



University of Arkansas Division of Agriculture

An Agricultural Law Research Project

Application Restrictions Statutes & Regulations

Vermont

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Application Restrictions

STATE OF VERMONT

- 1) 6 V.S.A. §§ 4802, 4810a(6); CVR 20-010-008 (1.1, 2.06, 3.2(f), 6.07)
- 2) 6 V.S.A. 4802, 10, 10a, 11, 13, CVR 20-10-008
- 3) 6 V.S.A. § 4816; CVR 20-010-008 (2.17, 2.25, 2.39, 6.05, 6.06)
- 4) 6 V.S.A. 4857, 4871, CVR 20-010-008 (1.1, 2.33, 4)
- 5) 10 V.S.A. §§ 1310-1313

The statutes and Constitution are current through the 2018 regular and special legislative sessions. The statutes are subject to changes by the Vermont Legislative Council.

1) 6 V.S.A. §§ 4802, 4810a(6); CVR 20-010-008 (1.1, 2.06, 3.2(f), 6.07)

§ 4802. Definitions

As used in this chapter:

- (1) "Agency" means the Agency of Agriculture, Food and Markets.
- (2) "Farming" shall have the same meaning as used in 10 V.S.A. § 6001(22).
- (3) "Healthy soil" means soil that has a well-developed, porous structure, is chemically balanced, supports diverse microbial communities, and has abundant organic matter.
- (4) "Manure" means livestock waste in solid or liquid form that may also contain bedding, spilled feed, water, or soil.
- (5) "Secretary" means the Secretary of Agriculture, Food and Markets.
- (6) "Top of bank" means the point along the bank of a stream where an abrupt change in slope is evident, and where the stream is generally able to overflow the banks and enter the adjacent floodplain during an annual flood event. Annual flood event shall be determined according to the Agency of Natural Resources' Flood Hazard Area and River Corridor Protection Procedure.
- (7) "Waste" or "agricultural waste" means material originating or emanating from a farm that is determined by the Secretary or the Secretary of Natural Resources to be harmful to the waters of the State, including: sediments; minerals, including

heavy metals; plant nutrients; pesticides; organic wastes, including livestock waste, animal mortalities, compost, feed and crop debris; waste oils; pathogenic bacteria and viruses; thermal pollution; silage runoff; untreated milkhouse waste; and any other farm waste as the term "waste" is defined in 10 V.S.A. § 1251(12).

(8) "Water" shall have the same meaning as used in 10 V.S.A. § 1251(13).

§ 4810a. Required agricultural practices; revision

[. . .]

(6)

(A) Require a farm to comply with standards established by the Secretary for maintaining a vegetative buffer zone of perennial vegetation between annual croplands and the top of the bank of an adjoining water of the State. At a minimum the vegetative buffer standards established by the Secretary shall prohibit the application of manure on the farm within 25 feet of the top of the bank of an adjoining water of the State or within 10 feet of a ditch that is not a surface water under State law and that is not a water of the United States under federal law.

(B) Establish standards for site-specific vegetative buffers that adequately address water quality needs based on consideration of soil type, slope, crop type, proximity to water, and other relevant factors.

[. . .]

20-010-008. Section 1. General.

1.1 Preamble: Agriculture has been identified as a major contributor of non-point source pollution to surface waters of Vermont. For example, the Lake Champlain Total Maximum Daily Load (TMDL), as modeled by the Environmental Protection Agency, estimates that nutrient losses from agricultural activities represent 29% of the total phosphorous load to the Lake Champlain basin and over 40% of Vermont's contribution to the phosphorous load to the basin. Agriculture contributes non-point source pollution to surface and groundwater from multiple sources, including cropland erosion, farmstead management, crop storage, and manure storage and application. While contributions of non-point source pollution from agriculture may vary from watershed to watershed, the overall impact to water quality from agricultural lands, when not managed well, is significant.

The Vermont legislature first directed the Agency of Agriculture, Food and Markets to develop a comprehensive Agricultural Non-Point Source Pollution Reduction Program in 1992. The Accepted Agricultural Practices Rules (AAPs), which regulate farming

activities in order to protect water quality, became effective in 1995 and were revised in 2006.

As a result of Act 64—the Vermont Clean Water Act—the Agency of Agriculture was tasked with updating the AAPs to further reduce the impact of agricultural activities to water quality across the State. The Required Agricultural Practices Rules (RAPs) are an updated version of the AAPs, re-written to a higher level of performance. Act 64, which was signed into law by the Governor in June 2015, amended and enacted multiple requirements related to water quality in the State. The act required the Agency of Agriculture to amend several provisions of the AAPs in order to improve water quality in Vermont. The first change was to rename the Accepted Agricultural Practices Rules the Required Agricultural Practices Rules. The RAPs are standards to which all types of farms must be managed. Act 64 further required the Agency of Agriculture to:

- Establish requirements for a Small Farm Certification Program;
- Establish nutrient, manure, and waste storage standards;
- Make recommendations for soil health;
- Establish requirements for vegetated buffer zones;
- Establish requirements for livestock exclusion from surface water;
- Establish nutrient management planning standards; and
- Establish standards for soil conservation such as cover cropping

The standards and rules that follow are intended to improve the quality of all of Vermont's waters by reducing and eliminating cropland erosion, sediment losses, and nutrient losses through improved farm management techniques, technical and compliance assistance, and, where appropriate, enforcement. This rule strives to balance the complexity, variability, and requirements of farm management with the need to improve that management in order to meet the State's goals in improving and protecting water quality.

Soil quality and soil health are critical elements of an overall agricultural non-point source pollution reduction program. Agricultural soils are recognized as a critical resource for the overall prosperity of Vermont's agricultural community and for the public at large. Efforts to build soil organic matter, increase biological activity, and reduce compaction, including reduced tillage, use of composts, establishing crop rotations, cover cropping, and the elimination of annual cropping on highly vulnerable lands, will be essential to the success of programs whose goal is to improve Vermont's water quality. The Vermont Agency of Agriculture, Food and Markets supports and endorses all practices that lead to the goal of healthy soils and productive agricultural lands.

Section 2. Definitions.

2.06 Buffer Zone means an area of perennial vegetation between the edge of cropland and:

- (a) the top of the bank of an adjoining water of the State;
- (b) a ditch that is not a surface water under State law and that is not a water of the United States under federal law; and
- (c) surface inlets or open drains.

Section 3. Required Agricultural Practices Activities and Applicability.

3.2 The agricultural practices on farms meeting the minimum threshold criteria set forth in Section 3.1 that are governed by this rule include:

[. . .]

(f) the stabilization of farm fields adjacent to banks of surface water, and the establishment and maintenance of vegetated buffer zones and riparian buffer zones;

[. . .]

Section 6. Required Agricultural Practices; Conditions, Restrictions, and Operating Standards.

6.07 Buffer Zones: Manure and Agricultural Wastes Application Setbacks

A vegetative buffer zone of perennial vegetation shall be maintained between croplands and the top of the bank of adjoining surface waters and ditches consistent with the criteria in (a) through (i) below:

- (a) Adjacent surface waters shall be buffered from croplands by 25 feet of perennial vegetation.
- (b) Ditches shall be buffered from croplands by 10 feet of perennial vegetation unless determined to potentially transport significant waste or nutrients to surface water consistent with the USDA 590 standard nutrient management requirements.
- (c) Surface inlets or inlets of open drains shall be buffered from croplands by 25 feet of perennial vegetation.

(d) Mechanical application of manure or other agricultural wastes is prohibited within perennially vegetated buffer zones. Grazing of livestock consistent with the provisions of Section 7 of this rule is permitted.

(e) The use of fertilizer or compost for the establishment and maintenance of a required vegetative buffer zone is allowed consistent with nutrient management plan requirements, soil analysis, and agronomic recommendations for the buffer zone.

(f) Tillage within the perennially vegetated buffer zone is prohibited other than for the establishment and maintenance of the buffer zone.

(g) Harvesting a vegetative buffer zone as a perennial crop is allowed.

(h) Spoils from agricultural ditch maintenance shall not be stored in the buffer zone or in such a manner as to discharge to surface water.

(i) Exceptions to the required vegetative buffer zone widths, including the requirements of Section 6.05(f), may be considered upon request on a site-specific basis according to standards approved by the Secretary, but in no case shall a buffer zone be less than 10 feet in width. Site-specific buffer zones may be approved based on field characteristics such as a determination that a conveyance has the potential to transport significant wastes or nutrients to surface water, field contours, soil types, slopes, proximity to water, nutrient management plan requirements, and other relevant characteristics when the Secretary determines that the proposed site-specific buffer zones are adequately protective of surface waters.

2) 6 V.S.A. §§ 4802, 10, 10a, 11, 13; CVR 20-010-008

§ 4802. Definitions

As used in this chapter:

(1) "Agency" means the Agency of Agriculture, Food and Markets.

(2) "Farming" shall have the same meaning as used in 10 V.S.A. § 6001(22).

(3) "Healthy soil" means soil that has a well-developed, porous structure, is chemically balanced, supports diverse microbial communities, and has abundant organic matter.

(4) "Manure" means livestock waste in solid or liquid form that may also contain bedding, spilled feed, water, or soil.

(5) "Secretary" means the Secretary of Agriculture, Food and Markets.

(6) "Top of bank" means the point along the bank of a stream where an abrupt change in slope is evident, and where the stream is generally able to overflow the banks and enter the adjacent floodplain during an annual flood event. Annual flood event shall be determined according to the Agency of Natural Resources' Flood Hazard Area and River Corridor Protection Procedure.

(7) "Waste" or "agricultural waste" means material originating or emanating from a farm that is determined by the Secretary or the Secretary of Natural Resources to be harmful to the waters of the State, including: sediments; minerals, including heavy metals; plant nutrients; pesticides; organic wastes, including livestock waste, animal mortalities, compost, feed and crop debris; waste oils; pathogenic bacteria and viruses; thermal pollution; silage runoff; untreated milkhouse waste; and any other farm waste as the term "waste" is defined in 10 V.S.A. § 1251(12).

(8) "Water" shall have the same meaning as used in 10 V.S.A. § 1251(13).

§ 4810. Authority; cooperation; coordination

(a) Agricultural land use practices. In accordance with 10 V.S.A. § 1259(i), the Secretary shall adopt by rule, pursuant to 3 V.S.A. chapter 25, and shall implement and enforce agricultural land use practices in order to satisfy the requirements of 33 U.S.C. § 1329 that the State identify and implement best management practices to control nonpoint sources of agricultural waste to waters of the State. These agricultural land use practices shall be created in two categories, pursuant to subsections (b) and (c) of this section.

(b) Required Agricultural Practices. Required Agricultural Practices (RAPs) shall be management standards to be followed by all persons engaged in farming in this State. These standards shall address activities which have a potential for causing agricultural pollutants to enter the groundwater and waters of the State, including dairy and other livestock operations plus all forms of crop and nursery operations and on-farm or agricultural fairground, registered pursuant to 20 V.S.A. § 3902, livestock and poultry slaughter and processing activities. The RAPs shall include, as well as promote and encourage, practices for farmers in preventing agricultural pollutants from entering the groundwater and waters of the State when engaged in animal waste management and disposal, soil amendment applications, plant fertilization, and pest and weed control. Persons engaged in farming who are in compliance with these practices shall be presumed to not have a discharge of agricultural pollutants to waters of the State. RAPs shall be designed to protect water quality and shall be practical and cost-effective to implement, as determined by the Secretary. Where the Secretary determines, after inspection of a farm, that a person engaged in farming is complying with the RAPs but there still exists the potential for agricultural pollutants to enter the waters of the State, the Secretary shall require the person to implement additional, site-specific on-farm conservation practices designed to prevent agricultural pollutants from entering the waters of the State. When requiring implementation of a conservation practice under this subsection, the Secretary shall inform the person engaged in farming of the resources available to assist the person in implementing the conservation practice and complying with the requirements of this chapter. The RAPs for groundwater shall include a process under which the Agency shall receive, investigate, and respond to a complaint that a

farm has contaminated the drinking water or groundwater of a property owner. A farmer may petition the Secretary to reduce the size of a perennial buffer or change the perennial buffer type based on site-specific conditions.

(c) Best Management Practices. Best management practices (BMPs) are site-specific on-farm conservation practices implemented in order to address the potential for agricultural pollutants to enter the waters of the State. The Secretary may require any person engaged in farming to implement a BMP. When requiring implementation of a BMP, the Secretary shall inform a farmer of financial resources available from State or federal sources, private foundations, public charities, or other sources, including funding from the Clean Water Fund established under 10 V.S.A. § 1388, to assist the person in implementing BMPs and complying with the requirements of this chapter. BMPs shall be practical and cost effective to implement, as determined by the Secretary, and shall be designed to achieve compliance with the requirements of this chapter. The Secretary may require soil monitoring or innovative manure management as a BMP under this subsection. Soil monitoring or innovative manure management implemented as a BMP shall be eligible for State assistance under the Clean Water Fund established under 10 V.S.A. chapter 47, subchapter 7. If a perennial buffer of trees or other woody vegetation is required as a BMP, the Secretary shall pay the farmer for a first priority easement on the land on which the buffer is located.

(d) Cooperation and coordination. The Secretary of Agriculture, Food and Markets shall coordinate with the Secretary of Natural Resources in implementing and enforcing programs, plans, and practices developed for reducing and eliminating agricultural non-point source pollutants and discharges from concentrated animal feeding operations. On or before July 1, 2016, the Secretary of Agriculture, Food and Markets and the Secretary of Natural Resources shall revise the memorandum of understanding for the non-point program describing program administration, grant negotiation, grant sharing, and how they will coordinate watershed planning activities to comply with Pub. L. No. 92-500. The memorandum of understanding shall describe how the agencies will implement the antidegradation implementation policy, including how the agencies will apply the antidegradation implementation policy to new sources of agricultural non-point source pollutants. The Secretary of Agriculture, Food and Markets and the Secretary of Natural Resources shall also develop a memorandum of understanding according to the public notice and comment process of 10 V.S.A. § 1259(i) regarding the implementation of the federal Concentrated Animal Feeding Operation Program and the relationship between the requirements of the federal Program and the State agricultural water quality requirements for large, medium, and small farms under this chapter. The memorandum of understanding shall describe Program administration, permit issuance, an appellate process, and enforcement authority and implementation. The memorandum of understanding shall be consistent with the federal National Pollutant Discharge Elimination System permit regulations for discharges from concentrated animal feeding operations. The allocation of duties under this chapter between the Secretary of Agriculture, Food and Markets and the Secretary of Natural Resources shall be consistent with the Secretary's duties, established under the provisions of 10 V.S.A. § 1258(b), to comply with Pub. L. No. 92-500. The Secretary of Natural Resources shall be the State lead person in applying for federal funds under Pub. L. No. 92-500, but shall consult with the Secretary of Agriculture, Food and Markets during the process. The agricultural non-point source program may compete with other programs for competitive watershed projects funded from

federal funds. The Secretary of Agriculture, Food and Markets shall be represented in reviewing these projects for funding. Actions by the Secretary of Agriculture, Food and Markets under this chapter concerning agricultural non-point source pollution shall be consistent with the water quality standards and water pollution control requirements of 10 V.S.A. chapter 47 and the federal Clean Water Act as amended. In addition, the Secretary of Agriculture, Food and Markets shall coordinate with the Secretary of Natural Resources in implementing and enforcing programs, plans, and practices developed for the proper management of composting facilities when those facilities are located on a farm. On or before January 15, 2016, the Secretary of Agriculture, Food and Markets and the Secretary of Natural Resources shall each develop three separate measures of the performance of the agencies under the memorandum of understanding required by this subsection. Beginning on January 15, 2017, and annually thereafter, the Secretary of Agriculture, Food and Markets and the Secretary of Natural Resources shall submit separate reports to the Senate Committee on Agriculture, the House Committee on Agriculture and Forestry, the Senate Committee on Natural Resources and Energy, and the House Committee on Natural Resources, Fish, and Wildlife regarding the success of each agency in meeting the performance measures for the memorandum of understanding.

§ 4810a. Required agricultural practices; revision

(a) On or before September 15, 2016, the Secretary of Agriculture, Food and Markets shall file under 3 V.S.A. § 841 a final proposal of a rule amending the required agricultural practices in order to improve water quality in the State, assure practices on all farms eliminate adverse impacts to water quality, and implement the small farm certification program required by section 4871 of this title. At a minimum, the amendments to the required agricultural practices shall:

(1) Specify those farms that:

(A) are required to comply with the small farm certification requirements under section 4871 of this title due to the potential impact of the farm or type of farm on water quality as a result of livestock managed on the farm, agricultural inputs used by the farm, or tillage practices on the farm; and

(B) shall be subject to the required agricultural practices, but shall not be required to comply with small farm certification requirements under section 4871 of this title.

(2)

(A) Except as authorized under subdivision (C) of this subdivision (2), prohibit a farm from stacking or piling manure, storing fertilizer, or storing other nutrients on the farm:

(i) in a manner and location that presents a threat of discharge to a water of the State or presents a threat of contamination to groundwater; or

(ii) on lands in a floodway or otherwise subject to annual flooding.

(B) Except as authorized under subdivision (C) of this subdivision (2), manure stacking or piling sites, fertilizer storage, or other nutrient storage shall not be located within 200 feet of a private well or within 200 feet of a water of the State.

(C) The Secretary may authorize one or more of the following:

(i) siting of manure stacking or piling sites, fertilizer storage, or other nutrient storage within 200 feet, but not less than 100 feet, of a private well or surface water if the Secretary determines that the site is the best available site on the farm for the purposes of protecting groundwater quality or surface water quality; and

(ii) siting of a waste storage facility within 200 feet of a surface water or private well if the site is the best available site on the farm for the purposes of protecting groundwater quality or surface water quality and the waste storage facility is designed by a licensed engineer to meet the requirements of section 4815 of this title.

(3) Require the construction and management of barnyards, waste management systems, animal holding areas, and production areas in a manner to prevent runoff of waste to a surface water, to groundwater, or across property boundaries.

(4) Establish standards for nutrient management on farms, including:

(A) required nutrient management planning on all farms that manage agricultural wastes; and

(B) recommended practices for improving and maintaining soil quality and healthy soils in order to increase the capacity of soil to retain water, improve flood resiliency, reduce sedimentation, reduce reliance on fertilizers and pesticides, and prevent agricultural stormwater runoff.

(5) Require cropland on the farm to be cultivated in a manner that results in an average soil loss of less than or equal to the soil loss tolerance for the prevalent soil, known as 1T, as calculated through application of the Revised Universal Soil Loss Equation, or through the application of similarly accepted models.

(6)

(A) Require a farm to comply with standards established by the Secretary for maintaining a vegetative buffer zone of perennial vegetation between annual croplands and the top of the bank of an adjoining water of the State. At a minimum the vegetative buffer standards established by the Secretary shall prohibit the application of manure on the farm within 25 feet of the top of the bank of an adjoining water of the State or within 10 feet of a ditch that is not a surface water under State law and that is not a water of the United States under federal law.

(B) Establish standards for site-specific vegetative buffers that adequately address water quality needs based on consideration of soil type, slope, crop type, proximity to water, and other relevant factors.

(7) [Repealed.]

(8) Regulate, in a manner consistent with the Agency of Natural Resources' flood hazard area and river corridor rules, the construction or siting of a farm structure or the storage of manure, fertilizer, or pesticides within a river corridor designated by the Secretary of Natural Resources.

(9) Establish standards for the exclusion of livestock from the waters of the State to prevent erosion and adverse water quality impacts.

(10) Establish standards for soil conservation practices such as cover cropping.

(11) Allow for alternative techniques or practices, approved by the Secretary, for compliance by an owner or operator of a farm when the owner or operator cannot comply with the requirements of the required agricultural practices due to site-specific conditions. Approved alternative techniques or practices shall meet State requirements to reduce adverse impacts to water quality.

(b) On or before January 15, 2018, the Secretary of Agriculture, Food and Markets shall amend by rule the required agricultural practices in order to include requirements for reducing nutrient contribution to waters of the State from subsurface tile drainage. Upon adoption of requirements for subsurface tile drainage, the Secretary may require an existing subsurface tile drain to comply with the requirements of the RAPs for subsurface tile drainage upon a determination that compliance is necessary to reduce adverse impacts to water quality from the subsurface tile drain.

§ 4811. Powers of Secretary

The Secretary of Agriculture, Food and Markets in furtherance of the purposes of this chapter may:

(1) Make, adopt, revise, and amend reasonable rules which define practices described in section 4810 of this title as well as other rules deemed necessary to carry out the provisions of this chapter.

(2) Appoint assistants, subject to applicable laws, to perform or assist in the performance of any duties or functions of the Secretary under this chapter.

(3) Enter any lands, public or private, and review and copy any land management records as may be necessary to carry out the provisions of this chapter.

(4) Sign memorandums of understanding between agencies when the Secretary of Agriculture, Food and Markets agrees it is necessary for the success of the program.

(5) Solicit and receive federal or private funds.

(6) Cooperate fully with the federal government or other agencies in the operation of any joint federal-state programs concerning the regulation of agricultural non-point source pollution.

§ 4813. Basin management; appeals to the Environmental Division

(a) The Secretary of Agriculture, Food and Markets shall cooperate with the Secretary of Natural Resources in the basin planning process with regard to the agricultural non-point source waste component of each basin plan. Any person with an interest in the agricultural non-point source component of the basin planning process may petition the Secretary of Agriculture, Food and Markets to require, and the Secretary may require, best management practices in the individual basin beyond required agricultural practices adopted by rule, in order to achieve compliance with the water quality goals in 10 V.S.A. § 1250 and any duly adopted basin plan. The Secretary of Agriculture, Food and Markets shall hold a public hearing within 60 days and shall issue a timely written decision that sets forth the facts and reasons supporting the decision.

(b) Any person engaged in farming that has been required by the Secretary of Agriculture, Food and Markets to implement best management practices or any person who has petitioned the Secretary of Agriculture, Food and Markets under subsection (a) of this section may appeal the Secretary of Agriculture, Food and Markets' decision to the Environmental Division de novo.

(c) When requiring implementation of a best management practice, the Secretary shall inform a farmer of the resources available to assist the farmer in implementing the best management practice and complying with the requirements of this chapter.

20-010-008. REQUIRED AGRICULTURAL PRACTICES RULE FOR THE AGRICULTURAL NONPOINT SOURCE POLLUTION CONTROL PROGRAM

Section 1. General.

1.1 Preamble: Agriculture has been identified as a major contributor of non-point source pollution to surface waters of Vermont. For example, the Lake Champlain Total Maximum Daily Load (TMDL), as modeled by the Environmental Protection Agency, estimates that nutrient losses from agricultural activities represent 29% of the total phosphorous load to the Lake Champlain basin and over 40% of Vermont's contribution to the phosphorous load to the basin. Agriculture contributes non-point source pollution to surface and groundwater from multiple sources, including cropland erosion, farmstead management, crop storage, and manure storage and application. While contributions of non-point source pollution from agriculture may vary from watershed to watershed, the overall impact to water quality from agricultural lands, when not managed well, is significant.

The Vermont legislature first directed the Agency of Agriculture, Food and Markets to develop a comprehensive Agricultural Non-Point Source Pollution Reduction Program in 1992. The Accepted Agricultural Practices Rules (AAPs), which regulate farming activities in order to protect water quality, became effective in 1995 and were revised in 2006.

As a result of Act 64--the Vermont Clean Water Act--the Agency of Agriculture was tasked with updating the AAPs to further reduce the impact of agricultural activities to water quality across

the State. The Required Agricultural Practices Rules (RAPs) are an updated version of the AAPs, re-written to a higher level of performance.

Act 64, which was signed into law by the Governor in June 2015, amended and enacted multiple requirements related to water quality in the State. The act required the Agency of Agriculture to amend several provisions of the AAPs in order to improve water quality in Vermont. The first change was to rename the Accepted Agricultural Practices Rules the Required Agricultural Practices Rules. The RAPs are standards to which all types of farms must be managed. Act 64 further required the Agency of Agriculture to:

- Establish requirements for a Small Farm Certification Program;
- Establish nutrient, manure, and waste storage standards;
- Make recommendations for soil health;
- Establish requirements for vegetated buffer zones;
- Establish requirements for livestock exclusion from surface water;
- Establish nutrient management planning standards; and
- Establish standards for soil conservation such as cover cropping

The standards and rules that follow are intended to improve the quality of all of Vermont's waters by reducing and eliminating cropland erosion, sediment losses, and nutrient losses through improved farm management techniques, technical and compliance assistance, and, where appropriate, enforcement. This rule strives to balance the complexity, variability, and requirements of farm management with the need to improve that management in order to meet the State's goals in improving and protecting water quality.

Soil quality and soil health are critical elements of an overall agricultural non-point source pollution reduction program. Agricultural soils are recognized as a critical resource for the overall prosperity of Vermont's agricultural community and for the public at large. Efforts to build soil organic matter, increase biological activity, and reduce compaction, including reduced tillage, use of composts, establishing crop rotations, cover cropping, and the elimination of annual cropping on highly vulnerable lands, will be essential to the success of programs whose goal is to improve Vermont's water quality. The Vermont Agency of Agriculture, Food and Markets supports and endorses all practices that lead to the goal of healthy soils and productive agricultural lands.

1.2 Enabling Legislation: As defined in 6 V.S.A. §§ 4810 and 4810a, the Required Agricultural Practices (RAPs) shall be management standards to be followed by all persons engaged in farming in this State. These standards shall address activities which have a potential for causing agricultural pollutants to enter the groundwater and waters of the State, including dairy and other livestock operations, all forms of crop and nursery operations and on-farm or agricultural fairground registered pursuant to 20 V.S.A. § 3902, and livestock and poultry slaughter and processing activities. The RAPs shall include, as well as promote and encourage, practices for farmers in preventing agricultural pollutants from entering the groundwater and waters of the State when engaged in animal waste management and disposal, soil amendment applications, plant fertilization, and pest and weed control. Persons engaged in farming who are in compliance with these practices shall be presumed to not have a discharge of agricultural pollutants to waters

of the State. The RAPs shall be designed to protect water quality and shall be practical and cost-effective to implement, as determined by the Secretary.

1.3 Purpose: The RAPs are farm and land management practices that will control and reduce agricultural nonpoint source pollution and subsequent nutrient losses from farm fields and production areas to surface and ground waters of the State or across property boundaries. The RAPs also establish minimum construction and siting requirements for farm structures in floodplains, floodways, river corridors, and flood hazard areas.

1.4 Authority: 6 V.S.A. Chapter 215 (Agricultural Water Quality), including §§ 4810, 4810a, and 4811, and Act 64 of the Vermont General Assembly (2015 session).

1.5 Enforcement: Violations of this rule are subject to enforcement by the Secretary of the Vermont Agency of Agriculture, Food and Markets and the Attorney General under the provisions of 6 V.S.A. §§ 4991 - 4996 and additional remedies available to the State under other applicable Vermont law.

1.6 Further considerations under the RAPs: 6 V.S.A. § 4810a(b) requires that on or before January 15, 2018, the Secretary of Agriculture, Food and Markets shall amend by rule the Required Agricultural Practices in order to include requirements for reducing nutrient contribution to waters of the State from subsurface tile drainage. As part of the rule amendment process, the Secretary may also evaluate the current status of effectiveness of the Required Agricultural Practices, the implementation of additional best management practices, and the current water quality condition of waters of the State. The Secretary may consider additional changes to the Required Agricultural Practices, as appropriate, to meet the water quality goals of the State.

Section 2. Definitions.

2.01 Agency means the Vermont Agency of Agriculture, Food and Markets.

2.02 Agricultural Product means any raw agricultural commodity, as defined in 6 V.S.A. § 21(6), that is principally produced on the farm and includes products prepared from the raw agricultural commodities principally produced on the farm.

2.03 Annual Cropland means, for the purposes of this rule, land devoted to the production, cultivation, harvesting, and management of annual row crops, including sweet corn and pumpkins, but does not include:

- (a) vegetable, fruit, or berry crops grown for human consumption; and
- (b) small grains.

2.04 ANR means the Vermont Agency of Natural Resources, and the Secretary of the Vermont Agency of Natural Resources and her or his designees.

2.05 Barnyard and Feedlot means an area, either earthen or improved, where animals are confined by fences, other structures, or topography, are primarily sustained by supplemental feed, and where vegetation cover is sparse.

2.06 Buffer Zone means an area of perennial vegetation between the edge of cropland and:

- (a) the top of the bank of an adjoining water of the State;
- (b) a ditch that is not a surface water under State law and that is not a water of the United States under federal law; and
- (c) surface inlets or open drains.

2.07 Certified Small Farm means a farm that meets the criteria of Section 4.1 of this rule.

2.08 Compost means a stable, humus-like material produced by the controlled biological decomposition of organic matter through active management, but shall not mean sewage, septage, or materials derived from sewage or septage.

2.09 Cover Crop means a temporary vegetative crop established for the purpose of:

- (a) reducing erosion and runoff; and
- (b) enhancing soil health by providing organic matter in cropland.

2.10 Crop and Cropland, for the purposes of this rule, means:

- (a) plants grown for food, feed, fiber (other than trees grown for silvicultural or timber purposes), Christmas trees, maple sap, horticultural, viticultural, orchard crops, and pasture; and
- (b) the land upon which they are grown.

2.11 Custom Applicator means a person who is engaged in the business of applying manure or other agricultural wastes to land and who charges or collects other consideration for the service including full-time employees of a person engaged in the business of applying manure or agricultural wastes to land.

2.12 Discharge means the placing, depositing, or emission of any wastes, directly or indirectly, into an injection well or into waters.

2.13 Ditch means a constructed channel for the collection of field runoff water or shallow groundwater and its conveyance to an outlet.

2.14 Farm means a parcel or parcels of land owned, leased, or managed by a person and devoted primarily, to farming, as defined in Section 2.16 of this rule, and that meets the threshold criteria as established in Section 3 of this rule, provided that the lessee controls the leased lands to the

extent they would be considered as part of the lessee's own farm. Indicators of control may include whether the lessee makes day-to-day decisions concerning the cultivation or other farming-related use of the leased lands and whether the lessee manages the land for farming during the leased period.

2.15 Farm Structure means a structure that is used by a person for farming, including a silo, a building to house livestock or raise horticultural or agronomic plants, or customarily used to carry out the agricultural practices defined in Section 3.2 of this rule. A farm structure includes a barnyard or waste management system, either of which is created from an assembly of materials, including the supporting fill necessary for structural integrity, but excludes a dwelling for human habitation. A farm structure also must be used by a person who can demonstrate meeting the minimum threshold criteria as found in Section 3.1 of this rule.

2.16 Farming means:

- (a) the cultivation or other use of land for growing food, fiber, Christmas trees, maple sap, or horticultural, viticultural, and orchard crops; or
- (b) the raising, feeding, or management of livestock, poultry, fish, or bees; or
- (c) the operation of greenhouses; or
- (d) the production of maple syrup; or
- (e) the on-site storage, preparation, and sale of agricultural products principally produced on the farm; or
- (f) the on-site storage, preparation, production, and sale of fuel or power from agricultural products or wastes principally produced on the farm; or
- (g) the raising, feeding, or management of four or more equines owned or boarded by the farmer, including training, showing, and providing instruction and lessons in riding, training, and the management of equines.

2.17 Fertilizer means any substance containing one or more recognized plant nutrients that is used for its plant nutrient content and that is designed for use or claimed to have value in promoting plant growth or health, except unprocessed animal or vegetable manures and other products exempted by the Secretary.

2.18 Flood Hazard Area means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year (a.k.a. 100-yr flood). The term has the same meaning as "area of special flood hazard" under 44 C.F.R. § 59.1. The area may be designated as Zone A or AE on the National Flood Insurance Program maps.

2.19 Floodplain means any land area susceptible to being inundated by water from any source.

2.20 Floodway means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base (one percent annual chance) flood without cumulatively increasing the water surface elevation more than one foot at any point. Flood hazard areas and floodways may be shown on separate National Flood Insurance Program map panels.

2.21 Food Processing Residual means the remaining organic material from a food processing plant and may include whey and other dairy, cheese making, and ice cream residuals or residuals from any food manufacturing process excluding slaughtering and rendering operations. It does not include materials from markets, groceries, or restaurants.

2.22 Groundwater means water below the land surface in a zone of saturation, but does not include surface waters.

2.23 Groundwater Quality Standards means the primary and secondary groundwater quality standards listed in Appendix One of the Groundwater Protection Rule and Strategy in accordance with 10 V.S.A. Chapter 48 (Groundwater Protection).

2.24 Livestock means cattle, cow/calf pairs, youngstock, heifers, bulls, American bison, swine, sheep, goats, horses, cervids, camelids, ratites, rabbits, pheasants, chukar partridge, coturnix quail, laying hens, broilers, ducks, turkeys, or any other type of fowl as designated by the Secretary. Other livestock types may be designated by the Secretary based on the potential to generate nutrients or other associated agricultural wastes.

2.25 Manure means livestock waste in solid or liquid form that may also contain bedding, spilled feed, water, milkhouse waste, or soil.

2.26 Nonpoint Source Pollution for the purposes of this rule, means agricultural wastes that reach surface water or groundwater indirectly or in a diffuse manner as a result of farming.

2.27 Person means:

(a) an individual, partnership, corporation, association, unincorporated organization, trust, or other legal or commercial entity, including a joint venture or affiliated ownership; or

(b) a municipality or state agency; or

(c) individuals and entities affiliated with each other for profit, consideration, or any other beneficial interest derived from agricultural management, including lessors and lessees.

2.28 Pesticide means economic poison as defined in 6 V.S.A. § 911(5) and Section I 22 of the Vermont Regulations for Control of Pesticides.

2.29 Principally Produced means that more than 50% (either by weight or volume) of raw agricultural products that are stored, prepared, or sold at the farm are also grown or produced on the farm.

2.30 Production Area means those areas of a farm where animals, agricultural inputs, or raw agricultural products are confined, housed, stored, or prepared whether within or without structures, including barnyards, raw materials storage areas, heavy use areas, fertilizer and pesticide storage areas, and waste storage and containment areas. Production areas include egg washing or egg processing facilities, milkhouses, raw agricultural commodity preparation or storage, or any area used in the storage, handling, treatment, or disposal of mortalities.

2.31 River Corridor means the land area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel and that is necessary for the natural maintenance or natural restoration of a dynamic equilibrium condition and for minimization of fluvial erosion hazards, as delineated by the Agency of Natural Resources in accordance with river corridor protection procedures.

2.32 Secretar means the Secretary of the Agency of Agriculture, Food and Markets and her or his designees.

2.33 Small Farm means a small farm as defined in 6 V.S.A. § 4871.

2.34 Subsurface Tile Drainage means a conduit installed in cropland beneath the ground surface to collect and/or convey water to an outlet.

2.35 Surface Inlet or Open Drain means an aboveground structure that receives, collects, or redirects field runoff water to other underground drainage or ditches.

2.36 Surface Water or Waters means all rivers, streams, brooks, reservoirs, ponds, lakes, springs, and all bodies of surface waters, artificial or natural, which are contained within, flow through, or border the state or any portion of it.

2.37 Top of Bank means the point along the bank of a surface water or ditch where an abrupt change in slope is evident, and where the surface water is generally able to overflow the banks and enter the adjacent floodplain during an annual flood event. Annual flood event shall be determined according to the Agency of Natural Resources' Flood Hazard Area and River Corridor Protection Procedure.

2.38 Vegetable Production means the production of all true vegetables and all commonly known vegetables that are technically fruits, including, but not limited to, peppers, tomatoes, eggplants, and peas.

2.39 Waste or Agricultural Waste means material originating or emanating from a farm that is determined by the Secretary or the Secretary of Natural Resources to be harmful to the waters of the State, including: sediments; minerals, including heavy metals; plant nutrients; pesticides; organic wastes, including livestock waste, animal mortalities, compost, feed and crop debris; waste oils; pathogenic bacteria and viruses; thermal pollution; silage runoff; untreated milkhouse waste; and any other farm waste as the term "waste" is defined in 10 V.S.A. § 1251(12).

2.40 Waste Management System means an on-farm waste management program and conservation practices which may include a combination of:

- (a) an adequately sized waste storage facility, field stacking, composting, leachate control systems, bedded pack systems, and milkhouse waste systems;
- (b) contracts which transfer the ownership of wastes generated at a production area to another person for management in a manner determined by the Secretary; and/or,
- (c) a nutrient management plan (NMP) for all wastes to be applied in compliance with this rule.

2.41 Waste Storage Facility means an impoundment made for the purpose of storing agricultural waste by constructing an embankment, excavating a pit or dugout, fabricating an in-ground or above-ground structure, or any combination thereof.

2.42 Waters of the State include, for the purposes of this rule, surface water and groundwater as applied.

2.43 Water Supply means a drinking water source that intersects the water table and provides water through pipes or other conveyances and includes drilled wells, dug wells, driven point wells, and natural springs.

Section 3. Required Agricultural Practices Activities and Applicability.

3.1 Persons engaged in farming and the agricultural practices as defined in Section 3.2 of this rule and who meet the minimum threshold criteria for applicability of this rule as found in Section 3.1(a) -- (g) must meet all applicable Required Agricultural Practices conditions, restrictions, and operating standards. Persons engaged in farming who are in compliance with these conditions, restrictions, and operating standards, as applicable, shall be presumed to not have a discharge of agricultural wastes to waters of the State. Compliance with the Required Agricultural Practices Rule is required if a person:

- (a) is required to be permitted or certified by the Secretary, consistent with the requirements of 6 V.S.A. Chapter 215 and this rule; or
- (b) has produced an annual gross income from the sale of agricultural products of \$ 2,000.00 or more in an average year; or
- (c) is preparing, tilling, fertilizing, planting, protecting, irrigating, and harvesting crops for sale on a farm that is no less than 4.0 contiguous acres in size; or
- (d) is raising, feeding, or managing at least the following number of adult livestock on a farm that is no less than 4.0 contiguous acres in size:
 - (1) four equines;

- (2) five cattle, cows, or American bison;
 - (3) 15 swine;
 - (4) 15 goats;
 - (5) 15 sheep;
 - (6) 15 cervids;
 - (7) 50 turkeys;
 - (8) 50 geese;
 - (9) 100 laying hens;
 - (10) 250 broilers, pheasant, Chukar partridge, or Coturnix quail;
 - (11) three camelids;
 - (12) four ratites;
 - (13) 30 rabbits;
 - (14) 100 ducks;
 - (15) 1,000 pounds of cultured trout; or
 - (16) other livestock types, combinations, or numbers as designated by the Secretary based upon or resulting from the impacts upon water quality consistent with this rule; or
- (e) is raising, feeding, or managing other livestock types, combinations, and numbers, or managing crops or engaging in other agricultural practices on less than 4.0 contiguous acres in size that the Secretary has determined, after the opportunity for a hearing, to be causing adverse water quality impacts and in a municipality where no ordinances are in place to manage the activities causing the water quality impacts; or
- (f) is managed by a farmer filing with the Internal Revenue Service a 1040(F) income tax statement in at least one of the past two years; or
- (g) has a prospective business or farm management plan, approved by the Secretary, describing how the farm will meet the threshold requirements of this section.

3.2 The agricultural practices on farms meeting the minimum threshold criteria set forth in Section 3.1 that are governed by this rule include:

- (a) the confinement, feeding, fencing, and watering of livestock;
- (b) the storage and handling of agricultural wastes principally produced on the farm;
- (c) the collection of maple sap principally produced from trees on the farm and/or production of maple syrup from sap principally produced on the farm;
- (d) the preparation, tilling, fertilization, planting, protection, irrigation, and harvesting of crops;
- (e) the ditching and subsurface drainage of farm fields and the construction of farm ponds;
- (f) the stabilization of farm fields adjacent to banks of surface water, and the establishment and maintenance of vegetated buffer zones and riparian buffer zones;
- (g) the construction and maintenance of farm structures, farm roads, and associated infrastructure;
- (h) the on-site storage, preparation, production, and sale of fuel or power from agricultural products or wastes principally produced on the farm;
- (i) the on-site storage, preparation, and sale of agricultural products principally produced on the farm from raw agricultural commodities principally produced on the farm;
- (j) the on-site storage of agricultural inputs for use on the farm including, but not limited to, lime, fertilizer, pesticides, compost and other soil amendments, and the equipment necessary for operation of the farm; and
- (k) the management of livestock mortalities produced on the farm.

Section 4. Small Farm Certification and Training Requirements.

4.1 As used in this section, "Certified Small Farm" means:

- (a)
 - (1) a parcel or parcels of land on which 10 or more acres are used for the raising, feeding, or management of livestock;
 - (2) that house no more than the number of animals specified under 6 V.S.A. § 4857(2) (Medium Farm definition); and
 - (3) that house at least the following numbers and types of livestock:
 - (A) 50 mature dairy cows;
 - (B) 75 youngstock or heifers;

- (C) 75 veal calves;
 - (D) 75 cattle or cow/calf pairs;
 - (E) 188 swine weighing over 55 pounds;
 - (F) 750 swine weighing less than 55 pounds;
 - (G) 40 equines;
 - (H) 750 sheep or goats;
 - (I) 4,125 turkeys;
 - (J) 2,250 laying hens or broilers with a liquid manure handling system;
 - (K) 6,250 laying hens or broilers without a liquid manure handling system;
 - (L) 375 ducks with a liquid manure handling system;
 - (M) 2,500 ducks without a liquid manure handling system;
 - (N) any other animal type, number, or combination of animals as designated by the Secretary that is having an adverse impact on water quality; or
 - (O) any combination of more than one animal type exceeding 90,000 pounds of total live animal weight (animal units); or
- (b) farms on a parcel or parcels of land greater than 50 acres used for the preparation, tilling, fertilization, planting, protection, irrigation, and harvesting of annual cropland where fertilizer, manure, or agricultural wastes are mechanically applied to said parcel or parcels; or
 - (c) farms on a parcel or parcels of land greater than 50 acres used for the preparation, tilling, fertilization, planting, protection, irrigation, and harvesting of vegetable production where fertilizer, manure, or agricultural wastes are mechanically applied to said parcel or parcels; or
 - (d) that the Secretary has designated, on a case-by-case basis after an opportunity for a hearing, as a farm required to comply with the certification requirements pursuant to 6 V.S.A. § 4871(c) based on the farm's management, agricultural inputs used by the farm, tillage practices used by the farm, agricultural wastes generated by the farm, and the associated actual or potential water quality impacts.

4.2 On a case-by-case basis after an opportunity for a hearing, the Secretary may designate a farm as not being required to comply with the certification requirements pursuant to

4871(c) upon a determination that the farm does not pose a threat of discharge to a water of the State or does not pose a threat of contamination to groundwater.

4.3 Certified Small Farms shall annually certify compliance with the Required Agricultural Practices Rule. Certification shall be in a manner and schedule established by the Secretary.

(a) Certified Small Farms may be inspected at any time for the purposes of assessing compliance by the farm with the Required Agricultural Practices Rule.

(b) The Secretary may prioritize inspections and inspection frequency based on the identified water quality or compliance issues posed by a farm. Certified Small Farms shall be scheduled for inspection at least once in every seven-year period commencing at the receipt by the Secretary of certification.

(c) A person who owns or leases a Certified Small Farm shall notify the Secretary of a change of ownership or change of lessee of a Certified Small Farm within 30 days of the change. The notification shall include the certification of farm compliance and shall be submitted by the new owner or lessee.

Section 5. Agricultural Water Quality Training.

(a) Owners or operators of certified small farms, permitted medium farms, or permitted large farms shall obtain water quality training as approved by the Secretary. Training shall provide information regarding:

(1) the prevention of discharges;

(2) the mitigation and management of stormwater runoff;

(3) statutory and regulatory requirements of the operation of a large, medium, or small farm and financial resources available to assist in compliance;

(4) the mechanical application of manure or nutrients and methods or techniques used to minimize the runoff of applied manure or nutrients to waters of the State;

(5) weather and soil conditions that increase the risk of runoff of manure or nutrients to waters of the State; and

(6) standards for nutrient management including nutrient management planning.

(b) Large Farm Operations, Medium Farm Operations, and Certified Small Farm Operations shall obtain four hours of approved training at least once in every five years. This requirement will commence upon notice from the Secretary.

(c) The Secretary may approve training offered by other entities upon request of the entity providing the training. All requests for training approval shall be provided to the Secretary at

least 30 days prior to the scheduled training dates. The entity will be required to submit information about the training and attendees in a manner requested by the Secretary.

Section 6. Required Agricultural Practices; Conditions, Restrictions, and Operating Standards.

6.01 Discharges

(a) Farms shall not create any discharge of agricultural wastes to surface waters of the State through a discrete conveyance such as, but not limited to, a pipe, ditch, or conduit without a permit from the Secretary of ANR.

(b) Production areas, barnyards, animal holding or feedlot areas, manure storage areas, and feed storage areas shall utilize runoff and leachate collection systems, diversion, or other management strategies in order to prevent the discharge of agricultural wastes to surface water or groundwater.

6.02 Storage of Agricultural Wastes and Agricultural Inputs

(a) All agricultural wastes shall be managed in a manner to prevent runoff or leaching of wastes to waters of the State or across property boundaries.

(b) All components of a waste management system, including waste storage facilities, shall be managed and maintained so as to prevent structural or mechanical failures.

(c) Waste Storage Facilities maintenance and construction shall ensure:

(1) Vegetation is managed so that the facility maintains structural integrity and prevents leaks or overflows at all times.

(2) Waste Storage Facilities are managed to provide adequate volume in order to prevent overflows at all times.

(3) All waste storage facilities constructed, expanded, or modified after July 1, 2006 are designed and constructed according to the United States Department of Agriculture's Natural Resources Conservation Service (USDA NRCS) standards and specifications or an equivalent standard certified by a professional engineer licensed in the State of Vermont. Waste Storage Facilities shall be managed and maintained consistent with the requirements of the Operation and Maintenance Plans for the facility.

(d) The Secretary may require, on a case-by-case basis, that the owner or operator of a waste storage facility certify compliance with standards established by the USDA NRCS for waste storage facilities, or an equivalent standard certified by a professional engineer licensed in the State of Vermont.

(e) Field stacking of manure or other agricultural wastes on sites not approved consistent with USDA NRCS standards, or otherwise approved by the Secretary:

(1) shall consist of a stackable material that is no less than 20% solids and be able to stack four feet high; and

(2) shall be prohibited on lands in a floodway or subject to annual flooding; and

(3) shall be prohibited on exposed bedrock; and

(4) shall not be sited within:

(A) 200 feet of the top of bank of surface water;

(B) 200 feet of a public or private [-]water supply;

(C) 100 feet from a property line;

(D) 100 feet from a ditch or conveyance to surface water;

(E) areas subject to concentrated runoff; or

(F) 100 feet of subsurface tile drainage;

(f) The Secretary may authorize site-specific standards other than those listed in Section 6.02(e)(4)(A)-(F) when the Secretary determines that a manure stacking or piling site, fertilizer storage, or other nutrient storage will not have an adverse impact on groundwater quality or surface water quality but in no case shall unimproved manure stacking sites be located less than 100 feet from a private water supply or the top of the bank of surface water.

(g) Over a three-year period, field stacked agricultural wastes shall be land applied consistent with the nutrient management plan requirements of Section 6.03, actively managed as a compost, or moved to a suitable alternative location.

(h) Fertilizer shall be stored consistent with the Vermont Fertilizer and Lime Regulations Section XIII. Fertigation and chemigation equipment shall be operated with an adequate anti-siphon device between the system and the water source.

(i) Pesticides shall be used in accordance with 6 V.S.A. Chapter 87 (Control of Pesticides) and all regulations promulgated thereunder.

6.03 Nutrient Management Planning

(a) All Certified Small Farm Operations as defined in Section 4 of this rule and all permitted Medium and Large Farm Operations managing manure, agricultural wastes, or fertilizer for use as nutrient sources shall implement a field-by-field nutrient management plan consistent with the

requirements of the USDA NRCS Nutrient Management Practice Code 590 or other equivalent standards approved by the Secretary.

(b) For all other farming operations subject to this rule, all sources of nutrients shall be accounted for when determining nutrient application rates. Recommended rates may be adjusted based on manure or other waste analysis and/or nutrient testing procedures. Recommended nutrient application rates shall be consistent with current university recommendations and standard agricultural practices.

(c) For all other farming operations subject to this rule, all fields receiving mechanical application of manure, agricultural wastes, or fertilizer shall be soil sampled at least once in every five years using modified Morgan's extractant or other equivalent standards approved by the Secretary. Records of soil analysis, manure or other agricultural waste application, and fertilizer applications shall be maintained on the farm for a period five years and provided to the Secretary upon request.

(d) Owners and operators of annual cropland, perennial grass land, or hay land who are required to implement a USDA 590 standard nutrient management plan and who have soil analyses demonstrating greater than 20 parts per million (ppm) phosphorous shall:

(1) implement appropriate provisions of an approved nutrient management plan that balances excessive soil phosphorus levels with management strategies to reduce those levels, including eliminating or reducing manure applications; and

(2) apply nutrients at less than UVM phosphorus crop nutrient removal rates on cropland fields with "pattern tile drainage", which for the purposes of this section is defined as subsurface tile drainage systematically installed in a repeating pattern.

(e) Owners and operators of farms required to implement a USDA 590 standard nutrient management plan shall document significant changes in animal numbers, management, nutrient application rates, field management, or crop management, and shall make appropriate modifications to the farm's nutrient management plan in a timely manner.

(f) The following records of manure or other agricultural waste application shall be maintained by all farms for a period of five years and shall be provided to the Secretary upon request:

(1) date of application;

(2) field location;

(3) application rate;

(4) source of nutrients applied; and

(5) weather and field conditions at the time of application.

6.04 Soil Health Management; Cover Crop Requirements

- (a) Soil management activities that increase organic matter, reduce compaction, promote biological activity, reduce erosion, and maintain appropriate nutrient levels shall be considered and implemented as practicable. Practices that promote these goals include reduced tillage, conservation tillage, avoiding mechanical activities on saturated soils, addition of organic matter using manure, green manures and compost, sod and legume rotations, and the use of cover crops.
- (b) Cropland shall be cultivated in a manner that retains soil in the field and promotes soil health while minimizing visible erosion into buffer strips, across property boundaries, or that creates gully erosion. The performance management standard for the soil must result in an average soil loss less than or equal to the soil loss tolerance (T) for the prevalent soil type as calculated through application of the Revised Universal Soil Loss Equation 2 or through the application of similarly accepted models.
- (c) Croplands shall be managed to prevent fieldborne gully erosion and reduce or eliminate associated sediment discharges using management strategies that may include the establishment of grassed waterways, filter strips, or other methods deemed appropriate by the Secretary.
- (d) Annual croplands subject to frequent flooding from adjacent surface waters, as described in the USDA Soil Survey Flooding Frequency Class, shall be required to be planted to cover crops. Broadcast seeding must be completed by October 1 of each year. Seed planted with drill seeders or otherwise incorporated shall be completed by October 15 of each year. The Secretary may, on a case-by-case basis, approve alternative planting dates due to unusual soil or weather conditions or other specific crop management needs and upon request of the owner or operator of a farm managing annual croplands subject to frequent flooding from adjacent surface waters, as described in the USDA Soil Survey Flooding Frequency Class. If annual crops cannot be harvested prior to October 15, then 30% crop residue, growing directly in the soil, must remain in order to limit soil loss.

6.05 Manure and Waste Application Standards and Restrictions

- (a) Manure or other agricultural wastes shall not be applied between December 15 and April 1. The Secretary may prohibit the application of manure to land in the State following adequate notice to the agricultural community between December 1 and December 15 and between April 1 and April 30 of any calendar year when the Secretary determines that due to weather conditions, soil conditions, or other limitations, application of manure to land would pose a significant potential of runoff to waters of the State.
- (b) Manure or other agricultural wastes shall not be applied to cropland, perennial grass land, small grain cropland, or hay land subject to frequent flooding from adjacent surface waters, as described in the USDA Soil Survey Flooding Frequency Class, after October 16 or before April 14.
- (c) Manure or other agricultural wastes applied to annual cropland subject to frequent flooding, as described in the USDA Soil Survey Flooding Frequency Class, shall be injected or otherwise

incorporated within 48 hours of application. This requirement shall not apply to land in no-till management.

(d) Manure or other agricultural wastes shall not be applied when field conditions are conducive to flooding, runoff, ponding, or other off-site movement, or can be reasonably anticipated to result in flooding, runoff, ponding, or other off-site movement, regardless of NMP recommendations.

(e) Manure or other agricultural wastes shall not be applied in areas of croplands, perennial grass lands, or hay lands that:

(1) are saturated with water with the potential to runoff to surface water;

(2) are frozen or snow covered, unless the Secretary has approved an exemption consistent with the requirements of Section 6.06; or

(3) have exposed bedrock.

(f) Manure or other agricultural wastes shall not be applied to annual cropland, vegetable cropland, or small grain cropland where the average field slope exceeds 10%, unless a permanently vegetated buffer zone of 100 feet adjacent to downslope surface water has been established. Manure shall not be applied within the buffer zone.

(g) Manure or other agricultural wastes shall not be mechanically applied within 100 feet of a private water supply or 200 feet of a public water supply. This prohibition shall not apply to private water supplies that have been established inconsistent with the Department of Environmental Conservation Water Supply Rules existing at the time that the water supply was established.

(h) Manure or other agricultural wastes shall not be applied in exceedance of nutrient recommendations such that it ceases to be useful or beneficial for plant uptake.

6.06 Manure Spreading Exemptions

(a) Manure and other agricultural wastes shall be land applied consistent with the requirements of this section unless the Secretary grants an emergency exemption because of an emergency situation such as the structural failure of a waste storage facility or has granted a seasonal exemption consistent with Section 6.06(b) -- (d). In granting an emergency exemption, the Secretary shall establish requirements so that manure will be applied on fields in a manner with the least likelihood of generating runoff to surface waters.

(b) The Secretary may approve a seasonal exemption to the winter spreading ban or the restrictions on frequently flooded fields for manure applications on a case-by-case basis upon written request. Requests for an exemption shall provide:

(1) the identification and location of specific fields to be used for winter spreading;

- (2) the proposed rates of application;
- (3) the location of nearest surface water, mapped wetlands, mapped floodplains, water supply, tile drains, surface inlets or open drains, property boundaries, and ditches;
- (4) the identification of soil types, depth to groundwater, and slopes;
- (5) the current soil test results;
- (6) the annual nutrient application plan for the fields;
- (7) the Phosphorus Index, or equivalent, results;
- (8) the RUSLE2, or equivalent, results; and
- (9) the USDA Soil Survey Flooding Frequency Class, and if applicable to the request, evidence that the flood frequency class is not accurate.

(c) All approvals for a seasonal exemption shall be in writing and shall prohibit the application of manure:

- (1) to areas with established channels of concentrated storm water runoff to surface waters;
- (2) to permanent vegetative buffer zones;
- (3) to wetlands, as that term is defined in 10 V.S.A. § 902(5);
- (4) within 200 feet of a potable water supply, as that term is defined in 10 V.S.A. § 1972(6);
- (5) to fields exceeding tolerable soil loss (T);
- (6) to saturated soils; and
- (7) to any other area as designated by the Secretary on a case-by-case basis.

(d) Approvals for seasonal exemptions to the winter spreading ban shall establish requirements and conditions for the application of manure when frozen or snow-covered soils prevent effective incorporation at the time of application, require manure to be applied according to a nutrient management plan, establish the maximum amounts of manure that may be applied per acre during any one application, and establish required manure spreading setbacks from surface water, water supplies, and other water conveyances. Seasonal exemptions to the winter spreading ban may be renewed annually upon request and submission of winter spreading records of application.

6.07 Buffer Zones: Manure and Agricultural Wastes Application Setbacks

A vegetative buffer zone of perennial vegetation shall be maintained between croplands and the top of the bank of adjoining surface waters and ditches consistent with the criteria in (a) through (i) below:

(a) Adjacent surface waters shall be buffered from croplands by 25 feet of perennial vegetation.

(b) Ditches shall be buffered from croplands by 10 feet of perennial vegetation unless determined to potentially transport significant waste or nutrients to surface water consistent with the USDA 590 standard nutrient management requirements.

(c) Surface inlets or inlets of open drains shall be buffered from croplands by 25 feet of perennial vegetation.

(d) Mechanical application of manure or other agricultural wastes is prohibited within perennially vegetated buffer zones. Grazing of livestock consistent with the provisions of Section 7 of this rule is permitted.

(e) The use of fertilizer or compost for the establishment and maintenance of a required vegetative buffer zone is allowed consistent with nutrient management plan requirements, soil analysis, and agronomic recommendations for the buffer zone.

(f) Tillage within the perennially vegetated buffer zone is prohibited other than for the establishment and maintenance of the buffer zone.

(g) Harvesting a vegetative buffer zone as a perennial crop is allowed.

(h) Spoils from agricultural ditch maintenance shall not be stored in the buffer zone or in such a manner as to discharge to surface water.

(i) Exceptions to the required vegetative buffer zone widths, including the requirements of Section 6.05(f), may be considered upon request on a site-specific basis according to standards approved by the Secretary, but in no case shall a buffer zone be less than 10 feet in width. Site-specific buffer zones may be approved based on field characteristics such as a determination that a conveyance has the potential to transport significant wastes or nutrients to surface water, field contours, soil types, slopes, proximity to water, nutrient management plan requirements, and other relevant characteristics when the Secretary determines that the proposed site-specific buffer zones are adequately protective of surface waters.

6.08 Animal Mortality Management Requirements

(a) Animal mortalities shall be properly stored, handled, and disposed of within 48 hours, so as to minimize adverse water quality impacts.

(b) Animal mortalities buried on farm property shall be sited so as to be:

- (1) a minimum of 150 feet from property lines and the top of the bank of surface waters;
 - (2) a minimum of three feet above the seasonal high water table and bedrock;
 - (3) covered with a minimum of 24 inches of soil;
 - (4) a minimum of 200 feet from public or private drinking water supplies; and
 - (5) not located on lands in a floodway or subject to annual flooding.
- (c) Animal mortalities composted or otherwise disposed of on farm property on unimproved sites shall be prohibited on lands in a floodway or subject to annual flooding, and shall be sited so as to be:

- (1) a minimum of 200 feet from property lines;
 - (2) a minimum of 200 feet from the top of the bank of surface waters;
 - (3) a minimum of 200 feet from public or private drinking water supplies not owned by the farm;
 - (4) a minimum of 300 feet from neighboring residences or public buildings;
 - (5) a minimum of 100 feet from a ditch or conveyance to surface water; and
 - (6) not upon areas of exposed bedrock.
- (d) Other site-specific standards may be authorized by the Secretary, but in no case shall unimproved sites be located less than 100 feet from a private water supply, property boundary, or the top of the bank of surface water.

6.09 On-Farm Composting of Imported Food Processing Residuals

- (a) All on-farm composting facilities importing less than 1,000 cubic yards per year of food processing residuals shall be sited so as to be at a minimum:
- (1) 200 feet from the top of bank of surface water;
 - (2) 200 feet from a public or private water supply not owned by the farm;
 - (3) 300 feet from a neighboring residence or public building;
 - (4) 200 feet from a property line;
 - (5) 100 feet from a ditch or conveyance to surface water;

- (6) not within floodways, areas subject to annual flooding or concentrated runoff; and
- (7) not upon areas of exposed bedrock.

(b) Other site-specific standards may be authorized by the Secretary, but in no case shall unimproved sites be located less than 100 feet from a private water supply, property boundary, or the top of the bank of surface water.

6.10 Stabilization of Banks of Surface Waters

(a) The areas from the top of a bank of surface water to the edge of the surface water shall be left in their natural state except as allowed by State statute including, but not limited to, 10 V.S.A. § 1021, and the standards established for the pasturing of livestock consistent with Section 7 of this rule.

(b) Stabilization of farm field banks of surface waters, when allowed under Section 6.10(a) of this rule, shall be constructed in accordance with the USDA NRCS standards and specifications or other standards approved by the ANR and the Agency that are consistent with policies adopted by the Secretary of Natural Resources to reduce fluvial erosion hazards.

Section 7. Exclusion of Livestock from the Waters of the State.

(a) Adequate vegetative cover shall be maintained on banks of surface waters by limiting livestock trampling and equipment damage to protect banks of surface waters to minimize erosion.

(b) Crossings and watering areas need to be maintained so as to minimize erosion and be adequately protective of surface waters. (c) Livestock shall not have access to surface water in production areas or immediately adjacent to production areas, except:

(1) at livestock crossings or watering areas;

(2) in areas prescribed by a rotational grazing plan consistent with NRCS standards or an equivalent standard, and approved by the Secretary. Approved grazing plan areas shall maintain at least an average of three inches of vegetative growth within 25 feet of the top of bank of surface water, and within 10 feet of the top of bank of ditches; or

(3) in areas approved by the Secretary based on site-specific characteristics and management requirements.

(d) Livestock shall not have access to surface water in areas outside of production areas that:

(1) contain unstable banks or where erosion is present; or

(2) are areas designated by the Secretary as having actual or potential threat to water quality as a result of livestock access.

(e) Livestock shall not be pastured within 50 feet of a private water supply without the permission of the water supply owner. This prohibition shall not apply to private water supplies that have been established inconsistent with the Department of Environmental Conservation Water Supply Rules existing at the time that the water supply was established.

Section 8. Ground Water Quality and Groundwater Quality Investigations.

(a) Farm operations shall be conducted so that the concentration of wastes in groundwater originating from agricultural operations do not reach or exceed the primary or secondary groundwater quality enforcement standards identified by Appendix One of the Groundwater Protection Rule and Strategy in accordance with 10 V.S.A. Chapter 48 (Groundwater Protection).

(b) Farm operations shall be conducted with the goal of reducing the concentration of wastes in groundwater to the preventive action levels (PALs) of the primary or secondary groundwater quality standards identified by Appendix One of the Groundwater Protection Rule and Strategy when monitoring indicates the presence of these wastes in groundwater that exceed the enforcement standard.

(c) The Secretary may conduct groundwater quality monitoring to assess the impact of agricultural practices and farm operations on the quality of drinking water and groundwater. The Secretary may conduct groundwater sampling at sites:

(1) selected by the Secretary where water supply owners or tenants have volunteered or agreed to participate in the sampling program;

(2) upon the request of a water supply owner or tenant;

(3) selected by the Secretary based on the results of other sampling data or the existence of vulnerable site characteristics; or

(4) with activities or operations permitted, certified, or regulated by the Secretary.

(d) The Secretary shall conduct a groundwater investigation where the Secretary has received a complaint from a water supply owner in the vicinity of a farm that the farm or its agricultural practices has contaminated the drinking water or groundwater of the water supply owner.

(e) The Secretary shall conduct a groundwater investigation where sampling indicates that drinking water or groundwater contains detectable concentrations of agricultural wastes.

(f) The Secretary shall provide:

(1) written notification of testing results to each individual water supply owner and tenant, if known, that participates in the sampling program.

(2) property owners in the vicinity of farm operations and agricultural lands with the test results for each water supply owned by them that is sampled by the Secretary.

(3) farm operations with the test results for water supplies owned by the farm operation and, upon request, for water supplies adjacent to or impacted by the crop land or facilities managed by the farm operation.

(g) In order to identify and remediate sources of drinking water and groundwater contamination, the Secretary, without limitation, may:

(1) conduct site visits to interview property owners and farm operators, gain an understanding of the physical characteristics of the landscape and locate additional sites for water quality sampling;

(2) communicate with farm operators and adjacent property owners to identify practices and activities that are potential sources of contamination; (3) conduct additional sampling to confirm the detection of contaminants and to determine the extent and scope of contamination at the site;

(4) require corrective actions such as changes in activities, management practices, cropping patterns, or structural revisions designed to reduce the contamination from current activities and prevent contamination from future activities;

(5) conduct follow up water quality sampling to determine the effectiveness of changes made or corrective actions taken;

(6) seek additional investigative or consultation resources to evaluate and characterize sites to determine vulnerability to drinking water and groundwater contamination; and

(7) review testing results and site evaluations to determine if changes in water quality data are the result of changes in activities or natural site conditions.

(h) The Secretary may require the owner or operator of a waste storage facility to modify the facility to meet the USDA NRCS or an equivalent standard for the facility or to implement additional management measures if the facility poses a threat to human health or the environment as established by an exceedance of the State's Groundwater Quality Standards.

(i) For the purpose of assessing whether a waste storage facility is violating the State's Groundwater Quality Standards, the Secretary shall pay for the initial costs to conduct groundwater monitoring. When the Secretary has made a determination that a waste storage facility is violating the State's Groundwater Quality Standards, the Secretary shall provide notification to the Department of Health and the Agency of Natural Resources. This notification shall occur within 21 days and include the location of the facility and the name of the owner or operator. When the Secretary makes a determination that a waste storage facility no longer poses a threat to human health or the environment, the Secretary shall provide notification of the revised determination to the Department of Health and the ANR.

Section 9. Construction of Farm Structures.

(a) Siting

(1) Prior to construction of farm structures, the farmer must notify the zoning administrator or the town clerk of the town in which the farm structure is proposed, in writing, of the proposed construction activity. The notification must contain a sketch of the proposed structure including the setback distances from adjoining property lines, road rights-of-way, and adjacent surface water.

(2) Local setbacks and setbacks designed by this rule shall be observed unless the Secretary has approved a farmer's written request for other reasonable setbacks for the specific farm structure being constructed or maintained in accordance with Section 9(b).

(3) Construction of farm structures in Flood Hazard Areas and River Corridors are required to obtain a Flood Hazard Area and River Corridor permit from the ANR or its designee unless otherwise exempt (refer to Appendix A). Fences through which floodwater may flow are not structures which represent an encroachment in a floodway area.

(4) Construction of new farm structures, specifically buildings and other farm structures that disturb one or more acres of land must obtain authorization from the ANR before commencing with land disturbance or construction activities.

(5) Existing Production Areas

Farm structures, with the exception of replacement structures built to occupy existing structural footprints, shall be constructed so that a minimum distance of 50 feet is maintained between the top of the bank of adjoining surface waters and the farm structure.

(A) Such structures do not include those solely constructed for irrigation, drainage, fencing, or livestock watering,

(B) Such structures do not include water quality conservation practices where the site is the best available site on the farm, as approved by the Secretary, for the purposes of protecting ground water quality or surface water quality.

(C) Such structures do not include waste storage facilities if the site is the best available site on the farm, as approved by the Secretary, for the purposes of protecting ground water quality or surface water quality and the waste storage facility is designed by a licensed engineer.

(6) New Production Areas

(A) Farm structures, excluding waste storage facilities, shall be constructed so that a minimum distance of 50 feet is maintained between the top of the bank of adjoining surface waters and the farm structure.

(i) Such structures do not include those solely constructed for irrigation, drainage, fencing, or livestock watering,

(ii) Such structures do not include water quality conservation practices where the site is the best available site on the farm, as approved by the Secretary, for the purposes of protecting ground water quality or surface water quality.

(B) The following setbacks shall apply to all new waste storage facilities proposed on sites where no waste storage facility or production area previously existed:

(i) 100 feet from the centerline of a public road;

(ii) 100 feet from any abutting property line;

(iii) 200 feet from the top of the bank of any surface water; and

(iv) 200 feet from public or private water supplies.

(b) Setbacks Approved by the Secretary

Local setbacks or no build areas for wetlands, River Corridors, and other setbacks applicable to all development in a local zoning bylaw established by the municipality shall be maintained, unless upon written request of the person, consistent with the procedures found in Appendix A, the Secretary has approved other reasonable setbacks for the specific farm structure being constructed. The Secretary may authorize the siting of a waste storage facility within 200 feet of a surface water or private water supply if the site is the best available site on the farm for the purposes of protecting ground water quality or surface water quality and the waste storage facility is designed by a licensed engineer to meet USDA NRCS standards and specifications or an equivalent standard. If an equivalent design standard is used, the design and construction shall be certified by the Secretary, or a licensed professional engineer operating within the scope of his or her expertise. The Secretary may consider the following in rendering a decision regarding alternative setbacks:

(1) unique existing physical conditions or exceptional topographical or other physical constraints peculiar to the particular property that would prevent development in accordance with this rule;

(2) because of such physical conditions or constraints, there is no possibility that the property can be developed in conformity with the provisions of this rule and that the approval of an alternative setback is therefore necessary to enable the reasonable operation of the farm;

(3) the alternative setback, if approved by the Secretary, will be the site that is the best available on the farm for the purposes of protecting ground water quality or surface water quality; and

(4) the setback, if approved by the Secretary, will represent the minimum alternative setback necessary to allow for reasonable operation of the farm.

Section 10. Custom Applicator Certification.

- (a) Custom applicators of manure or other agricultural wastes shall be certified by the Secretary in order to operate within the State and shall comply with all applicable requirements of the Required Agricultural Practices Rule, Medium Farm Operations Rule and Permits, and Large Farm Operations Rule and Permits.
- (b) Custom applicators shall demonstrate knowledge of Required Agricultural Practices Rule standards, Medium Farm Operation Rule and Permit requirements, Large Farm Operation Rule and Permit requirements, and the USDA NRCS Nutrient Management Practice Code 590, including manure or other wastes application restrictions, buffer zones, setback requirements, and recordkeeping requirements.
- (c) Custom applicators shall demonstrate competency in methods and techniques used to minimize runoff from application sites, identification of weather or soil conditions that may increase risk of field runoff, recordkeeping, and other information deemed pertinent by the Secretary.
- (d) Certified custom applicators shall train all employees and seasonal workers in methods or techniques to minimize runoff to surface water, identification of weather or soil conditions that may increase the risk of runoff, and the Required Agricultural Practices Rule, Medium Farm Operation Rule and Permit, Large Farm Operation Rule and Permit standards and restrictions for the application of manure or other agricultural wastes. Records of training shall be maintained in a manner prescribed by the Secretary.
- (e) Certification shall be valid for five years from the date of issuance and shall be renewable annually on a form and in a manner prescribed by the Secretary.
- (f) Certified custom applicators shall complete eight hours of training in each five-year period of certification. Completion of five-year training requirements will serve as meeting the requirements for recertification.
- (g) Certified custom applicators shall maintain records of the amount of manure or agricultural waste applied by farm and field for a period of five years and provide those records to the Agency upon reasonable request.

Section 11. Site-Specific On-Farm Conservation Practices.

When the Secretary determines, after inspection of a farm, that a person engaged in farming is complying with the Required Agricultural Practices Rule but there still exists the potential for agricultural wastes to enter the waters of the State, the Secretary shall require the person to implement additional, site-specific, on-farm conservation practices designed to prevent agricultural wastes from entering the waters of the State. When requiring implementation of a conservation practice, the Secretary shall inform the person engaged in farming of the resources

available to assist the person in implementing the conservation practices to comply with the requirements of this rule.

Section 12. Subsurface Tile Drainage.

12.1 Requirements for Subsurface Tile Drainage For all farming operations subject to this rule, all cropland with any subsurface tile drainage must implement the following practices, unless other site-specific standards are approved by the Secretary:

- (a) Concentrated feeding areas of unimproved barnyards and unimproved feedlots shall not be sited over subsurface tile drainage.
- (c) New vegetative treatment areas for agricultural wastes shall not be installed within 200 feet upslope of a subsurface tile drain and new subsurface drainage shall not be installed within 200 feet downslope from the edge of an existing vegetative treatment area.
- (d) Subsurface tile drainage installed or modified after January 1, 2019 shall have a rodent guard installed at the outlet of the subsurface tile drainage system.

12.2 Requirements for Surface Inlets For all farming operations subject to this rule, no new installations of surface inlets shall be located within or adjacent to cropland. For the purposes of this section, surface inlets do not include drainage controls such as diversion structures or grade stabilization practices approved by the Secretary.

Section 13. Severability Clause.

If any provision of this rule, or the application thereof to any person or circumstance, is held invalid, such determination shall not affect other provisions or applications of this rule which can be given effect without the invalid provision or application, and to that end the provisions of this rule are severable.

Section 14. Effective Date.

This regulation shall become effective on [date of adoption].

3) 6 V.S.A. § 4816; CVR 20-010-008 (2.17, 2.25, 2.39, 6.05, 6.06)

§ 4816. Seasonal application of manure

- (a) Prohibition on application. A person shall not apply manure to land in the State between December 15 and April 1 of any calendar year unless authorized by this section.
- (b) Extension of prohibition. The Secretary of Agriculture, Food and Markets shall amend the required agricultural practices by rule in order to establish a process under which the Secretary may prohibit the application of manure to land in the State between December 1 and December 15 and between April 1 and April 30 of any calendar year

when the Secretary determines that due to weather conditions, soil conditions, or other limitations, application of manure to land would pose a significant potential of discharge or runoff to State waters.

(c) Seasonal exemption. The Secretary of Agriculture, Food and Markets shall amend the required agricultural practices by rule in order to establish a process under which the Secretary may authorize an exemption to the prohibition on the application of manure to land in the State between December 15 and April 1 of any calendar year or during any period established under subsection (b) of this section when manure is prohibited from application. Any process established for the issuance of an exemption under the required agricultural practices may authorize land application of manure on a weekly, monthly, or seasonal basis or in authorized regions, areas, or fields in the State, provided that any exemption shall:

(1) prohibit application of manure:

(A) in areas with established channels of concentrated stormwater runoff to surface waters, including ditches and ravines;

(B) in nonharvested permanent vegetative buffers;

(C) in a nonfarmed wetland, as that term is defined in 10 V.S.A. § 902(5);

(D) within 50 feet of a potable water supply, as that term is defined in 10 V.S.A. § 1972(6);

(E) to fields exceeding tolerable soil loss; and

(F) to saturated soils;

(2) establish requirements for the application of manure when frozen or snow-covered soils prevent effective incorporation at the time of application;

(3) require manure to be applied according to a nutrient management plan; and

(4) establish the maximum tons of manure that may be applied per acre during any one application.

20-010-008. Section 2. Definitions.

2.17 Fertilizer means any substance containing one or more recognized plant nutrients that is used for its plant nutrient content and that is designed for use or claimed to have value in promoting plant growth or health, except unprocessed animal or vegetable manures and other products exempted by the Secretary.

2.25 Manure means livestock waste in solid or liquid form that may also contain bedding, spilled feed, water, milkhouse waste, or soil.

2.39 Waste or Agricultural Waste means material originating or emanating from a farm that is determined by the Secretary or the Secretary of Natural Resources to be harmful to the waters of the State, including: sediments; minerals, including heavy metals; plant nutrients; pesticides; organic wastes, including livestock waste, animal mortalities, compost, feed and crop debris; waste oils; pathogenic bacteria and viruses; thermal pollution; silage runoff; untreated milkhouse waste; and any other farm waste as the term "waste" is defined in 10 V.S.A. § 1251(12).

Section 6. Required Agricultural Practices; Conditions, Restrictions, and Operating Standards.

6.05 Manure and Waste Application Standards and Restrictions

(a) Manure or other agricultural wastes shall not be applied between December 15 and April 1. The Secretary may prohibit the application of manure to land in the State following adequate notice to the agricultural community between December 1 and December 15 and between April 1 and April 30 of any calendar year when the Secretary determines that due to weather conditions, soil conditions, or other limitations, application of manure to land would pose a significant potential of runoff to waters of the State.

(b) Manure or other agricultural wastes shall not be applied to cropland, perennial grass land, small grain cropland, or hay land subject to frequent flooding from adjacent surface waters, as described in the USDA Soil Survey Flooding Frequency Class, after October 16 or before April 14.

(c) Manure or other agricultural wastes applied to annual cropland subject to frequent flooding, as described in the USDA Soil Survey Flooding Frequency Class, shall be injected or otherwise incorporated within 48 hours of application. This requirement shall not apply to land in no-till management.

(d) Manure or other agricultural wastes shall not be applied when field conditions are conducive to flooding, runoff, ponding, or other off-site movement, or can be reasonably anticipated to result in flooding, runoff, ponding, or other off-site movement, regardless of NMP recommendations.

(e) Manure or other agricultural wastes shall not be applied in areas of croplands, perennial grass lands, or hay lands that:

(1) are saturated with water with the potential to runoff to surface water;

(2) are frozen or snow covered, unless the Secretary has approved an exemption consistent with the requirements of Section 6.06; or

(3) have exposed bedrock.

(f) Manure or other agricultural wastes shall not be applied to annual cropland, vegetable cropland, or small grain cropland where the average field slope exceeds 10%, unless a permanently vegetated buffer zone of 100 feet adjacent to downslope surface water has been established. Manure shall not be applied within the buffer zone.

(g) Manure or other agricultural wastes shall not be mechanically applied within 100 feet of a private water supply or 200 feet of a public water supply. This prohibition shall not apply to private water supplies that have been established inconsistent with the Department of Environmental Conservation Water Supply Rules existing at the time that the water supply was established.

(h) Manure or other agricultural wastes shall not be applied in exceedance of nutrient recommendations such that it ceases to be useful or beneficial for plant uptake.

6.06 Manure Spreading Exemptions

(a) Manure and other agricultural wastes shall be land applied consistent with the requirements of this section unless the Secretary grants an emergency exemption because of an emergency situation such as the structural failure of a waste storage facility or has granted a seasonal exemption consistent with Section 6.06(b) -- (d). In granting an emergency exemption, the Secretary shall establish requirements so that manure will be applied on fields in a manner with the least likelihood of generating runoff to surface waters.

(b) The Secretary may approve a seasonal exemption to the winter spreading ban or the restrictions on frequently flooded fields for manure applications on a case-by-case basis upon written request. Requests for an exemption shall provide:

- (1) the identification and location of specific fields to be used for winter spreading;
- (2) the proposed rates of application;
- (3) the location of nearest surface water, mapped wetlands, mapped floodplains, water supply, tile drains, surface inlets or open drains, property boundaries, and ditches;
- (4) the identification of soil types, depth to groundwater, and slopes;
- (5) the current soil test results;

- (6) the annual nutrient application plan for the fields;
- (7) the Phosphorus Index, or equivalent, results;
- (8) the RUSLE2, or equivalent, results; and
- (9) the USDA Soil Survey Flooding Frequency Class, and if applicable to the request, evidence that the flood frequency class is not accurate.

(c) All approvals for a seasonal exemption shall be in writing and shall prohibit the application of manure:

- (1) to areas with established channels of concentrated storm water runoff to surface waters;
- (2) to permanent vegetative buffer zones;
- (3) to wetlands, as that term is defined in 10 V.S.A. § 902(5);
- (4) within 200 feet of a potable water supply, as that term is defined in 10 V.S.A. § 1972(6);
- (5) to fields exceeding tolerable soil loss (T);
- (6) to saturated soils; and
- (7) to any other area as designated by the Secretary on a case-by-case basis.

(d) Approvals for seasonal exemptions to the winter spreading ban shall establish requirements and conditions for the application of manure when frozen or snow-covered soils prevent effective incorporation at the time of application, require manure to be applied according to a nutrient management plan, establish the maximum amounts of manure that may be applied per acre during any one application, and establish required manure spreading setbacks from surface water, water supplies, and other water conveyances. Seasonal exemptions to the winter spreading ban may be renewed annually upon request and submission of winter spreading records of application.

4) 6 V.S.A. §§ 4857, 4871; CVR 20-010-008 (1.1), (2.33), 4

§ 4857. Definitions

As used in this subchapter:

(1) "Animal feeding operation" (AFO) means a lot or facility where the livestock or domestic fowl have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and crops, vegetation, or forage growth are not sustained in the normal growing season over any portion of the lot or facility. Two or more individual farms qualifying as an AFO which are under common ownership and which adjoin each other or use a common area or system for the disposal of waste, shall be considered to be a single AFO if the combined number of livestock or domestic fowl resulting qualifies as a medium farm as defined in subdivision (2) of this section.

(2) "Medium farm" is an AFO which houses 200 to 699 mature dairy animals, 300 to 999 cattle or cow/calf pairs, 300 to 999 veal calves, 750 to 2,499 swine weighing over 55 pounds, 3,000 to 9,999 swine weighing less than 55 pounds, 150 to 499 horses, 3,000 to 9,999 sheep or lambs, 16,500 to 54,999 turkeys, 9,000 to 29,999 laying hens or broilers with a liquid manure handling system, 25,000 to 81,999 laying hens without a liquid manure handling system, 37,500 to 124,999 chickens other than laying hens without a liquid manure handling system, 1,500 to 4,999 ducks with a liquid manure handling system or 10,000 to 29,999 ducks without a liquid manure handling system.

(3) "Small farm" is an AFO which houses no more than 199 mature dairy animals, 299 cattle or cow/calf pairs, 299 veal calves, 749 swine weighing over 55 pounds, 2,999 swine weighing less than 55 pounds, 149 horses, 2,999 sheep or lambs, 16,499 turkeys, 8,999 laying hens or broilers with a liquid manure handling system, 24,999 laying hens without a liquid manure handling system, 37,499 chickens other than laying hens without a liquid manure handling system, 1,499 ducks with a liquid manure handling system or 9,999 ducks without a liquid manure handling system.

(4) "Domestic fowl" means laying hens, broilers, ducks, turkeys, or any other number or type of fowl that the Secretary deems domestic fowl.

(5) "Livestock" means cattle, swine, sheep, goats, and horses, or any other number and type of domestic animal that the Secretary deems livestock.

§ 4871. Small farm certification

(a) Small farm definition. As used in this section, "small farm" means a parcel or parcels of land:

(1) on which 10 or more acres are used for farming;

(2) that house no more than the number of animals specified under section 4857 of this title; and

(3)

(A) that house at least the number of mature animals that the Secretary of Agriculture, Food and Markets designates by rule under the required agricultural practices; or

(B) that are used for the preparation, tilling, fertilization, planting, protection, irrigation, and harvesting of crops for sale.

(b) Required small farm certification. Beginning on July 1, 2017, a person who owns or operates a small farm, as designated by the Secretary consistent with subdivision 4810a(a)(1) of this title, shall, on a form provided by the Secretary, certify compliance with the required agricultural practices. The Secretary of Agriculture, Food and Markets shall establish the requirements and manner of certification of compliance with the required agricultural practices, provided that the Secretary shall require an owner or operator of a farm to submit an annual certification of compliance with the required agricultural practices.

(c) Certification due to water quality threat. The Secretary may require any person who owns or operates a farm to submit a small farm certification under this section if the person is not required to obtain a permit or submit a certification under this chapter and the Secretary determines that the farm poses a threat of discharge to a water of the State or presents a threat of contamination to groundwater. The Secretary may waive a small farm certification required under this subsection upon a determination that the farm no longer poses a threat of discharge to a water of the State or no longer presents a threat of contamination to groundwater.

(d) Rulemaking; small farm certification. On or before July 1, 2016, the Secretary of Agriculture, Food and Markets shall adopt by rule requirements for a small farm certification of compliance with the required agricultural practices. The rules required by this subsection shall be adopted as part of the required agricultural practices under section 4810 of this title.

(e) Small farm inspection. The Secretary may inspect a small farm in the State at any time for the purposes of assessing compliance by the small farm with the required agricultural practices and determining consistency with a certification of compliance submitted by the person who owns or operates the small farm. The Secretary may prioritize inspections of small farms in the State based on identified water quality issues posed by a small farm. The Secretary shall adopt by rule, as part of the required agricultural practices, the required frequency of inspection of small farms.

(f) Notice of change of ownership or change of lease. A person who owns or leases a small farm shall notify the Secretary of a change of ownership or change of lessee of a small farm within 30 days of the change. The notification shall include the certification of small farm compliance required under subsection (a) of this section.

(g)

(1) Identification; ranking of water quality needs. During an inspection of a small farm under this section, the Secretary shall identify areas where the farm could benefit from capital, structural, or technical assistance in order to improve or come into compliance with the required agricultural practices and any applicable State water quality permit or certification required under this chapter.

(2) Notwithstanding the priority system established under section 4823 of this title, the Secretary annually shall establish a priority ranking system for small farms according to the water quality benefit associated with the capital, structural, or technical improvements identified as needed by the Secretary during an inspection of the farm.

(3) Notwithstanding the priority system established by subdivision (2) of this subsection, the Secretary may provide financial assistance to a small farm at any time, regardless of the priority ranking system, if the Secretary determines that the farm needs assistance to address a water quality issue that requires immediate abatement.

20-010-008. Section 1. General.

1.1 Preamble: Agriculture has been identified as a major contributor of non-point source pollution to surface waters of Vermont. For example, the Lake Champlain Total Maximum Daily Load (TMDL), as modeled by the Environmental Protection Agency, estimates that nutrient losses from agricultural activities represent 29% of the total phosphorous load to the Lake Champlain basin and over 40% of Vermont's contribution to the phosphorous load to the basin. Agriculture contributes non-point source pollution to surface and groundwater from multiple sources, including cropland erosion, farmstead management, crop storage, and manure storage and application. While contributions of non-point source pollution from agriculture may vary from watershed to watershed, the overall impact to water quality from agricultural lands, when not managed well, is significant.

The Vermont legislature first directed the Agency of Agriculture, Food and Markets to develop a comprehensive Agricultural Non-Point Source Pollution Reduction Program in 1992. The Accepted Agricultural Practices Rules (AAPs), which regulate farming activities in order to protect water quality, became effective in 1995 and were revised in 2006.

As a result of Act 64--the Vermont Clean Water Act--the Agency of Agriculture was tasked with updating the AAPs to further reduce the impact of agricultural activities to water quality across the State. The Required Agricultural Practices Rules (RAPs) are an updated version of the AAPs, re-written to a higher level of performance.

Act 64, which was signed into law by the Governor in June 2015, amended and enacted multiple requirements related to water quality in the State. The act required the Agency of Agriculture to amend several provisions of the AAPs in order to improve water quality in Vermont. The first change was to rename the Accepted Agricultural Practices Rules the Required Agricultural Practices Rules. The RAPs are standards to which all types of farms must be managed. Act 64 further required the Agency of Agriculture to:

- Establish requirements for a Small Farm Certification Program;
- Establish nutrient, manure, and waste storage standards;
- Make recommendations for soil health;
- Establish requirements for vegetated buffer zones;
- Establish requirements for livestock exclusion from surface water;
- Establish nutrient management planning standards; and
- Establish standards for soil conservation such as cover cropping

The standards and rules that follow are intended to improve the quality of all of Vermont's waters by reducing and eliminating cropland erosion, sediment losses, and nutrient losses through improved farm management techniques, technical and compliance assistance, and, where appropriate, enforcement. This rule strives to balance the complexity, variability, and requirements of farm management with the need to improve that management in order to meet the State's goals in improving and protecting water quality.

Soil quality and soil health are critical elements of an overall agricultural non-point source pollution reduction program. Agricultural soils are recognized as a critical resource for the overall prosperity of Vermont's agricultural community and for the public at large. Efforts to build soil organic matter, increase biological activity, and reduce compaction, including reduced tillage, use of composts, establishing crop rotations, cover cropping, and the elimination of annual cropping on highly vulnerable lands, will be essential to the success of programs whose goal is to improve Vermont's water quality. The Vermont Agency of Agriculture, Food and Markets supports and endorses all practices that lead to the goal of healthy soils and productive agricultural lands.

Section 2. Definitions.

2.33 Small Farm means a small farm as defined in 6 V.S.A. § 4871.

Section 4. Small Farm Certification and Training Requirements.

4.1 As used in this section, "Certified Small Farm" means:

(a)

- (1) a parcel or parcels of land on which 10 or more acres are used for the raising, feeding, or management of livestock;

(2) that house no more than the number of animals specified under 6 V.S.A. § 4857(2) (Medium Farm definition); and

(3) that house at least the following numbers and types of livestock:

(A) 50 mature dairy cows;

(B) 75 youngstock or heifers;

(C) 75 veal calves;

(D) 75 cattle or cow/calf pairs;

(E) 188 swine weighing over 55 pounds;

(F) 750 swine weighing less than 55 pounds;

(G) 40 equines;

(H) 750 sheep or goats;

(I) 4,125 turkeys;

(J) 2,250 laying hens or broilers with a liquid manure handling system;

(K) 6,250 laying hens or broilers without a liquid manure handling system;

(L) 375 ducks with a liquid manure handling system;

(M) 2,500 ducks without a liquid manure handling system;

(N) any other animal type, number, or combination of animals as designated by the Secretary that is having an adverse impact on water quality; or

(O) any combination of more than one animal type exceeding 90,000 pounds of total live animal weight (animal units); or

(b) farms on a parcel or parcels of land greater than 50 acres used for the preparation, tilling, fertilization, planting, protection, irrigation, and harvesting of annual cropland where fertilizer, manure, or agricultural wastes are mechanically applied to said parcel or parcels; or

(c) farms on a parcel or parcels of land greater than 50 acres used for the preparation, tilling, fertilization, planting, protection, irrigation, and harvesting of vegetable production where fertilizer, manure, or agricultural wastes are mechanically applied to said parcel or parcels; or

(d) that the Secretary has designated, on a case-by-case basis after an opportunity for a hearing, as a farm required to comply with the certification requirements pursuant to 6 V.S.A. § 4871(c) based on the farm's management, agricultural inputs used by the farm, tillage practices used by the farm, agricultural wastes generated by the farm, and the associated actual or potential water quality impacts.

4.2 On a case-by-case basis after an opportunity for a hearing, the Secretary may designate a farm as not being required to comply with the certification requirements pursuant to 6 V.S.A. § 4871(c) upon a determination that the farm does not pose a threat of discharge to a water of the State or does not pose a threat of contamination to groundwater.

4.3 Certified Small Farms shall annually certify compliance with the Required Agricultural Practices Rule. Certification shall be in a manner and schedule established by the Secretary.

(a) Certified Small Farms may be inspected at any time for the purposes of assessing compliance by the farm with the Required Agricultural Practices Rule.

(b) The Secretary may prioritize inspections and inspection frequency based on the identified water quality or compliance issues posed by a farm. Certified Small Farms shall be scheduled for inspection at least once in every seven-year period commencing at the receipt by the Secretary of certification.

(c) A person who owns or leases a Certified Small Farm shall notify the Secretary of a change of ownership or change of lessee of a Certified Small Farm within 30 days of the change. The notification shall include the certification of farm compliance and shall be submitted by the new owner or lessee.

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§ 1310. Designation of lake in crisis

(a) The Secretary of Natural Resources (Secretary) shall review whether a lake in the State should be designated as a lake in crisis upon the Secretary's own motion or upon petition of 15 or more persons or a selectboard of a municipality in which the lake or a portion of the lake is located.

(b) The Secretary shall designate a lake as a lake in crisis if, after review under subsection (a) of this section, the Secretary determines that:

- (1) the lake or segments of the lake have been listed as impaired;
- (2) the condition of the lake will cause:
 - (A) a potential harm to the public health; and
 - (B) a risk of damage to the environment or natural resources; and
- (3) a municipality in which the lake or a portion of the lake is located has reduced the valuation of real property due to the condition of the lake.

§ 1311. State response to a lake in crisis

(a) Adoption of crisis response plan. When a lake is declared in crisis, the Secretary shall within 90 days after the designation of the lake in crisis issue a comprehensive crisis response plan for the management of the lake in crisis in order to improve water quality in the lake or to mitigate or eliminate the potential harm to public health or the risk of damages to the environment or natural resources. The Secretary shall coordinate with the Secretary of Agriculture, Food and Markets and the Secretary of Transportation in the development of the crisis response plan. The crisis response plan may require implementation of one or both of the following in the watershed of the lake in crisis:

- (1) water quality requirements necessary to address specific harms to public health or risks to the environment or natural resources; or
- (2) implementation of or compliance with existing water quality requirements under one or more of the following:
 - (A) water quality requirements under chapter 47 of this title, including requiring a property owner to obtain a permit or implement best management practices for the discharge of stormwater runoff from any size of impervious surfaces if the Secretary determines that the treatment of the discharge of stormwater runoff is necessary to reduce the adverse impacts to water quality of the discharge or stormwater on the lake in crisis;
 - (B) agricultural water quality requirements under 6 V.S.A. chapter 215, including best management practices under 6 V.S.A. § 4810 to reduce runoff from the farm; or
 - (C) water quality requirements adopted under section 1264 of this section for stormwater runoff from municipal or State roads.

(b) Public hearing. The Secretary shall hold at least one public hearing in the watershed of the lake in crisis and shall provide an opportunity for public notice and comment for a proposed lake in crisis response plan.

(c) Term of designation. A lake shall remain designated as in crisis under this section until the Secretary determines that the lake no longer satisfies the criteria for designation under subsection (b) of this section.

(d) Agency cooperation and services. All other State agencies shall cooperate with the Secretary in responding to the lake in crisis, and the Secretary shall be entitled to seek technical and scientific input or services from the Agency of Agriculture, Food and Markets, the Agency of Transportation, or other necessary State agencies.

§ 1312. Lake in crisis order

The Secretary of Natural Resources, pursuant to chapter 201 of this title, or the Secretary of Agriculture, Food and Markets, pursuant to 6 V.S.A. chapter 215, may issue an order to require a person to:

- (1) take an action identified in the lake in crisis response plan;
- (2) cease or remediate any acts, discharges, site conditions, or processes contributing to the impairment of the lake in crisis;
- (3) mitigate a significant contributor of a pollutant to the lake in crisis; or
- (4) conduct testing, sampling, monitoring, surveying, or other analytical operations required to determine the nature, extent, duration, or severity of the potential harm to the public health or a risk of damage to the environment or natural resources.

§ 1313. Assistance

(a) A person subject to a lake in crisis order shall be eligible for technical and financial assistance from the Secretary to be paid from the Lake in Crisis Response Program Fund. The Secretary shall adopt by procedure the process for application for assistance under this section.

(b) State financial assistance awarded under this section shall be in the form of a grant. An applicant for a State grant shall pay at least 35 percent of the total eligible project cost or shall pay the specific cost share authorized by statute for the program from which the grant is awarded. The dollar amount of a State grant shall be equal to the total eligible project cost, less the percent of the total required to be paid by the applicant, and less the amount of any federal assistance awarded.

(c) A grant awarded under this section shall comply with all terms and conditions for the issuance of State grants.