

Town of Swampscott
Rules and Regulations for
Stormwater Management and Erosion Control

1.0 Purpose

Included in Town of Swampscott General Bylaws, Article XIX, Section 1.

2.0 Definitions

The definitions of terms in Article XIX, as well as the following definitions, shall apply to terms used in these Regulations. In any instance in which definitions vary, that which is provided in the by-law shall govern.

Alter or Alteration: Any activity that will change the ability of a ground surface to absorb water or will change existing surface drainage patterns. Alter may also be referred to as “alteration” and “land disturbance activities.”

Applicant: Any person who has filed a Stormwater Management Permit Application in accordance with these Rules and Regulations.

Best Management Practice (BMP): A structural or nonstructural technique for managing stormwater to prevent or reduce nonpoint source pollutants from entering surface waters or groundwater. A structural stormwater Best Management Practice includes a basin, discharge outlet, swale, rain garden, filter or other stormwater treatment practice or measure either alone or in combination including without limitation any overflow pipe, conduit, weir control structure that: (a) is not naturally occurring; (b) is not designed as a wetland replication area; and (c) has been designed, constructed, and installed for the purpose of conveying, collecting, storing, discharging, recharging, or treating stormwater. Nonstructural stormwater Best Management Practices include source control and pollution prevention measures, such as street/parking lot sweeping, catch basin cleaning, public education/outreach, etc.

Conveyance: Any structure or device, including pipes, drains, culverts, curb breaks, paved swales and man-made swales, natural and man-made channels, and ditches designed or utilized to move or direct stormwater runoff or existing water flow; any impervious surface/sheet flow utilized to remove rainfall (for example a parking lot) which drains directly onto a vegetated surface or public road without any curbing or drainage system to intercept the flow.

Design Storm: A precipitation event of specified return frequency and duration (e.g., a storm that occurs only once every 2 years with 24 hour duration) that is used to calculate the stormwater runoff volume and peak discharge rate.

Detention: The regulation and control of stormwater runoff by slowing the rate of discharge to reduce impacts downstream.

Easement: A right in land acquired by a party to use or enter the property of another party for access, stormwater management, utilities, or other purpose.

Engineer: A registered Professional Engineer (PE) licensed to practice professional engineering in the Commonwealth of Massachusetts.

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

Erosion and Sediment Control Plan: A plan that shows the location and construction detail(s) of the erosion and sediment reduction controls to be utilized for a construction site during and after construction.

Floodplain: Any land area susceptible to being inundated by floodwaters from any source which will theoretically result from the statistical 100-year frequency storm. The boundary shall be that determined by reference to the Flood Insurance Rate Map (FIRM) for the Town of Swampscott, published by the Federal Emergency Management Agency (FEMA). If such data is unavailable, the boundary shall be the maximum lateral extent of floodwater which has been observed or recorded.

Floodplain Contingency Plan: A plan establishing procedures for response to areas that have flooded or may be jeopardized by potential flooding.

Floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year frequency storm without cumulatively increasing the water surface elevation more than a designated height. The boundary shall be that determined by reference to the Flood Insurance Rate Map (FIRM) for the Town of Swampscott, published by the Federal Emergency Management Agency (FEMA).

Impervious Surface or Area: 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, etc.), roof tops, swimming pools, and patios, as well as paved, gravel and compacted dirt surfaced roads.

Infiltration: Percolation of water into the subsurface. Also referred to as “Recharge.”

Land Disturbance Activity: Any activity that causes a change in the position or location of soil, sand, rock, gravel, or similar earth material.

Low Impact Development (LID): A site design strategy for managing stormwater by maintaining or replicating the predevelopment hydrologic functions through the use of design techniques to create a functionally equivalent hydrologic landscape.

Maintenance: Maintenance of a stormwater management system means the work necessary to keep the system functional and in good repair so that it may continue to operate as originally designed. Maintenance of a stormwater management system does not include work that (a) reduces the capacity of the system to treat stormwater, provide recharge, or attenuate peak flow; (b) increases the total or peak rate or volume of the stormwater managed by the system; (c) directs additional stormwater discharges to the system; or (d) results in reduced use of above ground stormwater Best Management Practices.

Massachusetts Stormwater Management Standards: The Standards issued by the Massachusetts Department of Environmental Protection (DEP), codified in regulations at 310 CMR 10.05(6)(k)-(q) and further defined and specified in the Massachusetts Stormwater Handbook, Volumes 1 through 3, issued by the DEP. The Standards address stormwater impacts through implementation of performance standards that reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

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

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

Operation and Maintenance Plan: A plan setting up 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.

Overlay of Pavement: The placement of pavement on top of an existing impervious surface. The underlying surface is sometimes milled (partially ground down in thickness) before the overlay is placed.

Owner: A person with a legal or equitable interest in land, structures, or equipment.

Permittee: The person who is issued a permit by the Swampscott Department of Public Works pursuant to these Rules and Regulations.

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

Pollutant: Any substance, either man-made or man-induced, that alters the chemical, physical, biological, or radiological integrity of water.

Recorded: Recorded in the Essex County District Registry of Deeds; if registered land is affected, filed with the recorder of the Land Court of Massachusetts.

Redevelopment: Development, replacement, rehabilitation, expansion, demolition, or phased projects that disturb the ground surface on previously developed sites.

Responsible Party: Any person or entity holding fee title to the property or acting as the Owner's representative, including any person, firm, corporation, or other entity performing services, contracted, subcontracted, or obligated by other agreement to design, implement, inspect, verify, or maintain the BMPs and other approved elements of stormwater management plans and permits.

Retention: The process of collecting and holding stormwater runoff with no surface outflow.

Sediment: Mineral or organic soil material that is transported by wind or water from its origin to another location; the product of erosion processes.

Sedimentation: The process or act of depositing sediment.

Sheet Flow: A component of stormwater runoff in the form of an unconcentrated, overland flow or downslope movement of water as a thin, continuous film over relatively smooth soil, rock, or paved surfaces.

Stormwater Management Permit: A permit issued by the Department of Public Works, after review of an application, plans, calculations, and other supporting documents, in accordance with the provisions of the Construction and Post-Construction Stormwater Management Bylaw.

Stormwater Management Plan: A plan submitted as part of an application for a Stormwater Management and Erosion Control Permit, in accordance with Section 7.0 of these Rules and Regulations.

Stormwater Management System: The collective system for conveying, collecting, storing, discharging, recharging, or treating stormwater on-site, including stormwater Best Management Practices and any pipes and outlets intended to transport and discharge stormwater to the groundwater, a surface water, or a municipal separate storm sewer system. Also referred to as "drainage."

Stormwater Pollution Prevention Plan (SWPPP): A site-specific document or collection of documents that identifies the potential sources of stormwater pollution, describes stormwater control measures, such as BMPs, to reduce or eliminate the identified pollutants, and identifies procedures operators will implement to comply with specific permit conditions.

Stormwater Runoff: Flow over the ground surface resulting from precipitation or snow and ice melt or through a drainage system.

Surveyor: A Professional Land Surveyor registered to practice land surveying in the Commonwealth of Massachusetts.

Total Suspended Solids (TSS): Total suspended solids, as used in the context of the Massachusetts Stormwater Management Standards.

Utilities: Private or municipal services, including, without limitation, telecommunications, cable, light and power, gas, sanitary sewers, drainage, water mains, and appurtenances.

3.0 Authority

Included in Town of Swampscott General Bylaws, Article XIX, Section 3.

4.0 Administration

Included in Town of Swampscott General Bylaws, Article XIX, Section 5.

5.0 Applicability

Included in Town of Swampscott General Bylaws, Article XIX, Section 4.

6.0 Permit Procedures and Requirements

Projects requiring a Stormwater Management Permit shall be required to submit the materials specified in this Section and are required to meet the Performance Standards specified in Section 8.0. Where applicable, projects subject to requirements of EPA's Construction General Permit must apply for and obtain that permit in addition to requirements of the Town of Swampscott. Those requirements include development and execution of a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of EPA's Construction General Permit in addition to requirements of the Town of Swampscott.

6.1 Application Requirements

An Applicant seeking to perform a land disturbance activity subject to the Construction and Post-Construction Stormwater Management Bylaw shall submit to the Department of Public Works a Stormwater Management Permit Application on a form provided for that purpose.

An application must be accompanied by the following:

- a Stormwater Management Plan meeting the requirements of Section 7.0; and
- a non-refundable Application Review Fee, as provided in Section 6.4.2.

The Stormwater Management Permit Application must be signed by an Engineer, who will verify that the design of all stormwater management practices meet the requirements of these Rules and Regulations. No Stormwater Management Permit shall be issued until a satisfactory Stormwater Management Plan that meets the requirements of Section 7.0 and Performance Standards of Section 8.0 has been reviewed and approved by the Department of Public Works.

6.2 Application Procedure

- 6.2.1 An application for a Stormwater Management Permit may be filed with the Department of Public Works on any regular business day.
- 6.2.2 Permit applications shall include two copies of the Stormwater Management Plan, including all documents required in accordance with Section 7.0 of these Rules and Regulations, and the Application Review Fee, in accordance with Section 6.4.2.
- 6.2.3 Within 45 days of the receipt of a complete permit application, including all documents as required herein, the Department of Public Works shall inform the Applicant whether the Stormwater Management Permit has been approved or disapproved, in accordance with Section 6.5.
- 6.2.4 If the permit application or one or more of the required plan components is disapproved, the Applicant may make the necessary revisions and resubmit the application. The Department of Public Works shall have 45 days from the date the additional information or revised application is received to inform the Applicant that the application and required plans are either approved or disapproved, in accordance with Section 6.5.

6.3 Right-of-Entry for Inspection

During the application process, the Department of Public Works, its employees and agents (including consultants) may conduct site visits of the project site to review the information presented in the application. As provided in Section 10.0 of these Rules and Regulations, inspections shall be required during the construction of the project. To the extent permitted by law, or if authorized by the owner or other party in control of the property, the Department of Public Works, its agents and employees may enter upon the site of a completed project at reasonable times and in a reasonable manner for the purpose of ensuring continuing compliance with the terms and requirements of General Bylaw Article XIX, these Rules and Regulations, or an approved Stormwater Management Permit.

6.4 Application Review Fees and Technical Review

6.4.1 General

The Department of Public Works shall obtain with each submission an Application Review Fee established by the Department to cover expenses connected with the review of an application and issuance of a Stormwater Management Permit. A Technical Review Fee, sufficient to cover professional review services for the project, may also be required in accordance with Section 6.4.3.

6.4.2 Application Review Fee

1. A non-refundable Application Review Fee of the larger of \$50.00 or \$0.0030 per square foot of land area that will be disturbed by activities authorized by the Stormwater Management Permit shall be due and payable to the Town of Swampscott at the time an application is filed.
2. These fees are in addition to any other local or state fees that may be charged under any other law or regulation.

6.4.3 Technical Review

Some permit applications may require the Department of Public Works to engage the employment of outside consultants for specific expert services deemed necessary by the Department to come to a final decision on the application. These services may include, but are not limited to, wetland survey and delineation, hydrologic and drainage analysis, hydrogeologic analysis, stormwater quality analysis, site inspections, as-built plan review, and analysis of legal issues.

1. The consultant shall be chosen by, and report only to, the Department of Public Works. The fee charged by the consultant shall be paid for by the Applicant.
2. The Department of Public Works shall give written notice to the Applicant of the selection of an outside consultant, which notice shall state the identity of the consultant and the fee to be charged. Such notice shall be deemed to have been given on the date it is mailed or hand delivered.
3. The Applicant shall provide written confirmation to the Department of Public Works that such fee shall be paid for by the Applicant. The consultant may require that a retainer be paid prior to initiating work. Failure by the Applicant to confirm acceptance of the consultant fee and pay the retainer, if required, within ten (10) business days of written notice by the Department of Public Works shall be cause for the Department to determine that the application is incomplete.
4. The services of the consultant shall be paid in full by the Applicant prior to issuance of a Stormwater Management and Erosion Control Permit.

6.5 Actions

The action of the Department of Public Works, rendered in writing, shall consist of one of the following:

1. Approval of the Stormwater Management Permit Application based upon determination that the proposed plan
 - meets the Performance Standards in Section 8.0;
 - will adequately protect the water resources of the community; and
 - is in compliance with the requirements set forth in these Rules and Regulations;
2. Approval of the Stormwater Management Permit Application subject to written conditions, modifications, or restrictions required by the Department of Public Works

that will ensure that the project meets the Performance Standards in Section 8.0 and adequately protects the water resources of the community, as set forth in these Rules and Regulations;

3. Disapproval of the Stormwater Management Permit Application based upon a determination that the proposed plan, as submitted, is incomplete, does not meet the Application Requirements in Section 7.0 or the Performance Standards in Section 8.0, or does not adequately protect the water resources of the community, as set forth in these Rules and Regulations; or
4. Disapproval of an Application “without prejudice” where an Applicant fails to provide requested additional information that, in the opinion of the Department of Public Works, is needed to adequately describe the proposed project.

6.6 Failure of the Department of Public Works to take action upon receipt of an application accepted by the Department as complete within 45 days (or such additional period that is agreed to in writing by the Applicant) shall be deemed to be approval of said application.

6.7 Lapse of Permit

A Stormwater Management Permit granted in accordance with the provisions of these Rules and Regulations shall lapse one (1) year from the date of issuance, if land disturbance activities have not begun by such date except for good cause, as determined by the Department of Public Works.

6.8 Project Changes

The Permittee, or its agent, shall notify the Department of Public Works in writing of any change or alteration in an approved Stormwater Management Plan before any change or alteration occurs. If the Department of Public Works determines that the change or alteration is significant, based on the standards referred to in Section 8.0 and accepted construction practices, the Department of Public Works may require that an amended Stormwater Management Permit Application be filed. If any change or deviation from the Stormwater Management Permit occurs during a project, the Department of Public Works may require the installation of interim measures before approving the change.

6.9 Project Completion

- 6.9.1 Upon completion, the Permittee is responsible for certifying that the completed project is in accordance with the approved plans and specifications by submitting As-built Plans to the Department of Public Works as described in Section 11.0.
- 6.9.2 Upon written request by the Permittee, the Department of Public Works shall assess whether the work has been completed in substantial conformance with the approved Stormwater Management Plan and any conditions of the Stormwater Management Permit. Upon satisfactory completion of the work and submittal of the As-built Plans, the Department of Public Works shall issue a letter indicating

that all required certifications have been submitted and all required inspections have been completed.

6.10 Maintenance Responsibility

The Responsible Party shall ensure that all components of the proposed Stormwater Management Plan are functioning according to manufacturer or design specifications. All components shall be maintained in good condition and promptly repaired, in accordance with the approved Operation and Maintenance Plan. This shall constitute a perpetual condition of any Stormwater Management Permit issued under these Rules and Regulations.

7.1 Stormwater Management Plan

The Stormwater Management Plan shall contain sufficient information for the Department of Public Works to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the Applicant for preventing adverse impacts from stormwater.

All Stormwater Management Plans submitted for consideration shall contain the following minimum components:

1. Existing Conditions Plan;
2. Proposed Conditions Plan;
3. Erosion and Sediment Control Plan;
4. Construction Detail Plan;
5. Stormwater Management Report; and
6. Operation and Maintenance Plan.

More information than the minimum required herein may be required, provided such information is reasonably necessary for the proper evaluation of the Stormwater Management Plan. Additional plans, such as but not limited to utility plan, landscaping plan, etc., may be required for more complex projects.

Plans shall be prepared to fully detail and explain the intentions of the Applicant. Plans shall be prepared at a standard scale (1" = 20', 1" = 40', or 1" = 80', whichever is appropriate to the size of the proposal). All plans shall include a reasonable numbering system with an appropriate title block, North arrow, signature block, and legend identifying any representative symbols used on the sheet in question.

Design Certification: Each plan sheet shall show the seal and signature of an Engineer or a Surveyor, or both, as appropriate to the data.

7.1 Existing Conditions Plan

The Existing Conditions Plan shall contain all the necessary information to convey existing surface features and drainage patterns. It shall contain a topographical survey plan prepared by a Surveyor, including the following information:

- Name, seal, and signature of the Surveyor who performed the survey.
- Date(s) of the survey.
- Reference to all deeds, plans of record, and other information used to establish the existing property lines, the layout of all streets and ways, and easements, including deed references to the abutting lots.
- Locus Plan, prepared at a scale not smaller than 1" = 1200' and a minimum extent of one mile diameter. Major streets, buildings, brooks, streams, rivers, or other landmarks should be shown on the Locus Plan with sufficient clarity to be easily discernible.
- Existing property lines, easements, and road layouts with bearings and distances. All distances shall be in feet and decimals of a foot and all bearings shall be given to the nearest ten seconds. The error of closure shall not exceed one to ten thousand.
- Boundary of the entire parcel held in common ownership by the Applicant regardless of whether all or part is being developed at this time.
- Acreage of the parcel(s) to the nearest tenth of an acre.
- Existing monuments.
- Location and name of all abutters as they appear on the most recent tax list, including owners of the property on the opposite side of all streets abutting the property.
- Location, names, status (i.e., public or private), and present widths of streets and sidewalks bounding, approaching, or within reasonable proximity of the property, showing both roadway widths and right-of-way width.
- Location of all test pits, borings, percolation tests, or similar, in or adjacent to the development. Logs of observed groundwater elevations and other test data shall be included in the Stormwater Management Report.
- Location of all existing buildings and structures on the property and within reasonable proximity of the perimeter of the property.
- Location of all existing wells and septic systems that can be observed and/or are on file with the Health Department, on the property and within reasonable proximity of the perimeter of the property.
- Site features within and abutting the property, including but not limited to, waterways, water bodies, drainage ditches, streams, brooks, stone walls, fences, curbing, walkways and other paths (paved or unpaved), utility and light poles, buildings and other structures, ledge outcrops, wooded areas, public shade trees and all other trees greater than six inches in caliper, and historic sites.
- Location and identification of resource areas regulated under the Massachusetts Wetlands Protection Act, including areas located within the property and areas outside of the property with buffer zones or offsets that may intersect the property. This shall include wetlands and associated offsets and buffer zones, isolated lands subject to flooding (ILSF), bordering land subject to flooding (BLSF), and riverfront protection areas. If a currently valid delineation for the property does not exist, wetland boundaries shall be delineated in the field with numbered flags by a qualified wetlands specialist, surveyed, and shown on the plan(s) with reference to the flag numbers. The date of any Resource Area Delineation, Determination of Applicability, Order of Conditions, or other applicable decision from the Swampscott Conservation Commission shall be indicated on the plans.

- Location of all existing above- and below-ground utilities and all associated appurtenances within and abutting the property. All utility pipe types, sizes, lengths, and slopes shall be provided, as well as utility structure information, including rim and invert elevations.
- Existing topography within the property and within reasonable proximity of the perimeter of the property. Topography shall be provided at a minimum one-foot contour intervals. The plan survey datum shall be the National American Vertical Datum 1988 (NAVD88), and this reference shall be identified on the plans.
- Stormwater flow direction.

7.2 Proposed Conditions Plan

The Proposed Conditions Plan shall indicate all proposed site improvements, including but not limited to structures, buildings, sidewalks, handicap ramps, parking areas, curb type and limits, walls, fences, landscaped areas, and the proposed location of all utilities, as described below:

- All applicable information from the Existing Conditions Plan. The proposed improvements shall be overlaid on the existing conditions and shown in a darker line weight.
- The boundaries of the site, the outline or footprint of all proposed buildings, structures, parking areas, walkways, loading facilities, or significant landscaping features shall be shown.
- All means of vehicular access for ingress and egress to and from the site onto the public streets. Plans should show the size and location of driveways and curb cuts.
- The location and type of all above-ground and below-ground utilities.
- The existing and proposed stormwater management system, with pipe sizes, lengths, slopes, and materials including conveyances, catch basins, manholes, culverts, headwalls, detention and/or retention basins, treatment units, infiltration systems, and outlet pipes/structures. Rim and invert elevations shall be provided for all structures and other appurtenant features.
- Proposed contours indicating the finished grades of all proposed construction in the property. The plan shall show how the proposed grades will tie in to the existing grades within and outside of the property. The grades should be provided at a minimum one-foot contour intervals. Walls, curbing and any other features creating a break in grade shall be shown, including proposed top and bottom grades.
- Stormwater flow direction.

7.3 Erosion and Sediment Control Plan

The Erosion and Sediment Control Plan shall contain sufficient information to demonstrate that erosion will be minimized and sediment contained as part of a land disturbance activity. This includes means by which control of wastes, including but not limited to discarded building materials, concrete truck washout, chemicals, litter and sanitary waste, will be achieved. Information shall include the following:

- All applicable information from both the Existing and Proposed Conditions Plans. The proposed development information shall be shown in a darker line weight.
- Location of the proposed limit of work, to be lined by a row of hay bales and silt fencing in downgradient areas and along all resource areas.
- Location of anti-tracking area at each construction entrance.
- Hay bale and silt fence protection and/or silt sacks at all existing and proposed drainage structures.
- Seeding, sodding, or revegetation plans and specifications for all unprotected or unvegetated areas.
- Location and design of all structural erosion and sediment control measures, such as grade stabilization structures, temporary drainage swales, and temporary sedimentation basins.
- Location of all proposed construction stockpiling areas with appropriate erosion and sediment control measures.
- Location of all proposed controls for other wastes
- Notes detailing the proposed operation, maintenance, and inspection schedule for all erosion and sedimentation control measures, including proposed schedule for street sweeping of adjacent roadways and paved areas.
- Where a project is proposed to be constructed in phases, requires demolition, includes significant cuts and fills, or requires excavation of contaminated soils, the Department of Public Works may require that the Erosion and Sediment Control Plan be separated into phases targeted to each activity.
- Where a site is located in whole or in part within the floodplain, a Floodplain Contingency Plan shall be included with the Erosion and Sediment Control Plan. The Floodplain Contingency Plan shall describe the steps necessary to stabilize the site during construction in the event of a possible flood.
- Where a project is also subject to coverage under a National Pollutant Discharge Elimination System (NPDES) Discharge Permit issued by the EPA, submission of the Stormwater Pollution Prevention Plan (SWPPP) shall be required prior to commencement of land disturbance activities.

7.4 Construction Detail Plan

The Construction Detail Plan should provide information regarding the component parts of the construction, illustrating how they fit together. The plan shall show the following:

- Typical construction details of all proposed stormwater management system devices, including but not limited to conveyances, catch basins, manholes, headwalls, sub-drains, detention and retention systems, and other stormwater management system structures.
- Landscaping details including, but not limited to, tree plantings, shrubs, perennials, fences, walls, guard rails, street furniture, and other specialty items, if applicable.
- Construction details for all hard surfaces, including but not limited to, roadways, sidewalks, driveways, loading docks, handicap ramps, permeable pavers, and curbing.
- Erosion and sediment control details that implement the Erosion and Sediment Control Plan.

- Where site constraints or differing conditions require work that deviates from “typical details,” specific construction details shall be provided.

7.5 Stormwater Management Report

A separate Stormwater Management Report shall be submitted with the Stormwater Management Permit Application. It shall be prepared and stamped by an Engineer, and shall contain the following information:

- Narrative describing existing and proposed soil conditions (including Hydrologic Soils Group [HSG] classification published by the National Resources Conservation Service [NRCS]), land use, surface cover, estimated high groundwater elevations, design points, drainage patterns, and proposed stormwater management practices.
- Narrative describing the proposed stormwater management system, including all proposed LID techniques and BMPs incorporated in the project design.
- Description of all soil testing conducted in the study area, including sieve analyses, tests for saturated hydraulic conductivity, test pits, or soil borings. Soils information shall be based on field investigations by a Soil Evaluator approved by the Commonwealth of Massachusetts, or by an Engineer. Testing shall be performed in accordance with Volume 3 of the Massachusetts Stormwater Handbook (dated February 2008, as amended) and these Rules and Regulations. Raw test data shall be provided in an appendix to the report.
- Narrative describing the methodology used to conduct the hydrologic and hydraulic analyses of the site, estimates of the existing and proposed stormwater runoff peak rates and volumes, and the design of the proposed stormwater management system.
- Tables comparing existing and proposed impervious areas, peak stormwater runoff rates, and total stormwater runoff volumes for each design point and for the 2-, 10-, 25-, and 100-year design storms.
- Narrative and calculations demonstrating compliance with the Massachusetts Stormwater Management Standards and Federal NPDES Permit as outlined in Section 8.0, including:
 - Estimates of annual required recharge volume and recharge volume provided.
 - Estimates of average annual Total Suspended Solids (TSS) removal.
 - Narrative describing the Erosion and Sediment Control Plan, including a detailed construction sequence plan, source control and pollution prevention measures, description of BMPs provided to address soil erosion and sedimentation, stabilization measures, inspection and maintenance requirements, and record keeping.
 - Narrative describing the Operations and Maintenance Plan, as described in Section 7.6.
- Description of any impacts to the floodplain and floodway and a summary of compensatory flood storage calculations, if appropriate.
- Description of existing and proposed groundwater recharge on the site, including quantitative summary of existing and proposed recharge volumes, and summary of groundwater mounding analysis, if applicable.
- Map(s) showing pre- and post-development drainage areas, including any off-site contributions, and time of concentration travel flow-paths. Study design points should be indicated on the plan.

- If applicable, a map showing the location of the site overlaid on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) for the Town of Swampscott, or other appropriate information pertaining to location of the floodplain and floodway boundaries in relation to the site.
- Appendix containing all drainage calculations for existing and proposed conditions, including hydrologic analysis of the site, hydraulic analysis of the proposed drainage system, and calculations supporting the design of all BMPs that will control stormwater runoff peak rates and total volumes.

7.6 Operation and Maintenance Plan

An Operation and Maintenance (O&M) Plan, in accordance with the Massachusetts Stormwater Management Standards and Federal NPDES Permit requirements, shall be included with the Stormwater Management Plan. The purpose of the plan is to identify the actions necessary to ensure that stormwater management systems and BMPs function as designed, in perpetuity.

7.6.1 Minimum Requirements

At a minimum, the O&M Plan shall contain:

- A plan that is prepared to scale and shows the location of all stormwater management system components and all discharge points.
- A description of all BMPs, including proper operating parameters and how the Owner will determine if a BMP is not functioning properly.
- A description of long-term source control and pollution prevention measures.
- An inspection log and a description of all inspection and maintenance procedures, responsibilities, and frequencies.
- Snow storage procedures and locations in accordance with the MassDEP Snow Disposal Guidance, dated March 8, 2001, as amended.
- The name(s) of the Owner of all components of the system, and the name(s) and address(es) of the Responsible Party for O&M of each component, if different from the Owner.
- A list of easements held to access any BMPs.
- A copy of the As-built Plan prepared in accordance with Section 11.0, upon project completion.
- An estimated O&M budget.

7.6.2 Record Keeping

Parties responsible for the O&M of the stormwater management system and BMPs shall keep records of all inspections, maintenance, and repairs and shall retain the records for at least five (5) years. These records shall be made available to the Department of Public Works during inspection of the stormwater management structure or system and at other reasonable times upon request.

The Town reserves the right to request written records, including receipts of inspection or cleaning services, documenting the maintenance of the system, and/or to physically inspect the systems to ensure that the proper maintenance has been carried out. The failure of the Responsible Party or Owner to maintain the stormwater management system in reasonable order and condition, in conformance with the approved Operation and Maintenance Plan, shall be considered a violation of these Rules and Regulations and subject to enforcement action in accordance with the General Bylaws Article XIX.

7.6.3 Changes to Operation and Maintenance Plans

The Owner(s) of the stormwater management system must notify the Department of Public Works of changes in ownership or assignment of financial responsibility for O&M of the stormwater infrastructure and management system or any changes to the Operation and Maintenance Plan. This shall be an on-going requirement of any Stormwater Management Permit issued.

8.0 Performance Standards

At a minimum all projects subject to this regulation shall comply with the performance standards of the most recent version of the Massachusetts Stormwater Management Standards and accompanying Stormwater Management Handbook, as well as the criteria contained herein. The Standards can be found at www.mass.gov. In addition, the stormwater management system shall meet the US EPA Total Phosphorus (TP) and Total Suspended Solids (TSS) design requirements for new development and redevelopment per the Federal NPDES Permit. If there is an inconsistency between the current Massachusetts Stormwater Handbook and the US EPA TP and TSS requirements, the more stringent requirements shall apply. The following criteria shall also be used in the submittal of an application under the Town of Swampscott by-law.

The design of the project shall, to the maximum extent feasible, employ environmentally sensitive site design as outlined in the DEP handbook and shall attempt to reproduce natural hydrologic conditions with respect to ground and surface waters.

Consideration of Low Impact Development practices is required and implementation of such practices is encouraged and preferred, to the maximum extent practicable and where it provides a substantially equivalent alternative

9.0 Stormwater Management and Erosion Control – Technical Requirements

Stormwater management systems shall be designed in accordance with the Massachusetts Stormwater Management Standards and Federal NPDES Permit requirements, regardless of the size of the development and whether or not it falls within the jurisdiction of the Massachusetts Wetlands Protection Act.

10.0 Construction Inspections

10.1 Notice of Construction Commencement

The Permittee must notify the Department of Public Works at least 14 days prior to the commencement of construction. In addition, the Permittee must notify the Department of Public Works a minimum of 14 days in advance of construction of critical components of any stormwater management facility or BMP.

10.2 The Department of Public Works, or an agent of the DPW deemed qualified for the purpose, shall inspect the project site at the following stages, at a minimum:

- a. During Construction of BMPs: an inspection will be conducted during the installation and/or construction of BMPs to ensure that they are installed and/or constructed according to the approved plans
- b. After Construction of BMPs: an inspection will be conducted following the installation and/or construction of BMPs to ensure that they are operating as described in the approved plans.

10.3 Inadequacy of System

10.3.1 If any component of the erosion and sediment control measures or stormwater management system is found to be inadequate by virtue of physical evidence of operational failure, including evidence of erosion or sedimentation on adjacent properties, rights-of-ways, the MS4, wetland, or watercourse, even if it was built in accordance with the approved Stormwater Management Plan, it shall be corrected by the Permittee. Failure of the Permittee to take corrective action shall be considered a violation of these Rules and Regulations and subject to enforcement action in accordance with General Bylaws Article XIX Section 9. All documentation associated with inspections, site reviews and enforcement actions will be maintained within the associated project files administered by the DPW and/or the Swampscott Planning Board.

11.0 As-built Plan Requirements

11.1 No later than one year following completion of work, the Permittee, or its agent, shall submit to the Department of Public Works a final As-built Plan showing the actual as-built location and profile of all streets, ways, and utilities, including those installed by others, such as the gas, electric, telephone, and cable companies. The final plan must, at a minimum, contain the following information. The Department of Public Works may require the inclusion of additional information not set forth herein when deemed reasonably necessary. At a minimum, the following shall be included:

- Name, seal, and signature of the Surveyor who performed the survey;
- Date(s) of the survey;
- Reference to the approved site plan, if any, including information regarding whether the plan is on record at the Middlesex South County Registry of Deeds or Land Court;
- All streets, ways, and utilities, including those installed by others;

- Rim elevation, location, size, length, slope type, and inverts for all drainage and sewer structures and pipes, including roof drains;
- Location, size, and type of all structural BMPs, including, where applicable, the number and bottom elevation of infiltration units or stormwater storage chambers; the bottom elevation depth, length, and width of crushed stone surrounding underground infiltration systems; location of all clean-outs; the actual dimensions of any inlet/outlet control structures, and the invert elevation, size, slope, and type of all orifices, weirs, inlet and outlet pipes, structures, and headwalls;
- Final, stabilized site topography, at a minimum of one-foot contour intervals.
- Location and topography at one-foot contour intervals for all surface retention/detention basins, drainage swales, or other stormwater management facilities. Additional spot grades should be provided as appropriate to confirm that the systems are constructed as designed. The invert elevation, size, and type of all orifices, weirs, inlet and outlet pipes, headwall structures, and emergency spillways also shall be provided, as well as the actual dimensions for any inlet/outlet control structures;
- Location of all buildings, structures, pervious and impervious surfaces, roads, driveways, sidewalks, patios, walls, fences, trees, and other significant landscaping features;
- Curbing type; and
- Any other features that are deemed required to ensure compliance with any conditions imposed by the Department of Public Works.

11.2 Certification: All As-built Plans shall contain the following statement: “I certify, based on field verification, that this set of as-built plans accurately reflects the conditions as they exist on the property. I further certify that the development has been constructed substantially in accordance with the approved Stormwater Management Plan and meets the requirements of the Stormwater Management Permit.” This certification shall be accompanied by the signature and stamp of an Engineer and a Surveyor.

11.3 Electronic copies of all As-built Plans, in addition to paper copies, are required.

12.0 Waivers

Included in Town of Swampscott General Bylaws, Article XIX, Section 8.

13.0 Severability

Included in Town of Swampscott General Bylaws, Article XIX, Section 10.