

Rules and Regulations regarding Article II of Stormwater Management and Land Disturbance Bylaw (Chapter 230 of Town Municipal Code)

Adopted by the Sharon Conservation Commission on 2/16/23

Section 1. Purpose

The purpose of these Stormwater Regulations is to protect, maintain and enhance the public health, safety, general welfare, and environment by establishing minimum requirements and procedures to control the adverse effects of increased runoff, decreased ground water recharge, erosion and sedimentation, and nonpoint source pollution associated with new development and redevelopment of land, as identified in Chapter 230 of the Municipal Code, Stormwater Management Article I and Article II, of the Town of Sharon Bylaws.

Development of land, including loss of vegetative cover to introduce impervious surfaces, regrading, and other land use changes, permanently alter the hydrologic system of local watersheds by decreasing transpiration and infiltration and increasing stormwater runoff rates and volumes, causing an increase flooding, stream channel erosion, and sediment transport and deposition. Additional runoff also contributes to increased nonpoint-source pollution and degradation of receiving waters.

Stormwater management systems that are properly designed utilizing low impact design (LID) techniques and appropriate best management practices (BMPs) can better simulate the natural (existing) hydrologic condition and reduce adverse impacts.

During the construction process, soil is often exposed for periods of time and most vulnerable to erosion by wind and water. The eroded soil endangers water resources by reducing water quality and causing the siltation of valuable wetland resources including: swamps, streams, rivers, lakes, and aquatic habitat for fish and other desirable species.

The impacts of construction and post-development stormwater runoff quantity and quality can adversely affect public safety, public and private property, surface-water drinking water supplies, groundwater resources including drinking water supplies, recreation, aquatic habitats, fish and other aquatic life, property values, and other uses of lands and waters.

These Stormwater Regulations have been established to provide reasonable guidance for the regulation of design, construction, and post-development stormwater runoff for the purpose of protecting local water resources from degradation. It is in the public interest to regulate construction and post-development stormwater runoff discharges to control and minimize increases in stormwater runoff rates and volumes, soil erosion and sedimentation, stream-

channel erosion, and nonpoint-source pollution associated with construction site and post development stormwater runoff.

Section 2. Definitions

Definitions applicable to these Regulations are provided herein:

ABUTTER: The owner(s) of land abutting the activity.

AGRICULTURE: The normal maintenance or improvement of land in agricultural or aquacultural use, as defined by the Massachusetts Wetlands Protection Act and its implementing regulations.

ALTERATION OF DRAINAGE CHARACTERISTICS: Any activity on an area of land that changes the water quality, force, direction, volume, timing, or location of runoff flowing from the area. Such changes include: change from distributed runoff to confined, discrete discharge; change in the volume of runoff from the area; change in the peak rate of runoff from the area; and change in the recharge to groundwater on the area.

APPLICANT: Any person, individual, partnership, association, firm, company, corporation, trust, authority, agency, department, or political subdivision of the Commonwealth or the Federal government to the extent permitted by law, requesting a Land Disturbance Permit for proposed land-disturbance activity.

BEST MANAGEMENT PRACTICE (BMP): An activity, procedure, restraint, or structural improvement found to be effective and practical to reduce the quantity or improve the quality of stormwater runoff.

CERTIFICATE OF COMPLETION (COC): A document issued by the Stormwater Authority after all construction activities have been completed, which states that all conditions of an issued Land Disturbance Permit have been met and that a project has been completed in compliance with the conditions set forth in the Stormwater Management Plan (SMP).

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC): A certified specialist in soil erosion and sediment control who has completed the certification program, sponsored by the Soil and Water Conservation Society, in cooperation with the American Society of Agronomy, providing the public with evidence of professional qualifications.

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

CLEARING: Any activity that removes the vegetative surface cover.

CONSTRUCTION AND WASTE MATERIALS: Excess or discarded building or site materials, including but not limited to: concrete truck washout, chemicals, litter, and sanitary waste at a construction site that may adversely impact water quality.

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

DISCHARGE OF POLLUTANTS: The addition from any source of any pollutant or combination of pollutants into the Municipal Separate Storm Sewer System (MS4) or into the waters of the United States or Commonwealth from any source.

DISTURBANCE OF LAND: Any action that causes a change in the position, location, or arrangement of soil, sand, rock, gravel or similar earth material.

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

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

EROSION AND SEDIMENTATION CONTROL PLAN: A document containing a narrative, drawings and details 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 and erosion and sedimentation during pre-construction and construction related land disturbance activities.

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

ESTIMATED HABITAT OF RARE WILDLIFE AND CERTIFIED VERNAL POOLS: Habitats delineated for state-protected rare wildlife and certified vernal pools for use with the Wetlands Protection Act Regulations (310 CMR 10.00) and the Forest Cutting Practices Act Regulations (304 CMR 11.00).

FLOODING: A local and temporary inundation or 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: Water beneath the surface of the ground.

GRUBBING: The act of clearing land surface by digging up roots and stumps.

ILLICIT CONNECTION: A surface or subsurface drain or conveyance which allows an illicit discharge into the MS4, including without limitation: sewage, process wastewater, or wash water, and any connections from indoor drains, sinks, or toilets, regardless of whether said connection

was previously allowed, permitted, or approved before the effective date of the Stormwater Management Bylaw.

ILLICIT DISCHARGE - Direct or indirect discharge to the MS4 that is not composed entirely of stormwater, except as exempted in §350-6. This term does not include a discharge in compliance with an NPDES stormwater discharge permit or resulting from fire-fighting activities exempted pursuant to §350-7D (1) of the Stormwater Management Bylaw.

IMPERVIOUS SURFACE - Any material or structure, on or above the ground, that prevents water from infiltrating the underlying soil, including without limitation: roads, paved parking lots, sidewalks, and rooftops.

IMPOUNDMENT: A stormwater pond created by either constructing an embankment, or excavating a pit, which retains a permanent pool of water.

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

LAND USE OF HIGHER POTENTIAL POLLUTANT LOAD (LUHPPL): Land uses or activities with higher potential pollutant loadings, as defined in the Massachusetts Stormwater Management Standards such as auto salvage yards, auto 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, or marinas.

MASSACHUSETTS ENDANGERED SPECIES ACT: MGL Ch. 131A and its implementing regulations 321 CMR 10.00 which prohibit the "taking" of any rare plant or animal species listed as Endangered, Threatened, or of Special Concern.

MASSACHUSETTS STORMWATER MANAGEMENT STANDARDS: The Standards issued by the Department of Environmental Protection, and as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act MGL Ch. 131 §40 and Massachusetts Clean Waters Act MGL Ch. 21, §23-56. The Policy addresses stormwater impacts through implementation of performance standards to reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

MS4 - MUNICIPAL SEPARATE STORM SEWER SYSTEM - The system of conveyances designed or used for collecting or conveying stormwater including: any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Sharon.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER DISCHARGE PERMIT - A permit issued by United States Environmental Protection Agency, or jointly with the Commonwealth of Massachusetts, that authorizes the discharge of pollutants to waters of the United States.

NONSTORMWATER DISCHARGE - Discharge to the MS4 not composed entirely of stormwater.

OPERATION AND MAINTENANCE PLAN (OMP): 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.

OUTFALL: The point at which stormwater flows out from a point source into waters of the Commonwealth.

OUTSTANDING RESOURCE WATERS (ORWs): Waters designated by the Massachusetts Department of Environmental Protection as ORWs. These waters have exceptional sociologic, recreational, ecological, or aesthetic values and are subject to more stringent requirements under both the Massachusetts Water Quality Standards (314 CMR 4.00) and the Massachusetts Stormwater Management Standards. ORWs include vernal pools certified by the Natural Heritage Program of the Massachusetts Department of Fisheries and Wildlife and Environmental Law Enforcement, all Class A designated public water supplies including their bordering vegetated wetlands, and other waters specifically designated.

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

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.

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.

POLLUTANT(S) - Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter, whether originating at a point or nonpoint source, that is or may be introduced into any MS4, sewage treatment works, or waters of the Commonwealth. Pollutants include without limitation:

1. Paints, varnishes, and solvents;
2. Oil and other automotive fluids;
3. Nonhazardous liquid and solid wastes and yard wastes;
4. Refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnance, accumulations, and floatables;

5. Pesticides, herbicides, and fertilizers;
6. Hazardous materials and wastes, sewage, fecal coliform and pathogens;
7. Dissolved and particulate metals;
8. Animal wastes;
9. Rock, sand, salt, and soils;
10. Construction wastes and residues; and
11. Noxious or offensive matter of any kind.

PRE-CONSTRUCTION: All activity in preparation for construction.

PRIORITY HABITAT OF RARE SPECIES: Habitats delineated for rare plant and animal populations protected pursuant to the Massachusetts Endangered Species Act and its regulations.

PROCESS WASTEWATER - Water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any material, intermediate product, finished product, or waste product.

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

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

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

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 deposition of sediment.

SITE: Any lot or parcel of land or area of property where land-disturbing activities are, were, or will be performed.

SLOPE: The incline of a ground surface expressed as a ratio of vertical distance to horizontal distance.

SOIL: Any earth, sand, rock, gravel, or similar material.

STABILIZATION: The use, singly or in combination, of mechanical, structural, or vegetative methods, to prevent or retard erosion.

STORMWATER AUTHORITY: Town of Sharon Conservation Commission or its authorized agent(s).

STORMWATER: Runoff from precipitation or snow melt and surface water runoff and drainage.

STORMWATER MANAGEMENT PLAN (SMP): A plan required as part of the application for a Land Disturbance Permit.

STRIP: Any activity which removes the vegetative ground surface cover, including tree removal, clearing, grubbing, and storage or removal of topsoil.

TOXIC OR HAZARDOUS MATERIAL OR WASTE: Any material which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious, or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic or organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid and alkali, and any substance defined as "toxic" or "hazardous" under MGL Ch. 21C and Ch. 21E, and the regulations at 310 CMR 30.000 and 310 CMR 40.0000.

TSS: Total Suspended Solids.

VERNAL POOLS: Temporary bodies of freshwater which provide critical habitat for a number of vertebrate and invertebrate wildlife species.

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

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

WATERS OF THE COMMONWEALTH - All waters within the jurisdiction of the Commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, coastal waters, and groundwater.

WETLAND RESOURCE AREA: Areas specified in the Massachusetts Wetlands Protection Act MGL Ch. 131, §40 and in the Town of Sharon Wetlands Protection Bylaw.

WETLANDS: Tidal and non-tidal areas characterized by saturated or nearly saturated soils most of the year that are located between terrestrial (land-based) and aquatic (water-based) environments, including freshwater marshes around ponds and channels (rivers and streams), brackish and salt marshes; common names include marshes, swamps and bogs.

Section 3. Authority

3.1 Adoption

The Regulations have been adopted by the Sharon Conservation Commission in accordance with Chapter 230 of the Municipal Code - Town of Sharon Stormwater Management Bylaw.

3.2 Regulations

Nothing in these Regulations is intended to replace or be in derogation of the requirements of the Town of Sharon Zoning Bylaw, Wetlands Bylaw, or any other Regulations adopted thereunder.

Section 4. Administration

4.1 Town of Sharon Conservation Commission

The Town of Sharon Conservation Commission is designated as the Stormwater Authority under the Stormwater Management Bylaw and shall administer, implement and enforce these regulations. Any powers granted to or duties imposed upon the Stormwater Authority may be delegated in writing by Stormwater Authority to its employees or agent(s).

4.2 Wavier

Stormwater Authority may waive strict compliance with any requirement of these regulations promulgated hereunder, where:

1. such action is allowed by federal, state and local statutes and/or regulations,
2. is in the public interest, and
3. is consistent with the purpose and intent of these regulations.

4.3 Public Notice

The Stormwater Authority may amend regulations after holding a public hearing. Notice of the time, place and subject matter shall be published in a newspaper of general circulation in Sharon once, not less than fourteen (14) days before the day of such a hearing.

Section 5. Applicability

5.1 Applicability

The Bylaw and these regulations shall apply to all activities that result in disturbance of five thousand (5,000) square feet or more of land that drains to the municipal separate storm sewer system (MS4). Additionally, except as authorized by the Stormwater Authority in a Land Disturbance Permit or as otherwise provided in these regulations, no person shall perform any activity that results in disturbance of five thousand (5,000) square feet of land or more. Normal maintenance and improvement of land in agricultural or aquacultural use, as defined by the Wetlands Protection Act regulation 310 CMR 10.04, are exempt. In addition, as authorized in the Phase II Small MS4 General Permit for Massachusetts, storm water discharges resulting from the above activities that are subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Storm Water Management Policy as reflected in an Order of Conditions issued by the Conservation Commission are exempt from compliance with these regulations.

There are two levels of reviews based on the amount of proposed land to be disturbed as part of a single project they are as follows:

1. Administrative Land Disturbance Review is required for projects disturbing between five thousand (5,000) square feet and one (1) acre (43,560 square feet) of land.
2. A Land Disturbance Permit is required for disturbance of more than one (1) acre (43,560 square feet) or more of land or for the disturbance of any amount of land when the proposed use is listed as a land use of higher potential pollutant loads as defined in the Massachusetts Stormwater Management Standards.

5.2 Exemptions

1. Maintenance of existing landscaping, gardens or lawn areas associated with a single-family dwelling conducted in such a way as not to cause a nuisance;
2. Construction of fencing that will not substantially alter existing terrain or drainage patterns;
3. Construction of utilities other than drainage (gas, water, electric, telephone, etc.) which will not alter terrain or drainage patterns or result in discharge of sediment to the MS4;

4. Normal maintenance and improvement of land in agricultural or aquacultural use; and
5. Disturbance of land or redevelopment that are subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Stormwater Management Policy and the Town of Sharon Stormwater Management Regulations as reflected in a valid Order of Conditions issued by the Conservation Commission.

Section 6. Administrative Land Disturbance Review Procedure

6.1 Application

A completed application for an Administrative Land Disturbance Review shall be filed with Stormwater Authority. Approval must be obtained prior to the commencement of land disturbing activity within the limits for an Administrative Review defined above.

The Administrative Land Disturbance Review Application package shall include:

1. A completed Application Form with original signatures of all owners;
2. Narrative describing the proposed work including existing site conditions, proposed work, and methods to mitigate any stormwater impacts;
3. Three (3) copies of the plan that includes:
 - a. Existing site features including structures, pavements, plantings, and stormwater management systems, etc.;
 - b. Proposed work including proposed stormwater management systems and limits of disturbance; and,
 - c. Basic erosion and sedimentation controls.
4. Evidence of payment of the application and review fees.

6.2 Entry

Filing an application for a permit grants Stormwater Authority or its agent, permission to enter the site to verify the information in the application and to inspect for compliance with permit conditions.

6.3 Information Requests

The applicant shall submit all additional information requested by the Stormwater Authority to issue a decision on the application.

6.4 Action by Stormwater Authority

The Stormwater Authority may:

1. Approve the Administrative Land Disturbance Review Application if it finds that the proposed plan will protect the MS4 system and water resources, and it meets the objectives and requirements of these regulations.
2. Approve the Administrative Land Disturbance Review Application with conditions, modifications, or restrictions that the Stormwater Authority determines are required to ensure that the project will protect water resources and meet the objectives and requirements of these regulations.
3. Require submission of a Land Disturbance Permit Application if the project will disturb land beyond Administrative Review thresholds or in the opinion of the Stormwater Authority requires more extensive review.

6.5 Fee Structure

Each application must be accompanied by the appropriate application fee as established by the Stormwater Authority. Applicants shall pay review fees as determined by the Stormwater Authority sufficient to cover any expenses connected with the public hearing and review of the Land Disturbance Permit Application before the review process commences. The Stormwater Authority is authorized to retain, at the applicant's expense, a Registered Professional Engineer or other professional consultant to advise the Stormwater Authority on any or all aspects of the Application.

6.6 Project Changes

The permittee, or their agent, must notify the Stormwater Authority in writing of any change or alteration of a land-disturbing activity authorized in an Administrative Land Disturbance Review approval before any change or alteration occurs. If the Stormwater Authority determines that the change or alteration is significant, based on the design requirements listed in Section 7.B. and accepted construction practices, the Stormwater Authority may require that a Land Disturbance Permit application be filed. If any change or alteration from the Administrative Land Disturbance Review approval occurs during any land disturbing activities, the Stormwater Authority may require the installation of interim erosion and sedimentation control measures before approving the change or alteration.

Section 7. Land Disturbance Permit Review Procedure

7.1 Application

A completed application for a Land Disturbance Permit shall be filed with Stormwater Authority. The application may be mailed, delivered by hand, or filed electronically, a permit must be obtained prior to the commencement of land disturbing activity that may result in the disturbance of an area of one (1) acre (43,560 sq. ft.) or more.

The Land Disturbance Permit Application package shall include:

1. A completed Application Form with original signatures of all owners;
2. A list of abutters within three hundred (300) feet of the property, certified by the Assessor's Office;
3. A completed Affidavit of Service form for the abutter notification;
4. Three (3) copies of the:
 - a. Stormwater Management Plan;
 - b. Erosion and Sediment Control Plan;
 - c. Operation and Maintenance Plan;
5. Evidence of payment of the application and review fees; and,
6. One (1) copy each of the Application Form and the list of abutters filed with the Town Clerk.

7.2 Information requests

The applicant shall submit all additional information requested by the Stormwater Authority to issue a decision on the application.

7.3 Determination of Completeness

The Stormwater Authority shall make a determination as to the completeness of the application and adequacy of the materials submitted. No review shall take place until the application has been found to be complete.

7.4 Fee Structure

Each application must be accompanied by the appropriate application fee as established by the Stormwater Authority. Applicants shall pay review fees as determined by the Stormwater Authority sufficient to cover any expenses connected with the public hearing and review of the Land Disturbance Permit Application before the review process commences. The Stormwater Authority is authorized to retain a Registered Professional Engineer or other professional consultant to advise the Stormwater Authority on any or all aspects of the application, at the applicant's expense.

7.5 Entry

Filing an application for a permit grants the Stormwater Authority or its agent, permission to enter the site to verify the information in the application and to inspect for compliance with permit conditions.

7.6 Other Boards

The Stormwater Authority shall notify the Town Clerk of receipt of the application, and shall give one copy of the application package to each of the other relevant boards and notify the Planning Board, Conservation Commission, or Department of Public Works as appropriate.

7.7 Public Hearing

The Stormwater Authority shall hold a public hearing within twenty-one (21) days of the receipt of a complete application and shall take final action within twenty-one (21) days from the time of the close of the hearing unless such time is extended by agreement between the applicant and the Stormwater Authority. Notice of the public hearing shall be given by publication and posting and by first-class mailings to abutters at least seven (7) days prior to the hearing. The Stormwater Authority shall make the application available for inspection by the public during business hours at the office of the Town of Sharon Conservation Commission.

7.8 Action by the Stormwater Authority

The Stormwater Authority may:

1. Approve the Land Disturbance Permit Application and issue a permit if it finds that the proposed plan will protect water resources and meets the objectives and requirements of this bylaw;
2. Approve the Land Disturbance Permit Application and issue a permit with conditions, modifications or restrictions that the Stormwater Authority determines are required to ensure that the project will protect water resources and meets the objectives and requirements of these regulations;

3. Disapprove the Land Disturbance Permit Application and deny the permit if it finds that the proposed plan will not protect water resources or fails to meet the objectives and requirements of these regulations.
4. Disapprove the Land Disturbance Permit Application “without prejudice” where an applicant fails to provide requested additional information or review fees that in the Stormwater Authority’s opinion is needed to adequately describe or review the proposed project.

7.9 Final Approval

Final approval, if granted, shall be endorsed on the Stormwater Management Permit by the signature of the majority of the Stormwater Authority (or by the signature of the person officially authorized by the Stormwater Authority).

7.10 Project Changes

The permittee, or their agent, must notify the Stormwater Authority in writing of any change or alteration of a land-disturbing activity authorized in a Land Disturbance Permit before any change or alteration occurs. If the Stormwater Authority determines that the change or alteration is significant, based on the design requirements listed in Section 7.B. and accepted construction practices, the Stormwater Authority may require that an amended Land Disturbance Permit application be filed and a public hearing held. If any change or alteration from the Land Disturbance Permit occurs during any land disturbing activities, the Stormwater Authority may require the installation of interim erosion and sedimentation control measures before approving the change or alteration.

Section 8. Stormwater Management Plan

8.1 General Requirements

The application for a Land Disturbance Permit shall include the submittal of a Stormwater Management Plan to the Stormwater Authority. This Stormwater Management Plan shall contain sufficient information for the Stormwater Authority to evaluate the environmental impact, effectiveness, and acceptability of the site planning process and the measures proposed by the applicant to reduce adverse impacts from stormwater runoff during construction, and post construction.

8.2 Plan Requirements

The Plan shall be designed to meet the Massachusetts Stormwater Management Standards as further defined in the Massachusetts Stormwater Handbook and any additional standards required by these regulations or regulations adopted hereunder. To the extent that any project within the jurisdiction of these regulations is located in an area subject to one or more pollutant-specific Total Maximum Daily Loads (TMDLs), such project is required to implement structural and non-structural stormwater best management practices (BMPs) that are consistent with each such TMDL and its associated Waste Load Allocation (for point sources) and Load Allocation (for nonpoint sources). The Stormwater Authority may develop, publish and periodically revise one or more pollutant specific guidance documents describing the geographic applicability of each TMDL and identifying BMPs that individually or in combination are considered to be consistent with the TMDL(s).

8.3 Stormwater Management Plan Checklist

The Stormwater Management Plan shall fully describe the project in narrative, drawings, and calculations. It shall at a minimum include:

1. Contact Information
The name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected;
2. Narrative describing:
 - a. Purpose
 - b. Methodologies and assumptions
 - c. Existing and proposed uses and conditions
3. Project impacts and mitigation techniques including:
 - a. Summary of proposed land area to be cleared, proposed impervious area, work within proximity of regulated wetland resources, aquifer protection zones, earthwork within four (4) feet of seasonal high groundwater elevations, and other sensitive environmental areas.
 - b. Low impact development (LID) techniques considered for this project and an explanation as to why they were included or excluded from the project.
 - c. Best management practices proposed for this project.

- d. Identifying the immediate down-gradient waterbodies to which stormwater runoff from the project site discharges, EPA's waterbody assessment, and TMDL status of the waterbodies, <http://www.epa.gov/region1/npdes/stormwater/ma.html> and the LIDs and BMPs included in the project to address the pollutants of concern.
- e. Summary of pre and post development peak rates and volumes of stormwater runoff to show no adverse impacts to down-gradient properties, stormwater management systems and wetland resources.
- f. Conclusions

4. Plans showing:

- a. Portion of the USGS Map indicating the site locus and properties within a minimum of five hundred (500) feet of project property line.
- b. Existing conditions and proposed design plans showing:
 - i. Buildings and/or structures including materials, approximate height and
 - ii. Utilities including size, material and invert data
 - iii. Regulated wetland resource areas within proximity of the site
- c. Stormwater management design plan(s) and details showing:
 - i. Location, size, material, invert data and details for all existing and proposed stormwater management system components including structures, pipes, swales, detention, retention, and infiltration systems and any other LID techniques or BMPs.
 - ii. Profiles of drainage trunk lines
 - iii. Drainage easements
- d. Separate pre and post condition watershed plans indicating:

- i. Structures, pavements, surface vegetation and other ground cover materials
 - ii. Topography sufficient to delineate watershed areas
 - iii. Point(s) of analysis
 - iv. Watershed areas including up gradient areas that contribute stormwater flow onto the project site, labeled to be easily identified in calculations. Total pre and post watershed areas must be equivalent.
 - v. Breakdown summary of various surface conditions by soil hydrologic group rating
 - vi. Flow path for time of concentration (Tc) calculation
5. Calculations which include:
- a. Hydrologic calculation to determine pre and post peak rates and volumes of stormwater runoff for 2- 10-, 25- and 100-year 24-hour storm events
 - b. Groundwater recharge calculations and BMP drawdown (time to empty)
 - c. Water quality calculations including (if applicable):
 - i. TSS removal calculation for each watershed
 - ii. Specific BMPs utilized in critical areas
 - iii. Specific BMPs utilized for land uses of higher potential pollutant loads
 - iv. Specific treatment for pollutants causing impairment of down-gradient waterbody(s), identified by EPA and MassDEP
 - d. Hydraulic calculations to size drainage pipes, swales and culverts

- e. Supplemental calculations for sizing LID and BMPs and addressing impairments to waterbodies
6. Soil mapping and test data
7. MassDEP Checklist for Stormwater Report
The MassDEP Checklist for Stormwater Report must be completed, stamped and signed by a: Professional Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the MassDEP Stormwater Management Standards, Sharon Stormwater Management Bylaw and these Regulations.
8. Any other information requested by the Stormwater Authority

Section 9. Erosion and Sedimentation Control Plan

9.1 The Erosion and Sedimentation Control Plan (ESCP)

The ESCP shall be designed to ensure compliance with these Regulations and if applicable, the NPDES General Permit for Storm Water Discharges from Construction Activities. In addition, the plan shall ensure that the Massachusetts Surface Water Quality Standards (314 CMR 4.00) are met in all seasons.

9.2 Stormwater Pollution Prevention Plan (SWPPP)

If a SWPPP is required per the NPDES General Permit for Storm Water Discharges from Construction Activities (and as amended), then the permittee is required to submit a complete copy of the SWPPP (including the signed Notice of Intent and approval letter) to the Stormwater Authority. If the SWPPP meets the requirements of the General Permit, it will be considered equivalent to the Erosion and Sediment Control Plan described in this section.

9.3 The Erosion and Sediment Control Plan Checklist

The Erosion and Sediment Control Plan shall remain on file with the Stormwater Authority. Refer to the latest version of the Massachusetts Erosion and Sediment Control Guidelines for Urban & Suburban Areas for detailed guidance.

The ESCP shall contain sufficient information to describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed erosion and sedimentation controls. The plan shall also describe measures to control construction wastes including but not limited to construction materials, concrete truck wash-out and chemicals. The applicant shall submit such material as is necessary to

show that the proposed development will comply with the design requirements listed below.

The Plan shall contain the following information:

1. Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan;
2. Title, date, north arrow, names of abutters, scale, legend, and locus map;
3. Location and description of natural features including:
 - a. Watercourses and waterbodies, wetland resource areas and all floodplain information, including the 100-year flood elevation based upon the most recent Flood Insurance Rate Map, or as calculated by a professional engineer for areas not assessed on these maps;
 - b. Existing vegetation including tree lines, canopy layer, shrub layer, and ground cover, and trees with a caliper twelve (12) inches or larger, noting specimen trees and forest communities; and
 - c. Habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species within five hundred (500) feet of any construction activity.
4. Lines of existing abutting streets showing drainage and driveway locations and curb cuts;
5. Existing soils, volume and nature of imported soil materials;
6. Topographical features including existing and proposed contours at intervals no greater than two (2) feet with spot elevations provided where needed;
7. Surveyed property lines showing distances and monument locations, all existing and proposed easements, rights-of-way, and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed;

8. Drainage patterns and approximate slopes anticipated after major grading activities (Construction Phase Grading Plans);
9. Location and details of erosion and sediment control measures with a narrative of the construction sequence/phasing of the project, including both operation and maintenance for structural and non-structural measures, interim grading, and material stockpiling areas;
10. Path and mechanism to divert uncontaminated water around disturbed areas, to the maximum extent practicable;
11. Location and description of industrial discharges, including stormwater discharges from dedicated asphalt plants and dedicated concrete plants, which are covered by this permit;
12. Stormwater runoff calculations in accordance with the Department of Environmental Protection's Stormwater Management Policy;
13. Location and description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other stabilization measures;
14. A description of construction and waste materials expected to be stored on-site. The Plan shall include a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;
15. A description of provisions for phasing the project where one acre of area or greater is to be altered or disturbed;
16. Plans must be stamped and certified by a qualified Professional Engineer registered in Massachusetts or a Certified Professional in Erosion and Sediment Control; and
17. Such other information as is required by the Stormwater Authority.

Section 10. Operation and Maintenance Plan

10.1 Operation and Maintenance Plan (OMP)

A standalone Operation and Maintenance Plan (OMP) is required at the time of application for all projects with constructed stormwater BMPs and stormwater

management practices. The OMP shall be designed to ensure compliance with the Permit and these Regulations and ensure that the Massachusetts Surface Water Quality Standards (314 CMR 4.00) are met in all seasons and throughout the life of the system.

10.2 The OMP Checklist

The Operation and Maintenance Plan shall remain on file with the Stormwater Authority and shall be an ongoing requirement. The Applicant shall provide copies of the Operation and Maintenance Plan to all persons responsible for maintenance and repairs.

The OMP shall include:

1. The name(s) of the owner(s) for all components of the system;
2. A map showing the location of the systems and facilities including all structural and nonstructural stormwater best management practices (BMPs), catch basins, manholes/access lids, pipes, and other stormwater devices. The plan showing such systems and facilities to be privately maintained, including associated easements shall be recorded with the Norfolk County Registry of Deeds prior to issuance of a Certificate of Completion by the Stormwater Authority.
3. Maintenance Agreement with the Stormwater Authority that specifies:
 - a. The names and addresses of the person(s) responsible for operation and maintenance;
 - b. The person(s) financially responsible for maintenance and emergency repairs;
 - c. An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed. Where applicable, this schedule shall refer to the Maintenance Criteria provided in the Stormwater Handbook or the E.P.A. National Menu of Stormwater Best Management Practices or equivalent;
 - d. Instructions for routine and long-term operation and maintenance shall have sufficient detail for responsible parties to perform necessary maintenance activities and prevent actions that may adversely affect the performance of each structural and/or nonstructural stormwater BMP.
 - e. A list of easements with the purpose and location of each; and

- f. The signature(s) of the owner(s) and all persons responsible for operation and maintenance, financing, and emergency repairs, as defined in the Maintenance Agreement, if maintenance is to be performed by an entity other than the owner.

4. Stormwater Management Easement(s):

- a. The Stormwater Management easements shall be provided by the property owner(s) as necessary for:
 - i. Access for facility inspections and maintenance;
 - ii. Preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood ways for the 100-year storm event; and;
 - iii. Direct maintenance access by heavy equipment to structures requiring maintenance a minimum of twenty (20) feet wide.
- b. The purpose of each easement shall be specified in the Maintenance Agreement signed by the property owner.
- c. Stormwater Management easements are required for all areas used for permanent stormwater control, unless a waiver is granted by the Board of Health.
- d. Easements shall be recorded with the Norfolk Registry of Deeds prior to issuance of a Certificate of Compliance by the Stormwater Authority.

5. Changes to Operation and Maintenance Plans

- a. The owner(s) of record of the Stormwater Management system must notify the Stormwater Authority of changes in ownership, assignment of Operation and Maintenance responsibilities, or assignment of financial responsibility within 14 days of the change of ownership or assignment of responsibility. The owner of record shall be responsible for Operation and Maintenance activities until a copy of the updated Operation and Maintenance Plan has been furnished to the Stormwater Authority signed by the new owner or any new responsible person. The updated and signed Operation and Maintenance Plan must be furnished by a date not to exceed 30 days from the date of new ownership or assignment.

- b. The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of the Stormwater Management Bylaw by mutual agreement of the Stormwater Authority and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties. Responsible Parties shall include owner(s), persons with financial responsibility, and persons with operational and/or maintenance responsibility.

Section 11. Performance and Design Standards

11.1 Design Requirements

Design of stormwater management systems and components standards are as follows:

1. Developments are to be designed to provide for adequate collection and disposal of stormwater runoff from the project site in accordance with MassDEP Stormwater Management Standards, Sharon DPW Standard Details (for subdivisions), recognized engineering methodologies and these Regulations with an emphasis to include Low Impact Development (LID) techniques in the design.
2. Provisions are to be made for the adequate disposal of surface runoff so that no flow is conducted over Town ways, or over land not owned by or controlled by the Applicant unless an easement in proper form is obtained permitting such discharge.
3. LID techniques are to be used where adequate soil, groundwater and topographic conditions allow. These may include but not be limited to reduction in impervious surfaces, disconnection of impervious surfaces, bioretention (rain gardens) and infiltration systems (see Appendix A for LID credits and incentives)
4. Hydrologic calculations, to document the peak rate and volume of runoff from pre development and post development condition, are to be completed utilizing TR-55 and TR-20 methodologies.
5. Watershed area for hydrologic analysis and BMP sizing calculations are to include at a minimum the site area and all up gradient areas from which stormwater runoff flows onto the site.

6. For purposes of computing runoff, all pervious lands in the site are assumed prior to development to be in "good hydrologic condition" regardless of the conditions existing at the time of the computation.
7. Length of sheet flow used for times of concentration is to be no more than 50 feet.
8. Utilize the 24-hour rainfall data taken from the NRCS Extreme Precipitation in New York and New England website <http://precip.eas.cornell.edu/>
9. Soils tests to be conducted by a Registered Professional Engineer or Massachusetts Soil Evaluator, performed at the location of all proposed infiltration BMPs and LID techniques, to identify soil descriptions, depth to estimated seasonal high groundwater, depth to bedrock, and soil texture.
10. The design infiltration rate shall be determined from the on-site soil texture and published Rawls rates or saturated hydraulic conductivity tests.
11. Size drainage pipes to accommodate the 25-year storm event and maintain velocities between three (3) and ten (10) feet per second using the Rational Method.
12. Size drainage swales to accommodate the 25-year storm event and velocities below four (4) feet per second.
13. Size culverts to accommodate the 50-year storm event and design adequate erosion protection. Design stream crossing culverts in accordance with the latest addition of the Massachusetts Stream Crossing Handbook.
14. Size stormwater basins to accommodate the 100-storm event with a minimum of one foot of freeboard
15. All drainage structures are to be able to accommodate HS-20 loading.
16. Catch basins structures are to be as detailed in Sharon DPW Standard Details and spaced a maximum of two hundred and fifty (250) feet apart in roadways.
17. Catch basins adjacent to curbing are to be built with a granite curb inlet as shown in Sharon DPW Standard Details.

18. Catch basins at low points of road and on roads with profile grades greater than 5% are to be fitted with double grates (parallel with curb) as detailed in Sharon DPW Standard Details.
19. All drain pipes are to be reinforced concrete pipe or HDPE pipe and have a minimum diameter of twelve (12) inches
20. Drainage pipes are to be installed with a minimum of two and one-half (2.5) feet of cover and O-rings as detailed in Sharon DPW Standard Details.
21. Drainage manholes structures are to be as detailed in Sharon DPW Standard Details and spaced at a maximum of every two hundred and fifty (250) feet.
22. Outfalls are to be designed to prevent erosion of soils and pipes twenty-four (24) inches or larger are to be fitted with grates or bars to prevent ingress.
23. Drainage easements are to provide sufficient access for maintenance and repairs of system components and be at least twenty (20) feet wide.
24. Minimize permanently dewatering soils by:
 - a. Limiting grading within four (4) feet of seasonal high groundwater elevation (SHGWE),
 - b. Raising roadways to keep roadway section above SHGWE; and
 - c. Setting bottom floor elevation of building(s) a minimum of two (2) feet above SHGWE.

11.2 Erosion Control Requirements

Design of erosion controls(s) should include the following:

1. Minimize total area of disturbance;
2. Sequence activities to minimize simultaneous areas of disturbance;
3. Minimize peak rate of runoff in accordance with the MassDEP Stormwater Standards;
4. Minimize soil erosion and control sedimentation during construction;

5. Divert uncontaminated water around disturbed areas;
6. Maximize groundwater recharge;
7. Install and maintain all Erosion and Sediment Control measures in accordance with the *Massachusetts Erosion and Sedimentation Control Guidelines for Urban and Suburban Areas*, manufacturer's specifications and good engineering practices;
8. Prevent off-site transport of sediment;
9. Protect and manage on and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project);
10. Comply with applicable Federal, State and local laws and regulations including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust control;
11. Prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species from the proposed activities;
12. Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than fourteen (14) days after construction activity has temporarily or permanently ceased on that portion of the site;
13. Properly manage on-site construction and waste materials, including truck washing and cement concrete washout facilities; and
14. Prevent off-site vehicle tracking of sediments.

Section 12. Inspection and Site Supervision

12.1 Pre-construction Meeting

Prior to starting the clearing, excavation, construction, redevelopment or land disturbing activity, the applicant, the applicant's technical representative, the general contractor or any other person with authority to make changes to the project, may be required to meet with the Stormwater Authority, to review the approved plans and their implementation. The need for a pre-construction meeting shall be determined by the Stormwater Authority based on the project scope.

12.2 Stormwater Authority Inspection

The Stormwater Authority or its designated agent shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the applicant wherein the work fails to comply with the Erosion and Sedimentation Control Plan or the Stormwater Management Plan as approved. The approved Erosion and Sedimentation Control Plan and associated plans for grading, stripping, excavating, and filling work, bearing the signature of approval of the Stormwater Authority, shall be maintained at the site during the progress of the work.

In order to obtain inspections, the applicant shall notify the Stormwater Authority at least two (2) working days before each of the following events:

1. Erosion and sedimentation control measures are in place and stabilized;
2. Site Clearing has been substantially completed;
3. Rough Grading has been substantially completed;
4. Final Grading has been substantially completed;
5. Close of the Construction Season; and,
6. Final landscaping (permanent stabilization) and project final completion.

12.3 Applicant Inspections

The applicant or his/her agent shall conduct and document inspections of all control measures no less than weekly or as specified in the permit, and prior to and following anticipated storm events. The purpose of such inspections will be to determine the overall effectiveness of the Erosion and Sedimentation Control Plan, and the need for maintenance or additional control measures as well as verifying compliance with the Stormwater Management Plan. The applicant or his/her agent shall submit monthly reports to the Stormwater Authority or designated agent in a format approved by the Stormwater Authority.

Section 13. Surety

The Stormwater Authority may require the permittee to post before the start of land disturbance activity, a surety bond, irrevocable letter of credit, cash, or other acceptable security. The form of the bond shall be approved by town counsel, and

be in an amount deemed sufficient by Stormwater Authority to ensure that the work will be completed in accordance with the permit. If the project is phased, the Stormwater Authority may release part of the bond as each phase is completed in compliance with the permit but the bond may not be fully released until the Stormwater Authority has received the final report as required by Section 10 and issued a certificate of completion.

Section 14. Final Reports

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

Section 15. Certificate of Completion

The issuing authority will issue a form certifying completion upon receipt and approval of the final reports and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with these regulations.