



**STORMWATER AND LAND DISTURBANCE BYLAW
REGULATIONS**
Town of Wayland, MA
Adopted

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1.0 PURPOSE

The purpose of these Regulations is to define and clarify the process established under the **Chapter 193 of the Wayland Code “Stormwater and Land Disturbance Bylaw”** (the Bylaw) by establishing uniform procedures and standard definitions by which the Wayland Conservation Commission may carry out their responsibilities as the Administrator of the Bylaw to support the purposes and objectives of that Bylaw. These regulations are also intended to provide Applicants with necessary information, standards, and procedures for preparing and submitting applications for Stormwater Management and Land Disturbance Permits (SMLDP) under the Bylaw.

2.0 AUTHORITY

These Regulations are promulgated by the Wayland Conservation Commission (together with any amendments thereto) under the authority of **Chapter 193 of the Wayland Code “Stormwater and Land Disturbance”**.

The Wayland Conservation Commission (Commission) is designated as the Authorized Enforcement Agent (AGENT) under the Bylaw. The AGENT shall administer, implement, and enforce these Regulations. Projects or activities approved by the AGENT shall be deemed in compliance with the intent and provisions of these Regulations.

- a) The Regulations contained herein have been adopted by the Commission in accordance with the Bylaw. These Regulations are effective when voted.
- b) Nothing in the Bylaw or these Regulations is intended to derogate from or replace the requirements of the Town of Wayland Zoning Bylaws, Wetlands and Water Resources Protection Bylaw, any other Wayland Bylaw, or any Rules and Regulations adopted thereunder.
- c) These Regulations, including fees, may be periodically amended by the AGENT in accordance with the procedures outlined in Section 193-5 of the Bylaw.
- d) Waivers. The AGENT may waive strict compliance with any requirement of these Regulations promulgated hereunder, where such action is:
 1. Allowed by federal, state and local statutes and/or regulations,
 2. In the overriding public interest, and
 3. Not inconsistent with the purpose and intent of the Bylaw.

Any applicant may submit a written request to be granted a waiver. Such a request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of these Regulations does not further the purposes or objectives of the Bylaw and these Regulations.

- e) Enforcement. The AGENT shall enforce these regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations. As an alternative to criminal prosecution or civil actions, the AGENT may elect to utilize the non-criminal disposition procedure set forth in G.L. Ch. 40 §21D Non-criminal Disposition of Bylaw Violations of the Town of Wayland General Bylaws.
- f) Penalties. Any person violating these regulations may be subject to a cease and desist order, fines, or revocation of the Chapter 193 permit and any applicable penalties or other legal enforcement action by

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

3.0 DEFINITIONS

The definitions contained in Section 193-2 of the Bylaw and additional definitions contained in Appendix A apply to the administration of these regulations under the Chapter 193 Bylaw established by the Town of Wayland Stormwater and Land Disturbance Bylaw (Bylaw). Terms used that are not specifically defined in the Bylaw or these regulations will be as defined in the Massachusetts Stormwater Management Regulations and Handbook as latest revised. Other terms not defined according to this section shall be construed according to their customary and usual meaning. The Chapter 193 Bylaw is included in Appendix A of these Regulations for reference.

4.0 APPLICABILITY

These Regulations apply to all activities subject to the Applicability Section of the Bylaw (Section 193-4). All activities subject to the bylaw and not qualifying for an Exemption under Section 193-4 B of the Bylaw, must obtain a Chapter 193 Stormwater Management and Land Disturbance Permit (SMLDP) from the AGENT in accordance with the permit procedures and requirements defined in Sections 5.0 and 6.0 of these Regulations. Permit issuance is required prior to any site altering activity subject to the Bylaw.

A. Exemption for a permit for alterations requiring a Wetlands Order of Conditions under the Massachusetts Wetlands Protection Act and / or Chapter 194 for the Wayland Town Code

- 1) When the proposed alteration requires the filing with the Conservation Commission for a Wetlands Order of Conditions, a separate filing under Chapter 193 is not required. The Order of Conditions issued by the Conservation Commission will serve as the Chapter 193 Permit.
- 2) In filing for the Order of Conditions under this section, the information and documentation filed relative to Stormwater Management and Land Disturbance shall generally include the information in Section 5 of this Chapter and the filing requirements and standards under the Mass. Wetlands Protection Act, the Wayland Chapter 194 Regulations, whichever is more stringent.
- 3) If a filing is made to the Conservation Commission under the subject wetlands laws that does not include all of the proposed alterations to the site as being outside of the jurisdiction under the Wetlands Protection Act and the Chapter 194 Bylaw, the exemption does not apply and a separate Application under Chapter 193 will be required where the project overall meets the Applicability Section of the Chapter 193.

B. Determination of the Area of "Land Disturbing Activity"

For determination of the area of Land Disturbing Activity under Chapter 193, the following rules shall apply:

- 1) **Area:** The area shall be determined as the limit of all ALTERATIONS, LAND DISTURBING ACTIVITIES and / or LAND USE CONVERSION ACTIVITIES as defined in the Bylaw including all permanent alterations and temporary disturbances for the project (erosion and sediment controls,

temporary construction fences, temporary access ways, etc.). For limits of tree removal area to be included, see the next section below.

- 2) **Trees:** For activities including tree removal and clearing, the limit of alteration is considered as the limit of the tree canopy at the time of the application of the trees to be removed. This area limit may extend beyond the area as defined in Section 4.0 B.1) above and must be included in the Area determination. Trees are defined as any tree species that has a trunk diameter of 6 inches or greater at 4.5 feet above the ground (breast height - DBH). For multi-stemmed trees, at least one of the stems must be at least 6 inches DBH to be considered as a tree. Trees smaller than this size at the time of application are considered as part of the shrub layer.

For determination of the area when trees have been cut prior to an application under the Bylaw, each tree shall be assumed to cover an area extending 15 feet from the stump or tree location for a 30 foot diameter circle. If tree removal is the only activity, the maximum number of trees that can be removed without a filing under the Bylaw would be presumed to be seven (7).

- 3) **Segmentation / Phasing:** The development or alteration of land shall not be segmented or phased in a manner to avoid compliance with the Bylaw and these Regulations, or to reduce the filing requirements under these regulations. The Existing Conditions as the starting point for Application shall be the conditions of the site at the time of the effective date of these regulations.

- As an example: A property owner installs a paved patio after the effective date of these regulations with an area of 400 square feet. At that time, the patio did not require a Chapter 193 Application. At a later time, the property owner widens a pool deck for another 300 square feet of impervious area. That added 300 square feet brings the added impervious surface to 700 square feet and now requires an application under the Bylaw. The stormwater mitigation must also consider the entire 700 square feet at a minimum.

- 4) **Impervious Surface / Porous Pavements**

For determination of proposed impervious surfaces where porous asphalt or pervious paver systems are proposed, the area of impervious surface relative to applicability of the Bylaw shall include these surfaces. This is to require review and enforcement under the bylaw to assure that these areas are properly designed, installed and will be maintained as required for the purposes of the bylaw.

- 5) **Septic System Construction and Repair:** Where the sole purpose of the alteration and disturbance is for the construction, repair or replacement of a septic system, and land disturbance is limited to the minimum area necessary for that work including the septic system construction and related minimum grading requirements, and that meets the exemption under Section 193-4 B. (4), no SMLDP is required. Where the proposed alterations includes work beyond that necessary for the septic system, only the minimum area necessary for the proposed septic system construction is exempt. All area beyond that minimum is used for determining the area thresholds under the Bylaw and these Regulations. The

minimum area for the septic system construction must be approved by the Board of Health or their authorized Agent.

5.0 CHAPTER 193 PERMIT APPLICATION REQUIREMENTS

A. Permit Type: Minor and Major - SMLDP Thresholds

A SMLDP shall be required for any of the following, except for an activity exempt under Chapter 193-4 B,

1) Minor Permit

- a) Creation of a new impervious area, or expansion of existing impervious area, greater than 500 square feet and not exceeding 2,500 square feet or more than 20 percent of the lot whichever is less.
- b) Alterations and disturbance of land greater than 5000 square feet and not exceeding 10,000 square feet with no new impervious surface in excess of 2,500 square feet.

2) Major Permit

- a) Creation of a new impervious area, or expansion of existing impervious area, greater than 2,500 or more than 20 percent of the lot area whichever is less.
- b) Alterations and disturbance of land greater than 10,000 square feet.
- c) Projects that include land disturbance and / or land alteration requiring site plan approval or special permits under the Zoning Bylaw or Subdivision Approval from the Planning Board.
- d) Reconstruction of a private or public way.
- e) Reconstruction or replacement of existing parking lots including associated driveways for commercial, industrial, institutional and multi-family residential purposes with more than 2 residential units.

B. Filing Application

1) All Filings

- a) The Applicant shall submit two (2) hard copies and one (1) electronic copy (PDF format) of a complete Chapter 193 permit application to the AGENT. This includes all plans documents and information for the required filing.
- b) Completed Chapter 193 Application Form with signatures of owners and Applicant.
- c) Project narrative that includes a description of the proposed project and description of how and where the stormwater will be controlled, the erosion and sediment controls that will be implemented during construction, and the permanent site stabilization. This narrative shall clearly describe how the project is designed to meet the requirements of the Chapter 193 Bylaw and these Regulations and clearly describe the improvements being made to water quality of stormwater runoff.
- d) The narrative must include a list of waivers being requested (if any) and detailed information on why the waivers are necessary.
- e) Payment of the Application Fees.

2) Minor Permit Application

a) Stormwater Management Site Plan Requirements for Minor Projects: Note that for minor projects, the extent of the information provided will be dependent on the scope and complexity of the project. The adequacy of each filing will be evaluated by the AGENT upon submittal. Meeting with the AGENT prior to preparing the submittals to determine a general scope is recommended. The following are the general requirements:

1. For landscape projects and clearing or tree removal that includes proposed plantings and lawns with minimal re-grading, and no new impervious surfaces, the plan may be hand sketched or drafted on a base topographic plan showing the existing and proposed features as accurately as necessary for the scope of the project. The plan shall show the entirety of the parcel, and the existing and proposed site features. The base topographic plan may be a map of the site prepared from the current Wayland GIS, a plan by a landscape designer, or a record plan of the site prepared by an engineer or surveyor showing the site (septic system plan, plot plan, etc.) For projects with proposed impervious surfaces, it is recommended that the base topographic plan showing the existing features be prepared by a Registered Land Surveyor (required if the project is subject to a Wetlands Protection Act and / or Wetlands Chapter 194 filing). For simple projects, the proposed features drawing may be by the owner if sufficiently legible and accurate or by a landscape designer. The limits of existing and proposed landscape features must be shown. If tree removal is proposed, the location, size and species of the trees to be removed, the tree canopy limit, and proposed replacement tree plantings must be shown.
2. For projects with increases in impervious surfaces, an engineer needs to perform the soil testing and plan preparation for stormwater management systems, grading and pavement systems. The plans are generally to include the following information. The AGENT may reduce or add to this list as deemed necessary for the scope of the specific project:

a) Existing Conditions Plan:

- The site's existing topography with contours at 2 foot intervals for the work area.
- Locations of bodies of water, wetlands, drains, buildings and other structures.
- Driveways, walls, patios, parking areas and any impervious surfaces.
- Septic systems and wells.
- Property lines
- Existing lawn areas and tree lines including the canopy of existing trees to be removed.
- Trees with size and species shown that are over 6 inch DBH in the any area where clearing or tree removal will take place.
- Soil Testing locations.

b) Proposed Conditions Plans - Plans and Details that include:

- Proposed grading for the work area.
- Proposed improvements including location of buildings or other structures, impervious surfaces, utilities and easements if applicable.
- Stormwater management systems, drainage facilities and pavements (plan and details)
- Proposed landscape plans describing woody and herbaceous plantings that includes all finish stabilization planting and lawns and including tree planting required to replace trees removed.
- Areas of soil disturbance and areas that will not be disturbed (Limit of Work).

c) Erosion and Sediment Control Plan and Details

- Locations of all structural and nonstructural erosion and sediment control measures and Best Management Practices (BMPs)
- Locations where stabilization practices are expected to occur.
- Locations for storage of materials, waste, vehicle access, equipment storage, soil stockpiling, snow storage and other potential pollutants.

d) Site Demolition Plan

- Plan showing site clearing limits, stripping of topsoil, removal of existing pavements, removal of buildings and structures, trees to be removed and sizes (DBH). Note that this could be combined with the Erosion and Sediment Control Plan if it can be made legible.

3. Stormwater Management Calculations (for Minor projects with stormwater BMPs):

Calculations and information demonstrating compliance with the stormwater management standards of the Chapter 193 Bylaw and these Regulations and design standards of the Massachusetts Stormwater Management Handbook for the BMPs designed. This report must contain the Mass. DEP Stormwater Management Checklist completed to the extent necessary for the particular project. Determine the stormwater flows for the 1 inch and 10 year storm at a minimum. Runoff shall be computed at all discharge points related to the proposed project. Twenty-four (24) hour rainfall depth shall be per Section D - Design Standards in these Regulations.

4. Soil Test Report: (If stormwater infiltration systems are required to meet the Standards):

A report containing the soil test logs performed by a Massachusetts Certified Soil Evaluator or Massachusetts Registered Professional Engineer describing the soil types, determination of seasonal high groundwater and infiltration rates. Testing must be within or very close proximity to the proposed infiltration BMP. If the Rawls method is to be used for infiltration design, there are several confirmatory options: The testing must be witnessed by the Board of Health; or a sieve analysis must be provided of the soil below the proposed infiltration BMP confirming the textural analysis of the soil; or a permeability test must be performed in accordance with the

methodologies in the Mass. DEP Stormwater Handbook and witnessed by the AGENT. If the “Full Dynamic Method” as provided in the Mass. Stormwater Management Handbook is to be utilized for infiltration rates in design, the method shall be as specified in the Handbook and the test shall be witnessed by the AGENT.

5. Stormwater Operation and Maintenance Plan (O&M):

A written document detailing the operation and maintenance requirements for all of the stormwater BMPs included in the project as well as any existing BMPs that will remain in use at the property. The standards for the Operation and Maintenance Plan shall be in compliance with the Mass. DEP Stormwater Management Handbook as most recently revised. The Plan must be in compliance with Section 5.0 F. The minimum requirements are included in Appendix D of these regulations.

3) Major Permit Application

In addition to the Filing Application requirements in Section 5.0 A. 1. Above, the Application must contain the following:

- a) A complete Stormwater Report with Massachusetts Department of Environmental Protection (MassDEP) *Checklist for Stormwater Report*, prepared in accordance with the Mass. DEP Stormwater Handbook (Handbook) and as contained in Appendix C of these Regulations.
- b) Replacement and replanting plan to compensate for the removal of trees and vegetation in accordance with Section 5.0 E.
- c) An Operation and Maintenance Plan for the stormwater management systems per Section 5.0 D. of these regulations and as detailed in Section 5.0 F and in Appendix D.
- d) A Long Term Pollution Prevention Plan for the continued management of the site per Section 5.0 G.
- e) Site Plans as specified in Section 5.0 C.
- f) Payment of the Surety Bond prior to issuance of a permit (if required).

C. Site Plan Requirements for Major Applications

Site Plans for Major Projects under the bylaw are to generally include the following. The AGENT may reduce or add to this as deemed necessary for the scope of the specific project:

- 1) General Information on all sheets.
 - Name and address of the record owner, applicant, surveyor and engineer, landscape designer as applicable.
 - Drawings are to be dark lines on white background.
 - Scale not smaller than 1 inch = 20 feet (except for locus map and sheet layout exhibit plans if included).
 - Address of property and Assessors Map and parcel number(s). Include references to deeds, plans of record, and other information used to establish the existing property lines, the layout of adjacent streets, ways and easements.
 - Coordinate System shall be on 1983 North American Datum, Massachusetts State Plane, and North

American Vertical Datum (NAVD 1988).

- Stamp and dated signature of the registered professionals who prepared the plans.

2) Existing Conditions Plan:

- Plan shall include the entire property. Where only a small portion of the site is to be altered, the plans shall show sufficient area to document the project and a smaller locus plan may be included on the plan set to show the entire property.
- The site's existing topography with contours at 1 foot intervals and spot elevations as required for grade definition.
- Locations of bodies of water, wetlands, FEMA Flood Hazard Area as applicable,
- Buildings and other structures.
- Locations of existing easements and property monuments.
- Locations of existing utilities and drains and other stormwater management facilities.
- Driveways, walls, patios, parking areas and any impervious surfaces.
- Septic systems and wells.
- Property boundaries.
- Existing lawn areas, planting beds and tree lines including the canopy line of existing trees to be removed as measured by survey.
- Trees and tree diameters (DBH) for trees over 5 inch DBH within the Limits of Work and in the any area where clearing will take place.
- Soil Testing locations.
- A separate Existing Conditions Watershed map that shows the existing sub-catchment drainage boundaries, flow paths (drainage patterns) and the discharge points for analysis of the areas that will be affected by the project.

3) Proposed Conditions Plan:

- Proposed grades and contours indicating the finished grades for the proposed work area. Show how the proposed grades tie into the existing grades inside and outside the property.
- Proposed improvements including location of buildings or other structures, impervious surfaces, utilities and easements if applicable.
- Stormwater management systems, drainage facilities and pavements (plan and details) with complete information for construction (pipe sizes, inverts, slopes of pipes, details).
- Proposed landscape plantings that includes proposed limits of planting areas and lawns and including tree planting required to replace trees removed.
- Areas of soil disturbance and delineation of areas that will not be disturbed (Limit of Work).
- Locations of soil tests.
- A separate Proposed Conditions Watershed Map showing the proposed sub-catchment drainage boundaries, flow paths (drainage patterns) and discharge points for analysis of the areas affected by the project.

4) Erosion and Sediment Control Plan and Details

- Locations of all structural and nonstructural erosion and sediment control measures and Best Management Practices (BMPs)
- Locations where stabilization practices are expected to occur.
- Locations for storage of materials, waste, vehicle access, equipment storage, soil stockpiling, snow storage and other potential pollutants.
- Locations where stormwater discharges to surface waters and off-site and on-site drains.
- Construction phasing diagrams.
- Construction details of erosion and sediment control Best Management Practices.
- Where the site is located in whole or in part within the Floodplain, a Floodplain Contingency Plan shall be prepared describing the steps necessary to stabilize the site during construction in the event of a flood.
- Erosion and Sediment Control Notes describing the requirements and the responsibilities of the contractor managing the erosion and sediment controls for the project. Notes shall include details of the proposed operation, maintenance and inspection schedule for all erosion and sedimentation control measures including proposed schedule for street sweeping at adjoining roadways and paved areas.

- **NPDES Compliance:** If the area of site disturbance is one acre or more, the project is subject to the Federal Clean Water Act requirements for construction sites administered by the US Environmental Protection Agency (EPA). This is the National Pollutant Discharge Elimination System (NPDES) - Phase II for Construction Sites. Where coverage under this program is required, the Erosion and Sediment Control Plan filed under the Stormwater and Land Disturbance Bylaw must also comply with the standards required for the preparation of Stormwater Pollution Prevention Plan (SWPPP) under the NPDES Construction General Permit. One copy of the complete SWPPP prepared for the project must be submitted to the Agent for review and approval prior to any alteration of the site to determine compatibility with the approved plan and project documents. Prior to site alteration, a copy of the EPA Notice of Intent and EPA confirmation of the filing and coverage under the Construction General Permit must be filed with the AGENT.

5) Site Demolition Plan

- Plan showing site clearing limits, stripping of topsoil, removal of existing pavements, removal of buildings and structures, trees to be removed and sizes (DBH). Note that this could be combined with the Erosion and Sediment Control Plan if it can be made legible.

D. Design Standards

- 1) Massachusetts Stormwater Management Regulations and Handbook (SWM Handbook):

For all applications under this Bylaw, the minimum Standards for design and compliance, will utilize the most recent edition of the Massachusetts Stormwater Handbook and Stormwater Management Regulations for execution of the provisions of the Wayland Stormwater and Land Disturbance Bylaw Regulations except as may be specifically modified under the Bylaw and these Bylaw Regulations. Under the Bylaw and Regulations, the Massachusetts Stormwater Standards and Handbook will apply regardless of whether the project is exempt under the Massachusetts Stormwater Management Regulations. Unless otherwise specified in these Bylaw Regulations, Stormwater Management Best Management Practices shall be designed, constructed and maintained in accordance with the Massachusetts Stormwater Management Standards and Handbook.

- 2) Rainfall Depths for Design and Hydrologic Analysis: The 24-hour rainfall depths shall be based on the Northeast Regional Climate Center “Atlas of Precipitation Extremes for the Northeastern United States and Southeastern Canada” latest edition. The storm frequencies to be evaluated shall be the 2 year, 10 year, 25 year and 100 year storms plus the 1 inch storm.
- 3) Stormwater basis of design shall be as follows:
 - a) Pipe design for free flow shall be based on the 25 year storm.
 - b) No increase is allowed in the rate of runoff from the site at discharge locations for all storms up to a 25 year storm. Increases in peak flows for the 100 year storm may be permitted if a hydrologic evaluation is performed clearly demonstrating that there will be no significant impact on downstream flooding and erosion at the discharge points.
 - c) No increase is allowed in the volume of runoff from all storms up to a 10 year storm and there shall be no increase in the volume for up to a 100 year storm unless a hydrologic evaluation is performed clearly demonstrating that there will be no significant impact on downstream flooding.
 - d) The water quality volume and recharge volumes shall be per the Mass. Stormwater Management Regulations. In order to comply with the Massachusetts MS4 General Permit (Effective July 1, 2018), for new development of one (1) acre or more in area, the requirements are increased over that contained in the Mass. Stormwater Management Regulations and the following will apply in these Bylaw Regulations: For those projects, stormwater management systems shall be designed to retain the volume of runoff equivalent to, or greater than, one inch multiplied by the total post-construction impervious surface area on the site and / or remove 90% of the average annual load of Total Suspended Solids (TSS) and 60% of the average annual load of phosphorous (TP) generated from the total post construction impervious surface area on the site. Pollutant removal shall be calculated consistent with the Mass. Stormwater Management Regulations. For re-development project of one acre or more, systems shall be designed to retain the total volume of runoff equivalent to, or greater than, 0.8 inch multiplied by the total post-construction impervious surface area on the site and/or remove 80% of the average annual post-construction load of TSS and 50% of the average annual load of TP generated from the total post-construction impervious area on the site.

4) Better Site Design - Low Impact Development

One of the objectives of the Bylaw is to encourage the use of non-structural stormwater management and Low Impact Development (LID) techniques in the site designs. Non-structural stormwater management includes, but not limited to, reduction of impervious cover, preservation of open space, and restoring degraded areas with vegetation. LID Techniques are detailed in the Mass. Stormwater Management Handbook.

For all applications for permits under the Bylaw, the Applicant must consider and utilize these techniques where feasible and practicable. The application narrative must describe the non-structural and LID techniques included in the design. Where these techniques are not utilized, the narrative must detail why these techniques are not feasible and / or practicable.

5) Public / Private Roadway Projects:

All public/private roadway projects for existing ways must provide a net improvement to stormwater conditions, either in the area of the disturbance or other areas on the site. The Agent may require improvements to areas outside of the disturbance activity where known problems exist and reasonable solutions are available. Such opportunities might include:

- a) Reduce impervious surfaces.
- b) Implement source controls of potential stormwater pollutants on the entire site.
- c) Reroute drainage to maximize treatment efficiencies.
- d) Update/Prepare Operation and Maintenance plans and procedures for the roadway and implement those plans.

E. Tree Replacement and Replanting Requirements

- 1) Presumptive Stormwater Value of Trees: Trees perform functions relative to stormwater and water resources protection including, but not limited to, the following:
 - a. Reducing flood volumes and flood elevations.
 - b. Provide stabilization of soil that reduces erosion.
 - c. Provides nutrient uptake that improves water quality.
 - d. Provides shade that contributes to lowering surface temperatures and cools water temperature of runoff and water bodies.
- 2) General Goals: Recognizing the values of trees in the landscape for the protection of water resources, it is the goal to minimize the loss of trees and tree canopy to the extent practicable.
- 3) Tree Categories: For the administration of this section, trees are categorized as small (5 inch to 10 inch), medium (11 inch to 20 inch), large (more than 20 inches). Measurements are diameter breast high (4.5 feet above ground level).

- 4) Application submittal information for each tree to be removed:
 - a. Tree size, type and condition (good fair poor or dead)
 - b. Tree location shown on the plan.
 - c. Reason for tree removal. (Poses a safety threat, interferes with a proposed project, interferes substantially with the land owner's use of the property, etc.)
 - d. Certified arborist report verifying the condition of the tree.

- 5) Tree Mitigation Requirements and Conditions
 - a. It is the intent to avoid the loss of native species of trees and to mitigate that loss wherever practicable. The following are guidelines for the design of mitigation. The Agent may exercise its discretion in the application of this Section where full compliance does not make sound environmental sense or creates an undue hardship on the use of the property. In situations where the property owner is not able to replace the removed trees on their property, due for example to space limitations or poor soils, the Commission, at their discretion, may require the property owner to fund off-site mitigation. The property owner would be required to provide funds to cover the cost for replacing and planting of each new tree as estimated by a reputable nursery or landscape company.

 - b. All replacement trees and shrubs shall be native species and meet the following:
 - For removal of each large tree proposed to be removed, replacement shall be one 2 inch minimum tree or two shrubs.
 - For medium trees proposed to be removed, for every 5 (or subset of 5) medium trees, one-2 inch minimum tree, or two one inch minimum trees or 4 native shrubs, or combinations of these.
 - The replacement plantings shall be as close to the area of the trees to be removed as practicable and / or in areas that will provide improved environmental benefit.
 - For small trees, provide one inch minimum tree per 5 trees to be removed or two shrubs in an area approximately equal to the area lost that fits with the local environment.

 - c. Tree and shrub planting must survive 2 growing seasons to be accepted as complying with this Section.

F. Stormwater Operation and Maintenance Plan (O&M) Contents

The Operation & Maintenance Plan (O&M Plan) shall be required for all projects that include Stormwater Best Management Practices. The O&M Plan is required at the time of the application. The O&M Plan content shall be prepared in compliance with the Massachusetts Stormwater Management Handbook as most recently revised. The minimum requirements are provided in Appendix D of these Regulations. The O&M Plan may be prepared as a separate document or may be combined as part of the Long Term Pollution Prevention Plan.

G. Long Term Pollution Prevention Plan

The Long Term Pollution Prevention Plan (LTPPP) for management of the site is required for all Major Permit Applications. A LTPPP is also required for any Minor Project where it is a requirement for the Massachusetts Stormwater Management Regulations. The LTPPP may be prepared as a separate document or combined with the Operation and Maintenance Plan. Requirements for the Content of a LTPPP are under Standard 4 of the Mass. Stormwater Management Regulations and in the Massachusetts Stormwater Handbook and the LTPPP shall be prepared in compliance with those requirements.

6.0 ADMINISTRATION

A. Entry on Land

Filing an application for a permit grants the AGENT permission to enter the site to verify the information in the application and to inspect for compliance after issuance of the Chapter 193 permit.

B. Application Fee

A non-refundable application fee shall be due and made payable to the Town of Wayland at the time an application is filed. The Application Fee will be used for processing of the application, coordination of Town staff, review of the application for completeness, site inspections, and other clerical work by the Town staff. Municipal projects shall be exempt from the application fee. The AGENT is authorized to retain a Registered Professional Engineer or other professional consultant to provide a technical review of the Stormwater Management Report. Applicants must pay the technical review fees before the review process may begin.

Application Fee: \$100 for Minor Permit Application
 \$250 for Major permit Application

Technical Review Fee: project specific

Inspection Fee: If scheduled 48 hours in advance (as required) with the Conservation Agent: no charge.

If an outside consultant is required: Based on Consultant's hourly rates. \$150 minimum

C. Permit Application Review and Approval Procedure

1. Minor Permit Application

Administrative Review: For Minor Permit Applications where no waivers of the Bylaw and / or Regulations are being requested, the designated Agent of the Conservation Commission shall review the application and issue a finding to the Applicant as follows:

- a) Determination of Completeness: The designated Agent shall review the application submission and issue a determination stating whether the application is complete and whether it complies with the design standards established in these Rules and Regulations.
- b) Incomplete Applications: If the designated Agent determines that the application is incomplete,

including insufficient information to describe the site, the work, or the effect of the work on water quality and runoff volume, the Agent may require the submission of additional information and / or disapprove the application and deny the permit.

- c) Applications deemed to be complete and in compliance with the Design Standards: Each Minor Permit Application under this Section deemed to be complete and in compliance with the Regulations shall be acted upon within thirty (30) days of the date of filing with the AGENT unless the Application has been withdrawn by the Applicant. The designated Agent may
 - i Approve the Permit Application upon a finding that the proposed plan will protect water resources and meets the objectives and requirements of the Bylaw;
 - ii Approve the Permit Application with conditions, modifications or restrictions that are required to ensure that the project will protect the water resources and meets the objectives and requirements of the Bylaw. The Applicant may appeal the conditions or restrictions in the Permit by requesting a meeting with the AGENT, their technical consultant, and/or Town Engineer to review and consider the Conditions, or may request a public meeting with the Conservation Commission to consider the Conditions.

- d) Applications not in compliance with the Design Standards:
 - i For applications where the designated Agent has determined that the Design Standards have not been met and deny the Application. The Applicant may appeal the determination and request a public meeting with the Conservation Commission to consider the application or resubmit the application demonstrating compliance.
 - ii For applications where the Design Standards cannot be met due to site conditions or the Applicant wishes to propose an alternative design not consistent with the Design Standards, the Applicant may opt to forego Administrative Review and immediately request a public meeting with the Conservation Commission for review and consideration of waivers.

2. Major Permit Application and Waiver Requests

Upon receipt of an Application, the AGENT will schedule a meeting for review and discussion of the Application to take place at next available scheduled and duly posted public meeting of the Conservation Commission. The Applicant and their representatives are invited to attend and make presentations and take part in the discussions on the Application.

This meeting will be within 21 days of the receipt of the Application or to later date agreed to in writing by the Applicant. The AGENT shall review the application and issue findings to the Applicant as follows:

- a) Determination of Completeness: AGENT shall review the application submission and issue a determination stating whether the application is complete and whether it complies with the design standards established in these Rules and Regulations.

- i Determination of need for Consultant Review: For complex and larger projects, the Conservation Commission may determine that the Application be reviewed by an outside Consultant to assist in determining completeness and compliance with the Bylaw and the Regulations. The Applicant will be notified of this decision and the meeting will be continued to a time to allow engagement of the Consultant and to receive the Consultant's review report. See "Rules for Engaging a Consultant" in Section 6. D. of these Regulations. Failure of the Applicant to pay for the Consultant within ten (10) business days of the request for payment shall be cause for the AGENT to deny the Permit Application.
- b) Incomplete Applications: If the AGENT determines that the application is incomplete, including insufficient information to describe the site, the work, or the effect of the work on water quality and runoff volume, the AGENT may require the submission of additional information and / or disapprove the application and deny the permit.
- c) Applications deemed to be complete and in compliance with the Design Standards: Each Major Permit Application under this Section deemed to be complete and in compliance with the Regulations shall be acted upon within thirty (21) days of the date of the final Public Meeting of the Conservation Commission on the subject Application, unless the Application has been withdrawn by the Applicant. The Conservation Commission may
 - i Approve the Permit Application upon a finding that the proposed plan will protect water resources and meets the objectives and requirements of the Bylaw;
 - ii Approve the Permit Application with conditions, modifications or restrictions that are required to ensure that the project will protect the water resources and meets the objectives and requirements of the Bylaw.
- d) Applications not in compliance with the Design Standards:
 - i For applications where the Conservation Commission has determined that the Design Standards have not been met, the Conservation Commission shall disapprove the Application and deny the permit if the plan will not protect water resources or fails to meet the objectives and requirements of the Bylaw; or
 - ii For applications where the Applicant has requested waivers and the Conservation Commission finds that the alternative designs or remedies proposed will meet the purpose and intent of the Bylaw and meet the Waiver requirements in Section 2.0 (d) of these regulations, the Plan may be Approved with Conditions designed to protect the interests of the Bylaw.

3. Mutual Extension of Time

The required time limits for final action may be extended by written agreement between the applicant and the Commission.

4. Failure of the Commission to take final action upon a completed Application shall be deemed to be approval of said Application.

5. Expiration of Chapter 193 permit

An approved Chapter 193 permit is valid for one to three years from the date of issuance as determined by the AGENT based on the project Scope. This time period shall be stated on the permit. If work has not been completed within the permit time period, the applicant may request in writing to the Conservation Commission, an extension of up to one year. Such extensions may be renewed for one additional one-year period if, in the Commission's judgment, a further extension would serve the interests of the Bylaw. Such request shall be submitted twenty (20) business days prior to expiration of the approved Chapter 193 permit. The Conservation Commission may re-evaluate the originally approved Chapter 193 permit application and Stormwater Report to determine whether the plan still satisfies state and local regulations. If the Conservation Commission finds the previously filed plan to be inadequate, a modified plan shall be submitted and approved prior to the commencement or resumption of land-disturbing activities.

The replacement and replanting of trees or vegetation as required in the Chapter 193 permit shall be done within 180 days of vegetation removal, unless seasonal restrictions prohibit planting or landscape stock for the approved planting plan is not available. Funding for off-site mitigation shall be paid in full within 180 days of vegetation removal.

6. Plan Changes

The Applicant must notify the AGENT in writing of any proposed changes or alterations to the approved project before any of the changes or alterations are made. If the Agent determines that the proposed change or alteration is insignificant and substantially within the scope and intent of the Permit, the AGENT may accept the change and so notify the Applicant in writing. If the AGENT determines that the change or alteration is significant to the scope and intent of the Permit, the AGENT may require the Applicant to file for an amended Permit Application.

7. Project Completion

For all permits issued per this Section, at the completion of the project the Applicant shall request a Certificate of Completion from the AGENT pursuant to Section 8.0 of these Regulations. The AGENT will issue a letter certifying completion upon review and approval of the required submittal materials stated on the permit and inspection of the site upon determining that all work of the Permit has been satisfactorily completed and all required submittals stated in the permit have been provided and are deemed satisfactory per Section 8.0 below.

D. Rules for Engaging a Consultant

As provided by GL. Ch. 44 sec 53G, the AGENT may impose reasonable fees for the employment of outside consultants engaged by the AGENT, for specific expert services deemed necessary by the AGENT in order to

reach a final decision on an application submitted under this Bylaw.

Funds received by the AGENT pursuant to the Bylaw and these Regulations shall be deposited with the Town of Wayland Treasurer who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the AGENT without further appropriation as provided in GL. Ch. 44 sec. 53G. Expenditures from this account shall be made only in connection with the review of the specific project or projects for which a consultant fee has been collected from the Applicant.

Specific consultant services may include but are not limited to hydro-geologic and drainage analysis, stormwater impacts and adequacy of plans and data submitted. The consultant shall be chosen by, and report only to the AGENT.

The AGENT shall give written notice to the Applicant on the selection of an outside consultant, which notice shall state the identity of the consultant, the amount of the estimated fee to be charged to the Applicant, and the request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is mailed or delivered. No such costs or expenses shall be incurred by the Applicant if the application or request is withdrawn within five (5) days of the date the notice is given.

The total estimated fee must be received in its entirety prior to the initiation of consulting services. The AGENT may request additional consultant fees if necessary review requires larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the Applicant to pay the consultant fee specified by the AGENT within ten (10) business days of the request for payment shall be cause to deny the application. The AGENT shall state such in a letter to the Applicant. No additional review or action shall be taken on the permit request until the Applicant has paid the requested fee. Any remaining balance will be returned to the Applicant.

The applicant may appeal the selection of the outside consultant to the Board of Selectmen, who may disqualify the outside consultant selected only on the grounds that the consultant has a conflict of interest or does not possess the minimum required qualifications. The outside consultant shall be a Massachusetts Registered Professional Engineer with demonstrated experience in stormwater management and erosion and sediment control. Such an appeal must be in writing and received by the Board of Selectmen and a copy received by the AGENT, so as to be received within ten (10) days of the date the consultant fees were requested by the AGENT. The required time limits of action upon the application shall be extended by the duration of the administrative appeal.

E. Appeals of Actions

The decisions or orders of the Commission shall be final. Further relief of a decision by the AGENT shall be reviewable in a court of competent jurisdiction of an action filed within 60 days thereof, in accordance with MGL c. 249, § 4. The filing of such an appeal shall result in the revocation of the written approval as described in these

Regulations, until such time as the appeal process has been resolved.

7.0 SURETY

Before the start of any land disturbance or construction, the Conservation Commission may require the Applicant to furnish proper surety in the form of a Performance Bond, cash, certified check, or other acceptable security to the Town to cover the estimated cost of construction for any components of the approved plan deemed important by the Conservation Commission for the purposes of the Bylaw and / or repairs of damages to any Town facilities resulting from the project. (eg: Stormwater Management facilities to mitigate impacts; re-plantings for stabilization and mitigation; repairs to eroded areas; repairs to the Town facilities damaged or impacted from the project; etc.)

If the project is phased, the Conservation Commission may release part of the bond as each phase is completed in compliance with the Permit. The bond may not be fully released until the Conservation Commission has received the final inspection report and issued a Certificate of Completion (see below for projects that require a Certificate of Completion).

8.0 CERTIFICATE OF COMPLETION

A. Upon completion of the project, the Applicant shall submit a Request for a Certificate of Completion to the AGENT. The request shall certify that the completed project is in accordance with the approved plans with any exceptions clearly described and noted. The Request for a Certificate of Compliance must include all materials specified in the permit conditions. Submittal requirements will vary depending on the size and scope of the project and may include as-built plans, engineer's certification of the stormwater installation, final O&M plan, or a letter certifying compliance with the permit. A site visit by the Commission or AGENT will most likely be required. See As-Built Plan requirements for Major Projects in Section 12.0 of these Regulations.

B. The AGENT will review the submitted materials and perform an inspection of the site. Upon determination that all work of the permit had been satisfactorily completed and in conformance with the Bylaw, the AGENT will issue a letter certifying completion. If the work is not complete and / or the request is deficient, the AGENT will issue a letter to the Applicant describing issues and the required remedies to bring the project and /or submittal into compliance.

9.0 ANNUAL INSPECTION, MAINTENANCE, AND SURVIVAL OF REPLACEMENT PLANTINGS

A) Maintenance Responsibility

The owner of the 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 of a stormwater management system shall be in accordance with approved plans.

B) Maintenance Inspections

1. Stormwater management systems must undergo regular inspections by a competent professional as outlined below to document maintenance, repair, replacement and disposal needs and ensure compliance with the

requirements of the Operation & Maintenance Plan, these Regulations and the Massachusetts Stormwater Handbook.

2. At a minimum, inspections shall occur once during the first year of operation and annually thereafter. Some BMPs may require more frequent inspection, as specified in the Operation & Maintenance Plan.

3. Annual inspection reports shall be submitted by December 31st to the Conservation Commission for all stormwater management systems and shall include at a minimum:

- a) The date of inspection;
- b) Name and signature of inspector;
- c) The condition of all stormwater management system components and best management practices or any other item that could affect the proper function of the stormwater management system;
- d) Description of needed repairs; and
- e) Schedule for completion.

C) Survival of Replacement Plantings

All plantings installed to replace removed trees and vegetation in compliance with the approved Chapter 193 permit plans shall survive for two growing seasons (defined as April through October). Plantings that do not survive shall be replaced with an identical size and variety of the original planting.

D) Right-of-Entry for Inspection

The terms of the Operation & Maintenance Plan shall provide for the Conservation Commission or its designee to enter the property at reasonable times and in a reasonable manner for the purpose of inspection.

E) Records of Inspections and Maintenance, Repair, Replacement and Disposal Activities

Parties responsible for the operation and maintenance of a stormwater management system shall prepare records of the installation and of all inspections, maintenance, repairs, replacement, and disposal activities, and shall retain the records for at least five (5) years. These records shall be made available to the Conservation Commission during inspection of the facility and upon request. For disposal, the record must indicate the type of material, quantity of material, and disposal location.

F) Failure to Maintain

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 thirty (30) days to correct the deficiencies. The Conservation Commission shall then conduct a subsequent inspection to ensure completion of repairs.

If a Responsible Party fails or refuses to meet the requirements of the Operation & Maintenance Plan, the Conservation Commission, after thirty (30) days written notice (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hour notice shall be sufficient), may assess the owner(s) of the site for the cost of repair work, which shall be a lien on the property and any applicable fines.

10.0 ENFORCEMENT

Enforcement powers of these regulations are as granted in the Chapter 193 .Stormwater and Land Disturbance Bylaw. The Authorized Enforcement Agent, hereinafter the AGENT, is the Wayland Conservation Commission, its employees or agents designated to enforce the Bylaw.

A. The AGENT shall enforce the Bylaw, Regulations, orders, violation notices, and enforcement orders, and may pursue all civil, criminal and non-criminal remedies for such violations.

B. Notices and Orders

- 1) The AGENT may issue a written Notice of Violation or Enforcement Order to enforce the provisions of the Bylaw or Regulations thereunder, which may include requirements to:
 - a) Cease and desist from construction or land disturbing activity until there is compliance with the Bylaw and / or the Stormwater Management and Land Disturbance Permit (SMLDP).
 - b) Repair, maintain, or replace the stormwater management system or portions thereof in accordance with the operation and maintenance plan.
 - c) Perform monitoring, analysis, and reporting.
 - d) Fix adverse impact resulting directly or indirectly from malfunction of the stormwater management system.
- 2) If the AGENT 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 Wayland may, at its option, undertake such work, and the property owner shall reimburse the Town of Wayland for expenses incurred. *The Town of Wayland would only undertake such work in the case of damage or imminent threat to the Town's MS4 or threat to public safety. Work performed would be restricted to alleviate that situation only.*
- 3) Within 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 cost incurred by the Town of Wayland including administrative costs. The violator or property owner may file a written protest objecting to the amount or basis of costs with the AGENT within thirty (30) days of the receipt of the notification of the costs incurred. If the amount due is not received by the expiration of the time in which to file a protest or within thirty (30) days following a decision of the AGENT affirming or reducing the costs, or from a final decision of a court of competent jurisdiction, the costs shall become a special assessment against the property owner and shall constitute a lien on the owner's property for the amount of said costs. Interest shall begin to accrue on any unpaid costs at the statutory rate provided in Mass. G.L. Ch. 59, sec. 57, after the thirty-first day at which the cost first becomes due.

C. Any person who violates any provision of the Town of Wayland Stormwater and Land Disturbance Bylaw, or Regulations, 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 \$300. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

D. Non-Criminal Disposition

As an alternative to criminal prosecution or civil action, the Town of Wayland may elect to utilize the non-criminal disposition procedure set forth in Mass. G.L. Ch. 40 sec. 21D. The following shall be the fines applicable to the listed offenses:

First violation:	Warning
Second violation:	\$ 100
Third violation:	\$ 200
Fourth and subsequent violation	\$ 300

Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

E. 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.

11.0 SEVERABILITY

If any court of competent jurisdiction declares that any section, provision, paragraph, sentence, or clause of these Regulations is invalid or unconstitutional, any other section, provision, paragraph, sentence, or clause thereof shall remain in full force and effect. Accepted unanimously by the Conservation Commission on (date).

12.0 AS-BUILT REQUIREMENTS

A. For Major Projects, No later than one year following completion of work, the Applicant shall submit to AGENT a final As-built Plan containing the following information. The AGENT 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 or professional engineer who performed the work;
- Date 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 dimension of 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 AGENT.
- B. 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 permit”. This certification shall be accompanied by the signature and stamp of an Engineer and/or a Surveyor. Where there are exceptions to this statement, the Engineer and/or surveyor must add the statement “With the Exception of the Following:” and shall list all exceptions to the above statement.
- C. Electronic copies of all as-built plans, in addition to a paper copy are required.

APPENDIX A - ADDITIONAL DEFINITIONS UNDER THE BYLAW REGULATIONS

Note that certain definitions from the Bylaw have been modified for clarification and administration purposes, and to better serve the purposes of the Bylaw. In those cases, the full text of the Bylaw definition is included below with the modifications shown in italics. The Chapter 193 Bylaw is included in Appendix 1 for reference. See the Definitions under the Bylaw plus Section 3.0 of these Regulations and the definitions in this Appendix for definitions of terms for the administration of the Bylaw Regulations.

APPLICANT: A property owner or agent of a property owner who has filed an application for a Chapter 193 permit.

AGENT or AUTHORIZED ENFORCEMENT AGENT: The Wayland Conservation Commission, (Commission), its employees or agents designated to enforce this chapter.

DESIGNATED AGENT as used in the Bylaw Regulations is the Conservation Administrator or other person so authorized by the Conservation Commission to review and issue decisions on Minor Permit Applications.

BYLAW: Shall mean the Town of Wayland Stormwater and Land Disturbance Bylaw unless otherwise specified.

CONVEYANCE: Any structure or device, including, but not limited to, pipes, drains, culverts, curb breaks, paved or vegetated ditches and swales of all types designed or utilized to move or direct stormwater runoff or existing water flow.

DEVELOPER: A person who undertakes or proposes to undertake land disturbance activities.

DISCHARGE: A general outflow term including flow from a pipe *or other conveyance* into a stream, or from a stream to a body of water.

- A. **DISCHARGE POINT:** The outlet of a pipe *or other conveyance*, or at particular location along a stream *or other water body or off of a particular site*.
- B. **DISCHARGE (FLOW) RATE:** Volume of water passing a particular point in a given time.
- C. **DISCHARGE VOLUME:** Includes both sheet runoff and point source discharges from pipes or stream channels *or other conveyances and includes the volume of stormwater runoff reaching a water body or leaving a site*.

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

EROSION AND SEDIMENTATION CONTROL PLAN: *(Clarified from Bylaw) Generally this is a plan that shows the location and construction detail(s) of the erosion and sediment reduction controls to be utilized for a construction site. For Major Permit Applications under the Bylaw Regulations, this is a document containing narrative, drawings and details typically developed by a qualified professional engineer (PE) or a Certified Professional in Erosion and Sediment Control (CPESC), which includes best management practices, or equivalent measures designed to control surface runoff, erosion and sedimentation during pre-construction and construction related land disturbance activities. Where a project proposes to alter one acre or more of land requiring coverage under the US EPA National Pollutant Discharge Elimination System (NPDES) under the Federal Clean Water Act, the Erosion and Sediment Control Plan is one part of a "STORMWATER POLLUTION PREVENTION PLAN" (SWPPP).*

FLOOD CONTROL: The prevention or reduction of flooding and flood damage.

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.

HOTSPOT: Land uses or activities with higher potential pollutant loadings, such as vehicle salvage yards, vehicle fueling facilities, fleet storage yards, commercial parking lots with high intensity use, road salt storage areas, commercial nurseries and landscaping, outdoor storage and loading areas of hazardous substances. See also the Mass. Stormwater Management Standards for additional information on “Land Uses with Higher Potential Pollution Loading”.

IMPERVIOUS SURFACE: Any material or structure on, above or below the ground that prevents water from infiltrating through the underlying soil. Impervious surface is defined to include, without limitation: paved parking lots, sidewalks, driveways, roof tops, decking, swimming pools, patios, and other paved surfaces. *Added to Bylaw Definition: New compacted gravel and compacted dirt surfaced roads are also considered impervious surfaces as they significantly change the runoff characteristics and degrade water quality from natural vegetated terrain.*

INFILTRATION: The movement of water downward into the soil. Infiltration is important to replenishing the groundwater. *Also, the act of conveying surface water into the ground to permit groundwater recharge and the reduction of stormwater runoff from a project site.*

LAND-DISTURBING ACTIVITY / LAND DISTURBANCE: Any action, including clearing, the removal of trees and other vegetation, *and other land alterations* that causes a change in the position, location, or arrangement of soil, sand, rock, gravel or similar earth material. *Where the disturbance includes tree removal, the limit of disturbance is to be considered the limit of the tree canopy.*

LAND USE CONVERSION ACTIVITY: Any activity which will measurably change the ability of a ground surface area to absorb water or will change existing surface drainage patterns *or will increase the pollutant load by changing the site to a higher intensity use that would require the change in the existing stormwater system to accommodate that use.*

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 latest version as may be amended from time to time of the Stormwater Management Standards contained in the Mass. DEP Stormwater Management Regulations 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).

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

PRE-DEVELOPMENT: The conditions that exist at the time that plans for the land development of a tract of land are submitted for a SMLDP Permit. 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 under this Bylaw shall establish pre-development conditions.

POINT SOURCE: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

PRACTICABLE: available and capable of being done after taking into consideration existing technology and logistics in light of overall project purposes.

RECHARGE: The replenishment of underground water reserves.

REDEVELOPMENT: Any ground surface disturbing construction, alteration, demolition or improvement of a parcel of land, *or portions of a parcel of land*, that currently lacks a natural vegetated state and contains alterations by man-made activities. *For administration of these Regulations under the Bylaw, the definitions and standards under the Mass. Stormwater Management Regulations and Handbook will be utilized.*

REGULATIONS: Shall mean these Stormwater Management Bylaw Regulations unless otherwise specified.

RESOURCE AREA: Any area protected under including without limitation: the Massachusetts Wetlands Protection Act, Massachusetts Rivers Act, or Town of Wayland Wetlands and Water Resources Bylaw (Chapter 194).

RUNOFF: Rainfall or snowmelt water flowing over the ground surface or other source resulting in transport of other pollutants. Also called "stormwater runoff" or "direct runoff".

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

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

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 (25) percent slope).

SPECIMEN TREE: **Any** tree which that has been individually designated by the local governing body or certified arborist to be notable by virtue of its outstanding size, shape, shade, age, and quality for its particular species.

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 POLLUTION PREVENTION PLAN (SWPPP): Is a detailed written document with plans that is prepared for the management of construction sites using Best Management Practices under the Federal NPDES Construction General Permit (CGP). Preparation of a SWPPP is required for construction projects that will alter one acre or more of land. Preparation of a SWPPP is a pre-requisite to filing with the Environmental Protection Agency for coverage under the CGP. (Also see the definition of Erosion and Sediment Control Plan.)

CHAPTER 193 PERMIT (SMLDP): A permit issued by the Conservation Commission, 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.

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 - WAYLAND STORMWATER MANAGEMENT REPORT CONTENTS / CHECKLIST

These requirements are intended for all Major Applications under the Stormwater and Land Disturbance Bylaw Regulations. For Minor Project Applications refer to the Bylaw Regulations and meet with the Conservation Commission Administrator for required content depending on the scope of the project.

All reports shall be bound and include the following information:

Report Cover Page

Project Title / Development Name
Site Address
Owner's Name and Address
Applicant's Name and Address if different from the owner.
Engineer's Name, Company, Address
Date of Report.
Registered Professional Engineers Stamp, Signature and Date

Table of Contents

Narrative (Summary of Project and Stormwater Report)

- Description of Project
- Description of Existing and Proposed Conditions / Use
 - Include description of hydrologic setting, including land use, surface cover, estimated high groundwater elevations, runoff flow paths and discharge points / points of analysis and proposed stormwater management practices,
- Summary of Soil Conditions including soil types and Hydrologic Soil Groups (HSG) as classified by the Natural Resource Conservation Service.
- Inventory of trees to be removed including all trees greater than 6-inch DBH, the species of tree, size, and condition.
- Basis of the Stormwater Design. Describe:
 - Intent of the design
 - How the design meets the requirements under the bylaw and Mass. DEP Stormwater Regulations.
 - Rainfall Depths for the 2, 10, 25 and 100 year storms per the latest Cornell Atlas for the site.
 - Peak rates and volumes of runoff.
 - Water Quality Treatment
 - Recharge / Infiltration requirements
 - LID and Sustainable Stormwater Techniques included/
 - Or reasons for not using LID / Sustainable design techniques.
 - How the project improves stormwater conditions.
 - Summary table(s) showing existing and proposed stormwater runoff peak rates and volumes at all analysis points For the 1 inch, 2 yr, 10 yr, 25 yr, and 100 yr, storm events.
 - Any waivers being required and reasons for those waivers.

Stormwater Standards and Compliance Calculations and Details

- Mass DEP Checklist and This Checklist
- Illicit Discharge Statement
- Summary of Compliance with each of the 10 Mass. Stormwater Management Regulation Standard.
- Standard 1 Calculations for scour and stability at discharge points.

- Standard 2 Existing and Proposed Peak rates and compliance description.
 - If peak flow and / or runoff volumes do not meet the Bylaw standards, provide calculations Showing impacts to downstream flooding.
- Standard 3 Calculations for Recharge: Calculations showing recharge required and provided and Design Calculations for each infiltration BMP per the DEP Stormwater handbook.
- Standard 4. Calculations for Water Quality Volume and TSS removal for all stormwater systems.
- Standard 7 For Redevelopment - Area Calculations of existing and proposed impervious surfaces and information describing meeting stormwater requirements to the extent practicable. Note that for projects altering one acre or more, these Regulations require more stringent pollutant removal performance than the Mass. Stormwater Management Regulations.
- Pipe flow calculations for 25 year storm capacity (HydroCAD or Rational Method).
- LID Credits: If LID Credits are being used to meet any of the Stormwater Standards, include Information describing compliance with DEP Stormwater Handbook.

Hydrologic Modeling Calculations

- Use of the latest version of HydroCADD is recommended. Use of other Hydrologic Modeling software that is based on SCS TR20 and TR55 is acceptable if clear and useable for the purpose.
 - Hydrographs shall not be truncated. Time shall start at 0 hours and the finish time set so that all runoff is accounted for.
 - Minimum time of concentration shall be 5 minutes.
 - Computation increment shall be set as small as possible. (0.01 hours is recommended).
 - Maximum sheet flow length shall not exceed 50 feet.
- Existing and Proposed Conditions Watershed Maps
 - Note that the watershed boundaries must include any off-site areas that drain onto the site that affect the stormwater systems and the existing conditions and proposed project.
 - The runoff calculations for the site must include any existing stormwater facilities that affect runoff rates or volumes.
 - Hydrologic Calculations shall include sub-catchment node summary details.
 - For stormwater basins and recharge facilities, node summary information and hydrograph plots are to be included.
 - 1 inch, and 2, 10, 25 and 100 year storm events to be modeled.

Soils Information

- Soil test report including NRCS soils information for the site with a map.
- On-Site Soil Testing logs. (Testing to be by a Massachusetts Licensed Soil Evaluator). Estimated seasonal high water must be determined at each test hole if possible.
- Permeability Testing if necessary to confirm Rawls infiltration rates.
- Note that for any BMP using infiltration for treatment or recharge, testing must be in reasonable proximity to the proposed BMP. Number of test holes for each recharge BMP site to meet the Mass. DEP Handbook Requirements.

Long Term Pollution Prevention Plan and Stormwater Operation and Maintenance Plan

- Must be included with the report and prepared per the Mass. DEP Handbook and the Wayland Stormwater and Land Disturbance Bylaw Regulations.

APPENDIX C: STORMWATER BMP OPERATION AND MAINTENANCE PLAN CONTENT REQUIREMENTS

The O&M Plan shall include, at a minimum:

1. The name(s) of the owner(s) for all components of the system;
2. The signature(s) of the owner(s)
3. The names and addresses of the person(s) responsible for the operation and maintenance;
4. A plan or map showing the location of the systems and facilities including easements, catch basins, manholes/access lids, main, and stormwater devices.
5. An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed.
6. Complete instructions for inspection of each BMP including:
 - How to perform the inspection (How is the system supposed to operate, access for observations,)
 - What tools and equipment are needed for inspections.
 - What to look for and observations to be made.
 - How to determine that the system is functioning properly and what are signs of poor operation and failure,
 - How to determine when maintenance is necessary.
 - What to look for to determine structural condition of the system for repairs
7. Instructions for Maintenance.
 - How is it done? What tools and equipment. Who does the maintenance (Owner, outside contractor?)
 - For proprietary BMPs, include the manufacturer's inspection and maintenance recommendations.
8. A list of easements with the purpose and location of each. Easements shall be recorded with the Middlesex South District Registry of Deeds.
9. Provisions for the Commission or its designee to enter the property at reasonable times and in a reasonable manner for the purpose of inspection;
10. Any other information required by the Stormwater Management Decision.
11. Copy of a blank Inspection Report for each BMP.
12. A maintenance report form to be used when maintenance is performed.
13. An overall schedule for the site for routine stormwater BMP inspections.