

## Chapter 125

### STORMWATER AND EROSION CONTROL

[HISTORY: Adopted by the Town Board of the Town of Bolton 2-5-1999. Amendments noted where applicable.]

#### GENERAL REFERENCES

Subdivision of land - See Ch. 150.

Zoning - See Ch. 200.

~ 125-1. Short title.

This shall be known as the "Town of Bolton Stormwater Management Ordinance."

~ 125-2. Findings of fact.

The Town of Bolton finds that uncontrolled drainage and runoff associated with land development has a significant impact upon the health, safety and welfare of the community for the following reasons:

- A. Stormwater can carry pollutants into receiving water bodies and degrade water quality.
- B. The increase in nutrients in stormwater runoff accelerates eutrophication of receiving waters.
- C. Improper design and construction of drainage facilities can increase the velocity of runoff thereby increasing stream bank erosion and sedimentation.
- D. Construction requiring land clearing and the alteration of natural topography tends to increase erosion.
- E. Siltation of water bodies resulting from increased erosion decreases the capacity of the water bodies to hold and transport water, interferes with navigation, and harms flora and fauna.
- F. Impervious surfaces increase the volume and rate of stormwater runoff and allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream baseflow.
- G. Improperly managed stormwater runoff can increase the incidence of flooding and the level of floods which occur, endangering property and human life.

H. Substantial economic losses can result from these adverse impacts on the waters of the municipality.

I. Many problems can be avoided if sound stormwater runoff management practices are in effect.

~ 125-3. Effective date.

The effective date of this chapter shall be February 23, 1999.

~ 125-4. Statutory authority.

Article 9 of the Town Law or Article 7 of the Village Law and Environmental Conservation Law ~ 43-0112.

~ 125-5. Purpose and objectives.

The purpose of this chapter is to protect and safeguard the general health, safety, and welfare of the public residing in or visiting the town by preserving and protecting the quality of the ground- and surface waters. This chapter has the following specific objectives:

A. To prevent any increase in stormwater runoff from any development in order to reduce flooding, siltation, and streambank erosion;

B. To prevent any increase in pollution caused by stormwater runoff from development which would otherwise degrade the quality of water in Lake George and its tributaries and render it unfit for human consumption, interfere with water-based recreation or adversely affect aquatic life; and

C. To prevent any increase in the total annual volume of surface water runoff which flows from any specific site during and following development over that which prevailed prior to development.

~ 125-6. Definitions.

The terms used in this chapter or in documents prepared or reviewed under this chapter shall have the meanings set forth in Schedule A<sup>1</sup> of this chapter.

~ 125-7. Jurisdiction.

General applicability: This chapter shall apply to all building, construction, land clearing and subdivision of land within the town, both public and private, except development which is expressly exempt pursuant to ~ 125-8H of this chapter. Permits and approvals required by this

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<sup>1</sup> Editor's Note: Schedule A is included at the end of this chapter.

chapter are incorporated into the site plan, land use or zoning approvals issued under separate provisions of the town's land use program.<sup>2</sup>

~ 125-8. Prohibitions.

A. Except for the activities exempted in Subsection H of this section, no person shall build, construct, erect, expand, or enlarge any building or structure or place or construct any impervious surface such as pavement, blacktop, macadam, packed earth and crushed stone without first receiving a stormwater management permit from the town unless otherwise exempted herein.

B. No person shall receive subdivision approval<sup>3</sup> from the town until first receiving a stormwater management permit from the town for all buildings, structures and impervious surfaces proposed to be created, except that the terms of this chapter shall not apply to persons engaged in activities for which required town permits and approvals were issued prior to the effective date of this chapter.

C. No owner of real property shall maintain a condition which, due to a human disturbance of land, vegetative cover or soil, results in the erosion of soil into any water body. The town shall notify a property owner of such condition on his property and shall afford a reasonable time period to correct any such condition before a violation shall be deemed to exist.

D. Except for the activities exempted in Subsection H of this section herein, no person shall operate a land-clearing machine such as a backhoe, grader or plow or similar device so as to clear or grade land or otherwise remove vegetative cover or soil or to overlay natural vegetative cover with soil or other materials when such activities involve an area of land greater than 5,000 square feet without first having received a permit under this chapter.

E. No person shall fail to comply with any provision or requirement of any permit issued pursuant to this chapter.

F. No person shall create a condition of flooding, erosion, siltation or ponding resulting from failure to maintain previously approved stormwater control measures where such condition is injurious to the health, welfare or safety of individuals residing in the park or injurious to any land within the park. The town shall notify a property owner of such condition on his property and prescribe measures necessary to reestablish effective performance of the approved stormwater control measures. The town shall afford such property owner a reasonable time period in which to correct any such condition before a violation is deemed to exist.

G. No person shall build, alter or modify a stormwater control measure without first receiving a permit from the town. Such building, alteration and/or modification does not include the ordinary maintenance, cleaning and/or repair of stormwater control measures.

H. Any building, construction, or land clearing occurring within the Town of Bolton is subject to this chapter. However, the following activities are exempt from the requirements of this chapter:

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<sup>2</sup> Editor's Note: See Ch. 200, Zoning.

<sup>3</sup> Editor's Note: See Ch. 150, Subdivision of Land, Art. III, regarding subdivision approval.

- (1) Emergency repairs to any stormwater control measure.
- (2) Development involving land disturbance and land clearing of less than 5,000 square feet which does not result in the creation of new impervious surfaces of more than 1,000 square feet.
- (3) Any logging and agricultural activity which is consistent with a soil conservation plan approved by the appropriate County Soil and Water Conservation District or a timber management plan prepared or approved by the Department of Environmental Conservation, as applicable.<sup>4</sup>
- (4) Activities of an individual engaging in home gardening by growing flowers, vegetables and other plants primarily for use by that person and his or her family.
- (5) Construction of an approved wastewater treatment system, and construction of a wharf, dock, boathouse, and mooring.

~ 125-9. Project classification for stormwater management.

A. Minor projects. The following development activities shall be considered to be minor projects:

- (1) Any building, land clearing or development activity affecting less than 15,000 square feet.
- (2) Creation of a two-lot, three-lot or four-lot subdivision which may result in the construction of no more than one single-family residential structure and related accessory structures per lot, and will require land clearing or alteration activities of less than 15,000 square feet per lot and less than 15,000 square feet total for any subdivision road.
- (3) Any building, alteration, or modification of a stormwater control measure, excluding maintenance, cleaning or repair of such stormwater control measure.

B. Major projects. Any project not expressly exempted from regulation or defined as a minor project shall be a major project.

- (1) The following may be considered to be major projects:
  - (a) Any part of the activity listed in ~ 125-9A(1), (2) or (3) which occurs on (i) soils of high potential for overland or through-soil pollutant transport; (ii) an area with a slope of 15% or greater when measured in any direction over a distance of 100 feet from the center of the proposed building site; or (iii) an area with a soil percolation rate slower than 60 minutes per inch.
  - (b) Any minor project may be treated as a major project if such treatment is desirable due to specific site limitations or constraints, anticipated environmental impacts, or the need or advisability of additional public notice and comment. When determining whether to treat a minor project as a major project, the criteria to be considered shall include, but

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<sup>4</sup>Editor's Note: Amended at time of adoption of Code (see Ch. 1, General Provisions, Art. I).

shall not be limited to, whether the site lies within or substantially contiguous to any of the following: (i) a Critical Environmental Area established pursuant to SEQR; (ii) a wetland; (iii) a stream corridor; (iv) an area of significant habitat for any wildlife or plant species; or (v) an area of particular scenic, historic or natural significance.

(2) The project sponsor of a minor project that will be treated as a major project shall be given a written statement of the reasons for such a determination.

C. All determinations of a project classification shall be made by the Zoning Administrator.

~ 125-10. Design requirements and performance standards.

A. Minor projects. The following requirements shall apply to minor projects:

(1) Stormwater shall be managed on-site using stormwater control measures designed to afford optimum protection of ground- and surface waters. Stormwater control measures shall be selected by giving preference to the best management practices for pollutant removal and flow attenuation as specified in Schedule C.<sup>5</sup> Stormwater may be calculated in accordance with the methodology for determining stormwater volume and flow rates for major projects found in Schedule B, Part III<sup>6</sup> or, in the alternative, at a flat rate of 1.5 gallons of stormwater for every square foot net increase in impervious area. Net increase is the difference between predevelopment and post-development conditions. All water from newly created impervious areas which would otherwise run off the parcel shall be directed to an infiltration device. Location of the infiltration devices shall be determined based upon soil test results.

(2) Stormwater control measures may include, but shall not be limited to, dry wells of precast concrete, pits of crushed rock lined with geotextile fabric, and infiltration trenches. Such measures may also include natural and human-made landscape features such as depressions, blind ditches, retention ponds, swales and others. Inlets to infiltration devices shall be protected from sediment at all times in order to maintain their capacity.

(3) Infiltration devices shall not be installed upgradient within 20 feet of the subsurface treatment system of a wastewater treatment system. Infiltration devices for roadways, parking lots, and other areas subject to vehicle traffic shall not be installed within 100 feet of any water well, wetland or water body.

(4) Infiltration devices and buildings shall be designed to maintain maximum attainable horizontal distance separation from wells, water bodies and wetlands. Pumping stormwater shall not be permitted.

(5) The bottom of any infiltration device shall be a minimum of two feet above seasonal high ground water mark and two feet above bedrock.

(6) Temporary erosion controls shall be required to prevent siltation of water bodies during construction.

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<sup>5</sup>Editor's Note: Schedule C is included at the end of this chapter.

<sup>6</sup>Editor's Note: Schedule B is included at the end of this chapter.

(7) Stormwater control measures proposed to be installed at locations with slope > 15% before grading, soil percolation rate slower than 60 minutes per inch or which require placement of fill to meet horizontal distance separations specified in this subpart shall be designed by a licensed professional engineer, architect or exempt land surveyor.

B. Major projects.

(1) Stormwater volumes and rates of flow shall be calculated using the methods specified in Schedule B, Part III.<sup>7</sup>

(2) Design requirements for stormwater control measures.

(a) Stormwater control measures shall be designed so that there will be no increase in runoff volume from a ten-year frequency/twenty-four-hour duration storm event following development over the predevelopment volume.

(b) For storm events exceeding the ten-year design storm, the stormwater control measures shall function to attenuate peak runoff flow rates for a twenty-five-year frequency storm to be equal to or less than predevelopment flow rates. For development greater than five acres, consistent with New York State Guidelines, stormwater control measures shall function to attenuate peak runoff flow rates for a one-hundred-year storm to be equal to or less than predevelopment flow rates. Attenuation of the one-hundred-year storm is intended to reduce the rate of runoff from development to prevent expansion of the one-hundred-year floodplain so as to alleviate flooding of improved properties and roadways. The minimum requirement for peak flow attenuation can be waived for the one-hundred-year storm event where it can be proven that downstream flooding is not a concern, such as where excess stormwater runoff is discharged to Lake George or to a regional stormwater facility designed to handle additional volume and peak discharge. The cumulative effect of all proposed development projects within the watershed should be considered in making this determination. Rainfall intensity curves for Lake George, New York shall be used in the design of the stormwater control measures. These curves are annexed to this chapter as Schedule D entitled "Rainfall Intensity Curves."<sup>8</sup> Additionally, for development greater than five acres, coverage is required under a State Pollutant Discharge Elimination System (SPDES) General Stormwater Permit administered by the Department of Environmental Conservation.

(c) Infiltration devices shall be designed such that the bottom of the system will be a minimum of two feet above the seasonal high groundwater level to be realized following development. Where compliance with this requirement would prevent compliance with Subsection B(2)(e) of this section, compliance with this requirement may be waived. This provision shall not apply to wet ponds and similar stormwater control measures which are designed to be built in the saturated soil zone.

(d) Infiltration devices for major projects shall be located a minimum of 100 feet from Lake George and any downgradient drinking water supply, lake, river, protected stream, waterwell, pond, wetland; a separation of more than 100 feet may be required in cases where contamination of the water supply is possible due to highly permeable soils, shallow groundwater and similar situations. The separation distance shall be a minimum of 50 feet from upgradient water supplies. Designs shall mitigate adverse effects that groundwater recharge will

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<sup>7</sup>Editor's Note: Schedule B is included at the end of this chapter.

<sup>8</sup>Editor's Note: Schedule D is included at the end of this chapter.

have on adjacent wells, water supplies, wastewater treatment systems, buildings, roadways, properties, and stormwater control measures. Stormwater recharge areas shall be located a minimum of 100 feet from the subsurface treatment system of a wastewater treatment system unless it is demonstrated that a lesser separation will not adversely affect the functioning of such leach fields.

(e) Infiltration devices shall be designed to extend a minimum of 10% of the infiltration surface area below the prevailing frost depth or four feet (whichever is greater) in order to provide infiltration during winter months.

(f) Infiltration devices shall be designed based on the infiltration capacity of the soils present at the project site. Soil evaluation methods shall be in accordance with Schedule B, Part IV, Soil Evaluation Methods.<sup>9</sup>

(3) Additional requirements for major projects.

(a) Stormwater control measures shall be used in the following order of preference: (i) infiltration devices; (ii) artificial wetlands and acceptable natural treatment systems; (iii) flow attenuation by use of open vegetated swales and depressions; (iv) stormwater detention. Stormwater control measures shall be selected by giving preference to the best management practice for pollutant removal and flow attenuation as indicated in Schedule C.<sup>10</sup>

(b) All stormwater control measures shall be designed to completely drain to return to design levels in accordance with the following: infiltration basin five days; infiltration trench 15 days; dry well 15 days; porous pavement two days; vegetation depression one day.

(c) Pretreatment devices such as sediment traps, detention/stilling basins, filter strips, grassy swales, or oil/water separators shall be provided for runoff from paved areas or other areas subject to human-induced pollution, including grease and oils, fertilizers, chemicals, road salt, sediments, organic materials and settleable solids, which shall be sufficient to remove pollutants from the runoff.

(d) Stormwater control measures shall, at a minimum, incorporate the best available pollutant removal technology, which shall mean that which constitutes appropriate and cost effective means for removing pollutants from runoff so that the resulting treated stormwater will not degrade the water quality of any water body.

(e) Stormwater control measures shall be designed to preserve and maintain the base flow in all streams passing through, adjoining or receiving runoff from the site.

(f) For development or redevelopment occurring on a site where development has previously occurred, the applicant shall be required to prepare concept plans and to develop construction estimates for stormwater control measures to control existing stormwater discharges from the site in accordance with the standards of this chapter to the maximum extent practicable. Construction of stormwater control measures to achieve infiltration of the first 1/2 inch of precipitation from previously developed areas of the site shall be required as a condition of approval when it is determined to be reasonable and cost effective to do so. The

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<sup>9</sup>Editor's Note: Schedule B is included at the end of this chapter.

<sup>10</sup>Editor's Note: Schedule C is included at the end of this chapter.

phased implementation of such stormwater control measures for previously developed areas may be authorized.

C. General requirements for major and minor projects. The following requirements shall apply to major and minor projects:

(1) Stormwater control measures shall include such other measures as are deemed necessary to prevent any increase in pollution caused by stormwater runoff from development which would otherwise degrade the quality of water in Lake George and its tributaries, or any other stream, render it unfit for human consumption, interfere with water-based recreation or adversely affect aquatic life.

(2) Emergency overflow provisions shall be made as necessary to prevent erosion, flooding, and damage to structures, roads and stormwater control measures.

(3) Stormwater control measures shall be designed to minimize adverse impacts to water bodies, minimize disturbance of water bodies, minimize land clearing, minimize the creation of impervious surfaces, and to maximize preservation of natural vegetation and existing contours.

(4) Development which involves the creation of areas subject to intensive landscape maintenance such as golf courses, public parks and botanical gardens shall require that a pest control and fertilizer management plan shall be prepared and included with the permit application.

~ 125-11. Erosion control measures.

A. Temporary erosion control shall be provided for all disturbed areas in accordance with the "New York Guidelines for Urban Erosion and Sediment Control." The temporary erosion control measures shall be maintained continuously until permanent control measures are in service. Infiltration devices shall be protected from siltation during the period of construction and until the site is successfully revegetated by use of silt screens, inlet protection devices, sediment detention ponds or other suitable erosion control measures.

B. Staging of construction to facilitate erosion control shall be required. Only those areas where construction is actively occurring shall remain open and unvegetated. All areas that are not within an active construction area shall be mulched and stabilized or shall be mulched and revegetated. An active construction area is defined as one that has seen substantial construction within the past seven calendar days. Mulching or revegetation for erosion control shall be completed within 10 days following the last substantial construction activity.

C. Compliance with the following restrictions shall be required.

(1) No vegetation shall be felled into any lake, pond, river, stream or intermittent stream and if inadvertently felled into one of these water bodies, shall be removed immediately from the water body. The removal of dead or dying, diseased trees or trees presenting a health or safety hazard shall not be exempt from this requirement.

(2) Within 500 feet of the mean high water mark of any lake, pond, river, stream, or wetland, no land area, including areas stockpiled with earthen materials, which has

been cleared may be made or left devoid of growing vegetation for more than 24 hours without a protective covering securely placed over the entire area and/or erosion control measures properly installed to prevent sediments from entering the water body. Acceptable protective coverings include natural mulch of a depth of two inches, rock rip-rap, nondegradable materials such as plastic or canvas coverings, and impervious structures.

(3) Any area of land from which the natural vegetative cover has been either partially or wholly cleared or removed by development activities shall be revegetated within 10 days from the substantial completion of such clearing and construction. Acceptable revegetation shall consist of the following:

(a) Reseeding with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage, but not less than 50% of the total disturbed area, to control erosion until such time as the cover crop is established over 90% of the seeded area.

(b) Replanting with native woody and herbaceous vegetation accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.

(c) Any other recognized method which has been reviewed and approved by the town as satisfying the intent of this requirement.

(4) Any area of revegetation must exhibit survival of a minimum of 75% of the cover crop throughout the year immediately following revegetation. Revegetation must be repeated in successive years until the minimum seventy-five-percent survival for one year is achieved.

(5) Ground clearing or grading activities which occur during the period October 15 to April 15, during which germination of vegetation typically will not take place, shall be required to incorporate extra measures during revegetation in order to reduce erosion and maintain water quality. These extra measures include, but are not limited to, the use of screen mesh, netting, extra mulch, and siltation fences.

~ 125-12. Maintenance of stormwater control facilities required.

A stormwater permit shall include, at a minimum, provisions for the future maintenance of the site, consistent with the following:

A. Applicability. Prior to issuance of a certificate of completion for any major project, or any minor project where it is deemed necessary, the project sponsor shall provide for arrangements for the future maintenance of stormwater control measures subject to the approval of the town. This may include, but not be limited to, the following: approval of the bylaws and/or certificate of incorporation of a transportation corporation or homeowners association; posting of a performance bond; placing of funds on deposit; and a stormwater management maintenance agreement between the owner(s) of the site and the town consistent with the terms and conditions of Schedule E entitled "Sample Stormwater Control Facility Maintenance Agreement."<sup>11</sup>

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<sup>11</sup>Editor's Note: Schedule E is included at the end of this chapter.

B. Purpose. Stormwater management maintenance arrangements shall be those necessary to ensure that stormwater control measures are maintained in working condition throughout the life of the project.

C. Notice. The stormwater management maintenance agreement shall be recorded in the office of the County Clerk or its terms shall be incorporated into covenants appearing in the deed, declarations of covenants and restrictions or other such documents to ensure that record notice of its terms is provided to future owners of the site. It shall also be included in the offering plan, if any, for the project.

D. Initial maintenance security. The project owner(s) or sponsor shall establish a maintenance security in the form of a bond, letter of credit, escrow account, or other acceptable security, for the purpose of rebuilding, maintaining or repairing the stormwater control facilities during the first two years following the approved completion of construction.

~ 125-13. Permit application review procedures.

A. Plan review. It is the responsibility of the applicant to provide a detailed plot plan showing the location and dimensions of all existing and proposed structures and impervious surfaces, watercourses, water bodies, wetlands, wells, septic systems, and stormwater control measures on the site and within 100 feet of the site, and a location map of the site. Applications shall be submitted on forms prescribed by the municipality and shall require an application fee, Tax Map number of affected parcels, a completed Part 1 Environmental Assessment Form, if required, and names and addresses of adjacent parcel owners as required.

B. Minor projects. The zoning/land use office of the municipality shall have primary responsibility for the review, approval and issuance of stormwater management permits for minor projects. The zoning/land use office may request technical assistance from the Lake George Park Commission.

(1) Prior to permit decisions a test pit may need to be witnessed.

(2) The zoning/land use officer shall determine whether notice to adjacent owners is warranted by public interest or other considerations.

(3) Prior to the issuance of a permit for any project, the zoning/land use officer shall determine that the project as proposed is in accordance with the design standards of this chapter.

C. Major projects. Major projects shall require site plan review in accordance with the municipality's Land Use Ordinances.<sup>12</sup>

(1) Preparation of a stormwater control report in accordance with Schedule B, Part II<sup>13</sup> is required. Preparation of a stormwater concept plan in accordance with Schedule B, Part I may be required if deemed necessary by the municipality. The SCP and SCR shall be prepared by an engineer or architect or exempt land surveyor licensed to practice under the laws

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<sup>12</sup>Editor's Note: See Ch. 150, Subdivision of Land, §§ 150-7 and 150-7, and Ch. 200, Zoning, § 200-29.

<sup>13</sup>Editor's Note: Schedule B is included at the end of this chapter.

of the State of New York, who shall be employed by the applicant or developer to design and supervise the installation of all stormwater management facilities. Stormwater management shall be within the area of expertise of the particular individual or firm performing the design and construction supervision, and if requested, that individual or firm shall furnish a listing and description of all stormwater management projects designed or supervised by them within the past five years.

(2) Approval of the stormwater concept plan and stormwater control report may require a public hearing if the Municipal Zoning and Subdivision Ordinances require such a hearing.<sup>14</sup>

(3) The final subdivision plat shall contain stormwater control measures for all commonly owned roads, buildings, parking areas and impervious areas. Approved stormwater design plans shall be filed together with the final subdivision plat with the County Clerk.<sup>15</sup>

(4) Prior to the approval of the final subdivision plat or commonly owned facilities, it shall be first determined that there is sufficient information to support a finding that the stormwater measures subject to future approval can be designed and constructed in accordance with this chapter.

D. In addition to any other fees required by the town upon the filing of a permit application, the town may charge an additional fee to the applicant representing required legal and/or technical review. The fee charged to an applicant should reflect the actual costs of reasonable and necessary legal and technical assistance.

~ 125-14. Criteria for issuance of stormwater control permits.

A. An application for a stormwater control permit may be approved, denied, or approved with modifications or conditions, including modifications to non-stormwater aspects of the development necessary to achieve the required level of stormwater management.

B. No stormwater management permit shall be issued unless the municipality makes the following findings which shall be supported by substantial evidence. The facts supporting such findings shall be set forth in the decision document or permit. The issued permits shall set forth all required conditions and incorporate all necessary documents and maps. The findings are as follows:

(1) That the project meets the design requirements and performance standards set forth in this chapter.

(2) That the project will not have an undue adverse impact on the health, safety and welfare of the public or on the resources of the Lake George Park and will not lead to a diminution of water quality, an increase in erosion, or an increase in stormwater runoff from the site either during or following construction.

(3) That the stormwater control measures proposed for the proposed project will function as designed and that such measures represent the best possible methods and

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<sup>14</sup>Editor's Note: See Ch. 150, Subdivision of Land, and Ch. 200, Zoning.

<sup>15</sup>Editor's Note: See Ch. 150, Subdivision of Land, ~ 150-17D.

procedures for controlling stormwater runoff that is feasible and practicable at the particular project site.

(4) That adequate and sufficient measures have been taken to ensure accountability and responsibility over the life of the project should the stormwater control measures not function as intended, fail, or suffer from inadequate maintenance to ensure its proper functioning. The municipality may require formation of a homeowners association registered pursuant to ~ 352-e of the New York State General Business Law and execution of a maintenance agreement consistent with Schedule E.<sup>16</sup>

(5) That the proposed project will not contribute to flooding, siltation or streambank erosion and will not result in any increase, directly or indirectly, in pollution to Lake George or its tributaries or other streams from stormwater runoff.

~ 125-15. Variances.<sup>17</sup>

A. If during the review of an application it is determined that the application of any design or dimensional requirement contained in this chapter will result in the denial of the project, the applicant shall be afforded an opportunity to modify the project plans or in the alternative to make application for a variance. Upon denial of any permit application for a project for failure to conform to specific provisions of this chapter, the applicant may make an application for a variance.

B. If the applicant determines that any aspect of the project cannot meet any design or dimensional requirement contained in this chapter, the applicant may make direct application for a variance to the Zoning Board of Appeals.

C. Variance applications shall be on such forms as may be prescribed and shall conform with and contain the permit application requirements set forth in this chapter.

D. The granting of any variance shall be done in accordance with ~ 267 of the New York State Town Law or ~ 7-712 of the New York State Village Law and any amendments thereto, as appropriate.

~ 125-16. Fines; penalties for offenses. [Amended 8-2-2005]

A. It shall be unlawful for any person to construct, alter, repair, move, remove, demolish, equip, use, occupy or maintain any building, structure or premises, or portion thereof, in violation of any provision of the Town of Bolton Stormwater Management Ordinance, or to construct, alter or use and occupy any building, structure or premises in a manner not permitted by or inconsistent with a permit, approval or variance issued pursuant to the aforementioned, or fail to comply with a notice, directive or order of the Zoning Administrator or agents thereof.

B. Any person who owns, controls or manages any building, structure or premises, and who shall fail to comply with a written directive, including a stop-work order of the Zoning

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<sup>16</sup> Editor's Note: Schedule E is included at the end of this chapter.

<sup>17</sup>Editor's Note: See Ch. 200, Zoning, Art. X, regarding granting of variances.

Administrator or an agent thereof within the time fixed for compliance, and any owner, builder, architect, contractor, subcontractor, construction superintendent or their agents, or any other person assisting in the construction or use of any building or structure, or in the land disturbance on or use of any premises who knowingly violates any of the applicable provisions of the Town of Bolton Stormwater Management Ordinance, or any lawful order, notice, directive, permit, certificate, approval or variance issued hereunder shall be punishable as follows:

(1) Criminal sanctions.

(a) Criminal sanctions are as follows:

[1] First offense: fine not exceeding \$350 or six months' imprisonment, or both.

[2] Second offense: fine of not less than \$350 or more than \$700, or up to six months' imprisonment, or both.

[3] Third offense or subsequent offense (if committed within five years of first offense): fine of not less than \$700 or more than \$1,000, or up to six months' imprisonment, or both.

(b) Every such person shall be deemed guilty of a separate offense for each week such violations, disobedience, omission, neglect or refusal shall continue. Where the person committing such violation is a partnership, association or corporation, the principal executive officer, partner, agent or manager may be considered to be the "person" for the purposes of this article.

(c) The Zoning Administrator or agent thereof may commence criminal proceedings in the justice court by issuing an appearance ticket to any alleged violator and/or by filing an information and supporting deposition pursuant to the New York Criminal Procedure Law. Alternatively, the Zoning Administrator or agent thereof, or the Town Board may request the District Attorney to prosecute the violation or to appoint the Town Attorney as a special district attorney for that purpose.

(2) Civil penalties.

(a) As an alternative to criminal sanctions, the Town may institute proceedings for civil penalties in the amounts stated herein for each such violation:

[1] First violation: civil penalty not exceeding \$350.

[2] Second violation (if committed within five years of first offense): civil penalty of not less than \$350 or more than \$700.

[3] Third violation or subsequent offense (if committed within five years of first offense): civil penalty of not less than \$700 or more than \$1,000.

(b) Such fines or penalties may be compromised or released by the Town Board as a part of any disposition.

~ 125-17. Alternative or additional remedy. [Added 8-2-2005]

In the case of any violation or threatened violation of any provisions hereof, or the terms and conditions imposed by any permit, approval, variance or order issued pursuant to the provisions hereof, in addition to other penalties and remedies herein provided, the Town may institute any appropriate action or proceedings against the owner of the premises and/or any other responsible person to prevent such unlawful erection, structural alteration, reconstruction, occupancy, moving and/or use, to restrain, correct or abate such violation, to prevent or restrain the occupancy of such building, structure or land, to compel compliance with the provisions hereof and any permit, approval, variance, order or directive issued pursuant to it, and to prevent, restrain, correct or abate any illegal act, conduct, business or use in or about such premises. The alternative or additional remedy specified herein may be taken in addition to a proceeding for criminal sanctions or civil penalties. The Town Board may negotiate appropriate remediation and restoration measures by entering into an enforceable settlement agreement or consent order with any violator and/or owner, which may include payment by the violator and/or owner of a monetary penalty which may include exemplary or punitive damages, plus recovery of actual costs incurred by the Town in connection with the enforcement proceeding, including actual attorneys' fees, disbursements and, in appropriate cases, reimbursements for the actual costs to be incurred in rectifying any circumstance or condition necessary to restore the premises into compliance, all and any of which may, if not voluntarily paid by the violator and/or owner, constitute the basis of a lien charge attachable to the premises as a special assessment or charge assessable and collectable on the tax bill associated with the subject premises.

~ 125-18. Stop-work order. [Added 8-2-2005]

A. The Town Board for the Town of Bolton hereby grants the Zoning Administrator plenary administrative responsibility to immediately suspend any continuing violations by posting a stop-work order on the premises wherein the violation has occurred.

B. Whenever the Zoning Administrator has reasonable grounds to believe that work on any building, structure or development of any premises is being undertaken or continued in violation of the provisions of the applicable building laws or the provisions hereof, or other ordinances, rules or regulations, or not in conformity with the provisions of an application, plans or specifications on the basis of which a permit was issued, or not in conformity with the terms or conditions of a permit, approval or variance, or in an unsafe and dangerous manner, he shall notify the owner of the property, or the owner's agent, to suspend all work, and such persons shall forthwith stop such work and suspend all building and development activities until the stop order has been rescinded or superseded by a court order. Such order and notice shall be in writing, shall state the conditions under which the work or development may be resumed, and may be served upon a person to whom it is directed, either by delivering it personally to him, or by posting the same upon a conspicuous portion of the building or premises where the work or development is being performed and sending a copy of the same to him by certified mail at the address set forth in the application for permission for the construction of such building or development of such premises.

C. Obtaining relief or release from any stop-work order may be obtained in the proper circumstances as follows:

(1) If all provisions hereof, together with all other reasonable conditions specified by the Zoning Administrator or agent thereof, are satisfied, and thereafter by resolution of the Town Board, upon the advice of the Planning Board or Zoning Board of Appeals as the circumstances of each case may require, an authorization of release or lifting of a stop-work order may occur.

(2) Except in matters pertaining to violations of requirements imposed by site plan review, if a variance is granted by the Zoning Board of Appeals granting permission to maintain violations specified on a stop-work order and to continue such circumstances as thereafter allowable, the administrative determination of the Zoning Administrator or agent thereof shall conform or terminate the stop-work order in accordance with the requirements mandated by the Zoning Board of Appeals.

~ 125-19. Suspension of administrative review. [Added 8-2-2005]

Processing and review of any application pursuant to the provisions hereof may be suspended and the application deemed incomplete with written notice to the applicant if a stop-work order has been issued by the Zoning Administrator or agent, other written notice of an alleged violation has been delivered to the property owner or applicant, or a criminal or civil criminal action commenced against the property owner, applicant or other responsible person for alleged violations of law related to the activity for which the permit is sought or for alleged violation of the provisions hereof related to the site. Such suspension of application processing may remain in effect pending final resolution of any enforcement action by an order of court or by a negotiated settlement of the pending violations between the responsible parties and the Town Board. In any appropriate case, the Zoning Administrator or agent, Planning Board or Zoning Board of Appeals, in their respective roles as reviewing authorities, may suspend review of an application.

~ 125-20. Misrepresentation. [Added 8-2-2005]

Any permit, variance or approval granted under the provisions hereof which is based upon or is granted in reliance upon any material misrepresentation, or failure to make a material fact or circumstance known, by or on behalf of an applicant, shall be void. This section shall not be construed to diminish the penalties and remedies available to the Town under any enforcement provisions hereof.

## SCHEDULE A

### DEFINITIONS

The following terms shall have the stated meanings when used in this chapter or in documents prepared or reviewed under this chapter:

**AGRICULTURAL ACTIVITIES** -- The activities of an active farm, including grazing and watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale, but shall not include the operation of a dude ranch or similar operation, or the construction of new structures associated with agricultural activities.

**BASE FLOW** -- The stream discharge from groundwater runoff.

**BLIND DRAIN** -- A drain consisting of an excavated trench refilled with pervious materials, such as coarse sand gravel or crushed stone through which water percolates and flows toward an outlet, often referred to as a French drain.

**BUILDING FOOTPRINT** -- That two-dimensional plane area of a building or structure which results when the height dimension is removed and which shows an aerial view of said building or structure, including garages, sheds, porches, eaves, covered breezeways, entryways and other similar attached appurtenances.

**CATCH BASIN** -- An inlet structure for the collection of stormwater from impervious surfaces designed with a sump to trap sediment.

**COMMISSION** -- The Lake George Park Commission.

**DEPARTMENT** -- The Department of Environmental Conservation of the State of New York.

**DETENTION** -- The practice and procedures associated with the delayed release of stormwater so as to reduce peak flow, maintain base flow, increase opportunity for recharge to groundwater, and reduce opportunity for surface runoff and soil erosion.

**DETENTION STRUCTURE** -- A permanent structure for the temporary storage of runoff which is designed so as not to create a permanent pool of water.

**DEVELOP LAND** -- To change the runoff characteristics of a parcel of land in conjunction with residential, commercial, industrial or institutional construction or alteration.

**DEVELOPMENT** -- Any building, construction, expansion, alteration, modification, demolition or other activity, including land clearing, land disturbance, grading, roadway construction or expansion, mining or mineral extraction which materially changes the use or appearance of land or a structure, or the intensity of the use of land, or the creation of a subdivision which may result in such activity, but not including interior renovations to a structure, a change in use of a structure which results in no land disturbance, or the construction or modification of a dock, wharf or mooring.

**DEVELOPMENT AREA or SITE** -- Any parcel of property or lot or combination of contiguous lots which (a) are in common ownership; or (b) are in diverse ownership where development is to occur in common. For the purposes of this chapter contiguous lands shall include those separated by a public highway.

**DISTURBED AREA** -- That part of a development site area where actual land disturbance, vegetation removal, or construction of buildings, structures or utilities will occur or has occurred.

**DRAINAGE AREA** -- All of the area of land contributing runoff flow to a single point.

**EROSION** -- The wearing away of the land surface by water, wind, or ice or the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

**FILTER STRIP** -- A strip of permanent vegetation above ponds, diversion terraces and other structures to retard flow of runoff, causing deposition of transported material, thereby reducing sediment flow.

**FLOW ATTENUATION** -- Prolonging the flow time of runoff to reduce the peak discharge.

**HYDROGRAPH** -- A graph showing variation in stage (depth) or discharge of a stream of water over a period of time.

**IMPERVIOUS AREA** -- An area covered by pavement, rooftops, and/or other structures or materials, which is either impervious to water or which substantially prevents the infiltration of water into the soil at that location.

**INFILTRATION** -- The downward movement of water from the surface to the subsoil. Infiltration rate is typically expressed as inches per hour.

**INFILTRATION DEVICE** -- A stormwater recharge area, dry well, recharge basin, retention basin or any other engineered structure designed to infiltrate stormwater.

**INFILTRATION RATE** -- A soil characteristic determining or describing the maximum rate at which water can enter the soil under specified conditions, including the presence of an excess of water.

**LAND DISTURBANCE or LAND CLEARING** -- Grading, digging, cutting, scraping, excavating, removing of soil, placement of fill, paving or otherwise covering, construction, substantial removal of natural or human-made vegetation, replacement of natural vegetation with lawn or other human-made vegetation, demolition or other removal of human-made features, or any activity which bares soil or rock. For the purposes of calculating the square footage affected by any development in order to determine a project's classification, all affected areas of the development site shall be considered in aggregate whether or not the affected areas are contiguous.

**MULCH** -- A natural or artificial layer of plant residue or other materials, such as sand or paper, on the soil surface which reduces erosion, maintains soil moisture and facilitates seed germination.

**MUNICIPALITY** -- The Town of Bolton.

**NONPOINT SOURCE** -- Any source from which pollutants are or may be discharged which is not a point source.

**OFFERING PLAN** -- A prospectus as required by ~ 352-e of the General Business Law.

**PEAK FLOW** -- The maximum instantaneous flow of water from a given condition at a specific location.

**PERSON** -- Any individual, firm, partnership, club, trust, company, association, cooperative, corporation (including a government corporation), municipality, the state or federal government and any agency thereof.

**POLLUTION** -- The condition caused by the presence in the environment of substances of such character and in such quantities that the quality of the environment is impaired or rendered offensive to life.

**POLLUTION SOURCE CONTROLS** -- The structures and practices used in reducing contaminants from point and/or nonpoint sources.

**POROUS PAVEMENT** -- An open graded paving material which allows water to pass through it.

**PREDEVELOPMENT** -- Those site conditions that legally existed prior to the commencement of any activity regulated by this chapter.

**PROJECT** -- Any land use or development activity proposed by an applicant which is subject to this chapter.

**PROJECT LIFE** -- The anticipated or actual time a project will be used, utilized or remain in functional existence.

**RAINFALL INTENSITY** -- The rate at which rain is falling at any given instant, usually expressed in inches per hour.

**RATIONAL METHOD** -- A widely accepted method for calculating stormwater runoff, volume and rates of flow for stormwater shed areas up to 20 acres.

**REDEVELOPMENT** -- Any activity which alters a previously developed site.

**RETENTION** -- The practice of holding or directing stormwater except that portion evaporated or bypassed in an emergency, in or to a given area so that all the stormwater will be infiltrated into the subsoil.

**RETENTION POND** -- A recharge basin which is designed to infiltrate all of the stormwater it receives and which normally has no outflow.

**REVEGETATION** -- The natural or artificial replacement of vegetation on a project site to reduce erosion, decrease runoff, improve water quality and improve aesthetic qualities of exposed soils.

**RUNOFF CONTROLS** -- Those structures and/or devices, including, but not limited to, dry wells, porous pavements, ditches, wetlands, holding ponds, recharge areas, and retention/detention basins which recharge groundwater and provide for peak flow attenuation.

**SIGNIFICANT HABITAT** -- That area or region important in fulfilling the daily or seasonal habitat requirements of any species of plant or animal designated as endangered, threatened, rare, or of special concern by the Department pursuant to Environmental Conservation Law §§ 11-0535 and 9-1503 and the Department's regulations thereunder, or by any individual species or any group or natural community of nonlisted plants and animals of significant economic, recreational, aesthetic, ecological or scientific importance.

**SILTATION TRAP** -- A structure designed to trap sand- and silt-sized particulate matter from stormwater.

SITE -- See definition of "development area."

STORMWATER -- Water produced by precipitation, including snow melt which does not evaporate and which flows over a natural or human-made surface, or into a natural or human-made channel.

STORMWATER CONCEPT PLAN or SCP -- A report prepared in accordance with Schedule B of this chapter or on behalf of a project sponsor which includes analysis of a site's environmental characteristics, potential impacts of the development on water resources and the effectiveness and acceptability of the proposed stormwater management system in order to determine the types of stormwater measures necessary for the proposed development.

STORMWATER CONTROL MEASURES -- All those natural and man-made structures, infiltration devices, erosion controls, systems, facilities, agreements, institutional arrangements, and financial provisions to manage stormwater, including, but not limited to, any of the following: dry wells, pits of crushed rock, infiltration trenches, retention ponds, detention ponds, blind ditches, swales, pipes, culverts, natural depressions, porous paving, recharge areas, and basins.

STORMWATER CONTROL REPORT or SCR -- A report prepared in accordance with Schedule B of this chapter or on behalf of a project sponsor which evaluates the quantity and quality of stormwater runoff resulting from the proposed project. The report shall include a set of drawings and other documents to provide all the necessary information and specifications pertaining to stormwater management and associated pollution control for a particular site. The SCR is intended to implement the SCP.

STORMWATER DESIGN PLAN -- The written narrative, maps, and diagrams prepared for the purpose of runoff control on a specific development site, based upon survey and analysis of the site.

#### STORMWATER MANAGEMENT:

A. For quantitative control, a system of vegetative and structural measures that control the increased volume and rate of surface runoff caused by human-made changes to the land; and

B. For qualitative control, a system of vegetative, structural and other measures that reduce or eliminate pollutants that might otherwise be carried by surface runoff.

STORMWATER MANAGEMENT MAINTENANCE AGREEMENT -- An agreement between the project sponsor and some other entity to ensure adequate maintenance and repair of the stormwater management system over the life of the project.

STORMWATER MANAGEMENT PLAN or PLAN -- A local stormwater management plan adopted by a municipality pursuant to this chapter and Environmental Conservation Law ~ 43-0112.

STORMWATER RECHARGE AREA -- An area of land used for the purpose of infiltrating stormwater.

**STORMWATER REGULATORY PROGRAM or PROGRAM** -- A local stormwater regulatory control program adopted by a municipality pursuant to 6 NYCRR 646-4 and Environmental Conservation Law ~ 43-0112.

**STORMWATER RUNOFF** -- Any surface water runoff or runoff in channels which results directly either from a rainstorm or from the melting of snowpack.

**STREAM** -- Includes any permanent or intermittent watercourse.

**STREAM CORRIDOR** -- That area within 100 feet of the high water mark of any stream or river protected and/or regulated by New York State Department of Environmental Conservation, or wetlands adjacent thereto.

**SUBCATCHMENT** -- An identifiable drainage area contained within a larger watershed or drainage area.

**SUBDIVISION** -- A division of any land into two or more lots, parcels or sites, whether the new lots are adjoining or not, for the purpose of sale, lease, license or any form of separate ownership or occupancy by any person, including the conveyance of lands in common ownership which are divided only by a road or utility right-of-way. A division over any period of time of any separately described parcel of land existing as of the date of the enactment of this chapter into two or more lots, parcels, or sites, etc., shall be considered a subdivision. Creation of a condominium or townhouse project shall be considered a subdivision. This definition shall not apply to conveyances of small parcels of land to correct a boundary of a lot, so long as such conveyance does not create additional lots.

**SURFACE WATER RUNOFF** -- Water that flows over the land and does not percolate into the soil, and which may run off as a sheet, rill or stream flow.

**TIME OF CONCENTRATION** -- The time required for water to flow from the most remote point of a watershed, in a hydraulic sense, to the outlet.

**WATER BODY** -- Any lake, pond, river, stream, intermittent stream or wetland.

**WATERSHED** -- The total drainage area contributing runoff to a single point.

**WATER TABLE** -- The upper surface or top of the saturated portion of the soil or bedrock layer, indicating the upper extent of groundwater.

## SCHEDULE B

### ENGINEERING SPECIFICATIONS FOR DESIGN PROFESSIONALS

#### PART I CONTENT OF STORMWATER CONCEPT PLAN

(1) A stormwater concept plan (SCP), if required, shall include sufficient information to evaluate the environmental characteristics of the project site, the potential impacts of the proposed development on water resources and the effectiveness and acceptability of measures proposed for managing stormwater runoff. Sufficient engineering analysis shall be performed and provided to show that the stormwater control measures in the plan are viable and capable of managing runoff from the site in compliance with these regulations and the

municipality's Stormwater Management Plan and Regulatory Program. All anticipated development of the site and phases of the project, both present and future, shall be addressed in the SCP. The intent of this conceptual planning process is to determine the type of stormwater measures necessary for the proposed project. The SCP shall include any modifications to the proposed project necessary to achieve the required level of stormwater management. In order to ensure adequate planning for management of runoff from future development, a municipality may also require any SCP to consider the maximum development potential of a site under existing zoning, regardless of whether the applicant presently intends to develop the site to its maximum potential.

(2) For development or redevelopment occurring on a site where development has previously occurred, an applicant shall be required to include within the stormwater concept plan measures for controlling existing stormwater runoff discharges from the site in accordance with the standards of this chapter to the maximum extent practicable. The SCP shall evaluate the cost effectiveness of measures necessary to, at a minimum, infiltrate the runoff and/or reduce the pollutant loads from the runoff from the first 1/2 inch of precipitation from any storm event for all areas within the site which have previously been developed.

## PART II CONTENT OF THE STORMWATER CONTROL REPORT

A stormwater control report (SCR) shall be submitted which evaluates the quantity and quality of stormwater runoff resulting from the proposed project for all phases, both present and future, and if required, for the maximum potential runoff from the site if it were to be developed to its maximum potential under existing zoning. The stormwater control report shall be consistent with, and shall be reviewed on the basis of the approved SCP. Contents of stormwater control report (SCR). A SCR shall contain, at the minimum, the following information:

(1) A description of the project site and surrounding area within 500 feet as it exists prior to the commencement of the project; a location map; description of the watershed of the subcatchment and its relation to the project site; soil types and descriptions on the site and surrounding area; topography of the project site and surrounding area; surface characteristics, including percent cover by asphalt, concrete, crushed stone, grasses, brush, and trees; current land use, including all structures, and characteristics of the shoreline and its development, if applicable; drainage patterns, including streams, ponds, culverts, ditches, and wetlands; and locations of utilities, roads, and easements.

(2) A detailed description of the proposed project, including surface characteristics; proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; locations of utilities, roads and easements; the limits of clearing and grading; and construction cost estimates of stormwater management structures.

(3) Hydrologic and hydraulic computations of stormwater volume and flow for existing and proposed conditions shall be performed. Such computations shall include (i) description of the design storm frequency, intensity and duration, (ii) time of concentration, (iii) soil curve numbers or runoff coefficients, (iv) peak runoff rates and total runoff volumes for each watershed area or subcatchment area, (v) infiltration rates, (vi) culvert capacities, (vii) flow velocities, (viii) data on the increase and volume of runoff for the ten-year storm and on the change in the rate of runoff for the two-, ten-, fifty- and one-hundred-year storms, (ix) documentation of sources for all computation methods and field test results, and (x) sufficient information to demonstrate that the proposed development, with its necessary stormwater

controls, has been designed to preserve and maintain the base flow in all streams passing through, adjoining or receiving runoff from the site.

(4) A description of how the stormwater control measures for the project will provide the best available pollutant removal technology.

(5) A detailed description of and plans of stormwater and erosion control measures, including (i) proposed containment facilities and structures, (ii) calculations of infiltration area required, (iii) calculation of retention and/or detention/retention storage requirements and storage volume provided, (iv) calculation or documentation of infiltration rate, (v) calculation for release rate controls (orifice or pipe size), (vi) description of pollution control measures such as filter strips, sand filters, infiltration, (vii) provision for emergency overflow, and (viii) measures taken to obviate or reduce the need for runoff control such as use of porous pavement or crushed stone, or the minimization of land clearing or paving.

(6) Drainage maps at a scale specified by the municipality showing existing and proposed conditions and contours, including the watershed area and subcatchment boundaries, acreage, inlet and outlet points of streams, culverts and drainage ditches, surface features, existing and proposed structures, buildings, pavement, flow directions, existing and proposed storm sewers, streams and other drainage channels, water quantity and quality control structure, including retention basins and infiltration trenches, and a location map at a scale specified by the municipality showing the entire watershed area and indicating the project site.

(7) A certification that the stormwater control measures as designed and presented in the SCR will function adequately, will not adversely affect adjacent or downstream waters or properties, and has been designed in accordance with this chapter. The report and plans shall bear the stamp and signature of the licensed professional engineer or architect or exempt land surveyor executing the above certification.

(8) A project schedule which shall indicate the proposed starting and completion dates for all major work phases, including but not limited to clearing and grading, road construction, utility placement, septic systems, stormwater control measures, wharf construction, pouring or laying of footings and foundations, building construction, and interim and permanent revegetation. Particular emphasis shall be placed on those elements of the schedule relating to stormwater runoff and erosion control. In general, the control facilities shall be installed first in the construction stages of a project to minimize the impacts associated with construction. Further, the project schedule shall take into account appropriate seasonal limitations for temperature and weather sensitive operations. Special measures or procedures may be required to undertake land disturbance activities occurring between October 15 and April 15.

(9) A maintenance schedule which includes (i) the construction costs related to stormwater control, (ii) the proposed stormwater control maintenance program and annual costs of implementing such, (iii) identification of the party or parties responsible for maintenance of the system over the life of the project, (iv) a copy of any maintenance agreement, and (v) identification of the party or parties responsible for correcting failures or inadequate function of stormwater control measures and responsible for assuming control of the systems in the event of failure to properly maintain the system.

(10) Application inspections. Each application shall contain the written consent of the landowner that the municipality may conduct site inspections, tests, and evaluations as are

deemed necessary by it to verify site data contained in the application. Such data shall include, but are not limited to, soil type, topography, depth to seasonal high groundwater, depth to bedrock and distance to surface bodies of water. During the site inspection one or more deep test holes and percolation tests may be required by the municipality to be performed by the applicant.

### PART III METHODOLOGIES FOR DETERMINING RUNOFF VOLUMES

Methodologies for determining runoff volume. Stormwater volumes and rates of flow shall be calculated using the following methods: (i) for small watershed areas (up to 20 acres), the Rational Method may be used; and (ii) for larger watershed areas (up to 2,000 acres), and as the overall preferred method, the United States Department of Agriculture method shall be used, (this method is described in "Urban Hydrology for Small Watersheds-Technical Release 55"); or (iii) any other equivalent and widely accepted method may be used.

### PART IV SOIL EVALUATION METHODS

The design infiltration rate shall be based on the results of hydrogeologic studies performed by the applicant during preparation of the stormwater control report. The studies shall include test pits or borings located to present a clear picture of geologic and hydrologic conditions existing at the site and the areas, both on and off the site, affecting, or to be affected by, the development. A minimum of three subsurface excavations shall be conducted and the results shall be included in the SCR. Interpretive logs of all excavations shall be submitted with the report. Hydrogeologic interpretations and conclusions shall be developed by qualified persons only. Following design of infiltration devices, additional subsurface investigations to confirm soil and groundwater conditions will be required in the areas proposed for infiltration devices. The design of any project or development shall ensure that the ability to manage stormwater is not affected by the placement of structures on those soils or locations best suited for stormwater management purposes.