

**STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT 3-9100
FOR DISCHARGES FROM
MEDIUM CONCENTRATED ANIMAL FEEDING OPERATIONS**

FACTSHEET

A. INTRODUCTION AND BACKGROUND

I. Program Background

The Vermont Agency of Natural Resources is proposing to reissue the National Pollutant Discharge Elimination System (NPDES) General Permit for medium concentrated animal feeding operations (Medium CAFOs). This General Permit was originally issued in 2013 and sets conditions for the discharge of pollutants from Medium CAFOs to waters of Vermont.

II. Public Notice and Comment Period

The Secretary provided a 56-day public comment period on the General Permit from March 15, 2022, through May 10, 2022. The Secretary held a public hearing with virtual option on the General Permit on April 26, 2022.

III. General Permit Authority

Section 301(a) of the Clean Water Act (CWA), 33 USC §1311(a) prohibits the discharge of pollutants to waters of the U.S. except in accordance with a National Pollutant Discharge Elimination System (NPDES) Permit. CWA Section 33 USC §1342 authorizes the Secretary of the Vermont Agency of Natural Resources (ANR) to issue NPDES permits authorizing such discharges subject to requirements that implement CWA Sections 301, 304 and 401, 33 USC §§ 1311, 1314, and 1341.

Section 13.12 of the Vermont Water Pollution Control Permit Regulations authorizes the issuance of “general permits” to cover a category of discharges, including permits for discharges to surface waters, within an existing geographic area. The Secretary has determined that discharges from Medium CAFOs may be appropriately controlled through a general permit. Pursuant to Subpart I.E of the General Permit, the Secretary reserves the right to require an individual permit in accordance with that Subpart.

Summary of Changes from the 2013 Medium CAFO General Permit

- a. Notice, Monitoring, Recordkeeping, and Reporting-
- Weekly monitoring requirements were added for stormwater and clean water diversions and waste storage structures as reflected in Table IV.A in the General Permit. This requires recordkeeping but not reporting (copies of records are required upon request) and is consistent with NPDES requirements for Large CAFOs. Rationale for this requirement is provided in Part F(III) below.

- Clarifying language and signature of recipient were added to the recordkeeping requirements for waste imports and exports in order to more accountably track the fate of nutrients generated by or imported onto a permitted facility. This change is reflected in Table IV.A as well as subpart V.B.2 in the General Permit.
- A reporting requirement was added that requires notification to the Department when a liquid storage exceeds the emergency level (enters top 12 or 6 inches of freeboard, depending on storage type). This change is reflected in subpart III.6.m of the General Permit. Rationale for this requirement is provided in Part F(III) below.
- The addition of a new facility is no longer listed under subpart IV.A.5.c. A notification requirement was added for when a farm adds a new facility to the operation in subpart IV.U. This will allow the Department to determine whether the change is considered a significant change.
- Updated public notice and comment language was added to reflect enactment of 10 VSA 170 permitting procedures. This change is reflected in subpart II.D of the General Permit.
- The General Permit includes a requirement that the permittee install a rain gauge in proximity to each production area and to document each rain event greater than 0.5 inches as part of Nutrient Management Plan (NMP) recordkeeping requirements. This change is reflected in subpart III.A.6.g of the General Permit. Rationale for this requirement is provided in Part F(III) below.
- The General Permit includes a requirement that the rain gauge be installed and maintained so as to be kept free of debris and protected from wildlife and domestic animals. This change is reflected in subpart III.A.6.h.
- The annual reporting period was changed from the previous 12-months to the previous calendar year to align with the MFO General Permit annual reporting requirements. This change is reflected in subpart IV.A.3 of the General Permit.
- A requirement was added for the reconciled P-Index to be submitted as part of the annual report in subpart IV.A.3 to ensure the permittee is complying with the terms of the NMP.
- Removal of the chemical storage/handling inventory requirement from Table IV since there is a separate requirement that requires proper handling and disposal of all chemicals, as well as specifically preventing the discharge of chemicals used or stored on the farm. With the proper handling and disposal requirement and discharge prohibition it was unclear if there was any additional regulatory benefit from an inventory that could be constantly changing.
- A record keeping requirement for a flow meter/ data logger was added in Table IV for manure injection which is consistent with the MFO General Permit.
- A record of field conditions at the time of manure application was added to the recordkeeping requirements for manure spreading records in Table IV in order to be consistent with the Required Agricultural Practices (RAPs).
- Pounds of N and P applied to each field no longer required as part of recordkeeping, however this calculation must still occur and be submitted to ANR as part of annual reporting. This will eliminate redundancy while ensuring that this

information is presented at the most logical time for review, during annual reporting. This change is reflected in Table IV.

- Language was added to clarify where a discharge shall be sampled and detailing sufficiently sensitive test procedures in subpart VI.J.2.
- Language was added clarifying the reporting procedure in the event of a discharge in subpart VI.J.1.
- A requirement was added that documentation of a discharge be submitted via ANR's online eDMR tool.

b. NMP development –

- Language regarding NMP development was revised to indicate that NMPs shall be written or approved by a certified planner. This allows farms the option to develop their own NMP so long as a certified planner approves it. This change is reflected in subpart IV.A.6 of the General Permit.
- VT NRCS Conservation Practice Standard Nutrient Management Code #590 definitions of frozen and saturated ground were added. This change is reflected in subpart III.B.2 of the General Permit.
- The 2013 CAFO General Permit included an allowance for the use of fertilizer for the establishment of buffers. This has been removed in the Permit in order to reduce the risk of impact to adjacent surface waters from fertilizer applications. This change is reflected in subpart IV.A.1.1.III in the General Permit.
- Allowance for multi-year phosphorus application in the 2013 CAFO General Permit has been removed from the Appendix A of the General Permit as it is inconsistent with VT NRCS Conservation Practice Standard Nutrient Management Code #590.
- A requirement was added that a description of management activities for areas that do not drain to a WSF be included in the NMP. This requirement, paired with a diagram of the production area (heavy use area drainage, subsurface drains etc.) will allow the Department to assess management practices implemented by the permittee to meet the effluent limitation. The description of management requirement is reflected in subpart IV.A.1.d of the General Permit, the expanded production area diagram requirement is reflected in subpart II.B.5 of the General Permit.
- Consideration of evaporation when calculating the storage volume required for the storage period has been removed following conversations with VT NRCS and due to insufficient supporting data. Subpart III.A.1.a.II.ii now reads 'Normal precipitation during the storage period' instead of 'Normal precipitation less evaporation during the storage period'.
- A new requirement was added that PRISM Climate Data 80th percentile exceedance probability rainfall data shall be used when estimating precipitation and runoff generation. This change is reflected in subpart III.A.1.a.II.ix and the PRISM data table has been added to the Appendix B of the General Permit. See Appendix B of this Factsheet for additional information.

- The precipitation dataset used for estimation of the 25-yr, 24-hr storm event was updated to specify that the National Oceanic and Atmospheric Administration’s Atlas-14 Point Precipitation Frequency Estimates¹ be used for calculation of the storage volume for the 25-yr, 24-hr storm event. This dataset represents the official update to the previously required dataset (that was included in the National Weather Service publication TP-40) This change is reflected in subpart III.A.1.a. I, and subpart III.A.1.a.II.viii of the General Permit. Additional information on this change can be found in Section E.I. of this Factsheet.
- A requirement has been added to follow the manure and soil sampling guidance developed by UVM extension in order to increase sampling accuracy and consistency, as manure and soil sampling results are foundational to the NMP. This change is reflected in Table IV.A and Appendix A paragraph 2.II of the General Permit.
- A requirement was added to prohibit the application of manure or other agricultural wastes to land subject to frequent flooding from adjacent surface waters, as described in the USDA Soil Survey Flooding Frequency Class², after October 16 or before April 14. A cover cropping requirement is extended for these areas as well. Due to soil survey accuracy concerns in some parts of the state, applicants will be allowed to request adjustment of boundaries of frequently flooded areas at time of application for consideration by the Secretary. These requirements are similar to the RAPs, one difference being that the General Permit allows for a boundary adjustment request at the time of application. This change is reflected in subpart III.B.3 and subpart III.B.4 of the General Permit.
- The General Permit clarifies that the minimum required storage period under the Permit is 180-days, consistent with the VT NRCS Conservation Practice Standard Waste Storage Facility Code #313, MFO General Permit and LFO Rule. The General Permit identifies that the minimum storage period shall be from 11/1 to 4/30. This change is reflected in subpart III.A.1.a.II of the General Permit.
- The General Permit updates the nutrient application setback to potable water supplies to align with DEC’s Wastewater System and Potable Water Supply Rules in part IV.A.1.m of the General Permit.
- The 2013 version of the Permit specified a 25-ft vegetated buffer between croplands and surface waters, including intermittent waterways determined to potentially transport significant waste or nutrients to surface water. In the General Permit the language regarding buffer requirements was clarified to

¹ National Oceanic and Atmospheric Administration Atlas-14 Point Precipitation Frequency Estimates provide rainfall depths corresponding to different recurrence interval storms and are accessible here:

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html

² The United States Department of Agriculture Soil Survey Flooding Frequency Class is a measure of inundation from overflowing streams or runoff ranging from ‘none’ to ‘very frequent’. Frequently flooded soils are those where flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year. Flooding class can be found on a soil series factsheet or on the ANR Atlas: <https://anrmaps.vermont.gov/websites/anra5/>

indicate that the 25-ft buffer requirement also applies to conduits to surface water which is consistent with 40 CFR 412.4 (c)(5). All upgradient surface waters and conduits to surface waters will remain subject to the RAP buffer requirements. The 25-ft vegetated buffer is based on best professional judgement as explained in greater detail in Section F.II of this Factsheet below. These two changes are reflected in subpart IV.A.1.1.I of the General Permit.

- A requirement limiting animal and equipment access to stream banks was added to the General Permit to be more protective of surface water. The wording for the requirement was derived from the RAPs. This change is reflected in subpart IV.A.1.f of the General Permit.
- Language that specified that the entire NMP would be incorporated by reference to “terms of the NMP” was revised to clarify which components of the NMP are terms of the Permit. This language has been updated throughout the Permit, and is expanded upon in a summary table in Appendix A. This will make it easier for the Department, the permittee, and the public to discern which parts of the NMP are enforceable terms of the Permit.
- Language was added to highlight the need to control tile discharges in accordance with the Vermont NRCS Conservation Practice Standard Code 590 for Nutrient Management in subpart IV.A.1.k.

c. Application requirements –

- A requirement was added that as-builts or evaluations by a Professional Engineer of all WSFs be submitted as part of the application. This change is reflected in subpart III.A.6.j and Appendix C of the General Permit. Additional information on the change can be found in Section E.I. of this Factsheet.
- A requirement was added that a diagram of the production area be submitted with the application. This change is reflected in subpart II.B.5 of the General Permit.
- Removal of requirement to file authorization in land records now that 10 VSA Chapter 170 permit procedures are in place. This requirement was removed from subpart II.K of the General Permit.
- Removal of requirement to state new permittee’s financial ability to operate in the instance of a transfer of authorization. This requirement was removed from subpart II.P.4 of the General Permit.

d. Definitions for the terms “conduit”, “depth marker”, “impervious surface”, “point source”, “vegetated buffer”, and “overflow” were added to the definitions section of the General Permit.

e. Termination and facility closure requirements were revised to reflect updates to the requirements in the CFR. These changes are reflected in subpart II.H and subpart V.A.1 of the General Permit.

f. A requirement was added that a depth marker be installed in each liquid waste storage facility. This is consistent with NPDES requirements for Large CAFOs and with the VT NRCS Conservation Practice Standard Waste Storage Facility Code #313 and will help the

farm demonstrate that a discharge should be authorized. This change can be found in subpart III.A.6.e of the General Permit.

- g. Shop drains were specifically identified as a prohibited discharge in the General Permit. This change is reflected in Part III.6.n of the General Permit.
- h. Language regarding limitations on coverage was updated to better align with other current Vermont discharge permits. This change is reflected in subpart I.D.3 of the General Permit.
- i. Part III.B.8 was edited to read, “Irrigation systems shall be managed in accordance with the January 2021 Vermont NRCS Conservation Practice Standard #449”
- j. “Waters of the State” was updated to ‘waters’ to also include ‘Waters of the United States’ as required by EPA.
- k. For clarity, version dates were added wherever a Vermont NRCS Conservation Practice Standard is referenced in the General Permit.
- l. Nutrient application setback to potable water supplies was updated to reference horizontal isolation distances in the Department of Environmental Conservation Wastewater System and Potable Water Supply Rules.
- m. Part III was updated to require that the permittee make all reasonable efforts to minimize, reduce, eliminate, and prevent the discharge of pollutants to waters.

B. REQUIREMENTS OF THE GENERAL PERMIT

The General Permit is organized into the sections described below:

I. Authority

This Permit is issued in accordance with the following state and federal laws and rules:

The Vermont Water Pollution Control statute, 10 V.S.A. chapter 47, including §§ 1259 and 1263; the Vermont Water Pollution Control rules, Chapter 13, including the rule governing general permits in Section 13.12; the Clean Water Act, Section 301(a) as amended, 33 U.S.C. 1251 et seq., including 33 U.S. C. 1342(p); and regulations of the federal Environmental Protection Agency including but not limited to 40 CFR 122.23, 122.26, and 122.28.

II. Coverage under the Permit

- Permit coverage area

The Permit offers NPDES permit coverage for discharges from operations defined as medium concentrated animal feeding operations (CAFOs) in the state of Vermont.

- Facilities covered

The Permit provides coverage for any eligible facilities that discharge and meet the following criteria:

- Is located within the permit area as defined by Subpart I.A of the Permit
- Meets the definition of a medium CAFO as defined by Subpart I.B of the Permit
- Is eligible for coverage as defined by Subpart I.C of the Permit.

III. Eligibility for coverage

Eligible CAFOs may apply for authorization under the terms and conditions of the Permit by submitting a Notice of Intent (NOI). The specific requirements for the NOI are outlined in Subpart II.B of the General Permit.

IV. Limitations on coverage

In accordance with 40 CFR §122.28(a)(4)(ii), the Secretary may exclude specific sources from coverage under the General Permit. Subpart I.D of the General Permit describes CAFOs that are not eligible for coverage under this Permit. The Secretary may at any time require any person who files a NOI, or who already is authorized to discharge under the General Permit to apply for an individual permit if they meet the criteria in Subpart I.E of the General Permit.

C. APPLICATION FOR COVERAGE

I. Application – Notice of Intent Forms and Fee

A CAFO may be authorized to discharge under this General Permit by filing a signed Notice of Intent (NOI) and a copy of a proposed Nutrient Management Plan. The application shall include the information required under Subpart II.B (Contents of the NOI) in the Permit, a copy of a proposed NMP consistent with Part IV and Appendix A of the Permit, as well as any other information requested by the Secretary. The completed and signed NOI, including the proposed NMP, shall be filed with the Agency of Natural Resources, together with an administrative fee as established by 3 V.S.A. §2822 through an electronic NOI system. The administrative fee is \$240 but there is currently no application review fee for coverage under the Medium CAFO General Permit. The annual operating fee for coverage under the Medium CAFO General Permit is \$1,500 per year. If an applicant does not have access to a computer or internet access, they should call the CAFO Program for instructions on an alternative form of application submittal.

Owners or operators of a facility designated by the Secretary as a CAFO must apply for coverage as soon as possible, but no later than 90 days after becoming defined or designated as a CAFO.

Upon receipt, the Secretary will review the NOI and NMP to ensure that all permit requirements are fulfilled. The Secretary reserves the right to return an application that is incomplete or inaccurate or does not meet the requirements of this Permit. The Secretary may require an applicant to submit additional information that the Secretary considers necessary in order to make a decision on the eligibility for, or the issuance or denial of, an authorization to discharge pursuant to this Permit. The Secretary may deny an

authorization to discharge pursuant to this Permit if the additional information requested is not provided to the Secretary within sixty (60) days of the Secretary's request or if any additional information submitted is inadequate for the Secretary to make a decision on the eligibility for, or the issuance or denial of, an authorization to discharge pursuant to this Permit.

If the Secretary makes a preliminary determination that the NOI is complete, the NOI, NMP, and draft terms of the NMP to be incorporated into the Permit will be made available to the public through the Department's Environmental Notice Bulletin for 14 days.

II. Public Notice of NOI

Public notice and comment for the NOI, NMP, and all attachments shall comply with 40 CFR 122.23(h)(1) as well as the Type 4 public noticing requirements under 10 V.S.A. Chapter 170 and all rules adopted thereunder. Public notice of amendments shall also comply with the public noticing requirements for amendments under 10 V.S.A. Chapter 170 and the rules adopted thereunder.

The Notice of Intent, NMP, and any other application materials will be made available for public review for a period of at least 14 days through the Department's Environmental Notice Bulletin. The Department will respond to any relevant comments on an application for coverage under the General Permit.

Any individual may review and comment on the application materials through the Environmental Notice Bulletin. In order to appeal a permitting decision an appellant must have provided comment to the Department through the Environmental Notice Bulletin on the section of the Permit or authorization that they desire to appeal.

III. Permit Expiration

An authorization to discharge shall expire at the same time as the General Permit under which it is issued. A permittee must reapply for permit coverage at least 180 days prior to the expiration date of its authorization to discharge under this Permit. If a permittee makes a complete and timely reapplication for coverage prior to the expiration date of their authorization to discharge, the authorization remains in effect in accordance with the terms 3 V.S.A. 814 until the Secretary makes a final determination on the application.

IV. Termination of Permit Coverage

In accordance with 40 CFR 122.64 a permittee may request that coverage under this Permit be terminated. Coverage may only be terminated if a permittee demonstrates to the Secretary's satisfaction that at least one of the criteria in Subpart II.H.1-3 of the Permit is met:

1. The facility has ceased all operations and all waste retention structures have been properly closed in accordance with the closure provisions contained in Subpart V(A) of this Permit and with the December 2019 Vermont Natural Resources Conservation Service (NRCS) Conservation Practice Standard Waste Facility Closure Code 360 or its official update and all other remaining stockpiles of manure, litter, or process

wastewater not contained in a wastewater or manure storage structure are properly disposed of;

2. The facility is no longer a Medium CAFO that discharges manure, litter, or process wastewater to waters, based on a demonstration that the circumstances that led to the discharges at the CAFO have been changed or corrected and fully and permanently remedied; or
3. Any and all discharges are permanently terminated by elimination of the flow or by connection to a publicly owned treatment works.

D. Transfer of Ownership

Any permittee may transfer the authorization to discharge under this Permit by submittal of a completed and signed Transfer of Authorization to Discharge Form to the Secretary. The notice shall be submitted at least thirty (30) days prior to the proposed date of transfer and shall include the criteria indicated in Subpart II. I.1-4. of the Permit. The transfer shall become effective upon receipt of written confirmation from the Secretary that the permittee has complied with all requirements of the section of the General Permit.

If the new owner or operator modifies any part of the NMP, the NMP shall be submitted to the Secretary in accordance with 40 CFR 122.42(e)(6) and may be subject to public notice and comment requirements as required under 10 V.S.A. Chapter 170.

E. EFFLUENT LIMITATIONS AND STANDARDS

Section 301(a) of the CWA, 33 USC § 1311(a), prohibits the discharge of pollutants by any point source into waters of the U.S. except in accordance with a permit. CWA Section 402, 33 USC § 1342, authorizes EPA to issue NPDES permits authorizing discharges subject to limitations and requirements imposed pursuant to Sections 101, 301(b), 304, 308, 401, and 403 of the CWA, 33 USC §§ 1251, 1311(b), 1314, 1318, 1341, and 1343. Pursuant to these statutory provisions, the Secretary is required to include conditions in a permit that meet technology based effluent limitation as well as any requirement necessary to meet state water quality standards. Moreover, NPDES permits contain reporting and information-gathering requirements pursuant to CWA Section 308, 33 USC § 1318.

Pursuant to Clean Water Act Section 402(a)(2), 33 USC § 1342(a)(2), and 40 CFR 122.44(k)(3), best management practices (BMPs) are proposed by the Secretary in order to achieve effluent limitations, and to carry out the Act's goals of eliminating the discharge of pollutants and maintaining water quality. Limitations applicable to land application and the production area are based on existing state regulations and best professional judgment (BPJ), where national effluent limit guidelines have not been issued by EPA.

The applicable effluent limits and conditions in the General Permit are summarized below.

I. Production Area

Subpart III(A) of the Permit provides as follows:

The discharge of manure, litter, or process wastewater (e.g., silage leachate, milk house

wastewater) from the production area into waters is prohibited, except as provided below:

- a) Whenever precipitation causes an overflow of manure, litter, or process wastewater, pollutants in the overflow may be discharged into waters provided:
 - (1) The production area is properly designed, constructed, operated, and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour storm event, as determined using NOAA Atlas 14 Point Precipitation Frequency Estimates for the location of the production area; and
 - (2) The design storage volume is adequate to contain all manure, litter, and process wastewater accumulated during the storage period of 11/1 to 4/30, considering, at a minimum, the following:
 - i. The volume of manure, litter, process wastewater, and other wastes accumulated during the storage period;
 - ii. Normal precipitation during the storage period;
 - iii. Normal runoff during the storage period;
 - iv. The direct precipitation from the 25-year, 24-hour storm event;
 - v. The runoff from the 25-year, 24-hour storm event from the production area;
 - vi. Residual solids after liquid has been removed;
 - vii. Sediment load in the runoff from the Production Area;
 - viii. Estimates for precipitation for the 25-year, 24-hour storm event shall be determined using NOAA Atlas-14 Point Precipitation Frequency Estimates, or its official update.
 - ix. Estimates for precipitation and runoff for the storage period shall be in accordance with precipitation values in Appendix B, or values approved by the Secretary;
 - x. Freeboard must be in compliance with the standards set forth in October 2020 Vermont VT NRCS Conservation Practice Standard Waste Storage Facility Code #313; and
 - xi. A minimum treatment volume, in the case of treatment lagoons; and
- b) The permittee is in compliance with all the conditions in this General Permit.

The prohibition of discharge from the production area except when caused by precipitation and when the production area is designed, constructed, operated, and maintained to contain all manure, litter and process wastewater including the runoff and the direct precipitation

from a 25-year, 24-hour storm event was developed by EPA as an effluent limitation guideline (ELG) for Large CAFOs and is detailed in 40 CFR Part 412. This ELG represents the “best available technology economically achievable” or “BAT” for treatment of process wastewater as determined by EPA. In the 2013 General Permit, the Department expanded this prohibition to Medium CAFOs because 10 V.S.A. § 1250 requires the protection of the quality of waters and control of discharges of wastes to waters. The Department continues to believe that this effluent limitation is appropriate for Medium CAFOs considering the water quality risk of operation of a Medium CAFO and the operational similarities to Large CAFOs. A change that the Department is making to the effluent limitation in this Permit is to no longer consider evaporation when calculating the storage volume. After consultation with the Natural Resources Conservation Service (NRCS), the Department has made this change because the data supporting evaporation rates have not been updated since 1984, are not spatially specific, and are not specific to manure pits and other agricultural waste storage and management. Further, due to the dynamics of manure pit surfaces and the lack of information on local meteorological variables, it is extremely difficult to prescribe evaporation values for a given location and specific time period. Additional changes include the use of NOAA Atlas-14 data in order to determine the 25-year, 24-hour storm event, and the use of Appendix B precipitation values (or other values approved by the Secretary) to estimate precipitation and runoff for the storage period. The Department has made these changes after discussions with NRCS and AAFM and because geographically explicit and recent rainfall data is needed for accurate waste storage facility sizing in light of climate change and shifting precipitation patterns and in order for the Department to ensure an applicant can adhere to the ELG.

The Secretary may impose additional water quality-based limitations on a site-specific basis or require the facility to obtain coverage under an individual permit, if information in a facility’s NOI, required reports, or other sources indicate that the facility’s discharges are not controlled as necessary to meet applicable water quality standards. Additionally, the Department has added language in this section requiring that the permittee make all reasonable efforts to minimize, reduce, eliminate, and prevent the discharge of pollutants to waters. Examples of reasonable efforts to minimize, reduce, eliminate, and prevent the discharge of pollutants may include transferring to another waste storage facility, or to land apply according to the permittee’s NMP.

Subpart III.A.4 of the General Permit provides conditions relating to discharges to water quality impaired waters in order to ensure compliance with Vermont’s water quality standards. These conditions include requirements for CAFO discharges to impaired waters with or without an EPA approved Total Maximum Daily Load (TMDL) in order to ensure compliance with water quality standards. In addition, Subpart III.A.4 requires that the site-specific NMP include all additional control measures necessary to ensure that a discharge to impaired waters meets water quality standards.

Finally, Subpart III.A.6 of the General Permit includes other requirements and prohibitions applicable to the production area, including:

- a) Once a CAFO facility has been closed pursuant to all applicable requirements, including those in Part V.A in the General Permit, any discharge to waters of the United States from the CAFO’s former production area containing bacteria in excess of water quality standards is prohibited.

- b) Discharges of pollutants from the production area to surface waters during dry weather conditions are prohibited.
- c) All wastes collected in liquid waste storage facilities shall be composed entirely of manure, litter, or process wastewater from the proper operation and maintenance of the CAFO, and the runoff from the animal confinement, storage, and handling areas. The disposal of other materials (including mortalities and chemicals or other contaminants) into these liquid waste storage facilities is prohibited unless specifically designed to treat such additions.
- d) Animals confined at production areas of existing CAFOs shall not be allowed to come into direct contact with waters.
- e) Liquid waste storage facilities shall contain a depth marker indicating the maximum operational level and the emergency level based on the October 2020 VT NRCS Conservation Practice Standard Waste Storage Facility Code #313.
- f) The permittee shall manage and maintain access roads, parking areas, and other areas identified by the Secretary that do not drain to a waste storage facility in order to prevent erosion and the discharge of agricultural wastes to surface waters.
- g) The permittee shall install and maintain a rain gauge that is properly maintained and located in the Production Area(s). Where two or more facilities are located within a 2.5-mile radius, only one rain gauge is required to be installed and monitored. All rain events in excess of 0.5 inch shall be measured and recorded as part of the NMP recordkeeping.
- h) The permittee's rain gauge shall be kept free of debris, inspected for damages which may impair functionality, and secured tightly to a protected area of a building/structure which is inaccessible to wildlife as well as domestic animals. The permittee shall follow the manufacturer's instructions for securing to a building structure.
- i) CAFOs constructing new waste storage facilities or modifying existing waste storage facilities shall ensure that all waste storage facility design and construction will, at a minimum, be in accordance with the most recent technical standards developed by the Vermont NRCS or an equivalent standard certified by a Professional Engineer (PE) licensed in the State of Vermont.
- j) Existing liquid waste storage facilities that do not have as-built drawings signed by a designer acceptable to the Secretary must be evaluated according to the VT WSF Evaluation Guide by a Professional Engineer licensed in the State of Vermont. Any required improvements identified must be documented in the NMP. Documentation of the evaluation shall be maintained on-site by the CAFO and submitted to the Secretary at the time of application. The VT WSF Evaluation Guide is provided in Appendix C and was adapted from the 'VT NRCS Evaluating Existing Waste Storage Facilities' guide and New York State's 'AEM Tool for the Evaluation of Undesigned Waste Storage Facilities'. This requirement will promote accuracy and accountability at the time of application, ensuring that the Department has the information needed to determine whether or not the applicant complies with the effluent limitation.

- k) Waste Storage Facilities shall be managed and maintained consistent with the requirements of the Operation and Maintenance Plans for the structure as applicable.
- l) The Secretary may require, on a case-by-case basis, that a waste storage facility that has overtopped be certified to comply with standards established by the NRCS for waste storage facilities, or an equivalent standard certified by a professional engineer licensed in the State of Vermont.
- m) The permittee shall notify the Department within 24-hrs of becoming aware that any waste storage facility under their control has exceeded the emergency level (the top 6 or 12 inches depending on the type of waste storage facility), as described in Subpart III.A.6.e and in Subpart VII.
- n) Shop Drains are not authorized to discharge to surface water or to waste storage facilities under this General Permit.

The General Permit expands requirements regarding the design and maintenance of waste storage facilities including the installation of a depth marker in all liquid waste storage facilities in order to ensure compliance with the production area effluent limitation and to reflect the VT NRCS Conservation Practice Standard Waste Storage Facility Code #313. Monitoring records kept by the farm will reference liquid waste storage facility levels according to the depth marker. The General Permit also adds the requirement that the permittee notify the Department once a waste storage facility exceeds the emergency level (enters freeboard, the top 12 or 6 inches depending on the storage). This reporting requirement will give the permittee and the Department an opportunity to discuss what reasonable efforts to minimize, reduce, eliminate and prevent a discharge can be taken and to determine, based on operator compliance and antecedent and forecast weather, if a resulting discharge would be authorized.

To ensure accurate storage volume estimates, operation and maintenance of liquid waste storage facilities, and therefore compliance with the production area effluent limitation, the General Permit requires that any liquid facility without as-built drawings be evaluated by a Professional Engineer (PE) according to the VT WSF Evaluation Guide. The Permit also requires the submission of a map of the production area including depictions of clean water diversions, subsurface drainage, and the areas that do not drain to a WSF. Each of these requirements will ensure that the Department has the information needed to determine whether or not the applicant complies with the effluent limitation at the time of application.

Another requirement added in this Permit is the installation of a rain gauge at all facilities, and that the farm maintain record of any rain event that exceeds 0.5 inches. The allowance for a single rain gauge to be used by multiple facilities located within a 2.5-mile radius is consistent with the geospatial analysis done for the town-by-town rainfall data presented in Appendix B, which used 4 km square grids that are approximately equal to 2.5 miles.

This requirement was added to support a permittee's actions prior to a discharge including field conditions during spreading activities. The process by which the Department calculated the 0.5-inch threshold was based on a process established by the NY DEC. The Department used the USDA cultivated soils layer and the VT SSURGO layer to calculate the area weighted average hydrologic soil group for cultivated lands in Vermont. Based on

this and NRCS Technical Release 55, the Department calculated the area weighted average runoff curve number for cultivated lands to be 87, assuming that the lands were drained and assuming an annual crop with minimal cover. The depth of precipitation at which runoff occurs on surfaces with a curve number of 87 is between 0.4 and 0.5 inches.

II. Land Application Area

Subpart III.B of the General Permit includes effluent limitations and other standards applicable to the land application area as follows:

There shall be no discharge of manure, litter, or process wastewater to waters from a CAFO as a result of the application of manure, litter, or process wastewater to land areas under control of the CAFO, except where it is an agricultural stormwater discharge. Land application of all nutrients must correspond to rates specified in the NMP. When manure, litter, or process wastewater has been applied in accordance with the CAFO's approved site specific NMP in a manner that ensures appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater, a precipitation related discharge of manure, litter, or process wastewater from land areas under the control of the CAFO is considered to be an agricultural stormwater discharge.

Additional land application requirements of this General Permit include;

- Manure, litter, or process wastewater shall not be applied to land from December 15th through April 1st of each year or on frozen, snow covered, or saturated ground; and
 - o 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. Manure spread on row cropland that is subject to frequent flooding from adjacent surface waters shall be incorporated within 48 hours. Manure incorporation is not required for no-till land or land planted to cover crops. If at the time of application, the USDA Soil Survey Flooding Frequency Class is claimed by the operator to be inaccurate, the operator may submit maps in the NMP adjusting, to the best of the operator's knowledge, the boundaries of frequently flooded areas for consideration by the Secretary.

The statewide winter spreading ban and the spreading ban on frequently flooded land adopted in this General Permit reflect an alignment with the Required Agricultural Practices, an intent to limit nutrient application during periods of limited agronomic benefit, and to uphold 10 V.S.A. § 1250(3) to control the discharge of wastes to the waters, prevent degradation of high-quality waters and prevent, abate, or control all activities harmful to water quality. Unlike the RAPs, the General Permit allows a farm to request adjustment to the boundaries of the USDA soil survey based on the operator's knowledge of the land for consideration by the Secretary at the time of application.

III. Compliance with Vermont Water Quality Standards and Anti-Degradation

The requirements of this Permit reflect the goal of the federal Clean Water Act and

Vermont law to achieve and maintain water quality standards. Federal regulations pertaining to the state anti-degradation policies are found at 40 CFR §131.12. Vermont's anti-degradation policy is set forth in Section 1-03 of the Vermont Water Quality Standards. The effluent limitations and requirements contained in this General Permit, including but not limited to the Secretary's approval of a facility-specific nutrient management plan, are designed to ensure compliance with the Vermont Water Quality Standards, including Vermont's anti-degradation policy.

The General Permit does not authorize a continuous or on-going discharge to surface waters. Under normal operations a CAFO should not have a discharge and this Permit further reinforces measures through best management practices that will move permitted CAFOs in the direction of not discharging under normal operational conditions. The Department believes that preventing a discharge is the best way to prevent the degradation of water quality.

To ensure that information is developed and used expeditiously to revise permit requirements the Department uses a formal process to develop and reissue the CAFO Permit. The process includes selecting, developing, adopting, and refining control practices to protect water quality and meet the intent of Vermont's Water Quality Standards. All NPDES permits, including the CAFO Permit, are effective for a fixed term not to exceed 5 years (40 CFR § 122.25). Each time the Department reissues the CAFO Permit, it will evaluate the effluent limits and permit conditions to determine if it should incorporate additional or more stringent requirements.

The Department's evaluation includes a review of information on new pollution prevention and treatment practices. The Department may incorporate these practices into the CAFO permits as conditions or in support of effluent limitations. This approach works to reduce the discharge of pollutants incrementally during each successive 5-year permit cycle. Sources of such information include, but are not limited to:

- **Resource Review:** During Permit development Department staff reviewed UVM extension, EPA, and NRCS publications and consulted EPA, NY DEC and other VT DEC and Vermont Agency of Agriculture, Food, and Markets staff that have expertise in pollution control or applicable management practices.
- **US EPA Effluent Limitation Guidelines:** 40 CFR§ 412 –Effluent Limitations for CAFOs. EPA last updated the CAFO requirements in 2012. 40 CFR § 123.36 requires the Department to establish technical standards for CAFOs that meet the requirements of 40 CFR § 412. The technical standards for this Permit are best management practices and design standards, which the Department has adopted or developed as part of this Permit.
- **Public Input During Permit Development:** The Department conducted a stakeholder outreach process from March 2021 through October 2021 to gather feedback from farmers, technical service providers, partner organizations, and environmental advocates prior to a formal public comment period. The Department received comments during this process and will accept public comment prior to issuance of the final Permit. The Department encourages the public to share what is working, and what is not and uses this formal public process to review and refine permit

requirements in each successive permit.

- **Public Input During Coverage Issuance:** As per 10 V.S.A Chapter 170 each NOI, NMP, and application attachment shall be noticed to the public for 14 days. The Department uses this formal public process to review and refine permit requirements in successive permits.

F. NUTRIENT MANAGEMENT PLAN

I. The permittee shall develop, sign, submit to the Secretary for approval, and implement and maintain a NMP that, at a minimum, specifically identifies and describes best management practices necessary to meet the requirements of Parts III and IV and Appendix A of the General Permit. Further, the NMP shall be developed in accordance with the October 2020 VT NRCS Conservation Practice Standard Nutrient Management Code #590, in addition to any other applicable state and federal law requirements. The permittee shall implement the NMP approved by the Secretary in accordance with the terms and conditions of the NMP as incorporated into the General Permit by the Secretary.

II. The Permit requires that the permittee implement the terms of a site-specific NMP as approved by the Secretary (40 CFR § 122.42(e)(5)). Those site-specific terms of the NMP are defined as “the information, protocols, [BMPs], and other conditions” identified in a permittee’s NMP and determined by the permitting authority to be necessary to meet the requirements of 40 CFR part 122.42(e)(1). 40 CFR § 122.42(e)(5). The site specific NMP at a minimum must adhere to the VT NRCS Conservation Practice Standard Nutrient Management Code #590 standard, be developed according to University of Vermont (UVM) Extension soil and manure sampling guidance and include the following 15 requirements.

- Demonstrate adequate storage of manure, including procedures to ensure proper O&M of the storage facility. This includes the submission of as-builts for existing liquid waste storage facilities or Professional Engineer (PE) evaluation results in accordance with III.A.5.k of the General Permit.
- Manage mortalities to ensure that they are not disposed of in a liquid manure, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities.
- Ensure that clean water is diverted, as appropriate, from the production area.
- Describe how access roads, parking areas, and other areas identified by the Secretary that do not drain to a Waste Storage Facility are managed and maintained in order to prevent erosion and the discharge of agricultural wastes to surface waters.
- Prevent direct contact of confined animals with waters.
- In areas outside of the production area ensure that adequate vegetative cover shall be maintained on banks of surface waters by limiting livestock trampling and equipment damage to protect banks of surface waters and to minimize erosion. Crossings and watering areas need to be maintained so as to minimize erosion and be adequately protective of surface waters.
- Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or stormwater storage or treatment

system unless specifically designed to treat such chemicals and other contaminants.

- Identify appropriate site-specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, that control runoff of pollutants to waters.
- Demonstrate that all fields have soil test results that are less than two years old when developing the initial NMP. Soil samples shall be collected and prepared according to University of Vermont guidance “How to Take a Soil Sample” and shall use the Modified Morgan Extract for available phosphorus and aluminum.
- Establish protocols to land apply manure, litter, or process wastewater in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater.
- Identify areas that, due to topography, activities, or other factors, have a high potential for runoff or soil erosion. Where these areas have the potential to contribute pollutants to waters, either via surface or subsurface (e.g., tile) drainage pathways, the NMP shall identify measures to avoid runoff or loss to subsurface tile drains in accordance with the Vermont NRCS Conservation Practice Standard Code 590 for Nutrient Management.
- Surface waters and conduits to surface waters that are situated downslope of manure, litter, or process wastewater, or fertilizer applications must be buffered from croplands by at least 25 ft. of dense perennial vegetation. If the buffer is heavily used, for example by vehicular traffic, it cannot count towards the 25 ft. buffer requirement. See subpart IV.A.1.1.I-V of the Permit for details.
- Potable water supplies shall be protected by a nutrient application setback consistent with the Department of Environmental Conservation Wastewater System and Potable Water Supply Rules (Environmental Protection Rules, Chapter 1). These setbacks shall not apply to potable water supplies that have been established inconsistent with the Department of Environmental Conservation Wastewater System and Potable Water Supply Rules existing at the time that the water supply was established. The permittee will continue to be subject to additional setbacks required by the RAPs.
- Inspect periodically for leaks the equipment used for land application of manure, litter, or process wastewater.
- Identify specific records that will be maintained to document the implementation and management of the minimum elements described above.

The terms of the NMP, with respect to protocols for land application of manure, litter, or process wastewater required by Part IV.A.1 of the Permit must include the fields available for land application; field-specific rates of application properly developed in accordance with, and limited to the options contained in, Appendix A of the General Permit to ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater; and any timing limitations identified in the NMP concerning land application on the fields available for land application. The terms must address rates of application as specified in Appendix A in accordance with 40 CFR §122.42(e)(5) and VT NRCS Conservation Practice Standard Nutrient Management Code #590.

The NMP section of the General Permit contains expanded requirements regarding clean water diversion, NMP planner certification, certification of the NMP by a planner and operator, bank stabilization, soil and manure sampling guidance, and potable water supply setbacks.

- Clean water diversion: The Department has added a requirement that the permittee provide a narrative describing how the operation intends to keep clean water separate from wastes in order to prevent discharges of agricultural waste from clean water diversions. Clean water catchbasins, French drains, and clean water ditches in or near the production area are frequent areas of concern. Describing management around these sensitive areas will help the Department ensure that the permittee can meet the effluent limit.
- Certification: To ensure a baseline for NMP development the Department has adopted language from the MFO General Permit requiring NMPs to be developed by a certified planner or the operator. Further, this General Permit requires both the planner and the operator certify the accuracy and intent of the NMP. The Department believes this certification requirement will increase accuracy of the NMP and promote the acknowledgement of planner and operator roles and responsibilities. Because terms of the General Permit are to be satisfied within the CAFO's NMP, and the NMP is therefore essential to the assessment of the CAFO's compliance, the Department believes this additional requirement is necessary.
- Streambanks: To closer align with the Required Agricultural Practices and extend protective measures to outside of the production area, the Department has chosen to adopt language that limits degradation of streambanks by livestock and equipment outside of the production area.
- Soil and Manure Sampling: The Department has chosen to reference UVM Extension guidance documents on soil and manure sampling; 'How to Take a Manure Sample' and, 'How to Take a Soil Sample'. These guidance documents are more prescriptive of the sampling process than UVM Extension's 'Nutrient Recommendations for Field Crops in Vermont' and will help to ensure the quality of samples taken, which are the foundation of the NMP.
- Water Supply Setbacks: The General Permit now references setbacks required in DEC's Wastewater and Potable Water Supply Rule. These setbacks are only required when the potable water supply was established consistent with the DEC Water Supply Rules existing at the time that the water supply was established.
- Buffers: The Permit condition related to buffers in the Permit was clarified to indicate that the 25-ft buffer requirement also applies to conduits to surface downgradient of land application areas, rather than just surface waters. This is consistent with the interpretation of the buffer language from the 2013 General Permit but more clearly establishes the requirements for conduits to surface water. Under this Permit, ditches that are downslope of the application area and are conduits to surface water will need to have a 25-ft setback and buffer.

40 CFR 412.4 (c)(3)(5) requires the implementation of a 100-ft manure, litter, and process

wastewater setback to surface waters and conduits to surface waters downgradient of application areas for Large CAFOs, or the implementation of one of two alternatives: 1) a 35-foot vegetated buffer and setback or 2) an alternative practice proven by the CAFO to be as protective or more protective than the 100-ft setback. In 2021 the Agency of Agriculture, Food, and Markets (AAFM) produced a memo comparing the pollutant mitigation of existing nonpoint source pollution regulations for agriculture, and the federal CAFO requirement of the 100-foot setback. Citing a literature review and modelling using the Vermont Phosphorus Index and RUSLE2, the memo shows that the decrease in erosion provided by a 25-foot vegetated buffer is equal to or surpasses the phosphorus and sediment loss reduction provided by the 100-ft setback in ‘high risk’ scenarios. See Table 1 below for a summary of AAFM’s P-Index values. The Department used AAFM’s modelling methodology to compare the 100-ft setback to the 25-ft setback and buffer in low and moderate risk scenarios and found that the 25-ft setback and buffer was more protective in these instances as well. This finding is augmented by other nonpoint source pollution regulations for agriculture that surpass the federal CAFO regulations, including but not limited to, managing fields to the tolerable soil loss "T" and, additional setbacks and vegetated buffers on 10% sloped fields. These findings support the incorporation of a 25-foot buffer and setback to surface waters and conduits to surface water in the General Permit. This decision was informed by the protective intent of 10 V.S.A. § 1250, staff field observations, and conversations with the Environmental Protection Agency.

Table 1. 'High Risk' Management Summary VT P-Index Values from AAFM October 2021 Memo

Soil Group	Without Tile		With Tile	
	100-ft Setback	25-ft Buffer and Setback	100-ft Setback	25-ft Buffer and Setback
A	85	73	104	89
B	183	146	183	126
C	238	205	238	177
D	268	248	268	251

The permittee shall implement the NMP approved by the Secretary in accordance with the terms and conditions of the NMP which are incorporated by reference into an authorization to discharge issued under the General Permit by the Secretary. The NMP shall include the content indicated in Subpart IV.A.1 of the Permit.

III. Monitoring, Recordkeeping, and Reporting

The permittee shall create and maintain a complete copy of the documentation required by this Permit, including, but not limited to, the documentation identified in Subpart IV.A.1 of the Draft Permit on-site for a period of five years from the date they are created. Such records shall be made available to the Secretary upon request. The permittee shall maintain, on-site, a copy of the CAFO’s site-specific NMP and make it available to the Secretary upon request.

Subpart IV.A.2 of the General Permit contains recordkeeping and monitoring requirements necessary to protect water quality. These requirements, which are largely based on the Large CAFO effluent limit guidelines, are adopted in the General Permit due to the similarities in operations with Large CAFOs and because observations in the field support

that these areas are generally not inspected by owner/operators at a frequency sufficient to discover and correct discharges in a timely manner. The Department has noted numerous discharges during the inspection of stormwater and clean water diversions on medium farms, these monitoring requirements are necessary to ensure that the permittee is operating consistent with the effluent limitation in Part III of the General Permit. Field observations support that if these areas are inspected regularly, the frequency and duration of discharges may be greatly decreased. Further, inspection of these areas will not require new or additional equipment and the Secretary will make available a form for documenting inspections.

The General Permit contains a reporting requirement when the level of manure in a liquid waste storage facility enters the top 6 or 12 inches, depending on the type of waste storage facility. This reporting requirement will give the permittee and the Department an opportunity to discuss next steps as necessary to prevent a discharge where feasible and to determine, based on operator actions and antecedent and forecast weather, if a resulting discharge would be authorized.

As part of NMP recordkeeping the General Permit includes a requirement that the permittee install a rain gauge in proximity to each production area and to document each rain event greater than 0.5 inches. This requirement is based on a recommendation in the EPA CAFO Permit Writer's Manual. The information collected will be useful to both the farm and DEC for evaluating discharges and determining whether they are authorized or not. This will also help the farm show compliance with their NMP, which prohibits the application of manure to saturated ground. The 0.5-inch threshold is based on the rainfall depth for which runoff begins for the area weighted average runoff curve number for cultivated lands in Vermont, which is between 0.4 and 0.5 inches. If production areas are within 2.5 miles of each other, the General Permit allows that one rain gauge may be used.

The General Permit requires the permittee to submit an annual report to the Secretary by April 30 of each year, which shall include information for the previous calendar year (i.e., January 1 through December 31 of the preceding calendar year). This reporting schedule was adjusted to align with the current annual reporting requirement of MFO General Permit. The information required in the annual report is listed in Subpart IV.A.3.a-g of the General Permit.

G. SPECIAL CONDITIONS

Subpart V. of the Permit includes additional special conditions related to closure of facilities and the transfer and export of manure that apply to the permittee.

H. STANDARD PERMIT CONDITIONS

40 CFR §§ 122.41 and 122.42 establish conditions that must be in all NPDES permits. Subpart VI of the Permit contains standard permit conditions relating to:

- Records retention
- Duty to comply
- Penalty for permit violation
- Penalty for false statement

- Need to halt or reduce activity not a defense
- Duty to mitigate
- Noncompliance notification
- Proper operation and maintenance
- Duty to provide information. Clarifying language was added to this section at the recommendation of EPA Region 1 regarding notification of discharge to the Department, location of discharge sampling, and sufficiently sensitive test procedures. This additional language, found in subpart VI.J will provide additional direction to a permittee during the event of a discharge.
- Bypass
- Upset
- Signatory requirements
- Right of inspection and entry
- Property rights
- Federal, state, or local laws
- Revocation or modification of authorization to discharge
- Modification of General Permit
- Oil and hazardous substance liability
- Toxic pollutants
- Planned changes
- Anticipated noncompliance
- Twenty-four hour reporting
- Authority

I. DEFINITIONS

Subpart VII. contains definitions applicable to the Permit. The Department has added definitions to the General Permit for clarity. The Department has chosen to define ‘conduit’, ‘depth marker’, ‘emergency level’, ‘impervious surface’, ‘maximum operating level’, ‘overflow’ ‘point source’, and vegetated buffer. The definition of ‘25-year, 24-hour storm event’ has been updated to reflect the use of Atlas 14 data required by the Permit. These definitions were taken verbatim or derived from various sources including the federal CAFO Rule, NRCS conservation practice standards, and 10 VSA 1264.

APPENDIX A

Appendix A describes the Linear and Narrative approaches to NMP development that are acceptable under this Permit. This General Permit has struck the allowance of multi-year phosphorus applications as the practice is inconsistent with the updated VT NRCS Conservation Practice Standard Nutrient Management Code #590. The Department has also added language to reinforce the process by which a representative manure sample should be taken, again referencing UVM extension material and the VT NRCS Conservation Practice Standard Nutrient Management Code 590. A table summarizing the NMP terms of the permit for the Linear and the Narrative Rate approach was added to the Appendix A to help the permittee and the public distinguish between the two approaches.

APPENDIX B

Appendix B includes the PRISM Data Summary Table. This is a table developed by DEC

listing precipitation values for the 80th percentile exceedance probability for each month by town and is included to be used in generation and runoff calculations. The PRISM Climate Dataset is a frequently used source of daily, monthly, and climate-normal climate data based on weather station observations processed into gridded geospatial products of 4km resolution covering the entire lower 48 states in the U.S From the PRISM Climate Dataset, DEC downloaded 4km grid for total depth of liquid precipitation for each month of each year from Nov. 1989 – Apr. 2019. Using ArcGIS spatial analyst and Vermont GIS boundary data downloaded from the Vermont Center for Geographic Information, created a multi-step processing model that clipped each national 4km precipitation grid to VT, and for each month in each year calculated statistics on an areal basis for each town in VT.

APPENDIX C

Appendix C includes the VT WSF Evaluation Guide which was developed to ensure that the design and volume of a waste storage facility that does not have as-builts meets the effluent limitation. The VT WSF Evaluation Guide was derived from an assessment guide used by NY DEC and a NRCS assessment guide of existing storages on farms undergoing an CNMP and is a less costly and less invasive assessment than requiring full certification of a storage.