

ARTICLE XVI

Stormwater Management Bylaw EROSION AND SEDIMENT CONTROL FOR STORMWATER MANAGEMENT

SECTION 16-1. PURPOSE AND AUTHORITY

1. Purpose

- A. The purpose of this bylaw is to better manage land development in order to protect, maintain, and enhance the public health, safety, and general welfare of the citizens, property owners and businesses of South Hadley by establishing minimum requirements and procedures to control the adverse impacts associated with stormwater runoff pre- and post-construction and site development.
- B. The proper management of stormwater runoff will meet the following objectives:
1. Reduce the adverse water quality impacts of stormwater discharges to rivers, lakes, reservoirs and streams in order to attain federal water quality standards;
 2. Prevent the discharge of pollutants, including hazardous chemicals, into stormwater runoff;
 3. Minimize the volume and rate of stormwater which is discharged, to rivers, streams, reservoirs, lakes and combined sewers that flows from any site during and following development;
 4. Prevent erosion and sedimentation from land development, and reduce stream channel erosion caused by increased runoff;
 5. Provide for the recharge of groundwater aquifers and maintain the base flow of streams;
 6. Provide stormwater facilities that are attractive, maintain the natural integrity of the environment, and are designed to protect public safety;
 7. Maintain or reduce pre-development runoff characteristics after development to the extent feasible;
 8. Minimize damage to public and private property from flooding;
 9. Ensure that these management controls are properly maintained; and,
 10. To provide construction site management practices for waste materials and debris.

2. Authority

The South Hadley Planning Board shall administer, implement and enforce this bylaw. Any powers granted to or duties imposed upon the Planning Board may be delegated in writing by the Planning Board to employees or agents of the Town of South Hadley.

SECTION 16-2. DEFINITIONS

The following definitions describe the meaning of the terms used in this Bylaw:

1. “Authorized Enforcement Agency” refers to the Planning Board, its employees or agents

designated to enforce this bylaw. The Planning Board may delegate this authority in writing to employees or agents of the Town of South Hadley.

2. "Adverse impact" means any deleterious effect on waters or wetlands, including their quality, quantity, surface area, species composition, aesthetics or usefulness for human or natural uses which are or may potentially be harmful or injurious to human health, welfare, safety or property, to biological productivity, diversity, or stability or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation.
3. "Best management practices (BMP)" are structural or biological devices that temporarily store or treat urban stormwater runoff to reduce flooding, remove pollutants, and provide other amenities. They can also be non-structural practices that reduce pollutants at their source. BMPs are described in a stormwater design manual as defined and designated herein.
4. "Construction activity" is disturbance of the ground by removal of vegetative surface cover or topsoil, grading, excavation, clearing or filling.
5. "Design storm" is a rainfall event of specified size and return frequency that is used to calculate the runoff volume and peak discharge rate to a BMP.
6. "Detention" is the temporary storage of storm runoff in a BMP, which is used to control the peak discharge rates, and which provides gravity settling of pollutants.
7. "Development Permit" under this Bylaw refers to any approval by the Planning Board including, but not limited to, a Definitive Plan or Form H Plan under the Subdivision Regulations, or Site Plan Review, Special Permit, or Earth Removal, Fill, or Excavation Permit under the Zoning Bylaw.
8. "Disturbance" is any land clearing, grading, bulldozing, digging or similar activities including any activities not exempt under Section 16-3 of this bylaw.
9. "Drainage area" means that area contributing runoff to a single point measured in a horizontal plane, which is enclosed by a ridgeline.
10. "Drywell" is similar to an infiltration trench but smaller with inflow from a pipe; commonly covered with soil and used for drainage areas of less than 1 acre such as roadside inlets and rooftops runoff.
11. "Easement" means a grant or reservation by the owner of land for the use of such land by others for a specific purpose or purposes, and which must be included in the conveyance of land affected by such easement.
12. "Flow attenuation" means prolonging the flow time of runoff to reduce the peak discharge.
13. "Hydrology model" may include one of the following:
 - TR-20, a watershed hydrology model developed by the Natural Resources Conservation Service Act that is used to route a design storm hydrograph through a pond;

- TR-55, or Technical Release 55, "Urban Hydrology for Small Watersheds" is a publication developed by the Natural Resources Conservation Service to calculate stormwater runoff and an aid in designing detention basins;
 - Hydrocad;
 - Any alternative model as approved and deemed acceptable, by the Town Engineer.
14. "Impervious surfaces" are areas, such as pavement or rooftops, which prevent the infiltration of water into the soil.
 15. "Infiltration" is the downward movement of water from the surface to the subsoil.
 16. "Infiltration trench" is a stormwater management excavation filled with aggregate which removes both soluble and particulate pollutants. Trenches are not intended to trap coarse sediments.
 17. "Outfall" is the terminus of a storm drain or other stormwater structure where the contents are released.
 18. "Peak discharge" is the maximum instantaneous rate of flow during a storm, usually in reference to a specific design storm event
 19. "Permeable soils" are soil materials with a sufficiently rapid infiltration rate so as to greatly reduce or eliminate surface and stormwater runoff. These soils are generally classified as NRCS hydrologic soil types A and B.
 20. "Person" is any individual, group of individuals, association, partnership, corporation, company, business, organization, trust, estate, administrative agency, public or quasi-public corporation or body, the Commonwealth or political subdivision thereof.
 21. "Retention" is the holding of runoff in a basin without release except by means of evaporation, infiltration, or emergency bypass.
 22. "Start of construction" is the first land-disturbing activity associated with a development, including land preparation such as: clearing, grading and filling; installation of streets and walkways; excavation for basements; footings, piers or foundations; erection of temporary forms; and installation of accessory buildings such as garages.
 23. "Stormwater Design Manual" as used herein refers to any single manual or set of multiple volumes of manuals promulgated by the Massachusetts Department of Environmental Protection (or a successor agency) which sets forth Best Management Practices, stormwater management design concepts, and/or stormwater management standards which must be adhered to in the management of stormwater resulting from development activity. A copy of the current "Stormwater Design Manual" shall be kept on file in the Office of the Planning Board.
 24. "Swale" is a natural depression or wide shallow ditch used to temporarily store, route, or filter runoff.

25. “Toxic or Hazardous Chemicals, Material or Waste” is any material, which because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid, alkali, and any substance defined as Toxic or Hazardous under M.G.L. Ch. 21C and Ch. 21E, and regulations at 310 CMR 30.000 and 310 CMR 40.000.

SECTION 16-3. APPLICABILITY

1. Applicability

Prior to the issuance of any site plan approval or development permit for any proposed development listed below, a stormwater management permit, or a waiver of the requirement for a stormwater management permit, must be approved by the Planning Board or its designee under this Bylaw. No person shall, on or after the effective date of the bylaw, initiate any land clearing, land grading, earth moving or development activities without first complying with this bylaw. The following uses and activities shall be required to submit drainage reports, plans, construction drawings, specifications and as-constructed information in conformance with the requirements of this bylaw:

- A. Subdivisions and construction activities of any kind disturbing one or more acres, including multiple separate disturbances of less than one acre in discontinuous locations or on different schedules, if the activities are part of a larger common plan of development.

2. Exemptions

The following activities are exempt from the requirements for submittal and approval of a stormwater management plan under Section 16-4, but must comply with the stormwater performance standards in Section 16-6:

- A. Any agricultural activity which is consistent with an approved soil conservation plan prepared or approved by the Natural Resource Conservation Service;
- B. Any logging which is consistent with a timber management plan approved under the Forest Cutting Practices Act by the authorized State agency;
- C. Additions or modifications to existing residential structures disturbing less than one acre;
- D. Developments that do not disturb more than one acre of land, provided that they are not part of a larger common development plan;
- E. Repairs and maintenance to any stormwater collection system, sanitary sewer collection system, or roadway system deemed necessary by the South Hadley Department of Public Works;

- F. Any emergency activity that is immediately necessary for the protection of life, property or the environment, as determined by the Department of Public Works or their designee; and
- G. Residential uses disturbing less than one acre.
- H. Repairs and maintenance of municipal facilities (buildings and grounds, fields, etc.) which do not involve a change in flow of stormwater runoff onto adjoining property.

3. Stormwater Design Manual

The Stormwater Design Manual as defined and described in Section 29-2.23 is hereby incorporated by reference as part of this bylaw, and shall furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this bylaw.

This manual includes a list of acceptable stormwater treatment practices, including the specific design criteria for each stormwater practice. The manual may be updated and expanded from time to time, based on improvements in engineering, science, monitoring and local maintenance experience, at the discretion of the South Hadley Department of Public Works, their designee, or Massachusetts Department of Environmental Protection. Stormwater treatment practices that are designed and constructed in accordance with these design and sizing criteria will be presumed to meet the minimum water quality performance standards. Unique site circumstances, as determined by the Town Engineer, may require design and sizing which exceed the minimum water quality performance standards.

4. Erosion and Sediment Control Guidelines

To furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this bylaw for erosion and sediment control, the Erosion and Sediment Control Guidelines for Urban and Suburban Areas and Nonpoint Source Pollution Management guidelines as promulgated by the Massachusetts Department of Environmental Protection or its successor organization are incorporated into and made part of this Bylaw.

SECTION 16-4. PERMIT PROCEDURES AND REQUIREMENTS

1. Permit Required

No land owner or land operator shall receive any of the building, grading, or other land development permits required for land disturbance activities, and no land owner shall commence land disturbance activities, without approval of a Stormwater Management Permit from the Planning Board and meeting the requirements of this bylaw.

2. Application Requirements

Application for approval of a Stormwater Management Permit or Waiver shall include the following:

- A. A Stormwater Management and Erosion and Sediment Control Plan or an application for waiver of a Stormwater Management and Erosion and Sediment Control Plan shall be submitted to the South Hadley Planning Board for review and approval for any proposed development specified in Section 16-3. Ten (10) copies of the Stormwater Management and Erosion and Sediment Control Plan shall be submitted, and clearly labeled, along with other documents required in this bylaw for site plan review. The plan shall contain supporting computations, drawings, and sufficient information describing the manner, location, and type of measures in which stormwater runoff will be managed from the entire development during construction and after construction and/or site development. The plan shall serve as the basis for all subsequent construction and/or site development. This Stormwater Management and Erosion and Sediment Control Plan shall contain sufficient information to describe the nature and purpose of the proposed development.
- B. Ongoing maintenance agreement
- C. Non-refundable Application Fee

The applicant may request, and the South Hadley Planning Board may grant, a waiver from any information requirements it judges to be unnecessary to the review of a particular plan.

3. Procedures for Review and Approval of Stormwater Permits or Waivers

- A. The procedures for review and approval of stormwater management permits shall be consistent with the review procedures of the Planning Board as appropriate to the use/activity.
- B. The Planning Board shall refer copies of the stormwater management permits to the Town Engineer and other appropriate Town boards/departments for review, and shall consider any comments submitted by the Town Engineer and other appropriate Town boards/departments during the review period.
- C. The Planning Board shall hold a public hearing within **sixty-five (65)** days of the receipt of a complete application and shall take final action within twenty-one (21) days from the close of the hearing unless such time is extended by agreement between the applicant and the Planning Board. Notice of the public hearing shall be given by publication in a local paper of general circulation, by posting and by first-class mailings to abutters at least seven (7) days prior to the hearing. When the application is part of a Definitive Subdivision Plan, Site Plan, or Special Permit application, the notice and hearing for the permit requested under this Bylaw shall be carried out as part of the notice and hearing for the other application submitted to the Planning Board unless requested otherwise by the applicant.
- D. Notification of project changes must be submitted to the Planning Board following the procedures for new submittals. However, the Planning Board may waive, as it determines consistent with the purposes of this Bylaw, parts of the otherwise required procedures.

4. Criteria for Review of Stormwater Permits

In addition to other criteria used by the South Hadley Planning Board in making permit decisions, for the uses/activities specified in this bylaw, the Planning Board must also find that the Stormwater Management and Erosion and Sediment Control Plan submitted with the permit application meets the following criteria:

- A. The Stormwater Management and Erosion and Sediment Control Plan are consistent with the Purposes and Objectives of this Bylaw in Section 16-1;
- B. Provisions for stormwater management meet the Performance Standards described in Section 16-6;
- C. Provisions for erosion and sediment control meet the Design Requirements in Section 16-7.

5. Planning Board Action

The Planning Board's action, rendered in writing, shall consist of either:

- A. Approval of the Stormwater Management Permit Application based upon determination that the proposed plan meets the purposes in Section 16-1 and the standards in Section 16-6 and design requirements in Section 16-7 and will adequately protect the water resources and is in compliance with the requirements set forth in this by-law;
- B. Approval of the Stormwater Management Permit Application subject to any conditions, modifications or restrictions required by the Board which will ensure that the project meets the purposes in Section 16-1 and the standards in Section 16-6 and design requirements in Section 16-7 and adequately protects water resources, set forth in this by-law;
- C. Disapproval of the Stormwater Management Permit Application based upon a determination that the proposed plan, as submitted, does not meet the purposes in Section 16-1 and the standards in Section 16-6 and/or design requirements in Section 16-7 or adequately protect water resources, as set forth in this by-law.

Failure of the Board to take final action upon an Application within the time specified above shall be deemed to be approval of said Application. Upon certification by the Town Clerk that the allowed time has passed without Board action, the Board must issue a Stormwater Management Permit.

6. Inspections

No Plan will be approved without adequate provision for inspection of the property before development activity commences. The applicant shall arrange with the Department of Public Works, and other departments as appropriate, for scheduling the following inspections:

- A. Initial Inspection: prior to approval of any plan.
- B. Erosion and Sediment Control Inspections: after site clearing, rough grading and final grading to ensure Erosion and Sediment Control practices are in accord with the plan.
- C. Bury Inspection: prior to backfilling of any underground drainage or stormwater conveyance structures.
- D. Final Inspection: when all work, including construction of stormwater management facilities and landscaping have been completed. Final inspection shall include a full, dated TV inspection of all stormwater pipes installed.

The Department of Public Works or its agent shall inspect the work and either approve it or notify the applicant in writing in what respects there has been a failure to comply with the requirements of the approved plan. Any portion of the work which does not comply shall be promptly corrected by the applicant or the applicant will be subject to the bonding provisions of Section 16-9 or the penalty provisions of Section 16-10. The Town may conduct random inspections to ensure effective control of erosion and sedimentation during all phases of construction.

7. Right-of-Entry for Inspection

When any new drainage control facility is installed on private property, or when any new connection is made between private property and a public drainage control system or sanitary sewer, the filing of an application shall be deemed as the property owner's permission to the South Hadley Department of Public Works or their designee for the right to enter the property at reasonable times and in a reasonable manner for the purpose of the inspection. This includes the right to enter a property when it has a reasonable basis to believe that a violation of this bylaw is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this bylaw.

8. Application Forms and Fees and Inspection Fees

The Planning Board shall establish a schedule for application fees, inspection fees, and Review Fees and appropriate application forms.

- a. The application shall be paid in full along with the application required under this Bylaw.
- b. In addition to an application fee, the Planning Board may also charge an Application Review Fee under M.G.L. Ch. 53G to cover third party review, if needed.

9. Inspection Fee

The fee for site inspections shall be based on the fee structure established by the South Hadley Planning Board. The fee shall be paid to prior to initiation of any work on the site which requires compliance with the provisions of this Bylaw.

Section 16-5. The Stormwater Management and Erosion and Sediment Control Plan

1. Contents of the Stormwater Management and Erosion and Sediment Control Plan

The application for a stormwater management permit shall consist of submittal of a Stormwater Management and *Erosion and Sediment Control Plan*, prepared by a professional engineer licensed by the Commonwealth of Massachusetts, which meets the design requirements provided by this Bylaw. The plan shall include a description of the proposed project, sufficient information to evaluate the environmental characteristics of the affected and adjacent areas, the potential impacts of the proposed development on water resources; and the effectiveness and acceptability of measures proposed for managing stormwater runoff. The Plan must be designed to meet the Massachusetts Stormwater Management Standards as set forth in Section 16-6 of this bylaw and the Stormwater Design Manual as previously referenced. The applicant shall certify on the drawings that all clearing, grading, drainage, construction, and development shall be conducted in strict accordance with the plan. The minimum information submitted for support of a stormwater management plan shall be as follows:

- a. Contact Information. The name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected;
- b. A locus map;
- c. The existing zoning and land use at the site;
- d. The proposed land use;
- e. The location(s) of existing and proposed easements;
- f. The location of existing and proposed utilities;
- g. The site's existing & proposed topography with contours at 2 foot intervals,
- h. Proposed limits of disturbance;
- i. Estimate of the total area expected to be disturbed by excavation, grading or other construction activities;
- j. A description of the existing site hydrology;
- k. A description & delineation of existing stormwater conveyances, impoundments, and wetlands on or adjacent to the site or into which stormwater flows;
- l. A delineation of 100-year flood plains, if applicable;
- m. Habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species within five hundred (500) feet of any construction activity.
- n. Estimated seasonal high groundwater elevation in areas to be used for stormwater retention, detention, or infiltration;
- o. The existing and proposed vegetation and ground surfaces with runoff coefficients for each;
- p. A drainage area map showing pre and post construction watershed boundaries, drainage area and stormwater flow paths, including municipal drainage system flows;
- q. A description and drawings of all components of the proposed stormwater management system including:
 - i. Locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization;

- ii. All measures for the detention, retention or infiltration of water;
 - iii. All measures for the protection of water quality;
 - iv. The structural details for all components of the proposed drainage systems and stormwater management facilities;
 - v. Notes on drawings specifying materials to be used, construction specifications, and expected hydrology with supporting calculations;
 - vi. Proposed improvements including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable;
 - vii. Any other information requested by the Stormwater Authority.
- r. Hydrologic and hydraulic design calculations for the pre-development and postdevelopment conditions for the design storms specified in this Regulation. Such calculations shall include:
- i. Description of the design storm frequency, intensity and duration;
 - ii. Time of concentration;
 - iii. Soil Runoff Curve Number (RCN) based on land use and soil hydrologic group;
 - iv. Peak runoff rates and total runoff volumes for each watershed area;
 - v. Information on construction measures used to maintain the infiltration capacity of the soil where any kind of infiltration is proposed;
 - vi. Infiltration rates, where applicable;
 - vii. Culvert capacities;
 - viii. Flow velocities;
 - ix. Data on the increase in rate and volume of runoff for the specified design storms, and
 - x. Documentation of sources for all computation methods and field test results.
- s. Post-development downstream analysis, if deemed necessary by the Stormwater Authority. The downstream analysis will evaluate the hydrologic impacts of the project downstream of the project to a location where the watershed to project size is approximately equal to 10:1;
- t. Soils Information from test pits performed at the location of proposed stormwater management facilities, including soil descriptions, depth to seasonal high groundwater, depth to bedrock, and infiltration rates. Soils information will be based on site test pits logged by a Massachusetts Registered Soil Evaluator, a Massachusetts Registered Sanitarian, or a Massachusetts Registered Professional Engineer;
- u. Landscaping plan describing the woody and herbaceous vegetative stabilization and management techniques to be used within and adjacent to the stormwater practices;
- v. Drainage patterns and approximate slopes anticipated after major grading activities;
- w. A description of provisions for project phasing.
- x. Erosion and Sediment Control Plan, consisting of:
- i. Location and details of erosion and sediment control measures with a narrative of the construction sequence/phasing of the project, including both operation and maintenance for structural and non-structural measures, interim grading, and material stockpiling areas;
 - ii. Path and mechanism to divert uncontaminated water around disturbed areas, to the maximum extent practicable;

- iii. Location and description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other stabilization measures;
- iv. A description of construction and waste materials expected to be stored on-site. The Plan shall include a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response.
- y. Testing Results and Documentation. Results and documentation of any tests as required by the DEP, DPW, and/or Board of Health shall be included. Further, any such tests shall be witnessed by an authorized representative of the Town of South Hadley DPW and/or Board of Health

Section 16-6. Stormwater Management Performance Standards

To prevent the adverse impacts of stormwater runoff, the stormwater performance standards in Section 16-6 must be met at new development sites. These standards apply to construction activities as described under Section 16-3.1.

1. Minimum Control Requirements

Projects must meet the Standards of the Massachusetts Stormwater Management Standards as promulgated by the Massachusetts DEP. A copy of these standards are maintained by the Office of the Planning Board.

When the proposed discharge may have an impact upon a sensitive receptor, including streams, storm sewers, and/or combined sewers, the Planning Board may require an increase in these minimum requirements, based on existing stormwater system capacity and standards of other town boards including, but not limited to, the Board of Health and the Conservation Commission.

2. Stormwater Management Measures

- A. Stormwater management measures shall be required to satisfy the minimum control requirements and shall be implemented in the following order of preference:
 - 1. Infiltration, flow attenuation, and pollutant removal of runoff on-site to existing areas with grass, trees, and similar vegetation and through the use of open vegetated swales and natural depressions;
 - 2. Use of stormwater on-site to replace water used in industrial processes or for irrigation;
 - 3. Stormwater detention structures for the temporary storage of runoff which is designed so as not to create a permanent pool of water; and
 - 4. Stormwater retention structures for the permanent storage of runoff by means of a permanent pool of water;

5. Retention and evaporation of stormwater on rooftops or in parking lots.
- B. Infiltration practices shall be utilized to reduce runoff volume increases. A combination of successive practices may be used to achieve the applicable minimum control requirements. Justification shall be provided by the applicant for rejecting each practice based on site conditions.
- C. Best Management Practices shall be employed to minimize pollutants in stormwater runoff prior to discharge into a separate storm drainage system or water body.
- D. All stormwater management facilities shall be designed to provide an emergency overflow system, and incorporate measures to provide a non-erosive velocity of flow along its length and at any outfall.
- E. The designed release rate of any stormwater structure shall be modified if any increase in flooding or stream channel erosion would result at a downstream dam, highway, structure, or normal point of restricted stream flow.

3. Specific Design Criteria

Additional policy, criteria, and information including specifications and design standards may be found in the Stormwater Design Manual and the Erosion and Sediment Control Guidance documents and may also be utilized.

A. Infiltration systems

1. Infiltration systems shall be equipped with clean stone and or filter fabric adjacent to the soil or other sediment removal mechanisms;
 2. Infiltration systems greater than 3 feet deep shall be located at least ten (10) feet from basement walls;
 3. Due to the potential for groundwater contamination from dry wells, they shall not be an acceptable method for management of runoff containing pollutants;
 4. Infiltration systems designed to handle runoff from commercial or industrial impervious parking areas shall be a minimum of 100 feet from any drinking water supply well;
 5. Infiltration systems shall not be used as sediment control basins during construction unless specific plans are included to restore or improve the basin surface;
 6. Infiltration basins shall be constructed with a three foot minimum separation between the bottom of the structure and the seasonal high groundwater elevation, as determined by a certified soil evaluator; and
 7. Provisions shall be made for safe overflow passage, in the event of a storm which exceeds the capacity of an infiltration system.
- B. Retention and detention ponds shall be designed and constructed in accordance with the criteria set forth in the Stormwater Design Manual.

- C. The applicant shall give consideration in any plan to incorporating the use of natural topography and land cover such as natural swales, and depressions as they exist prior to development to the degree that they can accommodate the additional flow of water.
- D. The Planning Board shall give preference to the use of swales in place of the traditional use of curbs and gutters based on a case by case review of stormwater management plans by the Town Engineer and Planning Board.
- E. The applicant shall consider public safety in the design of any stormwater facilities. The banks of detention, retention, and infiltration basins shall be sloped at a gentle grade into the water as a safeguard against personal injury, to encourage the growth of vegetation and to allow the alternate flooding and exposure of areas along the shore. Basins shall have a 4:1 slope to a depth two feet below the control elevation. Side slopes must be stabilized and planted with vegetation to prevent erosion and provide pollutant removal. The banks of detention and retention areas shall be designed with sinuous rather than straight shorelines so that the length of the shoreline is maximized, thus offering more space for the growth of vegetation;
- F. Where a stormwater management plan involves direction of some or all runoff off of the site, it shall be the responsibility of the applicant to obtain from adjacent property owners any easements or other necessary property interests concerning flowage of water. Approval of a stormwater management plan does not create or affect any such rights.
- G. All applicants for projects which involve the storage or use of hazardous or toxic chemicals, materials or waste shall incorporate handling and storage "best management practices" that prevent such chemicals, materials and waste from contaminating runoff discharged from a site into infiltration systems, receiving water bodies or storm drains, and shall include a list of such chemicals, materials and waste and their amounts in the application.
- H. Runoff from parking lots shall be treated by oil and water separators or other controls to remove oil and sediment;
- I. The basic design criteria methodologies, and construction specifications, subject to the approval of the Planning Board and Town Engineer, shall be those generally found in the most current edition of the Stormwater Design Manual.

Section 16-7. Design Requirements for Erosion and Sediment Control Plan

1. The design requirements of the Erosion and Sediment Control Plan are:

- A. Minimize total area of disturbance.
- B. Sequence activities to minimize simultaneous areas of disturbance.
- C. Minimize peak rate of runoff in accordance with the MA DEP Stormwater Management Standards.

- D. Minimize soil erosion and control sedimentation during construction. Prevention of erosion is preferred over sedimentation control.
- E. Divert uncontaminated water around disturbed areas.
- F. Maximize groundwater recharge.
- G. Install, and maintain all Erosion and Sediment Control measures in accordance with the manufacturers specifications and good engineering practices.
- H. Prevent off-site transport of sediment.
- I. Protect and manage on and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project).
- J. Comply with applicable Federal, State and local laws and regulations including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust control
- K. Prevent adverse impact from the proposed activities to habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or of Special concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species.
- L. Institute interim and permanent stabilization measures. The measures shall be instituted on a disturbed area as soon as practicable but no more than 14 days after construction activity has temporarily or permanently ceased on that portion of the site.
- M. Properly manage on-site construction and waste materials.
- N. Prevent off-site vehicle tracking of sediments.

Section 16-8 Maintenance

1. Operation, Maintenance and Inspection Agreement

- A. Prior to any site work for which stormwater management is required, the Planning Board shall require the applicant or owner to execute an operation, maintenance and inspection agreement binding on all subsequent owners of land served by the private stormwater management facility. The agreement shall be designed to ensure that water quality standards are met in all seasons and throughout the life of the system. Such agreement shall provide for access to the facility at reasonable times for regular inspections by the Town or its authorized representative and for regular or special assessments of property owners to ensure that the facility is maintained in proper working condition to meet design standards and any provision established. The agreement shall include:

- (1) The name(s) of the owner(s) for all components of the system.
 - (2) Maintenance agreements that specify:
 - (a) The names and addresses of the person(s) responsible for operation and maintenance.
 - (b) The person(s) responsible for financing maintenance and emergency repairs.
 - (c) A Maintenance Schedule for all drainage structures, including swales and ponds.
 - (d) A list of easements with the purpose and location of each.
 - (e) The signature(s) of the owner(s).
 - (3) Stormwater management easements as necessary for:
 - (a) Access for facility inspections and maintenance.
 - (b) Preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the 100-year storm event.
 - (c) Direct maintenance access by heavy equipment to structures requiring regular cleanout.
 - (4) Stormwater management easement requirements:
 - (a) The purpose of each easement shall be specified in the maintenance agreement signed by the property owner.
 - (b) Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Town of South Hadley.
 - (c) Easements shall be recorded with the Registry of Deeds prior to issuance of a Certificate of Completion.
 - (5) Changes to Operation and Maintenance Plans
 - (a) The owner(s) of the stormwater management system must notify the Planning Department/DPW of changes in ownership or assignment of financial responsibility.
 - (b) The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of this bylaw by mutual agreement of the Planning Board/DPW and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties. Responsible Parties must include owner(s), persons with financial responsibility, and persons with operational responsibility. A copy of any such approved amendments shall be filed with the Office of the Planning Board by the owner(s) of the stormwater management system.
- B. The agreement shall be recorded by the applicant and/or owner in the land records of the Registry of Deeds.
- C. The agreement shall also provide that, if after notice by the Planning Board or Department of Public Works to correct a violation requiring maintenance work, satisfactory corrections are not made by the owner(s) within thirty days, the Department of Public Works may perform, but is not required to do so, all necessary work to place the facility in proper working condition. The owner(s) of the facility shall be assessed the cost of the work and any penalties.

2. Maintenance Responsibility

- A. The owner of the property on which work has been done pursuant to this Bylaw for private stormwater management facilities, or any other person or agent in control of such property, shall maintain in good condition and promptly repair and restore all grade surfaces, walls, drains, dams and structures, vegetation, erosion and sediment control measures and other protective devices. Such repairs or restoration and maintenance shall be in accordance with approved plans.
 - 1.) If the DPW has reason to believe that the facilities are not properly maintained or need repair, the DPW may require such tests/inspections as the DPW Superintendent deems necessary. The party responsible for maintenance of the facilities shall undertake the test/inspections required by the DPW Superintendent within the reasonable time set forth by the DPW Superintendent. A copy of all results and documentations of the tests/inspections shall be submitted to the DPW Superintendent within seven (7) calendar days of their completion.
 - 2.) If the tests/inspections required under Section 16-8-2.A.1 demonstrate that repairs or modifications of the facilities are necessary, the party responsible for maintaining the facilities shall make the necessary repairs/remedial actions as necessary within such time period as directed by the DPW Superintendent. Any such time period shall be reasonable and be set in consideration of the degree of complexity and cost for their undertaking, but also in consideration of the potential for impact on the environment and public health for delays in implementation.
- B. A maintenance schedule shall be developed for the life of any stormwater management facility and shall state the maintenance to be completed, the time period for completion, and who shall be legally responsible to perform the maintenance. This maintenance schedule shall be included with the Stormwater Management Permit application.
- C. Records of installation are to be maintained in perpetuity. All records of maintenance and inspections must be retained for a minimum of three (3) years by owner as measured from the date of the maintenance activity or inspection. A copy of all maintenance and inspection records and reports shall be submitted to the DPW Superintendent within thirty (30) calendar days of completion of the maintenance activity or inspection.
- D. Failure to adhere to approved maintenance practices (including, but not limited to, schedules) is considered a violation of the Stormwater Permit.

Section 16-9. Performance Guarantee

The Planning Board shall require from the developer/applicant/owner a financial guarantee in a form acceptable to the Planning Board prior to any site work for the construction of a development requiring a stormwater management facility. The amount of the financial guarantee shall be in the amount set by the Planning Board, but shall not be less than the total estimated construction cost of the stormwater management facility. The financial guarantee so required in this section shall include provisions relative to forfeiture for failure to complete work specified in

the approved Stormwater Management and Erosion and Sediment Control Plan, compliance with all of the provisions of this Bylaw and other applicable laws and regulations, and any time limitations. The financial guarantee shall not be fully released without a final inspection of the completed work by the Town Engineer, submission of "As-built" plans, and certification of completion by the Planning Board of the stormwater management facilities being in compliance with the approved plan and the provisions of this Bylaw.

The Performance Guarantee required under this Bylaw may be in addition to the Performance Guarantee required for the development under any other Town Bylaw or Regulation. The Planning Board may, at their sole discretion, allow the Performance Guarantee required under another South Hadley Bylaw or Regulation to substitute for the Performance Guarantee required under this Bylaw if the Board determines the two guarantees serve the same function, the purposes of this Bylaw are adequately furthered, and the Town Engineer does not object to the substitution.

The Performance Guarantee is intended to be used for ensuring that the stormwater management system functions as designed. In the event the Planning Board determines (based on input from the Town Engineer and/or a consultant engineer retained by the Planning Board) that the system is not functioning as designed (such as, retaining water in the detention basins for a period of time longer than anticipated or at levels higher than anticipated) the Board may utilize proceeds of the Performance Guarantee to have work undertaken to remedy the deficiencies. Terms of the Performance Guarantee shall be spelled out in a Performance Guarantee Agreement. If the Planning Board determines that a third party engineer should review the site and make recommendations as to whether the system needs to be modified and/or identify modifications needed to achieve the stormwater management system's goals, the Board may utilize portions of the Performance Guarantee for employment of such an engineer. If this review determines that the system needs to be modified to achieve the stormwater management system's goals, the developer is required to make such modifications as so directed.

Section 16-10. Enforcement and Penalties

The Planning Board and DPW Superintendent shall share enforcement authority and may delegate said authority to appropriate Town officials, including, but not limited to, the Town Planner and the Town Engineer. Enforcement authority will rest with the Planning Board up until the time that the Planning Board has approved the construction of the project and returned any unused portion of the Performance Guarantee to the applicant. Upon notification of the DPW Superintendent by the Town Planner that the abovementioned has occurred, enforcement authority thereafter will rest with the DPW Superintendent.

1. Violations

Any development activity that has commenced or is conducted contrary to this Bylaw may be restrained by injunction or otherwise abated in a manner provided by law.

2. Notice of Violation

When the Planning Board determines that an activity is not being carried out in accordance with the requirements of this Bylaw, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:

- A. the name and address of the owner applicant;
- B. the address when available or the description of the building, structure, or land upon which the violation is occurring;
- C. a statement specifying the nature of the violation;
- D. a description of the remedial measures necessary to bring the development activity into compliance with this Bylaw and a time schedule for the completion of such remedial action;
- E. a statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
- F. a statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within fifteen (15) days of service of notice of violation.

3. Stop Work Orders

Persons receiving a notice of violations will be required to halt all construction activities. This “stop work order” will be in effect until the Planning Board confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner can result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Bylaw.

4. Criminal and Civil Penalties

Any person who violates any provision of this bylaw, valid regulation, or the terms or conditions in any permit or order prescribed or issued thereunder, shall be subject to a fine not to exceed \$300.00 per lot for each day such violation occurs or continues or subject to a civil penalty, which may be assessed in an action brought on behalf of the Town of South Hadley in any court of competent jurisdiction.

5. Non-Criminal Disposition

As an alternative to criminal prosecution or civil action, the Town of South Hadley may elect to utilize the non-criminal disposition procedure set forth in South Hadley Bylaws. The penalty for the 1st violation shall be \$100. The penalty for the 2nd violation shall be \$200. The penalty for the 3rd and subsequent violations shall be \$ 300.00. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

6. Restoration of Lands

Any violator shall be required to restore land to its undisturbed condition or another solution deemed appropriate by the Planning Board. In the event that restoration is not undertaken within a reasonable time after notice, the Department of Public Works may, but shall not be required to do so, take necessary corrective action, the cost of which shall become a lien upon the property until paid.

7. Holds on Occupancy Permits

Occupation permits will not be granted until corrections to all stormwater practices have been made and accepted by the Planning Board.

Section 16-11. Severability

The invalidity of any section or provision of this Bylaw shall not invalidate any other section or provision thereof.