



HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

# MODEL LOW IMPACT DEVELOPMENT ORDINANCE

FOR

TOWN OF MILFORD  
MER041015

**Corporate Office**

One Merchants Plaza  
Suite 701

Bangor, ME 04401

T: 207.989.4824

F: 207.989.4881

[HALEYWARD.COM](http://HALEYWARD.COM)

SEPTEMBER 2022

JN: 10024.003

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**Report Prepared By:**

**Haley Ward, Inc.**

One Merchants Plaza, Suite 701 | Bangor, Maine 04401



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## SECTION 1 | INTRODUCTION

### Section 1.1 Purpose

This document is intended to meet the requirement established by the *Final General Permit Modification*<sup>1</sup> to *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s)* (General Permit)<sup>2</sup> that, on or before September 1, 2022, the Town of Milford (Town; Milford) develop a Model Low Impact Development (LID) Ordinance for stormwater management on new and redevelopment sites that disturb greater than or equal to one acre (underlined, below).

*"5. [Minimum Control Measure (MCM)] 5 – Post-Construction Stormwater Management in New Development and Redevelopment.*

*Each permittee must implement and enforce a program to address post construction stormwater runoff to the maximum extent practicable from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development that discharge into the MS4.*

- a. *The permittee must implement strategies which include a combination of structural and/or non-structural BMPs appropriate to prevent or minimize water quality impacts as follows:*

*On or before September 1, 2022, each permittee must develop a Model LID Ordinance for stormwater management on new and redevelopment sites which establishes performance standards for each of the LID Measures contained in Table 1 of Appendix F.*

*The Model LID ordinance should, at a minimum, refer to Appendix F for guidance. The Model LID Ordinance shall be submitted to the Maine DEP for review by September 1, 2022. DEP will post the model ordinance for public comments and approve it, with or without modifications, on or before November 1, 2022.*

*On or before July 1, 2024, each permittee shall adopt an ordinance or regulatory mechanism that is at least as stringent as the required elements of the Model LID Ordinance or incorporate all of its required elements into the permittee's code of ordinances or other enforceable regulatory mechanism."*

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<sup>1</sup> Maine Pollutant Discharge Elimination System (MEPDES) Permit MER041000/Maine Waste Discharge License (WDL) W009170-5Y-E-M/Municipal Separate Stormwater Sewer System – General Permit/Final General Permit Modification, Maine Department of Environmental Protection (MDEP; Gregg Wood), dated November 23, 2021.

<sup>2</sup> *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)*, MDEP, dated October 15, 2020.



## Section 1.2 Background

LID is a broad approach to site planning that preserves natural resources, processes, and habitat, defines what portions of the Site are suitable for development and then utilizes Stormwater Treatment Measures to manage runoff from the proposed developed impervious areas. In LID, Stormwater Treatment Measures using natural processes, such as vegetated buffers are given preference over constructed treatment Stormwater Treatment Measures. The goals of LID are to minimize the environmental impacts of the development.<sup>3</sup>

The definitions, applicability, general language, performance standards, and waiver criteria presented in this Model LID Ordinance are based on a template LID Ordinance developed between October 2021 and July 2022 via a collaborative effort of statewide MS4 communities and involving input from a panel of technical experts. The elements proposed in this Model LID Ordinance have been tailored to ensure consistency with existing Town policy and strategy, as well as the Town's Comprehensive Plan.

To comply with the General Permit, it is the intent of the Town to either adopt an ordinance or regulatory mechanism that establishes requirements that are at least as stringent as the required elements of this Model LID Ordinance or incorporate requirements that are at least as stringent as the required elements into its existing ordinances or regulatory mechanisms (**Section 1.3**). This action is regulatorily required to occur on or before July 1, 2024.

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<sup>3</sup> *Supra*, Note 1.



## SECTION 2 | DEFINITIONS

The definitions identified in this section are integral to the interpretation of the applicability and performance standards identified, respectively, in **Section 3** and **Section 4** of this document. Where applicable, definitional sources are identified in *italics*.

- **Buffers.** Means the buffers subsequently listed unless a specific buffer is called out. (1) Stormwater Vegetative Buffer is a buffer constructed in accordance with Appendix F of Chapter 500 for the purposes of providing pollutant removal; (2) Shoreland Zoning Setback Buffer is a buffer required by the municipal Shoreland Zoning Ordinance to protect a water of the State; (3) General Buffer is a buffer required by the municipal ordinances to provide screening to parcels or developments from light, noise, other parcels, rubbish areas, or other areas. *Source: Chapter 500.*
- **Chapter 500.** Means Chapter 500 of the Maine Department of Environmental Protection's (MDEP) Rules ("Stormwater Management Rules").
- **Climate Resilient Northeast Native Vegetation.** Means plants identified as native to the Northeast as identified by the Northeast Regional Invasive Species and Climate Change (RISCC) Network or a Maine Licensed Landscape Architect.
- **Common Plan of Development or Sale.** Means a "subdivision" as defined in Chapter 4 of the Town of Milford ordinances.
- **Construction Activity.** Means any activity on a Site that results in Disturbed Area.
- **Disturbed Area.** Means all land areas of a Site that are stripped, graded, grubbed, filled, or excavated at any time during the site preparation or removing vegetation for, or construction of, a Project. Cutting of trees, without grubbing, stump removal, disturbance, or exposure of soil is not considered Disturbed Area. Disturbed Area does not include routine maintenance but does include Redevelopment and new Impervious Areas. "Routine maintenance" is maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Paving impervious gravel surfaces provided that an applicant or permittee can prove the original line and grade and hydraulic capacity shall be maintained and original purpose of the gravel surface remains the same is considered routine maintenance. *General Permit.*
- **Drainageway.** Means the same as "Drainageway" defined in Chapter 500. *Chapter 500.*
- **General Permit.** Means the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) approved October 15, 2020, and modified November 23, 2021, and any amendment or renewal thereof.
- **High Permeability Soils.** Means hydrologic soil groups A or B as determined through a verification of soil mapping by a Certified Soil Scientist.
- **Impervious Area.** Means the total area of a Parcel covered with a low-



permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability. Common Impervious Areas include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and macadam or other surfaces which similarly impede the natural infiltration of stormwater. Pervious pavement, pervious pavers, pervious concrete, and underdrained artificial turf fields are all considered impervious. *Chapter 500.*

- **Lot.** Means a contiguous parcel of land in single ownership comprised of one or more parcels described in deeds, plats, or other legal documents recorded at the County Registry of Deeds.
- **Low Impact Development.** Means a broad approach to site planning that preserves natural resources, processes, and habitat, defines what portions of the Site are suitable for development and then utilizes Stormwater Treatment Measures to manage runoff from the proposed developed impervious areas. In LID, Stormwater Treatment Measures using natural processes, such as vegetated buffers are given preference over constructed treatment Stormwater Treatment Measures. The goals of LID are to minimize the environmental impacts of the development. *General Permit.*
- **Maine Native Vegetation.** Means vegetation including grass seed mixtures, identified as native to Maine from lists maintained by US Department of Agriculture Hardiness Zones by the Maine Cooperative Extension, Wild Seed Project, Regional Soil and Water Conservation District, Maine YardScaping Program, or a Maine Licensed Landscape Architect.
- **Municipal Separate Storm Sewer System (MS4).** Means a conveyance or system of conveyances designed or used for collecting or conveying stormwater (other than a publicly owned treatment works (POTW), as defined at 40 CFR 122.2, or a combined sewer), including, but not limited to, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels or storm drains owned or operated by any municipality, sewer or sewage district, Maine Department of Transportation (MDOT), Maine Turnpike Authority (MTA), State agency or Federal agency or other public entity that discharges to waters of the State other than groundwater. *General Permit.*
- **New Development.** Means activity undertaken to develop property, including but not limited to the construction of buildings, parking lots, roads and other new impervious surfaces; landscaping; and other activities that disturb land areas. New Development or Construction does not include Redevelopment or Maintenance. *General Permit.*
- **Permitting Authority.** Means the Code Enforcement Officer, Planning Board, or other official or body authorized by State law or municipal ordinances to approve Development or Redevelopment of Sites.



- **Project.** Means Construction Activity undertaken for New Development or Redevelopment, both as defined in the General Permit, located on a Site that will Discharge Stormwater to a Small MS4 located partially or entirely within the Urbanized Area.
- **Protected Natural Resource.** Means coastal sand dunes, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, community public water system primary protection areas, great ponds, or rivers, streams or brooks as defined in the *Natural Resources Protection Act at 38 M.R.S. §480-B*.
- **Redevelopment.** Means an activity, not including maintenance, undertaken to redevelop or otherwise improve property in which the newly developed area is located within the same footprint as the existing developed area. *General Permit*.
- **Regulated Small MS4.** Means any Small MS4 authorized by the most recent General Permit or the general permits for the Discharge of Stormwater from MDOT and MTA Small MS4s or state or federally owned or operated Small MS4s including those located partially or entirely within the Urbanized Area. *General Permit*.
- **Rural Areas.** Means those zones or districts designated as Rural District (R) and Conservation District (CD) on the municipal zoning map.
- **Significant and Essential Wildlife Habitats.** Means the areas identified as Significant or Essential Habitats of endangered or threatened species as identified by the Maine Department of Inland Fisheries and Wildlife either on the Beginning with Habitat viewer or in consultation with the Maine Department of Inland Fisheries and Wildlife.
- **Site.** Means the portion of a Lot, Parcel, or Common Plan of Development that is proposed for Construction Activity and subject to this Ordinance. This term includes Open Space, Stormwater Management Facilities, and Disturbed Area.
- **Small MS4.** Means any MS4 that is not already covered by the Phase I MS4 stormwater program including municipally owned or operated storm sewer systems, state or federally-owned systems, such as colleges, universities, prisons, military bases and facilities, and transportation entities such as MDOT and MTA road systems and facilities. See also 40 CFR 122.26(b)(16). *General Permit*.
- **Stormwater/Stormwater Runoff.** Means the part of precipitation including Runoff from rain or melting ice and snow that flows across the surface as sheet flow, shallow concentrated flow, or in Drainageways. "Stormwater" has the same meaning as "storm water."
- **Stream Crossing designed in accordance with Maine Stream Smart Principles.** Means a Stream Crossing designed by a Maine Professional Engineer who has completed the Maine Audubon Society Stream Smart Workshops (Parts I and II), which includes the standards recommended by that program's stream span, elevation, slope and skew and substrate to promote passage of fish and other organisms, and to limit road-damaging flows from extreme weather.



- **Stormwater Treatment Measure.** Means a Stormwater Management System or Innovative Treatment Measure as described in Chapter 500 4.c.(3) Types of treatment measures allowed. These measures include wet ponds, vegetated soil filters, infiltration, buffers, or innovative treatment measures. For purposes of this Ordinance, these are cumulatively referred to as Stormwater Treatment Measures, or individually referred to as Stormwater Treatment Wet Pond, Stormwater Treatment Vegetated Soil Filter, Stormwater Treatment Infiltration Measure, Stormwater Treatment Buffer, or Stormwater Treatment Innovative Measure. *Chapter 500.*
- **Suburban Areas.** Means those zones or districts designated as Mixed Residential District (MR) and River Residential District (RRD) on the municipal zoning map.
- **Time of Concentration.** Means the time it takes for runoff to travel from the hydraulically most distant point of the drainage area to the point of interest within a watershed. *Chapter 500.*
- **Urban Area.** Means those zones or districts designated as Industrial District (I) and Village District (V) on the municipal zoning map.
- **Urbanized Area.** Means the area of the Municipality so defined by the inclusive sum of the 2000 decennial census and the 2010 decennial census by the U.S. Census Bureau. *General Permit.*
- **Waters of the State.** See 38 M.R.S. §361-A (7).





### SECTION 3 | APPLICABILITY

The Performance Standards contained in **Section 5** will apply to any Project located within Rural, Suburban, and Urban areas in the Urbanized Area for which an application for subdivision or site plan approval is filed with the Town on or after July 1, 2024, that results in:

- Disturbed Area of one or more acres of land, or
- Disturbed Area that is less than one acre of land if the Construction Activity creating Disturbed Area is less than one acre of land and is part of a larger Common Plan of Development or Sale that as approved or amended would create Disturbed Area of one acre or more.

Notwithstanding other provisions in municipal ordinances or state law, requirements to plant “Maine Native Vegetation” or “Climate Resilient Northeast Native Vegetation” will not be construed as a restriction on the rights of individuals to engage in agricultural practices that are legally protected by the Maine Agriculture Protection Act and the “Right to Food” provision in the Maine Constitution (Constitution, Art. I, §25).



## SECTION 4 | PROCEDURES, SUBMISSION REQUIREMENTS, APPROVAL STANDARDS, ENFORCEMENT STANDARDS, AND SEVERABILITY AND CONFLICT STANDARDS

Review procedures, submission requirements, approval standards, enforcement standards, and severability and conflict standards will align with those identified in the Town's existing "Subdivision Ordinance" (Chapter 4), "Site Plan Review Ordinance" (Chapter 8), and "Post-Construction Stormwater Management Ordinance."

In addition, the following submittal requirements will be required for applications for projects to which the LID Ordinance will apply:

- **Project Narrative.** The applicant will provide a Project narrative describing:
  - The overall approach to Stormwater management at the Project Site.
  - A list of Stormwater Treatment Measures that will be in use, stating which will be maintained privately and which will be offered to the Municipality for acceptance and operation.
  - How they have prioritized protection of the sensitive areas from disturbance as required in **Section 5**.
  - Rationale for any waivers from performance standards (**Section 5** and **Section 6**).
  
- **Project Plan Contents.** The applicant shall submit project plans that consist of a graphic representation of the Site at a scale no smaller than 1 inch = 100 feet that shows:
  - Waters of the State and their associated Shoreland Protection areas.
  - Protected Natural Resources.
  - Predevelopment drainage areas, Drainageways, and associated Time of Concentration.
  - High Permeability Soils.
  - Maine Native and Climate-Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Buffer areas.
  - Significant and Essential Wildlife Habitats.
  - Limits of disturbance.
  - Post-development drainage areas, Drainageways, and associated Time of Concentration.
  - Locations of snow storage areas.
  - Stormwater Treatment Measures to be used.
  
- **Submittals related to Infiltration Performance Standard.** The applicant shall submit the following to permit review of the Project application under the LID Performance Standards for infiltration:
  - Information required by Chapter 500 Section (7)(D)(5)(c) Infiltration Submittals including a plan for use of de-icing materials, pesticides, and fertilizers within the drainage area of any infiltration Stormwater Treatment Measures.



- Locations of any Maine Uncontrolled Hazardous Substance Sites, Maine Voluntary Response Action Program sites, federal Resource Conservation and Recovery Act ("RCRA") Corrective Action sites, or Petroleum Remediation sites on or adjacent to the Site.

In addition, the following approval requirement will be required for projects to which the LID Ordinance will apply:

- The proposed Project protects sensitive areas, provides on-site volume control, provides treatment of Stormwater, and minimizes Impervious Areas.



## SECTION 5 | PERFORMANCE STANDARDS

The Town has established Model LID Ordinance performance standards for stormwater management on new and redevelopment sites, in accordance with Part IV.C.5 of the General Permit, as amended (**Table 4-1**). These performance standards are subject to the applicability requirements identified in **Section 3**.

The General Permit requires that Model LID ordinance performance standards consider the LID Measures identified below and contained in Table 1 of Appendix F of the General Permit.<sup>4</sup>

1. Minimize Site Clearing
2. Protect Natural Drainage System
3. Minimize Decrease in Time of Concentration
4. Minimize Impervious Area
5. Minimize Effect of Impervious Area
6. Minimize Soil Compaction
7. Minimize Lawns and Maximize Landscaping that Encourages Runoff Retention
8. Provide Vegetated Open-Channel Conveyance Systems
9. Stormwater Quality Treatment and Retention Requirements

To demonstrate compliance with the General Permit, **Table 4-1** associates each Model LID Ordinance performance standard with the LID measure(s) contained in Appendix F of the General Permit that is addressed by the performance standard.

The Town of Milford previously adopted a Post-Construction Stormwater Management Ordinance that addresses ongoing maintenance requirements for any stormwater management facilities required under the LID performance standards. Therefore, Model LID Ordinance performance measures do not address maintenance.

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<sup>4</sup> *Ibid.*



**Table 4-1 | Town of Milford, Model LID Ordinance Performance Standards**

Performance Standard		LID Measure(s) Addressed	
1	<p>Prioritize the protection of the following sensitive areas:</p> <ul style="list-style-type: none"> <li>Waters of the State and associated shoreland protection areas.</li> <li>Protected Natural Resources.</li> <li>Predevelopment Drainageways.</li> <li>High Permeability Soils.</li> <li>Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Setback Buffer areas.</li> <li>Significant and Essential Wildlife Habitats.</li> </ul> <p>The applicant will provide a narrative description of how disturbance in these areas has been minimized.</p> <p><i>Exception: Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation that is diseased or in poor condition may be removed without narrative justification.</i></p>	1	Minimize Site Clearing
		2	Protect Natural Drainage System
		4	Minimize Impervious Area
		5	Minimize Effect of Impervious Area
		6	Minimize Soil Compaction
2	<p>Project plans shall depict limits of disturbance. Limits of disturbance shall be established on-site prior to disturbance using flagging, fencing, signs, or other means to provide a clear indication.</p>	1	Minimize Site Clearing
		6	Minimize Soil Compaction
3	<p>Stream Crossings for Waters of the State shall be designed in accordance with Maine Stream Smart Principles to preserve natural pre-development Drainageways.</p> <p><i>Exception: Stream Crossings over portions of streams that are artificially channelized are not subject to this standard.</i></p>	2	Protect Natural Drainage System
		3	Minimize Decrease in Time of Concentration
4	<p>Rural and Suburban Projects shall preserve the natural pre-development Drainageways on the Site.</p> <p><i>Exception: (1) Exceptions are allowed if the Time of Concentration for a predevelopment Drainageway is the same as or shorter than the post-development Drainageway; (2) An "alternative analysis" may be submitted demonstrating that this performance standard is impracticable.</i></p>	2	Protect Natural Drainage System
		3	Minimize Decrease in Time of Concentration
5	<p>Projects that have a Disturbed Area of one acre of land or more shall include Stormwater Treatment Measures in accordance with Chapter 500 Section 4.C General Standards, 4.C.(2) Treatment requirements, and 4.C.(3) Types of Treatment Measures Allowed. Additionally:</p> <ul style="list-style-type: none"> <li>Individual Stormwater Treatment Measure may not treat more than one acre of Impervious Area.</li> <li>Vegetation used in Stormwater Treatment Measures and General Buffers shall be Maine Native Vegetation or Climate Resilient Northeastern Native Vegetation.</li> </ul>	2	Protect Natural Drainage System
		5	Minimize Effect of Impervious Area
		7	Minimize Lawns and Maximize Landscaping that Encourages Runoff Retention
		9	Stormwater Quality Treatment and Retention Requirements



Performance Standard		LID Measure(s) Addressed	
6	<p>Provide volume control on-site (through infiltration or storage) in accordance with the following:</p> <ul style="list-style-type: none"> <li>Volume to be controlled = (total area of Impervious Area after New Development and Redevelopment – total area that existed before New Development and Redevelopment) x R<sub>d</sub>.</li> <li>R<sub>d</sub> is the groundwater recharge depth based on the USDA/NRCS hydrologic soil group as follows: R<sub>d</sub> = 0.40 inches of rain for type A soils, 0.25 inches of rain for type B soils, 0.10 inches of rain for type C soils and 0 for type D soils.</li> <li>Stormwater Treatment Measures with liners may not be used to meet the volume requirement via storage.</li> <li>Restrictions and requirements identified in Sections D(2) through D(4) of Chapter 500, Appendix D, Infiltration basins, drywells, and subsurface fluid distribution systems, apply.</li> </ul> <p><i>Exceptions: (1) The volume control standard is not required to be met when its implementation is expected to disrupt the preservation of predevelopment Drainageways; (2) The volume control standard is not required to be met when any Uncontrolled Hazardous Substance Sites, Voluntary Response Action Program sites, RCRA Corrective Action sites, or Petroleum Remediation sites are on or adjacent to the Site; (3) The applicant may submit an "alternative analysis" which demonstrates that this performance standard is impracticable.</i></p>	1	Protect the Natural Drainage System
		2	Minimize the Decrease in Time of Concentration
		5	Minimize Effect of Impervious Area
7	At least 70% of roadway Runoff shall be directed into a Stormwater Treatment Measure.	4	Minimize Impervious Area
		5	Minimize Effect of Impervious Area
8	<p>Standard vehicle parking stall dimension standard: maximum of 9-foot x 18-foot stall.</p> <p><i>Exception: As required for public safety and Americans with Disabilities Act compliance.</i></p>	4	Minimize Impervious Area
9	<p>Runoff from on-site roofs, sidewalks, and peak-use overflow parking shall be directed into Stormwater Treatment Buffers or Stormwater Treatment Infiltration Measures.</p> <p><i>Exception: An "alternative analysis" may be submitted demonstrating that this performance standard is impracticable.</i></p>	5	Minimize Effect of Impervious Area
		8	Provide Vegetated Open-Channel Conveyance Systems
10	<p>Construction equipment movement, laydown areas and parking shall be restricted to the Disturbed Area.</p> <p>Areas to be vegetated shall be tilled and the soils amended with organic matter as needed based on the results of soil tests.</p>	6	Minimize Soil Compaction
11	Snow storage areas shall be depicted on site plans. Snow storage areas shall not be located in Stormwater Treatment Measures and Shoreland Zoning Setback Buffers.	5	Minimize Effect of Impervious Area

Note: LID Measures are from Table 1 of Appendix F of the General Permit.



## SECTION 6 | WAIVERS

LID is not a one-size-fits-all approach. Accordingly, the Town reserves the ability to grant waivers to Model LID Ordinance performance standards:

- In accordance with exceptions identified in **Table 4-1**.
- In circumstances where an alternatives analysis shows that an alternative solution to LID identified in a performance standard is equivalent or superior in preventing or minimizing water quality impacts.
- In circumstances where non-implementation of a performance standard is determined to be in the public interest.
- In circumstances where implementation of a performance standard is determined to be impracticable.