



University of Arkansas Division of Agriculture

An Agricultural Law Research Project

Application Restrictions

South Carolina

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Application Restrictions

STATE OF SOUTH CAROLINA

- 1) S.C. Code Ann. §§ 47-20-165, 48-1-10(23), 48-1-30, 90, 100; S.C. Code Regs. §§ 61-43-50, 100.70(H), .80, .100, .110
- 2) S.C. Code Ann. §§ 48-1-10(23), 48-1-30, 90, 100; S.C. Code Regs. §§ 61-43-200.70(F), .80, .100, .110
- 3) S.C. Code Ann. §§ 48-1-30, 90, 100; S.C. Code Regs. § 61-43-400.60

The statutes and Constitution are current through the 2018 regular and special legislative sessions. The statutes are subject to changes by the South Carolina Legislative Services Agency.

1) S.C. Code Ann. §§ 47-20-165, 48-1-10(23), 48-1-30, 90, 100; S.C. Code Regs. §§ 61-43-50, 100.70(H), .80, .100, .110

§ 47-20-165. Promulgation and effect of separate and distinct confined swine feeding operations regulations.

(A) In addition to any regulations authorized to be promulgated pursuant to this chapter, the Department of Health and Environmental Control shall promulgate regulations regarding confined swine feeding operations which are separate and distinct from the regulations promulgated pursuant to this chapter.

(B) The separate and distinct regulations shall not be proposed until after the regulations required to be promulgated pursuant to this chapter take effect.

(C) The provisions of this chapter and Section 46-45-30 are severable and enforceable irrespective of whether a particular regulation has been promulgated.

(D)

(1) The separate and distinct regulations shall include, but are not limited to, including the following:

- (a) definitions;
- (b) setback requirements;
- (c) land application rates for animal waste and waste storage ponds;

- (d) lagoon construction and maintenance requirements;
- (e) odor control;
- (f) vector control;
- (g) application and annual operation fees;
- (h) monitoring wells;
- (i) certification of owners or operators of confined animal feeding operations and waste management systems;
- (j) public notice requirements; and
- (k) permit renewals.

(2) In addition, the separate and distinct regulations shall be based upon an evaluation of the impact upon the interests of the environment and agribusiness.

(3) In promulgating the separate and distinct regulations, the department shall use the limits, distances, and other requirements provided in this chapter as the basis for the regulations. When the department submits the proposed regulations to the General Assembly for approval, in addition to the information which must be filed pursuant to Section 1-23-120 of the 1976 Code, the department shall include an explanation for each change proposed in the separate and distinct regulations from the requirements of this chapter.

(E) When the regulations promulgated by the department pursuant to this section are approved by the General Assembly or take effect without action of the General Assembly, the provisions of this chapter and Section 46-45-30, and any regulations promulgated pursuant to authority granted in this chapter, are thereby repealed and shall no longer have the force and effect of law.

§ 48-1-10. Short title; definitions.

This chapter may be cited as the “Pollution Control Act” and, when used herein, unless the context otherwise requires:

[. . .]

(23) “Point source” means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel, or other floating craft, from which pollutants are or may be discharged.

§ 48-1-30. Promulgation of regulations; approval of alternatives.

The Department shall promulgate regulations to implement this chapter to govern the procedure of the Department with respect to meetings, hearings, filing of reports, the issuance of permits and all other matters relating to procedure. The regulations for preventing contamination of the air may not specify any particular method to be used to reduce undesirable levels, nor the type, design, or method of installation or type of construction of any manufacturing processes or other kinds of equipment. Except where the Department determines that it is not feasible to prescribe or enforce an emission standard or standard of performance, it may, by regulation, specify equipment, operational practice, or emission control method, or combination thereof. The Department may grant approval for alternate equipment, operational practice, or emission control method, or combination thereof, where the owner or operator of a source can demonstrate to the Department that such alternative is substantially equivalent to that specified.

§ 48-1-90. Causing or permitting pollution of environment prohibited; remedies.

(A)

(1) It is unlawful for a person, directly or indirectly, to throw, drain, run, allow to seep, or otherwise discharge into the environment of the State organic or inorganic matter, including sewage, industrial wastes, and other wastes, except in compliance with a permit issued by the department.

(2) The permit requirements of subsection (A)(1), Section 48-1-100, and Section 48-1-110 do not apply to:

(a) discharges in a quantity below applicable threshold permitting requirements established by the department;

(b) discharges for which the department has no regulatory permitting program;

(c) discharges exempted by the department from permitting requirements;
or

(d) normal farming, silviculture, aquaculture, ranching, and wildlife habitat management activities that are not prohibited by or otherwise subject to regulation.

(3) Subsection (A)(2) must not be construed to:

(a) impair or affect common law rights;

(b) repeal prohibitions or requirements of other statutory law or common law; or

(c) diminish the department's authority to abate public nuisances or hazards to public health or the environment, to abate pollution as defined in Section 48-1-10(7), or to respond to accidental discharges or spills.

(4) A person must first petition the department in writing for a declaratory ruling as to the applicability of a specific, existing regulatory program to a proposed or existing discharge into the environment, provided that the proposed or existing discharge is not exempt or excluded from permitting as is set forth in subsection (A)(2). The person proposing to emit or emitting such discharge must be named on and served with the petition. The department must, within sixty days after receipt of such petition, issue a declaratory ruling as to the applicability of such program to such discharge. If the department determines a permit is required under such program and that no exception or exclusion exists, including, but not limited to, the exceptions set forth in subsection (A)(2), the department must issue a declaration requiring the submission of an application to permit such discharge pursuant to the applicable permitting program. If the department further determines that immediate action is necessary to protect the public health or property due to such unpermitted discharge, the department may further declare the existence of an emergency and order such action as the department deems necessary to address the emergency. Any person to whom such emergency order is directed may apply directly to the Administrative Law Court for relief and must be afforded a hearing within forty-eight hours. Regardless of whether a hearing is held, the department must revoke all emergency orders as soon as conditions or operations change to the extent that an emergency no longer exists. A party contesting any department decision on a petition may request a contested case hearing in the Administrative Law Court. Notwithstanding the administrative remedy provided for in this section, no private cause of action is created by or exists under this chapter.

(B)

(1) A person who discharges organic or inorganic matter into the waters of this State as described in subsection (A) to the extent that the fish, shellfish, aquatic animals, wildlife, or plant life indigenous to or dependent upon the receiving waters or property is damaged or destroyed is liable to the State for the damages. The action must be brought by the State in its own name or in the name of the department.

(2) The amount of a judgment for damages recovered by the State, less costs, must be remitted to the agency, commission, department, or political subdivision of the State that has jurisdiction over the fish, shellfish, aquatic animals, wildlife, or plant life or property damaged or destroyed.

(3) The civil remedy provided in subsection (B)(2) is not exclusive, and an agency, commission, department, or political subdivision of the State with appropriate authority may undertake in its own name an action to recover damages independent of this subsection.

§ 48-1-100. Permits for discharge of wastes or air contaminants; jurisdiction of department.

(A) A person affected by the provisions of this chapter or the rules and regulations adopted by the department desiring to make a new outlet or source, or to increase the quantity of discharge from existing outlets or sources, for the discharge of sewage, industrial waste or other wastes, or the effluent therefrom, or air contaminants, into the waters or ambient air of the State, first shall make an application to the department for a permit to construct and a permit to discharge from the outlet or source. If, after appropriate public comment procedures, as defined by department regulations, the department finds that the discharge from the proposed outlet or source will not be in contravention of provisions of this chapter, a permit to construct and a permit to discharge must be issued to the applicant. The department, if sufficient hydrologic and environmental information is not available for it to make a determination of the effect of the discharge, may require the person proposing to make the discharge to conduct studies that will enable the department to determine that its quality standards will not be violated.

(B) The Department of Health and Environmental Control is the agency of state government having jurisdiction over the quality of the air and waters of the State of South Carolina. It shall develop and enforce standards as may be necessary governing emissions or discharges into the air, streams, lakes, or coastal waters of the State, including waste water discharges.

(C) The Department of Health and Environmental Control is the agency of state government having jurisdiction over those matters involving real or potential threats to the health of the people of South Carolina, including the handling and disposal of garbage and refuse; septic tanks; and individual or privately-owned systems for the disposal of offal and human or animal wastes.

61-43 Standards for the Permitting of Agricultural Animal Facilities

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:

$$\text{Average animal live weight} = (\text{Average Exit Weight} + \text{Average Entry Weight})/2$$

L. “Broker” 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. “Closed facility” means an animal facility that has ceased operations (no confined animals at the facility) and is no longer in production.

N. “Commercial 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. “Compost” 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. “Composting” 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. “Constituent 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. “Cover 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. “Cumulative constituent loading rate” means the maximum amount of a constituent that can be applied to an area of land.

T. “Cumulative 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. “CWA” 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. 1251et seq. Specific references to sections within the CWA shall be according to Pub. L. 92-500 notation.

V. “Deemed 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. “Department” means the South Carolina Department of Health and Environmental Control.

X. “Dry 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.

Y. “Dry 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. “EPA” means the United States Environmental Protection Agency.

AA. “Ephemeral 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. “Excessive 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. “Expansion” 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. "FEMA" means the Federal Emergency Management Agency.

EE. "Feed crops" are crops produced primarily for consumption by animals. These include, but are not limited to: corn, grains, and grasses.

FF. "Fiber crops" are crops including, but not limited to, flax and cotton.

GG. "Floodplain" 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. "Food crops" are crops produced primarily for human consumption. These include, but are not limited to, fruits, vegetables, and tobacco.

II. "Groundwater" is water below the land surface in the saturated zone.

JJ. "Integrator" or "Integrating 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.

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.

ZZ. “Person” 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. “Potable water well” means any well designed and/or constructed to produce potable water for consumption by humans or animals.

BBB. “Producer” 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. “Professional Engineer” or “Engineer” 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. “Range land” is open land with indigenous vegetation.

EEE. “Residence” 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. “Runoff” is rainwater or other liquid that drains overland on any part of a land surface and runs off of the land surface.

GGG. “Seasonal 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. “Small 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. “Small 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. “Source 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. “State” means the State of South Carolina.

LLL. “Swine” means a domesticated animal belonging to the porcine species.

MMM. “Swine 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. “Swine 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, 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 v 400,000 v 400,000) pounds.

OOO. “Swine 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. “[mu] g/l” means microgram per liter.

QQQ. “Vector” 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. “Wastewater” 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. “Watershed” means a drainage area contributing to a river, lake, or stream.

TTT. “Waters 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. “Wetlands” 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

100.70. Permit Decision Making Process.

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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:

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.

[. . .]

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 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).

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 (1/2 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 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 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 (1/2 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 (1/2 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 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.

100.100. 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.

TABLE 1 OF SECTION 100.100 – CUMULATIVE CONSTITUENT LOADING RATES		
Cumulative Constituent Loading Rate		
Constituent	(kilograms per hectare)	(pounds per acre)
Copper	1500	1339
Zinc	2800	2499

ii. Constituent concentrations.

TABLE 2 OF SECTION 100.100 – CONSTITUENT CONCENTRATIONS	
Monthly Average Concentrations	
Constituent	Dry weight basis (milligrams per kilogram)
Copper	1500
Zinc	2800

iii. Annual constituent loading rates.

TABLE 3 OF SECTION 100.100 – ANNUAL CONSTITUENT LOADING RATES
Annual Constituent Loading Rate

Constituent	(kilograms per hectare Constituent per 365 day period)	(pounds per acre per 365 day period)
Copper	75	67
Zinc	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 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 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 byproducts 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.

2) S.C. Code Ann. §§ 48-1-10(23), 48-1-30, 90, 100; S.C. Code Regs. §§ 61-43-200.70(F), .80, .100, .110

§ 48-1-10. Short title; definitions.

See section 1, above, for text.

§ 48-1-30. Promulgation of regulations; approval of alternatives.

See section 1, above, for text.

§ 48-1-90. Causing or permitting pollution of environment prohibited; remedies.

See section 1, above, for text.

§ 48-1-100. Permits for discharge of wastes or air contaminants; jurisdiction of department.

See section 1, above, for text.

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

Part 200—Animal Facilities (other than swine)

200.70. Permit Decision Making Process.

[. . .]

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.

[. . .]

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.

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.

200.100. 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.

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

ii. Constituent concentrations.

TABLE 2 OF SECTION 200.100 – CONSTITUENT CONCENTRATIONS	
Monthly Average Concentrations	
Constituent	Dry weight basis (milligrams per kilogram)
Arsenic	41
Copper	1500
Zinc	2800

iii. Annual constituent loading rates.

TABLE 3 OF SECTION 200.100 – ANNUAL CONSTITUENT LOADING RATES		
Annual Constituent Loading Rate		
Constituent	(kilograms per hectare per 365 day period)	(pounds per acre per 365 day period)
Arsenic	2.0	1.8
Copper	75	67
Zinc	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.
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 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.

3) S.C. Code Ann. §§ 48-1-30, 90, 100; S.C. Code Regs. § 61-43-400.60

§ 48-1-30. Promulgation of regulations; approval of alternatives.

See section 1, above, for text.

§ 48-1-90. Causing or permitting pollution of environment prohibited; remedies.

See section 1, above, for text.

§ 48-1-100. Permits for discharge of wastes or air contaminants; jurisdiction of department.

See section 1, above, for text.

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

Part 400—Manure Broker Operations.

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

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.

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

ii. Constituent concentrations.

TABLE 2 OF SECTION 400.60 – CONSTITUENT CONCENTRATIONS	
Monthly Average Concentrations	
Constituent	Dry weight basis (milligrams per kilogram)
Arsenic	41
Copper	1500
Zinc	2800

iii. Annual constituent loading rates.

TABLE 3 OF SECTION 400.60 – ANNUAL CONSTITUENT LOADING RATES		
Annual Constituent Loading Rate		
Constituent	(kilograms per hectare per 365 day period)	(pounds per acre per 365 day period)
Arsenic	2.0	1.8
Copper	75	67
Zinc	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).

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) P₂O₅ (mg/kg).

(e) K₂O (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.

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.

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 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.