Stormwater Management

1.1 General

A. Introduction & Objectives

The fact that our water resources have been negatively impacted by development is well documented. Creation of new impervious surfaces alters the natural water balance – reducing infiltration and evapotranspiration while increasing the volume and peak flow of runoff. These changes increase pollutant loadings, erosive flows, and water temperatures at the receiving waters, which impairs their quality and degrades the overall health of the watershed.

Whereas traditional stormwater control regulations have focused on peak flows, it is critical to recognize the importance of approximating the natural hydrologic balance in the watershed by moving toward reduction of both peak flows and runoff volumes. Low Impact Development (LID) planning strategies and structural Best Management Practices (BMPs) that utilize natural processes to filter and infiltrate rainfall as close to its source as possible have been increasingly adopted as preferable alternatives.

However, prior to implementing stormwater BMPs, land use planning on neighborhood and watershed scales can encourage compact development, protect environmentally sensitive areas, and conserve contiguous natural open space to prevent runoff from being generated in the first place. Compact land use patterns with accompanying natural resource preservation provide significant reductions in runoff volume and pollutant loadings on a per capita basis[1].

Therefore, it is the objective of this Article to protect natural resources and preserve and enhance community character in support of the adopted 2007 Simsbury Plan of Conservation and Development and Town Center Code adopted April 15, 2011, as they may be amended, including the following goals:

- Approximate the natural pre-development hydrology (water quality and water quantity) as closely as possible.
- Preserve, protect, and restore environmentally sensitive open space.
- Encourage and enable compact development as a strategy to reduce total impervious area in the watershed.

[1] Protecting Water Resources with Higher Density Development, US EPA, January 2007.

- Establish watershed-sensitive planning and design criteria at the neighborhood, block, street, and site scales of development.
- Define standards for incorporation of LID BMPs appropriate to land use context and site conditions.

B. Applicability

1. This Article shall be applicable to all land disturbing activities regardless of size and all illicit discharges throughout the Town of Simsbury, except as detailed in Section 1.1B.2 below.

2. For single-family residential lots that are not part of a larger common plan of development, the land disturbing activity shall conform to the Residential Stormwater requirements defined below. Submittal of a stormwater management plan is not required. By obtaining a Building Permit, the property owner grants the right to Town Staff to conduct on-site inspections.

   Residential Stormwater requirements are as follows:

   a. Temporary vegetative measures or other appropriate erosion and sedimentation control measures which are deemed acceptable by the Simsbury Environmental Compliance Officers shall be in place prior to land disturbance activities, and shall conform to the requirements of the Town Highway Specifications, the Connecticut Guidelines for Soil Erosion and Sediment Control latest revision, and the Connecticut Stormwater Quality Manual latest revision.

   b. Permanent vegetative and/or structural stormwater management control measures shall be in place prior to receiving Certificate of Zoning Compliance. Runoff control measures and practices for single-family residential lots which are not part of a larger common plan of development shall include at a minimum:

      - Site design shall conform to Section 1.2A Site Planning and Design Criteria, as applicable. Checklist submittal is not required.
      - Roof downspouts shall discharge to vegetated surfaces where site conditions allow, with level spreading measures provided to prevent erosion and sediment transport.
      - Site landscaping design shall use native plantings and xeriscaping strategies, and the area of ornamental lawn surface shall be minimized.
      - Rain barrels, cisterns, and/or other rainwater harvesting techniques shall be incorporated into the building and site design

to reuse rainwater for irrigation and other non-potable uses where feasible.

- Driveways shall be the minimum width required to provide public safety and emergency access, preferably 10 feet maximum width. Tandem parking and "two-track" driveways are encouraged methods to further minimize impervious area.
- Permeable pavement or other permeable surface treatment shall be used for driveways, patios, walks, paths, and other areas where suitable soils exist[2]. Excess runoff from paved areas should be routed to vegetated and/or landscaped areas prior to leaving the development. Permeable pavement shall be in accordance with Section 1.2B.7 requirements.

c. In developing stormwater management plans for a larger common plan of development, including subdivisions, each individual lot in a development shall be required to comply with the larger common development's overall stormwater management plan, including specified structural BMPs for addressing stormwater quantity and quality. The development as a whole is considered a single land disturbing activity. Hydrologic parameters that reflect the fully built-out development shall be used in all engineering calculations.

C. <u>Administration</u> *(note: tbd by Simsbury staff)*

1.2 Performance Standards

Performance Standards are organized into three areas:

- 1.2A: Planning and Site Design Criteria Checklist
- 1.2B: Stormwater Quantity and Quality Requirements
  - Redevelopment
  - Peak Rate
  - Recharge Volume
  - Water Quality
  - Conveyance
  - Offsite Mitigation and Stormwater Mitigation Bank
  - Site BMP Incentive Credits

[2] Suitable underlying soils for infiltration include Hydrologic Soil Group A and B soils, sand, loamy sand, sandy loam, and loam, typically with an infiltration rate of 0.5 inches per hour or greater.

- 1.2C: Design and Construction Requirements
  - BMP Requirements
  - Irrigation
  - Special Detention Areas

A. Planning and Site Design Criteria

Traditionally, stormwater has been managed with pipe conveyance to large, structural practices installed at the downstream end of development sites. This "pipe-and-pond" strategy, while generally providing efficient mitigation of peak rate of stormwater runoff, does not adequately address other important community goals including reduction of impervious area in the watershed, reduction of water quality impacts to receiving waters, preservation of natural areas, and creation of walkable neighborhoods.

These planning and design criteria are intended to encourage the following objectives at the watershed, neighborhood, block & street, and site levels of development:

- Support compact development within Simsbury Center and other areas designated to be compact and walkable, including developments utilizing the Simsbury Center Code, Planned Area Development Designation, or other cluster development designs, or other compact and walkable areas as determined by Conservation Officer/Zoning Compliance Officer, as a strategy to reduce overall impervious area, and thus generation of stormwater runoff volume, in the watershed.
- Manage rainfall as close to where it falls as possible.
- Utilize simple, natural, cost-effective LID processes for stormwater quality treatment.
- Preserve natural resources, native vegetation, and existing hydrologic patterns as a framework for neighborhood and site design.
- Prioritize neighborhood context and urban form as a guide to stormwater management system design and BMP selection.
- Reduce consumption of land for the sole purpose of stormwater management.
- Increase property values.
- Celebrate stormwater as an integral part of the built environment.

The project's conformance with the following criteria shall be formally documented by filling out and submitting the Planning and Design Criteria Checklist. Documentation must be provided demonstrating

technical infeasibility if site conditions prevent implementation of any specific applicable criteria.

B. Stormwater Quality and Quantity Requirements

All development and redevelopment shall meet the performance standards set forth herein. Design rainfall amounts shall be those specified in the latest version of the Connecticut Stormwater Quality Manual. Stormwater quantity and quality requirements shall be adjusted per Table 1.1.

Table 1.1 sets forth stormwater quantity and quality performance standard adjustments based on zoning district. Adjusted performance standards can be determined by multiplying the minimum required performance standard mitigation requirement by the adjustment factor in Table 1.1. Where a site includes area in two or more zones, a composite or weighted adjustment value should be calculated based upon the relative area of each zone, or length of each frontage in Simsbury Center.

Table 1.1 – Location-Based Adjustments

	SC-1	SC-2	SC-3	SC-4	SC-5	CIV	OS	Other Zones
Peak Rate	Peak rate reduction per 1.2B.2 not required for the 100-year storm event*					100%	100%	110%
Water Quality	100%	100%	100%	100%	100%	100%	100%	110%
Recharge Volume	75%	50%	50%	75%	50%	75%	100%	110%

* The development must still provide safe overflow conveyance per Sec. 1.2B-5.

1. Redevelopment

For projects subject to the requirements of this Article per Section 1.1.B with more than 50% pre-development impervious surface cover, stormwater shall be managed as set out below. Regulated wetland resource areas and areas dedicated as open space shall not be included in the pre-development impervious area determination.

1. Redevelopment projects shall meet the peak rate of runoff, volume, and water quality mitigation requirements to the maximum extent practicable given site conditions.
2. At minimum, redevelopment projects shall implement planning and design criteria and/or structural BMPs to meet water quality treatment and recharge volume requirements for at least 50% of the post-development effective impervious area.
3. Any creation of new impervious area over portions of the site that are currently pervious shall require stormwater mitigation in full compliance with the requirements of this Article.
4. Constrained redevelopment sites shall require enhanced maintenance through more frequent inspections, more frequent sediment removal, and enhanced landscape maintenance as established in the Stormwater Operation & Maintenance Plan.

2. Peak Rate

Utilizing planning and design criteria and structural BMPs, the development shall control the post-development peak rate of runoff to not exceed the pre-development peak rate of runoff for the 2-, 10-, 25-, and 100-year, 24-hour design storm events.

3. Recharge Volume

Utilizing planning and design criteria and structural BMPs, the development shall infiltrate the Recharge Volume calculated by multiplying the Effective Impervious Area – Volume (EIA-V) by the Groundwater Recharge Depth in Table 1.2. The EIA-V is obtained by applying Site BMP Volume Incentives defined in Section 1.2B.7 to the total post-development impervious area.

Table 1.2 – Groundwater Recharge Depth

NRCS Hydrologic Soil Group	Groundwater Recharge Depth
A	0.6 inches
B	0.35 inches
C	0.25 inches
D	0.10 inches

Source: 2004 Connecticut Stormwater Quality Manual, 1997 MADEP.

Where more than one hydrologic soil group is present on a site, a composite or weighted recharge value should be calculated based upon the relative area of each soil group.

4. Water Quality

Utilizing planning and design criteria and structural BMPs, the development shall treat stormwater runoff to achieve the following minimum pollutant removal requirements at each discharge location based on the Water Quality Volume as defined below:

- 80% total suspended solids (TSS)
- 40% removal of total phosphorus (TP)
- 30% removal of total nitrogen (TN)

The required Water Quality Volume is defined as one inch of rainfall over the post-development Effective Impervious Area – Water Quality (EIA-WQ). The EIA-WQ is obtained by applying Site BMP Incentives defined in Section 1.2B.7 to the total post-development impervious area. The Water Quality Volume shall drain completely within 72 hours.

According to available data, the structural BMPs listed in Section 1.2C will meet stated pollutant removal efficiencies when properly designed, constructed, and maintained. Pretreatment is required as specified in Section 1.2C or using alternate methods approved by the Town Engineer.

Land uses with higher potential pollutant loads or projects located in areas where pollution is present as a result of past land uses may require specific source control, pollution prevention measures, and alternate BMP design.

5. Conveyance

Drainage conveyance systems must be designed to provide adequate passage for flows leading to, from, and through stormwater management facilities for at least the 25-year, 24-hour design storm event. The 50-year, 24-hour design storm event shall be used for storm sewers crossing under arterials and multi-lane collector roadways. Emergency outlets must safely pass the post-development peak runoff from the 100-year design

storm event in a controlled manner without erosion of the outlet works or downstream drainage systems.

6. Offsite Mitigation and Stormwater Mitigation Bank

a. Technical Infeasibility

To encourage compact development within Simsbury Center and other areas designated to be compact and walkable, including developments utilizing the Simsbury Center Code, Planned Area Development Designation, or other cluster development designs, or other compact and walkable areas as determined by Conservation Officer/Zoning Compliance Officer, the Town may consider offsite mitigation of stormwater rate and/or volume to meet performance standard requirements or payment to a Stormwater Mitigation Bank if demonstration of technical infeasibility is demonstrated. Appropriate reasons for technical infeasibility include:

- Locations where seasonal high groundwater is within 4 feet of the surface over enough of the site to create significant difficulty for compliance with rate and/or volume requirements.
- Locations where bedrock/ledge is present over enough of the site to create significant difficulty for compliance with rate and/or volume requirements.
- Locations where the density and/or nature of the project design would create significant difficulty for compliance with the on-site rate and/or volume mitigation requirements.
- Brownfield development sites or other sites where soil contamination may prevent on-site stormwater infiltration.

b. Compliance

If the demonstration of technical infeasibility is approved, alternative compliance through offsite mitigation or payment to a Stormwater Mitigation Bank shall be identified. The difference between the amount to be mitigated onsite and the required mitigation must be mitigated either by performing offsite mitigation approved by the Conservation Officer/Zoning Compliance Officer or

providing sufficient funding for public or private offsite mitigation to achieve equivalent stormwater volume reduction through infiltration, reuse, and/or evapotranspiration.

Offsite mitigation projects include green street projects or retrofits, parking lot retrofits, site-specific LID BMP construction, neighborhood-scale structural BMPs, or alternative provisions that meet compliance requirements.

It must be demonstrated that appropriate mitigation and/or conveyance is provided at the development or redevelopment project site to ensure no adverse affects to adjacent or downstream properties. Development or redevelopment projects must meet the full water quality performance standards defined herein.

c. Location

The new development or redevelopment project seeking offsite mitigation must be located within Simsbury Center or other areas designated to be compact and walkable, including developments utilizing the Simsbury Center Code, Planned Area Development Designation, or other cluster development designs, or other compact and walkable areas as determined by Conservation Officer/Zoning Compliance Officer. Offsite mitigation must be located within the same drainage sub-basin as the new development or redevelopment project. The sub-basin boundaries shall be verified by the Conservation Officer/Zoning Compliance Officer.

d. Schedule and Timing

Offsite mitigation projects must include a schedule clearly identifying funding, design, and construction milestones. Offsite mitigation projects shall be completed by the Applicant as soon as possible, and no later than two years after the certificate of occupancy for the first development or redevelopment project. For projects funded by the Applicant to be completed by others, funding sufficient to address the offsite mitigation requirement must be transferred to the Town or to an escrow account within one year of the initiation of construction.

7. Site BMP Incentive Credits

Site BMP Incentives may only be applied for projects located within Simsbury Center or other areas designated to be compact and walkable, including developments utilizing the Simsbury Center Code, Planned Area Development Designation, or other cluster development designs, or other compact and walkable areas as determined by Conservation Officer/Zoning Compliance Officer. Incentives are intended to encourage utilization of vegetated filters, trees, permeable surfaces, and green roofs as appropriate LID BMPs within areas of compact development.

a. Tree Impervious Area

A 100 square foot impervious area deduction may be taken for each qualifying new tree planted within 10 feet of ground-level impervious surfaces. New trees shall be provided with adequate soil volume and structural soil design to support long-term root growth and tree canopy without excessive impact to utilities or sidewalks. The total impervious area credit may be counted as pervious area when calculating stormwater recharge volume and water quality volumes. The Conservation Officer/Zoning Compliance Officer must approve new tree species, size, and location. An impervious area deduction may be taken for each qualifying and protected existing tree within 10 feet of ground-level impervious surfaces, in the amount of one-half of the tree's existing canopy coverage measured within the drip line.

A maximum of 25% of the trees required by Landscaping Section 9.02 may be counted toward the tree credit.

Tree maintenance shall be included in the Stormwater Operation and Maintenance Plan, including a provision that trees that are removed or die must be replaced within a year with similar species at the property owner's cost.

b. Self-Treating and Self-Retaining Areas

Self-treating areas are flat or gently sloping natural, landscaped, or turf areas that drain directly off site or to the storm drain system. Impervious areas directed to self-

treating areas may be counted as pervious area when calculating stormwater *quality volumes* if the requirements below are satisfied.

Self-retaining (or zero-discharge) areas may be created by berming or depressing a self-treating area to provide storage and infiltration. Impervious areas directed to self-retaining areas may be counted as pervious area when calculating stormwater *recharge volume* if the requirements below are satisfied.

Common Requirements

- Self-treating or self-retaining areas must be located within areas of Hydrologic Soil Group A or B. Self-treating areas may be considered within areas of Hydrologic Soil Group C or D as a flow-through condition if underdrains are provided.
- Self-treating or self-retaining areas may not drain onto adjacent impervious areas within the project.
- Self-treating or self-retaining areas may contain a maximum of 5% impervious area.
- The self-treating or self-retaining area must be located and designed to prevent basement seepage.
- Depth to groundwater shall be 18 inches or greater, or as otherwise required by the Connecticut Stormwater Quality Manual, latest revision.
- The maximum rooftop area contributing runoff to any one self-treating or self-retaining area shall be 500 square feet.
- Excessively fertilized ornamental lawn areas may not be considered self-treating or self-retaining areas.
- Flows discharging to self-retaining or self-treating areas may require a level spreader to prevent concentrated flow.
- Self-retaining and self-treating areas must be protected from compaction during construction using fencing or alternative approved protection measures. If the self-treating or self-retaining area becomes compacted during construction the soil must be amended, tilled, and revegetated once construction is complete.

Additional Requirements Applicable to Self-Treating Areas

- Self-treating areas must be between 2.0% and 6.0% slope.
- The maximum ratio of tributary impervious area to self-treating area shall be 2:1.
- The dimension perpendicular to flow for a self-treating area shall be a minimum of 15 feet. This dimension may be reduced to 5 feet if only providing treatment of flow from adjacent pedestrian walks or paths.

Additional Requirements Applicable to Self-Retaining Areas

- Self-retaining areas must be bermed or concave to retain one inch of rainfall, including flow from tributary impervious areas, and designed to promote even infiltration of ponded runoff over the entire area. Maximum depth of ponding shall be 12 inches. Ponded water must drain completely within 72 hours.
- The maximum ratio of tributary impervious area to a self-retaining area shall be 1:1.

c. Permeable Pavement

Area paved with permeable pavement systems, including pervious concrete, porous asphalt, permeable pavers with an acceptable pervious aggregate base layer, and other permeable structural surfaces approved by the Town Engineer, may be counted as pervious area when calculating stormwater recharge volume and water quality volumes if the following requirements are satisfied:

- The permeable pavement area must receive direct rainfall only. If the permeable pavement system receives runoff from other impervious surfaces it shall be considered impervious area and designed as a structural BMP.
- The permeable pavement area must be sited in areas of well-draining soils (HSG A or B). In areas of poorly draining soils (HSG C or D), the permeable pavement area may be deducted from the total

impervious area when calculating stormwater *quality* volume only as a "flow-through" BMP if provided with an underdrain system and appropriate overflow.

- Pervious concrete and porous bituminous asphalt systems must incorporate a properly designed and constructed porous asphalt/concrete course, choker course, filter, and a crushed stone reservoir[3].
- All permeable pavement systems must include a washed crushed stone infiltration bed with 8 inches minimum depth.
- Permeable pavement systems may not be located where truck traffic is expected, or at sites of commercial nurseries, auto recycle facilities, vehicle service and maintenance areas, vehicle/equipment washing facilities, fueling stations, industrial parking lots, marinas and marina service, hazardous material generators, outdoor loading facilities, or public works storage areas.
- The bottom of the permeable pavement stone reservoir must be at least 4 feet above bedrock or seasonal high groundwater elevation.

d. Green Roofs

The area of green roofs can be counted as pervious area in water quality volume calculations if the following requirements are met:

- Green roofs shall be designed to manage the water quality volume without overflow.
- Green roof design must consider structural support, HVAC impact, waterproofing, emergency overflows, and all other building design considerations.
- Runoff exceeding the capacity of the green roof system shall be safely conveyed to a drainage system or another structural BMP without causing erosion.

[3] See UNH Stormwater Center design guidelines at www.unh.edu/unhsc for more detail.

- Landscape design shall specify proper native plant species based on specific site, structural design, and hydric conditions.
- Green roof maintenance shall be included in the Stormwater Operation and Maintenance Plan, including provisions that the green roof may need watering, gardening, and other maintenance as any other landscaped area; green roofs should be inspected for leaks on a periodic basis; and vegetation that is removed or dies must be replaced with similar species at the property owner's cost.

C. Design & Construction Requirements

1. BMP Requirements

a. Development that incorporates engineered stormwater collection, conveyance, and storage systems shall design and size the systems in accordance with the 2004 Connecticut Stormwater Quality Manual, or using an alternate method approved by the Town.

b. Structural stormwater BMP selection shall be based on the project's zone and project specific site conditions per Table 1.3.

Selection of BMPs within developments utilizing the Simsbury Center Code, Planned Area Development Designation, or other cluster development designs, or other compact and walkable areas as determined by Conservation Officer/Zoning Compliance Officer, shall prioritize suitability to urban form and neighborhood context.

c. All construction and implementation of erosion and sediment control BMPs shall comply with the requirements of the Connecticut Guidelines for Soil Erosion and Sediment Control. An Erosion and Soil Sedimentation Control Plan shall be submitted as part of the project design.

d. Infiltration BMPs should always be preceded by a pretreatment facility. Grease, oil, floatable organic

materials, and settleable solids should be removed from runoff before it enters the infiltration BMP. Vegetated filters, sediment traps and/or forebays, stone trench filters, and manufactured water quality inlets are examples of pretreatment strategies.

Table 1.3: Site/Block BMP Selection Matrix

	SC-1	SC-2	SC-3	SC-4	SC-5	CIV	OS	Other Zones	TSS	TP	TN
PAVING											
Compacted Earth									-	-	-
Crushed Stone/Shell									-	-	-
Standard Asphalt/Concrete Pavement									-	-	-
Pavers/Brick									-	-	-
Grassed Cellular Plastic/Concrete									-	-	-
Permeable Pavement[1]									90%	40%	40%
CONVEYANCE											
Stone/Riprap Swale											
Vegetated Bioswale									90%	30%	55%
Pipe[2]									-	-	-
Shallow Stone/Cobble Channel									-	-	-
Shallow Masonry Trough									-	-	-
Engineered Sculpted Watercourse									-	-	-
RATE/VOLUME											
Dry Extended Detention Basin[3]									50%	20%	25%
Wet Extended Detention Basin[3]									80%	52%	31%
Special Detention Area									varies	varies	varies
Rain Barrel/Cistern									-	-	-
Stormwater Harvesting for Irrigation									-	-	-
Stormwater Harvesting for Building Uses							n/a		-	-	-
Underground Infiltration Trench/Drywell									90%	55%	40%
Underground Vault/Pipe/Cistern									20%	15%	5%
WATER QUALITY[4]											
Wet Vegetated System									85%	48%	30%
Gravel Vegetated System									86%	53%	55%
Organic/Sand Filter									86%	59%	32%
Bioretention									90%	30%	55%
Roof Downspout Disconnection							n/a		varies	varies	varies
Tree Box Filter									90%	30%	55%
Green Roof							n/a		90%	30%	55%
Flow-through Planter									90%	30%	55%
Forebay/Vegetated Filter Pretreatment									25%	-	-
Grass Channel Pretreatment									70%	24%	40%
Deep Sump Catch Basin Pretreatment									25%	-	-
Proprietary Hydrodynamic Devices									25%	-	-

Encouraged
Allowed
Not allowed without Town Engineer approval
72% Median Pollutant Removal Efficiency (Percent)
- No treatment
ND No data

Notes:

1. Permeable pavement systems using brick, pavers, grassed cellular plastic/concrete, permeable bituminous asphalt, or porous concrete surfaces may be assumed to provide the listed pollutant removal efficiency when properly designed as a stormwater BMP per Section 1.2B.7 of this Article and the Connecticut Storm Water Quality Manual, or alternate methods approved by the Town Engineer.
2. Natural vegetated conveyance methods shall be prioritized to meet water quality and volume requirements where practicable and appropriate to neighborhood context. Pipe overflow for larger storm events may be required.
3. Centralized volume mitigation and flood control such as detention/retention basins within developments utilizing the Simsbury Center Code, Planned Area Development Designation, or other cluster development designs, or other compact and walkable areas as determined by Conservation Officer/Zoning Compliance Officer, if required, shall be located towards the edges of compact development areas or in adjacent open space.
4. Effectiveness of BMPs in addressing rate and volume requirements varies with soil conditions. Many water quality BMPs can effectively address water *quality* requirements in areas with poor soil infiltration capability when equipped with an underdrain – i.e. "flow-through".
5. Vegetated bioswales may not be appropriate within some constricted urban areas or along retail street frontages.
6. Most BMPs serve multiple functions, i.e. bioretention provides rate/volume and water quality mitigation. BMPs are categorized by primary function.
7. See Planning and Design Criteria Checklist for green street BMP requirements within the right-of-way.
8. See Planning and Design Criteria Checklist for additional detail related to BMP design and implementation.
9. Pollutant removal efficiency data source: Rhode Island Stormwater Design and Installation Standards Manual, December, 2010.

2. Irrigation

Irrigation systems shall first make use of all available surface stormwater runoff or other retained or detained stormwater as the water supply. No groundwater wells or use of potable water for irrigation of any kind will be permitted in developments or redevelopments unless it can be demonstrated that the site conditions and proposed use warrant irrigation and use of an alternative water supply is not feasible. In addition, no irrigation systems shall be placed within 100 feet of a natural water course, marsh, or estuary where soils and/or grade will allow such irrigation water to flow or migrate to such a natural water course, marsh, or estuary.

3. Special Detention Areas

Special Detention Areas such as parking lots, rooftops, parks, plazas, and athletic fields are areas primarily designated for other

uses but that may be used for temporary infiltration and/or peak rate mitigation during extreme storm events if the requirements herein are satisfied.

Special Detention Areas shall be designed sensitive to land use context and public use requirements and the following conditions:

- Temporary ponding storage areas must be located so that ponding will not significantly disrupt typical traffic or pedestrian flow, and areas should be adequately sloped towards outlets to ensure complete drainage after storm events.
- In most cases ponding depth should be a maximum of 12 inches.
- Special Detention Areas shall be clearly identified as such with signage and/or pavement markings, and their use shall be restricted during storms.
- Emergency overflows shall be designed to prevent excessive depths from occurring during extreme storm events or if the primary flow control structures are clogged.
- Rooftop storage must consider structural support, HVAC impact, waterproofing, emergency overflows, and all other building design considerations.
- Landscape or turf Special Detention Areas used for high-intensity public uses (community parks, athletic fields, etc.) shall be located in areas of well-draining soils to guarantee public use is not compromised by excessively wet ground between rain events.

1.3 Maintenance

A. General Requirements

1. Function of BMPs as intended

The owner of each structural BMP installed pursuant to this article shall maintain and operate it to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which it was designed.

2. Right of Town to Inspection

Every structural BMP installed pursuant to this article shall be made accessible for adequate inspection by the Town upon reasonable request.

3. Annual Maintenance Inspection Report

The person responsible for maintenance of any structural BMP installed pursuant to this article shall submit to the Conservation Officer/Zoning Compliance Officer an annual inspection report on the form supplied by the Code Administrator. The report shall be submitted annually beginning one year from the date the Certificate of Occupancy is issued and each year thereafter on or before January 1.

The report shall be certified by a registered Connecticut Professional Engineer or Landscape Architect. The inspection report must, at a minimum, contain all of the following:

a. The name and address of the land owner;
b. The recorded book and page number of the lot of each structural BMP or a representation of the geographic location of each structural BMP;
c. A statement that an inspection was made of all structural BMPs, and the date the inspection was made;
d. A statement that all inspected structural BMPs are performing properly and comply with the terms and conditions of the approved maintenance agreement required by this article;
e. The original signature and seal of the engineer or landscape architect inspecting the structural BMPs;
f. Digital photos of the structural BMPs and pertinent components integral to their operation, including but not limited to inlet/outlet control structures, downstream receiving channel/area, embankments and spillways, safety features, and vegetation.

B. Operation and Maintenance Agreement

Prior to the conveyance or transfer of any lot or building site requiring a structural BMP pursuant to this article, the applicant or owner of the site must execute an operation and maintenance agreement that shall be binding on all subsequent owners of the site, portions of the site, and lots or parcels served by the structural BMP. Until the transference of all property, sites, or lots served by the structural BMP, the original owner

or applicant shall have primary responsibility for carrying out the provisions of the maintenance agreement.

1. The operation and maintenance agreement shall:

   a. Require the owner or owners to maintain, repair, and, if necessary, reconstruct the structural BMP.
   b. State the terms, conditions, and schedule of maintenance for the structural BMP.
   c. Grant to the Town a right of entry in the event that the Conservation Officer/Zoning Compliance Officer has reasons to believe it has become necessary to inspect, monitor, maintain, repair, or reconstruct the structural BMP; however, in no case shall the right of entry, of itself, confer an obligation on the Town to assume responsibility for the structural BMP.
   d. Allow the Town to recover from the property or home owner's association and its members any and all costs the Town expends to maintain or repair the structural BMPs or to correct any operational deficiencies. Failure to pay the Town all of its expended costs, after 45 days written notice, shall constitute a breach of the agreement. The Town shall thereafter be entitled to bring an action against the association and its members to pay, or foreclose upon the lien hereby authorized by the agreement against the property, or both, in case of a deficiency. Interest, collection costs, and attorney fees shall be added to the recovery.
   e. Provide a statement that this agreement shall not in any way diminish, limit, or restrict the right of the Town to enforce any of its ordinances as authorized by law.
   f. Contain a provision indemnifying and holding harmless the Town for any costs and injuries arising from or related to the structural BMP, unless the Town has agreed in writing to assume the maintenance responsibility for the structural BMPs accepted dedication of all rights necessary to carry out that maintenance.

2. The operation and maintenance agreement must be approved by the Conservation Officer/Zoning Compliance Officer prior to plan approval, and it shall be referenced on the final plat and shall be recorded with the county Register of Deeds upon final plat approval. If no subdivision plat is recorded for the site, then the operation and maintenance agreement shall be recorded with the

county Register of Deeds to appear in the chain of title of all subsequent purchasers under generally accepted searching principles. A copy of the recorded maintenance agreement shall be given to the Conservation Officer/Zoning Compliance Officer within 14 days following its recordation.

C. Deed Recordation and Indications on Plat

The applicable operations and maintenance agreement pertaining to every structural BMP shall be referenced on the final site plan and in covenants and shall be recorded with the Town Clerk and the Simsbury Land Use Office upon final site plan approval.

D. Records of Installation and Maintenance Activities

The owner of each structural BMP shall keep records of inspections, maintenance, and repairs for at least five years from the date of the record and shall submit the same upon reasonable request to the Conservation Officer/Zoning Compliance Officer.

E. Nuisance

The owner of each stormwater BMP shall maintain it so as not to create or result in a nuisance condition, such as but not limited to flooding, erosion, excessive algal growth, overgrown vegetation, mosquito breeding habitat, existence of unsightly debris, or impairments to public safety and health.

F. Enforcement

The Conservation Officer/Zoning Compliance Officer has the authority to enforce the requirements of this Article, including but not limited to Operation and Maintenance requirements. The Conservation Officer/Zoning Compliance Officer may negotiate a settlement, compromise, or otherwise dispose of an action, including remedy of improperly performing BMPs or nuisance conditions at the Property Owner's expense, when to do so would be in the best interest of the Town.

1.4 Illicit Discharges and Connections

A. Applicability

The provisions of this section shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless specifically exempted by the Conservation Officer/Zoning Compliance Officer.

B. Illegal Discharges

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water. The commencement, conduct, or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

1. The following discharges are exempt from discharge prohibitions established by this ordinance: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, natural riparian habitat or wetland flows, fire fighting activities, and any other water source not containing pollutants.

2. Discharges specified in writing by the Conservation Officer/Zoning Compliance Officer as being necessary to protect public health and safety.

3. Dye testing is an allowable discharge with prior verbal notification to the Conservation Officer/Zoning Compliance Officer.

4. The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

C. Illicit Connections

1. The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited.

2. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

3. A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the storm drain system or allows such a connection to continue.

D. Watercourse Protection

Every person owning property through which a watercourse passes, or such person's lessee, shall comply with the provisions of Simsbury Zoning Section 6.04 – Floodplain Overlay District as applicable, and shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. The owner or lessee shall maintain privately owned structures within or adjacent to a watercourse so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

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