

DRAFT STORMWATER PROCEDURES

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## CHAPTER ONE - AUTHORITY

### 1.00 Authority

According to 10 V.S.A. Chapter 41, Section 1263(a) any person who wishes to discharge waste into waters of the State shall make application to the secretary for a discharge permit. 10 V.S.A. Chap. 47, Section 1264(b) recognizes the inherent differences between the discharge of stormwater runoff and other discharges. Section 1264 (a) further defines stormwater runoff as ‘limited to collected discharges from large scale developments to sensitive water quality areas.’

In the Water Quality Standards, the Water Resources Board established general standards by which the secretary was directed to “manage discharges of stormwater runoff in as cost effective a manner as possible...”, consistent with the provisions of Section 2-05. The following procedures are consistent with both 10 V.S.A. Chapter 41 and the Vermont Water Quality Standards. These procedures define the Department’s administrative process for the issuance of discharge permits for stormwater runoff.

### 1.10 Applicability

Upon adoption, these procedures are applicable to all discharges of stormwater runoff in the State of Vermont.

### 1.20 Property Rights

The, issuance of a discharge permit for stormwater runoff does not convey any property rights in either real or personal property, or any exclusive privileges; nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations; nor does it waive the necessity of obtaining State or local assent required by law for the discharges authorized.

## CHAPTER TWO - DEFINITIONS

“Applicant” - means the person who owns the existing or proposed development.

“Application” - means the forms prescribed by the secretary for use in applying for a discharge permit.

“Development” - means the construction of improvements on a tract or tracts of land, owned or controlled by a person.

“Discharge” - as defined by 10 V.S.A. Chapter 47 means the placing, depositing, or emission of any wastes, directly or indirectly, into an injection well or into waters of the State.

“Discharge Permit” - a permit issued pursuant to 10 V.S.A. Chapter 47, 1263.

“Existing Developments” - are those developments which were built prior to the adoption of these procedures.

“Impervious Surfaces” - means those surfaces from which precipitation runs off rather than infiltrates.

“Large-Scale Development” - means a development from which a major discharge of stormwater occurs. Major discharges of stormwater occur when one of the following conditions are met:

- a. when the total area of roads and parking lots exceeds ten (10) acres; or
- b. when the total area of roads and parking lots is greater than one (1) acre but less than ten (10) acres and when the ratio of watershed area (in square miles) to total area of roads and parking lots (in acres) is less than three to one (3:1).

“Letter of Compliance” - a standard letter, signed by the applicant, which states that (1) the plans for the proposed development are in accordance with the stormwater treatment and control requirements specified in Chapter Four of these procedures and (2) the development will be constructed according to those plans insofar as stormwater management is concerned.

“New Developments” - include any subsequent expansion or alteration of existing developments which occurs after the date of the adoption of these procedures and all developments built after that date.

“Permit Regulations” - refers to the “Vermont Water Pollution Control Permit Regulations”, subchapter 13.

“Person” - means an individual, partnership, public or private corporation, municipality, institution or agency of the state or federal government and includes any officer or governing or managing body of a partnership, association, firm, or corporation.

“Stormwater Runoff” - means natural precipitation which does not infiltrate into the soil and which is not contaminated by contact with process wastes, raw materials, finished or intermediate products, toxic pollutants, hazardous pollutants, or oil and grease. Stormwater runoff may contain trace amounts of pollutants due to normal traffic and parking facilities.

“Wastes” - as defined by 10 V.S.A. Chapter 47, means effluent, sewage or any substance or material - liquid, gaseous, solid, or radioactive, including heated liquids - whether or not harmful or deleterious to waters.

“Water Quality Standards” - refers to the Vermont Water Quality Standards, revised January 8, 1981, as adopted by the State of Vermont, Water Resources Board.

“Waters” – as defined by 10 V.S.A. Chapter 47, includes all rivers, streams, creeks, brooks, reservoirs, ponds, lakes, springs, and all bodies of surface waters, artificial natural, which are contained within, flow through, or border on the State or any portion of it.

“Waters of the State” - for the purposes of these procedures, includes the bodies of water listed as “waters” in 10 V.S.A. Chapter 47. However, water courses which drain an area of less than 300 acres shall not be considered “waters of the State” unless the Department finds that such water courses exhibit characteristics or values protected by Chapter 47.

## CHAPTER THREE - DESCRIPTION AND CLASSIFICATION OF DEVELOPMENTS

### 3.00 Introduction

This Chapter classifies all developments which discharge stormwater runoff to waters of the State. The Department recognizes two general types of developments: existing and new.

### 3.10 Existing Developments

Existing developments are those developments which were built prior to the adoption of these procedures.

### 3.20 New Developments

3.21 New Developments include any subsequent expansion or alteration of existing developments which occurs after the date of the adoption of these procedures and all developments built after that date.

3.22 For the purposes of these procedures, new developments are further classified into groups. Before defining those groups, it is important to define the concept of watershed-. area and also the concept of the ratio of the watershed area to the total area of roads and parking lots. These concepts are used in determining the development group of a new development.

Watershed Area is the drainage area above the the most upstream discharge from a development. If a development discharges to more than one receiving water, watershed area calculations must be made above the most upstream discharge on each receiving water.

Ratio of Watershed Area to Total Area of Roads and Parking Lots is the relationship of the watershed area, in square miles, to the total area of roads and parking lots Of the development, measured in acres. If a development discharges to more than one receiving water, the ratio must be calculated for each receiving water. For the purpose of determining the development group, the smallest ratio shall be used.

The following groups of new developments are hereby defined:

Group 1 - These developments have:

1. a total area of roads and parking lots of one (1) acre or less, or
2. a total area of roads and parking lots greater than one (1) acre but less than or equal to ten (10) acres and a ratio of watershed area (in square miles) to total area of roads and parking lots (in acres) of three to one (3:1) or greater.

EXCEPTION: For those developments which discharge directly to wetlands, lakes, or ponds, only those with a total area of roads and parking lots of less than one acre are in Group 1.

Group I Developments are considered minor stormwater discharges in the Water Quality Standards, Section 2-05.

Group 2 - These developments have a total area of roads and parking lots of greater than one (1) acre but less than or equal to ten (10) acres and a ratio of watershed area (in square miles) to total area of roads and parking lots (in acres) of less than three to one (3:1).

EXCEPTION: Any development which discharges directly to wetlands, lakes, or ponds and has a total area of roads and parking lots of greater than one acre but less than or equal to ten acres is in Group 2.

Group 2 Developments are considered major stormwater discharges in the Water Quality Standards, Section 2-05.

Group 3 - These developments have a total area of roads and parking lots of greater than ten (10) acres.

Group 3 Developments are considered major stormwater discharges in the Water Quality Standards, Section 2-05.

## CHAPTER FOUR - TREATMENT, CONTROL, AND MAINTENANCE REQUIREMENTS

### 4.00 Introduction

The Vermont Water Quality Standards, effective January 8, 1987, require the use of infiltration, to the extent feasible, to dispose of stormwater runoff flows. The applicant must design the development to fit the site so that it maximizes the non-collection and infiltration capabilities of the site. Examples of maximizing infiltration include use of dry wells, infiltration trenches, and perforated pipe in sandy soils. Stormwater runoff from roads and parking lots which does not infiltrate must be treated. Stormwater runoff from all impervious surfaces such as roads, roofs, parking lots, sidewalks, etc., must be controlled to minimize peak runoff from the site.

### 4.10 Treatment

4.11 Treatment of stormwater runoff requires the use of grassed/ vegetated areas or sedimentation basins to remove sediment and contaminants. Treatment of stormwater runoff must occur 1) on the development site and 2) prior to discharge to waters of the State. Waters of the State shall not be used for the treatment of stormwater runoff.

4.12 Overland flow, as used in these procedures, is stormwater which is not collected. Overland flow must be utilized to the extent that site conditions allow. For use as treatment, a minimum 25-foot-wide grass/vegetated buffer strip must be maintained around all roads and parking areas.

In areas where development roads cross waters of the State, disturbance in the vicinity of the waters must be kept to a minimum.

4.13 Grassed swales must be utilized for treatment if the development site is not conducive to overland flow as defined in Section 4.12. A minimum ratio of 100 linear feet of grassed swale per acre of road and parking lot area is required for each discharge point. When possible, swales should be designed to minimize the velocity in the channel to less than two feet-per-second for the runoff from a 10-year, 24-hour storm.

Stabilization of swales to prevent erosion is required for slopes greater than 5 percent. Depending on the site, swales with slopes of less than 5 percent may also require stabilization to prevent erosion.

Stone-lined swales may be used to prevent erosion and to convey stormwater but are not considered a method of treatment. Where topography dictates the use of stone-lined swales for conveyance of stormwater runoff from road surfaces, the diversion of such flows overland is required wherever possible. All swales must be designed and constructed according to the Soil Conservation Service Engineering Field Manual, "Chapter 7 - Grassed Waterways and Outlets."

4.14 Sedimentation basins must be utilized when development sites do not allow for the use of overland flow or grassed swales. The sedimentation basin must be a permanent structure designed on the basis of a 2-year, 24-hour storm. The basin must have 254 square feet of surface area per cubic-foot per second of calculated peak outflow and a minimum sediment collection depth of 18 inches (sump depth).

4.15 The Department recognizes that a combination of the above techniques, when employed as specified, constitute treatment of stormwater runoff.



#### 4.16 Catch Basin Restrictions

Catch basins or equivalent structures, such as drop inlets, are not consistent with the Vermont Water Quality Standards. Catch basins collect and concentrate stormwater runoff, and, even when maintained, provide minimal treatment. Catch basins do not constitute adequate treatment by themselves.

Catch basins must have a minimum 18" sump depth and stormwater must be treated in conjunction with catch basins. Sedimentation basins can be utilized in conjunction with catch basins as per 4.14 of these procedures. Grassed swales and overland flow can be utilized in conjunction with catch basins. There must be a linear distance of 100 feet of vegetated terrain for each acre of road and parking area prior to discharge to waters of the State. Energy dissipators must be utilized when directing discharges from a catch basin network to grassed swales or overland. The energy dissipator must be designed to minimize the velocity of the runoff from a 10-year, 24-hour storm to less than one foot per second.

#### 4.20 Control

4.21 The control of stormwater runoff requires the use of detention structures such that the post-development peak flow from the site does not exceed the pre-development peak flow based on the runoff from a 10-year, 24-hour design storm.

4.22 For purposes of detention, all impervious surfaces on the development site must be considered. The Soil Conservation Service Technical Release No. 55, "Urban Hydrology for Small Watersheds" shall be utilized to determine pre- and post-development peak flows from the site. Detention structure(s) must be sized such that there is no increase in peak flow based on the runoff from a 10-year, 24-hour design storm.

4.23 Detention of stormwater runoff must be accomplished prior to discharge to waters of the State. However, wetlands, ponds, and lakes may be utilized, in their natural state, to detain stormwater flows if the existing values of these areas remain unchanged. All treatment of stormwater runoff must occur prior to discharge to these areas. No detention structures may be constructed in these areas without the approval of the Department.

#### 4.30 Maintenance

All treatment devices, structures, or facilities must be maintained in good operating order at all times and shall be cleaned, as necessary, to maintain treatment design levels. Paved roads and parking lots should be swept on a regular basis, when seasonally practical, to minimize contaminants carried to the treatment device by runoff.

## CHAPTER FIVE - PROCEDURES FOR ADMINISTRATION AND ISSUANCE OF PERMITS

### 5.00 Introduction

The Department has determined that all developments discharge stormwater runoff during the design 10-year, 24-hour storm. This chapter presents the administration and permitting process for these stormwater discharges.

#### 5.10 Stormwater Runoff Discharges from New Developments

All stormwater discharges from new developments shall be regulated in accordance with the procedures listed below:

#### 5.11 Group 1: No Permit Required

No discharge permit is required for stormwater discharges from developments classified in Group 1.

The Department recommends that these developments utilize the treatment, control, and maintenance techniques specified in Chapter 4 of these procedures.

For developments in Group 1 the applicant shall submit a letter to the Department which states the name of the development, its location, the receiving waters, the total area of roads and parking lots, and the fact that the development is in Group 1. In response, the Department will issue a letter indicating that the development does not require a discharge permit for stormwater runoff because the development does not meet the definition of large-scale development as per 10 V.S.A. Section 1264.

#### 5.12 Groups 2 and 3: Permit Required

A discharge permit is required for all stormwater discharges from developments classified in either Group 2 or Group 3.

##### Stormwater Discharges - Group 2

The Department will issue a stormwater discharge permit in accordance with Chapter 13 of the Vermont Water Pollution Control Permit Regulations and 10 V.S.A. Chapter 47, Section 1263 upon receipt of a complete application. A complete application for this group includes the following:

1. Form WR-82 "Application For Permit To Discharge Wastes"
2. Form WR-82-D "Schedule D - Drainage Discharges". A Schedule 0 must be completed for each discharge to waters of the State.
3. Location Map - a photocopy of a topographic map clearly indicating the location of the proposed development.
4. Site Plan - detailed plans which indicate on-site drainage and contour information, all stormwater conveyances and control structures.
5. TR-55 pre- and post-development calculation sheets.
6. Letter of Compliance - a standard letter, signed by the applicant, which states that (1) the plans for the proposed development are in accordance with the stormwater treatment and control requirements specified in Chapter Four of these procedures and (2) the development will be

constructed according to those plans insofar as stormwater management is concerned.

7. Application Fee: (subject to change by Legislature)

Incomplete applications will be returned

### Stormwater Discharges - Group 3

All discharges of stormwater runoff from developments classified in Group 3 shall be reviewed by the Department. If the Department determines that stormwater runoff from the development is being treated and controlled in compliance with these procedures, the Department will issue an stormwater discharge permit in accordance with subchapter 13 of the Vermont Water Pollution Control Permit Regulations and 10 V.S.A. Chapter 47, Section 1263. In order to be eligible for a stormwater discharge permit the applicant must submit:

1. Form WR-82 "Application For Permit To Discharge Wastes"
2. Form WR-82-D "Schedule D - Drainage Discharges". A Schedule 0 must be completed for each discharge to waters of the State.
3. Location Map - a photocopy of a topographic map clearly indicating the location of the proposed development.
4. Site Plan - detailed plans which indicate on-site drainage and contour information, all stormwater conveyances and control structures.
5. Calculations of the pre- and post-development peak flow for the development using TR-55 calculation sheets.
6. Application Fee: (subject to change by Legislature)

Within sixty days following a request of the secretary, a person who has filed an application shall furnish the secretary with such additional information as may be necessary to insure that such application is complete or which may otherwise be necessary to enable the secretary to issue a permit for such discharge. Only when such additional information is received will the application be considered complete. If the information requested is not received within the sixty day period, the application will be returned and the stormwater discharge permit denied; The applicant will need to reapply to obtain a stormwater discharge permit.

#### 5.20 Stormwater Runoff Discharges from Existing Developments

All existing developments with Temporary Pollution Permits will not require a new stormwater discharge permit under these procedures. These developments are bound by the conditions contained in such permits, whether expired or not.

All existing developments with Discharge Permits for stormwater runoff will not require a new stormwater discharge permit under these procedures. However, as stated in the permit, the applicant must apply for renewal of the discharge permit 180 days prior to the expiration date of the permit.

#### 5.30 Expansion to Existing Developments

Any addition of impervious surface to existing developments constitutes new development. The applicant must determine the applicable development group based on the area of all existing and proposed roads and parking lots in the development. The applicant must follow the procedures for that group as listed in section 5.10 of this chapter.

In determining the need for detention, peak flows from the development shall be calculated using the 10-year, 24-hour design storm. The pre-development peak flow shall be calculated based on the conditions of the existing development. The post-development peak flow shall be calculated based on the conditions of the proposed (expanded) development. No increase in peak flow in excess of the pre-development condition shall be allowed.

#### 5.40 Violation

The violation of these procedures or any condition of stormwater discharge permits issued pursuant to these procedures constitutes a violation of the Vermont Water Pollution Control Act, Title 10 V.S.A., Chapter 47, and is subject to the enforcement and penalty provisions specified in Sections 1274 and 1275 of the Act.

#### 5.50 Severability

If any provision of these procedures or its application to any development or person is held to be invalid, the remainder of the rules and the application of that provision to other developments or persons shall not be affected.