

Town of Holden, Massachusetts

Stormwater Management Rules and Regulations

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Section 1.0 General Provisions

Section 1.1 Authority

- A. These Stormwater Regulations are promulgated by the Holden, Massachusetts Stormwater Committee under the Stormwater Management Bylaw of the Town of Holden (the “Bylaw”) and may be so cited.

Section 1.2 Applicability

- A. These Regulations apply to all activities in accordance with the applicability sections of the Stormwater Bylaw and further described herein.
- B. Every user of the municipal storm drainage system shall be subject to these regulations, as they apply, and to any charges, rates, fees, and assessments which are or may be established by the Town. Every user of the municipal storm drainage systems shall also be subject to applicable federal, state, and local regulations. In instances where various regulations contain different requirements, the most stringent requirements shall apply.
- C. Projects and/or activities not within the jurisdiction of any of the Town of Holden boards, Commissions, or Departments, but still within the jurisdiction of the Stormwater Bylaw must comply with these Regulations and, if applicable, must obtain a Land Disturbance Permit in accordance with the permit procedures outlined herein.

Section 1.3 Purpose

- A. See Section 1.0 of the Bylaw.

Section 1.4 Severability

- A. The provisions of these Regulations are hereby declared to be severable. If any provision, clause, sentence, or paragraph of these Regulations or the application thereof to any person, establishment, or circumstances shall be held invalid for any reason, such invalidity shall not affect the other provisions or application of these Regulations; all other provisions shall continue in full force and effect.

Section 1.5 Administration

- A. The Enforcing Agent shall administer, implement, and enforce these rules and regulations. Any powers granted to or duties imposed upon the Enforcing Agent may be delegated in writing by the Enforcing Agent to its employees, agents, or other Town Departments.
- B. Waiver. Strict compliance with any requirement of the Stormwater Bylaw or the Regulations may be waived for the reasons given, and in accordance with the procedures set forth in the Stormwater Bylaw.

Section 1.6 Design and Construction Standards

- A. Design Standards. In order to complete the permit requirements and ensure that developers and landowners meet Massachusetts standards, the Owner shall use the following (most recent edition) references to aid in structural and non-structural Best Management Practices implementation:
 - 1. Town's National Pollutant Discharge Elimination System Small Municipal Separate Storm Sewer Systems General Permit, commonly known as the "NPDES MS4 permit."
 - 2. Massachusetts Stormwater Policy.
 - 3. Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas.
 - 4. Massachusetts Department of Transportation Project Development and Design Guide Drainage and Erosion Control Chapter.
- B. All plans to be submitted to the Stormwater Committee shall be drawn at scale of 1 inch equals 40 feet on sheets not larger than 24 inches by 36 inches registered to Massachusetts State Plane Coordinate System. All elevations shall refer to NAVD88. Each sheet shall have a north arrow, graphic bar scale, proposed and existing street names, sheet number (i.e., Sheet 3 of 7), and a title block. Match lines, if required, shall be shown on all sheets. Each Sheet shall be certified by a Registered Engineer with registration number(s). Plan shall be shown at a scale of one inch equal to 40 feet indicating property bounds of parcels and streets adjoining. A more suitable scale may be used if site conditions warrant the need. Plans shall show property bounds of the existing parcel showing distance and bearings of boundary lines and easements (along with easement purpose), existing contours at 2-foot or smaller shall be shown based on NAVD 88 datum, names and widths of streets abutting the proposed development/redevelopment and within close proximity, location of bounds and type of bounds of the existing parcel(s) of land and relevant buildings thereon, and address, map/parcel number, area of the existing parcel(s).
- C. Construction Standards

1. New building stormwater drain laterals, stormwater drains, special stormwater facilities, and appurtenances tributary to the Town's stormwater drainage system shall be designed and constructed in conformance with current Town of Holden Department of Public Works (DPW) standards and specifications. In the absence of such specifications, the materials and procedures set forth in the Massachusetts Department of Transportation Standard Specifications for Highways and Bridges and Supplemental Specifications most recent edition; and American Society for Testing and Materials, the ASCE/WEF Manual of Practice - *Design and Construction of Urban Stormwater Management Systems* most recent edition shall apply, subject to the prior written approval of DPW.
2. A completed system of drainage shall be constructed in a manner satisfactory to the Stormwater Committee and in conformance with the DPW standards and specifications to provide adequate control of surface and subsurface water, in or from the land disturbed and adjacent land.
3. Lots shall be laid out and graded so as to provide positive drainage away from all proposed buildings. Individual lot drainage shall be designed so as to avoid concentration of stormwater drainage from each lot to adjacent lots or to the street.
4. All existing waterways, whether they are permanent or intermittent, shall be maintained by the Responsible Party and/or properly modified with the proposed project. Culverts conducting waterways underneath roadways shall be extended beyond the right-of-way line to a point at least twenty (20) feet beyond the rear house line of the proposed dwellings and shall terminate with concrete headwalls. All open waterways shall have side slopes not exceeding 3 to 1 (horizontal to vertical).
5. Drain pipes shall not be laid to a slope below 0.5% or more than 10 feet per second flow velocity.
6. Manholes shall be constructed at the end of each line, from catch basin connections, at changes in grade, size, and alignment, and to have inverts of poured-in-place concrete.
7. Catch basins shall be installed on both sides of a roadway at a spacing not to exceed 300 feet, on continuous grades, at low points, and near corners of the roadway at intersecting streets and all other such locations as required by the Committee. Catch basins shall have four (4) foot deep sumps as measured below the outlet pipe elevation and a gas/oil hood (trap) over the outlet pipe. Catch basins shall not drain to another catch basin but rather to

a manhole. Catch basins shall be provided with granite curb inlets and granite transition stones on both sides.

8. At least three (3) feet of cover will be required over all drains unless otherwise specified and approved by the Stormwater Committee; in no case shall the cover be less than the pipe manufacturer's recommendations. Corrugated Plastic Pipe (CPP) drain pipe shall be bedded on base of six (6) inches of crushed stone, backfilled to the spring line of the pipe with the same stone, and well-chinked along the pipe to fully support the entirety of the pipe. The crushed stone shall be placed with a cover of six (6) inches above the pipe.
9. All drain pipes shall comply with AASHTO M252 (4-inch through 10-inch) and M294 (12-inch through 60-inch diameter), Type S (smooth wall interior) and shall be high density polyethylene (HDPE) corrugated plastic pipe (CPP) meeting ASTM D3350 minimum cell classification 424420C (4"-10") or 435400C (12"-60"). Reinforced concrete pipe (RCP) may be installed if CPP is not a suitable alternative as approved by DPW.
10. The Owner shall be responsible to remove and dispose of sediment from the drainage system caused during the construction period if applicable.

Section 1.7 Definitions

- A. The definitions of terms in the Stormwater Bylaw, as well as the definitions found in Appendix A to these Regulations, shall apply to terms used in these Regulations.

Section 2.0 Illicit Discharge Detection and Elimination

Section 2.1 Municipal Storm Drainage System

- A. The use of all municipal storm drainage systems in the Town shall be controlled by the Director. No person shall, without prior authorization from the Director, uncover, excavate over, block access to, make any connection with or opening into, alter, or disturb any municipal storm drainage system.

Section 2.2 Prohibited Connections to Municipal Storm Drainage Systems

- A. The construction, use, maintenance or continued existence of illicit connections to the municipal storm drainage system is prohibited.

Section 2.3 Wastewater System Connections

- A. Any wastewater system which is or has been connected to the municipal storm drainage system, or which is or has been connected to the municipal storm drainage system as a result of a false

application, misrepresentation, or non-disclosure on a construction permit, or which was connected to the municipal storm drainage system by way of obtaining a wastewater system connection and plumbing permits through any means which circumvented the limitations created by these or any previous Regulations or Bylaws on the matter shall be immediately disconnected from the municipal storm drainage system by the Owner or by the Town at the Owner's expense.

Section 2.4 Flow Obstructions Prohibited

- A. No person shall place any dam or other flow restricting structure or device in any drainage facility or watercourse without first having obtained written authorization from the Director.
- B. No person shall place or deposit into any outfall, drainage facility, stormwater drain or watercourse within the Town any garbage, yard waste, soil, rock or similar material, or any other substance which obstructs flow in the municipal storm drainage system or damages the system or interferes with the proper operation of the system or which constitutes a nuisance or a hazard to the public. In the event that such an obstruction occurs, the Director may cause such obstruction to be removed or cause such damage to be repaired and to recover applicable costs pursuant to the provisions of these Regulations.

Section 2.5 Authorized Discharges to Stormwater Drains

- A. In accordance with *Section 2.2* of the Bylaw, the following non-stormwater discharges and flows to the municipal storm drain system and to waters of the Commonwealth are exempt from the prohibition on illicit discharges, provided that, in the opinion of the Director, the source is not a significant contributor of a pollutant to the Municipal Storm Drain System or to waters of the Commonwealth:

- 1. Potable water line flushing;
- 2. Uncontaminated pumped groundwater and other discharges from potable water sources;
- 3. Landscape irrigation and lawn watering;
- 4. Diverted stream flows;
- 5. Rising groundwater;
- 6. Groundwater infiltration to the municipal storm drain system;
- 7. Uncontaminated foundation and footing drains;
- 8. Uncontaminated water from crawl space pumps;
- 9. Air conditioning condensation;
- 10. Uncontaminated non-industrial roof drains;

11. Natural springs;
12. Individual residential and occasional non-commercial car washing;
13. Flows from riparian habitats and wetlands;
14. Dechlorinated swimming pool discharges (provided that the chlorine content is < 1 ppm, water has been allowed to stand for one week prior to draining, and that the discharge is performed in such a way as not to cause a nuisance);
15. Street sweeping waters;
16. Flows resulting from firefighting activities;
17. Non-stormwater discharges permitted under an NPDES permit, waiver, or waste discharge order administered under the authority of the United States Environmental Protection Agency, or a surface water discharge permitted by DEP, provided that the discharge is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided further that written approval has been granted by the Director for any discharge to the municipal storm drain system;
18. Any other non-stormwater discharges that are not a source of pollutants to the Municipal Storm Drain System nor waters of the Commonwealth, as set forth in a written determination by the Director.

Section 2.6 Authorization to Discharge to Municipal Storm Drainage Systems

- A. No person shall cause or allow any non-stormwater discharges to the municipal storm drainage system without having first obtained written authorization from the Director. Discharges to stormwater drains that require written authorization include, but are not limited to, dewatering drainage, subsurface drainage, non-contact cooling water, non-contact industrial process waters, uncontaminated cooling water, uncontaminated industrial process water, or water associated with the excavation of a foundation or trench, hydrological testing, groundwater treatment/remediation, removal or installation of an underground storage tank, foundation drains, crawl space pumps, footing drains or utility access chamber discharges. The decision to approve such discharges rests entirely with the Director. Such discharges shall comply with all other applicable requirements.
- B. Persons seeking to discharge pursuant to written authorization from Director shall also obtain, when applicable, an NPDES Permit, coverage under an NPDES Permit or an NPDES Exclusion for the discharge. A copy of which shall be provided to the Director.

- C. Written authorization issued to the user may stipulate special conditions and terms as deemed necessary or appropriate by the Director.
- D. Authorization shall be denied, revoked, suspended or modified if the Director determines that the discharge, whether singly or in combination with others, is or may cause or contribute to a water quality problem, or may cause or contribute to a violation of the Town's NPDES Permit.
- E. In the case of construction site dewatering, the duration of the permit shall not exceed the time period necessary to keep a site dewatered during construction. An Owner may apply to the Director for an extension of authorization for construction site dewatering if so approved by the appropriate state or federal agency. Such application shall be submitted to the Director a minimum of fourteen 14 days prior to the expiration of the existing permit.

Section 2.7 NPDES Permit

- A. The Owner of any property or project located within the Town and subject to the requirements of a NPDES Permit for a Stormwater Discharge associated with Industrial Activity or for construction purposes shall submit to the Director a copy of the completed NPDES Multi-Sector General Permit Notice of Intent or individual application as submitted to EPA, and the information identified in items 1. through 8. below, as applicable:
 - 1. Address of the building (or premises) where the discharge will take place and the name and address of the building (or premises) owner;
 - 2. Name of a contact person, title and phone number;
 - 3. A site plan or sketch which shows the location of the connection of the building stormwater drain or the point(s) of discharge to the municipal storm drainage system, including the street name, size of the stormwater drain to which the stormwater will discharge and the outfall to which the discharge will be conveyed and discharged;
 - 4. Standard Industrial Code (SIC Code) of the facility;
 - 5. A description of the product or services provided by the facility;
 - 6. A description of the nature of the discharge;
 - 7. Existing NPDES permit, if any.
 - 8. Town utilities servicing Facility.
- B. Any person subject to an NPDES permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Director pursuant to or as a condition his recommendation concerning a proposed special permit, variance, subdivision

approval, site plan approval, Order of Conditions, or building permit; during any enforcement proceeding or action; or for any other reasonable cause.

Section 2.8 Waste Disposal Prohibitions

- A. No person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, left, or maintained, in or upon any public or private property, driveway, parking area, street, alley, sidewalk, component of the municipal storm drain system, or water of the Commonwealth, any refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that the same may cause or contribute to pollution. Wastes deposited in streets in proper waste receptacles for the purposes of collection are exempt from this prohibition.

Section 2.9 Dumping to Catch Basins

- A. No person shall directly or indirectly dump, discharge or cause or allow to be discharged into any catch basin, any solid waste, construction debris, paint or painting product, antifreeze, hazardous waste, oil, gasoline, grease and all other automotive and petroleum products, solvents and degreasers, drain cleaners, commercial and household cleaners, soap, detergent, cleaning or wash waters ammonia, food and food waste, fats, wax, oil and grease, grass or yard waste, leaves, animal feces, dirt, sand, gravel or other pollutant. Any person determined by the Town to be responsible for the direct or indirect discharge of any of the above substances to a catch basin may be responsible for all clean-up costs and for paying any penalties assessed by the Town or other federal state or local agencies.

Section 2.10 Notification of Spills

- A. In accordance with the Bylaw, a release of materials resulting in or which may result in discharge of pollutants or illicit discharges into stormwater, to the municipal storm drainage system, or waters of the Commonwealth, the person shall take all necessary steps to ensure discovery, containment, and cleanup of the release. In the event of a release of oil or hazardous waste to the municipal storm drainage system, the person shall immediately notify the Town's fire, board of health and public works departments. In the event of a release of a non-hazardous pollutant to the municipal storm drainage system, the reporting person shall notify the Town's Department of Public Works in person or by phone no later than 4:00 p.m. of the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Town's Department of Public Works within three business days of the phone notice. If the discharge of prohibited materials

emanates from a commercial or industrial facility, the facility owner or operator of the facility shall retain on-site a written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained in accordance with the Massachusetts Public Records Law.

Section 2.11 Transitional Provisions

- A. Owners shall have 60 days from the effective date of these Regulations to comply with the provisions in *Section 2.0*, provided good cause is shown for the failure to comply during that period.

Section 3.0 Stormwater Management and Erosion Control

Section 3.1 Permits and Procedures

- A. The Stormwater Committee and its agents shall review all applications for a Land Disturbance Permit, issue a final permit, and conduct any necessary enforcement action.
- B. The Stormwater Committee will refer to the policy, criteria and information including specifications and standards of the latest edition of the Massachusetts Stormwater Policy or *Section 1.6 Design and Construction Standards*, to be adopted and amended from time to time by the Stormwater Committee, whichever is more stringent in the protection of the town's environmental and infrastructure resources, for execution of the provisions of these Regulations.
- C. The Owner is required to be the applicant of the permit, unless written authorization is granted by the Enforcing Agent.
- D. Entry. Filing an application for a Land Disturbance Permit grants the Stormwater Committee, or its agent, permission to enter the site to verify the information in the application and to inspect for compliance with the resulting permit.
- E. Information requests. The Owner shall submit all additional information requested by the Stormwater Committee to issue a decision on the application.
- F. Actions. The Stormwater Committee's action, rendered in writing, shall consist of either:
 - 1. Approve the Application and issue a permit if it finds that the proposed plan will protect water resources and meets the objectives and requirements of these Regulations;
 - 2. Approve the Application and issue a permit with conditions, modifications, requirements for operation and maintenance requirements of permanent structural Best Management Practices, designation of responsible party, or restrictions that the Stormwater Committee determines are required to ensure that the project will protect water resources and will meet the objectives and requirements of these Regulations; or

3. Disapprove the application and deny a permit if it finds that the proposed plan will not protect water resources or fails to meet the objectives and requirements of these Regulations. If the Stormwater Committee finds that the Owner has submitted insufficient information to describe the site, the work, or the effect of the work on water quality and runoff volume, the Stormwater Committee may disapprove the application, denying a permit.
- G. Issuance of the Land Disturbance Permit is subject to the following:
1. No Land Disturbance Permit shall be issued until the required application packages are approved.
 2. As a condition of permit issuance, the Owner shall agree to allow any inspections to be conducted.
 3. Where a bond, letter of credit, or other surety is required, the Land Disturbance Permit shall not be issued until the surety has been obtained and approved.
- H. A decision of the Stormwater Committee shall be final. Further relief of a decision by the Stormwater Committee made under this Regulation shall be reviewable in a Court of competent jurisdiction. The remedies listed in this Regulation are not exclusive of any other remedies available under any applicable federal, state or local law.
- I. Failure of the Stormwater Committee to take final action. Failure of the Stormwater Committee to take final action upon an application within 30 days of the filing (or receipt of documentation addressing comments) of the stormwater application with the DPW shall be deemed to be approval of said application. Upon certification by the DPW that the allowed time has passed without the Stormwater Committee action, the Land Disturbance Permit shall be issued by the Stormwater Committee.
- J. Plan Changes. The Owner must notify the Stormwater Committee in writing of any drainage change or alteration in the system authorized in a Land Disturbance Permit before any change or alteration is made. If the Stormwater Committee determines that the change or alteration is significant, based on the Stormwater Management Standards in *Sections 3.4, 3.5, and 3.6* and accepted construction practices, the Stormwater Committee may require that an amended application be filed. If any change or alteration from the Land Disturbance Permit occurs, the Stormwater Committee may require the installation of interim erosion and sediment control measures before approving the change or alteration.

- K. **Project Completion.** At completion of the project the Owner shall submit to the Stormwater Committee as-built record drawings of all structural stormwater controls and treatment BMPs required for the site. The as-built drawings shall show deviations from the approved plans, if any, and be certified by a Registered Professional Engineer (PE).
- L. **Intent and Consistency with Other Plans.** The intent of this permit is to ensure compliance with the State and Town's Stormwater Standards as well as compliance with the NPDES MS4 Permit issued to the Town by the EPA. Submittals to other Town departments, boards, and commissions, State or Federal Agencies, may be utilized and supplemented to fulfill all requirements of the Land Disturbance Permit.
- M. **Minor and Major Projects.** For the purpose of these Regulations, applications shall be divided into Minor and Major categories. The application procedures and submittal requirements for Minor and Major applications shall be described in *Sections 3.2 and 3.3*.
 - 1. A Minor project is any activity where:
 - (a) land disturbance is undertaken on a single property or is part of a larger common plan of development or sale that results in:
 - (i) a total cumulative added impervious surface that meets or exceeds 5,000 square feet of area.
 - (ii) a total cumulative disturbance of land that meets or exceeds 20,000 square feet of area and is less than 1 acre of area.
 - 2. A Major project is any project subject to the Stormwater Bylaw which involves:
 - (a) land disturbance is undertaken on a single property or is part of a larger common plan of development or sale that results in a total cumulative disturbance of land that meets or exceeds 1 acre of area.

Section 3.2 Minor Land Disturbance Permit Application

- A. The site Owner or his/her agent shall file with the Stormwater Committee a completed application package for a Minor Land Disturbance Permit. The permittee must be the Owner of the site. The Minor Land Disturbance Permit application package shall include:
 - 1. A completed Application Form with original signatures of all owners of the subject property;
 - 2. A Site Plan complete with Stormwater BMP calculations and Erosion and Sediment Control measures shown;
 - 3. A Project Narrative addressing how the Owner is in compliance and with and/or meeting the Standards set forth in *Section 1.6 Design and Construction Standards* to the best of their

ability. Include with this narrative a copy of the calculations performed to ensure compliance.

4. Certification that Operations and Maintenance of BMPs will be performed in perpetuity;
5. All copies of the application form and materials listed above must be filed with the DPW. The date of receipt by the DPW shall be the official filing date; and
6. Payment of the application and review fee. The Stormwater Committee shall obtain with each submission an Application Fee of \$250.00. The Stormwater Committee may require higher fees if deemed necessary.
7. The Stormwater Committee is authorized to require additional fees for the following:
 - (a) Specific engineering and consultant services. Services may include, but are not limited to hydrologic and drainage analysis, stormwater quantity and quality analysis, design review, site inspections, as-built plan review, and legal issues. Fees are determined at the time of project review based on a specific scope of work.
 - (b) Inspection services as detailed in *Section 3.8*.

B. Minor Permit Conditions. The Minor Land Disturbance Permit shall have the following conditions:

1. The development shall not alter the flow of stormwater runoff leaving the site, nor shall it alter the stormwater flow to any adjoining properties, public ways, or wetland resource areas.
2. To the maximum extent practicable, the Owner shall manage stormwater runoff from the development by using Infiltration Best Management Practices and/or retaining volume of runoff on site in accordance with the Massachusetts Stormwater Policy. Stormwater runoff from on-site impervious surfaces shall be directed to Infiltration Best Management Practices to promote groundwater recharge and reduce stormwater runoff from the project site. Infiltration Best Management Practices shall be selected and sized using the latest edition of the Massachusetts Stormwater Policy.
3. The Owner shall provide and maintain erosion and sedimentation controls until the site is permanently stabilized.
4. The Owner and/or successor shall perpetually inspect and maintain the site and stormwater management systems. Maintenance requirements for a site shall remain in perpetuity with the parcel.
5. The Owner shall prevent construction impacts such as erosion, sedimentation and other pollutant discharges during construction by providing Construction Period Best

Management Practices prior to the commencement of land disturbing activities.

Construction Best Management Practices shall be selected, located, inspected and maintained using the latest edition of the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas available online.

Section 3.3 Major Land Disturbance Permit Application

- A. The site Owner shall file with the Stormwater Committee a completed application package for a Major Land Disturbance Permit. The permittee must be the Owner of the site. The Major Land Disturbance Permit application package shall include:
1. A completed Application Form with original signatures of all owners;
 2. Stormwater Management Plan and project description as specified in *Section 3.4*;
 3. Project Narrative addressing how the Owner is in compliance and with and/or meeting the Standards set forth in *Section 1.6 Design and Construction Standards* to the best of their ability. Include with this Narrative a copy of the calculations performed to ensure compliance as defined in *Section 3.4.C.1*.
 4. Erosion and Sediment Control Plan as specified in *Section 3.5*;
 5. Operation and Maintenance Plan as specified in *Section 3.6*;
 6. If required by the EPA, NPDES General Permit for Discharges from Large and Small Construction Activities application, including the NPDES Construction General Permit Notice of Intent and Stormwater Pollution Prevention Plan (SWPPP);
 7. Application form, Stormwater Management Plan, Erosion and Sediment Plan, and Operation and Maintenance Plan must be filed with the DPW. The date of receipt by the DPW shall be the official filing date; and
 8. Payment of the application and review fee. The Stormwater Committee shall obtain with each submission an Application Fee of \$1,000.00. The Stormwater Committee may require higher fees if deemed necessary for the Stormwater Committee to complete its review.
 9. The Stormwater Committee is authorized to require additional fees for the following:
 - (a) Specific engineering and consultant services. Services may include, but are not limited to hydrologic and drainage analysis, stormwater quantity and quality analysis, design review, site inspections, as-built plan review, and legal issues. Fees are determined at the time of project review based on a specific scope of work.
 - (b) Inspection services as detailed in *Section 3.8*.

Section 3.4 Stormwater Management Plan

- A. The application for a Major Land Disturbance Permit shall consist of submittal of a Stormwater Management Plan to the Stormwater Committee. This Stormwater Management Plan shall contain sufficient information for the Stormwater Committee and relevant Town departments to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the Owner for reducing adverse impacts from stormwater. The Plan shall be designed to meet the Design and Construction Standards as set forth in *Section 1.6*.
- B. The Stormwater Management Plan shall fully describe the project in drawings, and narrative. It shall include:
1. Contact Information. Name, address, and telephone numbers of the owner, Owner, and person(s) or firm(s) preparing the Plan,
 2. A locus map,
 3. The existing zoning, and land use at the site,
 4. The proposed land use,
 5. The location(s) of existing and proposed easements,
 6. The location of existing and proposed utilities,
 7. The site's existing and proposed topography with contours at 2-foot (NAVD 88), or smaller, intervals,
 8. The existing site hydrology,
 9. A description and delineation of existing stormwater conveyances, impoundments, and wetlands on or adjacent to the site or into which stormwater flows,
 10. A delineation of 100-year flood plain, if applicable,
 11. Estimated seasonal high groundwater elevation (November to April) in areas to be used for stormwater retention, detention, or infiltration,
 12. The existing and proposed vegetation and ground surfaces with runoff coefficient for each,
 13. A drainage area map showing pre and post construction watershed boundaries, drainage areas, type of cover (including area and CN number), NRCS hydrologic soil group boundaries (A, B, C, and D soil groups), flow paths for time of concentration, points of analysis and location of soil tests.
 14. A description and drawings of all components of the proposed drainage system including:
 - (a) Locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization,

- (b) All measures for the detention, retention, or infiltration of water,
 - (c) All measures for the protection of water quality,
 - (d) The structural details for all components of the proposed drainage systems and stormwater management facilities,
 - (e) Notes on drawings specifying materials to be used, construction specifications, and typicals, and
 - (f) Expected hydrology with supporting calculations.
15. Proposed improvements including location of buildings or other structures, impervious surfaces (buildings and driveways or other impervious surfaces must be shown), and drainage facilities, if applicable,
 16. Timing, schedules, and sequence of development including clearing, stripping, rough grading, construction, final grading, and vegetative stabilization,
 17. A maintenance schedule for the period of construction, and
 18. WSPA DCR LAYER (Wachusett Reservoir) and Zone A layer.
 19. Any other information requested by the Stormwater Committee.
- C. Standards. Projects shall meet the *Section 1.6 Design and Construction Standards* and the following standards:
1. Drainage System calculations based on the following:
 - (a) Drainage systems shall have adequate capacity to handle all storm water runoff presently flowing through the property/site, as well as to dispose of any additional runoff generated by the proposed development up to the 100-year storm event. Rainfall data used for stormwater design shall utilize the 24-hour event from the most recent and recognizable data by the State and Federal entities.
 - (b) The flow from storms of up to a 25-year frequency and 24-hour duration shall be conveyed through the municipal storm drainage system on the developed site. Storm drain piping and grate inlets shall be designed for a 25-year storm event; Detention facilities and culverts shall be provided to accommodate all runoff, up to and including the run-off generated by the 100-year, 24- hour storm. As a minimum, detention basin routing calculations shall be prepared for the 10, 25 and 100-year storm events.
 - (c) Calculations shall be prepared, sealed, and stamped by the Owner's Technical Representative for pre- and post-development conditions to show peak rates of

runoff for the 2-,10-, 25- and 100-year storm events using software program-based SCS TR-55 and/or TR-20 stormwater modeling methods. Calculations and assumptions shall be clearly shown. Calculations shall be supported by soil logs and USDA NRCS soil maps. The stormwater volume to be recharged to groundwater shall be determined using the methods in the Massachusetts Stormwater Policy and MS4 Permit.

- (d) Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible.
- (e) The design of treatment and infiltration practices must follow the guidance in Volume 2 of the Massachusetts Stormwater Policy, as amended. To the maximum extent practicable, the Owner shall manage stormwater runoff from the development by using Infiltration BMPs and/or retaining volume of runoff on site in accordance with the Massachusetts Stormwater Policy and these regulations. Stormwater runoff from on-site impervious surfaces shall be directed to Infiltration BMPs to promote groundwater recharge and reduce stormwater runoff from the project site. Infiltration BMPs shall be selected and sized using the latest edition of the Massachusetts Stormwater Policy and in accordance with these regulations.
- (f) Stormwater management systems on new development sites shall be designed to:
 - (i) Not allow new stormwater conveyances to discharge untreated stormwater in accordance with Massachusetts Stormwater Policy Standard 1;
 - (ii) Control peak runoff rates in accordance with Massachusetts Stormwater Policy Standard 2;
 - (iii) Recharge groundwater in accordance with Massachusetts Stormwater Policy Standard 3;
 - (iv) Eliminate or reduce the discharge of pollutants from land uses with higher pollutant loads as defined in the Massachusetts Stormwater Policy in accordance with Massachusetts Stormwater Policy Standard 5;
 - (v) Protect Zone II or Interim Wellhead Protection Areas of public water supplies in accordance with Massachusetts Stormwater Policy Standard 6;
 - (vi) Implement long term maintenance practices in accordance with Massachusetts Stormwater Policy Standard 9; and

(vii) Require that all stormwater management systems be designed to: (1) Retain the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the site and/or 2) Remove 90% of the average annual load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site and 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site.

(g) Stormwater management systems on Redevelopment sites shall meet the following Standards to the maximum extent feasible:

- (i) Massachusetts Stormwater Standards 1, 2, and 3, the pretreatment and structural best management practices requirements Massachusetts Stormwater Standards 5 and 6.
- (ii) Stormwater management systems on Redevelopment sites shall also improve existing conditions by requiring that stormwater management systems be designed to: 1) Retain the volume of runoff equivalent to, or greater than, 0.80 inch multiplied by the total post-construction impervious surface area on the site and/or 2) Remove 80% of the average annual post-construction load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site and 50% of the average annual load of Total Phosphorus (TP) generated from the total postconstruction impervious surface area on the site.
- (iii) Stormwater management systems on Redevelopment sites may utilize offsite mitigation within the same subwatershed (USGS HUC12) as the redevelopment site to meet the equivalent retention or pollutant removal requirements.
- (iv) Redevelopment activities that are exclusively limited to maintenance and improvement of existing roadways, (including widening less than a single lane, adding shoulders, correcting substandard intersections, improving existing drainage systems, and repaving projects) shall improve existing conditions where feasible and are exempt from 3.4.C.1.(e)(i through iii). Roadway widening or improvements that increase the amount of

impervious area on the redevelopment site by greater than or equal to a single lane width shall meet the requirements of 3.4.C.1.(e)(i through iii).

- (h) Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved BMP design guidance or performance standards (e.g. Massachusetts Stormwater Policy and design guidance manuals) may be used to calculate BMP performance.
- (i) Drainage pipe systems shall be designed to provide self-cleaning flow velocities.
- (j) The combination of storage and design release rate shall not result in a storage duration of greater than seventy-two (72) hours.
- (k) Maximum total depth of detention/retention area shall be four feet (4') as measured from the lowest outlet point to the lowest point of the emergency overflow.
- (l) Outlet control structures shall be designed to minimize required maintenance for proper operation.
- (m) Each stormwater detention/retention area shall be provided with a method of emergency overflow in the event of a storm in excess of the 100-year frequency type.
- (n) At the discretion of the Director, drainage system may discharge to an existing, adjacent Town drainage system if the Owner can show that the Town drainage system provides sufficient excess capacity to accommodate both the existing runoff and the proposed additional runoff from the project during a 25-year frequency and a 24-hour duration storm event.
- (o) Hydraulic calculations, prepared by the Owner's Technical Representative, shall note the specific engineering and/or computer program to be used. Hydraulic calculations shall be submitted to substantiate all design features of any proposed or existing drainage system utilized by the project. Computations for run-off shall be made in accordance with standard engineering practice and in compliance with the Massachusetts Stormwater Policy standards. Hydraulic calculations shall include the following:
 - (i) Runoff area boundaries shown on a plan

- (ii) Methodology used
 - (iii) Soil and land use characterization and design storm parameters
 - (iv) Soil conditions and ground water
 - (v) Pipe size calculation
 - (vi) Detention and retention pond and outlet control calculations as applicable
 - (vii) Total suspended solid (TSS) and Total Phosphorus (TP) removal rates and Total Phosphorus calculations
 - (viii) Infiltration calculations as applicable
 - (ix) Culvert analysis and calculation as applicable
 - (x) Rip rap calculations as applicable
- (p) A continuous design element (i.e. railing or hedge) shall border any detention/retention basin area with interior side slopes greater than 3:1. Drainage basins shall be designed to facilitate access for maintenance vehicles and personnel.
- (q) If it is necessary to carry drainage across lots within the development, storm drainage easements shall be provided, of such width and construction as will be adequate to accommodate the volume and velocity of the run-off. However, no such easement shall be less than twenty feet (20') in width.
- (r) If a proposed drainage system will carry water across land outside the development boundaries to an approved outfall, appropriate drainage rights shall be secured by the Owner and at the Owner's expense.
- (s) Retention and detention ponds, and methods of overland flow may be used to retain, detain, and treat any increased and accelerated runoff which the development may generate.
- (t) There shall be a minimum of two feet (2') of naturally occurring soils between the detention basin bottom and the maximum annual ground water table;
- (u) Intermittent surface water courses and such as swales, forebays, detention/retention basins shall be vegetated and appropriately reinforced along the low flow channel.
- (v) The use of drainage facilities coordinated with landscaped buffers, open space and conservation areas is encouraged.

- (w) Neighboring properties shall not be negatively impacted by flooding due to excessive runoff caused by the development.
 - (x) Test pits shall be performed in the location of all proposed retention or detention facilities to determine depth to groundwater, depth to refusal, and soil classification. If the system proposes recharge to groundwater a saturated hydraulic conductivity test shall also be performed. The Owner or Owner's Technical Representative shall notify the Stormwater Committee at least 48 business hours in advance of any testing. Soil testing may be witnessed by a member of the Stormwater Committee, or his/her designee. Additional testing may be required by the Stormwater Committee at their discretion.
- 2. When one or more of the Standards set forth in *Section 3.4.C* above, cannot be met, an Owner may demonstrate that an equivalent level of environmental protection will be provided. Additional design standards are referenced in *Section 1.6*.
- 3. Landscaping
 - (a) Type and arrangement of street trees shall be acceptable to DPW and/or the Town Tree Warden.
 - (b) All required landscaping shall be maintained by the Owner in good condition at all times.
- 4. Non-structural Stormwater Management Strategies.
 - (a) To the maximum extent practicable, nonstructural stormwater management strategies set forth in *Section 3.4.C.4.(b)* shall be incorporated into the design. The Owner shall identify the nonstructural measures incorporated into the design of the project. If the Owner contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management measures identified in *Section 3.4.C.4.(b)* below into the design of a particular project, the Owner shall identify the strategy considered and provide a basis for the contention.
 - (b) Non-structural stormwater management strategies incorporated into site design shall:
 - (i) Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss,

- (ii) Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces,
- (iii) Maximize the protection of natural drainage features and vegetation,
- (iv) Minimize the decrease in the "time of concentration" from pre-construction to post construction,
- (v) Minimize land disturbance including clearing and grading,
- (vi) Minimize soil compaction,
- (vii) Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides,
- (viii) Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas, and
- (ix) Provide other source controls to prevent or minimize the use or exposure of pollutants at the site, in order to prevent or minimize the release of those pollutants into stormwater runoff. Such source controls include, but are not limited to:
 - 1. Site design features that help to prevent discharge and/or accumulation of trash and debris in drainage systems,
 - 2. Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments, and
 - 3. When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Massachusetts Stormwater Policy.

Section 3.5 Erosion and Sediment Control Plan

- A. The application for a Major Land Disturbance Permit shall consist of submittal of an Erosion and Sediment Control Plan to describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed erosion and sediment controls. The Owner shall submit such material as is necessary to show that the proposed development will comply with the design requirements listed in *Section 3.5.B* below.
- B. The design requirements of the Erosion and Sediment Control Plan are:
 - 1. Minimize total area of land disturbance,

2. Sequence activities to minimize simultaneous areas of land disturbance,
3. Minimize peak rate of runoff in accordance with the Massachusetts Stormwater Policy,
4. Minimize soil erosion and control sedimentation during construction, provided that prevention of erosion is preferred over sediment control,
5. Divert uncontaminated water around disturbed areas,
6. Maximize groundwater recharge,
7. Install and maintain all Erosion and Sediment Control measures in accordance with manufacturer specifications and good engineering practices,
8. Prevent off-site transport of sediment; depositing or washing soil into a waterbody or the storm drainage system is prohibited,
9. Protect and manage on and off-site construction and waste 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. Comply with the Massachusetts Department of Conservation and Recreation (DCR) Wachusett Watershed Protection Act.
12. Prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage and 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,
13. Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than 14 days after construction activity has temporarily or permanently ceased on that portion of the site,
14. Properly manage on-site construction and waste materials,
15. Prevent off-site vehicle tracking of sediments. Graveled roads, access drives and parking areas of sufficient width and length are required to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (not flushing) before the end of each workday,

16. Install measures intended to keep soil on site or out of water bodies, storm drainage systems or the public right-of-way as the first step in any development. These measures shall be made functional prior to any upslope development taking place,
17. Remove any soil that enters the public right-of-way,
18. Protect stormwater inlets that are functioning during the course of the development by approved sediment control measures so that sediment-laden water cannot enter the inlets without first being filtered.
19. Apply permanent or temporary soil stabilization to denuded development site areas in conformance with the following schedule:
 - (a) All denuded sites shall immediately be provided with either temporary or permanent soil stabilization.
 - (b) Temporary erosion and sediment control measures to reduce dust and sediment transport shall be applied as soon as practicable, but in no case more than seven days after land disturbing activity occurs.
 - (c) Ground cover shall be installed on any portion of a site that is denuded. Sports fields or playgrounds surrounded by vegetative cover or permanently installed curbing are exempt from this requirement.
 - (d) Temporary measures shall be maintained until permanent measures are established. Stabilization must be established prior to converting sediment basins into permanent (post-construction) stormwater management facilities.
 - (e) All temporary erosion and sedimentation control measures shall be removed after final site stabilization.
 - (f) Permanent non-permitted land disturbing activities may achieve compliance with the standards set out in subsections (a) through (d) above, with the installation and maintenance of approved permanent BMPs.
 - (g) There shall be no stockpiling of soil or other material within 30 feet of any resource area. Secure or protect soil stockpiles throughout the project with temporary or permanent soil stabilization measures. The Owner is accountable for the protection of all stockpiles on the site, and those transported from the site. Depositions of soil may be subject to additional regulations requiring permit, review or erosion and sediment control.

C. Erosion and Sediment Control Plan Content. The Plan shall contain the following information:

1. Names, addresses, and telephone numbers of the Owner, 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 boundaries and natural features including:
 - (a) Watercourses and water bodies, Outstanding Resource Waters (ORWs), wetland resource areas, jurisdictional buffers, no-disturb zones, vernal pools, DCR Wachusett Watershed Protection Act boundaries, and all floodplain information, including the 100-year flood elevation based upon the most recent Flood Insurance Rate Map, or as calculated by the Owner's Technical Representative 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,
 - (c) The 25-foot No Disturb Zone and the 100-foot buffer to all Bordering Vegetated Wetlands, and
 - (d) Habitats mapped by the Massachusetts Natural Heritage and Endangered Species Program as Endangered, Threatened or of Special Concern, Estimated Habitats of Rare Wildlife, Potential Vernal Pools, Certified Vernal Pools, and Priority Habitats of Rare Species within five hundred 500 feet (500') 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 (2') with spot elevations provided when 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, sizing of sedimentation basins, and construction and waste material stockpiling areas,

10. The outline of any areas, including drainage ways, steep slopes and proposed stockpile of topsoil that shall be restored and/or seeded immediately,
 11. Path and mechanism to divert uncontaminated water around disturbed areas, to the maximum extent practicable,
 12. Location and description of industrial discharges, including stormwater discharges from dedicated asphalt plants and dedicated concrete plants, which are intended to be covered by an industrial NPDES permit ,
 13. Stormwater runoff calculations in accordance with the Massachusetts Stormwater Policy,
 14. Location and description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other stabilization measures,
 15. A description of construction and waste materials expected to be stored on-site and intended disposal methods. 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,
 16. A description of provisions for phasing the project where one acre of area or greater is to be altered or disturbed,
 17. If a subdivision, a general note indicating the responsibility to maintain erosion/sedimentation controls during construction and, until sale of the lots involved, including the frequency of maintenance and that temporary ground cover or erosion/siltation control shall be established on any unbuilt lots where required by the Stormwater Committee,
 18. Plans must be stamped and/or certified by the Owner's Technical Representative, and
 19. Such other information as is required by the Stormwater Committee.
- D. Project Changes. The Owner, or their agent, shall notify the Stormwater Committee in writing of any change or alteration of a land disturbance authorized in a Major Land Disturbance Permit before any change or alteration occurs. If the Stormwater Committee determines that the change or alteration is significant, based on the design requirements listed in these Regulations and accepted construction practices, the Stormwater Committee may require that an amended Major Land Disturbance Permit application be filed. If any change or deviation from the Major Land Disturbance Permit occurs during a project, the Stormwater Committee may require the installation of interim measures before approving the change.

Section 3.6 Operation and Maintenance Plan

- A. Operation and maintenance of private facility construction are the responsibility of the owner.
- B. If the Operation and Maintenance Plan identifies a person other than the owner (for example, a public agency, private agency, or homeowners' association) as having the responsibility for maintenance, the Plan shall include documentation of such person's agreement to assume this responsibility, or of the developer's obligation to dedicate a stormwater management facility to such person under an applicable Bylaw or regulation.
- C. Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project.
- D. If the person responsible for maintenance identified under *Section 3.6.B* above is not a public agency, the operation and maintenance and any future revisions based on *Section 3.6.G* below shall be recorded upon the deed of record for each property on which the maintenance described in the Operation and Maintenance Plan must be undertaken.
- E. Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.
- F. The person responsible for maintenance identified under *Section 3.6.B* above shall maintain a detailed log as detailed in *Section 3.6.L*.
- G. The person responsible for maintenance identified under *Section 3.6.B* above shall evaluate the effectiveness of the Operation and Maintenance Plan at least once per year and adjust the Plan and the deed as needed.
- H. The person responsible for maintenance identified under *Section 3.6.B* above shall retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the Operation and Maintenance Plan and the documentation required by *Section 3.6.L*.
- I. The requirements of *Sections 3.6.C and 3.6.D* do not apply to stormwater management facilities that are dedicated to and accepted by the Town.
- J. In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the Stormwater Committee shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have

fourteen (14) days to affect maintenance and repair of the facility in a manner that is approved by the Stormwater Committee or their designee. The Stormwater Committee, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the Town may immediately proceed to do so and shall bill the cost thereof to the responsible person.

- K. Nothing in this *Section 3.6* shall preclude the Stormwater Committee from requiring the posting of a performance or maintenance guarantee.
- L. An Operation and Maintenance Plan is required at the time of application for all projects. The Operation and Maintenance Plan shall be designed to ensure compliance with the Land Disturbance Permit, these rules and regulations, and that the Massachusetts Surface Water Quality Standards, 314, CMR 4.00 are met in all seasons and throughout the life of the system. The Stormwater Committee shall make the final decision of what maintenance option is appropriate in a given situation. The Stormwater Committee will consider natural features, proximity of site to water bodies and wetlands, extent of impervious surfaces, size of the site, the types of stormwater management structures, and potential need for ongoing maintenance activities when making this decision. The Operation and Maintenance Plan shall remain on file with the Stormwater Committee and shall be an ongoing requirement. The Operation and Maintenance Plan shall include:
 - 1. The name(s) of the owner(s) for all components of the system.
 - 2. Maintenance agreements that specify:
 - (a) The names and addresses of the person(s) responsible for operation and maintenance,
 - (b) The person(s) responsible for financing maintenance and emergency repairs,
 - (c) A Maintenance Schedule for all drainage structures, including swales and ponds,
 - (d) A cost estimate for the operation and maintenance of the stormwater drainage system, including long-term replacement costs,
 - (e) A list of easements with the purpose and location of each, and
 - (f) The signature(s) of the owner(s).
 - 3. Map showing locations of all stormwater facilities including but not limited to catch basins, manholes, drainage piping, and stormwater devices.
 - 4. Detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspection and copies of all maintenance-related work orders.

5. Record of annual updates.

M. Stormwater Management Easement(s).

1. Stormwater management easements shall be provided by the property owner(s) as necessary for:
 - (a) access for facility inspections and maintenance;
 - (b) preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the 100-year storm event; and
 - (c) direct maintenance access by heavy equipment to structures requiring regular cleanout.
2. The purpose of each easement shall be specified in the maintenance agreement signed by the property owner.
3. Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Stormwater Committee.
4. Easements (deed description and plans) shall be recorded with the Worcester County District Registry of Deeds prior to issuance of a Certificate of Occupancy by the Building Inspector.

N. Changes to Operation and Maintenance Plan

1. The owner(s) of the stormwater management system must notify the Stormwater Committee of changes in ownership or assignment of financial responsibility.
2. The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of these rules and regulations by mutual agreement of the Stormwater Committee and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties. Responsible Parties shall include owner(s), persons with financial responsibility, and persons with operational responsibility.

O. The Owner is required to obtain an annual certification from the Owners Technical Representative that maintenance is being performed on structural BMPs.

Section 3.7 Surety

- A. The Stormwater Committee may require the Owner to post before the start of land disturbance or construction 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 the Stormwater Committee to ensure that the work will be completed in

accordance with the permit. If the project is phased, the Stormwater Committee 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 Committee has received the final inspection report and the final inspection has been conducted as required by *Section 3.8* and *Section 3.9* and issued a Certificate of Occupancy. For subdivisions, the bond may not be fully released until street acceptance or until final completion of other required site improvements.

Section 3.8 Inspection and Site Supervision

- A. Pre-construction Meeting. Prior to starting clearing, excavation, construction, or land disturbance, the Owner, the Owner's Technical Representative, the general contractor or any other person with authority to make changes to the project, shall meet with the Stormwater Committee, to review the permitted plans and their implementation.
- B. The Owner's Technical Representative shall inspect the project site and provide certification to the Town of project completeness at the following stages:
 - 1. Initial Site Inspection: prior to submittal of the Permit application.
 - 2. The Owner's Environmental Site Monitor or a third party inspector, at the sole expense of the Owner, as designated by the Stormwater Committee shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the Owner wherein the work fails to comply with the Land Disturbance Permit as approved. The Land Disturbance Permit and associated plans for grading, stripping, excavating, and filling work, bearing the signature of approval of the Stormwater Committee, shall be maintained at the site during the progress of the work. The Owner shall notify the Stormwater Committee at least two (2) working days before each of the following events; the Owner's Technical Representative shall be responsible to observe and assure the project progresses appropriately at the following events:
 - (a) Erosion and sediment control measures are in place and stabilized;
 - (b) Site Clearing has been substantially completed;
 - (c) Rough Grading has been substantially completed;
 - (d) Final Grading has been substantially completed;
 - (e) Close of the Construction Season; and
 - (f) Final Landscaping (permanent stabilization) and project final completion.
- C. Owner Inspections. The Owner or third party inspector 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 required plans and the need for maintenance or additional control measures. The Owner or third party inspector shall submit (daily, weekly or monthly reports as indicated in the permit) to the Stormwater Committee or designated agent in a format approved by the Stormwater Committee.

- D. Bury Inspection. Prior to backfilling of any underground drainage or stormwater conveyance structures the Stormwater Committee shall be notified.
- E. Final Inspection. After the stormwater management system has been constructed, the Owner must submit a stamped record plan signed by the Owner's Technical Representative detailing the actual stormwater management system as installed, exempt to minor permits. The record plan will include a statement box on the plan certifying the site review was conducted in accordance with these rules and regulations and all items were constructed according to the approved permit. The Owner or Owner's Technical Representative shall request a final inspection site meeting with the Stormwater Committee. The Stormwater Committee shall visit the site with the Owner's Technical Representative to confirm its "as-built" features. As-Built drawings of structural BMPs shall be submitted to the Department of Public Works. The final inspection shall be completed and the final report (*Section 3.9*) shall be submitted to the Stormwater Committee before the surety has been released and prior to requesting the issuance of Certificate of Occupancy.
- F. Access Permission. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Stormwater Committee its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under these rules and regulations and may make or cause to be made such examinations, surveys or sampling as the Stormwater Committee deems reasonably necessary to determine compliance with the Land Disturbance Permit.
- G. If the system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the Stormwater Management Plan, it shall be corrected by the Owner before the performance guarantee is released. If the Owner fails to act the Town may use the surety bond to complete the work. Examples of inadequacy shall be limited to: errors in the infiltrative capability, errors in the maximum groundwater elevation, failure to properly define or construct flow paths, or erosive discharges from basins.

- H. Inspection Fees. If necessary, the Stormwater Committee may require additional fees for site inspections conducted by Town departments. Fees are calculated at a rate of \$65 per hour for review, inspection, and monitoring services that require an excess of two (2) hours of review, inspection, and monitoring time by a Town department.

Section 3.9 Final Report

- A. The Owner's Technical Representative shall evaluate the effectiveness of the stormwater BMPs during an actual storm and document the findings. The final report will include certification from the Owner's Technical Representative as to the effectiveness of the installed system during storm events.
- B. Upon completion of the work, the Owner shall submit a report (including certified as-built construction plans) from the Owner's Technical Representative certifying that all stormwater BMPs, and approved changes and modifications, have been completed in accordance with the conditions of the approved Land Disturbance Permit. Any discrepancies should be noted in the cover letter.

Section 3.10 Waivers

- A. The Stormwater Committee may waive strict compliance with any requirement of these rules and 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 not inconsistent with the purpose and intent of these rules and regulations.
- B. Any Owner may submit a written request to be granted such a waiver. Such a request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of these rules and regulations does not further the purposes or objectives of these rules and regulations.
- C. All waiver requests may be discussed with other Town departments and/or voted on at a public hearing for the project.
- D. If in the Stormwater Committee's opinion, additional time or information is required for review of a waiver request, the Stormwater Committee may issue a written continuance for their review. In the event the Owner objects to a continuance, or fails to provide requested information, the waiver request shall be denied.

Section 3.11 Exemptions

- A. Pursuant to the Stormwater Bylaw, the provisions of this Regulation do not apply to:
 - 1. Construction activities waived from permit coverage under the NPDES General Permit for stormwater Discharges from Construction Activities. Unless the thresholds within the Holden Stormwater Management Bylaw is triggered. Thus, the applicant shall comply with the Stormwater Rules and Regulations set forth herein.
 - 2. Normal maintenance and improvement of land in agricultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.04;
 - 3. Maintenance of existing landscaping, gardens or lawn areas associated with a single family dwelling;
 - 4. The construction of fencing that will not substantially alter existing terrain or drainage patterns;
 - 5. Construction of utilities other than drainage (gas, water, electric, telephone, etc.) which will not alter terrain or drainage patterns;
 - 6. Emergency work to protect life, limb, or property.

Section 3.12 Certificate of Occupancy

- A. The Stormwater Committee will issue a letter certifying completion upon receipt and approval of the final reports and/or upon otherwise determining that all work of the Land Disturbance Permit has been satisfactorily completed in conformance with these rules and regulations, which letter shall be submitted by the Owner to the Town of Holden Office of the Building Inspector prior to the issuance of a Certificate of Occupancy, if applicable.

Section 4.0 Enforcement

Section 4.1 Enforcement

- A. The Director, Stormwater Committee, or an authorized agent thereof (hereafter known as Enforcing Agent) shall enforce these rules and regulations, the Stormwater Bylaw, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations as provided in the Stormwater Management Bylaw.

Appendix A - Definitions

1. **ABUTTER** — The owner(s) of land abutting the activity.
2. **AGRICULTURE** — The normal maintenance or improvement of land in agricultural or aquacultural use, as defined by the Massachusetts Wetlands Protection Act (M.G.L. c. 131 § 40) and its implementing regulations (310 CMR 10.00).
3. **ALTERATION OF DRAINAGE CHARACTERISTICS** — Any land disturbing activity, as defined herein, on an area of land that changes the water quality, or the force, quantity, direction, 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.
4. **BEST MANAGEMENT PRACTICE (BMP)** — An activity, procedure, restraint, or structural improvement that helps to reduce the quantity or improve the quality of stormwater runoff.
5. **CLEAN WATER ACT** — The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.
6. **CLEARING** — Any activity that removes the vegetative surface cover. Clearing activities generally include grubbing activity as defined below..
7. **CONSTRUCTION ACTIVITY** — Activities subject to NPDES Construction General Permits.
8. **CONSTRUCTION AND WASTE MATERIALS** — Excess or discarded building or site materials, including but not limited to concrete truck washout, chemicals, litter, sanitary waste at a construction site that may adversely impact water quality, and clearing/grubbing wastes such as stumps and asphalt.
9. **DEVELOPMENT** — The modification of land to accommodate a new use or expansion of use, usually involving construction.
10. **DIRECTOR** — The Director of the Town of Holden Department of Public Works.
11. **DISCHARGE OF POLLUTANTS** — The addition from any source of any pollutant or combination of pollutants into the municipal storm drain system or into the waters of the United States or Commonwealth from any source.
12. **ENFORCING AGENT** — The Town's Director of Public Works, the Stormwater Committee (as defined herein), or its designated agent.

13. ENVIRONMENTAL SITE MONITOR — Trained professional approved by the Stormwater Committee and retained by the holder of a Land Disturbance Permit to periodically inspect the work and report to the Stormwater Committee.
14. 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.
15. EROSION AND SEDIMENT CONTROL PLAN — A document containing narrative, drawings, and details developed by an Environmental Site Monitor which includes BMPs, or equivalent measures designed to control surface runoff, erosion and sedimentation during pre-construction and construction related land disturbances. The plan is required as part of the application for a Land Disturbance Permit.
16. 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).
17. 25-FOOT NO-DISTURB-ZONE — The area adjacent to the wetland resource area, excluding Riverfront and Buffer Zone, where there is no grading, filling, excavation, removal of vegetation or other construction activity allowed.
18. 100-FOOT BUFFER - The zone around all resource areas except Land Under Waterbodies, Land Subject to Flooding and Riverfront Area, where work may be conditioned to protect the resource area (310 CMR 10.02(2)(b)).
19. GRADING — Changing the level or shape of the ground surface.
20. GROUNDWATER — Water beneath the surface of the ground.
21. GRUBBING — The act of clearing land surface by digging up roots and stumps.
22. HAZARDOUS OR TOXIC MATERIALS — Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, corrosive, flammable, reactive, toxic, radioactive, or infectious characteristics, may cause or significantly contribute to a substantial present or potential hazard to human health, safety, or welfare, or to property or the environment. Hazardous or Toxic materials include, but are not limited to, any synthetic organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid and alkali, and any substance defined as Hazardous or Toxic under M.G.L. c.21C and c.21E, and 310 CMR 30.000 and 310 CMR 40.0000.

23. **ILLCIT CONNECTIONS** — An illicit connection is defined as either of the following:
- (a) Any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the municipal storm drain system, including but not limited to, any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the municipal storm drain system, and any connections to the municipal storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by a government agency; or
 - (b) Any drain or conveyance connected from a commercial or industrial land use to the municipal storm drain system which has not been documented in plans, maps, or equivalent records and approved by the Town.
24. **ILLCIT DISCHARGE** — Any direct or indirect non-stormwater discharge to the municipal storm drain system, except as exempted in *Section 2.5*.
25. **IMPERVIOUS SURFACE** — Any material or structure on or above the ground that prevents water infiltrating the underlying soil. Impervious surface includes without limitation roads, paved parking lots, sidewalks, and roof tops. Impervious surface also includes soils, gravel driveways, and similar surfaces with a runoff coefficient (Rational Method) greater than 85.
26. **INDUSTRIAL ACTIVITY** — Activities subject to NPDES Industrial Permits.
27. **LAND-DISTURBING ACTIVITY, LAND DISTURBANCE, or DISTURBANCE of LAND** — Any action that causes a change in the position, location, or arrangement of soil, sand, rock, gravel, or similar earth material.
28. **LOW IMPACT DEVELOPMENT** — An approach to environmentally friendly land use development. It includes landscaping and design techniques that attempt to maintain the natural, pre-developed ability of a site to manage rainfall. LID techniques capture water on site, filter it through vegetation, and let it soak into the ground.
29. **MASSACHUSETTS ENDANGERED SPECIES ACT** — (MGL c. 131A) and its implementing regulations at (321 CMR 10.00) which prohibit the “taking” of any rare plant or animal species listed as Endangered, Threatened, or of Special Concern.
30. **MASSACHUSETTS STORMWATER POLICY OR MASSACHUSETTS STORMWATER MANAGEMENT POLICY** — The Policy and guidance Handbook issued by the Department of Environmental Protection, as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands

- Protection Act MGL c. 131 s. 40 and the Massachusetts Clean Waters Act MGL c. 21, ss. 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. The Handbook provides detailed guidance on the Policy.
31. **MAXIMUM EXTENT PRACTICABLE** — The limits of available technology and the practical and technical limits on an Owner in planning and designing stormwater management practices to reduce potential for pollutants to enter the municipal storm drainage system or waters of the Commonwealth.
32. **MUNICIPAL STORM DRAIN SYSTEM or MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4):**
The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or manmade or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Holden.
33. **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER DISCHARGE PERMITS** — General, group, and individual stormwater discharge permits issued by the United States Environmental Protection Agency which regulate facilities defined in federal NPDES regulations pursuant to the Clean Water Act.
34. **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES** — Permit required by the EPA for construction activities that disturb one acre or more of land, either by itself or as part of a larger development. Permit requires a Notice of Intent (NOI) to be submitted to the EPA and the development of a Stormwater Pollution Prevention Plan (SWPPP).
35. **NEW DEVELOPMENT** — Any construction activities or land alteration on an area that has not previously been developed to include impervious cover.
36. **NON-STORMWATER DISCHARGE** — Any discharge to the municipal storm drain system that is not composed entirely of stormwater.
37. **OPERATION AND MAINTENANCE PLAN** — A plan setting up the functional, financial, and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to ensure that it continues to function as designed.
38. **OUTFALL** — The point at which stormwater flows out from a point source discernible, confined, and discrete conveyance into waters of the Commonwealth of Massachusetts.

39. **OUTSTANDING RESOURCE WATERS (ORWs)** — Waters designated by Massachusetts Department of Environmental Protection as ORWs. These waters have exceptional sociologic, recreational, ecological and/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 Policy 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 with their bordering vegetated wetlands, and other waters specifically designated.
40. **OWNER** — A person with a legal or equitable interest in property.
41. **OWNER'S TECHNICAL REPRESENTATIVE** — A Massachusetts Registered Professional Engineer in a competent field and retained by the holder of a Land Disturbance Permit to certify that design, construction, and maintenance are completed in accordance with the applicable local, state, and federal stormwater requirements.
42. **PERSON** — Any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, legal entity, agency, public or quasi-public body, authority, department, or political subdivision of the Town of Holden, the Commonwealth, or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.
43. **PLAN** — Any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot.
44. **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.
45. **POLLUTANT** — Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure (including but not limited to sediments, slurries, and concrete rinsates); and noxious or offensive matter of any kind.

46. POLLUTION — The human-made or human-induced alteration of the quality of waters by waste to a degree which unreasonably affects, or has the potential to unreasonably affect, either the waters for beneficial uses or the facilities which serve these beneficial uses.
47. PRE-CONSTRUCTION — All activity in preparation for construction.
48. PREMISES — Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.
49. PRIORITY HABITAT OF RARE SPECIES — Habitats delineated for rare plant and animal populations protected pursuant to the Massachusetts Endangered Species Act and its regulations.
50. 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.
51. RECHARGE — The replenishment of underground water reserves.
52. REDEVELOPMENT — Development, rehabilitation, expansion, demolition or phased projects that disturb the ground surface or increase the impervious area on previously developed sites.
53. RESPONSIBLE PARTY(IES) or PERSON(S) — owner(s), persons with financial responsibility, and persons with operational responsibility.
54. RUNOFF — Rainfall, snowmelt, or irrigation water flowing over the ground surface.
55. SEDIMENT — Mineral or organic soil material that is transported by wind or water, from its origin to another location; the product of erosion processes.
56. SEDIMENTATION — The process or act of deposition of sediment.
57. SITE — Any lot or parcel of land or area of property where land disturbances are, were, or will be performed.
58. SLOPE — The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance.
59. SOIL — Earth materials including duff, humic materials, sand, rock and gravel.
60. STABILIZATION — The use, singly or in combination, of mechanical, structural, or vegetative methods, to prevent or retard erosion.
61. STORMWATER — Any water resulting from rainfall or other precipitation that runs off surfaces during or after a storm, including stormwater runoff, snowmelt runoff, and surface water runoff and drainage.

62. STORMWATER COMMITTEE — A Committee of the Town of Holden consisting of the Department of Public Works Director or his designee, the Conservation Commission Agent, the Town Planner, and the Building Commissioner.
63. STORMWATER MANAGEMENT PLAN — A plan required as part of the application for a Land Disturbance Permit.
64. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) — Plan required for permit coverage under the NPDES General Permit for Discharges from Large and Small Construction Activities. The SWPPP is a detailed plan describing how erosion and sediment controls and other BMPs will be implemented on a construction site.
65. STRIP — Any activity which removes the vegetative ground surface cover, including tree removal, clearing, grubbing, and storage or removal of topsoil.
66. SURFACE WATER DISCHARGE PERMIT — A permit issued by the Department of Environmental Protection (DEP) pursuant to 314 CMR 3.00 that authorizes the discharge of pollutants to waters of the Commonwealth of Massachusetts.
67. TOWN — The Town of Holden.
68. TSS — Total Suspended Solids.
69. VERNAL POOLS — Shall include, in addition to scientific definitions found in the Conservation Commission Regulations, and the Wetlands Protection Act, any confined basin or depression not occurring in existing lawns, gardens, landscaped areas or driveways which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, contains at least 200 cubic feet of water at some time during most years, is free of adult fish populations, and provides essential breeding and rearing habitat functions for amphibian, reptile or other Vernal Pool community species, regardless of whether the site has been certified by the MA Division of Fisheries and Wildlife. The boundary of the Resource Areas for Vernal Pools shall be the mean annual high-water line defining the depression and an additional one-hundred feet, the jurisdictional buffer shall consist of an additional one hundred feet from the resource area. Vernal pools are considered Outstanding Resource Waters (ORW's) under the MA Surface Water Quality Standards (314 CMR 4.0).
70. WATERCOURSE — A natural or man-made channel through which water flows or a stream of water, including a river, brook or underground stream.

71. 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, groundwaters, and vernal pools.
72. WETLAND RESOURCE AREA — Areas specified in the Massachusetts Wetlands Protection Act M.G.L. c. 131, s.40 and in the Town of Holden Wetland Protection Bylaw.
73. WETLANDS — Wet meadows, marshes, swamps, bogs, areas where groundwater, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of the year; emergent and submergent communities in inland waters; that portion of any bank which touches any inland water.