

Planning & Zoning Commission
Zoning Regulation
Revisions

The following revisions are to the January 2, 2021 Zoning Regulations received by the Town Clerk on January 6, 2021.

Zoning Regulation Text Amendments:

Soil Erosion & Sediment Control Plans, Storm Water Management Plan & Low Impact Development

Approved: 8/3/2021

Effective: 9/1/2021

Sec 2.16 – Storm-water Management Plans

Sec 10.4.5 – Permit Standards

Sec 10.16 – Soil Erosion & Sediment Control, Storm-water Management & Low Impact Development Requirements

Sec 19 - Definitions

Planning and Zoning Commission

Zoning Regulation Text Amendments to Sections 2.16, 10.4.5 and 10.16 Inclusive, Regarding Soil Erosion and Sediment Control Plans, Storm-water Management Plans and Low Impact Development

MODIFIED AND ADOPTED: 8/3/2021
EFFECTIVE DATE: 9/1/2021

2.16 Storm-water Management Plans. A separate storm-water management plan shall be submitted pursuant to Sections 10.16.7 and 10.16.8 with any application or activity subject to Planning and Zoning Commission review that will result in the cumulative disturbance of one (1) acre (43,560 square feet) or more. This requirement shall be in addition to the required Soil and Erosion Control Plan (E & S Plan) and is in furtherance of the State DEEP requirement regarding the administration of the General Permit for the Discharge of Storm-water and Dewatering Wastewaters Associated with Construction Activities (“Construction General Permit”) by municipal planning and zoning authorities.

10.4.5 Permit Standards The following are minimum standards to be applied to permits for excavation and filling of earth materials:

- f. Erosion and Sedimentation. Erosion by wind and water shall be controlled at all stages of operation throughout the disturbed area. Provision for proper drainage shall be planned for the duration of the operation to prevent erosion of slopes, stream scour, and sedimentation, both on and off site, at all times. Provisions of, and conditions associated with, section 10.16, inclusive shall be followed in accordance with the certified plan.

10.16 Soil Erosion and Sediment Control, Storm-water Management and Low Impact Development Requirements. A soil erosion and sediment control plan (E & S Plan) shall be submitted with any application for development, or before any activity is undertaken on a lot or parcel, when the disturbed area of such development or activity is, or would be, cumulatively more than one half acre, except that in the case of a single or two unit dwelling that is not part of a subdivision of land, such activity shall be exempt from this regulation. The soil erosion and sediment control plan shall contain proper provisions to adequately control storm water runoff on the site based on the best available technology. The E&S Plan shall be developed using the principles, methods, and practices outlined in the Connecticut Guidelines for Soil Erosion and Sediment Control (2002) (E&S Guidelines), as amended, including its Low Impact Development Appendix (2011). The E&S Plan must result in a development that minimizes erosion and sedimentation. Alternative methods and practices may be used with approval of the Commission, based on recommendations of planning staff or the Town’s Engineer. Any such proposed alternative must be certified by the applicant’s professional engineer.

Storm-water Management Plans, including measures for low impact development shall be submitted in accordance with the provisions of section 10.16.7 and 10.16.8 below. At a minimum, plans shall be developed using, and shall comply with, the design criteria and objectives identified in the 2004 Connecticut Storm-water Quality Manual, as amended, including its most recent Low Impact Development (LID) Appendix.

10.16.1 Soil Erosion and Sediment Control Plan (E & S Plan). Such plan shall include, at a minimum:

- a. A narrative description of the development, including a schedule for grading and construction activities for each phase which includes:
 1. Start and completion dates.
 2. Requirement for a pre-construction meeting with Town staff prior to any disturbance on the site unless this requirement is modified by the commission.

3. Requirement for site inspections by Town Staff for the following: After installation/staking of clearing limit lines (clearing limit lines should be established prior to tree and vegetation cutting or disturbing of any soil); after installation of E&S controls (installation of E&S controls should occur prior to any disturbance of the soil on the Site). Tree and vegetation cutting may occur prior to installation of E&S controls if no soil is disturbed.
 4. Sequence of grading and construction activities including the sequence for initial tree and vegetation cutting, clearing, and grading of the site for access and for utility construction, and limitations on access of construction vehicles.
 5. Sequence for installation and/or application of soil erosion and sediment control measures.
 6. Sequence for final stabilization of the project site.
 7. Name and contact information of person responsible for implementation of the E&S Plan.
 8. The design criteria for proposed E & S control measures and storm water management facilities.
 9. The installation and/or application procedures for proposed E&S control measures and storm water management facilities.
 10. Methods by which the implementation of such plan will be verified to the Town. Such verification shall commence at the planning stage prior to commencement of any activity.
 11. The operation and maintenance program for proposed E&S control measures and storm water management facilities.
- b. The E&S Plan must be at a scale sufficient to identify existing and proposed site drainage patterns and conditions, but in no case shall it be more than forty feet to one inch (40 ft. = 1 inch). It shall include, but not be limited to, the following:
1. Location of the proposed development and adjacent properties.
 2. Existing and proposed topography, with contour intervals not to exceed two feet, unless an alternate is approved by the Town Planner to improve readability.
 3. Soil types, wetlands and watercourses, flood zones, floodways, exposed ledge and other natural and man-made features, including compacted areas.
 4. Existing and proposed drainage patterns on site, including identification of storm-water discharges from site and receiving water bodies or discharge areas, even if such water bodies or areas are offsite.
 5. Existing structures, utilities and roads, and proposed alterations including cleared, excavated, filled or graded areas, proposed structures, utilities, roads, driveways, parking areas, and storm-water facilities.
 6. Clearing limit lines shall also be clearly identified.
 7. Limits of proposed disturbance.
 8. Location and design details of all proposed soil erosion control measures and Storm-water management facilities, including construction details for Proposed E&S control measures and storm water management facilities.
 9. Location and design details for development or redevelopment affecting designated priority areas on the Town's Town of Lisbon, Priority Areas, 6/28/2021 MS4 map, as amended, which shall require adherence to the Low Impact Development Appendix to the CT Guidelines for Soil Erosion & Sediment Control and the criteria in section 10.16.7 b below.
 10. Additional Requirements in the form of a more complex E&S Plan shall be required by the Commission for projects where proposed development will directly impact any of the following: soils having severe or very severe erosion hazard; slopes steeper than twenty-five (25) percent; a cumulative area of greater than five acres regardless of the land's attributes. This more complex E & S Plan may include, but shall not be limited to, the

requirement to phase the Plan and include limitations on the amount of soil exposed at any given time, and/or seasonal limitations for implementation of the plan, or addition of certification of the E&S Plan by a Certified Erosion Control Professional, as the case may be.

11. Any other information deemed necessary by the Commission or its agent.

10.16.2 Presentation of Plan.

The narrative may be included on the map if room allows it without affecting the readability of the map. Such narrative may be included on a development plan as required in Section 12 as long as the readability of the site plan is not affected.

10.16.3 Preparation of Plan.

The E & S Plan shall be prepared, signed and sealed by a Connecticut Registered Professional Engineer.

10.16.4 Certification of Soil and Erosion Control Plan (E & S Plan).

The Planning and Zoning Commission shall vote to certify, modify and certify, or deny that the soil erosion and sediment control plan complies with these Regulations. Any decision to deny certification should consider written recommendations from the planning staff and Town Engineer and any other relevant information. Certification will be included as part of the Commission's vote to approve a permit or activity with modifications or conditions. Site disturbance must not begin unless the E&S Plan is certified and those control measures that are scheduled for installation prior to site development are installed, functional, and have been inspected by Zoning Enforcement Officer or the commission's agent.

10.16.5 Compliance with Plan.

Inspections throughout the period of activity shall ensure compliance with the certified plan, that the control measures are adequately installed and maintained, and that such measures are effective. The Commission may require, as a condition of approval, that the applicant submit soil and erosion control reports verifying that control measures are functioning adequately. The Commission may establish a schedule for submission of such reports and shall reserve the right to require that a professional engineer prepare such reports.

10.16.6 Modification of Plan.

Such certified plan shall be implemented as approved. However, where field conditions warrant, modifications may be made upon prior approval of the Zoning Enforcement Officer after consultation with planning staff. The Zoning Enforcement Officer or other designated agent of the Commission shall have the authority to require additional or different erosion control measures if those previously approved are found to be inadequate. The Commission or its Agent may require such modification be prepared by a Professional Engineer.

10.16.7 STORM-WATER MANAGEMENT PLAN AND LOW IMPACT DEVELOPMENT (LID) REQUIREMENTS

a. APPLICABILITY

In addition to the required erosion and sediment control plan, grading plan and other required plans and application submittals, a Storm-water Management Plan must be submitted with any application or activity subject to Planning and Zoning Commission review that will result in the cumulative disturbance of one (1) acre (43,560 square feet) or more. The purpose of the plan is to identify potential water quality and quantity impacts of the proposed development, and to propose selected source controls and treatment practices to mitigate against those impacts.

b. SITE DESIGN CRITERIA AND TECHNIQUES

The purpose of this section is to encourage development proposals to address drainage and storm-water issues related to new development and to incorporate Low Impact Development (LID) planning and design approaches in the Town of Lisbon. The following LID techniques shall be incorporated into the planning and design of development plans subject to these requirements to preserve predevelopment hydrologic conditions and minimize storm-water run-off as deemed necessary by the commission and its staff:

1. Avoid installation of roof drains that discharge to impervious surfaces.
2. Direct flows to vegetated areas.
3. Direct flows from paved areas to stabilized vegetated areas.
4. Break up flow directions from large paved surfaces to distribute storm-water.
5. Encourage sheet flow through vegetated areas.
6. Locate and retain impervious areas so that they drain to permeable areas.
7. Maximize overland sheet flow that avoids channelization and reduces storm-water velocities.
8. Lengthen flow paths and increase the number of flow paths.
9. Maximize use of properly designed open swale systems.
10. Increase or augment the amount of vegetation on the site.
11. Restrict ground disturbance to the smallest possible area.
12. Reduce pavement and impervious surface areas.
13. Avoid compaction or disturbance of highly permeable soils.
14. Maximize the retention of trees, native vegetation, understory plants, and native soils and preserve, protect, create and restore ecologically sensitive areas which may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.
15. Reduce the use of turf and use more natural land and ground cover.
16. Maintain existing topography and drainage/watershed divides.
17. Locate structures and roadways on Type C soils where feasible.
18. Minimize the creation, extension, and widening of parking lots, roads, and associated development.

10.16.8 STORM-WATER MANAGEMENT PLAN

The Storm-water Management Plan must be prepared by a Professional Engineer, licensed by the State of Connecticut, and address and include the following:

- a. Detailed Site and Activity Description
 1. Existing natural features and proposed site improvements.
 2. Site topography, pre- and post- development drainage patterns.
 3. Existing and proposed storm-water discharges and known sources of on-site storm-water pollutants and sediment loading.
- b. Water Quality Classification
Confirm State D.E.E.P. water quality classification of on-site and adjacent water bodies, which will receive project storm-water.
- c. Pollutant Sources
Identification of potential pollutant sources including:
 1. Description of all potential pollution sources such as erosive soils, steep slopes, vehicle fueling and maintenance, and materials storage.

2. Identification of the types of anticipated storm-water (i.e. from pervious, compacted and/or impervious areas).
 3. Peak Flows: A summary of calculated pre- and post-development peak flows, per the requirements of the Town's civil engineer, unless otherwise specified in these Zoning Regulations.
- d. Pollutant Controls
- Description of controls and/or measures to reduce pollutants, including low impact development strategies to meet or exceed those LID and runoff reduction practices identified in the Connecticut Storm-water Quality Manual, as amended, including its Low Impact Development Appendix, such as:
1. Proposed storm-water system retrofits, including retrofit projects to modify an existing developed site for the primary purpose of disconnecting impervious areas. For redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent (40%) or more, include proposed measures to retain on-site half the water quality volume for the site; for new development and redevelopment of sites with less than forty percent DCIA, include proposed measures to retain the water quality volume for the site. In cases where these above standards cannot be met, provide an alternate retention/treatment standard as outlined in the state's General Permit.
 2. Methods to retain sediments on site.
 3. Methods to control water flowing onto and from the construction site.
 4. Method(s) to minimize disturbed areas.
 5. Post-construction storm-water management measures that will be installed during the construction process to control pollutants in storm-water discharges after construction operations have been completed.
 6. Provide source controls to prevent or minimize the use of, and potential introduction of, pollutants into storm-water run-off.
- e. Other Information
- Calculations, plans, data and other information intended to support the design and operation of structures and green infrastructure, and other proposed methods to reduce pollutants.
- f. Maintenance and Inspection
- Maintenance and inspection procedures including:
1. Inspection protocols and related requirements to assess adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures.
 2. Repair and maintenance documentation, including provisions to assure that all on-site facilities shall be properly maintained.
 3. Identification of individual(s) responsible for management and oversight.
 4. Confirmation from the applicant to provide and comply with a long term maintenance and schedule to ensure the performance and pollutant removal efficiency of privately-owned detention ponds, retention ponds and other storm-water basins that discharge to, or receive, discharge from the Town of Lisbon including short-term and long-term inspection and maintenance measures to be implemented by the private owner.
 5. The provision of an annual inspection of all such structures/measures and a written report to confirm removal of accumulated pollutants (such as sediment, oils, leaves, litter, etc.) to restore full solids capture design capacity where found to be in excess of 50% design capacity.

g. Environmental Workplace Housekeeping Procedures
Procedures which, at a minimum, will address:

1. Material handling and waste management.
2. Building material staging area operations.
3. Equipment and vehicle fueling and maintenance.
4. Spill prevention plan requirements.
5. Long term maintenance of storm-water facilities.

h. In cases where the Commission determines that engineering, aesthetics, environmental protection and/or economic factors make combined retention or other drainage facilities more practical, the Commission may require contiguous project developers to construct joint facilities in the public interest, provided that a maintenance agreement is filed on the land records for each property involved. The Commission may require maintenance bonding or the creation of a maintenance fund for combined retention areas.

10.16.9 Surety and Performance Bonding

The estimated costs of measures required to control erosion and sedimentation, and/or implement the storm-water management plan and low impact development requirements of these regulations, as the case may be, shall be submitted in detailed form by the applicant. Such estimate shall include the cost of materials and labor, including the cost of ongoing maintenance during the activity and of inspection of such controls and improvements. The cost estimate is subject to review and approval by Town staff. The approved estimate shall be the basis for establishment of a performance bond as surety. Such surety instrument shall be at least partly or wholly in the form of cash, as determined by the Commission or its agent. Such surety shall be posed prior to any disturbance of the site.

RECEIVED

@ 10:05 am

AUG 10 2021

Karen Tronick
TOWN CLERKS OFFICE
TOWN OF LISBON

Planning and Zoning Commission

Zoning Amendments to Section 19 Definitions to accompany additional Zoning Amendments for Soil Erosion and Sediment Control Plans, Storm-water Management and Low Impact Development

MODIFIED AND ADOPTED: 8/3/2021

EFFECTIVE DATE: 9/1/2021

Best Management Practices. Activities, prohibition of practices, general environmental good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to storm-water, receiving waters, or storm-water conveyance systems, including treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Bio-retention Area. A shallow landscaped depression designed to manage and treat storm water runoff through the use of a planted soil bed designed to remove pollutants through physical and biological processes.

Building Storm Drain. A building drain that conducts storm-water from any part of a building to a storm-water disposal location.

Development. Any man-made change to improved or unimproved real estate including, but not limited to, the construction or placement of buildings or structures; the construction of additions, alterations or substantial improvements to buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment; the storage, deposition or extraction of materials; and the installation, repair or removal of public or private sewage disposal systems or water supply or distribution facilities.

DEEP. State of Connecticut Department of Energy and Environmental Protection.

Disturbed Area. An area of land subject to erosion due to the removal of vegetative cover or earthmoving activities, including filling.

Erosion. The detachment and movement of soil or rock fragments by water, wind, ice or gravity.

Filling/Extraction of Earth Products. The removal, extraction, excavation, fill or grading for any purpose of soil, sand, shell, gravel, ore, rock, clay or any similar material by whatever process.

Grading. Any excavating, grubbing, filling (including hydraulic fill) or stockpiling of earth materials or any combination thereof, including the land in its excavated or filled condition.

Green Roof. A roof that is purposely designed and built to accommodate natural plantings as a means of treating storm-water, reducing storm-water runoff, reducing energy use, providing habitat and/or forage, and for other like purposes generally associated with more sustainable building practices.

Impervious Coverage. The percent of a lot covered by impervious surface/cover.

Impervious Surface/Cover. A hard material that prevents the percolation of water into the soil including building roofs, streets, parking lots, driveways, sidewalks, swimming pools, and other impenetrable surfaces.

Invasive Plants. A group of harmful non-native plants that, once introduced, can proliferate in the environment, crowding out or destroying indigenous plants. A complete list of such invasive plants can be found at the State of Connecticut DEEP and includes such plants as barberry, euonymus, bittersweet, and purple loosestrife.

Low Impact Development. A range of development practices and operational methods associated with site planning, design and development, all having the objective of reducing or mitigating environmental impacts, mimicking predevelopment hydrology and treating storm-water as close to its source as possible to preserve natural drainage systems. LID may include use of storm-water infiltration, clustering of buildings to reduce land clearing and grading, use of overland (sheet) flow and grass swales, use of permeable pavement or other pervious materials, shared or deferred parking, bio-retention facilities and other small-scale controls or similar techniques to detain and filter storm-water.

Municipal Separate Storm Sewer System or MS4 Map. Map depicting conveyances for storm water (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) owned or operated by the Town of Lisbon or by any State of Connecticut or federal institution and discharging into surface waters of the state.

Permeable Paving. Materials that are alternatives to conventional bituminous paving or concrete surfaces that are designed to increase infiltration, reduce storm-water runoff and pollutant loads. These materials have variable porosity dependent on the product, its installation and the site conditions.

Sediment. Solid material, either mineral or organic, that is in suspension, is transported or has been moved from its site or origin by erosion.

Slope, Percent of. The ratio of vertical rise or fall to horizontal distance measured perpendicular to the contour lines at horizontal interval of typically 10 feet or greater.

Slope, Steep. Areas of topography greater than 25% slope as measured across the most extreme change in elevation portions of the ground surface in minimum horizontal intervals of typically forty (40) feet.

Soil. Any unconsolidated mineral or organic material of any origin.

Soil Erosion and Sediment Control Plan (E & S Plan). A designed program that minimizes soil erosion and sedimentation resulting from development and includes, but is not limited to a map and narrative.

Storm-water. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Water Quality Volume. The volume of runoff generated by one inch of rainfall on a site as defined in the Connecticut Storm-water Quality Manual, as amended.

Water Surface Elevation. The height, in relation to the North American Vertical Datum (NAVD) of 1988 (or other datum, where specified), of floods of various magnitudes and frequencies in floodplains or riverine areas.