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# STORMWATER MANAGEMENT AND EROSION CONTROL REGULATIONS

## I. PURPOSE

The United States Environmental Protection Agency has identified sedimentation and polluted stormwater runoff from land disturbance, land development and redevelopment activities as major sources of water pollution. To address the impact of these sources of water pollution, the Town of Andover has adopted a local Stormwater Management and Erosion Control Bylaw. The bylaw is necessary to protect the Town of Andover water bodies and groundwater resources, to safeguard the health, safety, and welfare of the general public and protect the natural resources of the Town.

Section 5.B of the Town of Andover Stormwater Management and Erosion Control Bylaw authorizes the Permit Granting Authority to adopt regulations to effectuate the purposes of this Bylaw. **The purpose of these regulations is to clearly set forth administrative procedures and design criteria necessary to achieve the objectives of the Town of Andover Stormwater Management and Erosion Control Bylaw:** to prevent or diminish the impacts of sedimentation and polluted stormwater from land disturbance, land development and redevelopment activities by controlling runoff and preventing soil erosion and sedimentation from site construction and development.

## II. AUTHORITY

- A. The Regulations contained herein have been adopted by the Planning Board in accordance with the Town of Andover Stormwater Management and Erosion Control Bylaw, Section 5.B.
- B. Nothing in these Regulations is intended to replace or be in derogation of the requirements of the Town of Andover Wetlands Protection Bylaw or any Rules and Regulations adopted thereunder unless these Regulations are more stringent.
- C. These Stormwater Regulations may be periodically amended by the Planning Board in accordance with the procedures outlined in Section 5.0 of the Town of Andover Stormwater Management and Erosion Control Bylaw.

## III. ADMINISTRATION

### A. Permit Granting Authority

As the Permit Granting Authority, the Planning Board shall administer, implement and enforce these Regulations. Projects and activities approved by

the Planning Board shall be deemed in compliance with the intent and provisions of these Stormwater Management and Erosion Control Regulations.

As the Permit Granting Authority, the Planning Board may waive strict compliance of these regulations for applications including Low Impact Development if the design criteria of such waiver is allowed by federal, state or local statutes, is in the public interest and is not inconsistent with the purpose and intent of the Town of Andover Stormwater Management and Erosion Control Bylaw, Article XVI.

**B. Designated Agents:**

In accordance with Section 5.0 of the Town of Andover Stormwater Management and Erosion Control Bylaw, the Planning Board defines as “designated agents” and hereby delegates to such agents the administration, implementation, and enforcement of these Stormwater Management and Erosion Control Regulations as specified below.

**1. Planning Division Staff**

Under the supervision of the Director of Planning, the Planning Division Staff shall act as the designated agent in the administration, implementation, and enforcement of these regulations as follows:

- a. Receipt and review of applications for completeness
- b. Communications to applicants on the Planning Board’s behalf
- c. Distribution of applications and documentation to Town departments for review
- d. Procurement of Outside Consultants and Environmental Monitors
- e. Scheduling of public meetings and hearings
- f. Public notices
- g. Maintenance of all records and drawings associated with the Stormwater Management Permit.
- h. Review and granting of minor modifications to applications as described in Section IV. G of these Regulations.
- i. Recordation of permits and certificates at the Registry.
- j. Any other administrative task necessary for the orderly administration of these regulations not specifically assigned to a different designated agent.

**2. Interdepartmental Review Committee**

The Planning Board delegates to a committee of Town Staff which shall be known as the Interdepartmental Review Committee and shall include a representative from each of the Departments of Public Works, Conservation, Planning, Health, Public Safety and Building the responsibility for the technical review of applications, documentation, inspections and enforcement for compliance with these Regulations and the Stormwater Management Permit.

This committee may require additional information from the applicant or review by outside consultants and/or environmental site monitor when deemed necessary and as outlined in these Regulations and the Stormwater Management Permit.

Such representatives shall be selected by the Department Directors and approved by the Town Manager.

### **C. Persons Aggrieved**

Any persons aggrieved by a decision or action of a designated agent appointed by the Planning Board under Section 5A of the Stormwater and Erosion Control Bylaw, including but not limited to matters regarding completeness of application, inspections, and compliance with technical design criteria may, within thirty (30) days of such decision or action, request a public meeting with the Planning Board. In such cases, following the decision of the Planning Board, the provisions of Section 6.F.1 of the bylaw shall apply.

## **IV. GENERAL PROCEDURES**

Stormwater Management Permit issuance is required prior to any activity disturbing 43,560 square feet or more of land as listed in Section 4 of the Stormwater and Erosion Control Bylaw— (“Bylaw”), except as excluded in Section 4.B. of the Bylaw, or unless the Planning Board has determined that the provisions of this Bylaw should be waived for the particular activity pursuant to Section 5.D of the Bylaw . For the purposes of calculating the area of land disturbed or changes in impervious surfaces, the methodology set forth by EPA in the stormwater regulations applicable to the Town of Andover 40 CFR 122.26(b)(15)(i) will be followed. Specifically, a potential permittee shall apply for a permit if a single construction activity will disturb 43,560 square feet or more of land or will disturb less than 43,560 square feet but is part of a larger common plan or development or sale that would disturb 43,560 square feet or more. A larger common plan of develop or sale means a contiguous area where multiple separate and distinct construction activities are planned to occur at different times on different schedules under one plan, e.g., a housing development of five 1/4 acre lots. A single operator with multiple, but separate and distinct, construction activities not part of a larger common plan of development or sale, as defined in this paragraph, need not apply for a permit so long as each distinct construction activity disturbs less than 43,560 square feet of land.

The owner of the property or his Agent shall file for the permit in accordance with the procedures outlined below.

### **A. Application**

An application shall be made to the Planning Board in the form and containing information as specified in these Regulations. Permit Applications shall be accompanied by payment of the appropriate fees. Fees, including those associated with postage for the mailing of notices to the project abutters shall

be received by the Planning Board prior to any review. Any application not accompanied by the appropriate fee shall be deemed incomplete.

**B. Completeness of Application**

The Planning Board or its designated agent shall make a determination as to the completeness of the application and adequacy of the materials submitted within 45 business days of submission. No review by the Interdepartmental Review Committee shall take place until the application has been found to be complete.

**C. Information Requests**

The Planning Board or its designated agent may request additional information as is necessary to enable the Planning Board to determine whether the proposed land disturbance activity will comply with the provisions of the Stormwater Management and Erosion Control Bylaw and Regulations.

**D. Consent of property owner required for all applications**

When the applicant does not own the property shown on a plan filed with an application pursuant to these Rules and Regulations, the applicant shall state the nature of his or her interest in the property and shall submit the written consent of the property owner by having the property owner appropriately sign the application for the Stormwater Permit as the applicant. An application shall not be considered complete unless the property owner has signed the application form. Where the owner is a partnership, trust or corporation, documents must be submitted indicating who has signing authority to enter into agreement on behalf of the partnership, trust or corporation. If the property owner subsequently withdraws consent to the application after the application is filed, the Board may deny the application for this lack of consent of the owner.

**E. Employment of Outside Consultants**

The Planning Board or its designated agent may require an independent Registered Professional Engineer, an Environmental Site Monitor, and/or other professional consultant to advise the Planning Board or its designated agents on any or all aspects of the project. All costs of said independent consultants shall be at the applicant's expense.

**F. Modifications to an Application**

The permittee, or the permittee's agent, must notify the Planning Board or its designated agent in writing of any change or alteration of a land-disturbing activity before the change or alteration occurs. Modifications resulting in grade changes under one (1) foot shall be considered minor and may be granted by the Planning Board's designated agent. If the Planning Board or its designated agent determines that the change or alteration is significant, based on the design criteria in these Regulations, the Planning Board may require that an amended application or a new application (including application fees unless

waived by the Planning Board) be filed. If any change or alteration from the Stormwater Management Permit occurs during land disturbing activities, including significant changes in schedule, the Planning Board or its designated agent may require the installation of interim erosion and sedimentation control measures before considering the change or alteration.

**G. Access Permission**

To the extent permitted by state law, and as authorized by the owner at the time of the application or other party in control of the property, the Planning Board, its Agents as specified in Section III.B. of these Regulations, officers, and employees may enter upon privately owned property for the purpose of performing their duties under the Bylaw and its regulations and may make or cause to be made such examinations, surveys or sampling as the Planning Board deems reasonably necessary to determine compliance with the permit.

**H. Public Notification**

The Planning Board will post notice of the public meeting and will be responsible for sending abutter notification based on the list obtained from the Town by the applicant and provided to the Planning Board. The applicant shall pay all costs associated with the notification requirements.

**I. Exclusions from Permit Requirements**

Projects that are defined as ““Exempt Activities” in Section 4.B of the Bylaw do not require approvals under these Regulations, nor shall the area of land disturbed in connection with such Exempt Activities be included in the calculation of the area of land disturbed by construction activities.

Activities exempted under Section 4.B(1) of the Bylaw shall include normal maintenance and improvement of publicly or privately-owned water and sewer lines, electrical and communications conduits, steam pipes, and gas pipelines.

**V. PERMIT APPLICATION FILING REQUIREMENTS**

**A. Planning Board**

The Stormwater Management Permit Application package to be submitted to the Planning Board shall include the following:

1. A completed Application Form with original signatures of all owners;
2. Twelve (12) copies of the Stormwater Management Plan and Narrative as specified in Section 6.0 of these regulations;
3. Twelve (12) copies of the Operation and Maintenance Plan as specified in Section 6.0 of these regulations,
4. Payment of the application and review fees.

**B. Town Clerk**

One (1) copy of the Application Form shall be filed with the Town Clerk by Planning Staff.

**C. Other Boards or Commissions**

Applicants shall submit an additional complete application to all Boards and/or Commissions which are currently reviewing other permits for the same project.

**D. Notice requirements**

The applicant shall provide a map indicating the Assessor's map and parcel as well as the address of the site to the Planning Department. A list of the names and mailing addresses of all abutting property owners as they appear in the most recent tax list(s) shall be obtained from the Assessor's Office by the Planning Department. This list shall not be more than six (6) months old. The list must include property owners on the opposite side of any street abutting the subdivision and abutters to abutting property owners within three hundred feet of the property under development consideration. If the site is within three hundred (300') of a municipal boundary, the applicant shall include a certified abutters list and corresponding tax map from the abutting municipality that includes all abutters within three hundred foot (300') from the site boundaries.

**E. Review Fee Schedule**

Fees shall be payable to the Town of Andover in the form of a money order, bank or certified check.

Professional review fees include engineering review, legal review, and clerical fees associated with the review and permit processing. When an independent consultant is required by the Planning Board, the consultant shall provide a fee estimate. The applicant may be required to deposit funds in a revolving account with the Town to cover these fees. The Planning Board may require additional fees if deemed necessary for proper review of an application or to ensure compliance.

An Applicant's failure to pay any additional review or inspection fee within five business days of receipt of the notice that further fees are required may be grounds for disapproval of the application.

**VI. FORM AND CONTENTS OF THE PERMIT APPLICATION**

The Stormwater Permit Application shall contain the following documents.



**A. Complete Application for Stormwater Management Permit Form**  
See Appendix A.

**B. Stormwater Management Plan and Narrative:**

The Stormwater Management Plan and Narrative shall contain sufficient information for the Planning Board to evaluate the environmental impact, effectiveness, and compliance of the measures proposed by the applicant to these Regulations and the Massachusetts Department of Environmental Protection Stormwater Management Handbook. The information provided shall describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed best management practices for the permanent management and treatment of stormwater.

**1. Stormwater Management Plan**

The Stormwater Management Plan shall be prepared by a Massachusetts licensed professional engineer on a print of 24"x36" containing the following information:

**a. General Project Information**

**(1) Plan Certification**

**(a)** The plan(s) shall be sealed by (1) a professional engineer registered in Massachusetts in the field of civil engineering and (2) a registered land surveyor registered in Massachusetts. The engineer shall certify that the plan complies with all the rules and regulations of the Stormwater Management & Erosion Control Bylaw and the Stormwater Management & Erosion Control Rules and Regulations, except as noted. Failure to have these certifications shall result in denial of the application.

**(2) Identification Information**

**(a)** Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan.

**(b)** Title, date, north arrow, names of abutters, scale (1"=20' or 1"=40'), legend, and locus map (1"=800').

**(c)** Existing zoning designation.

**(d)** Existing and proposed land use of the site.

**(e)** A signature block to record the action of the Planning Board

**(3) Notations Regarding Revisions-**all revised plans shall contain a notation listing and describing all revisions, additions, and deletions made to the originally submitted plans and the date of each. Each revision shall be clearly shown on the plans and shall be identified by a triangle symbol with the corresponding revision number within the triangle.

**b. Boundaries and Location Data**

(1) Surveyed property lines showing distances and monument locations, all existing and proposed easements, rights-of-way, utilities and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed.

(2) Location, delineation and description of 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, Potential Vernal Pools, and Priority Habitats of Rare Species within five hundred (500) feet of any construction activity.

(3) The location of the one hundred year (100) flood boundary, as shown on the Flood Insurance Map (FIRM), in and within one hundred feet (100') of the lot;

(4) Location of all proposed wells, and septic systems in the project including all required setback dimensions to lot lines, wells and septic systems;

**c. Streets, Impervious Areas and Site Improvements**

(1) Lines of existing abutting streets showing drainage and driveway locations and curb cuts.

(2) Existing and proposed impervious surfaces, drainage structures and facilities, if applicable.

(3) Existing and proposed improvements including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable.

(4) Footprints of any structure on abutting properties with the names of the abutters, including properties on the opposite side of the street or way that abuts the site. Existing and proposed driveways shall also be shown.

**d. Topography**

(1) The location and elevation of one benchmark using NGVD Datum within 50 to 75 feet of the parcel which is not subject to dislocation or loss during construction

(2) Existing and proposed topography described in full contour detail, at two foot (2') intervals, with area of steep slope over 15%-25%, and over 25% delineated for pre-development and post-development with spot elevations provided when needed.

(3) Existing topography fifty feet (50') beyond the perimeter of the parcel as it appears on the most current Town of Andover topographic mapping shall be shown.

**e. Drainage and Water**

(1) Location, delineation and description of all existing and proposed watercourses, water bodies, and Wetland Resource Areas on or entering the site, or adjacent to the site, or into which stormwater flows, collects or percolates including the direction, flow rate, and volume of surface runoff under existing and proposed conditions. Information regarding their water quality and current water quality classification shall be included.

(2) Location, delineation and description of environmental and hydrological conditions, riparian zones and all floodplain information, including the 100-year flood elevation based upon the most recent Flood Insurance Rate Map, or as calculated by a professional engineer for areas not assessed on these maps;

(3) A description and drawings of all components of the proposed drainage system including:

(a) locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization,

(b) all measures for the detention, retention or infiltration of water,

(c) all measures for the protection of water quality,

(d) the structural details for all components of the proposed drainage systems and stormwater management facilities,

(4) **notes on drawings specifying materials to be used, construction specifications, and typical details.** Drainage patterns, watersheds and subwatersheds, with calculations of proposed land disturbance within each subwatershed and areas of soil to be disturbed in each watershed throughout the duration of the proposed land disturbance activity

**f. Soils**

(1) Surface extent of each soil type as determined by the United States Department of Agriculture, Soils Conservation Service Soil Survey, with an accompanying analysis of the best use potential of the soils and the hydrological group classification

(2) An accurate field determination of seasonal high groundwater elevation in each area to be used for stormwater retention, detention, or infiltration with direction, rate of flow and seasonal fluctuations made by a Massachusetts Licensed Soil Evaluator or other Certified Professional such as a Geotechnical Engineer;

**g. Landscaping**

(1) The general outline of existing vegetation, wooded areas, significant trees, unique species and tree clusters;

(2) The extent of all vegetation, wooded areas, significant mature trees, unique species and/or tree clusters to be removed;

**h. Site Disturbance and Erosion Control Measures**

- (1) Limit of clearing and grading;
- (2) Locations and methods of all proposed erosion/sedimentation controls, showing key dimensions and other important details;
- (3) The location of proposed stockpiling area(s) for “earth” materials;
- (4) . Detailed drawings and types of both temporary and permanent erosion and sediment control structures;
- (5) The location of critical areas on the site (areas that have potential for serious erosion problems.)
- (6) Path and mechanism to divert uncontaminated water around disturbed areas, to the maximum extent practicable.
- (7) Location of temporary and permanent seeding, vegetative controls, and other temporary and final stabilization measures.

**2. Stormwater Narrative**

The Stormwater Narrative shall include the following information:

**a. Scheduling and Construction Sequences**

- (1) The timing, schedules, and sequence of development including clearing, stripping, rough grading, construction, final grading, and vegetative stabilization.
- (2) A description of construction and waste materials expected to be stored on-site. The narrative 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.
- (3) A description of provisions for phasing the project
- (4) 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.
- (5) A maintenance schedule for the period of construction.

**b. Hydrological Conditions and Soils**

- (1) Detailed description of the existing environmental and hydrological conditions of the site and of the receiving waters and Wetland Resource Areas.
- (2) A description of all surface watercourses, water bodies, and Wetland Resource Areas on or entering the site, or adjacent to the site, or into which stormwater flows. Information regarding their water quality and current water quality classification shall be included.
- (3) The runoff coefficient for each of the existing and proposed vegetation and ground surfaces.

(4) Existing soils (type, hydrologic group, erodibility) and the volume and nature of imported soil materials.

(5) Calculations of proposed land disturbance within each subwatershed and areas of soil to be disturbed in each watershed throughout the duration of the proposed land disturbance activity.

**c. Drainage Systems**

(1) A description of all components of the proposed drainage system including:

(a) locations, cross sections, and profiles of all brooks, streams, swales and

(b) their method of stabilization,

(c) all measures for the detention, retention or infiltration of water,

(d) all measures for the protection of water quality,

(e) the structural details for all components of the proposed systems stormwater management facilities,

(f) notes on drawings specifying materials to be used, construction specifications, and typicals, and

(g) expected hydrology with supporting calculations.

**d. Erosion Control**

(1) Description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other temporary and final stabilization measures.

**C. Operation and Maintenance Plan**

An Operation and Maintenance Plan (O&M Plan) for the permanent storm water management system is required at the time of application for all projects. The maintenance plan shall be designed to ensure compliance with these Regulations and the Massachusetts Surface Water Quality Standards contained in 314 CMR 4.00 in all seasons and throughout the life of the system.

Once approved by the Planning Board, the Operation and Maintenance Plan shall be recorded at the Essex North Registry of Deeds by the Planning Board or its agent at the expense of the current owner(s), shall remain on file with the Planning Board and shall be an ongoing requirement.

The Operation and Maintenance Plan shall conform to the requirements listed below.

**1. Operation and Maintenance Plan Requirements.**

An Operation and Maintenance Plan prepared by a Massachusetts licensed Professional Engineer shall include:

a. The name(s) of the owner(s) for all components of the system

b. Maintenance agreements that specify:

- (1) The names and addresses of the person(s) responsible for operation and maintenance
  - (2) The person(s) responsible for financing maintenance and emergency repairs.
  - (3) A Maintenance Schedule for all drainage structures, including swales and ponds.
  - (4) A list of easements with the purpose and location of each.
  - (5) The signature(s) of the property owner(s).
- c. Stormwater Management Easement(s)
- (1) Stormwater management easements to the Town are required for all areas used for off-site stormwater control associated with Town accepted public ways, unless a waiver is granted by the Planning Board.
  - (2) Easements shall be recorded with the Essex North Registry of Deeds prior to issuance of a Certificate of Completion.
  - (3) Stormwater management easements shall be provided and located by the property owner(s) as are 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; and
    - (c) direct maintenance access by heavy equipment to structures requiring regular cleanout maintenance.

## **2. Changes to Operation and Maintenance Plans**

- a. The owner(s) of the stormwater management system must notify the Planning Board or its Agent 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 Stormwater Management and Erosion Control Bylaw and Regulations by mutual agreement of the Planning Board and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties. Responsible Parties shall include owner(s), persons with financial responsibility, and persons with operational responsibility. Once the amended Plan is signed the Planning Board shall file it at the Registry of Deeds at the expense of the current owner(s).

## **3. Annual Report Submittal**

The Responsible Parties must submit an annual report by September 1st to the Planning Board documenting the inspection and maintenance of the BMPs for which they are responsible. The reports must include:

- a. Descriptions of the condition of the BMPs,
- b. Descriptions of maintenance performed and,
- c. Receipts showing payment for maintenance performed.

## **VII. REVIEW AND APPROVAL PROCEDURE**

### **A. Evaluation of Application for Completeness**

Applications shall be reviewed for form and contents in accordance with Section VI. of these Regulations. The Planning Staff shall notify the applicant of any deficiencies in the application package within 14 days of receipt. Application packages with uncorrected deficiencies after 45 days of the filing date shall not be distributed for Interdepartmental Review. Instead a public meeting before the Planning Board shall be scheduled. The Planning Board may deny an application due to lack of completeness.

### **B. Distribution of Complete Application**

Within forty-five (45) days of the filing of a complete application, the Planning Board or its designated agent shall distribute the application materials for technical review and schedule an Interdepartmental Review Committee meeting.

### **C. Application for Public Viewing**

Application materials will be made available for viewing by the public inspection during normal business hours in the Planning Department.

### **D. Interdepartmental Review**

1. Within sixty (60) days of the filing of a complete application, an Interdepartmental Review will be held in the Town Offices. The applicant and his representatives will be notified of the time and location of the Review.
2. The Interdepartmental Review of a Stormwater Permit application may be held concurrently with other interdepartmental review permitting procedures.
3. Upon completing the review and before the Planning Board public meeting, the Town Engineer shall provide a written recommendation to the Planning Board itemizing all instances where the applicant has failed to meet the specifications and standards of the latest edition of the Massachusetts Department of Environmental Protection Stormwater Management Handbook, or the Design Criteria as described in Andover's Subdivision Regulations if applicable, or of the requirements and criteria as set forth in these Regulations, whichever is more stringent.
  - a. In making its final decision, the Planning Board and its designated agents will consider natural features, proximity of site to water bodies and wetlands, extent of impervious surfaces, size of the site, slopes, the types of stormwater management structures, and potential need for ongoing maintenance activities when making this decision.

4. In addition to the Interdepartmental Review, the Planning Board or its designated agent may require review of the application by an independent licensed professional at the applicant's expense. Such determination shall be made within forty-five (45) days of the filing of the application.

**E. Public Meeting Notification**

Within forty-five (45) days, the Planning Board or its designated agent will arrange agenda time for a meeting and prepare notifications. Such notice shall be made no later than seven (7) days prior to the public meeting and shall include a posting and first class mailings to abutters.

**F. Public Meeting**

Within ninety (90) days of the filing of the application, the Planning Board will hold a public meeting on the application where comments and questions from the public regarding the application will be addressed.

Once begun, the public meeting may not continue for more than sixty (60) days unless such time is extended by written agreement between the applicant and the applicant to a date certain announced at the meeting.

**G. Planning Board Action**

The Planning Board shall take final action within twenty-one (21) days of the public meeting discussion. Should the Planning Board fail to act within the allowed time, the application shall be deemed approved.

**H. Digital Filing**

Prior to the start of construction, the applicant shall provide CD-ROM or DVD-R media to the Planning Board containing a digital AutoCAD file of the plan including all information required in these Regulations. The digital data shall be delivered in the Massachusetts Coordinate System, North American Datum 1983 and North American Vertical Datum 1988, in U.S. Survey Feet. The file formats required are AutoCAD DWG (or ASCII DXF) version 2004 or earlier and Adobe PDF of each sheet in the application package. The digital file shall be reviewed by the Department of Public Works prior to the start of construction.

**I. Surety**

Before the start of construction, the Planning Board may require the permittee to post an acceptable surety to ensure that the work will be completed in accordance with the permit and these Regulations. The form of the surety shall be approved by Town Counsel and shall be in an amount deemed sufficient by the Planning Board.

**J. Town Clerk Verification**

Prior to the start of construction, the applicant must obtain written verification from the Town Clerk that no appeals of the Planning Board's decision are pending.



## VIII. INSPECTIONS AND SITE SUPERVISION

### A. Preconstruction Meeting

Prior to clearing, excavation, construction, or any land disturbing activity requiring a permit, the applicant, the applicant's technical representative, the general contractor, pertinent subcontractors, and any person with authority to make changes to the project, shall meet with the Planning Board's designated Agent and representative from the Interdepartmental Review to review the permitted plans and proposed implementation.

### B. Site Inspections during Construction

#### 1. Planning Board's Designated Agent Inspections

The Planning Board's designated agent shall make inspections as hereinafter required and/or shall review site inspection reports provided by an Environmental Site Monitor and shall either approve that portion of the work completed or shall notify the permittee wherein the work fails to comply with the approved plans and any conditions of approval.

- a. One copy of the permit plans and conditions of approval signed by the Planning Board shall be maintained at the site during the progress of the work.
- b. A copy of the NPDES Construction General Permit and Stormwater Pollution Prevention Plan (if applicable) shall be kept on site as well.

#### 2. Permittee Inspections.

During construction, the permittee or his/her Agent shall conduct and document inspections of all control measures no less than weekly or as specified in the permit, and prior to and following anticipated storm events. The purpose of such inspections will be to determine the overall effectiveness of the Erosion and Sedimentation Control Plan, and the need for maintenance or additional control measures.

- a. **As a condition of approval, the Planning Board may require an Environmental Site Monitor, approved by the Planning Board, be retained by the applicant to conduct such inspections and prepare and submit such reports to the Planning Board's designated Agent.**
- b. **The permittee or his/her Agent shall submit monthly reports to the Planning Board's designated Agent in a format approved by the Planning Board.**

(1)

### **C. Final Inspection**

1. After the stormwater management system has been constructed and before the surety has been released, the applicant must submit an as-built plan detailing the actual stormwater management system as installed.
2. The applicant must submit an explanation detailing any differences between the plans approved with the permit and the as-built plans. This explanation must be stamped by a Massachusetts licensed Professional Engineer.
3. The Planning Board's designated Agent shall inspect the system to confirm its "as-built" features. The designated Agent may require the Environmental Site Monitor to make such inspection and provide a report of its findings. This inspector shall also evaluate the effectiveness of the system in an actual storm. If the inspector finds the system to be adequate he shall so report to the Planning Board, at which time a Certificate of Completion will be issued.
4. If the system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the Stormwater Management Plan, it shall be corrected by the permittee to the satisfaction of the Planning Board before the performance guarantee is released.
5. If the permittee fails to act the Town of Andover may withhold the Certificate of Completion and pursue Enforcement as outlined in the Bylaw Section 11. Examples of inadequacy are: errors in the infiltrative capability, errors in the maximum groundwater elevation, failure to properly define or construct flow paths, or erosive discharges from basins.

### **D. Final Report**

Upon completion of the work, the permittee shall submit a report (including certified as-built construction plans) from a Massachusetts licensed Professional Engineer (P.E.) and a Massachusetts licensed land surveyor, certifying that all erosion and sediment control devices, and approved changes and modifications, have been completed in accordance with the conditions of the approved permit. Any discrepancies should be noted in the cover letter.

### **E. Certificate of Completion**

Prior to the issuance of the Certificate of Completion, digital files of the as-built conditions including all information and in the same formats as required in Section VII Paragraph H shall be submitted to the Planning Board.

The Planning Board will issue a letter certifying completion upon receipt and approval of the final reports and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with this Bylaw. The Certificate of Completion shall be recorded at the Registry of Deeds by the Planning Board at the Owner(s) expense.

**IX. DESIGN CRITERIA**

In addition to the following criteria, the applicant is to refer to the criteria, specifications and standards in the latest edition of the Massachusetts Department of Environmental Protection Stormwater Management Handbook and the Town of Andover’s Subdivision Rules and Regulations and is to incorporate the most stringent criteria in the protection of the Town’s environmental and infrastructure resources.

**A. Stormwater Recharge**

Impervious and disturbed surfaces from development alter the natural hydrologic cycle by discharging stormwater directly to streams, rather than allowing it to infiltrate through the soils and into groundwater as it did before development. This increases flooding and reduces the baseflow to streams that is needed in the summer months when there is little precipitation. The increased runoff from impervious surfaces also increases stream temperatures, since pavement and other impervious surfaces absorb substantial amounts of heat in the summer due to their dark coloring and lack of shade, which is transferred to runoff passing over the surface. The result is runoff that is dramatically warmer than natural groundwater inflow would have been under a natural hydrologic cycle. The purpose of this criteria is to maintain existing recharge rates to preserve existing groundwater levels and stream baseflows.

**1. Recharge Calculation**

The volume of water to be recharged shall be based on the site soils. The volume of water to be retained from the developed site shall be calculated using the following equation:

- Re<sub>v</sub> = [(S)(R<sub>v</sub>)(A)]/12, where
- Re<sub>v</sub> = recharge volume (acre-feet)
- R<sub>v</sub> = 0.05 + 0.009(I) where I is the percent impervious cover
- A = site area in acres
- S = Soil Specific Recharge Factor

Hydrologic Group	Soil Specific Recharge
A	0.60
B	0.35
C	0.25
D	0.10

**2. Additional Recharge Criteria**

The following criteria shall also apply:

- a. If more than one soil type is present at the site, a composite soil specific recharge factor shall be computed based on the proportion of total site area within each soil type. The recharge volume

provided at the site shall be directed to the most permeable soil available.

- b.** The recharge volume criteria does not apply to any portion of a site designated as a stormwater hotspot. Hotspots are defined as sites with higher potential pollutant loads, including:
  - Stormwater discharges associated with Standard Industrial Classification (SIC)
  - Auto salvage yards (auto recycler facilities)
  - Auto fueling facilities (gas stations)
  - Fleet storage areas (cars, buses, trucks, public works)
  - Vehicle service and maintenance areas
  - Vehicle and equipment cleaning facilities
  - Commercial parking lots with average trip generation rates of 1,000 or greater per day, such as fast-food restaurants, convenience stores, high-turnover (chain) restaurants, shopping centers, and supermarkets
  - Road salt storage and loading areas (if exposed to rainfall)
  - Commercial nurseries
  - Flat metal (galvanized metal or copper) rooftops of industrial facilities
  - Outdoor storage and loading/unloading areas of hazardous substances
  - SARA 312 generators (if materials or containers are exposed to rainfall)
  - Marinas (service, repainting, and hull maintenance areas)
  
- c.** The Planning Board may alter or eliminate the recharge volume requirement if the site is situated on unsuitable soils (i.e., marine clays), karst or in an urban redevelopment area. In this situation, non-structural practices (filter strips that treat rooftop or parking lot runoff, sheet flow discharge to stream buffers, and grass channels that treat roadway runoff) should be implemented to the maximum extent practicable and the remaining or untreated volume included in the water quality volume.

**3. Soil Group Classification**

The soil group classification used to determine the CN value shall be based on an on-site percolation test and the table below:

Soil Group	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Infiltration rate when wet (inches/hour)	> 0.3	0.15 – 0.3	0.05 – 0.15	0 – 0.05

## B. Pretreatment

1. Pre-treatment basins must be designed and located to be easily inspected and accessible to facilitate maintenance. Pre-treatment devices must also be sized to accommodate a minimum of one-year's worth of sediment and debris.
2. The following standards shall be followed to ensure that the device will permit sufficient treatment to treat stormwater and allow for a reasonable required maintenance frequency for the Stormwater Treatment System (STS):
  - a. Pre-treatment devices shall be provided for each STS; and
  - b. Pre-treatment devices shall be designed to accommodate a minimum of one-year's worth of sediment; and
  - c. Pre-treatment devices shall be designed to capture anticipated pollutants, such as oil and grease; and
  - d. Pre-treatment devices shall be designed and located to be easily accessible to facilitate inspection and maintenance; and
  - e. The Revised Universal Soil Loss Equation (RUSLE)<sup>1</sup> shall be used to calculate sediment deposits that would occur from pervious areas adjacent to the BMP; and
  - f. Pretreatment structures shall be sized to hold an annual sediment loading. An annual sediment load shall be calculated using a sand application rate of 750 lbs/acre for sanding of roadways, parking areas and access drives within the subcatchment area, a sand density of 90 lbs per cubic foot and assuming a minimum frequency of ten sandings per year.

To obtain an annual sediment volume, perform the following calculation:

$$\frac{\text{Area to be sanded (acres)} \times 750 \text{ pounds}}{\text{Acre-storm}} \div \frac{90 \text{ pounds}}{\text{ft}^3} \times \frac{10 \text{ storms}}{\text{year}} = \text{cubic ft of sediment/yr}$$

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<sup>1</sup> Developed by the Natural Resources Conservation Service, USDA to predict soil erosion due to water.

3. The permittee shall maintain any STSs used to trap sediment during construction to prevent sediment from leaving the site, and shall remove all sediment from all STSs when construction is finished and the site is stabilized.

### **C. Flooding Protection**

The following standards shall be followed to control peak discharge rates and improve the overall effectiveness of the stormwater treatment systems. These are minimum design standards.

1. The post-development peak discharge rate shall be equal to or less than the pre-development peak discharge rate (based on a 2-year, 10-year, 25-year, and 100-year, 24-hour storm); and
2. The site shall be designed to ensure that all runoff from the site up to the 100 year storm enters the control structure. For example, the drainage system may only be sized to handle a ten-year storm, with larger storms flooding the distribution system and traveling overland. This overland flow, or overflow, must be directed into the peak control structure; and
3. The applicant shall account for all run-on and run-off (including off-site impacts) in both pre- and post-development conditions; and
4. The applicant shall prepare hydrographs for pre- and post-development conditions; and
5. Use Curve Numbers (CN) values as provided in Table 1 to calculate stormwater runoff rates for pre/post construction ground surface conditions; and
6. Any site that was wooded within the last five years must be considered undisturbed woods for all pre-construction runoff conditions, regardless of clearing or cutting activities that may have occurred on the site during that pre-application period; and
7. Use TR-55 to develop hydrographs and peak flow rates for the proposed development site. Make sure all areas are accounted for in the pre/post runoff calculations. The total tributary area that contributes flow from the proposed site, including runoff entering the site through piped drainage or surface runoff from off-site sources, must be included even if a portion does not contribute flow to the BMP. The objective is for the development's storm drain design to account for total runoff leaving the site; and

8. Off-site areas should be modeled as “present land use condition” in good hydrologic condition for the 2 and 10-year storm events for both pre and post development calculations; and
9. The length of overland sheet flow used in time of concentration (tc) calculations shall be limited to no more than 50 feet for pre- and post-development conditions.

**Table 1**  
**Approved CN Values for the SCS Methods (TR-20, TR-55)**

<b>Pre-Construction Runoff Curve Number (CN Values)</b>	<b>Hydrologic Soil Group</b>			
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Open space such as lawns, parks, and cemeteries <sup>2</sup>	68	79	86	89
Woods and forest <sup>3</sup>	30	55	70	77
Impervious areas such as paved parking lots, driveways and roofs	98	98	98	98
Gravel roads (processed, dense graded)	76	85	89	91
Dirt roads	72	82	87	89
Newly graded pervious areas (no vegetation)	77	86	91	94
<b>Post-Construction Runoff-Curve Number (CN Value)</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Open space such as lawns, parks, and cemeteries <sup>2</sup>	68	79	86	89
Woods and forest that is selectively cleared <sup>3</sup>	43	65	76	82
Impervious areas such as paved parking lots, driveways and roofs	98	98	98	98
Gravel roads (processed, dense graded)	76	85	89	91
Dirt roads	72	82	87	89
Newly graded pervious areas (no	77	86	91	94

Source: TR-55, 1986

*Notes:*

1. The runoff curve numbers are for use in calculating runoff with TR-55 or other approved models.
2. The open space CN values for lawns, parks, and cemeteries assumes a “poor” condition for grass cover since the post-construction amount of grass cover cannot be predicted or guaranteed.
3. The pre-construction CN value for woods and forest is based on a “good” condition where the woods are undisturbed and brush adequately covers the soil. The post-construction CN value for woods and forest is based on a “fair” condition if any selective cutting is conducted since the soils typically become compacted due to the equipment used to remove the large white pines and there

*may be post-cutting wind damage to the remaining unsupported canopy. If the applicant can demonstrate that no disturbance will occur during construction, then the pre-construction CN value for woods may be used for the post-construction runoff calculations. A note should be placed on the plan indicating where selective cutting will occur.*

#### **D. Channel Protection**

The following method shall be used:

24 hours extended detention of the post-development 1-year, 24-hour return frequency storm event shall be provided.

#### **E. Water Quality Volume**

Stormwater treatment devices shall be used to handle water quantity as well as treat water quality. The water quality volume shall include the first flush of storms. The following method shall be used:

The water quality volume required to be treated shall be calculated as:

$$\text{Water Quality Volume (ft}^3\text{)} = \text{impervious surfaces (ft}^2\text{)} \times 0.5 \text{ (1/2 inch)} / 12 \text{ (inches per foot)}$$

#### **F. Erosion Control**

The following standards shall be met for erosion control, prior to any land disturbance activities commencing on the site:

1. Development shall be oriented to the site so that cutting and stripping of vegetation and grading are minimized;
2. Prior to any land disturbance activities commencing on the site, the developer shall physically mark limits of no land disturbance on the site with tape, signs, or orange construction fence, so that workers can see the areas to be protected.
3. Appropriate erosion and sediment control measures shall be installed prior to soil disturbance. Measures shall be taken to control erosion within the project area. Sediment in runoff water shall be trapped and retained within the project area. Wetland areas and surface waters shall be protected from sediment.
4. Runoff shall be controlled and conveyed into storm drains and other outlets so it will not erode the land or cause off-site damage; sediment in runoff shall be trapped by using staked hay bales, silt fencing, or sedimentation traps, or other approved erosion control devices;
5. Sediment basins shall be constructed where necessary to detain runoff and to trap sediment during construction;



6. Sediment shall be removed once the volume reaches  $\frac{1}{4}$  to  $\frac{1}{2}$  the height of the silt fence or hay bale.
7. Offsite runoff shall be diverted from highly erodible soils and steep slopes to stable areas.
8. Erosion and sediment controls shall be coordinated with the sequence of grading, development and construction operations; control measures shall be in effect prior to commencement of each increment/phase of the process;
9. Land disturbance activities exceeding two acres in size shall not be disturbed without a sequencing plan that requires stormwater controls to be installed and the soil stabilized, as disturbance beyond the two acres continues. Mass clearings and grading of the entire site should be avoided. Prior to any construction on the site, applicant shall submit a construction phasing plan to the Planning Department for review and approval.
10. Soil and other materials shall not be stockpiled or redistributed, either temporarily or permanently, in locations or in such a manner as would cause suffocation of tree root systems;
11. Topsoil shall be stripped from disturbed areas, stockpiled in approved areas and stabilized with temporary vegetative cover if it is to be left for more than thirty (30) calendar days; perimeter sediment controls shall be installed around each area of stockpiled topsoil.
12. Soil stockpiles shall be stabilized or covered at the end of each workday.
13. The area of disturbance shall be kept to a minimum. Disturbed areas remaining idle for more than 14 days shall be stabilized.
14. Grading shall be kept to a minimum; tree removal shall be minimized;
15. For active construction areas such as borrow or stockpile areas, roadway improvements and areas within 50 feet of a building under construction, a perimeter sediment control system shall be installed and maintained to contain soil.
16. A tracking pad shall be constructed at all entrance/exit points of the site to reduce the amount of soil carried onto roadways and off the site.
17. Dust shall be controlled at the site.

18. On the cut side of roads, ditches shall be stabilized immediately with rock rip-rap or other non-erodible liners, or where appropriate, vegetative measures such as sod.
19. All graded areas beyond the Street Right-of-Way shall be covered with four (4") inches of topsoil and planted with a native specie of vegetative cover, sufficient to prevent erosion;
20. Temporary seeding, mulching or other suitable stabilization methods shall be used to protect exposed soil areas during construction; as feasible, natural vegetation shall be retained and protected; during the months of October through March, when seeding may be impractical, an anchored mulch or sod shall be applied as approved by the Planning Board or by its Designee; diversions and/or prepared outlets may be required in critical areas during construction.
21. Permanent seeding should be undertaken in the spring from March through May, and in late summer and early fall from August to October 15. During the peak summer months and in the fall after October 15, when seeding is found to be impractical, an appropriate temporary mulch shall be applied. Permanent seeding may be undertaken during the summer if plans provide for adequate mulching and watering.
22. Permanent vegetation and erosion control structures, as necessary, shall be installed preferably immediately after construction is completed but otherwise no later than the first full spring season immediately thereafter; they shall comply with the erosion and sedimentation vegetative practices recommended by the U.S. Soil Conservation Service;
23. Temporary ground cover or erosion/sedimentation controls shall be established on any unbuilt lots as required by the Planning Board;
24. Native species shall be used for re-vegetation;
25. All slopes steeper than 3:1 (h:v, 33.3%), as well as perimeter dikes, sediment basins or traps, and embankments shall, upon completion, be immediately stabilized with sod, seed and anchored straw mulch, or other approved stabilization measures. Areas outside of the perimeter sediment control system shall not be disturbed.
26. Monitoring and maintenance of erosion and sediment control measures throughout the course of construction shall be required. The applicant shall submit to the Planning Board, a complete Operation and Maintenance Plan for temporary and permanent erosion control measures, as part of the application package.

27. Temporary sediment trapping devices shall not be removed until permanent stabilization is established in all contributory drainage areas. Similarly, stabilization shall be established prior to converting sediment traps/basins into permanent (post-construction) stormwater management facilities. All facilities used as temporary measures shall be cleaned prior to being put into final operation.
28. All temporary erosion and sediment control measures shall be removed after final site stabilization. Disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within 30 days. The applicant's engineer shall submit written certification that this condition has been met.

### **G. Engineering Criteria**

Dentention, Retention and Infiltration basins shall meet the following requirements:

1. The forebay/sediment trap shall be at least 10 feet long and sized to hold at least the annual sediment loading.
2. Maintenance access shall be planted with grass and at least 10 feet wide with a maximum slope of 15% and a maximum cross slope of 3%.
3. A means to prevent soil compaction on the floor of the basin during construction shall be provided.
4. The treatment storage area shall be sized to hold 1 inch times the impervious area; OR the 1-year, 24-hour storm.
5. The perimeter of all basins shall be curvilinear so that from most edges of the basin, the whole basin will not be in view. A more traditionally shaped (oval or rectangular) basin may be permitted when conditions such as topography, parcel size, or other site conditions warrant. Basins shall follow natural landforms to the greatest extent possible or be shaped to mimic a naturally formed depression.
6. Place inlets and outlets to maximize the flow path through the facility. At a minimum, the flow path shall be twice as long as wide. Baffles, pond shaping or islands can be added within the permanent pool to increase the flow path. If there are multiple inlets, the length-to-width ratio shall be based on the average flow path length for all inlets.
7. Minimum 1 foot of freeboard above the 25-year storm elevation.

8. The interior slopes of the basin within the pool area shall not exceed a slope of three horizontal to one vertical.
9. A minimum of six inches (6") of topsoil shall be provided for all planting ground cover beds or lawn areas.
10. Low flow outlets shall be designed to prevent clogging.
11. For basins that cannot infiltrate the water quality volume, use a soil filter conforming to the following:
  - a. Impoundment Depth – Peak storage depth within the filter area for water quality volume may not exceed eighteen inches (18').
  - b. Pipe layout and spacing – Layout of the pipe underdrain system must be sufficient to effectively drain the entire filter area. There must be at least one line of underdrain pipe for every eight feet (8') of the filter area's width. The slope of the pipe must be 1% or greater.
  - c. Pipe bedding – Minimum twelve inches (12") over top of drainage pipe, six inches (6") thick at sides, and 6 inches below drainage pipe of clean well-graded gravel.
  - d. Filter bed – The soil must consist of loamy, coarse sand. The soil filter must extend across the bottom of the entire filter area. The soil must be at least eighteen inches (18") deep and underlain by a 3" thick filter layer of pea gravel and a gravel pipe bedding.
  - e. Surface Cover – The top of the underdrain system must be covered with a four inch (4") layer of sandy loam and then covered with plantings consisting of species tolerant of frequent inundation.
  - f. Underdrain outlet – Each system must discharge to an area capable of withstanding concentrated flows and saturated conditions without eroding.
  - g. Groundwater Setback- Within a Watershed or Groundwater Protection Area, or within 100' of private drinking water wells, there should be a 2' separation between the bottom of the basin and the seasonal high groundwater elevation.

## **H. Hydrologic and Hydraulic Criteria for All Designs**

1. Impervious cover shall be measured from the site plan and shall include any material or structure on or above the ground that prevents water from infiltrating through the underlying soil. Impervious surface is defined to include, without limitation: paved parking lots, sidewalks, roof tops, driveways, patios, and paved roads.
2. Determination of flooding and channel erosion impacts to receiving streams due to land development projects shall be measured at each point of discharge from the development project and such determination shall include any runoff from the balance of the watershed which also contributes to that point of discharge.
3. The specified design storms shall be defined as a 24-hour storm using the rainfall distribution recommended by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).
4. Proposed residential, commercial, or industrial subdivisions shall apply these stormwater management criteria to the land development as a whole. Individual lots in new subdivisions shall not be considered separate land development projects, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate land development and shall be used in all engineering calculations.

# Andover Planning Board

## Application For Stormwater Management Permit

(Article XVI of the Andover Code of By-laws)

### GENERAL INSTRUCTIONS

An applicant for a Stormwater Management Permit must file with the Planning Board a completed application package, in accordance with the requirements of the Stormwater Management and Erosion Control Bylaw and Regulations. Timelines concerning the review process will not begin until the Planning Board has determined that the application is complete and decisions from other Boards and Commissions have been concluded.

1. Any application not accompanied by the appropriate fee shall be deemed incomplete. Payment must be made to the Town of Andover money order, bank or certified check payable to the Town of Andover.
2. An Applicant's failure to pay any additional review or inspection fee within five business days of receipt of the notice that further fees are required shall be grounds for disapproval.
3. The Planning Board will publish the public notice. The Planning Board is responsible for sending abutter notification.. The applicant shall pay all costs associated with the publication and notification requirements.

Professional review fees include engineering review, legal review, and clerical fees associated with the public review and permit processing. A fee estimate may be provided by the Planning Board's consultant. The applicant may be required to establish an escrow account with the Town to cover the review fees. If the escrow account becomes depleted, the applicant will be required to renew the escrow account in order to continue the review of the application.

Applicant's Name \_\_\_\_\_

Applicant's Address \_\_\_\_\_

Applicant's Phone \_\_\_\_\_

Owners' Names(s) \_\_\_\_\_

Owners' Address \_\_\_\_\_

Owner's Phone \_\_\_\_\_

The Stormwater Management Permit involves property where owner's title to the land is derived under deed from \_\_\_\_\_, dated \_\_\_\_\_, and recorded in the Essex North Registry of Deeds, Book \_\_\_\_\_, Page \_\_\_\_\_, or Land Court Certificate of Title No \_\_\_\_\_, Registered in \_\_\_\_\_ District, Book \_\_\_\_\_, Page \_\_\_\_\_.

The project is located on the parcel shown on Assessors Map \_\_\_\_\_, Parcel \_\_\_\_\_.

Project street address \_\_\_\_\_

Give a brief summary of the nature of the project:

The property (building) is described as being located at \_\_\_\_\_;

It is currently used as \_\_\_\_\_,

The changes proposed are \_\_\_\_\_

Planned start date: \_\_\_\_\_, Planned completion date: \_\_\_\_\_

Total area to be disturbed? \_\_\_\_\_ square feet

Total area of the site (lot) \_\_\_\_\_ square feet

Zoning District \_\_\_\_\_

Will there be disturbance of any slope greater than 25-35%? \_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, give the area of the slope disturbance. \_\_\_\_\_ square feet

Please list other narratives and plans (graphics) submitted with this application.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

Attach application fee and supporting documents.

**Certification**

I, the undersigned, hereby certify that I have read and understand the requirements and conditions of the Town of Andover Stormwater Management and Erosion Control Bylaw and Regulations and that the information included in the application materials is accurate and truthful to the best of my knowledge. (sign and print name and date)

Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name \_\_\_\_\_  
(please print)

Applicant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_  
(please print)

(Office use only)  
SMP # \_\_\_\_\_