

### 174-13.3 LOWER IMPACT DEVELOPMENT

#### A. Purpose and Authority

This Bylaw is adopted under authority granted by the Home Rule Amendment of the Massachusetts Constitution, the Home Rule statutes, and pursuant to the Bylaws of the federal Clean Water Act found at 40 CFR 122.34.

Environmental protection is a significant concern of the Town of Southborough. It is in the public interest to minimize the impacts associated with land development and to regulate post-development stormwater runoff discharges to control and minimize increases in stormwater runoff rates and volumes, post-construction soil erosion and sedimentation, stream channel erosion, and nonpoint source pollution associated with post development stormwater runoff. Lower Impact Development ( hereinafter LID) site planning and management of post-development stormwater runoff will minimize damage to public and private property and infrastructure, safeguard the public health, safety, environment and general welfare of the public, protect water and aquatic resources, and promote groundwater recharge to protect surface, groundwater, and drinking water supplies.

The purpose of this Bylaw is as follows:

- (0) To protect the quality and quantity of surface waters, reservoirs, and ground water, to maintain the integrity of aquatic living resources and ecosystems, and to preserve the physical integrity of receiving streams and water bodies;
- (0) To encourage a more efficient form of development that consumes less open land and protects existing topography, wildlife habitats, and natural features;
- (0) To require that new development, redevelopment and all land conversion activities maintain the natural hydrologic characteristics of the land to reduce flooding, stream bank erosion, siltation, nonpoint source pollution, property damage, and to maintain the integrity of stream channels and aquatic habitats;
- (0) To establish decision-making processes surrounding land development activities that protect the integrity of the watershed and preserve the health of water resources, and
- (0) To minimize the total amount of disturbance of the land.

#### B. Definitions

Terms not defined in this Bylaw shall be construed according to their customary and usual meaning unless the context indicates a special or technical meaning.

**ALTER** - Any activity, which will measurably change the ability of a ground surface area to absorb water or will change existing surface drainage patterns. Alter may be similarly represented as “alteration of drainage characteristics,” and “conducting land disturbance activities.”

**BIORETENTION AREAS** - Shallow depressions filled with engineered soils, topped with a thick layer of mulch, and planted with dense vegetation that reduce the overall amount of runoff to be treated by infiltrating stormwater to the ground.

**DISTURBED AREA** - an area, man-made or natural, where the existing condition has been or is proposed to be altered.

**INFILTRATION** - The act of conveying surface water into the ground to recharge groundwater and to reduce stormwater runoff from a project site.

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

**LID MANAGEMENT** - The use of structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.

**LID TECHNIQUES** - Engineering measures that compensate for the reduced infiltration and storage characteristics of developed sites.

**MASSACHUSETTS STORMWATER MANAGEMENT POLICY** - The Policy 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 G.L. c. 131 § 40 and Massachusetts Clean Waters Act G.L. c. 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.

**MULTIFUNCTIONAL LANDSCAPE FEATURES** - Bioretention areas, swales, and conservation areas that mimic or replicate hydrologic functions and maintain the ecological/biological integrity of receiving streams and water bodies.

**MUNICIPAL STORM DRAIN 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 Southborough.

**NEW DEVELOPMENT** - Any construction or land disturbance of a parcel of land that is currently in a natural vegetated state and does not contain significant alterations by man-made activities.

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

**OPERATION AND MAINTENANCE PLAN:** A plan that defines the functional, financial, and organizational mechanisms for the ongoing operation.

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

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

**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.

**POST-DEVELOPMENT** - The conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land. Post-

development refers to the phase of a new development or redevelopment project after completion, and does not refer to the construction phase of a project.

RECHARGE - The replenishment of underground water reserves.

REDEVELOPMENT - Any construction, alteration, or improvement where the existing land use is commercial, industrial, institutional, or multi-family residential.

RESOURCE AREA - Any area protected under federal, state, or local law or regulation including without limitation: the Massachusetts Wetlands Protection Act and the Southborough Wetlands Protection Bylaw.

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

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

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

### **C. Applicability**

This bylaw shall be applicable to all new development and redevelopment, including, but not limited to, site plan applications, subdivision applications, grading applications, land use conversion applications, any activity that will result in an increased amount of stormwater runoff or pollutants flowing from a parcel of land, or any activity that will alter the drainage characteristics of a parcel of land, unless exempt pursuant to Section D of this Bylaw. After (insert date of adoption here) the Planning Board shall not approve any application for development or re-development if the land or parcels of land were held in common ownership (including ownership by related or jointly-controlled persons or entities) and were subdivided or otherwise modified to avoid compliance. A development shall not be segmented or phased in a manner to avoid compliance with this By-Law. A LID Special Permit shall be required from the Planning Board for the following:

- (0) Any activity subject to Major Plan Review (§ 174-10);
- (0) Any activity that will result in soil disturbance of one acre or more;
- (0) Any residential development or redevelopment of five (5) or more acres of land proposed pursuant to “the Subdivision Control Law” G. L. c. 41 sec. 81K to 81GG inclusive, or proposed under a special permit process pursuant to G. L. c. 40A sec. 9.

### **D. Exemptions**

- (0) Any activity that will disturb an area less than one acre.
- (0) Normal maintenance and improvement of land in agricultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.04 and MGL Chapter 40A Section 3.
- (0) Construction and associated grading of a way that has been approved by the Planning Board;
- (0) The maintenance, reconstruction or resurfacing of any public way; and the installation of drainage structures and utilities within or associated with public ways that have been approved by the appropriate authorities;
- (0) Emergency repairs to any stormwater management facility or practice that poses a threat to public health or safety, or as deemed necessary by the Special Permit Granting Authority;
- (0) Any work or projects for which all necessary approvals and permits have been issued before the effective date of this Bylaw.

- (0) Redevelopment projects are presumed to meet the specified LID requirements described in the LID Bylaw of the Town of Southborough if the total impervious cover is reduced by 40% from existing conditions. Where site conditions prevent the reduction in impervious cover, LID practices shall be implemented to provide stormwater controls for at least 40% of the site's impervious area. When a combination of impervious area reduction and implementation of LID techniques is used for redevelopment projects, the combination of impervious area reduction and the area controlled by a LID practice shall equal or exceed 40%.

#### **E. Special Permit Application and Procedure**

- (0) The Planning Board shall be the special permit granting authority for the issuance of a LID Special Permit. Such special permits applications shall be submitted, considered, and issued only in accordance with the provisions of this Bylaw and MGL Ch. 40A, s. 9.
- (0) To obtain approval for a project subject to the provisions of this Bylaw, the applicant shall submit a LID Special Permit Application that meets the LID site design principles stated below, a LID Management Plan and an Operation and Maintenance Plan that complies with the requirements set forth herein and in the regulations adopted pursuant to this Bylaw.
  - ( ) Preservation of the site's natural features and environmentally sensitive areas such as wetlands, native vegetation, mature trees, slopes, drainageways, permeable soils, flood plains, woodlands and soils to the greatest extent possible;
  - ( ) Minimization of grading and clearing;
  - ( ) Clustering of buildings;
  - ( ) Use of stormwater management components that provide filtration, treatment and infiltration such as vegetated areas that slow down runoff; maximizing infiltration and reducing contact with paved surfaces;
  - ( ) Creation of subwatersheds to treat and manage runoff in smaller, decentralized, low-tech stormwater management techniques to treat and recharge stormwater close to the source;
  - ( ) Emphasis of simple, nonstructural, low-tech, low-cost methods including open drainage systems, disconnection of roof runoff, and street sweeping;
  - ( ) Reduction of impervious surfaces wherever possible through alternative street design, such as omission of curbs and use of narrower streets, shared driveways and through the use of shared parking areas;
  - ( ) Reduction of any heat island effect;
  - ( ) Use of native plant vegetation (invasive species prohibited) in buffer strips and in rain gardens (small planted depressions that can trap and filter runoff). Naturalized, non-invasive plant species may be substituted for native plant vegetation subject to the Board's approval.
  - ( ) Techniques integrated into every aspect of site design to create a hydrologically functional lot or site, including the following:
    - . Vegetated open channel systems along roads;
    - . Rain gardens;
    - . Buffer strips;
    - . Use of roof gardens where practicable;
    - . Use of amended soils that will store, filter and infiltrate runoff;
    - . Bioretention areas;

- . Use of rain barrels and other cisterns to provide additional stormwater storage;
  - . Use of permeable pavement.
- (0) The Planning Board may waive some of the requirements for a LID Special Permit application if it determines that some of the application requirements are unnecessary because of the size or character of the development project or because of the natural conditions at the site. Waivers that are granted at the initial approval may not be binding if the reasons for which the waiver was granted are changed or no longer exist.
  - (0) The applicant shall make all requests for waivers in writing. The applicant shall submit supporting technical information and documentation to demonstrate that some, or all, of the requirements are unnecessary because of minimal environmental impact or other reasons why such waiver/s should be granted. The Planning Board's decision to grant or deny waivers shall be in writing and shall set forth the reasons for the grant or denial.
  - (0) At the time of application, the applicant shall provide in writing the name of the person who is responsible for the site disturbing activity which is the subject of the application. Said person shall ensure that the approved activity takes place in accordance with the application, plan and special permit requirements.

**F. Entry**

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

**G. LID Management Plan**

- (0) The LID Management Plan shall contain sufficient information for the Planning Board to evaluate the environmental impact, effectiveness, and acceptability of the site planning process and the measures proposed by the applicant to reduce all adverse impacts from stormwater runoff to control and minimize increases in stormwater runoff rates and volumes, post-construction soil erosion and sedimentation, stream channel erosion, and nonpoint source pollution associated with post development stormwater runoff, and to minimize the impacts associated with land development. This plan shall be in accordance with the criteria established in this bylaw and the supporting regulations and must be prepared, stamped and signed by a professional engineer registered in Massachusetts, a Registered Land Surveyor, or a Massachusetts Licensed Soil Evaluator, as appropriate.
- (0) The LID Management Plan shall fully describe the project in drawings, narrative, and calculations. It shall meet the criteria set forth in the regulations adopted pursuant to this Bylaw.

**H. Operation and Maintenance Plan Contents**

The Operation and Maintenance Plan (O&M Plan) shall be designed to ensure compliance with the LID Special Permit, this Bylaw and to ensure that the Massachusetts Surface Water Quality Standards, 314, CMR 4.00 are met in all seasons and throughout the life of the system. The O&M Plan shall be prepared in accordance with the criteria established in the regulations adopted pursuant to this Bylaw, and shall be stamped and signed by a professional engineer registered in Massachusetts, and a Registered Land Surveyor, as appropriate. The O&M Plan shall remain on file with the Planning Board and shall be an ongoing requirement.

**I. Performance Standards: LID Criteria**

The LID application and required plans shall meet the general performance criteria set forth in the regulations adopted pursuant to this Bylaw.

## **J. Findings and Conditions of Approval**

- (5) The Board shall not approve any application for a LID Special Permit unless it finds that the following conditions have been met and the LID techniques listed herein have been employed to the maximum extent practicable to meet the stated purpose of this Bylaw.
  - ( ) A separate special permit shall be required from the Planning Board when an area totaling one acre or more on any parcel or contiguous parcels in the same ownership will have the existing vegetation clear-stripped or be filled six inches or more so as to destroy existing vegetation unless in conjunction with agricultural activity or unless necessarily incidental to construction on the premises under a currently valid building permit or unless within streets which are either public or designated on an approved subdivision plan. The special permit shall require that run-off be controlled, erosion prevented and either a constructed surface or cover vegetation be provided not later than the first full spring season immediately following completion of the stripping operation. Any stripped area that is allowed to remain stripped through the winter shall have a temporary cover of winter rye or similar plant material for soil control, except in the case of agricultural activity when such temporary cover would be infeasible.
  - ( ) Measures shall be employed to minimize adverse impacts on wildlife habitats and corridors, natural or historic landscape features, and scenic vistas and views.
  - ( ) Compliance with all applicable federal, state and local regulations and guidelines, including but not limited to the Stormwater Management Handbook as it may be amended, has been demonstrated.
- (5) The Planning Board may require a cash performance guarantee to ensure compliance with these requirements and for the operation and maintenance of all permanent LID measures. With the approval of the Board upon the recommendation of Town Counsel and the Town Treasurer, as appropriate, the applicant may substitute an irrevocable letter of credit or performance bond in lieu of the cash performance guarantee. Any performance bond or letter of credit shall be executed and maintained by a financial institution, surety, or Guarantee Company qualified to do business in the Commonwealth of Massachusetts.
- (5) Prior to commencement of any land disturbing activity, the applicant shall record the special permit with the Registry of Deeds or Registry District of the Land Court, and the applicant shall submit to the Planning Board written proof of such recording.
- (5) At completion of the project, the owner shall submit as-built record drawings of all structural stormwater controls and treatment best management practices required for the site. The as-built drawing shall show deviations from the approved plans, if any, and shall be certified by a professional engineer registered in Massachusetts.
- (5) Based upon the nature of the application the Board may impose requirements or limitations to minimize the impacts, if any, on abutting properties or uses.
- (5) The site planning process shall be documented and shall include the following steps: a) identify and map environmental resources, b) delineate potential building envelopes avoiding environmental resource areas and appropriate buffers, and c) develop methods to minimize impervious surfaces, and to protect and preserve open space.
- (5) All stormwater runoff generated from land development and land use conversion activities shall not discharge untreated stormwater runoff directly to a wetland, local water body, municipal drainage system, or abutting property, without adequate treatment.
- (5) The Planning Board may deny a LID Special Permit if it determines:

- ( ) The requirements set forth herein are not met, or
- ( ) The intent of the application is to circumvent other provisions of the Town's Zoning Code, rules, or regulations.

**K. Enforcement**

The Board or its authorized agent and the Town of Southborough shall have the power and duty to enforce this Bylaw, its regulations, decisions, orders, violation notices, and enforcement orders issued pursuant to this Bylaw, and may pursue all civil and criminal remedies for such violations.

- (j) Penalties. Any person who violates any provision of this Bylaw, regulation, or permit issued hereunder, shall be subject to fines, civil action, criminal prosecution, and tax liens, as appropriate and as lawfully established by the Town of Southborough.
- (j) Tax Liens. The Town of Southborough shall require the repayment of services provided to the responsible party that the responsible party was obligated to perform as set forth in the Operation and Maintenance Plan. If repayment is not made within thirty (30) days, the Town may impose a tax lien on the property of the responsible party or parties.

**L. Severability**

Any determination that a particular provision or set of provisions in this Bylaw are invalid or unenforceable shall not render ineffective, unenforceable, or inapplicable the remainder of this Bylaw.