



Stantec

**2005 NPDES PHASE II
MS4 GENERAL PERMIT
ANNUAL REPORT**

HADLEY, MASSACHUSETTS

Presented to:

United States Environmental
Protection Agency
Water Technical Unit
P.O. Box 8127
Boston MA 02114

And

Massachusetts Department of
Environmental Protection
Division of Watershed Management
67 Main Street
Worcester MA 01608

Prepared by:

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May 2006

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Stantec

May 1, 2006

File: 9220043

United States Environmental Protection Agency (EPA)

Water Technical Unit

P.O. Box 8127

Boston MA 02114

And

Massachusetts Department of Environmental Protection (DEP)

Division of Watershed Management

67 Main Street

Worcester MA 01608

Dear EPA and DEP:

Reference: Town of Hadley Massachusetts 2005 NPDES Annual Report

On behalf of the Town of Hadley, Massachusetts, we are submitting the second Annual Report for the year starting May 2005 until May 2006, as required under the NPDES Phase II General Permit for their MS4.

We hope the enclosed report satisfies all the requirements of the permit. If you have any questions, I can be reached in our Northampton office at 413 584-4776 Ext. 107.

Stantec

May 1, 2006

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Reference: Town of Hadley Massachusetts 2005 NPDES Annual Report

Thank you for your anticipated cooperation.

Sincerely,

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c. Michael Klimoski, Hadley Highway and Water Superintendent
Board of Selectmen, Town of Hadley

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SECTION 1

SELF ASSESSMENT

The Town of Hadley received a General Permit for its Municipal Separate Storm Sewer System (MS4) on May 10, 2003. The Town filed its first Annual Report, in compliance with the Phase II regulation in May of 2004, and the second on May of 2005. This third report covers the period from May of 2005 to May of 2006. Since filing the last annual report, the Town, through its NPDES Steering Committee, has drafted Stormwater Management and Illicit Discharge By-Laws for acceptance at Town Meeting later this year. The Highway Department, has proceeded in good faith to execute the tasks outlined in their original Notice of Intent and those specified in the General Permit. A dry weather screening program for illicit connections has been developed and is currently being carried out by Highway Department personnel. The Highway Department continues to define the Town Storm Drainage System and refine the Storm Drainage Map.

The Steering committee was reorganized late May 2005 to include more representation from Town boards and commissions. The Pioneer Valley Planning Commission (PVPC) was contracted by the Town to assist in the preparation of the by-laws. With assistance from the PVPC, the Committee prepared an amendment to the Town Zoning By-Laws entitled "Erosion and Sediment Control for Stormwater Management", which covers development and post-development concerns, and a stormwater ordinance entitled "Illicit Connections and Discharges to the Storm Drain System". Both ordinances are appended to this report. Public hearings are being held to introduce the ordinances to the Town for a vote at the annual Town Meeting in the fall.

Nearly all of the tasks outlined in the Notice of Intent to be performed over the five years of the permit have now been completed or are underway.

Stantec, formerly Dufresne-Henry (DH), is of the opinion that the Town of Hadley is continuing to live up to its responsibilities under the General Permit and is achieving the measurable goals outlined in the Notice of Intent.

SECTION 2

ASSESSMENT OF THE APPROPRIATENESS OF SELECTED BMP'S

To the extent they have been implemented to date, the selected Best Management Practices (BMPs) seem to be working satisfactorily toward the reduction of pollution due to stormwater runoff. Implementation of BMPs dealing with the development of a Stormwater Management Program have begun and will continue with the anticipated approval by Town Meeting of the proposed Illicit Discharge and Development By-Laws.

Through its Highway Department personnel, the Town has continued to verify and make revisions to the Storm System Plan within the Urban Area.

The television program "After the Storm", produced by the EPA and provided by the Weather Channel, has been shown periodically throughout the past year on Hadley Cable Access Television. To our knowledge, comments have not been received on the program.

Municipal good housekeeping has continued to improve with the continued implementation of a Spill Prevention Plan at the Department of Public Works (DPW) yard. The use of calcium chloride as a de-icer was increased this past winter, which has continued to decrease the amount of salt contained in runoff to the Town's streams and wetlands.

A more representative Steering Committee was formed in May of 2005 through the efforts of the Select Board to draft the Town's Stormwater Policy. Along with the Committee, the PVPC has assisted in the preparation of draft by-laws for the Town. PVPC assistance was enabled by the receipt of a Small Growth Technical Assistance Grant.

A program to implement a dry weather screening program for illicit discharge detection, has been developed by the Town's engineering consultant. The program is continuing when weather conditions required for the screening prevail. The screening should be complete by the end of this summer.

For the third year of the permit, the Highway Department has continued to substitute calcium chloride for some of its winter salt on Town roads. Quantitative effects are difficult to determine, but it is generally accepted that the environment does benefit from this practice, and the Highway Department will continue its use.

SECTION 3

PROGRESS TOWARD MEASURABLE GOALS

3.1 GOALS

The following measurable goals were proposed for implementation during the first three years of this program:

1. Partnership with the Lake Warner-Mill River Steering Committee.
2. Distribution of a Stormwater Fact Sheet with the spring water bills.
3. Presentation of an informational video on Hadley Cable Access Television.
4. Establishment of a NPDES Steering Committee.
5. Partnership with the Massachusetts Highway Department to map the storm drainage within the Route 9 corridor.
6. Begin mapping the Town-owned Storm Drainage System within the Urban Area.
7. Dry weather screening and video inspection.
8. Establish illicit discharge hotline.
9. Drafting a by-law for the prevention of illicit discharges.
10. Drafting a by-law for disturbances of over one acre of land.
11. Drafting a by-law for the control of post-construction stormwater runoff.
12. Implement Spill Prevention Control Plan at the DPW yard.
13. Conduct training for maintenance and landscaping crews.
14. Incorporate the use of a road salt alternate for winter de-icing of roadways.

3.2 STATUS OF THE GOALS

The following is a brief explanation of the status of each of the above measurable goals:

1. Town Highway Department personnel are planning to meet with the Lake Warner – Mill River Steering Committee this summer to discuss mutually beneficial strategies.
2. A Fact Sheet pertaining to Urban Runoff was mailed in February 2004 with the bi-annual water bills.
3. The video entitled “After the Storm” was received from the EPA aired on Hadley Cable Access Television periodically throughout the last two years.
4. The Selectmen empanelled a representative Steering Committee; and draft by-laws have been prepared for acceptance by the Town.
5. DH completed research of the Massachusetts Highway Department file of available drainage plans for Route 9.
6. DH completed researched of archived files and the Highway, Water and Sewer Department files for information on the Town’s drainage system within the Urban Area. Additional information has been added to the Storm System Plan based on verification of pipes and structures by the Hadley Highway Department.
7. A program for Dry Weather Screening has been prepared, and implementation has begun and continues when weather conditions permit.
8. Nothing done to date.
9. An ordinance has been drafted for acceptance by the Town regarding the prevention of illicit discharges.
10. A draft of a zoning amendment has been prepared for acceptance by the Town for disturbances of over one acre of land. Together with #11 below.
11. A draft of a zoning amendment has been prepared for acceptance by the Town for the control of post construction stormwater runoff. Together with #10 above.
12. A Spill Prevention Program has been established and is in use at the DPW yard.
13. Nothing done to-date.
14. The Highway Department augmented the use of road salt with calcium chloride for deicing during the past three winters regulated by the permit.

SECTION 4

SUMMARY OF RESULTS

In summary, in the first three full years of permit compliance, the Town of Hadley has:

- Distributed a fact sheet on urban runoff to all households and businesses.
- Televised an educational stormwater video on its Cable Access Channel.
- Formed a Steering Committee to shape and implement the Town's Stormwater Policy.
- Prepared and continued to verify and revise a map for the Storm Drainage Inventory within the Town's urban area, in partnership with the Massachusetts Highway Department (MHD).
- Continues to implement a Dry Weather Illicit Discharge Screening Program.
- Prepared Stormwater By-Laws and an Illicit Discharge Ordinance for Town approval.
- Continued to implement a Spill Prevention Program at the DPW yard.
- Continued to reduce the amount of road salt used for deicing.

SECTION 5

LOOKING AHEAD TO NEXT YEAR

This year the Hadley Highway Department will complete the inspection of drainage outfalls for illicit discharge. Questions regarding entering private property to perform inspection will have been addressed by provisions in the Illicit Discharge Ordinance, when adopted.

Empowering the Board of Health to assign designees to perform inspections should resolve this issue. Budgetary constraints for completing the initial screening inspections have been overcome by its inclusion in the Highway Department budget; however, funding for consultants and for future inspection is still issues that need to be resolved.

This year the NPDES Steering Committee will seek approval of the draft Stormwater By-Law and the Illicit Discharge Ordinance from the Hadley Town Meeting.

The Highway Department still intends to open a discussion with the Lake Warner-Mill River Steering Committee so as to include them in the work of the NPDES Steering Committee.

The Hadley Cable Access television channel will continue to broadcast "After the Storm" or other appropriate educational videos which can be obtained.

Throughout the year, Stantec and the Highway Department will continue to verify and revise the Storm Drainage System Map through field investigation.

The NPDES Steering Committee will investigate establishing an illicit discharge hotline, either at the Hadley Highway Department, Police or Fire Departments.

This fall, the Highway Department will again attempt to conduct pollution prevention workshops and training for municipal workers, if budget and time constraints permit.

The Highway Department will continue to incorporate the use of a road salt alternative in greater amounts for deicing during the upcoming winter.

SECTION 6

CHANGES IN THE MEASURABLE GOALS

Certain goals originally scheduled for the first three years of the permit have been unavoidably postponed and are planned to begin this year. These goals include:

1. Partnership with the Lake Warner-Mill River Steering Committee.
2. Establishment of an Illicit Discharge Hotline.
3. Training in pollution prevention for DPW workers.

Otherwise, the schedule for the upcoming year appears obtainable.

SECTION 7

OUTSIDE ENTITIES RELIED UPON

The following agencies have been or will be relied upon for assistance in performing the measurable goals stated in the permit:

- Massachusetts Highway Department
- Lake Warner-Mill River Steering Committee
- Pioneer Valley Planning Commission
- Hadley Police/Fire Departments

APPENDIX A

Stormwater Ordinance

STORMWATER ORDINANCE

Revised 7-5-05

ILLICIT CONNECTIONS AND DISCHARGES TO THE STORM DRAIN SYSTEM

SECTION 1 PURPOSE and AUTHORITY

1. Purpose

The purpose of this ordinance is to regulate illicit connections and discharges to the Municipal Separate Storm Sewer System (MS4) storm drain system, which is necessary for the protection of Hadley water bodies and groundwater, and to safeguard the public health, safety, welfare and the environment.

The objectives of this ordinance are:

- A. To prevent pollutants from entering Hadley's Municipal Separate Storm Sewer System (MS4);
- B. To prohibit illicit connections and unauthorized discharges to the MS4;
- C. To require the removal of all such illicit connections;
- D. To comply with state and federal statutes and regulations relating to stormwater discharges; and
- E. To establish the legal authority to ensure compliance with the provisions of this ordinance through inspection, monitoring, and enforcement.
- F. To prevent contamination of drinking water supplies.

2. Authority

The Board of Health shall administer, implement and enforce this ordinance. Any powers granted to or duties imposed upon the Board of Health may be delegated in writing by the Board of Health to employees or agents of the Board of Health or Highway Department.

SECTION 2 DEFINITIONS

For the purposes of this ordinance, the following shall mean:

Authorized Enforcement Agency: The Board of Health, its employees or agents designated to enforce this ordinance.

Best Management Practice (BMP): An activity, procedure, restraint, or structural improvement that helps to reduce the quantity or improve the quality of stormwater runoff.

Clean Water Act: The Federal Water Pollution Control Act (33 U.S.C. § 1251 *et seq.*) as hereafter amended

Discharge of Pollutants: The addition from any source of any pollutant or combination of pollutants into storm drain systems or into the waters of the United States or Commonwealth from any source.

Groundwater: All water beneath the surface of the ground.

Illegal Discharge: Any direct or indirect non-stormwater discharge to storm drain systems, except as specifically exempted in Section 6. The term does not include a discharge in compliance with an NPDES Storm Water Discharge Permit or resulting from fire fighting activities exempted pursuant to Section 6, subsection 4, of this ordinance.

Illicit Connection: Any surface or subsurface drain or conveyance, which allows an illegal discharge into storm drain systems. Illicit connections include conveyances which allow a non-stormwater discharge to storm drain systems including sewage, process wastewater or wash water and any connections from indoor drains sinks, or toilets, regardless of whether said connection was previously allowed, permitted, or approved before the effective date of this ordinance.

Impervious Surface: Any material or structure on or above the ground that prevents water from infiltrating the underlying soil.

Municipal Separate Storm Sewer System (MS4) or municipal storm drain system: The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Hadley.

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit: A permit issued by United States Environmental Protection Agency or jointly with the State that authorizes the discharge of pollutants to waters of the United States.

Non-Stormwater Discharge: Any discharge to the storm drain systems not composed entirely of stormwater.

Person: Any individual, partnership, association, firm, company, trust, corporation, and, any agency, authority, department or political subdivision of the Commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

Pollutant: Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter whether originating at a point or nonpoint source, that is or may be introduced into any sewage treatment works or waters of the Commonwealth, or that causes a violation of the Massachusetts Surface Water quality Standards 314 CMR 4.00. Pollutants shall include:

- (1) paints, varnishes, and solvents;
- (2) oil and other automotive fluids;
- (3) non-hazardous liquid and solid wastes and yard wastes;
- (4) refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnances, accumulations and floatables;
- (5) pesticides, herbicides, and fertilizers;
- (6) hazardous materials and wastes; sewage, fecal coliform and pathogens;
- (7) dissolved and particulate metals;
- (8) animal wastes;
- (9) rock; sand; salt, soils;
- (10) construction wastes and residues;
- (11) and noxious or offensive matter of any kind.

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any material, intermediate product, finished product, or waste product.

Recharge: The process by which groundwater is replenished by precipitation through the percolation of runoff and surface water through the soil.

Stormwater: Runoff from precipitation or snow melt.

Storm Drain System: The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system on public or private ways within the Town of Hadley.

Toxic or Hazardous Material or Waste: 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 and alkali, and any substance defined as Toxic or Hazardous under G.L. Ch.21C and Ch.21E, and the regulations at 310 CMR 30.000 and 310 CMR 40.0000.

Uncontaminated: Water containing no pollutants or that does not violate the Massachusetts Surface Water Quality Standards as defined in 314 CMR 4.00.

Watercourses: A natural or man-made channel through which water flows or a stream of water, including a river, brook or underground stream.

Waters of the Commonwealth: all waters within the jurisdiction of the Commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, costal waters, and groundwater.

Wastewater: any sanitary waste, sludge, or septic tank or cesspool overflow, and water that during manufacturing, cleaning or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct or waste product.

SECTION 3 APPLICABILITY

This ordinance shall apply to flows entering the MS4 storm water and drainage system on public or private ways within the Town of Hadley.

SECTION 4 RESPONSIBILITY FOR ADMINISTRATION

The Board of Health shall administer, implement and enforce this by-law. Any powers granted to or duties imposed upon the Board of Health may be delegated in writing by the Board of Health to employees or agents of the Board of Health or Highway Department.

SECTION 5 REGULATIONS

The Board of Health may promulgate rules, regulations and a permitting process to effectuate the purposes of this ordinance. Failure by the Board of Health to promulgate such rules and regulations shall not have the effect of suspending or invalidating this ordinance.

SECTION 6 PROHIBITED ACTIVITIES

1. Illegal Discharges

No person shall dump, discharge, cause or allow to be discharged any pollutant or non-stormwater discharge into storm drain systems, watercourse, or into the waters of the Commonwealth. This shall also pertain to any discharges currently prohibited by the Town of Hadley General or Zoning Bylaws.

2. Illicit Connections

No person shall construct, use, allow, maintain or continue any illicit connection to storm drain systems, regardless of whether the connection was permissible under applicable law, regulation or custom at the time of connection.

3. Obstruction Storm Drain Systems

No person shall obstruct or interfere with the normal flow of stormwater into or out of the MS4 storm drain systems without prior approval from the Board of Health or its designated agent.

4. Exemptions

This section shall not apply to any of the following non-stormwater discharges or flows provided that the source is not a significant contributor of a pollutant to the MS4 storm drain system:

- A. Municipal waterline flushing;
- B. Discharges from landscape irrigation or lawn watering;
- C. Diverted stream flows;
- D. Rising groundwaters;
- E. Uncontaminated groundwater infiltration as defined in 40 CFR 35.2005(20);
- F. Uncontaminated pumped groundwater from an emergency;
- G. Discharges from potable water sources;
- H. Air conditioning condensation;
- I. Springs;
- J. Individual residential car washing;
- K. Flows from riparian habitats and wetlands;
- L. Dechlorinated swimming pool discharges that do not cause a violation of the Massachusetts Surface Water Quality Standards 314 CMR 4.00;
- M. Street wash waters;
- N. Discharges or flows from fire fighting activities;
- O. Agricultural wash water from vegetable processing; and,
- P. Any discharge with prior written approval from the Board of Health.

SECTION 7 SUSPENSION OF STORM DRAINAGE SYSTEM ACCESS

1. The Board of Health may suspend storm drain system access to any person or property without prior written notice when such suspension is necessary to stop an actual or threatened illegal discharge that presents or may present imminent risk of harm to the public health, safety, welfare or the environment. In the event any person fails to comply with an emergency suspension order, the Authorized Enforcement Agency may take all reasonable steps to prevent or minimize harm to the public health, safety, welfare or the environment.

2. Any person discharging to a municipal storm drain system in violation of this ordinance may have their storm drain system access terminated if such termination would abate or reduce an illicit discharge. The Board of Health will notify a violator of the proposed termination of storm drain system access. The violator may petition the Board of Health for reconsideration and hearing. A person commits an offense if the person reinstates storm drain system access to premises terminated pursuant to this section, without prior approval from the Board of Health.

SECTION 8 NOTIFICATION OF SPILLS

Notwithstanding any other requirements of local, state or federal law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials at that facility operation which is resulting or may result in illegal discharge of pollutants that person shall take all necessary steps to ensure containment, and cleanup of the release. In the event of a release of oil or hazardous materials, the person shall immediately notify the municipal fire and police departments, Highway Department and Board of Health. In the event of a release of non-hazardous material, said person shall notify the Authorized Enforcement Agency no later than the next business day. Written confirmation of all telephone, facsimile or in person notifications shall be provided to the Authorized Enforcement Agency within three business days thereafter. If the discharge of prohibited materials is from a commercial or industrial facility, the facility owner or operator of the facility shall retain on-site a written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

SECTION 9 ENFORCEMENT

1. Authority

The Board of Health or its authorized agent shall enforce this ordinance, and the regulations promulgated thereunder, as well as the terms and conditions of all permits, notices, and orders, and may pursue all civil and criminal remedies for such violations.

2. Civil Relief

If anyone violates the provisions of this ordinance, regulations, permit, notice, or order issued thereunder, the Board of Health may seek injunctive relief in a court of competent jurisdiction to restrain the person from activities which would create further violations or compelling the person to abate or remediate the violation.

3. Orders

The Board of Health may issue a written order to enforce the provisions of this ordinance or the regulations thereunder, which may include: (a) elimination of illicit connections or discharges to the storm drainage system; (b) termination of access to the storm drainage system; (c) performance of monitoring, analyses, and reporting; (d) cessation of unlawful discharges, practices, or operations; and (e) remediation of contamination in connection therewith. If the Board of Health determines that abatement or remediation of contamination is required, the order shall set forth a deadline for completion of the abatement or remediation. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town may, at its option, undertake such work, and expenses thereof shall be charged to the violator or property owner.

Within thirty (30) days after completing all measures necessary to abate the violation or to perform remediation, the violator and the property owner will be notified of the costs incurred by the Town, including administrative costs. The violator or property owner may file a written protest objecting to the amount or basis of costs with the Board of Health within thirty (30) days of receipt of the notification of the costs incurred. If the amount due is not received by the expiration of the time in which to file a protest or within thirty (30) days following a decision of the Board of Health affirming or reducing the costs, or from a final decision of a court of competent jurisdiction, the costs shall become a special assessment against the property owner and shall constitute a lien on the owner's property for the amount of said costs. Interest shall begin to accrue on any unpaid costs at the statutory rate provided in G.L. Chapter 59, § 57 after the thirty-first day at which the costs first become due.

4. Criminal and Civil Penalties

Any person who violates any provision of this ordinance, 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 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 in any court of competent jurisdiction.

5. Non-Criminal Disposition

As an alternative to criminal prosecution or civil action, the Town may elect to utilize the non-criminal disposition procedure set forth in G.L. Chapter 40, §21D. The Board of Health shall be the enforcing entity. The penalty for the 1st violation shall be up to \$100. The penalty for the 2nd violation shall be up to \$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. Entry to Perform Duties Under this Ordinance

To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Board of Health, its agents, officers, and employees

may enter upon privately owned property for the purpose of performing their duties under this ordinance and regulations and may make or cause to be made such examinations, surveys or sampling as the Board of Health deems reasonably necessary

7. Appeals

The decisions or orders of the Board of Health shall be final. Further relief shall be to a court of competent jurisdiction.

8. Remedies Not Exclusive

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law.

SECTION 10 SEVERABILITY

If any provision, paragraph, sentence, or clause, of this ordinance shall be held invalid for any reason, all other provisions shall continue in full force and effect.

SECTION 11 TRANSITIONAL PROVISIONS

Residential property owners comply with this ordinance on a schedule set forth in the Board of Health compliance order, but such property owners shall in no case have more than six months from the effective date of the ordinance to comply with its provisions, unless good cause is shown for the failure to comply with the ordinance during that period.

APPENDIX B
Proposed Zoning Amendment

Proposed Hadley Zoning Amendment – New Section XXIV

Draft dated 7-5-05

XXIV. EROSION AND SEDIMENT CONTROL FOR STORMWATER MANAGEMENT

A. 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 of Hadley by establishing minimum requirements and procedures to control the adverse impacts associated with stormwater runoff.
- 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, wetlands, 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.

2. Authority

The 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 its employees or agents.

B. DEFINITIONS

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

"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.

"Best management practices (BMPs)" for stormwater 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, Stormwater Management, Volume Two: Stormwater Technical Handbook (March, 1997, Mass. Department of Environmental Protection, as updated or amended).

"Construction activity" is disturbance of the ground by removal of vegetative surface cover or topsoil, grading, excavation, clearing or filling.

"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.

"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.

"Disturbance" is any land clearing, grading, bulldozing, digging or similar activities.

"Drainage area" means that area contributing runoff to a single point measured in a horizontal plane, which is enclosed by a ridgeline or area of higher elevation.

"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.

"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.

"Erosion" is the wearing away of the land surface by natural or artificial forces such as wind, water, ice, gravity, or vehicle traffic and subsequent detachment and transportation of soil particles.

"Erosion and Sediment Control Plan" is a document containing narrative, drawings and details developed by a qualified professional engineer (PE) or a Certified Professional in Erosion and Sedimentation Control (CPESC), which includes best management practices, or equivalent measures designed to control surface runoff, erosion and sedimentation during construction and construction related land disturbance activities.

"Flow attenuation" means prolonging the flow time of runoff to reduce the peak discharge.

"Impervious surfaces" are areas, such as pavement or rooftops, which prevent the infiltration of water into the soil.

"Infiltration" is the downward movement of water from the surface to the subsoil.

"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.

"Massachusetts Stormwater Management Policy" is the policy issued by the Department of Environmental Protection, as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act, MGL ch. 131 sec. 40 and Massachusetts Clean Waters Act, MGL ch. 21, sec. 23-56. The policy addresses stormwater impacts through implementation of performance standards to reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

"Operation and Maintenance Plan" is a plan setting up the functional, financial and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to insure that it continues to function as designed.

"Outstanding Resource Waters (ORWs)" are waters designated by the Massachusetts Department of Environmental Protection, having exceptional sociological, recreational, ecological and/or aesthetic values, and are subject to more stringent requirements under both the Massachusetts Water Quality Standards (314 CMR 4.00) and the Massachusetts Stormwater Management Standards. ORWs included certified vernal pools, Class A designated public water supplies with their bordering vegetated wetlands, and other waters specifically designated.

"Outfall" is the terminus of a storm drain or other stormwater structure where the contents are released.

"Peak discharge" is the maximum instantaneous rate of flow during a storm, usually in reference to a specific design storm event

"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 the federal government or political subdivision thereof.

"Redevelopment" is development, rehabilitation, expansion, demolition or phased projects that disturb the ground surface or increase the impervious area on previously developed sites.

"Retention" is the holding of runoff in a basin without release except by means of evaporation, infiltration, or emergency bypass.

"Runoff" is rainfall, snowmelt, or irrigation water flowing over the ground surface.

"Sediment" is mineral or organic soil material that is transported by wind or water, from its origin to another location, the product of erosion processes.

"Stabilization" is the use, singly or in combination, of mechanical, structural, or vegetative methods to prevent or retard erosion.

"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.

"Swale" is a natural depression or wide shallow ditch used to temporarily store, route, or filter runoff.

"Wetlands" are areas characterized by saturated or nearly saturated soils most of the year that are located between terrestrial (land-based) and aquatic (water-based) environments, including freshwater marshes around ponds, channels (rivers and streams), brackish and salt marshes, swamps and bogs.

C. APPLICABILITY

1. Applicability

The bylaw shall apply throughout the entire Town of Hadley. Prior to the issuance of any site plan approval, Special Permit, subdivision 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. 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. Multi-family residential developments involving four or more units;
- b. Any new commercial, industrial, and institutional structures under the same ownership, with at least 5,000 square feet of gross floor area or 10,000 square feet of impervious surface;
- c. Redevelopment or additions to existing commercial, industrial, and institutional uses which result in an additional impervious surface area or gross floor area of greater than 5,000 square feet, or 10,000 square feet of impervious surface.
- d. Subdivisions and construction activities of any kind disturbing greater than 40,000 square feet.
- e. Development or redevelopment involving multiple separate activities in discontinuous locations or on different schedules if the activities are part of a larger common plan of development that all together disturbs one or more acres.

2. Exemptions

To prevent the adverse impacts of stormwater runoff, the stormwater performance standards in Section D-7 must be met at new development sites. These standards apply to construction activities as described under Section C-1. The following activities are exempt from the requirements for submittal and approval of a stormwater management plan under Section D:

- 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 Massachusetts Department of Conservation and Recreation;
- c. Additions or modifications to existing single family structures;
- d. Developments that do not disturb more than 40,000 square feet of land, provided that they are not part of a larger common development plan, except for those mentioned above;
- e. Repairs to any stormwater treatment system deemed necessary by the Hadley Planning Board;
- f. Any emergency activity that is immediately necessary for the protection of life, property or the environment, as determined by the Planning Board; and
- g. Single family residential uses disturbing less than 40,000 square feet.
- h. Utility construction and fencing, other than drainage, which will not alter drainage patterns.
- i. Maintenance of lawns, gardens and landscaping, less than 40,000 square feet, associated with a single family dwelling.

3. Stormwater Design Manual

A stormwater design manual, Stormwater Management, Volume Two: Stormwater Technical Handbook (March, 1997, Mass. Department of Environmental Protection, as updated or amended) 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 Hadley Planning Board 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.

D. 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 shall include the following:

- a. A stormwater management plan or an application for waiver shall be submitted to the Hadley Planning Board at a regularly scheduled Planning Board meeting for review and approval for any proposed development specified in Sections C-1 of this bylaw. Nine (9) copies of the stormwater management plan shall be submitted, and clearly labeled, along with other documents required in this zoning 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. The plan shall serve as the basis for all subsequent construction.
- b. An erosion and sediment control plan, which shall contain sufficient information to describe the nature and purpose of the proposed development.
- c. An ongoing maintenance agreement
- d. A non-refundable permit review fee

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

3. Application Review Fees

The Planning Board may obtain with each application, a deposit sufficient to cover any expenses connected with a public hearing and review of plans, including the cost of any engineering consultant services necessary for review of the application.

4. Procedures for Review and Approval of Stormwater Permit Applications

- a. The procedures for review and approval of stormwater management permit applications shall be consistent with Planning Board regulations, as appropriate to the use.
- b. The Planning Board shall refer copies of the stormwater management permit applications to the Conservation Commission, Highway Department, Water Department, Board of Health and other boards and commissions at the discretion of the Planning Board, for review, and shall consider any comments submitted by these boards during the review period.
- c. The applicant shall also submit copies of the stormwater permit application to a consultant engineer, on the Planning Board's approved list of consultant engineers, for review.
- d. 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 ninety (90) days from the close of the hearing unless such time is extended by agreement between the applicant and the Planning Board. Whenever possible, public hearings for stormwater permits shall be combined with public hearings for Site Plan Approval, subdivision review, Special Permits or other permits. 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.

5. Criteria for Review of Stormwater Permit Applications

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

- a. the Stormwater Management Plan and the Erosion and Sediment Control Plan are consistent with the Purposes and Objectives of this Bylaw in Section A;
- b. the Stormwater Management Plan meets the Performance Standards described in Section F;
- c. the Erosion and Sediment Control plan must meet the Design Requirements in Section G.

6. 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 A and the standards in Section F and will adequately protect the water resources of the community 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 A and the standards in Section F 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 A and the standards in Section F 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.

7. Inspections

No Plan will be approved without adequate provision for inspection of the property before development activity commences. The applicant shall arrange with an engineer on the approved Planning Board list for scheduling the following inspections:

- a. Initial inspection: prior to approval of any plan
- b. Erosion Control Inspections: after site clearing, rough grading and final grading to ensure erosion 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. A certificate of compliance shall be provided by the engineer to the Planning Board after the final inspection.

The applicant shall be responsible for paying the costs of all inspections. The engineer 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 I or the penalty provisions of Section J. The Town may conduct random inspections to ensure effective control of erosion and sedimentation during all phases of construction.

8. 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 Planning Board or its agent 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.

E. THE STORMWATER MANAGEMENT AND EROSION CONTROL PLAN

1. Contents of the Stormwater Management and Erosion Control Plan

The application for a stormwater management permit shall consist of submittal of a stormwater management and erosion 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 sufficient information to evaluate the environmental characteristics of the affected 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 F of this bylaw and the DEP Stormwater Management Handbook Volumes I and II. 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. Names, addresses and phone numbers of the applicant, owner and preparer;
- b. A locus map;
- c. Lot lines and lines of existing streets;
- d. The existing zoning, and land use at the site;
- e. The proposed land use;
- f. The location(s) of existing and proposed easements;
- g. The location of existing and proposed utilities, roadways and driveways;

- h. The site's existing & proposed topography with contours at 2 foot intervals;
- i. The existing site hydrology;
- j. A description & delineation of existing stormwater conveyances, impoundments, and wetlands on or adjacent to the site or into which storm water flows;
- k. A delineation of 100-year flood plains, if applicable;
- l. Estimated seasonal high groundwater elevation (November to April) and an analysis of soils in areas to be used for storm water retention, detention, or infiltration;
- m. The existing and proposed vegetation and ground surfaces with runoff coefficient for each;
- n. Mapped rare and endangered species habitats;
- o. A drainage area map showing pre and post construction watershed boundaries, drainage area and storm water flow paths;
- p. A description and drawings of all components of the proposed drainage system including:
 - (1) locations, cross sections, and profiles of all brooks, streams, wetlands, drainage swales and their method of stabilization,
 - (2) all measures for the detention, retention or infiltration of water,
 - (3) all measures for the protection of water quality,
 - (4) the structural details for all components of the proposed drainage systems and storm water management facilities,
 - (5) notes on drawings specifying materials to be used, construction specifications, and typicals, and
 - (6) expected hydrology with supporting calculations.
 - (7) Proposed improvements including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable,
 - (8) A description of construction and waste materials expected to be stored on-site, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to storm water, and spill prevention and response.
 - (9) Timing, schedules, and sequence of development including clearing, stripping, rough grading, construction, final grading, and vegetative stabilization, and
 - (10) A maintenance schedule for the period of construction.
- q. Provisions for project phasing;
- r. Other information requested by the Planning Board;

F. STORMWATER MANAGEMENT PERFORMANCE STANDARDS

1. Minimum Control Requirements

Projects must meet the Standards of the Massachusetts Stormwater Management Policy. These Standards include:

- a. No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth.
- b. Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.
- c. Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post-development site should approximate the annual recharge rate from the pre-development or existing site conditions, based on soil types.
- q. For new development, stormwater management systems must be designed to remove 80% of the average annual load (post development conditions) of Total Suspended Solids (TSS). It is presumed that this standard is met when:
 - (1) Suitable nonstructural practices for source control and pollution prevention and implemented;
 - (2) Stormwater management best management practices (BMPs) are sized to capture the prescribed runoff volume; and
 - (3) Stormwater management BMPs are maintained as designed.
- e. Stormwater discharges from areas with higher potential pollutant loads require the use of specific

stormwater management BMPs (see Stormwater Management Volume I: Stormwater Policy Handbook). The use of infiltration practices without pretreatment is prohibited.

- f. Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas (see Stormwater Management Volume I: Stormwater Policy Handbook). Critical areas are Outstanding Resource Waters (ORWs), swimming beaches, cold water fisheries and recharge areas for public water supplies.
- g. Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. However, if it is not practicable to meet all the Standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions.
- h. Erosion and sediment controls must be implemented to prevent impacts during disturbance and construction activities.
- i. All stormwater management systems must have an operation and maintenance plan to ensure that systems function as designed.

When the proposed discharge may have an impact upon a sensitive receptor, including streams, wetlands, storm sewers, and/or combined sewers, the DPW may require an increase in these minimum requirements, based on existing stormwater system capacity.

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.

- 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 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 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.
 - (8) Underground infiltration systems shall meet all requirements of the Massachusetts Department of Environmental Protection's Underground Injection Control Program.
- b. Retention and detention ponds (above or below ground) shall be designed and constructed in accordance with the criteria of the Stormwater Management, Volume Two: Stormwater Technical Handbook (March, 1997, Mass. Department of Environmental Protection, as updated or amended).
- c. The applicant shall give priority 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 chemicals shall incorporate handling and storage "best management practices" that prevent such chemicals from contaminating runoff discharged from a site into infiltration systems, receiving water bodies or storm drains, and shall include a list of such chemicals 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, shall be in accordance with Planning Board regulations and Highway and Water Department specifications, to the extent applicable and subject to Planning Board approval. In addition to these Hadley regulations, criteria and specifications shall be those generally found in the most current edition of the Stormwater

Management, Volume Two: Stormwater Technical Handbook (March, 1997, Mass. Department of Environmental Protection, as updated or amended).

G. 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 Policy.
- 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. Clean and sweep up any debris tracked, dumped or spilled off-site.

H. MAINTENANCE

1. Operation, Maintenance and Inspection Agreement

- a. Prior to issuance of any stormwater management permit, 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.
 - (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 Board] 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 by-law by mutual agreement of the Planning Board] 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.
- 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 Town Engineer to correct a violation requiring maintenance work, satisfactory corrections are not made by the owner(s) within thirty days, the Planning Board or its agent may perform 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, and such costs must be paid before the work is done. If costs are not paid in advance by the owner, the town is authorized to place a lien on the property in the amount of these costs.

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.
- 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 printed on the stormwater management plan.
- c. The owner shall maintain records of installation and maintenance, and provide a brief annual report to the Planning Board on all maintenance and repairs performed each year. The Planning Board or its agent shall have authority to check all maintenance records.
- d. Failure to maintain practices may result in fines and penalties in accordance with Section J.

I. PERFORMANCE BOND

The Planning Board shall require from the developer a surety or cash bond, irrevocable letter of credit, or other means of security acceptable to the Town Treasurer prior to the issuance of any building permit for the construction of a development requiring a stormwater management facility. The amount of the security shall not be less than the total estimated construction cost of the stormwater management facility. The bond so required in this section shall include provisions relative to forfeiture for failure to complete work specified in the approved stormwater management plan, compliance with all of the provisions of this Bylaw and other applicable laws and regulations, and any time limitations. The bond shall not be fully released without a final inspection report approved by the Planning Board, submission of "As-built" plans, and certificate of compliance from the Planning Board or its agent of the stormwater management facilities being in compliance with the approved plan and the provisions of this Bylaw.

J. ENFORCEMENT AND PENALTIES

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 Zoning Enforcement Officer 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 Zoning Enforcement Officer 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 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 in any court of competent jurisdiction.

5. Non-Criminal Disposition

As an alternative to criminal prosecution or civil action, the Town of Hadley may elect to utilize the non-criminal disposition procedure set forth in the Section VI-A of the Zoning Bylaw. The Building Inspector shall be the enforcing entity. The penalty for the 1st violation shall be up to \$100. The penalty for the 2nd violation shall be up to \$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 may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the Planning Board may 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.

K. SEVERABILITY

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