ADOPTED RULE # _____

Administrative Procedures – Adopted Rule Coversheet

Instructions:

In accordance with Title 3 Chapter 25 of the Vermont Statutes Annotated and the "Rule on Rulemaking" adopted by the Office of the Secretary of State, this adopted filing will be considered complete upon the submission and acceptance of the following components to the Office of the Secretary of State and to the Legislative Committee on Administrative Rules:

- Adopted Rule Coversheet
- Adopting Page
- Clean text of the rule (Amended text without annotation)
- Letter explaining in detail changes from final proposal.

All forms submitted to the Office of the Secretary of State, requiring a signature shall be original signatures of the appropriate adopting authority or authorized person, and all filings are to be submitted, no later than 3:30 pm on the last scheduled day of the work week.

Certification Statement: As the adopting Authority of this rule (see 3 V.S.A. § 801 (b) (11) for a definition), I approve the contents of this filing entitled:

Rule Title: Required Agricultural Practices Rule for The Agricultural Nonpoint Source Pollution Control Program

_____, on 11/18/2016.
(signature) (date)

Printed Name and Title:
Charles R. Ross, Jr., Secretary

RECEIVED BY: _____

- ☐ Adopted Rule Coversheet
- ☐ Adopting Page
- ☐ Clean text of the rule (Amended text without annotation)
- ☐ Letter explaining in detail changes from final proposal.

1. TITLE OF RULE FILING:
   Required Agricultural Practices Rule for The Agricultural Nonpoint Source Pollution Control Program

2. PROPOSED NUMBER ASSIGNED BY THE SECRETARY OF STATE
   16P-015

3. ADOPTING AGENCY:

   The Vermont Agency of Agriculture, Food and Markets

4. RECORDS EXEMPTION INCLUDED WITHIN RULE:
   (DOES THE RULE CONTAIN ANY PROVISION DESIGNATING INFORMATION AS CONFIDENTIAL; LIMITING ITS PUBLIC RELEASE; OR OTHERWISE EXEMPTING IT FROM INSPECTION AND COPYING?) No

   IF YES, CITE THE STATUTORY AUTHORITY FOR THE EXEMPTION:

   PLEASE SUMMARIZE THE REASON FOR THE EXEMPTION:

5. LEGAL AUTHORITY / ENABLING LEGISLATION:
   (THE SPECIFIC STATUTORY OR LEGAL CITATION FROM SESSION LAW INDICATING WHO THE ADOPTING ENTITY IS AND THUS WHO THE SIGNATORY SHOULD BE. THIS SHOULD BE A SPECIFIC CITATION NOT A CHAPTER CITATION).

   6 V.S.A. § 4810a(a)

6. THE FILING HAS CHANGED SINCE THE FILING OF THE FINAL PROPOSED RULE.

7. THE AGENCY HAS INCLUDED WITH THIS FILING A LETTER EXPLAINING IN DETAIL WHAT CHANGES WERE MADE, CITING CHAPTER AND SECTION WHERE APPLICABLE, INCLUDING CHANGES IN ECONOMIC IMPACT.

8. THE LEGISLATIVE COMMITTEE ON ADMINISTRATIVE RULES DID NOT OBJECT TO THE FINAL PROPOSAL.

9. PROCEDURAL HISTORY OF ADOPTION:

   ICAR Filing: 09/13/2016

   Proposal Filed with Office of the Secretary of State: 05/13/2016

   Notices Posted Online: 05/18/2016

   Notices Published In Newspapers of Record: 05/26/2016

   A Hearing WAS Held.

Hearings Held *(PLEASE USE ADDITIONAL SHEETS TO PROVIDE THE DATE, TIME AND LOCATION OF ALL HEARINGS, IF THIS FORM IS INSUFFICIENT TO LIST ALL HEARINGS HELD)*:

Date: 6/21/2016

Time: 12:30 PM

Street Address: St. Albans Museum, 9 Church Street, St. Albans, VT

Zip Code: 05478

Date: 6/22/2016

Time: 12:30 PM

Street Address: Brandon American Legion, 55 Franklin Street, Brandon, VT

Zip Code: 05733

Date: 6/23/2016

Time: 12:30 PM

Street Address: 164 Chelsea Street, South Royalton, VT

Zip Code: 05068

Date: 6/27/2016

Time: 12:30 PM

Street Address: Fraternal Order of the Eagles 2282 VT-11, Manchester Center, VT

Zip Code: 05255

Deadline for Public Comment: 07/07/2016

Final Proposal —

Filed with Secretary of State: 09/14/2016

Filed with LCAR: 09/14/2016

Dates of LCAR Review: 10/20/2016, 11/03/2016, 11/17/2016, ,

Adopted Rule —

Filed with Secretary of State: 11/18/2016

Filed with LCAR: 11/18/2016

10. EFFECTIVE DATE: 12/05/2016

(A RULE MAY TAKE EFFECT 15 DAYS AFTER ADOPTION IS COMPLETE OR AT A LATER TIME PROVIDED IN THE TEXT OF THE RULE SEE 3 V.S.A. §845(d) FOR DETAILS).

Administrative Procedures – Adopting Page

Instructions:

This form must be completed for each filing made during the rulemaking process:

- Proposed Rule Filing
- Final Proposed Filing
- Adopted Rule Filing
- Emergency Rule Filing

Note: To satisfy the requirement for an annotated text, an agency must submit the entire rule in annotated form with proposed and final proposed filings. Filing an annotated paragraph or page of a larger rule is not sufficient. Annotation must clearly show the changes to the rule.

When possible the agency shall file the annotated text, using the appropriate page or pages from the Code of Vermont Rules as a basis for the annotated version. New rules need not be accompanied by an annotated text.

1. TITLE OF RULE FILING:
   Required Agricultural Practices Rule for The Agricultural Nonpoint Source Pollution Control Program
2. ADOPTING AGENCY:
   The Vermont Agency of Agriculture, Food and Markets
3. AGENCY REFERENCE NUMBER, IF ANY:
   None
4. TYPE OF FILING (*PLEASE CHOOSE THE TYPE OF FILING FROM THE DROPDOWN MENU BASED ON THE DEFINITIONS PROVIDED BELOW*):

   - **AMENDMENT** - Any change to an already existing rule, even if it is a complete rewrite of the rule, it is considered an amendment as long as the rule is replaced with other text.
   - **NEW RULE** - A rule that did not previously exist even under a different name.
   - **REPEAL** - The removal of a rule in its entirety, without replacing it with other text.

   This filing is **AN AMENDMENT OF AN EXISTING RULE** .

5. LAST ADOPTED (*PLEASE PROVIDE THE SOS LOG#, TITLE AND LAST DATE OF ADOPTION FOR THE EXISTING RULE*):

   SOS Log# 06-012, Accepted Agricultural Practices Regulations, 04/24/2006 effective date

Run Spell Check

9. Hearings Held (Additional Information):

Date: 6/28/2016

Time: 12:30PM

Street Address: Newport American Legion, 160 Freeman Street, Newport, VT

Zip Code: 05855

Date: 6/29/2016

Time: 12:30PM

Street Address: Brattleboro American Legion, 32 Linden Street, Brattleboro, VT

Zip Code: 05301

This document, developed pursuant to Act 64 (2015 session), is the CLEAN DRAFT of the Required Agricultural Practices (RAPs) that was submitted to the Legislative Committee on Administrative Rules (LCAR) on October 31, 2016. For more information, please visit http://agriculture.vermont.gov/water-quality/regulations/rap or contact the Vermont Agency of Agriculture, Food and Markets at (802) 828-3478.

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

2.35 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.

2.36 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.

2.37 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.

2.38 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).

2.39 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.

2.40 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.

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

2.42 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 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.

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; or

(E) areas subject to concentrated runoff;

(f) The Secretary may authorize site-specific standards other than those listed in Section 6.02(e)(4)(A)-(E) 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 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.

(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. 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 13. Effective Dates

(a) Sections 1 – 6.04(c), 6.05(a), and 6.05(c) – 13 of this regulation shall become effective on [date of adoption]; and

(b) Sections 6.04(d)and 6.05(b) of this regulation shall become effective on April 15, 2017.

Appendix A: Process for obtaining variances

Farm Structures/Municipal Setbacks: Variances

(a) A complete petition for an alternative setback shall include:

(1) the location of the parcel, and contact information where the applicant can be reached for additional information or clarification;

(2) a detailed description of the farm operation and description of how the applicant is engaged in Required Agricultural Practices as defined in Section 3 of the RAPs;

(3) a statement of the reason why less restrictive setbacks are necessary and why the setback is the least deviation possible to provide relief;

(4) a copy of the zoning ordinance governing the tract on which the structure will be built outlining the setback requirements or a letter from the municipality with the required setback information;

(5) the name and contact information for your town's Zoning Administrator or Town Clerk, including an affirmative statement that the town has been notified of the intent to construct a Farm Structure;

(6) a plan of the existing structure(s) and proposed structure(s) showing the distance to all property lines from the furthest projection of the structure, including overhangs. For property lines along highway rights-of-way, measure the setback appropriately as outlined in the municipal regulations;

(7) name(s) and address(es) of the affected adjoining property owner(s) and a description of each adjoining land use;

(8) any letter(s) from adjoining landowners where applicable; and

(9) certification that the farm is in compliance with all Required Agricultural Practices rules.

The Secretary bases his or her decision on facts provided by the petitioner. Failure to provide information to the Secretary could result in denial of request.

(b) Public Notice and Issuance Requirements

The Secretary will notify the municipality in writing by certified mail and copy the affected adjoining property owner(s) of his or her intent to consider a petition for an alternative setback. The notification shall include a description of the proposed project, submitted plan, and shall be accompanied by information that clearly states where additional information may be obtained. The Secretary will request that the notice be posted in a public place in the municipal office.

Any comments resulting from this posting or from the municipality must be received in writing at the Agency by 4:30 p.m. on the seventh business day following receipt of the notice.

(c) Standards

The Secretary may grant a petition for an alternate setback or grant a petition for an alternate setback with conditions, except as otherwise outlined in this rule or statutorily required, when:

(1) there are unique existing physical conditions or exceptional topographical or other physical constraints peculiar to the particular property that would create a hardship for the farm operation;

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

(3) the hardship has not been created by the applicant;

(4) the alternative setback, if authorized by the Secretary, will not substantially or permanently impair the appropriate use or development of adjoining property, nor be detrimental to the public health, safety, and welfare; and

(5) the variance, if authorized by the Secretary, will represent the minimum alternative that will afford relief and will represent the least deviation possible from this rule.

* The Agency cannot approve alternate setbacks from State wetland regulations, nor approve construction within Highway rights-of-way.

Roles of Other State Agencies: Information

Public Drinking Water Supplies and Wastewater Management: Nutrients, sediment, organic matter, and microorganisms may also impact drinking water supplies derived from surface waters. Farm operations should be aware of the locations of surface drinking water source intakes and appropriately manage agricultural activities to reduce potential negative impacts. Information regarding public water supplies as well as information pertaining to wastewater systems requirements may be obtained at (802) 828-1535.

Wetlands: Farm operations should be aware of existing rules pertaining to wetlands under state and federal jurisdiction. The Natural Resources Conservation Service, U.S. Army Corps of Engineers, and the Vermont Department of Environmental Conservation coordinate all agriculture and wetland issues in Vermont. It is strongly suggested that landowners contact the U.S. Army Corps of Engineers at (802) 872-2893 and the Vermont Department of Environmental Conservation at (802) 828-1535 before initiating farm-related projects in or near wetlands.

Construction of New Farm Structures: Construction of new farm structures, specifically buildings and other farm-related structures, or other construction on the farm that disturb one or more acres of land, must obtain authorization from the ANR before commencing with land disturbance or construction activities. Approval will be issued by the ANR upon receipt of a Notice of Intent (NOI) which certifies that adequate measures for the control of erosion and sedimentation will be used during land disturbance and construction efforts. Persons needing additional information about the Construction General Permit or NOI concerning one or more acres of land disturbance are advised to contact the Watershed Management Division of the Vermont Department of Environmental Conservation's Environmental Assistance Hotline at 1-800-974-9559. Authorization by the ANR is not needed for construction or land disturbance related to cultivation, irrigation, drainage, and fencing.

Flood Hazard Area and River Corridor General Permit: An ANR General Permit for activities exempt from municipal regulation in Flood Hazard Areas and River Corridors may be required. The primary purpose for the General Permit is to fully implement the Vermont Flood Hazard Area & River Corridor Rule (effective 03/01/2015) which requires the Agency to regulate activities exempt from municipal regulation in Flood Hazard Areas and River Corridors. These activities include state-owned and operated institutions and facilities, required agricultural and silvicultural practices, and power generating and transmission facilities regulated under 30 V.S.A. §§ 248 and 248a. More information can be obtained by calling (802) 828-1535.

Solid and Hazardous Waste Management: Farm operations are required to manage all wastes generated on the farm consistent with all applicable solid waste rules and hazardous waste rules. Information regarding the proper management, storage, and disposal of hazardous waste, universal waste, used oil, and petroleum products can be obtained from the Vermont Waste Management & Prevention Division by calling (802) 828-1138. Information regarding the proper management, storage, and disposal of pesticidal waste and empty pesticide containers can be obtained from the Vermont Agency of Agriculture, Food and Markets by calling (802) 828-

2431. On-farm composting or anaerobic digestion of food residuals and food processing residuals may require registration or permitting by the Vermont Waste Management & Prevention Division. More information can be obtained by calling (802) 828-1138.

Wastewater Management and Residuals Management: Farm operations generating wastewater indirect discharges or discharges to underground injection wells are advised that permits may be required from the Department of Environmental Conservation Watershed Management Division or Groundwater Protection and Management Division. The management of sewage, biosolids, and septage on a farm must be conducted consistent with the Vermont Solid Waste Management Rules and any Solid Waste Management Facility Certification authorizing these activities. Information regarding these requirements can be obtained by calling (802) 828-1535.

Water Withdrawal and Irrigation: Farm operations utilizing surface waters for irrigation purposes are advised that water withdrawals above a *de minimis* rate are required to obtain a permit from the Department of Environmental Conservation consistent with the *Procedure for Determining Acceptable Minimum Stream Flows.* More information regarding water withdrawals for irrigation purposes and permitting requirements can be obtained by calling the Watershed Management Division at (802) 828-1535.

Alteration of Streams: Stream alteration permits regulate activities that take place in or along streams. The permit program is intended to prevent the creation of flood hazards, protect against damage to aquatic life, and protect the rights of neighboring landowners. The types of activities that are regulated include streambank stabilization, road improvements that encroach on streams, bridge construction or repair, and utility crossings under streambeds. More information regarding stream alteration and permitting requirements can be obtained by calling the River Management Division at (802) 828-1535.

Spill Prevention, Control, and Countermeasure (SPCC): EPA's oil pollution prevention regulation requires facilities that are subject to regulation to prepare and implement a plan to prevent any discharge of oil into navigable waters or adjoining shorelines of the U.S. A farm must prepare a SPCC Plan if it has an aggregate aboveground storage capacity of greater than 1,320 gallons. Only containers of oil with a capacity of 55-gallons or greater are counted toward this aggregate capacity threshold. The plan is referred to as a Spill Prevention, Control, and Countermeasure (SPCC) plan. More information regarding SPCC and permitting requirements can be obtained by calling the Environmental Assistance Office at 1(800) 974-9559.

This document, developed pursuant to Act 64 (2015 session), is the ~~CLEAN DRAFT~~clean draft of the Required Agricultural Practices (RAPs) that was submitted to the Legislative Committee on Administrative Rules (LCAR) ~~on October 31, 2016~~). For more information, please visit http://agriculture.vermont.gov/water-quality/regulations/rap or contact the Vermont Agency of Agriculture, Food and Markets at (802) 828-3478.

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~~or channel which forms as a result of ~~field runoff~~human activities primarily associated with land drainage or water ~~or shallow groundwater and its~~ conveyance ~~to an outlet~~through or around private or public property or infrastructure, and is not a surface water as defined in Section 2.34 of this rule.

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

~~2.35~~2.34 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.~~36~~35 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.~~37~~36 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.~~38~~37 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.~~39~~38 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.~~40~~39 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.~~41~~40 Waters of the State include, for the purposes of this rule, surface water and groundwater as applied.

2.~~42~~41 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.

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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

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(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.

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; or
(E) areas subject to concentrated runoff;

(f) The Secretary may authorize site-specific standards other than those listed in Section 6.02(e)(4)(A)-(E) 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 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.

(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~~contaminants.

(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 ~~waste~~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 ~~waste~~pollutants 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. 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 13. Effective Dates

(a) Sections 1 – 6.04(c), 6.05(a), and 6.05(c) – 13 of this regulation shall become effective on [date of adoption]; and

(b) Sections 6.04(d)and 6.05(b) of this regulation shall become effective on April 15, 2017.

Appendix A: Process for obtaining variances

Farm Structures/Municipal Setbacks: Variances

(a) A complete petition for an alternative setback shall include:

(1) the location of the parcel, and contact information where the applicant can be reached for additional information or clarification;

(2) a detailed description of the farm operation and description of how the applicant is engaged in Required Agricultural Practices as defined in Section 3 of the RAPs;

(3) a statement of the reason why less restrictive setbacks are necessary and why the setback is the least deviation possible to provide relief;

(4) a copy of the zoning ordinance governing the tract on which the structure will be built outlining the setback requirements or a letter from the municipality with the required setback information;

(5) the name and contact information for your town's Zoning Administrator or Town Clerk, including an affirmative statement that the town has been notified of the intent to construct a Farm Structure;

(6) a plan of the existing structure(s) and proposed structure(s) showing the distance to all property lines from the furthest projection of the structure, including overhangs. For property lines along highway rights-of-way, measure the setback appropriately as outlined in the municipal regulations;

(7) name(s) and address(es) of the affected adjoining property owner(s) and a description of each adjoining land use;

(8) any letter(s) from adjoining landowners where applicable; and

(9) certification that the farm is in compliance with all Required Agricultural Practices rules.

The Secretary bases his or her decision on facts provided by the petitioner. Failure to provide information to the Secretary could result in denial of request.

(b) Public Notice and Issuance Requirements

The Secretary will notify the municipality in writing by certified mail and copy the affected adjoining property owner(s) of his or her intent to consider a petition for an alternative setback. The notification shall include a description of the proposed project, submitted plan, and shall be accompanied by information that clearly states where additional information may be obtained. The Secretary will request that the notice be posted in a public place in the municipal office.

Any comments resulting from this posting or from the municipality must be received in writing at the Agency by 4:30 p.m. on the seventh business day following receipt of the notice.

(c) Standards

The Secretary may grant a petition for an alternate setback or grant a petition for an alternate setback with conditions, except as otherwise outlined in this rule or statutorily required, when:

(1) there are unique existing physical conditions or exceptional topographical or other physical constraints peculiar to the particular property that would create a hardship for the farm operation;

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

(3) the hardship has not been created by the applicant;

(4) the alternative setback, if authorized by the Secretary, will not substantially or permanently impair the appropriate use or development of adjoining property, nor be detrimental to the public health, safety, and welfare; and

(5) the variance, if authorized by the Secretary, will represent the minimum alternative that will afford relief and will represent the least deviation possible from this rule.

* The Agency cannot approve alternate setbacks from State wetland regulations, nor approve construction within Highway rights-of-way.

Roles of Other State Agencies: Information

Public Drinking Water Supplies and Wastewater Management: Nutrients, sediment, organic matter, and microorganisms may also impact drinking water supplies derived from surface waters. Farm operations should be aware of the locations of surface drinking water source intakes and appropriately manage agricultural activities to reduce potential negative impacts. Information regarding public water supplies as well as information pertaining to wastewater systems requirements may be obtained at (802) 828-1535.

Wetlands: Farm operations should be aware of existing rules pertaining to wetlands under state and federal jurisdiction. The Natural Resources Conservation Service, U.S. Army Corps of Engineers, and the Vermont Department of Environmental Conservation coordinate all agriculture and wetland issues in Vermont. It is strongly suggested that landowners contact the U.S. Army Corps of Engineers at (802) 872-2893 and the Vermont Department of Environmental Conservation at (802) 828-1535 before initiating farm-related projects in or near wetlands.

Construction of New Farm Structures: Construction of new farm structures, specifically buildings and other farm-related structures, or other construction on the farm that disturb one or more acres of land, must obtain authorization from the ANR before commencing with land disturbance or construction activities. Approval will be issued by the ANR upon receipt of a Notice of Intent (NOI) which certifies that adequate measures for the control of erosion and sedimentation will be used during land disturbance and construction efforts. Persons needing additional information about the Construction General Permit or NOI concerning one or more acres of land disturbance are advised to contact the Watershed Management Division of the Vermont Department of Environmental Conservation's Environmental Assistance Hotline at 1-800-974-9559. Authorization by the ANR is not needed for construction or land disturbance related to cultivation, irrigation, drainage, and fencing.

Flood Hazard Area and River Corridor General Permit: An ANR General Permit for activities exempt from municipal regulation in Flood Hazard Areas and River Corridors may be required. The primary purpose for the General Permit is to fully implement the Vermont Flood Hazard Area & River Corridor Rule (effective 03/01/2015) which requires the Agency to regulate activities exempt from municipal regulation in Flood Hazard Areas and River Corridors. These activities include state-owned and operated institutions and facilities, required agricultural and silvicultural practices, and power generating and transmission facilities regulated under 30 V.S.A. §§ 248 and 248a. More information can be obtained by calling (802) 828-1535.

Solid and Hazardous Waste Management: Farm operations are required to manage all wastes generated on the farm consistent with all applicable solid waste rules and hazardous waste rules. Information regarding the proper management, storage, and disposal of hazardous waste,

universal waste, used oil, and petroleum products can be obtained from the Vermont Waste Management & Prevention Division by calling (802) 828-1138. Information regarding the proper management, storage, and disposal of pesticidal waste and empty pesticide containers can be obtained from the Vermont Agency of Agriculture, Food and Markets by calling (802) 828-2431. On-farm composting or anaerobic digestion of food residuals and food processing residuals may require registration or permitting by the Vermont Waste Management & Prevention Division. More information can be obtained by calling (802) 828-1138.

Wastewater Management and Residuals Management: Farm operations generating wastewater indirect discharges or discharges to underground injection wells are advised that permits may be required from the Department of Environmental Conservation Watershed Management Division or Groundwater Protection and Management Division. The management of sewage, biosolids, and septage on a farm must be conducted consistent with the Vermont Solid Waste Management Rules and any Solid Waste Management Facility Certification authorizing these activities. Information regarding these requirements can be obtained by calling (802) 828-1535.

Water Withdrawal and Irrigation: Farm operations utilizing surface waters for irrigation purposes are advised that water withdrawals above a *de minimis* rate are required to obtain a permit from the Department of Environmental Conservation consistent with the *Procedure for Determining Acceptable Minimum Stream Flows.* More information regarding water withdrawals for irrigation purposes and permitting requirements can be obtained by calling the Watershed Management Division at (802) 828-1535.

Alteration of Streams: Stream alteration permits regulate activities that take place in or along streams. The permit program is intended to prevent the creation of flood hazards, protect against damage to aquatic life, and protect the rights of neighboring landowners. The types of activities that are regulated include streambank stabilization, road improvements that encroach on streams, bridge construction or repair, and utility crossings under streambeds. More information regarding stream alteration and permitting requirements can be obtained by calling the River Management Division at (802) 828-1535.

Spill Prevention, Control, and Countermeasure (SPCC): EPA's oil pollution prevention regulation requires facilities that are subject to regulation to prepare and implement a plan to prevent any discharge of oil into navigable waters or adjoining shorelines of the U.S. A farm must prepare a SPCC Plan if it has an aggregate aboveground storage capacity of greater than 1,320 gallons. Only containers of oil with a capacity of 55-gallons or greater are counted toward this aggregate capacity threshold. The plan is referred to as a Spill Prevention, Control, and Countermeasure (SPCC) plan. More information regarding SPCC and permitting requirements can be obtained by calling the Environmental Assistance Office at 1(800) 974-9559.

This document, developed pursuant to Act 64 (2015 session), is the ~~CLEAN DRAFT~~clean draft of the Required Agricultural Practices (RAPs) that was submitted to the Legislative Committee on Administrative Rules (LCAR) ~~on October 31, 2016.~~ For more information, please visit http://agriculture.vermont.gov/water-quality/regulations/rap or contact the Vermont Agency of Agriculture, Food and Markets at (802) 828-3478.