treatment system, or manure storage pond can be built only when the permit is effective with no appeals pending. The facility cannot be placed into operation until the Department grants written authorization to begin operations.
- L. To receive authorization to begin operations, the producer shall have the preparer of the Animal Facility Management Plan submit in writing to the Department the following information:
1. Certification that the construction of the structural components (such as the lagoon, treatment system and manure storage pond) has been completed in accordance with the approved Animal Facility Management Plan and the requirements of this regulation;
  2. Certification that no portion of the facility has been construction in the 100-year floodplain;
  3. Certification for containment of structural failures, if applicable; and
  4. Certification for lagoon or manure storage pond lining, if applicable.

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- M. The Department shall conduct a final inspection before granting authorization to a producer to begin operations.
- N. The Department shall grant written authorization for the producer to begin operations after it has received the information in 100.70.L and the results of a final inspection are satisfactory.
- O. Swine Facility Permit Construction Expiration and Extensions.
  - 1. Construction permits issued by the Department for agricultural animal facilities shall be given two years from the effective date of the permit to start construction and three years from the effective date of the permit to complete construction.
  - 2. If the proposed construction as outlined in the permit is not started prior to the construction start expiration date, the construction permit is invalid unless an extension in accordance with this regulation is granted.
  - 3. If construction is not completed and the facility is not placed into operation prior to the construction completion expiration date, the permit is invalid unless an extension in accordance with this regulation is granted.
  - 4. If only a portion of permitted facility (animal growing houses and associated manure treatment and/or storage structures are completely constructed, but not all houses originally permitted were constructed) is completed prior to the construction completion expiration date, the construction for the remainder of the permit may be utilized within the permit life. The permittee shall obtain Departmental approval prior to utilizing the permit in this manner. The Department may require that the permittee submit additional information or update the Animal Facility Management Plan prior to approval.
  - 5. Extensions of the construction permit start and completion dates may be granted by the Department. The permittee shall submit a written request explaining the delay and detailing any changes to the proposed construction. This request shall be received not later than 60 days prior to the date that the permittee proposes to extend. The maximum extension period shall not exceed one year.
- P. Permits issued under this regulation for all swine facilities shall be renewed at least every seven years. However, if a facility is classified as a CAFO under the NPDES Regulations in R.61-9, the expiration date shall be no more than five years after the issue date.
- Q. An expired permit (final expiration date for renewal) issued under this part continues in effect until a new permit is effective if the permittee submits a complete application, to the satisfaction of the Department, at least 180 days before the existing permit expires. The Department may grant permission to submit an application later than the deadline for submission stated above, but no later than the permit expiration date. If the facility has been closed for any two consecutive years since the last permit was issued, the provision for the expiring permit remaining in effect does not apply since the permit is no longer valid. Permittees shall notify the Department in writing within 30 days of when they go out of business.
- R. Permit renewal applications shall meet all the requirements of this regulation as the Department determines appropriate. The Department shall review the site and make a determination on a case-by-case basis on which requirements are applicable.

- S. No permit will be issued to an applicant who contracts with an integrator or integrating company unless the permit is in accordance with the approved cumulative environmental and public health impact assessment plan as required in part 500.20 (Integrator Submittal Requirements) of this regulation.

**100.80 Swine Facility, Lagoon, Treatment System, and Manure Storage Pond Siting Requirements.**

- A. Siting Requirements applicable to all small (500,000 pounds or less of normal production live weight) swine facilities, lagoons, treatment systems, and manure storage ponds.
  - 1. The minimum separation distance between a swine facility (not including a lagoon, treatment system, manure storage pond, or manure utilization areas) and a potable water well (excluding the applicant's well) is 200 feet. The minimum separation distance between a swine facility (not including a lagoon, treatment system, manure storage pond, or manure utilization areas) and a potable water well owned by the applicant is 50 feet (as required by R.61-71).
  - 2. The minimum separation distance between a lagoon, treatment system, or a manure storage pond and a public or private human drinking water well (excluding the applicant's well) is 500 feet. The minimum separation distance between a lagoon, treatment system, or manure storage pond and a potable water well owned by the applicant is 100 feet.
  - 3. Except for site drainage, the minimum separation distance required between a ditch or swale, which drains directly into waters of the State (excluding ephemeral and intermittent streams) and a swine facility, swine lagoon, treatment system, or manure storage pond is 100 feet. The setback from ditches may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
  - 4. Except for site drainage, the minimum separation distance required between a ditch or swale, which drains directly into an ephemeral or intermittent stream, and a swine facility, swine lagoon, treatment system, or manure storage pond is 50 feet. The setback from ditches may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
  - 5. The minimum separation distance required between a swine facility, lagoon, treatment system, or manure storage pond and ephemeral or intermittent streams is 100 feet. The setback from ephemeral or intermittent streams may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
  - 6. The minimum separation distance required between a small swine facility (not including the lagoon, treatment system, or manure storage pond) and waters of the State (excluding ephemeral and intermittent streams) is 100 feet.
  - 7. The minimum separation distance required between a small swine lagoon, treatment system, or manure storage pond and waters of the State (excluding ephemeral and intermittent streams) is 500 feet.
  - 8. If the waters of the State (not including ephemeral and intermittent streams) are designated Outstanding Resource Waters, Critical Habitat Waters of federally endangered species, or Shellfish Harvesting Waters, the minimum separation distance required between a small

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swine lagoon, treatment system, or a manure storage pond and waters of the State (not including ephemeral and intermittent streams) is 1,320 feet (1/4 mile).

9. The distance required between a small swine lagoon, treatment system, or manure storage pond and waters of the State (not including ephemeral and intermittent streams) can be reduced to 200 feet if the permittee implements a design to control the discharge from a failed lagoon, treatment system or manure storage pond so that it never enters waters of the State (not including ephemeral and intermittent streams) and the designer, either a NRCS employee or a registered engineer, certifies that the system has been constructed as specified.  
The distance shall not be reduced if the waters of the state are designated Outstanding Resource Waters, Critical Habitat Waters of federally endangered species, or Shellfish Harvesting Waters.
  10. For small facilities with a capacity of 250,000 pounds or less of normal production animal live weight at any one time, the separation distance required between a swine growing area (pens or barns not including range areas) and the distance to lot line of real property owned by another person is 200 feet or 1000 feet from the nearest residence, whichever is greater.
  11. For small swine facilities with a capacity of more than 250,000 pounds and less than 500,001 pounds of normal production animal live weight at any one time, the separation distance required between a swine growing area (pens or barns not including range areas) and the lot line of real property owned by another person is 400 feet or 1000 feet from the nearest residence, whichever is greater.
  12. For small facilities with a capacity of 250,000 pounds or less of normal production animal live weight at any one time, the separation distance required between a lagoon, treatment system, and/or manure storage pond and the lot line of real property owned by another person is 300 feet or 1000 feet from the nearest residence, whichever is greater.
  13. For small swine facilities with a capacity of more than 250,000 pounds and less than 500,001 pounds of normal production animal live weight at any one time, the separation distance required between a lagoon, treatment system, or manure storage pond and the lot line of real property owned by another person is 600 feet or 1000 feet from the nearest residence, whichever is greater.
  14. The distances in items 10-13 above can be reduced by written consent of the adjoining property owner, unless a swine facility is located on the adjacent property or within 1000 feet of the property line. Written consent is not needed when the Department reduces the distances under the requirements of Part 300.
- B. Siting Requirements applicable to all large swine facilities, with less than 1,000,000 pounds normal production live weight, and the lagoons, treatment systems, and manure storage ponds associated with the facility.
1. The minimum separation distance between a large swine facility with less than 1,000,000 pounds normal production live weight (not including a lagoon, treatment system, manure storage pond, or manure utilization areas) and a potable water well (excluding the applicant's well) is 200 feet. The minimum separation distance between a swine facility (not including a lagoon, treatment system, manure storage pond, or manure utilization areas) and a potable water well owned by the applicant is 50 feet (as required by R.61-71).



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2. The minimum separation distance between a lagoon, treatment system, or a manure storage pond, with less than 1,000,000 pounds normal production live weight, and a public or private human drinking water well (excluding the applicant's well) is 500 feet. The minimum separation distance between a lagoon, treatment system, or manure storage pond and a potable water well owned by the applicant is 100 feet.
3. Except for site drainage, the minimum separation distance required between a ditch or swale, which drains directly into waters of the State (excluding ephemeral and intermittent streams) and a swine facility, swine lagoon, treatment system, or manure storage pond, with less than 1,000,000 pounds normal production live weight, is 100 feet. The setback from ditches may be reduced by the Department, if a permanent vegetative water quality buffer at least 50 feet wide, that meets NRCS standards at a minimum, is installed and maintained.
4. Except for site drainage, the minimum separation distance required between a ditch or swale, which drains directly into an ephemeral or intermittent stream, and a swine facility, swine lagoon, treatment system, or manure storage pond, with less than 1,000,000 pounds normal production live weight, is 50 feet.
5. The minimum separation distance required between a large swine facility, lagoon, treatment system, or manure storage pond, with less than 1,000,000 pounds normal production live weight, and ephemeral or intermittent is 100 feet. The setback from ephemeral or intermittent streams may be reduced by the Department, if a permanent vegetative water quality buffer at least 50 feet wide, that meets NRCS standards at a minimum, is installed and maintained.
6. The minimum separation distance required between a large swine facility with less than 1,000,000 pounds normal production live weight (not including the lagoon, treatment system, or manure storage pond) and waters of the State (excluding ephemeral and intermittent streams) is 200 feet.
7. The minimum separation distance required between a large swine lagoon, treatment system, or manure storage pond, with less than 1,000,000 pounds normal production live weight, and waters of the State (not including ephemeral and intermittent streams) is 1,320 feet (1/4 mile). If the waters of the State (not including ephemeral and intermittent streams) are designated Outstanding Resource Waters, Critical Habitat Waters of federally endangered species, or Shellfish Harvesting Waters, the minimum separation distance required between a lagoon, treatment system, or manure storage pond and waters of the State (not including ephemeral and intermittent streams) is 2,640 feet (2 mile). A minimum 100-foot wide vegetative water quality buffer of plants and trees is required to be installed and maintained on the site between the facility and any down slope waters of the State. Sites with existing vegetation may qualify to utilize the existing vegetation for a buffer, if the vegetation is deemed sufficient. For new facilities constructed in areas where natural vegetation is not present, the Department shall evaluate these sites on a case-by-case basis to determine the amount of vegetative buffer that shall be planted. However, each site shall be required at a minimum to provide a vegetative buffer that meets the current NRCS standards.
8. The distance required between a large swine lagoon, treatment system, or manure storage pond, with less than 1,000,000 pounds normal production live weight, and waters of the State (not including ephemeral and intermittent streams) can be reduced to 500 feet if the permittee implements a design to control the discharge from a failed lagoon, treatment system, or manure storage pond so that it never enters waters of the State (not including ephemeral and

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intermittent streams) and the designer, either a NRCS employee or a professional engineer, certifies that the plan has been implemented as specified. The distance shall not be reduced if the waters of the state are designated Outstanding Resource Waters, Critical Habitat Waters of federally endangered species, or Shellfish Harvesting Waters.

9. The minimum separation distance required between a large swine facility with less than 1,000,000 pounds normal production live weight (growing area, pens or barns not including range areas) and real property owned by another person is 1,000 feet.
  10. For swine facilities with a capacity of 500,001 to 750,000 pounds of normal production animal live weight at any one time, the minimum separation distance required between a lagoon, treatment system, or manure storage pond and real property owned by another person is 1,000 feet.
  11. For swine facilities with a capacity of 750,001 to 1,000,000 pounds of normal production animal live weight at any one time, the minimum separation distance required between a lagoon and/or a waste storage pond and real property owned by another person is 1,250 feet.
  12. The minimum separation distance required between large swine facilities with less than 1,000,000 pounds normal production live weight is two miles.
  13. A separation distance to adjacent land as provided in 9-11 above does not apply to a swine facility, lagoon, treatment system, or manure storage pond which is constructed or expanded, if the titleholder of adjoining land to the concentrated swine operation executes a written waiver with the title holder of the land where the swine facility is established or proposed to be located, under terms and conditions that the parties negotiate. The written waiver becomes effective only upon the recording of the waiver in the office of the Register of Deeds of the county in which the benefited land is located. The filed waiver precludes enforcement of 100.80.B.9-11 as it relates to the swine facility and to real property owned by another person. The permittee shall submit a copy of the document with the recording stamp to the Department. The separation distances shall not be reduced or waived if a swine facility is located on the adjacent property or within 1000 feet of the property line.
- C. Siting requirements applicable to large swine facilities, with 1,000,000 pounds or more normal production live weight, and the lagoons, treatment systems, and manure storage ponds associated with the facility are as follows:
1. The minimum separation distance required between a large swine facility with 1,000,000 pounds or more normal production live weight and waters of the State (excluding ephemeral and intermittent streams) is 2,640 feet (2 mile).
  2. The minimum separation distance required between a large swine lagoon, treatment system, or manure storage pond, with 1,000,000 pounds or more normal production live weight, and waters of the State (not including ephemeral and intermittent streams) is 2,640 feet (2 mile).  
If the waters of the State (not including ephemeral and intermittent streams) are designated Outstanding Resource Waters, Critical Habitat Waters of federally endangered species, or Shellfish Harvesting Waters, the minimum separation distance required between a lagoon, treatment system, or manure storage pond and waters of the State (not including ephemeral and intermittent streams) is 3,960 feet (3/4 mile). A minimum 100-foot wide vegetative water quality buffer of plants and trees is required to be installed and maintained on the site between the facility and any down slope waters of the State. Sites with existing vegetation

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may qualify to utilize the existing vegetation for a buffer, if the vegetation is deemed sufficient. For new facilities constructed in areas where natural vegetation is not present, the Department shall evaluate these sites on a case-by-case basis to determine the amount of vegetative buffer that shall be planted. However, each site shall be required at a minimum to provide a vegetative buffer that meets the current NRCS standards.

3. The minimum separation distance required between a large swine facility with 1,000,000 pounds or more normal production live weight (including the lagoon, treatment system, and manure storage pond) and real property owned by another person or a residence (excluding the applicant's residence) is 1,750 feet.
  4. The minimum separation distance between a swine facility with 1,000,000 pounds or more normal production live weight (including a lagoon, treatment system, or manure storage pond) and a potable water well (excluding the applicant's well) is 1,750 feet.
  5. The minimum separation distance required between swine facilities with 1,000,000 pounds or more normal production live weight is twenty-five miles.
- D. A new swine facility or an expansion of an established swine facility may not be located in the 100-year floodplain.
- E. Water (a pond) that is completely surrounded by land owned by the permit applicant and has no connection to other water is excluded from the setback requirements outlined in this part.
- F. All lagoon and manure storage pond setbacks contained in this part shall be measured from the outside toe of the dike.
- G. Setback limits given in this part are minimum siting requirements, except those not labeled as minimum requirements, which are absolutes. On a case-by-case basis the Department may require additional separation distances to the minimum setbacks applicable to swine facilities. See Section 100.70.H. for specific criteria evaluated for determining if greater setbacks should be required.

### **100.90 General Requirements for Swine Manure Lagoons, Treatment Systems and Swine Manure Storage Ponds.**

- A. The lagoon, treatment system, or manure storage pond shall be designed by a professional engineer or a NRCS engineer and the construction shall be certified by the design engineer. It is a violation of these regulations and the Pollution Control Act for the owner or operator of the facility to make modifications or physical changes to the lagoon, treatment system, or manure storage pond without the prior approval of the Department and supervision of NRCS or a professional engineer. Plans and specifications for lagoon, treatment system, or manure storage pond modifications shall be designed and certified by NRCS or a professional engineer and submitted to the Department for approval prior to the modification.
- B. Swine manure lagoons and manure storage ponds shall be designed at a minimum to NRCS-CPS. The manure storage pond or lagoon shall be designed to provide a minimum storage for manure, wastewater, normal precipitation less evaporation, normal runoff, residual solids accumulation, capacity for the 25 year - 24 hour storm event (precipitation and associated runoff) and at least one and one half (1 ½) feet of freeboard. New large swine facilities with 1,000,000 pounds or more normal production live weight shall be designed to provide storage capacity for all the above

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mentioned items including the 50 year - 24 hour storm event (precipitation and associated runoff) and at least two (2) feet of freeboard.

- C. All lagoons and storage ponds shall be provided with a liner, designed with an initial specific discharge rate of less than 0.0156 feet/day in order to protect groundwater quality. Lagoons and manure storage ponds at swine facilities shall be lined with either a natural liner or a geomembrane liner or a combination thereof. Lagoons and manure storage ponds at large swine facilities with 1,000,000 pounds or more normal production live weight or at facilities within delineated source water protection areas or vulnerable recharge areas, as determined by the Department, shall be lined with a geomembrane liner such that the vertical hydraulic conductivity does not exceed  $5 \times 10^{-7}$  cm/sec. Geomembrane liners, at a minimum, shall meet NRCS-CPS. When lagoons or manure storage ponds are lined using only soils with low permeability rates (e.g., clay), the Department shall require appropriate documentation to demonstrate that the computed soil permeability of the liner is sufficient to prevent seepage greater than the initial specific discharge rate. Appropriate certification shall be provided by the preparer of the Animal Facility Management Plan that the NRCS-CPS for lining lagoons and/or manure storage ponds with soils have been met.
- D. Lagoons and manure storage ponds at swine facilities shall not exceed one million cubic feet of total volume, unless the lagoon or manure storage pond implements a design to control the discharge from a failed lagoon, treatment system, or manure storage pond so that it never enters waters of the State.
- E. Large swine facilities with less than 1,000,000 pounds normal production live weight are prohibited from utilizing open anaerobic lagoons or manure storage ponds. These facilities shall utilize best available technology that is economically achievable for the manure handling, treatment, storage, and utilization.
- F. Large swine facilities with 1,000,000 pounds or more normal production live weight are prohibited from utilizing open lagoons or manure storage ponds. These facilities shall utilize best available technology for the manure handling, treatment, storage, and utilization. Lagoons and manure storage ponds utilized at large swine facilities with 1,000,000 pounds or more normal production live weight shall be designed with airtight covers. Air pollution control devices utilizing the Best Available Technology shall be installed on all lagoon cover vents and openings to remove ammonia, hydrogen sulfide, methane, formaldehyde, and any other organic and inorganic air pollutants, which may be required by the Department. Such air pollution control devices shall meet all the requirements of the Department and appropriate air quality permits shall be obtained. "Best Available Technology" means, for the air emissions purpose of this regulation, the rate of emissions which reflects the most stringent emissions limitations required by any State regulation or permit, existing at the time the application is made, for all pollutants emitted from this source category; or, the most stringent emissions limit achieved in actual practice, whichever is more stringent.
- G. If seepage results in either an adverse impact to groundwater or a significant adverse trend in groundwater quality occurs, as determined by the Department, the lagoon or manure storage pond shall be repaired at the owner's or operator's expense. Assessment and/or additional monitoring (more wells, additional constituents, and/or increased sampling frequency) may be required by the Department to determine the extent of the seepage. The repairs and/or assessment shall be completed in accordance with an implementation schedule approved by the Department. The Department may require groundwater corrective action.

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- H. Manure and other swine by-products shall not be placed directly in or allowed to come into contact with groundwater and/or surface water. The minimum separation distance between the lowest point of the lagoon and/or manure storage pond and the seasonal high water table beneath the lagoon and/or manure storage pond is 2 feet. If a geomembrane liner is installed, then the minimum separation distance is 1 foot from the seasonal high water table. Designs that include controlled drainage for water table adjustment shall be evaluated by the Department on a case-by-case basis, and may include additional monitoring and groundwater control requirements. If a design is proposed for water table adjustment, the design shall not impact wetlands. Groundwater monitoring wells may be required to be installed and monitored at a frequency as given in the permit for the facility in situations where a liner is used to allow the lowest point of a lagoon to be less than 2 feet to the seasonal high water table.
- I. Owners of lagoons and manure storage ponds at large swine facilities (greater than 500,000 pounds normal production live weight) are required to install at least one up-gradient and two down-gradient monitoring wells at a depth which the Department considers appropriate around the lagoon or series of lagoons in order to monitor groundwater quality. For small swine facilities (500,000 pounds or less of normal production live weight), the Department may require monitoring wells upon Department review of the submittal package.
- J. A groundwater monitoring plan shall be submitted with the permit application to the Department. All applicable State certification requirements regarding well installation, laboratory analyses, and report preparation shall be met. Groundwater monitoring wells shall be sampled at least once annually by qualified personnel, at the expense of the permittee. Monitoring wells at large swine facilities with 1,000,000 pounds or more normal production live weight must be sampled at least quarterly, unless more frequent sampling is specified in the permit. The results shall be submitted to the Department in accordance with the specified permit requirements. Groundwater monitoring results shall be maintained by the producer for eight years. The Department may conduct routine and random visits to the swine facility to sample the monitoring wells.
- K. The monitoring wells shall be properly installed and sampled prior to use of the lagoon or manure storage pond. All monitoring wells shall be sampled in accordance with the parameters identified in the permit such that a background concentration level can be established.
- L. Before the construction of a lagoon and/or a manure storage pond, the owner or operator shall remove all under-drains that exist from previous agricultural operations that are under the lagoon and/or within twenty-five (25) feet of the outside toe of the proposed lagoon or manure storage pond dike. This requirement does not include under-drains that are approved as a part of a design that includes controlled drainage for water table adjustment.
- M. Lagoons and manure storage ponds at large swine facilities with 1,000,000 pounds or more normal production live weight shall install automated lagoon level monitoring devices.
- N. Proper water levels in lagoons and manure storage ponds, as per plans and specifications, shall be maintained at all times by the permittee. The Department may require specific lagoon or manure storage pond volume requirements in permits.
- O. If a lagoon, treatment system, or manure storage pond, or both, breaches or fails in any way, the owner or operator of the swine facility shall immediately notify the Department, the appropriate local government officials, and the owners or operators of any potable surface water treatment plant located downstream from the swine facility that could reasonably be expected to be adversely impacted.

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- P. Lagoons, treatment systems, and manure storage ponds shall be completely enclosed with an acceptable fence, unless a fence waiver is obtained from the Department.
- Q. Lagoons and manure storage ponds shall have at least four warning signs posted around the perimeter of the structure. These signs should read, "Warning - Deep and Polluted Water" and one should be posted on each side of the lagoon or manure storage pond.
- R. Vegetation on the dikes and around the lagoon or manure storage pond should be kept below a maximum height of eighteen inches. Trees or deeply rooted plants shall be prevented from growing on the dikes or within 25 feet of the outside toe of the dikes of the lagoon or manure storage pond.
- S. Livestock or other animals that could cause erosion or damage to the dikes of the lagoon or manure storage pond shall not be allowed to enter the lagoon or manure storage pond, or graze on the dike or within 25 feet of the outside toe of the dike.
- T. The Department shall require existing facilities, regardless of size, with a history of manure handling, treatment, and disposal problems related to a lagoon, to phase out the existing lagoon and incorporate new technology.

### **100.100 Manure Utilization Area Requirements.**

- A. Application Rates. The Department shall approve an Animal Facility Management Plan that establishes an application rate for each manure utilization area based on the agronomic application rate of the specific crop(s) being grown. Other factors considered are the manure and other swine by-products impact on the environment, animals, and people living in the vicinity. The application rate shall also be based on the limiting constituent (either a nutrient or other constituent as given in item 100.100.B). In developing annual constituent loading rates and cumulative constituent loading rates, the Department shall consider:
  - 1. Soil type;
  - 2. Type of vegetation growing in land-applied area;
  - 3. Proximity to 100-year floodplain;
  - 4. Location in watershed;
  - 5. Nutrient sensitivity of receiving land and waters;
  - 6. Soil nutrient testing in conjunction with soil productivity information;
  - 7. Nutrient, copper, zinc, and constituent content of the manure and other swine by-products being applied;
  - 8. Proximity to a State Designated Focus Area; Outstanding Resource Water; Heritage Corridor; Historic Preservation District; State Approved Source Water Protection Area; state or national park or forest; state or federal research area; and privately-owned wildlife refuge, park, or trust property;
  - 9. Proximity to other point and nonpoint sources;

10. Slope of land;
11. Distance to water table or groundwater aquifer;
12. Timing of manure application to coincide with vegetative cover growth cycle;
13. Timing of harvest of vegetative cover;
14. Hydraulic loading limitations;
15. Soil assimilative capacity;
16. Type of vegetative cover and its nutrient uptake ability;
17. Method of land application; and
18. Aquifer vulnerability.

B. Constituent Limits for Land Application of Swine manure and other swine by-products.

1. Swine Manure and other swine by-products. The Department may establish constituent limits in permits on a case-by-case basis on swine manure and other swine by-products to be land applied. Swine manure and other swine by-products containing only the standard constituents at normal concentrations as given by commonly accepted reference sources, such as Clemson University, American Society of Agricultural Engineers, Midwest Planning Service Document, or NRCS, can be land applied at or below agronomic rates without any specific constituent limits in a permit. When the swine manure or other swine by-products analysis indicates there are levels of copper, or other constituents of concern, the Department shall establish constituent limits in permits for each constituent of concern to ensure the water quality standards of Regulation 61-68 are maintained. For these cases the producer shall comply with the following criteria:
  - a. Constituent Limits. If swine manure and other swine by-products subject to a constituent limit is applied to land, either:
    - i. the cumulative loading rate for each constituent shall not exceed the rates in Table 1 of Section 100.100; or
    - ii. the concentration of each constituent in the swine manure and other swine by-products shall not exceed the concentrations in Table 2 of Section 100.100.
  - b. Constituent concentrations and loading rates - swine manure.
    - i. Cumulative constituent loading rates.

<b>TABLE 1 OF SECTION 100.100 - CUMULATIVE CONSTITUENT LOADING RATES</b>		
<i>Constituent</i>	<i>Cumulative Constituent Loading Rate (kilograms per hectare)</i>	<i>Cumulative Constituent Loading Rate (pounds per acre)</i>
<b>Copper</b>	1500	1339
<b>Zinc</b>	2800	2499

ii. Constituent concentrations.

<b>TABLE 2 OF SECTION 100.100 - CONSTITUENT CONCENTRATIONS</b>	
<i>Constituent</i>	<i>Dry weight basis (milligrams per kilogram)</i>
<b>Copper</b>	1500
<b>Zinc</b>	2800

iii. Annual constituent loading rates.

<b>TABLE 3 OF SECTION 100.100 - ANNUAL CONSTITUENT LOADING RATES</b>		
<i>Constituent</i>	<i>Annual Constituent Loading Rate (kilograms/hectare/365 days)</i>	<i>Annual Constituent Loading Rate (pounds/acre/365 days)</i>
<b>Copper</b>	75	67
<b>Zinc</b>	140	125

- c. Additional constituents limits may be required, from the application information or subsequent monitoring in a permit thereafter, but such needs shall be assessed on an individual project basis.
  - d. No producer shall apply swine manure and other swine by-products subject to the cumulative constituent loading rates in Table 1 of Section 100.100.B.1 to land if any of the rates in Table 1 of Section 100.100.B.1 have been reached unless the constituent is removed from the manure and other swine by-products.
  - e. No producer shall apply swine manure and other swine by-products to land during a 365-day period after the annual application rate in Table 3 of Section 100.100.B.1 has been reached.
  - f. If swine manure and other swine by-products subject to the cumulative constituent loading rates in Table 1 of Section 100.100.B.1 have not been applied to the site, then the cumulative rates apply.
  - g. If swine manure and other swine by-products subject to the cumulative constituent loading rates in Table 1 of Section 100.100.B.1 have been applied to the site and the cumulative amount of each constituent is known, the cumulative amount of each constituent applied to the site shall be used to determine the additional amount of each constituent that can be applied to the site in accordance with Section 100.100.B.1.a.i (cumulative loading rate shall not exceed the cumulative constituent loading rate).
  - h. Manure application shall not exceed the agronomic rate of application for plant available nitrogen (PAN) for the intended crop(s) on an annual basis. For those years that fertilizer is land applied, manure in combination with the fertilizer shall not be used so as to exceed the agronomic rate of nutrient utilization of the intended crop(s).
2. Any producer who confines swine shall ensure that the applicable requirements in this part are met when the swine manure and other swine by-products are applied to the land.
  3. Swine manure and other swine by-products shall not be applied to land that is saturated from recent precipitation, flooded, frozen, or snow-covered. Swine manure and other swine by-products shall not be applied during inclement weather or when a significant rain event is



forecasted to occur within 48 hours, unless approved by the Department in an emergency situation.

4. Swine manure and other swine by-products shall not be placed directly in groundwater.
5. The land application equipment, when used once or more per year, shall be calibrated at least annually by the producer. A permit may require more frequent calibrations to ensure proper application rates. The two most recent calibration records should be retained by the producer and made available for Department review upon request. If the land application equipment has not been used in over a year, then the equipment shall be calibrated prior to use.
6. No producer shall apply swine manure and other swine by-products to the land except in accordance with the requirements in this part.
7. A producer who supplies swine manure and other swine by-products to another person for land application shall provide the person who will land apply the manure and other swine by-products with the concentration of plant available nitrogen and the concentration of all other constituents listed in the permit. The producer shall also supply the person who will land apply the manure with a copy of the crop management plan included in their Animal Facility Management Plan or a copy of the Land Application brochure approved by the Department which outlines the land application requirements and responsibility for proper management of animal manure.
8. Swine manure and other swine by-products shall not be applied to or discharged onto a land surface when the vertical separation between the ground surface and the water table is less than 1.5 feet at the time of application, unless approved by the Department on a case by case basis. For special cases, no land application can occur when the vertical separation from the ground surface to the water table is less than 1.5 feet at the time of application unless a situation is deemed an emergency with departmental concurrence.
9. Soil sampling shall be conducted for each field prior to manure application to determine the appropriate application rate. Each field should be sampled at least once per year. If manure application frequency shall be less than once per year, then at least one soil sample shall be taken prior to returning to that field for land application. All new manure utilization areas shall be evaluated using the NRCS-CPS to determine the suitability for application and the limiting nutrient (nitrogen or phosphorus). However, fields that are high in phosphorus may also be required to incorporate additional runoff control or soil conservation features as directed by the Department.
10. Soil sampling to a depth of eighteen inches shall be performed within 45 days after each application of swine manure, but no more than two times per year if the application frequency is more than twice per year. This sampling shall be performed for at least three years after the initial application on at least one representative manure utilization area for each crop grown to verify the estimated calculated swine manure application rates for the utilization areas. The date of manure application and the date of sampling shall be carefully recorded. The sampling shall be conducted at depths of zero to six inches, six to twelve inches, and twelve to eighteen inches with nitrates and phosphorus being analyzed.
11. The results of the pre-application and post-application sampling shall be used by the producer to adjust as necessary, the amount of swine manure to be applied to a manure

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utilization area to meet the agronomic application rate for the crop(s) to be grown. These results shall be submitted to the Department at the time of application for permit renewal.

12. Additional soil sampling to greater depths may be required by the Department on a case-by-case basis to ensure there is no potential for groundwater contamination. The permit shall give the appropriate depth and frequency for all soil sampling.
13. The permittee shall obtain information needed to comply with the requirements in this part.
14. All persons who routinely accept manure from a producer, in quantities greater than twelve tons per recipient per year, shall be listed in the approved Animal Facility Management Plan. The Animal Facility Management Plan shall include the appropriate manure utilization area information for the sites routinely used by other persons. The producer shall inform the recipient of the responsibility to properly manage the land application of manure to prevent discharge of pollutants to waters of the State (including ephemeral and intermittent streams). The person accepting the manure may be required by the Department to have an Animal Facility Management Plan and a permit for their manure utilization areas.
15. All persons who accept manure from a producer, regardless of whether the land is included in the waste management plan, are responsible for land applying the manure in accordance with these requirements. The Department may require the person(s) land applying the manure to correct any problems that result from the application of manure.
16. Swine manure shall not be applied to cropland more than 30 days before planting or during dormant periods for perennial species, unless otherwise approved by the Department in an emergency situation.
17. When the Department receives nuisance complaints on a land application site, the Department may restrict land application of animal manure on this site completely or during certain time periods.
18. The Department may require manure, spread on cropland, to be disked in immediately.
19. Manure (solid or liquid) shall only be applied when weather and soil conditions are favorable and when prevailing winds are blowing away from nearby dwellings. Animal manure should not be applied to land when the soil is saturated, flooded, during rain events, or when a significant rain event is forecasted to occur within 48 hours, unless otherwise approved by the Department in an emergency situation.
20. Manure shall not be spread in the floodplain if there is danger of a major runoff event, unless the manure is incorporated during application or immediately after application.
21. If the manure is stockpiled more than three (3) days, the manure shall be stored on a concrete pad or other approved pad (such as plastic or clay lined) and covered with an acceptable cover to prevent odors, vector attraction, and runoff. The cover should be vented properly with screen wire to let the gases escape. The edges of the cover should be properly anchored.
22. Producers who contract to transfer the swine manure and other swine by-products produced at their facility to a manure broker shall modify their existing Animal Facility Management Plan if they discontinue using the designated broker or if the manure broker goes out of the manure brokering business.

C. Setbacks for manure utilization areas.

1. Siting Requirements applicable to all manure utilization areas associated with small swine facilities (500,000 pounds or less normal production live weight).
  - a. The minimum separation distance in feet required between a manure utilization area and a residence is 300 feet. If there are no residences within 300 feet of the manure utilization area, manure can be applied up to the property line. The 300-foot setback may be waived with the consent of the owner of the residence. If the application method is injection or immediate incorporation, manure may be applied up to the property line. The setbacks are imposed at the time of application. The Department may impose these setbacks on previously approved sites to address problems on a case-by-case basis.
  - b. The minimum separation distance in feet required between a manure utilization area and waters of the State (not including ephemeral and intermittent streams), ditches, and swales that drain directly into waters of the State (not including ephemeral and intermittent streams) is 100 feet.
  - c. The minimum separation distance in feet required between a manure utilization area and ephemeral and intermittent streams is 100 feet when spray application is the application method, 75 feet when incorporation is the application method, and 50 feet when injection is the application method. When incorporation is accomplished within twenty-four hours of the initial application, the distance can be reduced to 50 feet.
  - d. The minimum separation distance in feet required between a manure utilization area and ditches and swales, that drain directly into ephemeral and intermittent streams is 50 feet.
  - e. The minimum separation distance in feet required between a manure utilization area and a public and private drinking water well is 200 feet.
2. Siting Requirements applicable to all manure utilization areas associated with large swine facilities with less than 1,000,000 pounds normal production live weight.
  - a. The minimum separation distance in feet required between a manure utilization area and a residence is 300 feet. If there are no residences within 300 feet of the manure utilization area, manure can be applied up to the property line. The 300-foot setback may be waived with the consent of the owner of the residence. If the application method is injection or immediate incorporation, manure may be applied up to the property line. The setbacks are imposed at the time of application. The Department may impose these setbacks on previously approved sites to address problems on a case-by-case basis.
  - b. The minimum separation distance in feet required between a manure utilization area and waters of the State (not including ephemeral and intermittent streams), ditches, and swales that drain directly into waters of the State (not including ephemeral and intermittent streams) is 100 feet.
  - c. The minimum separation distance in feet required between a manure utilization area and ephemeral and intermittent streams is 100 feet when spray application is the application method, 75 feet when incorporation is the application method, and 50 feet when

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- injection is the application method. When incorporation is accomplished within twenty-four hours of the initial application, the distance can be reduced to 50 feet.
- d. The minimum separation distance in feet required between a manure utilization area and ditches and swales that drain directly into ephemeral and intermittent streams is 50 feet.
  - e. The minimum separation distance in feet required between a manure utilization area and a public and private drinking water well is 200 feet.
3. Siting Requirements applicable to all manure utilization areas associated with large swine facilities with 1,000,000 pounds or more normal production live weight.
    - a. The minimum separation distance in feet required between a manure utilization area and real property owned by another person is 200 feet from the property lines.
    - b. The minimum separation distance in feet required between a manure utilization area and an occupied residence is 750 feet (excluding the applicant's residence).
    - c. The minimum separation distance in feet required between a manure utilization area and waters of the State (not including ephemeral and intermittent streams), ditches, and swales is 150 feet.
    - d. The minimum separation distance in feet required between a manure utilization area and a public and private drinking water well is 200 feet.
    - e. The minimum separation distance in feet required between a manure utilization area and ephemeral and intermittent streams is 100 feet.
  4. Water (pond) that is completely surrounded by land owned by the applicant and has no connection to surface water is excluded from the setback requirements outlined in this part.
  5. The Department may establish in permits additional application buffer setbacks for property boundaries, roadways, residential developments, dwellings, water wells, drainage ways, and surface water (including ephemeral and intermittent streams) as deemed necessary to protect public health and the environment. Factors taken into consideration in the establishment of additional setbacks would be swine manure application method, adjacent land usage, public access, aerosols, runoff prevention, adjacent groundwater usage, and potential for vectors and odors.
- D. The Department may establish additional permitting restrictions based upon soil and groundwater conditions to ensure protection of the groundwater and surface waters of the State (including ephemeral and intermittent streams). Criteria may include but is not limited to soil permeability, clay content, depth to bedrock, rock outcroppings and depth to the seasonal high groundwater table.
  - E. The Department may establish permit conditions to require that swine manure and other swine by-products application rates remain consistent with the lime and fertilizer requirements for the cover, feed, food, and fiber crops based on land grant universities (in the southeast) published lime and fertilizer recommendations (such as the Lime and Fertilizer Recommendations, Clemson Extension Services, Circular 476).

F. Groundwater Monitoring for Manure Utilization Areas.

1. For large swine facilities with 1,000,000 pounds or more normal production live weight, at least one up-gradient and two down-gradient groundwater monitoring wells shall be installed for each drainage basin intersected by the manure utilization areas. The location, design and construction specifications for the monitoring wells shall be submitted in the application package. The information shall be reviewed and approved by the Department prior to permit issuance. The permit will contain specific requirements for sampling the groundwater monitoring wells including the frequency and parameters for sampling.
2. For small swine facilities (500,000 pounds or less normal production live weight) and large swine facilities with less than 1,000,000 pounds normal production live weight, the Department may require groundwater monitoring at manure utilization areas as appropriate.
3. The Department may establish minimum requirements in permits for soil and/or groundwater monitoring for manure utilization areas. Factors taken into consideration in the establishment of soil and groundwater monitoring shall include depth to the seasonal high groundwater, operation flexibility, application frequency, type of swine manure and other swine by-products, size of manure utilization area, and loading rate.
  - a. The Department may establish pre-application and post-application site monitoring requirements in permits for limiting nutrients or limiting constituents as determined by the Department.
  - b. The Department may establish permit conditions, which require the permittee to reduce, modify, or eliminate the swine manure and other swine by-products applications based on the results of this monitoring data.
  - c. The Department may modify, revoke and reissue, or revoke a permit based on the monitoring data.

- G. The Department may require periodic monitoring of any wet weather ditches or perennial streams which are in close proximity to any manure utilization areas.

**100.110 Spray Application System Requirements.**

- A. Spray application of swine manure utilizing irrigation equipment. This includes all methods of surface spray application, including but not limited to, fixed gun application, traveling or mobile gun application, or center pivot application.
- B. New large swine facilities with 1,000,000 pounds or more normal production live weight are prohibited from utilizing spray application systems for manure application. Manure must be incorporated into the manure utilization fields utilizing subsurface injection at a depth of not less than six inches.
- C. Manure utilization area slopes shall not exceed 10 percent unless approved by the Department. The Department may require that slopes be less than 10% based on site conditions.
- D. Swine manure distribution systems shall be designed so that the distribution pattern optimizes uniform application.

E. Hydraulic Application Rates

1. Application rates shall normally be based on the agronomic rate for the crop to be grown at the manure utilization area. As determined by soil conditions, the hydraulic application rate may be reduced below the agronomic rate to ensure no surface ponding, runoff, or excessive nutrient migration to the groundwater occurs.
2. The hydraulic application rate may be limited based on constituent loading including any constituent required for monitoring under this regulation.

F. Swine manure and other swine by-products shall not be land applied or discharged onto a land surface when the vertical separation between the ground surface and the seasonal high water table is less than 1.5 feet at the time of application, unless approved by the Department on a case-by-case basis. For special cases, no land application can occur when the vertical separation from the ground surface to the water table is less than 1.5 feet at the time of application unless a situation is deemed an emergency with departmental concurrence.

G. Conservation measures, such as terracing, strip cropping, etc., may be required in specific areas determined by the Department as necessary to prevent potential surface runoff from entering or leaving the manure utilization areas. The Department may consider alternate methods of runoff controls that may be proposed by the applicant, such as berms.

H. For swine facilities, a system for monitoring the quality of groundwater may also be required for the proposed manure utilization areas. The location of all the monitoring wells shall be approved by the Department. The number of wells, constituents to be monitored, and the frequency of monitoring shall be determined on a case-by-case basis based upon the site conditions such as type of soils, depth of water table, aquifer vulnerability, proximity to State Approved Source Water Protection Area, etc.

I. If an adverse trend in groundwater quality is identified, further assessment and/or corrective action may be required. This may include an alteration to the permitted application rate or a cessation of manure application in the impacted area.

J. Spray application systems shall be designed and operated in such a manner to prevent drift of liquid manure onto adjacent property.

**100.120 Frequency of Monitoring for Swine Manure.**

A. The producer shall be responsible for having representative samples of the swine manure collected and analyzed at least once per year and when the feed composition significantly changes. The constituents to be monitored shall be given in the permit. The analyses shall be used to determine the amount of swine manure to be land applied. In order to ensure that the permitted application rate (normally the agronomic rate) is met, the application amount shall be determined using a rolling average of the previous analyses. The Department shall establish minimum requirements for the proper method of sampling and analyzing of swine manure. Facilities with permits that do not specify which constituents to monitor shall monitor for Ammonium-Nitrogen, Total Kjeldahl Nitrogen (TKN), Organic Nitrogen (Organic Nitrogen = TKN - Ammonium Nitrogen), P<sub>2</sub> O<sub>5</sub>, and K<sub>2</sub>O.

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- B. The Department may require nitrogen, potassium, phosphorus, the constituents listed in Table 1 and Table 2 of Section 100.100 (Manure Utilization Area Requirements), and any other constituent contained in a permit to be monitored prior to each application.
- C. Permittees do not have to analyze for any constituent they can demonstrate to the satisfaction of the Department is not present in their swine manure.
- D. All monitoring shall be done in accordance with collection procedures in Standard Methods for Analysis of Water and Wastewater or other Department guidelines. Analysis shall be conducted by a laboratory certified by the Department. This laboratory shall have and maintain certification for the constituents to be analyzed.

**100.130 Dead Swine Disposal Requirements.**

- A. Dead swine disposal shall be done as specified in the approved Animal Facility Management Plan. The Dead Swine Disposal Plan shall include the following:
  - 1. Primary Method of disposal for the handling of dead swine that result from normal mortality on the farm.
  - 2. Alternate Method for the handling of dead swine that result from excessive mortality on the farm. The normal method of disposal may not be sufficient to handle an excessive mortality situation. Each producer should have an emergency or alternate method to dispose of excessive mortality. Excessive mortality burial sites shall be approved by the Department prior to utilization.
- B. Burial.
  - 1. Burial pits may be utilized for emergency conditions, as determined by the Department, when the primary method of disposal is not sufficient to handle excessive mortality.
  - 2. Burial pits shall not be located in the 100-year floodplain.
  - 3. Soil type shall be evaluated for leaching potential.
  - 4. Burial pits shall not be located or utilized on sites that are in areas that may adversely affect surface or groundwater quality or further impact impaired water bodies.
  - 5. The bottom of the burial pit may not be within 2 feet of the seasonal high groundwater level.
  - 6. No burial site shall be allowed to flood with surface water.
  - 7. Swine placed in a burial site shall be covered daily with sufficient cover (6 inches per day minimum) to prohibit exhumation by feral animals.
  - 8. When full, the burial site shall be properly capped (minimum 2 feet) and grassed to prohibit erosion.
  - 9. Proposed burial pit sites shall be approved by the Department. The Department may conduct a geologic review of the proposed site prior to approval.

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10. The Department may require any new or existing producers to utilize another method of dead swine disposal if burial is not managed according to the Dead Swine Disposal Plan or repeated violations of these burial requirements occur or adverse impact to surface or groundwater is determined to exist.
11. The Department may require groundwater monitoring for dead animal burial pits on a case-by-case basis. The Department shall consider all of the facts including, but not limited to, the following: depth to the seasonal high water table; aquifer vulnerability; proximity to a State Approved Source Water Protection Area; groundwater use in the area; distance to adjacent surface waters; number of dead animals buried; and frequency of burial in the area.

C. Incinerators.

1. For facilities proposing an incinerator for dead swine disposal, either a permit for the air emissions shall be obtained from the Department's Bureau of Air Quality before the incinerator can be built or the following criteria shall be met in order to qualify for an exemption from an air permit:
  - a. The emission of particulate matter shall be less than one pound per hour at the maximum rated capacity.
  - b. The incinerator shall be a package incinerator and have a rated capacity of 500 pounds per hour or smaller which burns virgin fuel only.
  - c. The incinerator shall not exceed an opacity limit of 10%.
2. Incinerators used for dead swine disposal shall be properly operated and maintained. Operation shall be as specified in the owner's manual provided with the incinerator. The owner's manual shall be kept on site and made available to Department personnel upon request.
3. The use of the incinerator to dispose of waste oil, hazardous waste, or any other waste chemical is prohibited. The use of the incinerator shall be limited to dead swine disposal only unless otherwise approved by the Department's Bureau of Air Quality.

D. Composters. Composters used for dead swine disposal shall be designed by a professional engineer or an NRCS representative and operated in accordance with the approved Animal Facility Management Plan.

E. Disposal of dead swine in a municipal solid waste landfill shall be in accordance with Regulation 61-107.258.

F. Disposal of swine carcasses or body parts into manure lagoons, treatment systems, storage ponds, waters of the State, ephemeral and intermittent streams, ditches, and swales is prohibited.

G. Other methods of dead swine disposal that are not addressed in this regulation may be proposed in the Dead Swine Disposal Plan.



**100.140 Other Requirements.**

- A. There shall be no discharge of pollutants from the operation into surface waters of the State (including ephemeral and intermittent streams). There shall be no discharge of pollutants into groundwater, which could cause groundwater quality not to comply with the groundwater standards established in South Carolina Regulation 61-68.
- B. On a case-by-case basis, the Department may impose additional or more stringent requirements for the management, handling, treatment, storage, or utilization of swine manure and other swine by-products.
- C. The following cases shall be evaluated for additional or more stringent requirements:
  - 1. Source water protection. Facilities and manure utilization areas located within a state approved source water protection area.
  - 2. 303(d) Impaired Water bodies List. Facilities and manure utilization areas located upstream of an impaired waterbody.
  - 3. Proximity to Outstanding Resource Waters, trout waters, shellfish waters, or potential to adversely affect a federally listed endangered or threatened species, its habitat, or a proposed or designated critical habitat.
  - 4. Aquifer Vulnerability Area, an area where groundwater recharge may affect an aquifer.
- D. If an adverse impact to the waters of the State, ephemeral and intermittent streams, or groundwater from swine manure and other swine by-products handling, storage, treatment, or utilization practices are documented, through monitoring levels exceeding the standards set forth in Regulation 61-68 or a significant adverse trend occurs, the Department may require the producer responsible for the swine manure and other swine by-products to conduct an investigation to determine the extent of impact. The Department may require the producer to remediate the water to within acceptable levels as set forth in Regulation 61-68.
- E. No manure may be released from a swine manure lagoon, treatment system, or storage pond or the premises of a swine facility to waters of the State (including ephemeral and intermittent streams) unless the manure is treated to water quality standards and a permit pursuant to Section 402 or 404 of the CWA has been issued by the Department.
- F. Swine medical waste cannot be disposed into swine lagoons, treatment systems or manure storage ponds or land applied with swine manure and other swine by-products.
- G. In the event of a discharge from a swine lagoon, treatment system, or manure storage pond, the permittee is required to notify the Department immediately, within 24 hours of the discharge.
- H. When the Department determines that a nuisance exists at a swine facility, the permittee shall take action to correct the nuisance to the degree and within the time frame designated by the Department.
- I. Permittees shall maintain all-weather access roads to their facilities at all times.

- J. The body of vehicles transporting manure shall be wholly enclosed and while in transit, be kept covered with a canvas cover provided with eyelets and rope tie-downs, or any other approved method which shall prevent blowing or spillage of loose material or liquids. Should any spillage occur during the transportation of the manure, the owner/operator shall take immediate steps to clean up the manure.

**100.150 Odor Control Requirements.**

- A. The odor abatement plan for the swine facility, lagoon, treatment system, manure storage pond, and manure utilization areas shall consist of the following:
  - 1. Operation and maintenance practices which are used to eliminate or minimize undesirable odor levels in the form of a Best Management Plan for Odor Control;
  - 2. Use of treatment processes for the reduction of undesirable odor levels;
  - 3. Additional setbacks from property lines beyond the minimum setbacks given in this part;
  - 4. Other methods as may be appropriate; or
  - 5. Any combination of these methods.
- B. Producers shall utilize Best Management Practices normally associated with the proper operation and maintenance of a swine facility, lagoon, treatment system, manure storage pond, and any manure utilization area to ensure an undesirable level of odor does not exist.
- C. No producer may cause, allow, or permit emission into the ambient air of any substance or combination of substances in quantities that an undesirable level of odor is determined to result unless preventive measures of the type set out below are taken to abate or control the emission to the satisfaction of the Department. When an odor problem comes to the attention of the Department through field surveillance or specific complaints, the Department shall determine if the odor is at an undesirable level by considering the character and degree of injury or interference to:
  - 1. The health or welfare of the people;
  - 2. Plant, animal, freshwater aquatic, or marine life;
  - 3. Property; or
  - 4. Enjoyment of life or use of affected property.
- D. After determining an undesirable level of odor exists, the Department shall require remediation of the undesirable level of odor.
- E. The Department may require abatement or control practices, including, but not limited to the following:
  - 1. Removal or disposal of odorous materials;
  - 2. Methods in handling and storage of odorous materials that minimize emissions;

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- a. Drying to a moisture content of 50% or less;
  - b. Solids Separation from liquid manure, and composting of solids;
  - c. Disinfection to kill microorganisms present in manure;
  - d. Aeration of manure;
  - e. Anaerobic digestion in a sealed vessel;
  - f. Composting of solid manure and other swine by-products;
  - g. Odor Control Additives.
3. Prescribed standards in the maintenance of premises to reduce odorous emissions;
- a. Filtration (biofilters or other filter used to remove dust and odor) of ventilation air;
  - b. Keeping animals clean or separated from manure;
  - c. Adjust number of animals confined in the pens or paddocks in accordance with Clemson University Animal Space Guidelines.
  - d. Frequent removal of manure from animal houses;
  - e. Adding a layer of water in the shallow pits after the manure is removed;
  - f. Feeding areas should be kept dry, and waste feed accumulation should be minimized;
  - g. Maintaining feedlot surfaces in a dry condition (25%-40% moisture content), with effective dust control;
  - h. Proper maintenance of the dead swine disposal system;
  - i. Covering or reducing the surface area of manure and other swine by-products storage. (Vents shall be provided for release of pressure created by manure gases if completely sealed covers are used);
  - j. Planting trees around or downwind of the manure and other swine by-products storage and treatment facilities;
  - k. Incorporation of manure and other swine by-products immediately after land application;
  - l. Selection of appropriate times for land application.
4. Best Available Technology to reduce odorous emissions.
- F. Nothing in this section prohibits an individual or group of persons from bringing a complaint against a swine facility including problems at lagoons, treatment systems, manure storage ponds, and manure utilization areas.

- G. If the permittee fails to control or abate the odor problems at a land application site to the satisfaction and within a time frame determined by the Department, approval for land application of manure on the manure utilization area in question may be revoked. Additional land may be required to be added to the Animal Facility Management Plan, if necessary to provide a sufficient amount of land for manure utilization.

**100.160 Vector Control Requirements.**

- A. Vector Abatement Plan. The Vector Abatement Plan shall at a minimum consist of the following:
1. Normal management practices used at the swine facility, lagoon, treatment system, manure storage pond, and manure utilization areas to ensure there is no accumulation of organic or inorganic materials to the extent and in such a manner as to create a harborage for rodents or other vectors that may be dangerous to public health.
  2. A list of specific actions to be taken by the producer if vectors are identified as a problem at the swine facility, lagoon, treatment system, manure storage pond, or any manure utilization area. These actions should be listed for each vector problem, e.g., actions to be taken for fly problems, actions to be taken for rodent problems, etc.
- B. No producer may cause, allow, or permit vectors to breed or accumulate in quantities that result in a nuisance level, as determined by the Department.
- C. The Department shall require remediation of the problem to the satisfaction of the Department, after determining a vector problem exists.
- D. The Department may require abatement or control practices, including, but not limited to the following:
1. Remove and properly dispose of vector infested materials;
  2. Methods in handling and storage of materials that minimize vector attraction;
    - a. Remove spilled or spoiled feed from the house as soon as practicably possible not to exceed 48 hours, unless otherwise approved by the Department;
    - b. Remove and properly dispose of dead animals as soon as practicably possible not to exceed 24 hours, unless otherwise approved by the Department;
    - c. Increase the frequency of manure removal from animal houses;
    - d. Prevent solids buildup in the pit storage or on the floors or walkways;
    - e. Remove excess manure packs along walls and curtains;
    - f. Compost solid manure and other swine by-products;
    - g. Appropriate use of vector control chemicals, poisons or insecticides (take caution to prevent insecticide resistance problems);
    - h. Utilize traps, or electrically charged devices;

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- i. Utilize biological agents;
  - j. Utilize Integrated Pest Management; and
  - k. Incorporate manure and other swine by-products immediately after land application.
3. Prescribed standards in the maintenance of premises to reduce vector attraction;
- a. Remove standing water that may be a breeding area for vectors;
  - b. Keep animals clean or separated from manure;
  - c. Keep facility clean and free from trash or debris;
  - d. Properly utilize and service bait stations;
  - e. Keep feeding areas dry, and minimize waste feed accumulation;
  - f. Keep grass and weeds mowed around the facility and manure storage or treatment areas;
  - g. Maintain the dead swine disposal system;
  - h. Cover or reduce the surface area of manure and other swine by-products storage. (Vents shall be provided for release of pressure created by manure gases if completely sealed covers are used);
  - i. Store feed and feed supplements properly;
  - j. Conduct a weekly vector monitoring program;
  - k. Be aware of insecticide resistance problems, and rotate use of different insecticides;
  - l. Prevent and repair leaks in waterers, water troughs or cups; and
  - m. Ensure proper grading and drainage around the buildings to prevent rain water from entering the buildings or ponding around the buildings.
4. Best available control technology to reduce vector attraction and breeding.

**100.170 Record Keeping.**

- A. A copy of the approved Animal Facility Management Plan, including approved updates, and a copy of the permit(s) issued to the producer shall be retained by the permittee for as long as the swine facility is in operation.
- B. All application information submitted to the Department shall be retained by the permittee for eight years. However, if the facility was permitted prior to June 26, 1998, and the permittee has previously discarded these documents since there was no requirement to maintain records at that time, this requirement shall not apply.

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- C. Records shall be developed for each manure utilization area. These records shall be kept for eight years. The records shall include the following:
  - 1. For each time swine manure and other swine by-products are applied to the site, the amount of swine manure and other swine by-products applied (in gallons per acre or pounds per acre, as appropriate), the location of the site, and the date and time of manure and other swine by-products application;
  - 2. All sampling results for swine manure that is land applied, if applicable;
  - 3. All soil monitoring results, if applicable;
  - 4. All groundwater monitoring results, if applicable; and
  - 5. Crops grown.
- D. Records for the facility to include the following:
  - 1. Monthly animal count and the normal production live weight; and
  - 2. Mortality count and method of disposal.
- E. Records for lagoon, treatment system, or manure storage pond operations to include the following:
  - 1. Monthly water levels of the lagoon, treatment system, and manure storage pond; and
  - 2. Groundwater monitoring results, if applicable.
- F. All records retained by the producer shall be kept at either the facility, an appropriate business office, or other location as approved by the Department.
- G. All records retained by the producer shall be made available to the Department during normal business hours for review and copying, upon request by the Department.

**100.180 Reporting.**

- A. All large swine operations (greater than 500,000 pounds of normal production live weight) shall submit, on a form approved by the Department, the following on an annual basis or more frequently if required by a permit or regulation:
  - 1. All manure sampling results for the last year, if applicable, and the latest rolling average concentration for the land limiting constituent;
  - 2. All soil monitoring results, if applicable;
  - 3. All groundwater monitoring results, if applicable;
  - 4. Calculated application rates for all manure utilization areas; and

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5. The adjusted application rates, if applicable, based on the most recent swine manure sampling, soil samples, and crop yields. The application rate change could also be due to a change in field use, crop grown, or other factors.
- B. The Department may require small swine facilities (500,000 pounds or less of normal production live weight) to submit annual reports on a case-by-case basis.
- C. The Department may establish permit conditions to require a swine facility to complete and submit a comprehensive report every five years. The Department shall review this report to confirm that the permitted nutrient application rates have not been exceeded. Based on the results of the review, additional soil and/or groundwater monitoring requirements, permit modification, and/or corrective action may be required.

**100.190 Training Requirements.**

- A. An operator of a new or existing swine facility, lagoon, manure storage pond, or manure utilization area shall complete a training program on the operation of swine manure management created by Clemson University.
- B. Operators of new and existing large swine facilities (greater than 500,000 pounds of normal production live weight) shall be required to pass a test and become certified as a part of the training program created by Clemson University. The Department may require operators with documented violations to pass a test through Clemson's program.
- C. The training and/or certification shall be completed by operators of new facilities prior to start-up of operations.
- D. The training and/or certification shall be completed by operators of existing facilities within two years of the effective date of this regulation.
- E. Training and/or certification shall be maintained as long as the facility remains in operation.
- F. Failure to obtain the training and certification as provided in this Section shall be deemed a violation of this Regulation.
- G. Additional Training and Certification Requirements for Large Swine Facilities with 1,000,000 pounds or greater normal production live weight.
  1. The Department shall classify all manure treatment systems serving large swine facilities, giving due regard to size, types of work, character, and volume of manure to be treated, and the use and nature of the land resources receiving the manure.
  2. Manure treatment systems may be classified in a group higher than indicated at the discretion of the Department by reason of the following:
    - a. Incorporation in the treatment system of complex features which cause the treatment system to be more difficult to operate than usual; or
    - b. A waste stream that is unusually difficult to treat; or
    - c. Conditions of flow; or

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- d. Use of the receiving lands requiring an unusually high degree of system operation control; or
  - e. Combinations of such conditions or circumstances.
3. The classifications for biological treatment systems are based on the following groups:
- a. Group I - B. All agricultural manure treatment systems which include one or more of the following units: primary settling, chlorination, sludge removal, imhoff tanks, sand filters, sludge drying beds, land spraying, grinding, screening, oxidation, and stabilization ponds.
  - b. Group II - B. All agricultural manure treatment systems which include one or more of the units listed in Group I-B and, in addition, one or more of the following units: sludge digestion, aerated lagoon, and sludge thickeners.
  - c. Group III - B. All agricultural manure treatment systems which include one or more of the units listed in Groups I-B and II-B and, in addition, one or more of the following: trickling filters, secondary settling, chemical treatment, vacuum filters, sludge elutriation, sludge incinerator, wet oxidation process, contact aeration, and activated sludge (either conventional, modified, or high rate processes).
  - d. Group IV - B. All agricultural manure treatment systems which include one or more of the units listed in Groups I-B, II-B, and III-B and, in addition, treat manure having a raw five-day biochemical oxygen demand of five thousand pounds a day or more.
4. The classifications for physical chemical manure treatment systems are based on the following groups:
- a. Group I-P/C. All agricultural manure treatment systems which include one or more of the following units: primary settling, equalization, pH control, and oil skimming.
  - b. Group II-P/C. All agricultural manure treatment systems which include one or more of the units listed in Group I-P/C and, in addition, one or more of the following units: sludge storage, dissolved air flotation, and clarification.
  - c. Group III-P/C. All agricultural manure treatment systems which include one or more of the units listed in Groups I-P/C and II-P/C and, in addition, one or more of the following: oxidation/reduction reactions, cyanide destruction, metals precipitation, sludge dewatering, and air stripping.
  - d. Group IV-P/C. All agricultural manure treatment systems which include one or more of the units listed in Groups I-P/C, II-P/C and III-P/C and, in addition, one or more of the following: membrane technology, ion exchange, tertiary chemicals, and electrochemistry.
5. It shall be unlawful for any person or corporation to operate an agricultural manure treatment system at a large swine facility with 1,000,000 pounds or more normal production live weight unless the operator-in-charge holds a valid certificate of registration issued by the Board of Certification of Environmental Systems Operators in a grade corresponding to the classification of the agricultural manure treatment system supervised by him or her.



**100.200 Violations.**

- A. Persons who violate this regulation or any permit issued under this regulation are subject to the penalties in Sections 48-1-320 (Criminal Penalties) and 48-1-330 (Civil Penalties) of the South Carolina Pollution Control Act.
- B. Large swine facilities with 1,000,000 pounds or more normal production live weight shall be assessed automatic penalties (up to \$10,000 per day per violation) for the following violations:
  - 1. Lagoon, treatment system or manure storage pond breach or loss of containment that is not the direct result of an Act of God.
  - 2. Manure Utilization Area runoff due to improper manure application methods.
  - 3. Discharge to groundwater on site causing groundwater to exceed any water quality standard established in Regulation 61-68.
- C. Second occurrence of any of the violations outlined in 100.210 B. at a large swine facility with 1,000,000 pounds or more normal production live weight shall result in immediate revocation of the permit and the automatic assessment of appropriate penalties.
- D. Immediate cessation of manure application will also be enforced on sites where groundwater quality is adversely affected.
- E. Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required by the Department to be maintained as a condition in a permit, or who alters or falsifies the results obtained by such devices or methods, shall be deemed to have violated a permit condition and shall be subject to the penalties provided for pursuant to 48-1-320 and 48-1-330 of the Code.

**Part 200 Animal Facilities (other than Swine).**

**200.10 Purpose, Applicability, Inactive Facilities and Facilities Permitted Prior to Effective Date of the Regulation.**

A. Purpose.

1. To establish standards for the growing or confining of animals, processing of animal manure and other animal by-products, and land application of animal manure and other animal by-products in such a manner as to protect the environment, and the health and welfare of citizens of The State from pollutants generated by this process.
2. To establish standards, which consist of general requirements, constituent limits, management practices, and operational standards, for the utilization of animal manure and other animal by-products generated at animal facilities. Standards included in this part are for animal manure and other animal by-products applied to the land.
3. To establish standards for the frequency of monitoring and record keeping requirements for producers who operate animal facilities.
4. To establish standards for the proper operation and maintenance of animal facilities.
5. To establish criteria for animal facilities and manure utilization areas location as they relate to protection of the environment and public health. The location of animal facilities and manure utilization areas as they relate to zoning in an area is not covered in this regulation. Local county or municipal governments may have zoning requirements and these regulations neither interfere with nor restrict such zoning requirements. Permit applicants should contact local municipal and county authorities to determine any local requirements that may be applicable.

B. Applicability.

1. This part applies to:
  - a. All new animal facilities;
  - b. All expansions of existing animal facilities; and
  - c. New manure utilization areas for existing animal facilities.
2. This part applies to all animal manure and other animal by-products applied to the land.
3. This part applies to all land where animal manure and other animal by-products are applied.

C. Inactive Facilities.

1. If an animal facility is closed for two (2) years or less, a producer may renew operations of the facility under the same conditions by which it was previously permitted by notifying the Department in writing that the facility is being operated again.

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2. For animal facilities that have been closed for more than two years but less than five years, the Department shall review the existing permit and modify its operating conditions as necessary prior to the facility being placed back into operation.
3. For all animal facilities that have been closed for five or more years, the producer shall properly close out any lagoon, treatment system or manure storage pond associated with the facility. The closeout shall be accomplished in accordance with Regulation 61-82. The permittee shall submit a closeout plan that meets at a minimum NRCS-CPS within a time frame prescribed by the Department. Additional time may be granted by the Department to comply with the closeout requirement or to allow the producer to apply for a new permit under this regulation, as appropriate.
4. If an animal facility closes for more than five years, the requirements under this part shall be met before the facility can renew operations.

D. Facilities Permitted Prior to the Effective Date of the Regulation.

1. All existing animal facilities with permits issued by the Department before June 28, 1998 do not need to apply for a new permit as they are deemed permitted (deemed permitted animal facilities) unless they have been closed for more than two years or expand operations. These facilities shall meet the following sections of Part 200: Section 200.20 (Permits and Compliance Period), Section 200.90.A., D., and J.-O. (General Requirements for Animal Manure Lagoons, Treatment Systems, and Animal Manure Storage Ponds), Section 200.100.B.1.-22. (Manure Utilization Area Requirements), Section 200.110.H.-I. (Spray Application System Requirements), Section 200.120.A., C.-D. (Frequency of Monitoring for Animal Manure), Section 200.130.A., B., and C.2.-3. (Dead Animal Disposal Requirements), Section 200.140.A., C.-I. (Other Requirements), Section 200.150.B.-F. (Odor Control Requirements), Section 200.160.B.-D. (Vector Control Requirements), Section 200.170 (Record Keeping), Section 200.180 (Reporting), Section 200.190 (Training Requirements), and Section 200.200 (Violations). The capacity of a deemed permitted facility that does not have a lagoon is the number of animals permitted by the Department prior to the effective date of these regulations. For deemed permitted facilities with lagoons, the capacity is the maximum capacity of the existing lagoon as determined using the appropriate lagoon capacity design criteria of the United States Department of Agriculture's Natural Resource Conservation Service.
2. All existing animal facilities with permits issued by the Department between June 26, 1998 and the effective date of these regulations do not need to apply for a new permit if they hold a valid permit from the Department, unless they have been closed for more than two years. These facilities shall meet all the requirements of these regulations.
3. All existing animal facilities that were constructed and placed into operation prior to June 26, 1998, but have never received an agricultural permit from the Department, shall apply for a permit from the Department. This facility shall meet all the requirements of this regulation as the Department determines appropriate. The Department shall review the site and make a determination on a case-by-case basis on which requirements are applicable.
4. An existing animal facility may be required to obtain an updated Animal Facility Management Plan on a case-by-case basis by the Department. The Department shall notify the permittee in writing of this requirement. The permittee has six months from the date of notification to submit an updated Animal Facility Management Plan. Failure to submit the

updated plan within this time frame is a violation of the Pollution Control Act and these regulations, and may result in permit revocation.

5. Both the setbacks and other requirements for manure utilization areas shall be met when a new manure utilization area is added by the owner of any animal facility regardless of when the facility was permitted.
6. If an existing animal facility regulated under this part proposes to convert to a swine facility, it shall be considered a new swine facility under these regulations. Converted facilities shall be permitted as new swine facilities and meet all criteria for new swine facilities before they begin operation as a swine facility.

**200.20 Permits and Compliance Period.**

- A. **Permit Requirement.** Animal manure and other animal by-products from a new or expanded animal facility can only be generated, handled, stored, treated, processed, or land applied in the State in accordance with a permit issued by the Department under the provisions of this part. Existing producers that are required by the Department to update their Animal Facility Management Plan shall meet the requirements of this part to the extent practical as determined by the Department.
- B. Permits issued under this regulation are no-discharge permits.
- C. The requirements in this part shall be implemented through a permit issued to any producer who operates an animal facility where animal manure and other animal by-products are produced, processed, or disposed.
- D. The requirements under this part may be addressed in permits issued to producers who only land apply animal manure and other animal by-products.
- E. **Notification Requirements.** The permittee shall notify the Department in writing and receive written Departmental approval, except where noted otherwise, prior to any change in operational procedures at a permitted facility, including, but not limited to, the following:
  1. **Change in ownership and control of the facility.** The Department has thirty days from the receipt of a notification of transfer of ownership to either: request additional information regarding the transfer or the new owner; deny the transfer; or approve the transfer of ownership. If the Department does not act within thirty days, the transfer is automatically approved. If additional information is requested by the Department in a timely manner, the Department shall act on this additional information, when it is received, within the same time period as the initial notification.
  2. Increase in the permitted number of animals.
  3. Addition of manure utilization areas.
  4. Change in manure and other animal by-products treatment, handling, storage, processing, or utilization.
  5. Change in method of dead animal disposal.

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- F. Permit Modification. Permit modifications for items 200.20.E.2 and 200.20.E.4 for facilities regulated under this part which will result in expansions shall adhere to the requirements of this part and other applicable statutes, regulations, or guidelines.
- G. Permit modification for items 200.20.E.2 which result in an expansion may be required to obtain new written waivers or agreement for reduction of setbacks from adjoining property owners (if applicable).

**200.30 Exclusions.** The following do not require permits from this part unless specifically required by the Department under item 200.30.G.

- A. Existing animal facilities that are deemed permitted under Section 200.10.D.1 are excluded from applying for a new permit unless an expansion is proposed, new manure utilization areas are added, or as required by the Department. However, deemed permitted facilities shall meet the requirements of this regulation as outlined in Section 200.10.D (Purpose, Applicability, Inactive Facilities and Facilities Permitted Prior to the Effective Date of Regulation).
- B. Except as given in Section 200.30.G, animal facilities with only ranged animals and no lagoon, treatment system, or manure storage pond is associated with the facility are excluded from obtaining a permit from the Department. The range area shall be of sufficient size to allow for natural degradation or utilization of the animal manure with no adverse impact to the environment. Ranged facilities shall also maintain adequate vegetative buffers between the animal range and waters of the State.
- C. Except as given in Section 200.30.G, animal facilities, that do not have a lagoon, manure storage pond or liquid manure treatment system, having 10,000 pounds or less of normal production animal live weight at any one time are excluded from obtaining a permit from the Department, but these facilities shall have and implement an Animal Facility Management Plan for their facility that meets the requirements of this regulation.
- D. Except as given in Section 200.30.G, animal facilities, that do not have a lagoon, manure storage pond or liquid manure treatment system, having more than 10,000 pounds of normal production animal live weight at any one time and having less than 30,000 pounds of normal production animal live weight at any one time are excluded from obtaining a permit from the Department. However, these facilities shall submit an Animal Facility Management Plan to the Department and implement an Animal Facility Management Plan for their facility that meets the requirements of this regulation.
- E. Except as given in Section 200.30.G, animal facilities that are not classified as commercial facilities are excluded from obtaining a permit from the Department.
- F. Except as given in Section 200.30.G, animal facilities that hold valid permits issued by the Department are not required to obtain a new permit if they decide to replace in kind any of the animal growing houses. If the permittee chooses to leave the old houses in place to utilize for another purpose other than housing animals, the Department shall perform a preliminary site inspection for the proposed location of the replacement houses and approve the site prior to construction.
- G. Animal facilities exempted under Sections 200.30.A, B, C, D, E and F may be required by the Department to obtain a permit. The Department shall visit the site before requiring any of these facilities to obtain a permit.

**200.40 Relationship to Other Regulations.** The following regulations are referenced throughout this part and may apply to facilities covered under this regulation.

- A. Nuisances are addressed in Regulation 61-46.
- B. Application and annual operating fees are addressed in Regulation 61-30.
- C. The proper closeouts of wastewater treatment facilities are addressed in Regulation 61-82. This includes animal lagoons and manure storage ponds.
- D. Permitting requirements for concentrated animal feeding operations as defined by Regulation 61-9 are contained in Regulation 61-9.
- E. Setbacks and construction specifications for potable water wells and monitoring wells shall be in accordance with Regulation 61-71.
- F. Permits for air emissions from incinerators are contained in Regulation 61-62.
- G. Disposal of animal manure in a municipal solid waste landfill unit is addressed in Regulation 61-107.258.
- H. Disposal of animal manure with domestic or industrial sludge is addressed in Regulation 61-9.
- I. Procedures for contested cases are addressed in Regulation 61-72 and the Rules of the State's Administrative Law Judge Division.
- J. Laboratory Certification is addressed in Regulation 61-81.
- K. Water Classifications and Standards are addressed in Regulation 61-68.

**200.50 Permit Application Procedures** (Animal Facility Management Plan Submission Requirements).

- A. Preliminary Site Evaluations. The Department shall perform a preliminary evaluation of the proposed site at the request of the applicant. Written requests for preliminary site inspection shall be made using a form, as designated by the Department. The Department shall not schedule a preliminary site inspection until all required information specified in the form has been submitted to the Department. This evaluation should be performed prior to preparation of the Animal Facility Management Plan. Once the preliminary site inspection is performed, the Department shall issue an approval or disapproval letter for the proposed site.
- B. A producer who proposes to build a new animal facility or expand an existing animal facility shall make application for a permit under this part using an application form as designated by the Department. The following information shall be included in the application package.
  - 1. A completed application form.
  - 2. An Animal Facility Management Plan prepared by qualified Natural Resources Conservation Service personnel or a SC registered professional engineer. Other qualified individuals, such as soil scientists, etc., may prepare the land application component of an Animal Facility Management Plan. The Animal Facility Management Plan shall at a minimum contain:

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- a. Facility name, address, telephone number, county, and National Pollutant Discharge Elimination System Permit or other permit number (if applicable);
- b. Facility location description and the zoning restrictions in this area (this information is available from the county);
- c. Applicant's name, address, and telephone number (if different from above);
- d. Operator's name;
- e. Facility capacity;
  - i. Number and type of animals;
  - ii. Pounds of normal production animal live weight at any one time;
  - iii. Amount of animal manure and other animal by-products generated per year (gallons for liquid animal manure and pounds for dry animal manure);
  - iv. Amount in tons of any scraped or separated solid animal manure and other animal by-products generated per year (if applicable);
  - v. Description of animal manure and other animal by-products storage and storage capacity of lagoon, treatment system or manure storage pond (if applicable); and
  - vi. Description of animal manure and other animal by-products treatment (if any).
- f. Concentration of constituents in liquid animal manure including but not limited to the constituents given below:
  - i. Nutrients.
    - (a) Nitrate (only needed for aerobic systems).
    - (b) Ammonium-Nitrogen.
    - (c) Total Kjeldahl Nitrogen (TKN).
    - (d) Organic-Nitrogen (TKN - Ammonium-Nitrogen).
    - (e) P<sub>2</sub>O<sub>5</sub>.
    - (f) K<sub>2</sub>O (potash).
  - ii. Constituents.
    - (a) Arsenic.
    - (b) Copper.

- (c) Zinc.
  - iii. Name, address, SC lab certification number, and telephone number of the laboratory conducting the analyses.
  - iv. For new animal facilities, liquid animal manure analysis information does not have to be submitted as the Department shall use manure analyses from similar sites or published data (such as: Clemson University, American Society of Agricultural Engineers, Midwest Planning Service Document, NRCS Technical Guide or equivalent) in review of the application. Analysis of the actual animal manure generated shall be submitted to the Department twelve months after a new animal facility starts operation or prior to the first application of animal manure to a manure utilization area, whichever occurs first. If this analysis is significantly different from the estimated analysis used in the permitting decision, the Department may require a permit modification as necessary to address the situation. Analysis shall be conducted by a laboratory certified by the Department. This laboratory shall have and maintain certification for the constituents to be analyzed.
- g. Concentration of constituents in dry animal manure including but not limited to the following:
- i. Nutrients (on a dry weight basis).
    - (a) Total Kjeldahl Nitrogen (mg/kg).
    - (b) Total inorganic nitrogen (mg/kg).
    - (c) Total ammonia nitrogen (mg/kg) and Total nitrate , nitrogen (mg/kg).
    - (d) P<sub>2</sub>O<sub>5</sub> (mg/kg).
    - (e) K<sub>2</sub>O (mg/kg).
    - (f) Calcium Carbonate equivalency (if animal manure is alkaline stabilized).
  - ii. Constituents (on a dry weight basis).
    - (a) Arsenic (mg/kg).
    - (b) Copper (mg/kg).
    - (c) Zinc (mg/kg).
  - iii. Name, address, SC lab certification number, and telephone number of the laboratory conducting the analyses.
  - iv. For new animal facilities, dry animal manure analysis information does not have to be submitted as the Department shall use manure analyses from similar sites or published data (such as: Clemson University, American Society of Agricultural



Engineers, Midwest Planning Service Document, NRCS Technical Guide or equivalent) in review of the application. Analysis of the actual dry animal manure generated shall be submitted to the Department twelve months after a new animal facility starts operation or prior to the first application of animal manure to a manure utilization area which ever occurs first. If this analysis is significantly different from the estimated analysis used in the permitting decision, the Department may require a permit modification as necessary to address the situation. Analysis shall be conducted by a laboratory certified by the Department. This laboratory shall have and maintain certification for the constituents to be analyzed.

- h. Animal manure and other animal by-products handling and application information shall be included as follows:
  - i. A crop management plan which includes the time of year of the animal manure application and how it relates to crop type, crop planting, and harvesting schedule (if applicable) for all manure utilization areas;
  - ii. Name, address, and telephone number of the producer(s) that will land apply the animal manure and other animal by-products if different from the permittee;
  - iii. Type of equipment used to transport and/or spread the animal manure and other animal by-products (if applicable); and
  - iv. For spray application systems, plans and specifications with supporting details and design calculations for the spray application system.
- i. Facility and manure utilization area information shall be included (as appropriate):
  - i. Name and address of landowner and location of manure utilization area(s);
  - ii. List previous calendar years that animal manure was applied and application amounts, where available;
  - iii. Facility and manure utilization area location(s) on maps drawn to approximate scale including:
    - (a) Topography (7.5' or equivalent) and drainage characteristics (including ditches);
    - (b) Adjacent land usage (within 1/4 mile of property line minimum) and location of inhabited dwellings and public places showing property lines and tax map number;
    - (c) All known water supply wells on applicant's property and within 200 feet of the facility's property line or within 200 feet of any manure utilization areas;
    - (d) Adjacent surface water bodies (including ephemeral and intermittent streams);
    - (e) Animal manure utilization area boundaries and buffer zones;

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- (f) Right-of-Ways (Utilities, roads, etc.);
  - (g) Soil types as given by soil tests or soils maps, a description of soil types, and boring locations (if applicable);
  - (h) Recorded Plats, Surveys, or other acceptable maps that include property boundaries; and
  - (i) Information showing the 100-year floodplain (as determined by FEMA).
- vi. For manure utilization areas not owned by the permit applicant, a signed agreement between the permit applicant and the landowner acceptable to the Department detailing the liability for the land application. The agreement shall include, at a minimum, the following:
- (a) Producer's name, farm name and county in which the farm is located;
  - (b) Landowner's name, address, phone number;
  - (c) Location (map with road names and county identified) of the land to receive manure application;
  - (d) Field acreage, acreage less setbacks, and crops grown;
  - (e) Name of manure hauler;
  - (f) Name of manure applier;
  - (g) A statement that land is not included in any other management plans and manure or compost from another farm is not being applied on this land; and
  - (h) A signed statement which informs the landowner that he is responsible for spreading and utilizing this manure in accordance with the requirements of the Department and Regulation 61-43.
- v. For other manure utilization areas that are included in multiple Animal Facility Management Plans, identify the names of all facilities that include this manure utilization area in their plan.
3. Groundwater monitoring well details and proposed groundwater monitoring program (if applicable).
4. The Animal Facility Management Plan shall contain an odor abatement plan for the animal facility, lagoon, treatment system, manure storage pond, and manure utilization areas. For more specific details, see Section 200.150 (Odor Control Requirements).
5. A Vector Abatement Plan shall be included for the animal facility, lagoon, treatment system or manure storage pond, and manure utilization areas. For more specific details see Section 200.160 (Vector Control Requirements).

6. Dead Animal Disposal Plan. The plan shall include written details for handling and disposal of dead animals. Plans should detail method of disposal, any construction specifications necessary, and management practices. See Section 200.130 (Dead Animal Disposal Requirements) for specific requirements on dead animal disposal.
  7. Soil Monitoring Plan. A soil monitoring plan shall be developed for all manure utilization areas. See Section 200.100 (Manure Utilization Area Requirements) for more detailed information.
  8. Plans and specifications for all other manure treatment or storage structures, such as holding tanks or manure storage sheds.
  9. All Notice of Intent to Build or Expand an Animal Facility forms as provided by the Department and a tax map (or equivalent) to scale showing all neighboring property owners and identifying which property has inhabited dwellings. See Section 200.60 (Public Notice Requirements) for more detailed information.
  10. An Emergency Plan. The emergency plan should at a minimum contain a list of entities or agencies the producer should contact in the event of lagoon, treatment system, or manure storage pond breach, major animal mortality, fire, flood or other similar type problem. For facilities in the coastal areas of the state, the emergency plan should address actions to be taken by a producer when advance warning is given on any extreme weather condition.
  11. Adjoining property owners written agreement for reduction of setbacks (if applicable).
  12. Application fee and first year's operating fee as established by Regulation 61-30.
- C. The Department may request an applicant to provide any additional information deemed necessary to complete or correct deficiencies in the animal facility permit application prior to processing the application or issuing, modifying, or denying a permit.
- D. Applicants shall submit all required information in a format acceptable to the Department.
- E. An application package for a permit is complete when the Department receives all of the required information which has been completed to its satisfaction. Incomplete submittal packages may be returned to the applicant by the Department.
- F. Application packages for permit modifications only need to contain the information applicable to the requested modification.

**200.60 Public Notice Requirements.**

- A. For new animal facilities, the applicant shall notify all property owners within 1320 feet of the proposed location of the facility (footprint of construction) of the applicant's intent to build an animal facility. The applicant shall use a notice of intent form provided by the Department. The Department shall also post up to four notices on the perimeter of the property or in close proximity to the property, in visible locations as determined by the Department. The notice of intent shall advise adjoining property owners that they can send comments on the proposed animal facility directly to the Department.

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- B. For properties that have multiple owners or properties that are in an estate with multiple heirs, the Department, at the expense of the applicant, shall publish a notice of intent to construct an animal facility in a local paper of general circulation in the area of the facility. This notice in the newspaper shall serve as notice to these multiple property owners of the producer's intent to build an animal facility. The cost to run this notice is not included in the application fee, and therefore shall be billed directly to the permit applicant for payment. This notice fee shall be paid prior to the issuance of the permit.
- C. For existing animal facilities seeking to expand their current operations, the Department shall post up to four notices on the perimeter of the property or in close proximity to the property, in visible locations as determined by the Department.
- D. The Department shall review all comments received. If the Department receives twenty (20) or more letters from different people requesting a meeting or the Department determines significant comment exists, a meeting shall be held to discuss and seek resolution to the concerns prior to a permit decision being made. All persons who have submitted written comments shall be invited in writing to the meeting. First Class US mail service or hand delivery to the address of a person to be notified shall be used by the Department for the meeting invitation. However, if the Department determines that the number of persons who submitted written comments is significant, the Department shall publish a notice of the public meeting in a local newspaper of general circulation instead of notifying each individual by first class mail. In addition, the Department shall notify all group leaders and petition organizers in writing. Agreement of the parties is not required for the Department to make a permit decision.
- E. When comments are received by electronic mail, the Department shall acknowledge receipt of the comment by electronic mail. These comments shall be handled in the same manner as written comments received by postal mail.
- F. The Department shall consider all relevant comments received in determining a permit decision.
- G. The Department shall give notice of the permit decision to issue or deny the permit to the applicant, all persons who commented in writing to the Department, and all persons who attended the meeting, if held. First Class US mail service shall be used by the Department for the notice of decision. However, if the Department determines that members of the same group or organization have submitted comments or a petition, the Department shall only notify all group leaders and petition organizers in writing. The Department shall ask these leaders and organizers to notify their groups or any concerned citizens who signed the petitions.
- H. For permit issuances, the Department shall publish a notice of issuance of a permit to construct or expand an animal facility in a local newspaper of general circulation in the area of the facility.
- I. For permit denials, the Department shall give the permit applicant a written explanation, which outlines the specific reasons for the permit denial.
- J. For permit denials, the Department shall publish a notice of decision in a local newspaper of general circulation in the area of the facility or send each concerned citizen who submitted written comments a letter by first class mail.
- K. The Department shall include, at a minimum, the following information in the public notices on permit decisions: the name and location of the facility; a description of the operation and the method of manure handling; instructions on how to appeal the Department's decision; the time

frame for filing an appeal; the date of the decision; and the date upon which the permit becomes effective.

**200.70 Permit Decision Making Process.**

- A. No permit shall be issued before the Department receives a complete application for a permit.
- B. The agricultural program of the Department is not involved in local zoning and land use planning. Local government(s) may have more stringent requirements for agricultural animal facilities. The permittee is responsible for contacting the appropriate local government(s) to ensure that the proposed facility meets all the local requirements.
- C. After the Department has received a complete application package, a technical review shall be conducted by the Department. The Department may request any additional information or clarification from the applicant or the preparer of the Animal Facility Management Plan to help with the determination on whether a permit should be issued or denied. If a permit application package meets all applicable requirements of this part, a permit may be issued.
- D. A site inspection shall be made by the Department before a permit decision is made.
- E. The Department shall act on all permits to prevent, so far as reasonably possible considering relevant standards under state and federal laws, an increase in pollution of the waters and air of the State from any new or enlarged sources.
- F. The setback limits given in this part are minimum siting requirements (with exception to those that are not labeled as minimum requirements, which are absolutes). On a case-by-case basis the Department may require additional separation distances applicable to animal facilities, lagoons, treatment systems, manure storage ponds, and manure utilization areas. The Department shall evaluate the proposed site including, but not limited to, the following factors when determining if additional distances are necessary:
  - 1. Proximity to 100-year floodplain;
  - 2. Geography and soil types on the site;
  - 3. Location in a watershed;
  - 4. Classification or impairment of adjacent waters;
  - 5. Proximity to a State Designated Focus Area; Outstanding Resource Water; Heritage Corridor; Historic Preservation District; State Approved Source Water Protection Area; state or national park or forest; state or federal research area; and privately-owned wildlife refuge, park, or trust property;
  - 6. Proximity to other known point source discharges and potential nonpoint sources;
  - 7. Slope of the land;
  - 8. Animal manure application method and aerosols;
  - 9. Runoff prevention;

10. Adjacent groundwater usage;
  11. Down-wind receptors; and
  12. Aquifer vulnerability.
- G. The appeal of a permit decision is governed by the SC Administrative Procedures Act, Regulation 61-72, and the Rules of the State's Administrative Law Judge Division.
- H. When a permit is issued it shall contain an issue date, an effective date and when applicable a construction expiration date. The effective date shall be at least twenty (20) days after the issue date to allow for any appeals. If a timely appeal is not received, the permit shall be effective on the effective date.
- I. The permit may contain a permit expiration date. If a facility is classified as a CAFO under the NPDES Regulation 61-9, the expiration date shall be no more than five years after the issue date.
- J. An expired permit (final expiration date for renewal) issued under this part continues in effect until a new permit is effective if the permittee submits a complete application, to the satisfaction of the Department, at least 180 days before the existing permit expires. The Department may grant permission to submit an application later than the deadline for submission stated above, but no later than the permit expiration date. If the facility has been closed for any two consecutive years since the last permit was issued, the provision for the expiring permit remaining in effect does not apply since the permit is no longer valid. Permittees shall notify the Department in writing within 30 days of when they go out of business.
- K. The animal facility, lagoon, treatment system, or manure storage pond can be built only when the permit is effective with no appeals pending. The facility cannot be placed into operation until the Department grants written authorization to begin operations.
- L. To receive authorization to begin operations, the producer shall have the preparer of the Animal Facility Management Plan submit to the Department written certification that the construction has been completed in accordance with the approved Animal Facility Management Plan and the requirements of this regulation.
- M. The Department may conduct a final inspection before granting authorization to a producer to begin operations.
- N. The Department shall grant written authorization for the producer to begin operations after it has received the certification statement in 200.70.L and the results of the final inspection, if conducted, are satisfactory.
- O. Animal Facility Construction Permit Expiration and Extensions.
1. Construction permits issued by the Department for agricultural animal facilities shall be given two years from the effective date of the permit to start construction and three years from the effective date of the permit to complete construction.
  2. If the construction proposed under the permit is not started prior to the construction start expiration date, the construction permit is invalid unless an extension in accordance with this regulation is granted.

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3. If construction is not completed and the facility is not placed into operation prior to the construction completion expiration date, the construction permit is invalid unless an extension in accordance with this regulation is granted.
4. If a portion of the permitted facility (some of the animal growing house are completely constructed, but not all houses originally permitted were constructed) is completed prior to the construction completion expiration date, the construction for the remainder of the permit may be utilized within the permit life. The permittee shall obtain Departmental approval prior to utilizing the permit in this manner. The Department may require that the permittee submit additional information or update the Animal Facility Management Plan prior to approval.
5. Extensions of the permit construction start and completion expiration dates may be granted by the Department. The permittee shall submit a written request explaining the delay and detailing any changes to the proposed construction. This request shall be received not later than 10 days prior to the date that the permittee proposes to extend. The maximum extension period shall not exceed one year.

### **200.80 Facility, Lagoon, Treatment Systems and Manure Storage Pond Siting Requirements.**

#### A. Siting requirements applicable to all animal facilities.

1. The minimum separation distance between an animal facility (animal growing areas, houses, pens or barns, not including range areas or manure utilization areas) and a public or private drinking water well (excluding the applicant's well) is 200 feet. The minimum separation distance between an animal facility and a potable water well owned by the applicant is 50 feet (as required by R.61-71).
2. The minimum separation distance between an animal facility and waters of the State (including ephemeral and intermittent streams) located down slope from the facility is 100 feet. The setbacks required from ephemeral and intermittent streams may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
3. Except for site drainage, the minimum separation distance required between an animal facility and a ditch or swale located down slope from the facility is 50 feet. The setbacks required from ditches may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
4. A new animal facility or an expansion of an established animal facility shall not be located in the 100-year floodplain.
5. The separation distance required between the animal facility or growing areas (pens or barns not including range areas) and the lot line of real property owned by another person is 200 feet or 1000 feet from the nearest residence, whichever is greater, when the normal production animal live weight at any time is 500,000 pounds or less.
6. The separation distance required between the animal facility or growing areas (pens or barns not including range areas) and the lot line of real property owned by another person is 400 feet or 1000 feet from the nearest residence, whichever is greater, when the normal production animal live weight at any time is greater than 500,000 pounds.

- B. Siting requirements applicable to all animal lagoons, treatment systems, and manure storage ponds.
1. The minimum separation distance between a lagoon, treatment system, or manure storage pond and a public or private drinking water well (excluding the applicant's well) is 200 feet. The minimum separation distance between an animal lagoon, treatment system, or manure storage pond and a potable water well owned by the applicant is 100 feet.
  2. The minimum separation distance between an animal lagoon, treatment system, or manure storage pond and ephemeral and intermittent streams located down slope from the facility is 100 feet. The setback from ephemeral and intermittent streams may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
  3. Except for site drainage, the minimum separation distance required between an animal lagoon, treatment system, or manure storage pond and a ditch or swale located down slope from the facility is 50 feet. The setback from ditches may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
  4. The minimum separation distance required between an animal lagoon, treatment system, or manure storage pond and waters of the state (not including ephemeral and intermittent streams) located down slope from the facility is 100 feet. If the waters of the State are designated Outstanding Resource Waters, Critical Habitat Waters of federally endangered species, or Shellfish Harvesting Waters, the minimum separation distance required between a lagoon, treatment system, or manure storage pond and waters of the State is 500 feet.
  5. A new animal lagoon, treatment system, or manure storage pond or an expansion of an established animal lagoon, treatment system, or manure storage pond shall not be located in the 100-year floodplain.
  6. The separation distance required between a lagoon, treatment system, or manure storage pond and real property owned by another person is 300 feet or 1000 feet from the nearest residence, whichever is greater, when the normal production animal live weight at any time is 500,000 pounds or less.
  7. The separation distance required between a lagoon, treatment system, or manure storage pond and real property owned by another person is 500 feet or 1000 feet from the nearest residence, whichever is greater, when the normal production animal live weight at any time is greater than 500,000 pounds.
- C. Siting requirements applicable to all dry animal manure and other animal by products treatment or storage facilities (including, but not limited to, stacking sheds and manure or dead animal composters).
1. The minimum separation distance between a dry animal manure and other animal by-products treatment or storage facility and a public or private drinking water well (excluding the applicant's well) is 100 feet. The minimum separation distance between a dry animal manure and other animal by-products treatment or storage facility and a potable water well owned by the applicant is 50 feet.



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2. Except for site drainage, the minimum separation distance required between a dry animal manure and other animal by-products treatment or storage facility and a ditch or swale located down slope from the facility is 50 feet. The setback from ditches may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
  3. The minimum separation distance between a dry animal manure and other animal by-products treatment or storage facility and waters of the State including ephemeral and intermittent streams located down slope from the facility is 100 feet. The setback from ephemeral and intermittent streams may be reduced by the Department, if a permanent vegetative water quality buffer, that meets NRCS standards at a minimum, is installed and maintained.
  4. A new dry animal manure and other animal by-products treatment or storage facility or an expansion of an established dry animal manure and other animal by-products treatment or storage facility shall not be located in the 100-year floodplain.
  5. The separation distance required between a dry animal manure and other animal by-products treatment or storage facility operated at an animal growing facility and the lot line of real property owned by another person shall be equivalent to the setback required for the animal growing areas or houses.
  6. The minimum separation distance required between a dry animal manure and other animal by-products treatment or storage facility operated by a manure broker and the lot line of real property owned by another person is 200 feet. However, the Department shall evaluate each proposed site to consider increasing this minimum amount, when the amount of manure stored, treated or processed at this facility is significant.
- D. Water (a pond) that is completely surrounded by land owned by the permit applicant and has no connection to surface water is excluded from the setback requirements outlined in this part.
- E. All lagoon and manure storage pond setbacks contained in this part shall be measured from the outside toe of the dike.
- F. The setback limits given in this part are minimum siting requirements, except those not labeled as minimum requirements, which are absolutes. On a case-by-case basis the Department may require additional separation distances for the minimum setbacks applicable to animal facilities. See Section 200.70.F. (Permit Decision Making Process), which outlines some of the factors considered to determine if additional setbacks should be required.
- G. The separation distances for property lines given in Section 200.80.A, B, and C above can be waived or reduced by written consent of the adjoining property owner. Written consent is not needed when the Department reduces the distances under the requirements of Part 300.
- H. The separation distances to the property lines of adjacent land as provided in Section 200.80.A, B and C above do not apply to an animal facility, lagoon, treatment system, or manure storage pond which is constructed or expanded, if the adjoining land is owned and managed by a professional silvicultural corporation, is currently in agricultural crop production, or is zoned for agricultural land use. However, the separation distances for residences shall be met by the animal facility, lagoon, treatment system, or manure storage pond, unless a written waiver from the property owner has been obtained.

**200.90 General Requirements for Animal Manure Lagoons, Treatment Systems, and Animal Manure Storage Ponds.**

- A. The lagoon, treatment system, or manure storage pond shall be designed by a professional engineer or an NRCS engineer and the construction shall be certified by the design engineer. It is a violation of these regulations and the Pollution Control Act for the owner or operator of the facility to make modifications or physical changes to the lagoon, treatment system, or manure storage pond without the prior approval of the Department and supervision of NRCS or a professional engineer. Plans and specifications for lagoon, treatment system, or manure storage pond modifications shall be designed and certified by NRCS or a professional engineer and submitted to the Department for approval prior to the modification.
- B. Animal manure lagoons and manure storage ponds shall be designed at a minimum to NRCS-CPS. The lagoon or manure storage pond shall be designed to provide a minimum storage for manure, wastewater, normal precipitation less evaporation, normal runoff, residual solids accumulation, capacity for the 25 year- 24 hour storm event (precipitation and associated runoff) and at least one and one half (1 ½) feet of freeboard.
- C. All lagoons and storage ponds shall be provided with a liner, designed with an initial specific discharge rate of less than 0.0156 feet/day in order to protect groundwater quality. When lagoons or manure storage ponds are lined only using soils with low permeability rates (e.g., clay), the Department shall require appropriate documentation to demonstrate that the computed soil permeability rates of the liner are sufficiently low or certification from the preparer of the Animal Facility Management Plan that the NRCS design standards for lining lagoons and/or manure storage ponds with soils have been met. When geomembrane liners are utilized, they shall be designed, at a minimum, to meet NRCS-CPS.
- D. If seepage results in either an adverse impact to groundwater or a significant adverse trend in groundwater quality occurs as determined by the Department, the lagoon or manure storage pond shall be repaired at the owner's or operator's expense. Assessment and/or additional monitoring (more wells, additional constituents, and/or increased sampling frequency) may be required by the Department to further assess the extent of the seepage. The repairs and/or assessment shall be completed in accordance with an implementation schedule approved by the Department. The Department may require groundwater corrective action.
- E. Manure shall not be placed directly in or allowed to come into contact with groundwater and/or surface water. The minimum separation distance between the lowest point of the lagoon or manure storage pond and the seasonal high water table beneath the lagoon or manure storage pond is 2 feet. If a geomembrane liner is installed, the minimum separation distance is one foot from the seasonal high water table. Designs that include controlled drainage for water table adjustment shall be evaluated by the Department on a case-by-case basis, and may include additional monitoring and groundwater control requirements. If a design is proposed for water table adjustment, the design shall not impact wetlands.
- F. Monitoring wells may be required by the Department on a case-by-case basis upon Department review of the submittal package.
- G. A groundwater monitoring plan shall be submitted with the permit application to the Department. All applicable State certification requirements regarding well installation, laboratory analyses and report preparation shall be met. Each groundwater monitoring well installed shall be permitted and shall be sampled at least once annually by qualified personnel at the expense of the permittee.

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The results shall be submitted to the Department in accordance with the specified permit requirements. Groundwater Sampling results shall be maintained by the producer for eight years. The Department may conduct routine and random visits to the animal facility to sample the monitoring wells.

- H. Prior to operation of the lagoon or manure storage pond, all monitoring wells shall be sampled in accordance with the parameters identified in the permit such that a background concentration level can be established.
- I. Before the construction of a lagoon and/or a manure storage pond, the owner or operator shall remove all under-drains that exist from previous agricultural operations that are under the lagoon or manure storage pond and/or within twenty-five (25) feet of the outside toe of the proposed lagoon or manure storage pond dike. This requirement does not include under-drains that are approved as a part of designs that include controlled drainage for water table adjustment.
- J. Proper water levels in lagoons and manure storage ponds, as per plans and specifications, shall be maintained at all times by the permittee. The Department may require specific lagoon or manure storage pond volume requirements in permits.
- K. If a lagoon, treatment system, or manure storage pond, or both, breaches or fails in any way, the owner or operator of the animal facility shall immediately notify the Department, the appropriate local government officials, and the owners or operators of any potable surface water treatment plant located downstream from the animal facility that could reasonably be expected to be adversely impacted.
- L. Lagoons and manure storage ponds shall be completely enclosed with an acceptable fence, unless a fence waiver is obtained from the Department.
- M. Lagoons and manure storage ponds shall have at least four warning signs posted around the perimeter of the structure. These signs should read, "Warning - Deep and Polluted Water" and one should be posted on each side of the lagoon or manure storage pond.
- N. Vegetation on the dikes and around the lagoon, treatment system or manure storage pond should be kept below a maximum height of eighteen inches. Trees or deeply rooted plants shall be prevented from growing on the dikes or within 25 feet of the outside toe of the dikes of the lagoon, treatment system or manure storage pond.
- O. Livestock or other animals that could cause erosion or damage to the dikes of the lagoon, treatment system, or manure storage pond shall not be allowed to enter the lagoon, treatment system or manure storage pond, or graze on the dike or within 25 feet of the outside toe of the dike.
- P. The Department shall require existing facilities, regardless of size, with a history of manure handling, treatment, and disposal problems related to a lagoon, to phase out the existing lagoon and incorporate new technology.

### **200.100 Manure Utilization Area Requirements.**

- A. Application Rates. The Department shall approve an Animal Facility Management Plan that establishes an application rate for each manure utilization area based on the agronomic application rate of the specific crop(s) being grown, and the manure and other animal by-products impact on

the environment. The application rate shall be based on the limiting constituent (a nutrient or other constituent as given in item 200.100.B).

**B. Constituent Limits for Land Application of Liquid and Dry Animal manure and other animal by-products and Operational Practices for Land Application.**

1. Liquid and dry animal manure and other animal by-products. Animal manure and other animal by-products containing only the standard constituents at normal concentrations as given by commonly accepted reference sources, such as Clemson University, American Society of Agricultural Engineers, Midwest Planning Service Document, or NRCS, can be land applied at or below agronomic rates without any specific constituent limits in a permit. When the animal manure analysis indicates there are levels of arsenic, copper, zinc, or other constituents of concern, the Department shall establish constituent limits in permits for each constituent of concern to ensure the water quality standards of Regulation 61-68 are maintained. For these cases the producer shall comply with the following criteria:

- a. Constituent Limits. If animal manure and other animal by-products subject to a constituent limit is applied to land, either:
  - i. The cumulative loading rate for each constituent shall not exceed the cumulative constituent loading rate for the constituent in Table 1 of Section 200.100; or
  - ii. The concentration of each constituent in the animal manure and other animal by-products shall not exceed the concentration for the constituent in Table 2 of Section 200.100.
- b. Constituent concentrations and loading rates - animal manure and other animal by-products.
  - i. Cumulative constituent loading rates.

<b>TABLE 1 OF SECTION 200.100 - CUMULATIVE CONSTITUENT LOADING RATES</b>		
<i>Constituent</i>	<i>Cumulative Constituent Loading Rate (kilograms per hectare)</i>	<i>Cumulative Constituent Loading Rate (pounds per acre)</i>
<b>Arsenic</b>	41	37
<b>Copper</b>	1500	1339
<b>Zinc</b>	2800	2499

- ii. Constituent concentrations.

<b>TABLE 2 OF SECTION 200.100 - CONSTITUENT CONCENTRATIONS</b>	
<i>Constituent</i>	<i>Monthly Average Concentrations - Dry weight basis (mg / kg)</i>
<b>Arsenic</b>	41
<b>Copper</b>	1500
<b>Zinc</b>	2800

- iii. Annual constituent loading rates.

<b>TABLE 3 OF SECTION 200.100 - ANNUAL CONSTITUENT LOADING RATES</b>		
<i>Constituent</i>	<i>Annual Constituent Loading Rate (kilograms/hectare/365-days)</i>	<i>Annual Constituent Loading Rate (pounds/acre/365 day period)</i>
<b>Arsenic</b>	2.0	1.8
<b>Copper</b>	75	67
<b>Zinc</b>	140	125

- c. Additional constituents may be required, from the application information or subsequent monitoring in a permit thereafter, but such needs shall be assessed on an individual project basis.
  - d. No producer shall apply animal manure and other animal by-products subject to the cumulative constituent loading rates in Table 1 of Section 200.100.B.1 to land if any of the rates in Table 1 of Section 200.100.B.1 have been reached.
  - e. No producer shall apply animal manure and other animal by-products or animal lagoon sludge to land during a 365-day period after the annual application rate in Table 3 of Section 200.100.B.1 has been reached.
  - f. If animal manure subject to the cumulative constituent loading rates in Table 1 of Section 200.100.B.1 has not been applied to the site, those cumulative rates apply.
  - g. If animal manure and other animal by-products subject to the cumulative constituent loading rates in Table 1 of Section 200.100.B.1 has been applied to the site and the cumulative amount of each constituent applied to the site in the animal manure and other animal by-products is known, the cumulative amount of each constituent applied to the site shall be used to determine the additional amount of each constituent that can be applied to the site in accordance with Section 200.100.B.1.a.i (cumulative loading rate shall not exceed the cumulative constituent loading rate).
  - h. Manure application shall not exceed the agronomic rate of application for plant available nitrogen (PAN) for the intended crop(s) on an annual basis. For those years that fertilizer is land applied, manures in combination with the fertilizer shall not exceed the agronomic rate of nutrient utilization of the intended crop(s).
2. Any producer who confines animals shall ensure that the applicable requirements in this part are met when the animal manure and other animal by-products are applied to the land.
  3. Animal manure and other animal by-products shall not be applied to land that is saturated from recent precipitation, flooded, frozen, or snow-covered. Animal manure and other animal by-products shall not be applied during inclement weather or when a significant rain event is forecasted to occur within 48 hours.
  4. Animal manure and other animal by-products shall not be placed directly in groundwater.
  5. The land application equipment, when used once or more per year, shall be calibrated at least annually by the producer. A permit may require more frequent calibrations to ensure proper application rates. The two most recent calibration records should be retained by the producer and made available for Department review upon request. If the land application equipment has not been used in over a year, the equipment shall be calibrated prior to use.

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6. No producer shall apply animal manure and other animal by-products to the land except in accordance with the requirements in this part.
7. A producer who supplies animal manure and other animal by-products to another person for land application shall provide the person who will land apply the manure and other animal by-products with the concentration of plant available nitrogen, phosphorus, potassium and the concentration of all other constituents listed in the permit. The producer shall also supply the person who will land apply the manure with a copy of the crop management plan included in their Animal Facility Management Plan or a copy of the Land Application Requirements brochure approved by the Department which outlines the land application requirements and responsibility for proper management of animal manure.
8. Animal manure and other animal by-products shall not be applied to or discharged onto a land surface when the vertical separation between the ground surface and the seasonal high water table is less than 1.5 feet at the time of application unless approved by the Department.  
For special cases, no land application can occur when the vertical separation from the ground surface to the water table is less than 1.5 feet at the time of application unless a situation is deemed an emergency with departmental concurrence.
9. Soil sampling (usually 6-8 inch depth) shall be conducted for each field prior to manure application to determine the appropriate application rate. Each field should be sampled at least once per year. If manure application frequency shall be less than once per year, then at least one soil sample shall be taken prior to returning to that field for land application. All new manure utilization areas shall be evaluated using the NRCS-CPS to determine the suitability for application and the limiting nutrient (nitrogen or phosphorus). However, fields that are high in phosphorus may also be required to incorporate additional runoff control or soil conservation features as directed by the Department.
10. Soil sampling to a depth of eighteen inches shall be performed within 45 days after each application of animal manure, but no more than two times per year if the application frequency is more than twice per year. This sampling shall be performed for at least three years after the initial application on at least one representative manure utilization area for each crop grown to verify the estimated calculated manure application rates for the utilization areas. The date of manure application and the date of sampling shall be carefully recorded. The sampling shall be conducted at depths of zero to six inches, six to twelve inches, and twelve to eighteen inches with nitrates and phosphorus being analyzed.
11. The results of the pre-application and post-application sampling shall be used by the producer to adjust as necessary, the amount of animal manure to be applied to a manure utilization area to meet the agronomic application rate for the crop(s) to be grown. These results shall be submitted to the Department at the time of application for permit renewal.
12. Additional soil sampling to greater depths may be required by the Department on a case-by-case basis to ensure there is no potential for groundwater contamination. The permit shall give the appropriate depth and frequency for all soil sampling.
13. The permittee shall obtain information needed to comply with the requirements in this part.
14. All persons who routinely accept manure from a producer, in quantities greater than twelve tons per recipient per year, shall be listed in the approved Animal Facility Management Plan. The Animal Facility Management Plan shall include the appropriate manure utilization area

information for the sites routinely used by other persons. The producer shall inform the recipient of their responsibility to properly manage the land application of manure to prevent discharge of pollutants to waters of the State (including ephemeral and intermittent streams). The person accepting the manure may be required by the Department to have an Animal Facility Management Plan and a permit for their manure utilization areas.

15. All persons who accept manure from a producer, regardless of whether the land is included in the waste management plan, are responsible for land applying the manure in accordance with these requirements. The Department may require the person(s) land applying the manure to correct any problems that result from the application of manure.
16. Animal manure shall not be applied to cropland more than 30 days before planting or during dormant periods for perennial species, unless otherwise approved by the Department in an emergency situation.
17. When the Department receives nuisance complaints on a land application site, the Department may restrict land application of animal manure on weekends.
18. The Department may require manure, spread on cropland, to be disked in immediately.
19. Manure (solid or liquid) shall only be applied when weather and soil conditions are favorable and when prevailing winds are blowing away from nearby dwellings. Animal manure should not be applied to land when the soil is saturated, flooded, during rain events, or when a significant rain event is forecasted to occur within 48 hours.
20. Manure shall not be spread in the floodplain if there is danger of a major runoff event, unless the manure is incorporated during application or immediately after application.
21. If the manure is stockpiled more than three (3) days, the manure shall be stored on a concrete pad or other approved pad (such as plastic or clay lined) and covered with an acceptable cover to prevent odors, vector attraction, and runoff. The cover should be properly vented with screen wire to let the gases escape. The edges of the cover should be properly anchored.
22. Producers who contract to transfer the animal manure and other animal by-products produced at their facility to a manure broker shall obtain and submit for approval an updated Animal Facility Management Plan if they discontinue using the designated broker or if the manure broker goes out of the manure brokering business.

C. Setbacks for manure utilization areas.

1. The minimum separation distance in feet required between a manure utilization area and a residence is 300 feet. If there are no residences within 300 feet of the manure utilization area, manure may be applied up to the property line. The 300-foot setback is waived with the consent of the owner of the residence. If the application method is injection or immediate incorporation, manure may be applied up to the property line. The setbacks are imposed at the time of application. The Department may impose these setbacks on previously approved sites to address problems on a case-by-case basis.
2. The minimum separation distance in feet required between a manure utilization area and waters of the State (including ephemeral and intermittent streams) located down slope from the area is 100 feet when spray application is the application method or when the manure is spread on the ground surface, 75 feet when incorporation is the application method, and 50

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feet when injection is the application method. When incorporation is accomplished within twenty-four hours of the initial application, the distance can be reduced to 50 feet.

3. The minimum separation distance in feet required between a manure utilization area and ditches and swales, located down slope from the area, that discharge to waters of the State including ephemeral and intermittent streams is 50 feet.
  4. The minimum separation distance in feet required between a manure utilization area and a potable drinking water well is 100 feet.
  5. The Department may establish in permits additional application buffer setbacks for property boundaries, roadways, residential developments, dwellings, water wells, drainage ways, and surface water (including ephemeral and intermittent streams) as deemed necessary to protect public health and the environment. Factors taken into consideration in the establishment of additional setbacks would be animal manure application method, adjacent land usage, public access, aerosols, runoff prevention, adjacent groundwater usage, aquifer vulnerability, and potential for vectors and odors.
  6. Water (pond) that is completely surrounded by land owned by the applicant and has no connection to surface water is excluded from the setback requirements outlined in this part.
- D. The Department may establish additional permitting restrictions based upon soil and groundwater conditions to ensure protection of the groundwater and surface waters of the State (including ephemeral and intermittent streams). Criteria may include but is not limited to soil permeability, clay content, depth to bedrock, rock outcroppings, aquifer vulnerability, proximity to State Approved Source Water Protection Area, and depth to the seasonal high groundwater table.
- E. The Department may establish permit conditions to require that animal manure and other animal by-products application rates remain consistent with the lime and fertilizer requirements for the cover, feed, food, and fiber crops based on land grant universities (in the southeast) published lime and fertilizer recommendations (such as the Lime and Fertilizer Recommendations, Clemson Extension Services, Circular 476).
- F. The Department may establish minimum requirements in permits for soil and/or groundwater monitoring, for manure utilization areas. Factors taken into consideration in the establishment of soil and groundwater monitoring shall include groundwater depth, operation flexibility, application frequency, type of animal manure and other animal by-products, size of manure utilization area, aquifer vulnerability, and proximity to a State Approved Source Water Protection Area and loading rate.
1. The Department may establish pre-application and post-application site monitoring requirements in permits for limiting nutrients or limiting constituents as determined by the Department.
  2. The Department may establish permit conditions, which require the permittee to reduce, modify, or eliminate the animal manure and other animal by-products applications based on the results of this monitoring data.
  3. The Department may modify, revoke and reissue, or revoke a permit based on the monitoring data.



- G. The Department may require manure to be treated for odor control (i.e., composting or lime stabilizing for dry operations) prior to land application if the manure is not incorporated into the soil at the time of land application or if odors exist or are suspected to exist at an undesirable level. Manure, which has a very undesirable level of odor before treatment, such as turkey manure, shall not normally be permitted to be land applied on land near residences without appropriate treatment for odor control.

**200.110 Spray Application System Requirements.**

- A. Spray application of liquid animal manure using irrigation equipment. This includes all methods of surface spray application, including but not limited to, fixed gun application, traveling or mobile gun application, or center pivot application.
- B. Manure utilization area slopes shall not exceed 10 percent unless approved by the Department. The Department may require that slopes be less than 10% based on site conditions.
- C. Animal manure distribution systems shall be designed so that the distribution pattern optimizes uniform application.
- D. Hydraulic Application Rates.
  - 1. Application rates shall normally be based on the agronomic rate for the crop to be grown at the manure utilization area. As determined by soil conditions, the hydraulic application rate may be reduced below the agronomic rate to ensure no surface ponding, runoff, or excessive nutrient migration to the groundwater occurs.
  - 2. The hydraulic application rate may be limited based on constituent loading including any constituent required for monitoring under this regulation.
- E. Animal manure and other animal by products shall not be land applied or discharged onto a land surface when the vertical separation between the ground surface and the seasonal high water table is less than 1.5 feet at the time of application, unless approved by the Department on a case-by-case basis. For special cases, no land application can occur when the vertical separation from the ground surface to the water table is less than 1.5 feet at the time of application unless a situation is deemed an emergency with departmental concurrence.
- F. Conservation measures, such as terracing, strip cropping, etc., may be required in specific areas determined by the Department as necessary to prevent potential surface runoff from entering or leaving the manure utilization areas. The Department may consider alternate methods of runoff controls that may be proposed by the applicant, such as berms.
- G. A system for monitoring the quality of groundwater may also be required for the proposed manure utilization areas. The location of all the monitoring wells shall be approved by the Department. The number of wells, constituents to be monitored, and the frequency of monitoring shall be determined on a case-by-case basis based upon the site conditions such as type of soils, depth of water table, etc.
- H. If an adverse trend in groundwater quality is identified, further assessment and/or corrective action may be required. This may include an alteration to the permitted application rate or a cessation of manure application on the impacted area.

- I. Spray application systems should be designed and operated in such a manner to prevent drift of liquid manure onto adjacent property.

**200.120 Frequency of Monitoring for Animal Manure.**

- A. The producer shall be responsible for having representative samples of the animal manure collected and analyzed at least once per year and when the feed composition significantly changes. The constituents to be monitored shall be given in the permit. The analyses should be used to determine the amount of animal manure to be land applied. In order to ensure that the permitted application rate (normally the agronomic rate) is met, the application amount shall be determined using a rolling average of the previous analyses. The Department shall establish minimum requirements for the proper method of sampling and analyzing of animal manure. Facilities with permits that do not specify which constituents to monitor shall monitor for Ammonium-Nitrogen, Total Kjeldahl Nitrogen (TKN), Organic Nitrogen (Organic Nitrogen = TKN - Ammonium Nitrogen),  $P_2 O_5$ , and  $K_2 O$ .
- B. The Department may require nitrogen, potassium, phosphorus, the constituents listed in Table 1 and Table 2 of Section 200.100, and any other constituent contained in a permit to be monitored prior to each application.
- C. Permittees do not have to analyze for any constituent that they can demonstrate to the satisfaction of the Department is not present in their animal manure
- D. All monitoring shall be done in accordance with collection procedures in Standard Methods for Analysis of Water and Wastewater or other Department guidelines. Analysis shall be conducted by a laboratory certified by the Department. This laboratory shall have and maintain certification for the constituents to be analyzed.

**200.130 Dead Animal Disposal Requirements.**

- A. Dead animal disposal shall be as specified in the approved Animal Facility Management Plan. The Dead Animal Disposal Plan should include the following:
  1. Primary Method for the handling and disposal of normal mortality at the facility.
  2. Alternate Method for the handling and disposal of excessive mortality on the farm. The normal method of disposal may not be sufficient to handle an excessive mortality situation. Each producer should have an emergency or alternate method to dispose of excessive mortality. Excessive mortality burial sites shall be approved by the Department prior to utilization.
- B. Burial.
  1. Burial pits may be utilized for emergency conditions, when the primary method of disposal is not sufficient to handle excessive mortality.
  2. Burial pits shall not be located in the 100-year floodplain.
  3. Soil type shall be evaluated for leaching potential.

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4. Burial pits shall not be located or utilized on sites that are in areas that may adversely impact surface or groundwater quality or further impact impaired water bodies.
5. The bottom of the burial pit may not be within 2 feet of the seasonal high groundwater level.
6. No burial site shall be allowed to flood with surface water.
7. Animals placed in a burial site shall be covered daily with sufficient cover (6 inches per day) to prohibit exhumation by feral animals.
8. When full, the burial site should be properly capped (minimum 2 feet) and grassed to prohibit erosion.
9. Proposed burial pit sites shall be approved by the Department. The Department may conduct a geologic review of the proposed site prior to approval.
10. The Department may require the producer to utilize another method of dead animal disposal if burial is not managed according to the Dead Animal Disposal Plan or repeated violations of these burial requirements occur or adverse impact to surface or groundwater is determined to exist.
11. The Department may require groundwater monitoring for dead animal burial pits on a case-by-case basis. The Department shall consider all of the facts including, but not limited to, the following: depth to the seasonal high water table; aquifer vulnerability; proximity to a State Approved Source Water Protection Area; groundwater use in the area; distance to adjacent surface waters; number of dead animals buried; and frequency of burial in the area.

C. Incinerators.

1. For animal facilities proposing an incinerator for dead animal disposal, either a permit for the air emissions shall be obtained from the Department's Bureau of Air Quality before the incinerator can be built or the following criteria shall be met in order to qualify for an exemption from an air permit:
  - a. The emission of particulate matter shall be less than one pound per hour at the maximum rated capacity;
  - b. The incinerator shall be a package incinerator and have a rated capacity of 500 pounds per hour or smaller which burns virgin fuel only; and
  - c. The incinerator shall not exceed an opacity limit of 10%.
2. Incinerators used for dead animal disposal shall be properly operated and maintained. Operation shall be as specified in the owner's manual provided with the incinerator. The owner's manual shall be kept on site and made available to Department personnel upon request.
3. The use of the incinerator to dispose of waste oil, hazardous, or any other waste chemical is prohibited. The use of the incinerator shall be limited to dead animal disposal only unless otherwise approved by the Department's Bureau of Air Quality.

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- D. Composters. Composters used for dead animal disposal shall be designed by a professional engineer or an NRCS representative and operated in accordance with the approved Animal Facility Management Plan.
- E. Disposal of dead animals in a municipal solid waste landfill shall be in accordance with Regulation 61-107.258.
- F. Disposal of animal carcasses or body parts into manure lagoons, manure treatment systems, manure storage ponds, waters of the State, ephemeral and intermittent streams, ditches, and swales is prohibited.
- G. Other methods of dead animal disposal that are not addressed in this regulation may be proposed in the Dead Animal Disposal Plan.

**200.140 Other Requirements.**

- A. There shall be no discharge of pollutants from the operation into surface waters of the State (including ephemeral and intermittent streams). There shall be no discharge of pollutants into groundwater, which could cause groundwater quality not to comply with the groundwater standards established in South Carolina Regulation 61-68.
- B. On a case-by-case basis, the Department may impose additional or more stringent requirements for the management, handling, treatment, storage, or utilization of animal manure and other animal by-products.
- C. The following cases shall be evaluated for additional or more stringent requirements:
  - 1. Source water protection. Facilities and manure utilization areas located within a state approved source water protection area.
  - 2. 303(d) Impaired Waterbodies List. Facilities and manure utilization areas located upstream of an impaired waterbody.
  - 3. Proximity to Outstanding Resource Waters, trout waters, shellfish waters, or potential to adversely affect a federally listed endangered or threatened species, its habitat, or a proposed or designated critical habitat.
  - 4. Aquifer Vulnerability Area, an area where groundwater recharge may affect an aquifer.
- D. If an adverse impact to the waters of the State (including ephemeral and intermittent streams and groundwater) from animal manure and other animal by-products handling, storage, treatment, or utilization practices are documented, through monitoring levels exceeding the standards set forth in Regulation 61-68 or a significant adverse trend occurs, the Department may require the producer responsible for the animal manure and other animal by-products to conduct an investigation to determine the extent of impact. The Department may require the producer to remediate the water to within acceptable levels as set forth in Regulation 61-68.
- E. No manure may be released from the premises of an animal facility to waters of the State (including ephemeral and intermittent streams) unless a permit pursuant to Section 402 or 404 of the CWA has been issued by the Department.

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- F. Animal medical waste cannot be disposed into animal lagoons, treatment systems, or manure storage ponds or land applied with animal manure and other animal by-products.
- G. In the event of a discharge from an animal facility or an animal lagoon, treatment system, or manure storage pond, the owner or operator is required to notify the Department immediately, within 24 hours of the discharge.
- H. When the Department determines that a nuisance exists at an animal facility, the permittee shall take action to correct the nuisance to the degree and within the time frame designated by the Department.
- I. Permittees shall maintain all-weather access roads to their facilities at all times.
- J. The body of vehicles transporting manure shall be wholly enclosed and while in transit, be kept covered with a canvas cover provided with eyelets and rope tie-downs, or any other approved method which shall prevent blowing or spillage of loose material or liquids. Should any spillage occur during the transportation of the manure, the owner/operator shall take immediate steps to clean up the manure.

**200.150 Odor Control Requirements.**

- A. The Animal Facility Management Plan shall contain an odor abatement plan for the animal facility, lagoon, treatment system, manure storage pond, and manure utilization areas, which may consist of the following:
  - 1. Operation and maintenance practices which are used to eliminate or minimize undesirable odor levels in the form of a Best Management Plan for Odor Control;
  - 2. Use of treatment processes for the reduction of undesirable odor levels;
  - 3. Additional setbacks from property lines beyond the minimum setbacks given in this part;
  - 4. Other methods as may be appropriate; or
  - 5. Any combination of these methods.
- B. Producers shall utilize Best Management Practices normally associated with the proper operation and maintenance of an animal facility, lagoon, treatment system, manure storage pond, and any manure utilization area to ensure an undesirable level of odor does not exist.
- C. No producer may cause, allow, or permit emission into the ambient air of any substance or combination of substances in quantities that an undesirable level of odor is determined to result unless preventive measures of the type set out below are taken to abate or control the emission to the satisfaction of the Department. When an odor problem comes to the attention of the Department through field surveillance or specific complaints, the Department shall determine if the odor is at an undesirable level.
- D. After determining an undesirable level of odor exists, the Department shall require remediation of the undesirable level of odor.

- E. The Department may require these abatement or control practices, including, but not limited to the following:
1. Remove or dispose of odorous materials;
  2. Methods in handling and storage of odorous materials that minimize emissions;
    - a. Dry manure to a moisture content of 50% or less;
    - b. Use disinfection to kill microorganisms present in manure;
    - c. Aerate manure;
    - d. Compost solid manure and other animal by-products;
    - e. Utilize Odor Control Additives.
  3. Prescribed standards in the maintenance of premises to reduce odorous emissions;
    - a. Filtration (biofilters or other filter used to remove dust and odor) of ventilation air;
    - b. Keep animals clean or separate from manure;
    - c. Adjust number of animals confined in the pens or paddocks in accordance with Clemson University Animal Space Guidelines.
    - d. Increase the frequency of manure removal from animal houses;
    - e. Keep feeding areas dry, and minimize waste feed accumulation;
    - f. Maintain feedlot surfaces in a dry condition (25% -40% moisture content), with effective dust control;
    - g. Maintain the dead animal disposal system;
    - h. Cover or reduce the surface area of manure and other animal by-products storage. (Vents shall be provided for the release of pressure created by manure gases if completely sealed covers are used);
    - i. Plant trees around or downwind of the manure and other animal by-products storage and treatment facilities;
    - j. Incorporate manure and other animal by-products immediately after land application;
    - k. Select appropriate times for land application.
  4. Best Available Technology to reduce odorous emissions.
- F. If the permittee fails to control or abate the odor problems at a land application site to the satisfaction and within a time frame determined by the Department, approval for land application of manure on the manure utilization area in question may be revoked. Additional land may be

required to be added to the Animal Facility Management Plan, if necessary to provide a sufficient amount of land for manure utilization.

**200.160 Vector Control Requirements.**

- A. Vector Abatement Plan. The Vector Abatement Plan shall at a minimum consist of the following:
  - 1. Normal management practices used at the animal facility, lagoon, treatment system, manure storage pond, and manure utilization areas to ensure there is no accumulation of organic or inorganic materials to the extent and in such a manner as to create a harborage for rodents or other vectors that may be dangerous to public health.
  - 2. A list of specific actions to be taken by the producer if vectors are identified as a problem at the animal facility, lagoon, treatment system, manure storage pond, or any manure utilization area. These actions should be listed for each vector problem, e.g., actions to be taken for fly problems, actions to be taken for rodent problems, etc.
- B. No producer may cause, allow, or permit vectors to breed or accumulate in quantities that result in a nuisance level, as determined by the Department.
- C. The Department shall require remediation of the problem to the satisfaction of the Department, after determining a vector problem exists.
- D. The Department may require abatement or control practices, including, but not limited to the following:
  - 1. Remove and properly dispose of vector infested materials;
  - 2. Methods in handling and storage of materials that minimize vector attraction;
    - a. Remove spilled or spoiled feed from the house as soon as practicably possible not to exceed 48 hours, unless otherwise approved by the Department;
    - b. Remove and properly dispose of dead animals as soon as practicably possible not to exceed 24 hours, unless otherwise approved by the Department;
    - c. Increase the frequency of manure removal from animal houses;
    - d. Prevent solids buildup in the pit storage or on the floors or walkways;
    - e. Remove excess manure packs along walls and curtains;
    - f. Compost solid manure and other animal by-products;
    - g. Appropriately use vector control chemicals, poisons or insecticides (take caution to prevent insecticide resistance problems);
    - h. Utilize traps, or electrically charged devices;
    - i. Utilize biological agents;

- j. Utilize Integrated Pest Management;
  - k. Incorporate manure and other animal by-products immediately after land application.
3. Prescribed standards in the maintenance of premises to reduce vector attraction;
- a. Remove any standing water that may be a breeding area for vectors;
  - b. Keep animals clean or separated from manure;
  - c. Keep facility clean and free from trash or debris;
  - d. Properly utilize and service bait stations;
  - e. Keep feeding areas dry, and minimize waste feed accumulation;
  - f. Keep grass and weeds mowed around the facility and manure storage or treatment areas;
  - g. Properly maintain the dead animal disposal system;
  - h. Cover or reduce the surface area of manure and other animal by-products storage. (Vents shall be provided for release of pressure created by manure gases if completely sealed covers are used);
  - i. Properly store feed and feed supplements;
  - j. Conduct a weekly vector monitoring program;
  - k. Be aware of insecticide resistance problems, and rotate use of different insecticides;
  - l. Prevent and repair leaks in waterers, water troughs or cups;
  - m. Provide grading and drainage around the buildings to prevent rain water from entering the buildings or ponding around the buildings.
4. Utilize the best available control technology to reduce vector attraction and breeding.

**200.170 Record Keeping.**

- A. A copy of the approved Animal Facility Management Plan, including approved updates, and a copy of the permit(s) issued to the producer shall be retained by the permittee for as long as the animal facility is in operation.
- B. All application information submitted to the Department shall be retained by the permittee for eight years. However, if the facility was permitted prior to June 26, 1998, and the permittee has previously discarded these documents since there was no requirement to maintain records at that time, this requirement shall not apply.
- C. Records shall be developed for each manure utilization area. These records shall be kept for eight years. The records shall include the following:



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1. For each time animal manure and other animal by-products are applied to the site, the amount of animal manure and other animal by-products applied (in gallons per acre or pounds per acre, as appropriate), the date and time of application, and the location of application.
  2. All sampling results for animal manure that is land applied;
  3. All soil monitoring results;
  4. All groundwater monitoring results, if applicable; and
  5. Crops grown.
- D. Records for the facility to include the following:
1. Monthly animal count; and
  2. Mortality count and method of disposal.
- E. Records for lagoon or manure storage pond operations to include the following:
1. Monthly water levels of the lagoon and manure storage pond; and
  2. All groundwater monitoring results, if applicable.
- F. All records retained by the producer shall be kept at either the facility, an appropriate business office, or other location as approved by the Department.
- G. All records retained by the producer shall be made available to the Department during normal business hours for review and copying, upon request by the Department.

**200.180 Reporting.**

- A. Large animal facilities (greater than 500,000 pounds normal production live weight) are required to submit an annual report, on a form approved by the Department. The Department may establish reporting requirements in permits as it deems appropriate. These reporting requirements may include the following:
1. All manure sampling results for the last year and the latest rolling average concentration for the land limiting constituent;
  2. All soil monitoring results;
  3. All groundwater monitoring results, if applicable;
  4. Calculated (permitted application rate) application rates for all manure utilization areas; and
  5. The adjusted application rates, if applicable, based on the most recent animal manure sampling, soil samples, and crop yield(s). The application rate change could also be due to a change in field use, crop grown or other factors.

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- B. The Department may require small animal facilities (500,000 pounds or less of normal production live weight) to submit annual reports on a case-by-case basis.
- C. The Department may establish permit conditions to require a facility to complete and submit a comprehensive report every five years. The Department shall review this report to confirm that the permitted nutrient application rates have not been exceeded. Based on the results of the review, additional soil and/or groundwater monitoring requirements, permit modification, and/or corrective action may be required.

**200.190 Training Requirements.**

- A. An operator of an animal facility or manure utilization area shall attend a training program on the operation of animal manure management under the program created by Clemson University.
- B. Operators of new animal facilities and large animal facilities (greater than 500,000 pounds normal production live weight) shall be required to obtain certification under the program created by Clemson University. The Department may also require existing operators with documented violations to obtain certification under Clemson's program.
- C. The training and certification program shall be completed by operators of new facilities within one year of the effective date of the issued permit.
- D. The training and/or certification program shall be completed by operators of existing facilities within two years of the effective date of this regulation.
- E. Training and/or certification shall be maintained as long as the facility remains in operation.
- F. Failure to obtain the training and/or certification as provided in this Section shall be deemed a violation of this Regulation.

**200.200 Violations.**

- A. Persons who violate this regulation or any permit issued under this regulation are subject to the penalties in Sections 48-1-320 (Criminal Penalties) and 48-1-330 (Civil Penalties) of the South Carolina Pollution Control Act.
- B. Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required by the Department to be maintained as a condition in a permit, or who alters or falsifies the results obtained by such devices or methods, shall be deemed to have violated a permit condition and shall be subject to the penalties provided for pursuant to 48-1-320 and 48-1-330 of the Code.

**PART 300 Innovative and Alternative Technologies.**

**300.10 General.**

- A. The Department supports and encourages the use of appropriate innovative and alternative technologies.
- B. When innovative or alternative technology is proposed for an agricultural facility for manure and other animal by-products handling, treatment, storage, processing, or utilization, a meeting should be held with the Department prior to the submittal of the project. The purpose of the meeting is for the applicant and the Department to go over the proposed project and the purpose and expected benefits from the use of the innovative or alternative technology.

**300.20 Submittal Requirements.**

- A. When innovative or alternative technology is proposed for an agricultural facility for manure and other animal by-products handling, storage, treatment, processing, or utilization, the applicant shall provide to the Department the submittal information contained in Sections 100.50 or 200.50, as appropriate, and a detailed project report which explains the innovative or alternative technology and the purpose and expected benefits of the proposal.

**300.30 Requirements in Lieu of Requirements Under Part 100 or Part 200 of This Regulation.**

- A. When the Department determines that appropriate alternative or innovative technology is being proposed, the specific requirements given in Part 100 and 200 of this regulation which deal with the purpose or expected benefits of the technology may not have to be met except when required by a specific statute or the Department after review of the project. Requirements in Part 100 that apply to large swine facilities with 1,000,000 pounds or more normal production live weight shall not be reduced or waived.
- B. The Department shall review the project and determine the purpose or benefits of the proposed innovative or alternative technology and determine which requirements under Part 100 or 200 do not have to be met and the appropriate requirements to be used in lieu of the requirements in Part 100 or 200.
- C. When an alternative or innovative technology is proposed, the review criteria shall be established on a case-by-case basis by the Department when the project is received.
- D. When alternative or innovative technology is utilized at an animal facility, the setbacks given in Part 100 or 200 may be reduced by the Department as appropriate. Requirements in Part 100 that apply to large swine facilities with 1,000,000 pounds or more normal production live weight shall not be reduced or waived.

**300.40 Innovative and Alternative Treatment Technologies.**

- A. The following is a list of innovative or alternative technologies for agricultural facilities to consider. This list is not exhaustive. Other processes exist and new technologies are being developed.
  - 1. Aerobic treatment systems or combination aerobic/anaerobic systems;

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2. Artificial (constructed) wetlands use for treatment;
  3. Use of steel tanks;
  4. Use of solid separators;
  5. Methane Gas Recovery Systems;
  6. Surface Water Discharge Systems;
  7. Composting manure solids;
  8. Bioreactors;
  9. Covered liquid or slurry manure storage;
  10. Air Scrubbers;
  11. Ozonation;
  12. Alternative Fuels.
- B. At a minimum, the preparer of the agricultural Animal Facility Management Plan should consider the technologies given in 300.40.A for use at a proposed agricultural facility when the Animal Facility Management Plan is being developed.
- C. When odors exist or are reasonably expected to exist at an undesirable level, the Department may require the use of appropriate innovative or alternative treatment technology to eliminate the odors or the potential for odors.
- D. When the Department determines under Section 100.70.G. (Permit Decision Making Process) that there is reasonable potential for cumulative or secondary impacts due to methane gas from facilities, the Department may require the use of methane gas recovery systems or other appropriate technology to eliminate the potential impacts.

**300.50 Exceptional Quality Compost.**

- A. When the Department determines that the composting of solid animal manure and other animal by-products is performed in such a manner that the odor and vector attraction potential is reduced and the controlled microbial degradation of the organic manure and other animal by-products has been accomplished, this material may be considered exceptional quality compost. Exceptional quality compost may be sold or distributed without regulation by the Department, if it meets the requirements of this part. The Department shall review and approve the composter design and proposal for operation and distribution of the composted product. Composting systems shall be designed by a professional engineer or an engineer with the Natural Resources Conservation Service.
- B. Composting can be subject to nuisance problems such as odors, dusts and vector attraction. Therefore, the composting facility shall incorporate measures to control such conditions. An Odor and Vector Abatement Plan shall be developed for a composting facility.

C. Compost Product Quality Standards.

1. Product Standards are necessary to protect public and environmental health and to ensure a measure of commercial acceptability.
  - a. Based on EPA standards for pathogen reduction, the time/temperature conditions required are equivalent to an average of 128 F (53 C) for 5 consecutive days, 131 F (55 C) for 2.6 consecutive days, or 158 F (70 C) for 30 minutes.
  - b. The composted product shall meet or exceed the minimum standard of mature or very mature compost as set forth in the USDA Test Methods for the Examination of Composting and Compost (TMECC) Section 05.02-G CQCC Maturity Index. A maturity rating shall be given based upon the Maturity Assessment Matrix given in this method.
  - c. When land applied, the compost shall adhere to requirements for constituent concentrations and loading rates as outlined in Part 100.100, Part 200.100, or Part 400.60.
2. Compost products which meet these standards and also comply with pathogen quality and vector attraction standards are considered to be of exceptional quality and can be used without regulatory oversight, other than the compliance of agronomic application rates based on product analysis.
3. If the Department determines that the composting system is not being operated properly or that the composted product is not of an Exceptional Quality, the composted product shall be handled in accordance with the land application requirements of Part 100, 200 or 400 (as applicable) of these regulations.
4. An operable thermometer capable of measuring temperatures within a compost pile shall be kept at the composting facility for monitoring the temperature of each compost pile or batch. A written log of the daily temperature reading should be kept for each batch of compost. Temperatures shall not be allowed to rise above 180 F (82 C), which may cause combustion in the compost pile and start a fire.
5. The composted product shall be analyzed by Clemson University or another Department approved laboratory. The composted product content information along with recommended application rates shall be distributed with the product. The consumer shall be advised that the composted product shall be applied at an agronomic rate.

**300.60 Public Notice Requirements.**

- A. When the Department permits an alternative or innovative technology, the notice on the issuance of the permit required under Sections 100.60.H. or 200.60.H. shall contain a general description of the innovative or alternative process and a summary of the expected benefits.

**Part 400 - Manure Broker Operations.**

**400.10 Purpose and Applicability.**

A. Purpose.

1. To protect the environment and the health and welfare of citizens of the State from pollutants generated by the processing, treatment and land application of dry animal manure and other animal by-products.
2. To establish standards, which consist of general requirements, constituent limits, management practices, and operational standards, for the use of dry animal manure and other animal by-products generated at animal facilities. Standards are included in this part for dry animal manure and other animal by-products applied to the land.
3. To establish standards for the frequency of monitoring and record keeping requirements for brokers who operate dry animal manure and other animal by-products handling businesses.
4. To establish standards for the proper operation and maintenance of dry animal manure and other animal by-products treatment and storage facilities associated with manure brokering operations.
5. To establish criteria for dry animal manure and other animal by-products storage facilities and manure utilization areas location as they relate to protection of the environment and public health. The location of dry animal manure and other animal by-products storage facilities and manure utilization areas as they relate to zoning in an area is not covered in this regulation. Local county or municipal governments may have zoning requirements and these regulations neither interfere with nor restrict such zoning requirements. Permit applicants should contact local municipal and county authorities to determine any local requirements that may be applicable.

B. Applicability.

1. This part applies to:
  - a. All new and expanding dry manure brokering operations;
  - b. All dry animal manure and other animal by-products treatment or storage facilities operated by brokers; and
  - c. Permanent manure utilization areas added to a manure broker management plan.
2. This part applies to all dry animal manure and other animal by-products taken, bought, given or sold by a manure broker.
3. This part applies to all land where dry animal manure and other animal by-products bought, given, taken or sold by a manure broker is applied.
4. This part applies to out-of-state and in-state based manure brokers who accept manure and other animal by-products from agricultural animal facilities located in the State,

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5. This part applies to all manure brokers who bring animal manure and other animal by-products from other states into the state of South Carolina.
6. Part 200.80 C. (Dry Animal manure and other animal by-products Treatment and Storage Facility Siting Requirements) of this regulation applies to dry animal manure and other animal by-products treatment or storage facilities proposed by brokers.
7. If a manure broker proposes to handle, process, treat, or store liquid animal manure as a part of the operation, the requirements of this part shall be met, at a minimum. However, the Department may require that the applicant meet additional requirements applicable to liquid manure that are included in Part 100 and Part 200.
8. Existing brokers that hold a valid permit from the Department are deemed permitted under this regulation, and do not need to apply for a new permit. The deemed permitted brokers shall meet all the requirements of this part.

### **400.20 Permits and Compliance Period.**

- A. **Permit Requirement.** Animal manure and other animal by-products from an animal facility with dry manure handling can only be handled, stored, treated, processed, or land applied in the State in accordance with a permit issued by the Department. The handling, storage, treatment, and final utilization of animal manure and other animal by-products from a manure broker operation shall be permitted under the provisions of this part before the broker can operate in the State.
- B. **Notification Requirements.** The permittee shall notify the Department in writing and receive written Departmental approval, prior to any change in operational procedures in a permitted broker operation, including, but not limited to, the following:
  1. Change in operations or in manure and other animal by-products treatment, handling, or utilization;
  2. Change in contracts routinely used in manure and other animal by-products transfers; or
  3. Termination of operations.

### **400.30 Relationship to Other Regulations.** The following regulations are referenced throughout this part and may apply to facilities covered under this regulation.

- A. Nuisances are addressed in Regulation 61-46.
- B. Application and annual operating fees are addressed in Regulation 61-30.
- C. The proper closeouts of wastewater treatment facilities are addressed in Regulation 61-82. This regulation includes animal manure treatment lagoons and manure storage ponds.
- D. Permitting requirements for concentrated animal feeding operations as defined by Regulation 61-9 are contained in Regulation 61-9.
- E. Setbacks and construction specifications for potable water wells and Monitoring wells shall be in accordance with Regulation 61-71.

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- F. Permits for air emissions from incinerators are contained in Regulation 61-62.
- G. Disposal of animal manure in a municipal solid waste landfill unit is addressed in Regulation 61-107.258.
- H. Disposal of animal manure with domestic or industrial sludge is addressed in Regulation 61-9.
- I. Procedures for contested cases are addressed in Regulation 61-72 and the Rules of the State's Administrative Law Judge Division.
- J. Laboratory Certification is addressed in Regulation 61-81.
- K. Water Classifications and Standards are addressed in Regulation 61-68.

### **400.40 Permit Application Procedures** (Broker Management Plan Submission Requirements).

- A. A broker who proposes to operate a dry animal manure brokering operation or expand an existing operation shall make application for a permit under this part using an application form as designated by the Department. The following information shall be included in the application package.
  - 1. A completed application form.
  - 2. A Broker Management Plan prepared by qualified Natural Resources Conservation Service personnel, a SC registered professional engineer, or other qualified individuals, such as soil scientists. The Comprehensive Nutrient Management Plan shall at a minimum contain:
    - a. Brokering Operation name, address, telephone number, county, and permit number (if applicable);
    - b. Applicant's name, address, and telephone number (if different from above);
    - c. Broker's name;
    - d. Dry Animal manure and other animal by-products Storage or Treatment Facility Information (if applicable):
      - i. Description of animal manure and other animal by-products storage and storage capacity;
      - ii. Description of animal manure and other animal by-products treatment (if any);
      - iii. Facility location description and the zoning or land use restrictions in this area (this information should be obtained from the county). Facility shall meet the siting requirements outlined in Section 200.80.C of this regulation;
    - e. Animal manure and other animal by-products handling and application information shall be included as follows:
      - i. A general crop management plan which includes the optimum time of year of the animal manure and other animal by-products application and how it relates to crop



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type, crop planting, and harvesting schedule (if applicable) in general for manure utilization areas in the State. This information should be used as a guide in the absence of more accurate information. The Plan Preparer may need to include this information for the different regional areas of The State, as necessary, to provide the broker with general crop information for the entire State;

- ii. Type of equipment used to transport and/or spread the animal manure and other animal by-products (if applicable);
  - iii. Description of services provided by the broker (clean-out houses, transport manure and other animal by-products, drop-off only, land application, incorporation of manure and other animal by-products into field, stacking or storing manure and other animal by-products, manure and other animal by-products treatment, etc.);
  - iv. Example of the contract or letter of intent to buy or accept animal manure and other animal by-products between the broker and the producer who is supplying the animal manure and other animal by-products; and
  - v. Example of the manure transfer contract to be used for the transfer of animal manure and other animal by-products between the broker and the person(s) who is accepting or purchasing the animal manure and other animal by-products. The Department has developed a Manure transfer contract that can be used or the broker may develop his own contract as long as it contains the minimum information outlined in part 400.60.B.12.
3. The Broker Management Plan shall contain an odor abatement plan for the dry animal manure and other animal by-products storage or treatment facility or manure utilization areas, as appropriate.
  4. A Vector Abatement Plan shall be developed for the dry animal manure and other animal by-products storage or treatment facility or land application areas, (if applicable).
  5. Soil Monitoring Plan. A soil monitoring plan shall be developed for all broker operations.
  6. Plans and specifications for the construction and operation of all manure and other animal by-products treatment or storage structures, such as composters or manure storage sheds that are to be owned and operated by the brokering operation.
  7. Adjoining property owners written agreement for reduction of setbacks for any manure storage and/or treatment facilities (if applicable).
  8. Application fee and first year's operating fee as established by Regulation 61-30.
- B. The Department may request an applicant to provide any additional information deemed necessary to complete or correct deficiencies in the broker operation permit application prior to processing the application or issuing, modifying, or denying a permit.
- C. Applicants shall submit all required information in a format acceptable to the Department.

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- D. Incomplete submittal packages may be returned to the applicant by the Department. An application package for a permit is complete when the Department receives all of the required information, which has been completed to its satisfaction.
- E. Application packages for permit modifications only need to contain the information applicable to the requested modification.

### **400.50 Permit Decision Making Process.**

- A. No permit shall be issued before the Department receives a complete application for a permit.
- B. After the Department has received a complete application package, a technical review shall be conducted by the Department. The Department may request any additional information or clarification from the applicant or the preparer of the Broker Management Plan to help with the determination on whether a permit should be issued or denied. If a permit application package meets all applicable requirements of this part, a permit may be issued.
- C. A site inspection of any proposed sites for dry animal manure and other animal by-products storage or treatment facilities shall be made by the Department before a permit decision is made.
- D. For permit issuances, the Department, at the expense of the applicant, shall publish a notice of issuance of a permit to operate a dry animal manure brokering operation in a local newspaper of general circulation in the area of the broker's base of operations.
- E. For permit denials, the Department shall give the permit applicant a written explanation, which outlines the specific reasons for the permit denial.
- F. The appeal of a permit decision is governed by the SC Administrative Procedures Act, Regulation 61-72, and the Rules of the State's Administrative Law Judge Division.
- G. When a permit is issued, it shall contain an issue date and an effective date. The effective date shall be at least twenty (20) days after the issue date to allow for any appeals. If a timely appeal is not received, the permit is effective.
- H. Permits issued under this part for broker operations shall be renewed at least every five years. However, subsequent to the issuance of a permit, if the broker operation is not in operation or production for two consecutive years, the permit is no longer valid and a new permit shall be obtained. If the Broker does not apply for permit renewal or does not fulfill the requirements of the permit renewal, the permit is terminated.
- I. An expired broker operation permit which was issued under this part continues in effect until a new permit is effective only if the permittee submits a complete application, to the satisfaction of the Department, at least 120 days before the existing permit expires. The Department may grant permission to submit an application later than the deadline for submission stated above, but no later than the permit expiration date. If the facility has been closed for any two consecutive years since the last permit was issued, the provision for the expiring permit remaining in effect does not apply since the permit is no longer valid. Permittees shall notify the Department in writing when they go out of business.
- J. The Department shall review all broker operation records for permit renewal at the time of application. The Department may require that routine application sites are added to the broker

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management plan. These manure utilization areas that are added to the broker management plan shall meet all the requirements for manure utilization areas included in Part 200 of these regulations.

- K. The brokering operation can only be built (if a manure storage or treatment facility was included) or operated when the permit is effective with no appeals pending. The dry animal manure and other animal by-products treatment or storage facility cannot be placed into operation until the Department grants written authorization to begin operations.
- L. For manure brokers who do not have any constructed facilities associated with their operations, the Department shall issue a permit to operate with an effective date. Once this permit is effective, with no appeals pending, the broker may begin operations. No additional written authorization from the Department shall be required.
- M. For manure brokers who are permitted to construct a storage or treatment facility associated with the brokering operation, authorization to begin operations shall be obtained prior to operation. To receive authorization to begin operations, the broker shall have the preparer of the Broker Management Plan submit to the Department written certification that the construction of the dry animal manure and other animal by-products treatment or storage facility has been completed in accordance with the approved Broker Management Plan and the requirements of this regulation.
- N. The Department may conduct a final inspection of any dry animal manure and other animal by-products treatment or storage facilities before granting authorization to a broker to begin operations (if applicable).
- O. The Department shall grant written authorization for the broker to begin operations of the dry animal manure and other animal by-products treatment or storage facility after it has received the certification statement in 400.50.M and the results of the final inspection, if conducted, are satisfactory.

### **400.60 Manure Utilization Area Requirements.**

- A. **Application Rates.** The Department shall approve a Broker Management Plan that establishes application rates based upon the limiting constituent (a nutrient or other constituent as given in item 400.60.B). The limiting constituent shall be Nitrogen, unless the soil test results exceed the limits for phosphorus. More information on maximum allowable constituent concentrations are outlined in item 400.60.B and item 400.60.C.
- B. **Constituent Limits for Land Application of Dry Animal manure and other animal by-products and Operational Practices for Land Application.**
  - 1. **Dry animal manure and other animal by-products.** When the animal manure analysis indicates there are high levels of arsenic, copper, zinc, or other constituent of concern, the producer shall comply with the following criteria:
    - a. **Constituent Limits.** If animal manure and other animal by-products subject to a constituent limit is applied to land, either:
      - i. The cumulative loading rate for each constituent shall not exceed the loading rate in Table 1 of Section 400.60; or

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- ii. The concentration of each constituent in the animal manure and other animal by-products shall not exceed the concentration in Table 2 of Section 400.60.
- b. Constituent concentrations and loading rates - animal manure and other animal by-products.
  - i. Cumulative constituent loading rates.

<b>TABLE 1 OF SECTION 400.60 - CUMULATIVE CONSTITUENT LOADING RATES</b>		
<i>Constituent</i>	<i>Cumulative Constituent Loading Rate (kilograms per hectare)</i>	<i>Cumulative Constituent Loading Rate (pounds per acre)</i>
<b>Arsenic</b>	41	37
<b>Copper</b>	1500	1339
<b>Zinc</b>	2800	2499

- ii. Constituent concentrations.

<b>TABLE 2 OF SECTION 400.60 - CONSTITUENT CONCENTRATIONS</b>	
<i>Constituent</i>	<i>Monthly Average Concentrations - Dry weight basis (mg per kg)</i>
<b>Arsenic</b>	41
<b>Copper</b>	1500
<b>Zinc</b>	2800

- iii. Annual constituent loading rates.

<b>TABLE 3 OF SECTION 400.60 - ANNUAL CONSTITUENT LOADING RATES</b>		
<i>Constituent</i>	<i>Annual Constituent Loading Rate (kilograms/hectare/365-day period)</i>	<i>Annual Constituent Loading Rate (pounds per acre per 365-day period)</i>
<b>Arsenic</b>	2.0	1.8
<b>Copper</b>	75	67
<b>Zinc</b>	140	125

- c. Additional constituent limits may be required, from the application information or subsequent monitoring in a permit thereafter, but such needs shall be assessed on an individual project basis.
- d. No person shall apply animal manure and other animal by-products to land if any of the loading rates in Table 1 of Section 400.60.B.1 have been reached.
- e. No person shall apply animal manure and other animal by-products to land during a 365-day period after the annual application rate in Table 3 of Section 400.60.B.1 has been reached.
- f. If animal manure and other animal by-products have not been applied to the site, the cumulative amount for each constituent listed in Table 2 of Section 400.60.B.1 may be applied to the site in accordance with Section 400.60.B.1.a.i (cumulative loading rate shall not exceed the cumulative constituent loading rate).

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- g. If animal manure and other animal by-products have been applied to the site and the cumulative amount of each constituent applied to the site in the animal manure and other animal by-products is known, the cumulative amount of each constituent applied to the site shall be used to determine the additional amount of each constituent that can be applied to the site in accordance with Section 400.60.B.1.a.i (cumulative loading rate shall not exceed the cumulative constituent loading rate).
  - h. Manure application shall not exceed the agronomic rate of application for plant available nitrogen (PAN) for the intended crop(s) on an annual basis. For those years that fertilizer is land applied, manures in combination with the fertilizer shall not exceed the agronomic rate of nutrient utilization of the intended crop(s).
2. Any person who land applies animal manure and other animal by-products shall ensure that the applicable requirements in this part are met when the animal manure and other animal by-products are applied to the land.
- C. Requirements for the land application of animal manure and other animal by-products.
- 1. Animal manure and other animal by-products shall not be applied to land that is saturated from recent precipitation, flooded, frozen, or snow-covered. Animal manure and other animal by-products shall not be applied during inclement weather, or when a significant rain event is forecasted to occur within 48 hours.
  - 2. Animal manure and other animal by-products shall not be placed directly in groundwater.
  - 3. Animal manure shall not be applied to cropland more than 30 days before planting or during dormant periods for perennial species, unless otherwise approved by the Department in an emergency situation.
  - 4. The land application equipment, when used once or more per year, shall be calibrated at least annually by the person who land applies animal manure; more frequent calibrations may be required in a permit to ensure that proper application rates are being attained. If the land application equipment has not been used in over a year, the equipment shall be calibrated prior to use.
  - 5. If the broker chooses to offer manure analysis as a service, the manure shall be analyzed at least once per year. If the broker does not perform manure analysis, the animal producer shall provide the broker with a copy of the most recent manure analysis. Dry animal manure information (as appropriate) shall be included as follows:
    - a. Dry animal manure shall be analyzed for the following:
      - i. Nutrients (on a dry weight basis).
        - (a) Total Kjeldahl Nitrogen (mg/kg).
        - (b) Total inorganic nitrogen (mg/kg).
        - (c) Total ammonia nitrogen (mg/kg) and Total nitrate, nitrogen (mg/kg).
        - (d) P<sub>2</sub>O<sub>5</sub> (mg/kg).

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- (e) K<sub>2</sub>O (mg/kg).
      - (f) Calcium Carbonate equivalency (if animal manure is alkaline stabilized).
    - ii. Constituents (on a dry weight basis).
      - (a) Arsenic (mg/kg).
      - (b) Copper (mg/kg).
      - (c) Zinc (mg/kg).
  - b. Name, address, and telephone number of the laboratory conducting the analyses.
  - c. Analysis shall be conducted by a laboratory certified by the Department. This laboratory shall have and maintain certification for the constituents to be analyzed.
6. Permittees do not have to analyze for any constituent that they can demonstrate to the satisfaction of the Department is not present in their manure.
7. No person(s) accepting or purchasing manure or other animal by-products from a manure broker shall apply animal manure and other animal by-products to the land except in accordance with the requirements in this part. The broker shall inform the recipient of their responsibility to properly manage the land application of manure to prevent discharge of pollutants to waters of the State (including ephemeral and intermittent streams).
8. An animal producer who supplies animal manure to a broker shall provide the broker with the concentration of plant available nitrogen, phosphorus, potassium and the concentration of all other constituents listed in the permit. Unless the broker is providing an additional service of performing the manure analysis, which shall be agreed upon up-front in the manure transfer contract.
9. Animal manure and other animal by-products shall not be applied to or discharged onto a land surface when the vertical separation between the manure and other animal by-products and the seasonal water table is less than 1.5 feet at the time of application. For special cases, no land application can occur when the vertical separation from the ground surface to the water table is less than 1.5 feet at the time of application unless a situation is deemed an emergency with departmental concurrence.
10. Soil sampling (6-8 inches depth) shall be conducted for each field prior to manure application to determine the appropriate application rate. Each field should be sampled once per year. If manure application frequency will be less than once per year, at least one soil sample should be taken prior to returning to that field for land application again. This sample shall not be more than one year old. This information shall be obtained from person(s) accepting dry animal manure and other animal by-products prior to the delivery or land application of animal manure and other animal by-products by the broker. Soil phosphorus shall be addressed according to NRCS-CPS in the broker management plan. The Department may require additional limits on soil phosphorus in the permit conditions. Additional soil sampling may be required by the Department on a case-by-case basis to ensure there is no potential for groundwater contamination.

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11. The permittee shall obtain information needed to comply with the requirements in this part.
12. A Manure Transfer Contract shall be developed for the Broker to use with any person who is accepting manure in quantities greater than twelve (12) tons per recipient per year. The contract should contain, at a minimum, the following information:
  - a. Name, address, county and telephone number of the person who is purchasing or accepting animal manure and other animal by-products;
  - b. Manure nutrient composition (pounds per ton of Plant Available Nitrogen, Phosphorus, and Potassium) to be filled in or provided by the broker. This information shall be obtained from the manure analysis results and the broker shall provide this information on the manure transfer contract;
  - c. Land Application Field Information:
    - i. Physical Description (acreage, crop, soil type);
    - ii. Soil Test Results (Phosphorus, Zinc, and Copper in pounds/acre); and
    - iii. Recommended Application Rates (Nitrogen, Phosphorus, and Potassium in pounds per acre as reported on a soil test).
  - d. Attach a copy of a soils map, topographic map, county tax map, plat, FSA map, OR a site plan sketch which includes the following information:
    - i. Manure application area with setbacks outlined;
    - ii. Known water supply wells within 100 feet of the property line;
    - iii. Adjacent surface waters, including ditches, streams, creeks and ponds; and
    - iv. Identification of roads and highways to indicate location.
  - e. Description of application equipment and name of person to land apply manure;
  - f. Signed agreement that informs the land owner that he is responsible and liable for land applying the animal manure and other animal by-products in accordance with these regulations; and
  - g. A copy of the land application requirements shall be provided to the recipient of the manure.
13. All persons who routinely accept manure and other animal by-products, in quantities greater than twelve tons per recipient per year, from a broker shall be listed in the approved Broker Management Plan at the time of permit renewal. The Broker Management Plan shall include the appropriate manure utilization area information for the sites routinely used by other persons. The person accepting the manure may be required by the Department to have a Management Plan and a permit for their manure utilization areas.

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14. Dead animals shall be removed from dry manure prior to land application. The livestock producer is responsible for removing all dead animals from the manure prior to transfer. Manure brokers may not accept manure that contains dead animals, unless the broker plans to separate out the dead animals and handle the dead animals in accordance with a dead animal disposal plan approved by the Department.
15. When the Department receives nuisance complaints on a land application site, the Department may restrict land application of animal manure on the site completely or during certain time periods.
16. The Department may require manure, spread on cropland, to be disked in immediately.
17. Manure (solid or liquid) shall only be applied when weather and soil conditions are favorable and when prevailing winds are blowing away from nearby opposite dwellings.
18. Any manure that contains fly larvae and fly pupae shall be disked into the ground immediately or be treated with an approved and effective fly control method. If the manure utilization on a land application area creates a fly problem for the community, the owner and/or applicator shall be responsible for the control of all flies resulting from the application of the manure. Assistance in fly control and fly problem prevention can be obtained through contact with the local Clemson Extension Service Office.
19. Manure shall not be spread in the floodplain if there is danger of a major runoff event, unless the manure is incorporated during application or immediately after application.
20. Should the manure be stockpiled more than three (3) days, the manure shall be stored on a concrete pad and/or other acceptable means and covered with an acceptable cover to prevent odors, vectors and runoff. The cover should be properly vented with screen wire to let the gases escape. The edges of the cover should be properly anchored.
21. Manure Brokers and other manure transporters shall use all sanitary precautions in the collection, storage, transportation, and spreading of manures. The body of all vehicles transporting manure shall be wholly enclosed, or shall at all times, while in transit, be kept covered with an appropriate cover provided with eyelets and rope tie-downs, or any other approved method which shall prevent blowing or spillage of loose material or liquids. Should any spillage occur during the transportation of the manure, the owner/operator shall take immediate steps to clean up the manure.

### D. Setbacks for manure utilization areas.

1. The minimum separation distance in feet required between a manure utilization area and a residence is located is 300 feet. If there are no residences within 300 feet of the manure utilization area, manure may be utilized up to the property line. The setback may be waived with the written consent of the owner of the residence. If the application method is injection or immediate incorporation, manure can be utilized up to the property line.
2. The minimum separation distance in feet required between a manure utilization area and waters of the State (including ephemeral and intermittent streams) is 100 feet when dry manure is spread on the ground surface, 75 feet when incorporation is the application method, and 50 feet when injection is the application method. When incorporation is



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accomplished within twenty-four hours of the initial application, the distance can be reduced to 50 feet.

3. The minimum separation distance in feet required between a manure utilization area and ditches and swales that discharge to waters of the State including ephemeral and intermittent streams is 50 feet.
  4. The minimum separation distance in feet required between a manure utilization area and a potable drinking water well is 100 feet.
  5. The Department may establish additional application buffer setbacks for property boundaries, roadways, residential developments, dwellings, water wells, drainage ways, and surface water (including ephemeral and intermittent streams) as deemed necessary to protect public health and the environment. Factors taken into consideration in the establishment of additional setbacks would be animal manure application method, adjacent land usage, public access, aerosols, runoff prevention, adjacent groundwater usage, and potential for vectors and odors.
- E. The Department may establish additional permitting restrictions based upon soil and groundwater conditions to ensure protection of the groundwater and surface waters of the State (including ephemeral and intermittent streams). Criteria may include but is not limited to soil permeability, clay content, depth to bedrock, rock outcroppings, and depth to groundwater.
- F. The Department may establish permit conditions to require that animal manure and other animal by-products application rates remain consistent with the lime and fertilizer requirements for the cover, feed, food, and fiber crops based on land grant universities (in the southeast) published lime and fertilizer recommendations (such as the Lime and Fertilizer Recommendations, Clemson Extension Services, Circular 476).
- G. The Department may establish minimum requirements in permits for soil and/or groundwater monitoring, for manure utilization areas. Factors taken into consideration in the establishment of soil and groundwater monitoring shall include groundwater depth, operation flexibility, application frequency, type of animal manure, size of manure utilization area, and loading rate.
1. The Department may establish pre-application and post-application site monitoring requirements in permits for limiting nutrients or limiting constituents as determined by the Department.
  2. The Department may establish permit conditions, which require the permittee to reduce, modify, or eliminate the animal manure and other animal by-products applications based on the results of this monitoring data.
  3. The Department may modify, revoke and reissue, or revoke a permit based on the monitoring data.
- H. The Department may require manure to be treated for odor control (i.e., composting or lime stabilizing for dry operations) prior to land application if the manure is not incorporated into the soil at the time of land application or if odors exist or are suspected to exist at an undesirable level. Manure, which has a very undesirable level of odor before treatment, such as turkey manure, shall not normally be permitted to be land applied on land near residences without appropriate treatment for odor control.

**400.70 Other Requirements.**

- A. On a case-by-case basis, the Department may impose additional or more stringent requirements for the management, handling, treatment, storage, or utilization of animal manure and other animal by-products.
- B. The following cases shall be evaluated for additional or more stringent requirements:
  - 1. Source water protection. Facilities and manure utilization areas located within a state approved source water protection area.
  - 2. 303(d) Impaired Waterbodies List. Facilities and manure utilization areas located upstream of an impaired waterbody.
  - 3. Proximity to Outstanding Resource Waters, trout waters, shellfish waters, or would adversely affect a federally listed endangered or threatened species, its habitat, or a proposed or designated critical habitat.
  - 4. Aquifer Vulnerability Area, an area where groundwater recharge may affect an aquifer.
- C. If an adverse impact to the waters of the State (including ephemeral and intermittent streams) from animal manure handling, storage, treatment, or utilization practices are documented, through monitoring levels exceeding the standards set forth in Regulation 61-68 or a significant adverse trend occurs, the Department may require the person responsible for the animal manure to conduct an investigation to determine the extent of impact. The Department may require the person to remediate the water to within acceptable levels as set forth in Regulation 61-68.
- D. Animal manure shall not be released to waters of the State (including ephemeral and intermittent streams).
- E. Animal medical waste shall not be land applied with animal manure and other animal by-products.
- F. Animal manure and other animal by-products shall not be removed by a manure broker from a quarantined farm, until that quarantine has been lifted by the State Veterinarian.
- G. Animal manure and other animal by-products that are quarantined for noxious weed seed contamination shall not be removed by a manure broker unless approved by Clemson Plant Industry.

**400.80 Odor Control Requirements.**

- A. An odor abatement plan shall be included, which may consist of the following:
  - 1. Operation and maintenance practices which are used to eliminate or minimize undesirable odor levels in the form of a Best Management Plan for Odor Control;
  - 2. Use of treatment processes for the reduction of undesirable odor levels;
  - 3. Additional setbacks from property lines beyond the minimum setbacks given in this part;
  - 4. Other methods as may be appropriate; or

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5. Any combination of these methods.
  - B. Person(s) who transport, treat, store or land apply manure and other animal by-products shall utilize Best Management Practices normally associated with the proper operation and maintenance of an animal manure and other animal by-products treatment or storage facility and any manure utilization area to ensure an undesirable level of odor does not exist.
  - C. No person(s) who transport, treat, store or land apply manure and other animal by-products may cause, allow, or permit emission into the ambient air of any substance or combination of substances in quantities that an undesirable level of odor is determined to result unless preventive measures of the type set out below are taken to abate or control the emission to the satisfaction of the Department. When an odor problem comes to the attention of the Department through field surveillance or specific complaints, the Department shall determine if the odor is at an undesirable level.
  - D. After determining an undesirable level of odor exists, the Department shall require remediation of the undesirable level of odor.
  - E. The Department may require these abatement or control practices:
    1. Remove or dispose of odorous materials;
    2. Methods in handling and storage of odorous materials that minimize emissions;
      - a. Dry manure to a moisture content of 50% or less;
      - b. Use disinfection to kill microorganisms present in manure;
      - c. Aerate manure;
      - d. Compost solid manure and other animal by-products;
      - e. Utilize Odor Control Additives.
    3. Prescribed standards in the maintenance of premises to reduce odorous emissions;
      - a. Cover or reduce the surface area of manure and other animal by-products storage. (Vents shall be provided for release of pressure created by manure gases if completely sealed covers are utilized);
      - b. Plant trees around or downwind of the manure and other animal by-products storage and treatment facilities;
      - c. Incorporate manure and other animal by-products immediately after land application;
      - d. Select appropriate times for land application.
    4. Best available control technology to reduce odorous emissions.
  - F. If the permittee fails to control or abate the odor problems at a land application site to the satisfaction and within a time frame determined by the Department, approval for land application

of manure on the manure utilization area in question may be revoked. Additional land may be required to be added to the animal facility management plan, if necessary to provide a sufficient amount of land for manure utilization.

**400.90 Vector Control Requirements.**

- A. A Vector Abatement Plan shall be developed for the dry animal manure and other animal by-products storage or treatment facility or land application areas, (if applicable). The Vector Abatement Plan shall at a minimum consist of the following:
  - 1. Normal management practices used at the dry animal manure and other animal by-products storage or treatment facility to ensure there is no accumulation of organic or inorganic materials to the extent and in such a manner as to create a harborage for rodents or other vectors that may be dangerous to public health.
  - 2. A list of specific actions to be taken by the broker if vectors are identified as a problem at the dry animal manure and other animal by-products storage or treatment facility or land application site. These actions should be listed for each vector problem, e.g., actions to be taken for fly problems, actions to be taken for rodent problems, etc.
  - 3. If the broker is not performing land application, but is only transferring the manure to a person who is accepting responsibility for handling the manure in accordance with these regulations, the person accepting the manure shall be responsible for correcting any nuisance problems resulting from the land application of manure.
- B. No broker may cause, allow, or permit vectors to breed or accumulate in quantities that result in a nuisance level, as determined by the Department.
- C. After determining a vector problem exists, the Department shall require remediation of the problem to the satisfaction of the Department.
- D. The Department may require abatement or control practices, including, but not limited to the following:
  - 1. Remove and properly dispose of vector infested materials;
  - 2. Methods in handling and storage of materials that minimize vector attraction;
    - a. Compost solid manure;
    - b. Appropriately use vector control chemicals, poisons or insecticides (take caution to prevent insecticide resistance problems);
    - c. Utilize traps, or electrically charged devices;
    - d. Utilize biological agents;
    - e. Utilize Integrated Pest Management;
    - f. Incorporate manure and other animal by-products immediately after land application.

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3. Prescribed standards in the maintenance of premises to reduce vector attraction;
  - a. Remove any standing water that may be a breeding area for vectors;
  - b. Keep storage and/or treatment facilities clean and free from trash or debris;
  - c. Properly use and service bait stations;
  - d. Keep grass and weeds mowed around the manure storage and/or treatment areas;
  - e. Cover or reduce the surface area of manure and other animal by-products storage. (Vents shall be provided for release of pressure created by manure gases if completely sealed covers are used);
  - f. Conduct a weekly vector monitoring program;
  - g. Be aware of insecticide resistance problems, and rotate use of different insecticides;
  - h. Ensure proper grading and drainage around the buildings to prevent rain water from entering the buildings or ponding around the buildings.
4. Utilize the best available control technology to reduce vector attraction and breeding.

### **400.100 Record Keeping.**

- A. A copy of the approved Broker Management Plan, including approved updates, and a copy of the permit(s) issued to the broker shall be retained by the permittee for as long as the broker is in operation.
- B. All application information submitted to the Department shall be retained by the permittee for eight years. However, if the facility was permitted prior to the effective date of this regulation, and the permittee has previously discarded these documents since there was no requirement to maintain records at that time, this requirement shall not apply.
- C. Animal manure Records. These records shall be kept for four years. The records shall include the following:
  1. Name, address, county and phone number of all producers from whom the broker purchases or accepts animal manure;
  2. Sampling results for the animal manure;
  3. Amount (in tons) of animal manure obtained from each producer; and
  4. Date of transfer.
- D. All completed Manure Transfer contracts, including soil analysis results, between the broker and the person(s) purchasing or accepting animal manure shall be kept by the broker for eight years.
- E. All records retained by the broker shall be kept at an appropriate business office, or other location as approved by the Department.

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- F. All records retained by the broker shall be made available to the Department during normal business hours for review and copying, upon request by the Department.

### **400.110 Reporting.**

- A. The Department may establish reporting requirements in permits as it deems appropriate. These reporting requirements may include the following:
  - 1. Manure Balance Sheet. Listing the producer/farm name and amount (tons) of manure provided and a listing of all person(s) who bought or accepted animal manure and the amount (tons) accepted. Any manure that is currently in storage or treatment structures at the broker facility shall be accounted for in this report.
- B. The Department may require on a case-by-case basis any of the required records, as outlined in section 400.100, to be reported on an annual basis.

### **400.120 Training Requirements.**

- A. An operator of a manure brokering business shall be trained on the operation of animal manure management under the poultry version of the certification program created by Clemson University. The certification shall be obtained within one year of the effective date of the issued permit.
- B. Failure to obtain the training and education as provided in this Section shall be deemed a violation of this Regulation and a violation of the permit.

### **400.130 Violations.**

- A. Persons who violate this regulation or any permit issued under this regulation are subject to the penalties in Sections 48-1-320 (Criminal Penalties) and 48-1-330 (Civil Penalties) of the South Carolina Pollution Control Act.

**Part 500 - Integrator Registration Program.**

**500.10 General.**

- A. The Department encourages Integrators to be involved with the permitting and compliance of their growers.
- B. The Department encourages Integrators to assist growers in the disposal of dead animals and the proper utilization of animal manure.
- C. Integrating companies shall inform each prospective grower that they are required by State law to obtain a permit from the Department. The Department recommends that growers verify an exemption status from the Department prior to construction of an agricultural animal facility.

**500.20 Submittal Requirements.**

- A. Each integrating company that contracts with animal producers that operate facilities located within the State shall submit to the Department a Request for Registration form, as provided by the Department. The integrator shall work with the Department to identify growers that are unpermitted. The Department may schedule an annual inspection in order to review grower lists and identify unpermitted farms. The integrator shall provide the Department any additional information needed to contact unpermitted growers contracting with their company. Existing Integrators or integrating companies shall submit a request form to the Department no later than one year after the effective date of these regulations.
- B. Animal Manure Analysis Information. If the producers that contract with the integrator use the same feed rations and have dry animal manure analyses that come out to be consistently the same, they may qualify to use one analysis for their individual testing requirement. However, if any of these producers utilize a different feed ration, utilize a significant amount of medications as compared to the others, or use any other inconsistent bedding materials, animal manure treatments or vector treatments, they shall be required to run a separate and individual analysis on their animal manure. The Integrator is responsible for notifying the Department of any significant feed composition changes. This benefit shall not be available to liquid manure handling systems, since other factors specific to each site, such as rainfall could affect the nutrient analysis of the manure.
- C. If an integrating company can certify through general feed composition reports that a certain constituent, such as arsenic, is not present in their feed or medications, the producers that contract with that integrator may be exempt from testing for that constituent. The integrator shall submit a written request, along with general feed composition reports, and a list of growers who are using this feed ration. The Department shall approve this report in writing before the constituent can be removed from the analysis requirements. Each grower who is included in this exemption shall be notified in writing by the Department.
- D. Swine Integrators must submit a plan addressing cumulative environmental and public health impacts of their contracted facilities with their first request for integrator certification. The plan must cover the integrator's existing contract growers and the projected 3 year increase in the number of permitted facilities and swine. The plan must include:
  - 1. The general area served by the integrator;
  - 2. The number of existing swine facilities under contract;

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3. The number of swine grown (broken down by facility);
  4. The number of projected new facilities (broken down by facility size) with the total number of swine;
  5. The integrating company's: procedures, protocols, policies, programs, required manure treatment and utilization technologies, etc. to ensure the cumulative impacts from their contracted facilities do not cause any adverse impact to the environment or public health; and
  6. An assessment of the adverse environmental or public impact, if any, from the existing and proposed swine facilities under contract with the integrator.
- E. The Swine Integrator must also provide to the Department any other supplemental information that may reasonably be required by the Department to assess cumulative adverse environmental or public health impacts.
- F. The environmental and public health impact assessment plan must be approved by the Department before integrator certification can be granted. Once approved, the integrator may update the plan at any time. Also, the Department may require the plan be updated from time to time.
- G. All permits for growers under contract with the integrator must be in accordance with the integrator's approved plan.

### **500.30 Certificate of Integrator Registration.**

- A. The Department shall issue a certificate of integrator registration to integrators or integrating companies that meet all the requirements of this part.
- B. All integrators or integrating companies shall hold a valid certificate of registration to operate in the State.
- C. Certificates of integrator registration issued under this part do not have any administrative procedures for public notice under these regulations.
- D. The certificate of integrator registration may be modified, revoked or reissued if the requirements of this part are not met by the integrator or integrating company.

### **500.40 Reporting.**

- A. The Department may establish reporting requirements for integrators as it deems appropriate. These reporting requirements may include the following:
  1. General feed composition reports. Feed composition reports provided in accordance with this section shall be exempt from disclosure under the Freedom of Information Act; and
  2. A list of any special treatments or chemicals added to the manure or manure storage structure that are required by the integrator.



**500.50 Other Requirements.**

- A. An integrator or integrating company shall not knowingly provide animals to an animal facility that does not hold a valid agricultural permit from the Department. Any existing, unexpired contracts may be fulfilled, but the integrator may not renew the contract until the facility has obtained a valid permit. The Department shall allow a grace period of at least one year for existing unpermitted farms.
- B. The integrator or integrating company shall take reasonable steps to ensure that the animal facilities that are under contract with the company are trained and educated on compliance with their permit to include the following:
  - 1. Notify growers of their responsibility to update their Animal Facility Management Plan and permit if changes are made in the operation of the farm; and
  - 2. Provide information on technical assistance to its growers on compliance and assist the producers in selecting a corrective action.

**500.60 Violations.**

- A. Persons who violate this regulation or any permit issued under this regulation are subject to the penalties in Sections 48-1-320 (Criminal Penalties) and 48-1-330 (Civil Penalties) of the South Carolina Pollution Control Act.

**Part 600 – Severability.**

- A. Should a section, paragraph, sentence, clause, phrase, or other part of this regulation be declared invalid for any reason, the remainder shall not be affected.