

Town of Wilmington
Planning Board



Comprehensive Stormwater Management Regulations

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By: Wilmington Planning Board

COMPREHENSIVE STORMWATER MANAGEMENT REGULATIONS
Town of Wilmington, MA

TABLE OF CONTENTS

1. PURPOSE	2
2. DEFINITIONS	2
3. AUTHORITY	2
4. ADMINISTRATION.....	2
5. APPLICABILITY.....	2
6. STORMWATER MANAGEMENT PERMIT (SMP) PROCEDURES AND REQUIREMENTS.....	3
6.1 Permit Required Prior to Activity	3
6.2 Time Frame to Commence Activity.....	3
6.3 Entry.....	3
6.4 Filing Application	3
6.5 Application Fee	3
6.6 Public Hearings	3
6.7 Actions	4
6.8 Failure to Act.....	4
6.9 Plan Changes	4
6.10 Appeals of Actions of the Planning Board	4
6.11 Project Completion.....	4
6.12 Stormwater Management Plan	4
6.13 Erosion and Sediment Control Plan.....	4
6.14 Operation and Maintenance Plan	5
7. SIMPLE STORMWATER MANAGEMENT PERMIT (SSMP) PROCEDURES AND REQUIREMENTS.....	5
8. STORMWATER MANAGEMENT CRITERIA	7
8.1 Massachusetts DEP Stormwater Management Standards	7
8.2 Post-Development Additional Criteria.....	7
8.3 Erosion and Sediment Control Additional Criteria	7
9. WAIVERS	8
10. SURETY	8
11. CONSTRUCTION INSPECTIONS	8
11.1 Construction Commencement	8
11.2 Stormwater Management System Construction Inspection.....	8
11.3 Erosion and Sediment Control Inspection	9
11.4 Inadequacy of Stormwater Management System or Erosion and Sediment Controls	10
12. PERPETUAL INSPECTION AND MAINTENANCE	10
13. ENFORCEMENT	11
14. SEVERABILITY.....	12
 Appendix A: Definitions	
Appendix B: Stormwater Management Plan Contents	
Appendix C: Erosion and Sediment Control Plan Contents	
Appendix D: Operation and Maintenance Plan Contents	
Appendix E: Post-Development Additional Criteria	
Appendix F: Erosion and Sediment Control Additional Criteria	

SECTION 1. PURPOSE

The purpose of these Stormwater Management Regulations is to protect the Town of Wilmington's water bodies and groundwater and to safeguard the public health, safety, welfare, and the environment. Increased and contaminated stormwater runoff associated with construction sites, developed land uses and the accompanying increase in impervious surface are major causes of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands, and groundwater.

SECTION 2. DEFINITIONS

The definitions contained herein apply to issuance of a Stormwater Management Permit (SMP) or Simple Stormwater Management Permit (SSMP) established by the Town of Wilmington Stormwater Management Bylaw (Bylaw) and implemented through these Stormwater Management Regulations (Regulations). Terms not defined in this section shall be construed according to their customary and usual meaning unless the context indicates a special or technical meaning. Definitions are provided in Appendix A.

SECTION 3. AUTHORITY

- 3.1 The Rules and Regulations contained herein have been adopted by the Planning Board in accordance with the Town of Wilmington Stormwater Management Bylaw.
- 3.2 Nothing in the Bylaw or these Regulations is intended to replace the requirements of the Town of Wilmington Zoning Bylaw, the Town of Wilmington General Bylaw, any other Bylaw that may be adopted by the Town of Wilmington, or any Rules and Regulations adopted there under. Any activity subject to the provisions of the above-cited Bylaws or Regulations must comply with the specifications of each.
- 3.3 These Stormwater Management Regulations may be periodically amended by the Planning Board in accordance with the procedures outlined in Section 3.2 of the Town of Wilmington Stormwater Management Bylaw.

SECTION 4. ADMINISTRATION

- 4.1 The Planning Board or its agent, the Director of Planning & Conservation, shall administer, implement and enforce these Regulations.
- 4.2 The Planning Board may designate by mutual agreement another Town board, commission, or department, including but not limited to the Building Department, Conservation Commission, Board of Health, Department of Public Works, or Division of Engineering as its authorized agent or designee for the purposes of site inspections of the stormwater management system, erosion and sediment controls, or long-term site inspections in accordance with these Regulations.
- 4.3 Town boards, including, but not limited to the Conservation Commission, Planning Board, Zoning Board of Appeals, Department of Public Works, Building Department, Board of Health, and any other applicable town board or department may formally adopt these Regulations, or specific sections of these Regulations, either directly or by reference.
- 4.4 The Planning Board will distribute one copy of the SMP or SSMP application package to each of the other relevant boards, including the Conservation Commission, Department of Public Works, Division of Engineering, Board of Health, and the Building Department.
- 4.5 The Planning Board may, from time to time, amend these Regulations after holding a public hearing. Notice of the time, place and subject matter shall be published in a newspaper of general circulation in Wilmington once, not less than seven (7) days before the day of such hearing.

SECTION 5. APPLICABILITY

- 5.1 These Regulations apply to all activities in accordance with the Applicability Section of the Stormwater Management Bylaw and further described in this section. Projects and/or activities within the jurisdiction of the Town of Wilmington Stormwater Management Bylaw must obtain a Stormwater Management Permit (SMP) or Simple Stormwater Management Permit (SSMP) from the Planning Board in accordance with the permit procedures and requirements defined in Sections 6.0 and 7.0 of these Regulations.

SECTION 6. STORMWATER MANAGEMENT PERMIT (SMP) PROCEDURES AND REQUIREMENTS

- 6.1 **PERMIT REQUIRED PRIOR TO ACTIVITY** - No land owner or land operator shall receive any of the building, grading or other land development permits required for land disturbance activities without first meeting the requirements of the Bylaw or these Regulations prior to commencing the proposed activity.
- 6.2 **TIME FRAME TO COMMENCE ACTIVITY** - Should a land-disturbing activity associated with an approved plan in accordance with this section not begin during the thirty-six (36)-month period following permit issuance, the Planning Board may evaluate the existing stormwater management plan to determine whether the plan still satisfies local program requirements and to verify that all design factors are still valid. If the authority finds the previously filed plan to be inadequate, a modified plan shall be submitted and approved prior to the commencement of land-disturbing activities.
- 6.3 **ENTRY** - Filing an application for a permit grants the Planning Board, its agent, or designee as specified per Section 4.0 of these Regulations, permission to enter the site throughout the term of the permit to verify the information in the application and to inspect for compliance with the resulting permit.
- 6.4 **FILING APPLICATION** - The applicant shall file with the Planning Board, one (1) original, one (1) electronic copy, and ten (10) copies of a completed application package for a Stormwater Management Permit (SMP). Permit issuance is required prior to any site altering activity. While the applicant can be a representative, the permittee must be the owner of the site. The SMP application package shall include:
- 6.4.1 A completed Application Form with original signatures of all owners;
 - 6.4.2 Payment of the application fees, if applicable;
 - 6.4.3 Stormwater Management Plan;
 - 6.4.4 Erosion and Sediment Control Plan; and
 - 6.4.5 Operation and Maintenance Plan;
- 6.5 **APPLICATION FEE** - The Planning Board shall obtain with each submission an Application Fee established by the Planning Board to cover expenses connected with the review of the Stormwater Management Permit.
- 6.5.1 For projects requiring a Stormwater Management Permit (SMP) that are also under the jurisdiction of the Planning Board or the Conservation Commission, no application fee is required.
 - 6.5.2 For projects requiring a Simple Stormwater Management Permit (SSMP), no application fee is required.
 - 6.5.3 A non-refundable application fee of \$100 shall be due and payable to the Town of Wilmington at the time an application is filed.
 - 6.5.4 This fee is in addition to any other local or state fees that may be charged under any other law, bylaw, or local codes.
 - 6.5.5 The fee schedule may be reduced or increased by the Planning Board. Any such change shall be made at a posted public hearing of the Planning Board not less than thirty (30) days prior to the date upon which the change is to be effective.
- 6.6 **PUBLIC HEARINGS**
- 6.6.1 The Planning Board need not hold a public hearing for projects or activities outside the currently regulated jurisdiction of the Planning Board or the Conservation Commission.
 - 6.6.2 For projects requiring a Stormwater Management Permit (SMP) that are also under the jurisdiction of the Planning Board, the applicant is not required to pay an application fee and the Planning Board shall hold a public hearing in accordance with its own regulations and procedures.

- 6.6.3 For projects requiring a Stormwater Management Permit (SMP) that are not under the jurisdiction of the Planning Board but are under the jurisdiction of the Conservation Commission, the applicant is not required to pay an application fee and the Conservation Commission shall hold a public hearing in accordance with its own regulations and procedures, and provide comments, if any, to the Planning Board for issuance of the SMP.
- 6.6.4 For projects requiring a Stormwater Management Permit (SMP) that are under the jurisdiction of the Planning Board and the Conservation Commission, the applicant is not required to pay an application fee and the Conservation Commission shall hold a public hearing in accordance with its own regulations and procedures and supply a recommendation to the Planning Board.
- 6.7 ACTIONS - The action of the Planning Board or its designee, rendered in writing, shall consist of one of the following:
- 6.7.1 Approval of the Stormwater Management Permit Application based upon determination that the proposed plan meets the Standards in Section 8.0 of these Regulations and will adequately protect the water resources of the community and is in compliance with the requirements set forth in the Bylaw and these Regulations;
- 6.7.2 Approval of the Stormwater Management Permit Application subject to any conditions, modifications or restrictions required by the Planning Board which will ensure that the project meets the Standards in Section 8.0 of these Regulations and adequately protects water resources, set forth in the Bylaw and these Regulations;
- 6.7.3 Disapproval of the Stormwater Management Permit Application based upon a determination that the proposed plan, as submitted, does not meet the Standards in Section 8.0 of these Regulations or does not adequately protect water resources, as set forth in the Bylaw and these Regulations.
- 6.8 FAILURE TO ACT - Failure of the Planning Board to take final action on an Application within the required time frame, as follows, shall be deemed approval of said Application, unless an extension is granted.
- 6.8.1 If a Stormwater Management Permit Application is submitted in conjunction with another primary application, including but not limited to 81G Roadway Improvement Plan, Preliminary Subdivision Plan, Definitive Subdivision Plan, and Site Plan Review, the action deadline for the Stormwater Management Permit shall coincide with the action deadline of the primary Planning Board application.
- 6.8.2 If a Stormwater Management Permit Application is submitted but not in conjunction with another application, the Planning Board shall take final action upon the Application within twenty-one (21) days of receipt of the completed Application. Failure of the Planning Board to take final action on an Application within the required time frame shall be deemed approval of said Application, unless an extension is granted.
- 6.9 PLAN CHANGES - The permittee must notify the Planning Board in writing of any drainage change or alteration in the system authorized in a Stormwater Management Permit before any change or alteration is made. If the Planning Board determines that the change or alteration is significant, based on the Stormwater Management Standards in 8.0 of these Regulations and accepted construction practices, the Planning Board may require that an amended application be filed. If any change or deviation from the Stormwater Management Permit occurs during a project, the Board may require the installation of interim measures before approving the change.
- 6.10 APPEALS OF ACTIONS OF THE PLANNING BOARD - A decision of the Planning Board shall be final. Further relief of a decision by the Planning Board made under these Regulations shall be reviewable in the Superior Court in an action filed within 60 days thereof, in accordance with M.G.L. Ch 249. § 4. Such an appeal shall result in revocation of the written approval until the appeal process has been resolved.
- 6.11 PROJECT COMPLETION - At completion of the project the permittee shall submit two (2) as-built record drawings of all stormwater controls and treatment best management practices required for the site as required in Section 8.0 of these Regulations. The as-built drawing shall show deviations from the approved plans, if any, and be certified by a Registered Professional Engineer (PE) licensed in the Commonwealth of Massachusetts.
- 6.12 STORMWATER MANAGEMENT PLAN
- 6.12.1 The Stormwater Management Plan shall contain sufficient information for the Planning Board to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the applicant for

reducing adverse impacts from stormwater runoff. This plan shall be in accordance with the criteria established in these Regulations and must be submitted with the stamp and signature of a Registered Professional Engineer (PE) licensed in the Commonwealth of Massachusetts.

- 6.12.2 The Stormwater Management Plan shall fully describe the project in drawings, narrative, and calculations. Required contents of the Stormwater Management Plan are provided in the Appendices Section of the Regulations.
- 6.12.3 Low Impact Development (LID) site planning and design strategies shall be used to the maximum extent feasible.

6.13 EROSION AND SEDIMENT CONTROL PLAN

- 6.13.1 An Erosion and Sediment Control Plan is required at the time of application for all projects. Plan Approval by the Planning Board is required prior to any site altering activity. The plan shall be designed to ensure compliance with the Permit, these Regulations, and if applicable, the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Construction Activities. In addition, the plan shall ensure that the Massachusetts Surface Water Quality Standards (314 CMR 4.00) are met in all seasons.
- 6.13.2 If a project requires a Stormwater Pollution Prevention Plan (SWPPP) per the NPDES General Permit for Construction Activities, the Board may require the applicant to submit a copy of the SWPPP or the permit file number.
- 6.13.3 The Erosion and Sediment Control Plan shall contain sufficient information to describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed erosion and sedimentation controls. The applicant shall submit such material as is necessary to show that the proposed development will comply with the design requirements listed in Section 8.0. Required contents of the Erosion and Sediment Control Plan are provided in Appendix C

6.14 OPERATION AND MAINTENANCE PLAN

- 6.14.1 An Operation and Maintenance Plan (O&M Plan) is required at the time of application for all projects. The plan shall be designed to ensure compliance with the Permit, the Bylaw, these Regulations and the Massachusetts Surface Water Quality Standards, 314, CMR 4.00 in all seasons and throughout the life of the system. The Planning Board shall make the final decision as to what maintenance option is appropriate in a given situation by considering natural features, proximity of site to water bodies and wetlands, extent of impervious surfaces, size of the site, types of stormwater management structures, and potential need for ongoing maintenance. The O&M Plan shall be referenced in the deed and recorded at the registry, with a copy on file with the Planning Board and the Building Inspector, and shall be an ongoing requirement.
- 6.14.2 Required contents of the Operation and Maintenance Plan are provided in Appendix D.
- 6.14.3 Stormwater Management Access Easements
 - 6.14.3.1 The Planning Board may require that stormwater management easements be conveyed by the property owner(s) to the Town of Wilmington 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 maintenance.
 - 6.14.3.2 Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Planning Board.
 - 6.14.3.3 Easements shall be recorded with the Middlesex North Registry of Deeds prior to issuance of a Certificate of Occupancy or prior to the release of lots in the case of a subdivision.
- 6.14.4 Changes to Operation and Maintenance Plans

- 6.14.4.1 The owner(s) of the stormwater management system must notify the Planning Board of changes in ownership or assignment of financial responsibility thirty (30)-days in advance.
- 6.14.4.2 The maintenance schedule in the Operation & Maintenance (O&M) Plan may be amended to achieve the purposes of this Regulation 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.

SECTION 7. SIMPLE STORMWATER MANAGEMENT PERMIT (SSMP) PROCEDURES AND REQUIREMENTS

- 7.1 **AUTHORITY** – By the authority granted in the Stormwater Management Bylaw, the Planning Board has developed a Simple Stormwater Management Permit (SSMP).
- 7.2 **APPLICABILITY** – Projects eligible for a Simple Stormwater Management Permit (SSMP) in lieu of a Stormwater Management Permit (SMP) are identified in the Stormwater Management Bylaw. If a project cannot meet each of the requirements set forth in this Section, then the applicant shall file a Stormwater Management Permit (SMP).
- 7.3 **ADMINISTRATION** – The Planning Board or its agent, the Director of Planning & Conservation shall administer the SSMP. The Planning Board will distribute one copy of the SSMP application package to all relevant boards.
- 7.4 **FILING APPLICATION** – The applicant shall file with the Planning Board, one (1) original, one (1) electronic copy and four (4) copies of a completed application package for a Simple Stormwater Management Permit (SSMP). Permit issuance is required prior to any site altering activity. While the applicant can be a representative, the permittee must be the owner of the site. The SSMP Application package shall include:
 - 7.4.1 A completed SSMP Application Form with original signatures of all owners;
 - 7.4.2 Contact information, including a phone number available twenty-four (24)-hours per day;
 - 7.4.3 Description or plan that indicates location of the project and assessor map and parcel information;
 - 7.4.4 A plan or sketch that describes the project;
 - 7.4.5 A brief description of the project, explaining how the project meets eligibility requirements;
 - 7.4.6 A brief description of plans to prevent erosion and control sediments during construction;
 - 7.4.7 A brief description of plans to perpetually inspect and maintain the stormwater management systems; and
 - 7.4.8 Other materials as the Planning Board may require to determine the eligibility of the proposed work for a SSMP.
- 7.5 **FEES** – Permits issued under Simple Stormwater Management Permits (SSMPs) do not require an application fee.
- 7.6 **PUBLIC HEARINGS** – Permits issued under Simple Stormwater Management Permits (SSMPs) do not require a public hearing.
- 7.7 **ACTIONS** – The Planning Board's action (or the action of its agent), rendered in writing, shall consist of either approval, approval with conditions, or disapproval of the permit. The Planning Board or its agent will render a decision within twenty-one (21) days of receipt of a complete application package. The Planning Board or its agent will have the right to provide project conditions in addition to the required standard conditions as necessary to meet the requirements of the Bylaw.
- 7.8 **TIME FRAME TO COMMENCE ACTIVITY** – The approved plan for the SSMP land-disturbing activity must commence within the thirty-six (36)-month period following permit issuance, otherwise the Planning Board or its agent may evaluate the existing stormwater management plan to determine whether the plan still satisfies local program requirements and to verify that all design factors are still valid. If the authority finds the previously filed plan to be inadequate, a modified plan shall be submitted and approved prior to the commencement of land-disturbing activities.
- 7.9 **PLAN CHANGES** – The permittee must notify the Planning Board or its agent in writing of any drainage change or alteration to the stormwater management system authorized in a Simple Stormwater Management Permit (SSMP) if the change or alteration changes the capacity or method of infiltration or changes a component of a Best Management Practice.

- 7.10 APPEALS OF ACTIONS OF THE PLANNING BOARD – Appeals shall be in accordance with appeals for a SMP as described in Section 6.10 of these Regulations.
- 7.11 CONSTRUCTION INSPECTIONS – Unless specifically required by a condition in the SSMP, permits issued under Simple Stormwater Management Permits do not require construction inspection or monitoring by the Town and do not require construction inspection reporting.
- 7.12 PROJECT COMPLETION – Unless specifically required by a condition in the SSMP, no as-built record drawings and no Stormwater Certificate of Completion is required to close out the SSMP once the work is completed.
- 7.13 STANDARD PERMIT CONDITIONS – By submitting an application for a SSMP, the applicant agrees to following standard conditions. The Planning Board may require additional conditions as part of the permit as necessary to meet the requirements of the Bylaw:
- 7.13.1 Standard Conditions for any activity requiring an SSMP are as follows:
- a. The development shall not alter the flow of stormwater runoff leaving the site, nor shall it alter the stormwater flow to any adjoining properties, public ways, or wetland resource areas.
 - b. To the maximum extent practicable, the applicant shall manage stormwater runoff from the development by using Infiltration Best Management Practices. Stormwater runoff from on-site impervious surfaces shall be directed to Infiltration Best Management Practices to promote groundwater recharge and reduce stormwater runoff from the project site. Infiltration Best Management Practices shall be selected and sized using the latest edition of the Massachusetts Stormwater Handbook.
 - c. The Applicant shall prevent construction impacts such as erosion, sedimentation and other pollutant discharges during construction by providing Construction Period Best Management Practices prior to the commencement of land disturbing activities. Construction Best Management Practices shall be selected, located, inspected and maintained using the latest edition of the “Massachusetts Erosion and Sedimentation Control Guidelines” available online.
 - d. The applicant shall provide and maintain erosion and sedimentation controls until the site is permanently stabilized.
 - e. The applicant and/or successor shall perpetually inspect and maintain the site and stormwater management systems. Maintenance requirements for a site shall remain in perpetuity with the parcel.

SECTION 8. STORMWATER MANAGEMENT PERMIT CRITERIA

8.1 MASSACHUSETTS DEP STORMWATER MANAGEMENT STANDARDS

At a minimum, all projects subject to a SMP, as determined by the Applicability Section 2 of the Wilmington Stormwater Management Bylaw, shall comply with the performance standards of the most recent version of Massachusetts Department of Environmental Protection (DEP) Stormwater Management Standards and accompanying Stormwater Management Handbook, as well as the criteria contained in this section.

8.2 POST-DEVELOPMENT ADDITIONAL CRITERIA

All projects subject to a SMP shall comply with the performance criteria provided in the Appendices Section of these Regulations, unless otherwise provided for in these Regulations.

8.3 EROSION AND SEDIMENT CONTROL ADDITIONAL CRITERIA

All erosion and sediment controls for all projects subject to a SMP shall comply with the performance criteria provided in the Appendices Section of these Regulations, unless otherwise provided for in these Regulations.

SECTION 9. WAIVERS

- 9.1 The Planning Board may waive strict compliance with any requirement of the Town of Wilmington Stormwater Management Bylaw or Regulations promulgated hereunder, where such action is allowed by federal, state and local statutes and/or regulations, is in the public interest, or not inconsistent with the purpose and intent of the Town of Wilmington Stormwater Management Bylaw.
- 9.2 **WAIVER PROCESS** – Any applicant may submit a written request to be granted such a waiver. Such a request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of the Bylaw does not further the purposes or objectives of the Bylaw or these Regulations.
- 9.3 All waiver requests shall be discussed and voted on at the time of issuance of a decision for the project.
- 9.4 If in the Planning Board's opinion, additional time or information is required for review of a waiver request, the Planning Board may request an extension of the review period.

SECTION 10. SURETY

10.1 STORMWATER COMPLETION SURETY

The Board may require the permittee to post before the start of or during land disturbance or construction activity, a surety bond, irrevocable letter of credit, cash, or other security acceptable to the Treasurer of the Town of Wilmington. The bond shall be in an amount deemed sufficient by the Board to ensure that the work will be completed in accordance with the permit. If the project is phased, the Board may release part of the bond as each phase is completed in compliance with the permit, but the bond may not be fully released until the Board has received the final inspection report and issued a Certificate of Completion or eighteen (18) months from project completion, whichever is longer.

SECTION 11. CONSTRUCTION INSPECTIONS

11.1 CONSTRUCTION COMMENCEMENT

- 11.1.1 **NOTICE OF CONSTRUCTION COMMENCEMENT** - The applicant must notify the Planning Board fourteen (14) days prior to the commencement of construction. In addition, the applicant must notify the Planning Board fourteen (14) days prior to construction of critical components of any stormwater management facility.
- 11.1.2 **PRE-CONSTRUCTION MEETING** - The Planning Board shall require, unless waived by the Planning Board, a pre-construction meeting prior to starting clearing, excavation, construction or land disturbing activity by the permittee. The permittee's technical representative, the general contractor or any other person with authority to make changes to the project, shall meet with the Board or its agent to review construction sequencing and the permitted plans and their implementation.

11.2 STORMWATER MANAGEMENT SYSTEM CONSTRUCTION INSPECTION

- 11.2.1 The applicant or its authorized representative is responsible for performing stormwater management system construction inspections. At the discretion of the Planning Board, the Planning Board or its agent will monitor the stormwater management system construction. All inspections shall be documented and, as required written reports shall be prepared in accordance with engineering division practices.
- 11.2.2 The applicant or its authorized representative shall inspect the project site at the following stages, at a minimum:
- 11.2.2.1 Initial Site Inspection: prior to any installations.
- 11.2.2.2 Stormwater Management System Inspection: An inspection will be made of the completed stormwater management system, prior to backfilling of any underground drainage or stormwater conveyance structures.

11.2.2.3 Inspection of Subgrade: after backfilling.

11.2.2.4 Final Inspection

- 11.2.3 AS-BUILT PLANS - After the stormwater management system has been constructed and before the surety has been released, all applicants are required to submit to the Planning Board actual "as built" plans for any stormwater management facilities or practices after final construction is completed and must be certified by a Professional Engineer. As built plans shall be full size plans, which reflect the "as built" conditions, including all final grades, developed by a Professional Engineer registered in the Commonwealth of Massachusetts. All changes to project design should be recorded in red ink on plans to define changes made. All work deleted, corrections in elevations, and changes in materials, should be shown on the as built drawings.

11.3 EROSION AND SEDIMENT CONTROL INSPECTION

- 11.3.1 To ensure erosion control practices are in accord with the filed Erosion and Sediment Control Plan, Erosion Control Inspections will be conducted by the applicant or its authorized representative at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm event of 0.25 inches or greater from the start of construction until the site is permanently stabilized. The permittee is required to notify the Planning Board of any change in inspection frequency, including termination of inspections due to site stabilization.
- 11.3.2 Inspections must be conducted by qualified personnel (provided by the operator or cooperatively by multiple operators). "Qualified personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.
- 11.3.3 Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Sedimentation and erosion control measures identified in the Erosion and Sediment Control Plan must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.
- 11.3.4 For each inspection required above, an inspection form must be completed and kept on-site, or submitted to the Planning Board upon request. The form must include the following information, at a minimum:
- 11.3.4.1 The inspection date;
 - 11.3.4.2 Names, titles, and qualifications of personnel making the inspection;
 - 11.3.4.3 Weather information and a description of any discharges occurring at the time of the inspection;
 - 11.3.4.4 Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
 - 11.3.4.5 Location(s) of discharges of sediment or other pollutants from the site;
 - 11.3.4.6 Location(s) of Best Management Practices (BMPs) that need to be maintained;
 - 11.3.4.7 Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
 - 11.3.4.8 Location(s) where additional BMPs are needed that did not exist at the time of inspection;
 - 11.3.4.9 Corrective action required including any changes to the SWPPP necessary and implementation dates; and
 - 11.3.4.10 Corrective actions performed.
- 11.3.5 A record of each inspection and of any actions taken must be retained for at least three (3) years from the date that permit coverage expires or is terminated. The inspection reports must identify any incidents of non-compliance with the permit conditions. Where a report does not identify any incidents of non-

compliance, the report must contain a certification that the construction project or site complies with the permit.

- 11.3.6 All erosion and sediment control measures and other protective measures identified in the Erosion and Sediment Control Plan must be maintained in effective operating condition. If site inspections identify BMPs that are not operating effectively, maintenance must be performed as soon as possible and before the next storm event whenever practicable to maintain the continued effectiveness of storm water controls.
- 11.3.7 If existing BMPs need to be modified or if additional BMPs are necessary for any reason, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as possible.

11.4 INADEQUACY OF STORMWATER MANAGEMENT SYSTEM OR EROSION AND SEDIMENT CONTROLS

- 11.4.1 If the stormwater management 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 applicant prior to issuance of an occupancy permit. If the applicant fails to act, the Planning Board may use the surety bond to complete the work.
- 11.4.2 If the erosion and sediment control system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the Erosion and Sediment Control Plan, it shall be corrected by the applicant upon notice.
- 11.4.3 If the Planning Board determines that there is a failure to comply with the Erosion and Sediment Control Plan, the property owner shall be notified in writing of the nature of the violation and the required corrective actions. A Stop Work Order shall be issued until any violations are corrected and all work previously completed has received approval by the Planning Board.
- 11.4.4 If the Planning Board determines that there is a failure to comply with the Stormwater Management Plan, the property owner shall be notified in writing of the nature of the violation and the required corrective actions. A Stop Work Order shall be issued until any violations are corrected and all work previously completed has received approval by the Planning Board.

SECTION 12. PERPETUAL INSPECTION AND MAINTENANCE

- 12.1 MAINTENANCE RESPONSIBILITY - The owner of the property on which work has been performed for a project subject to a Stormwater Management Permit (SMP) 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 sedimentation controls, and other protective devices. Such repairs or restoration and maintenance shall be in accordance with approved plans.

12.2 MAINTENANCE INSPECTIONS

- 12.2.1 Stormwater management facilities and practices included in an O&M Plan with a Maintenance Agreement in accordance with Section 6.14 of these Regulations must undergo ongoing inspections to document maintenance and repair needs and ensure compliance with the requirements of the agreement, the Plan, and these Regulations.
- 12.2.2 Inspections shall be performed by the owner in accordance with the O&M Plan in the approved stormwater management permit. In addition, a maintenance agreement as specified under Section 6.14 of these Regulations between the owner and the Planning Board shall be executed for privately-owned stormwater management systems that specify the Responsible Party for conducting long-term inspections.
- 12.2.3 Inspection reports for all stormwater management systems shall be kept on file by the site owner and submitted to the Planning Board upon request. Inspection reports for stormwater management systems shall include:

- 12.2.3.1 The date of inspection;
- 12.2.3.2 Name of inspector;
- 12.2.3.3 The condition of each BMP, including components such as:
 - a. Pretreatment devices;
 - b. Vegetation or filter media;
 - c. Fences or other safety devices;
 - d. Spillways, valves, or other control structures;
 - e. Embankments, slopes, and safety benches;
 - f. Reservoir or treatment areas;
 - g. Inlet and outlet channels and structures;
 - h. Underground drainage;
 - i. Sediment and debris accumulation in storage and forebay areas (including catch basins);
 - j. Any nonstructural practices; and
 - k. Any other item that could affect the proper function of the stormwater management system.;
- 12.2.3.4 Description of the need for maintenance;
- 12.2.3.5 Description of maintenance performed.

12.3 RIGHT-OF-ENTRY FOR INSPECTION - The terms of the inspection and maintenance agreement as specified in Section 6.14 of these Regulations shall provide for the Planning Board or its agent to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. The Planning Board, its agents, officers, and employees shall have authority to enter upon privately owned land for the purpose of performing their duties under this Regulation and may make or cause to be made such examinations, surveys, or sampling as the Planning Board deems necessary, subject to the constitutions and laws of the United States and the Commonwealth.

12.4 RECORDS OF MAINTENANCE AND REPAIR ACTIVITIES - Parties responsible for the operation and maintenance of a stormwater management facility shall provide an annual certification that includes records of all maintenance and repairs that occurred over the last twelve (12) months to the Planning Board . Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation and of all maintenance and repairs, and shall retain the records for at least five (5) years.

12.5 FAILURE TO MAINTAIN

12.5.1 If a responsible person fails or refuses to meet the requirements of the inspection and maintenance agreement, the Planning Board, after thirty (30) days written notice (except, that in the event the violation constitutes an immediate danger to public health or public safety, twenty-four (24) hours' notice shall be sufficient), may correct a violation of the design standards or maintenance requirements by performing the necessary work to place the facility or practice in proper working condition. The Planning Board shall assess the owner(s) of the facility for the cost of repair work, which may be a special assessment against the property owner(s) or a lien on the property.

12.5.2 After notification is provided to the person responsible for carrying out the maintenance plan of any deficiencies discovered from an inspection of a stormwater management system, the person responsible for carrying out the maintenance plan shall have 30 days or other time frame mutually agreed to between the Planning Board and the person responsible for carrying out the maintenance plan to correct the deficiencies. The Planning Board or its agent shall then conduct a subsequent inspection to ensure completion of repairs.

SECTION 13. ENFORCEMENT

13.1 The Planning Board or an authorized agent of the Planning Board shall enforce the Bylaw, Regulations, orders, violation notices, and enforcement orders, and may pursue all civil, criminal and non-criminal remedies for such violations.

13.2 NOTICES AND ORDERS

- 13.2.1 The Planning Board or an authorized agent of the Planning Board may issue a written notice of violation or enforcement order to enforce the provisions of the Bylaw or Regulations there under, which may include requirements to:
- 13.2.1.1 Cease and desist from construction or land disturbing activity until there is compliance with the Bylaw and the Stormwater Management Permit (SMP) or Simple Stormwater Management Permit (SSMP);
 - 13.2.1.2 Repair, maintain, or replace the stormwater management system or portions thereof in accordance with the O&M Plan;
 - 13.2.1.3 Perform monitoring, analyses, and reporting;
 - 13.2.1.4 Fix adverse impact resulting directly or indirectly from malfunction of the stormwater management system.
- 13.2.2 If the Planning Board determines that abatement or remediation of adverse impacts is required, the order may set forth a deadline by which such abatement or remediation must be completed. Said order may further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town of Wilmington may, at its option, undertake such work, and the property owner shall reimburse the Town of Wilmington for expenses incurred.
- 13.2.3 Within thirty (30) days after completing all measures necessary to abate the violation or to perform remediation, the violator and the property owner shall be notified of the costs incurred by the Town of Wilmington including administrative costs. If the amount due is not received within thirty (30) days following a decision of the Planning Board affirming 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 M.G.L. c. 59, § 57, after the thirty-first 31st) day at which the costs first become due.
- 13.3 CRIMINAL PENALTY - Any person who violates any provision of the Bylaw, Regulation, order or permit issued there under, may be ordered to correct the violation and/or shall be punished by a fine of not more than three hundred dollars (\$300). Each day or part thereof that such violation occurs or continues shall constitute a separate offense.
- 13.4 NON-CRIMINAL DISPOSITION - As an alternative to criminal prosecution or civil action, the Town of Wilmington may elect to utilize the non-criminal disposition procedure set forth in M.G.L. c. 40, §21D and Section 4.3 of the Bylaw in which case the authorized agent of the Planning Board shall be the enforcing person. The penalty for each violation shall be three hundred dollars (\$300). Each day or part thereof that such violation occurs or continues shall constitute a separate offense.
- 13.5 APPEALS - The decisions or orders of the Planning Board shall be final. Further relief shall be to a court of competent jurisdiction.
- 13.6 REMEDIES NOT EXCLUSIVE - The remedies listed in the Bylaw and these Regulations are not exclusive of any other remedies available under any applicable federal, state or local law.

SECTION 14. SEVERABILITY

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

APPENDICES
Stormwater Management Regulations
Town of Wilmington, MA

APPENDIX A: DEFINITIONS

ALTER: Any activity that will measurably change the ability of a ground surface area to absorb water, will change existing surface drainage patterns, or will increase or decrease the rate or volume of flow from a site.

APPLICANT: A property owner or agent of a property owner who has filed an application for a stormwater management permit.

BEST MANAGEMENT PRACTICE (BMP): Structural, non-structural and managerial techniques that are recognized to be the most effective and practical means to prevent and/or reduce increases in stormwater volumes and flows, reduce point source and nonpoint source pollution, and promote stormwater quality and protection of the environment. "Structural" BMPs are devices that are engineered and constructed to provide temporary storage and treatment of stormwater runoff. "Nonstructural" BMPs use natural measures to reduce pollution levels and/or promote pollutant reduction by eliminating the pollutant source.

CLEARING: Any activity that removes or disturbs the vegetative surface cover.

COMMON PLAN FOR DEVELOPMENT: Development plan involving two (2) or more lots, or off-site improvements (i.e. roadway improvements) required for the development of a single lot.

CONVEYANCE: Any structure or device, including pipes, drains, culverts, curb breaks, paved swales or man-made swales of all types designed or utilized to move or direct stormwater runoff or existing water flow.

DEVELOPMENT: The modification of land to accommodate a new use or expansion of use, usually involving construction.

DISTURB: Any action, including removal of vegetation, that causes a change in the position, location, or arrangement of soil, sand, rock, gravel or similar earth material. This also includes pavement reconstruction and any areas disturbed during construction activities.

DRAINAGE EASEMENT: A legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

EROSION CONTROL: The prevention or reduction of the movement of soil particles or rock fragments due to stormwater runoff.

FLOODING: A local and temporary inundation or a rise in the surface of a body of water, such that it covers land not usually under water.

GRADING: Changing the level or shape of the ground surface.

GROUNDWATER: All water beneath any land surface including water in the soil and bedrock beneath water bodies.

IMPERVIOUS SURFACE: 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 surfaces (parking lots, sidewalks, driveways), rooftops, swimming pools, patios, and paved, gravel and compacted dirt surfaced roads.

INFILTRATION: The act of conveying surface water into the ground to permit groundwater recharge and the reduction of stormwater runoff from a project site.

LOW IMPACT DEVELOPMENT (LID): An ecosystem-based approach to land development and stormwater management that ensures that each development site is designed to protect, or restore, the natural hydrology of the site.

MASSACHUSETTS STORMWATER MANAGEMENT STANDARDS: The Stormwater Management Standards and accompanying Stormwater Handbook issued by the Department of Environmental Protection pursuant to authority under the Wetlands Protection Act, M.G.L. c. 131, § 40, and the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53. The Stormwater Management Standards are incorporated in the Wetlands Protection Act Regulations, 310 CMR 10.05(6)(k) and the Water Quality Certification Regulations, 314 CMR 9.06(6)(a) or as amended.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) or MUNICIPAL STORM DRAIN SYSTEM: The system 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 Wilmington.

NONPOINT SOURCE POLLUTION: Pollution from many diffuse sources caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into water resource areas.

NORMAL MAINTENANCE: Includes activities generally recognized as relating to the use of fertilizers, compost materials and other soil amendments; mowing and brush cutting; maintenance and repair of existing fences; and the cleaning, clearing, repairing or restoring of existing man-made or natural water management systems, such as ditches, channels, or other waterways. In all cases, normal maintenance does not include placing of fill or dredging water bodies.

OPERATION AND MAINTENANCE PLAN (O&M PLAN): A plan that defines the functional, financial and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to ensure that it continues to function as designed.

OWNER: A person with a legal or equitable interest in a property.

PERSON: Any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the Commonwealth or political subdivision thereof to the extent subject to Town Bylaws, administrative agency, public or quasi-public corporation or body, the Town of Wilmington, and any other legal entity, its legal representatives, agents, or assigns.

PRE-DEVELOPMENT: The conditions that exist at the time that plans for the land development of a tract of land are submitted to the Planning Board. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time prior to the first plan submission shall establish pre-development conditions.

POST-DEVELOPMENT: The conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land. Post-development refers to the phase of a new development or redevelopment project after completion and does not refer to the construction phase of a project.

RECHARGE: The replenishment of underground water reserves.

REDEVELOPMENT: Any construction, alteration, improvement, or resurfacing on a previously developed site provided there is no net increase in impervious area or change in drainage characteristics.

RESOURCE AREA: Any area protected under, including without limitation, the Massachusetts Wetlands Protection Act or Massachusetts Rivers Act.

RUNOFF: Rainfall, snowmelt, or groundwater flowing over the ground surface.

SEDIMENTATION: A process of depositing material that has been suspended and transported in water.

SIMPLE STORMWATER MANAGEMENT PERMIT (SSMP): A permit issued for an application that meets a set of pre-determined standards outlined in the Regulations to be adopted by the Planning Board under Section 2.3 of the Bylaw. By meeting these pre-determined standards, the proposed project will be presumed to meet the requirements and intent of the Bylaw.

SITE: The parcel of land being developed, or a designated planning area in which the development project is located.

SLOPE: The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance (e.g. a 4:1 slope) . It can also be expressed as a percentage of the vertical rise divided by the horizontal distance (e.g. a twenty-five percent (25%) slope).

STORMWATER MANAGEMENT: The use of structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, and/or peak flow discharge rates. Stormwater Management includes the use of Low-Impact Development (LID) management practices.

STORMWATER MANAGEMENT PERMIT (SMP): A permit issued by the Planning Board, after review of an application, plans, calculations, and other supporting documents, which is designed to protect the environment of the Town from the deleterious effects of uncontrolled and untreated stormwater runoff.

STOP WORK ORDER: An order issued which requires that all construction activity on a site be stopped.

TSS: Total Suspended Solids.

UTILITY SERVICE LINE: The part of a utility system that extends from a main utility line to a building or a structure.

WATER QUALITY VOLUME (WQV): The storage needed to capture a specified average annual stormwater runoff volume. Numerically (WQV) will vary as a function of drainage area or impervious area.

APPENDIX B: STORMWATER MANAGEMENT PLAN CONTENTS

The Stormwater Management Plan shall include, at a minimum:

1. Application with contact information: The name, address and telephone number of all persons having a legal interest in the property and parcel number of the property or properties affected. A phone number available 24 hours per day shall also be provided.
2. Brief narrative description of the project and description of how and where stormwater will be controlled.
3. A locus map.
4. Existing conditions plan at 1:40 scale.
5. Stamp and signature of a Professional Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the Stormwater Management Bylaw and these Regulations.
6. Proposed development plan at 1:40 scale must contain the following:
 - a. Zoning district boundaries, including the Groundwater Protection District;
 - b. Map and Parcel number, and owners of abutting properties;
 - c. Size and location of existing and proposed easements with distances and bearings;
 - d. Size and location of existing and proposed utilities;
 - e. All existing and proposed topography at two (2)-foot contour intervals;
 - f. Delineation of one hundred (100)-year flood plains, if applicable;
 - g. Delineation of existing stormwater conveyances, impoundments, wetlands, surface water bodies, resource areas, buffer zones, drinking water resource areas, swimming beaches or other critical environmental resource areas on or adjacent to the site or into which stormwater flows;
 - h. Estimated seasonal high groundwater elevation in areas to be used for stormwater retention, detention, or infiltration;
 - i. Vertical datum with two (2) benchmark elevations.
7. Existing and proposed vegetation and ground surfaces with runoff coefficients for each.
8. A drainage area map showing pre- and post-construction watershed boundaries, drainage area and stormwater flow paths, including municipal drainage system flows.

9. A description and drawings of all components of the proposed stormwater management 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;
 - e. Existing and proposed pipe invert elevations;
 - f. Notes on drawings specifying materials to be used, construction specifications, and expected hydrology with supporting calculations;
 - g. Proposed improvements including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable;
 - h. Any other information requested by the Planning Board.
10. Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in these Regulations. Such calculations shall include:
 - a. Description of the design storm frequency, intensity and duration;
 - b. Time of concentration;
 - c. Soil Runoff Curve Number (RCN) based on land use and soil hydrologic group;
 - d. Peak runoff rates and total runoff volumes for each watershed area;
 - e. Information on construction measures used to maintain the infiltration capacity of the soil where any kind of infiltration is proposed;
 - f. Infiltration rates, where applicable;
 - g. Culvert capacities;
 - h. Flow velocities;
 - i. Data on the change in rate and volume of runoff for the specified design storms;
 - j. Documentation of sources for all computation methods and field test results.
11. Post-Development downstream analysis if deemed necessary by the Planning Board;
12. Soils information from test pits performed at the location of proposed stormwater management facilities, including but not limited to soil descriptions, depth to seasonal high groundwater, depth to bedrock, and percolation rates. Soils information will be based on site test pits logged by a Massachusetts Registered Soil Evaluator.
13. Landscaping plan describing the woody and herbaceous vegetative stabilization and management techniques to be used within and adjacent to the stormwater practice.
14. An affidavit stating the Operation and Maintenance Plan is referenced in the deed and recorded in the Registry of Deeds should appear on the plan.

APPENDIX C: EROSION AND SEDIMENT CONTROL PLAN CONTENTS

The Erosion and Sediment Control Plan shall include, at a minimum:

1. A general location map with enough detail to identify the location of the construction site and waters of the United States within one (1) mile of the site.
2. Legible site map, showing the entire site, identifying at a minimum:
 - a. Direction(s) of storm water flow and approximate slopes anticipated after major grading activities;
 - b. Areas of soil disturbance and areas that will not be disturbed;
 - c. Locations of all structural and nonstructural erosion and sediment control measures and BMPs;
 - d. Locations where stabilization practices are expected to occur;
 - e. Locations for storage of materials, waste, vehicles, equipment, soil, snow and other potential pollutants;
 - f. Locations of bodies of water, including wetlands;
 - g. Locations where stormwater discharges to a surface water (include all roads, drains and other structures that could carry stormwater to a wetland or other water body, on or offsite);

- h. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply;
 - i. Location of any storm water discharge associated with industrial activity other than construction at the site.
3. Stamp and signature of a Professional Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the Bylaw and these Regulations.
4. Description of the following in narrative, calculations or drawings, as appropriate:
- a. Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities, including dedicated off-site borrow and fill areas;
 - b. All pollution control measures (structural and non-structural BMPs) that will be implemented as part of the construction activity to control pollutants in storm water discharges. Appropriate control measures must be identified for each major construction activity and the operator responsible for the implementation of each control measure must also be identified;
 - c. The intended sequence and timing of activities that disturb soils at the site and the general sequence during the construction process in which the erosion and sediment control measures will be implemented;
 - d. Structural practices to divert flows from exposed soils, retain/detain flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains must be avoided to the degree practicable;
 - e. Interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where possible and that disturbed portions of the site are stabilized. Use of impervious surfaces for stabilization should be avoided;
 - f. Construction and waste materials expected to be stored on-site with updates as appropriate, including a descriptions of controls, including storage practices, to minimize exposure of the materials to storm water, and spill prevention and response practices;
 - g. Measures to minimize, to the extent practicable, off-site vehicle tracking of sediments onto paved surfaces and the generation of dust;
 - h. Measures to prevent the discharge of solid materials, including building materials, to waters of the United States, except as authorized by a permit issued under Section 404 of the Clean Water Act;
 - i. Pollutant sources from areas other than construction and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges;
 - j. All allowable sources of non-storm water discharges listed in the Bylaw except for flows from fire-fighting activities, that are combined with storm water discharges associated with construction activity at the site. Non-storm water discharges should be eliminated or reduced to the extent feasible. The Erosion and Sediment Control plan must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.
5. An Operation and Maintenance Schedule for structural and non-structural measures, interim grading, and material stockpiling areas.

APPENDIX D: OPERATION AND MAINTENANCE PLAN CONTENTS

The Operation and Maintenance Plan shall include, at a minimum:

- 1. The name(s) of the owner(s) for all components of the system
- 2. A map showing the location of the systems and facilities including easements, catch basins, manholes/access lids, main, and stormwater devices
- 3. 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. An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed;
 - d. A list of easements with the purpose and location of each;

- e. Provisions for the Planning Board or its agent to enter the property at reasonable times and in a reasonable manner for the purpose of inspection;
- f. The signature(s) of the owner(s).

APPENDIX E: POST-DEVELOPMENT ADDITIONAL CRITERIA

All projects subject to a Stormwater Management Permit (SMP) shall comply with the following performance criteria unless otherwise provided for in these Regulations.

1. Additional Recharge Performance Standards

To ensure that goals associated with water balance and increased groundwater recharge are met, as documented in the Town's Comprehensive Water Resource Management Plan (CWRMP), the following infiltration standards must be met based on development type as follows:

- a. The annual recharge volume from the post- development site shall approximate one hundred fifty percent (150%) of the annual recharge volume from pre-development conditions based on soil type for the following types of developments:
 - i. New subdivisions of five (5) or more lots.
 - ii. New commercial or new industrial development
- b. The annual recharge volume from the post- development site shall approximate one hundred percent (100%) of the annual recharge volume from pre-development conditions based on soil type for the following types of developments:
 - i. New subdivisions of less than five (5) lots.
 - ii. Commercial or industrial redevelopment
- c. The above criteria are met when the stormwater management system is designed to infiltrate the required recharge volume as determined by Tables 1 and 2. For each NRCS Hydrologic Group on the site, the required recharge volume equals the recharge volume set forth multiplied by the total area within that NRCS Hydrologic Group that is impervious.

Table 1: Hydrologic Group Volume to Recharge (x Total Impervious Area)
for 100% of the Annual Recharge

Hydrologic Group	Volume to Recharge x Total Impervious Area
A	0.60 inches of runoff
B	0.35 inches of runoff
C	0.25 inches of runoff
D	0.10 inches of runoff

Table 2: Hydrologic Group Volume to Recharge (x Total Impervious Area)
for 150% of the Annual Recharge

Hydrologic Group	Volume to Recharge x Total Impervious Area
A	0.90 inches of runoff
B	0.525 inches of runoff
C	0.375 inches of runoff
D	0.20 inches of runoff

- d. BEST MANAGEMENT PRACTICES (BMPS) FOR RECHARGE – Standards a-c listed above and all other infiltration shall be accomplished using appropriate BMPs as defined in the latest edition of the Massachusetts Stormwater Handbook. The design of BMPs must follow the guidance provided in the Handbook. For all non-rooftop recharge, pretreatment shall be provided as specified in the Handbook.
- e. RECHARGE NOT FEASIBLE - In some instances due to soil types, groundwater elevations, contaminated sites, or other unforeseen circumstances, recharge may not be feasible on-site. If the project cannot meet the recharge requirements listed above, the applicant must demonstrate that an equivalent level of environmental protection is provided.

2. Additional Water Quality Performance Standards

For construction activities or land alteration resulting in total earth disturbances equal to or greater than one (1) acre the following additional water quality performance standards shall apply:

- a. New Development: Stormwater management systems on new development sites shall be designed to:
 - i. Retain the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the site AND/OR
 - ii. Remove 90% of the average load of Total Suspended Solids (TSS) generated from the total post-construction impervious area of the site AND 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.
- b. Redevelopment: Stormwater management systems on Redevelopment sites shall improve existing conditions and shall be designed to:
 - i. Retain the volume of runoff equivalent to, or greater than, 0.80 inch multiplied by the total post-construction impervious surface area on the site AND/OR
 - ii. Remove 80% of the average annual post-construction load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site AND 50% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.
 - iii. Stormwater management systems on redevelopment sites may utilize offsite mitigation within the same USGS HUC10 as the redevelopment site to meet the equivalent retention or pollutant removal requirements in Section 2.b above.

3. Additional Performance Standards within a Ground Water Protection District (GWPD)

- a. To ensure protection of the Ground Water Protection District (GWPD) as defined by the latest version of the Town of Wilmington Zoning Bylaw, all projects located within a GWPD and subject to a SMP shall, at a minimum, comply with the performance standards of the most recent version of the Massachusetts Department of Environmental Protection (DEP) Stormwater Management Standards and accompanying Stormwater Management Handbook. These projects shall be subject to the higher water quality standards required for projects within a Zone II area. BMPs, including those for recharge and pretreatment, must also meet the higher water quality standards and as specified in the Handbook.

4. Hydrologic Basis for Design of Structural Practices

For facility sizing criteria, the basis for hydrologic and hydraulic evaluation of development sites are as follows:

- a. Impervious cover is measured from the site plan and includes 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, rooftops, driveways, patios, and paved, gravel and compacted dirt surfaced roads.
- b. The length of sheet flow used in time of concentration calculations is limited to no more than one hundred (100) feet for predevelopment conditions and one hundred (100) feet for post-development conditions.
- c. Detention time for the one (1)-year storm is defined as the center of mass of the inflow hydrograph and the center of mass of the outflow hydrograph.
- d. The models TR-55 and TR-20 (or approved equivalent) will be used for determining peak discharge rates.
- e. For purposes of computing runoff, all pervious lands in the site shall be assumed prior to development to be in good condition regardless of conditions existing at the time of computation.
- f. If an off-site area drains to a site or a facility, off-site areas should be included in the model.
- g. 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.
- h. The specified design storms shall be defined as a twenty-four 24-hour storm using the rainfall distribution recommended by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) or the Northeast Regional Climate Center "Atlas of Precipitation Extremes for the Northeastern United State and Southeastern Canada."
- i. 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.

APPENDIX F: EROSION AND SEDIMENT CONTROL ADDITIONAL CRITERIA

All erosion and sediment controls for all projects subject to a Stormwater Management Permit (SMP) shall comply with the following performance criteria unless otherwise provided for in these Regulations.

1. General Erosion and Sediment Control Criteria

The following are the minimum General Erosion and Sediment Control Criteria:

- a. Minimize total area of disturbance and minimize unnecessary clearing and grading from all construction sites. Clearing and grading shall only be performed within areas needed to build the project, including structures, utilities, roads, recreational amenities, post-construction stormwater management facilities, and related infrastructure.
- b. Whenever practicable and feasible, construction shall be phased to limit disturbance to only one area of active construction at a time. Future phases shall not be disturbed until construction of prior phases is complete and the land area is stabilized. Mass clearings and grading of the entire site shall be avoided.
- c. Interim and permanent stabilization measures shall be instituted on a disturbed area as soon as practicable but no more than fourteen (14) days after construction activity has temporarily or permanently ceased on that portion of the site.
- d. Steep slopes shall be protected from erosion by limiting clearing of these areas in the first place or, where grading is unavoidable, by providing special techniques to prevent upland runoff from flowing down a steep slope and through immediate stabilization to prevent gullying. Offsite runoff shall be diverted from highly erodible soils and steep slopes to stable areas.

- e. Perimeter sediment controls shall be applied to retain or filter concentrated runoff from disturbed areas to trap or retain sediment before it leaves a construction site. Uncontaminated water shall also be diverted around disturbed areas.
- f. Sediment trapping and settling devices shall be employed to trap and/or retain suspended sediments and allow time for them to settle out in cases where perimeter sediment controls (e.g., silt fence and hay bales) are deemed to be ineffective in trapping suspended sediments on-site. Sediment basins shall also be used to minimize peak rate of runoff in accordance with the Massachusetts Stormwater Standards.
- g. Off-site transport of sediment, including off-site vehicle tracking, shall be prevented.
- h. Dust and debris shall be controlled at the site.
- i. On and off-site material storage areas, including construction and waste materials, shall be properly protected and managed.

2. Specific Erosion and Sediment Control Criteria

The following are the minimum Specific Erosion and Sediment Control Criteria:

- a. Prior to any land disturbance activities commencing on the site, the applicant or its agent 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. The physical markers shall be inspected daily.
- b. 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.
- c. Erosion and sediment control measures shall be installed and maintained in accordance with the manufacturer's specifications and good engineering practices.
- d. Sediment shall be removed once the volume reaches one-quarter ($\frac{1}{4}$) to one-half ($\frac{1}{2}$) the height of a hay bale or sedimentation fence shows signs of failure.
- e. BMPs to be used for infiltration after construction shall not be used as BMPs during construction unless otherwise approved by the Board. Many infiltration technologies are not designed to handle the high concentrations of sediments typically found in construction runoff, and thus must be protected from construction related sediment loadings.
- f. Soil stockpiles must be stabilized or covered at the end of each workday. Stockpile side slopes shall not be greater than 2:1. All stockpiles shall be surrounded by sediment controls.
- g. Disturbed areas remaining idle for more than fourteen (14) days shall be stabilized with seeding, wood chips bark mulch, tarpaulins, or any other approved methods.
- h. For active construction areas such as borrow or stockpile areas, roadway improvements and areas within fifty (50) feet of a building under construction, a perimeter sediment control system shall be installed and maintained to contain soil.
- i. A tracking pad shall be constructed at all entrance/exist points of the site to reduce the amount of soil carried onto roadways and off the site.
- j. On the cut side of roads, ditches shall be stabilized immediately with rock riprap or other non-erodible liners, or where appropriate, vegetative measures.
- k. Permanent seeding shall 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.
- l. All slopes steeper than 3:1 (h:v, 33.3%), as well as perimeter dikes, sediment basins or traps, and embankments must, 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 must not be disturbed.
- m. Temporary sediment trapping devices must not be removed until permanent stabilization is established in all contributory drainage areas.

- n. 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 thirty (30) days of removal.