

# Town of Orono Proposed Ordinance Content for Low Impact Development Strategies

Prepared for submittal to Maine Department of Environmental Protection as  
required by the Maine General Permit for Stormwater Discharges from  
Municipal Separate Storm Sewer Systems

Draft submitted August 30, 2022

# Draft Low Impact Development Strategies Ordinance

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## A. Purpose

The Purpose of this “Low Impact Development Strategies Ordinance” (the Ordinance) is to provide for the health, safety, and general welfare of the citizens of the Town of Orono by providing procedures to minimize the adverse effects of New Development and Redevelopment on the environment through review and approval of Low Impact Development Strategies as required by federal and State law.

This Ordinance establishes methods for implementing Low Impact Development Strategies to comply with minimum control measure requirements of the federal Clean Water Act, of federal regulations and of Maine’s Small Municipal Separate Storm Sewer Systems General Permit.

## B. Definitions

*Note to Maine DEP: Definitions may change slightly based on detailed cross comparison to existing definitions in Town Ordinances.*

**Buffers** – Means all three kinds of buffers listed below unless a subset of the three is specifically called out:

- **Stormwater Vegetative Buffer** – a buffer constructed in accordance with Appendix F in Chapter 500 for the purposes of providing pollutant removal.
- **Shoreland Zoning Setback Buffer** – A buffer required by the municipal Shoreland Zoning Ordinance to protect a water of the State.
- **General Buffer** – a buffer required by the municipal ordinances to provide screening to parcels or developments from light, noise, other parcels, rubbish areas, or other areas.

**Chapter 500** – Means Chapter 500 of the Maine Department of Environmental Protection’s Rules (“Stormwater Management Rules”).

**Chapter 502** - Means Chapter 502 of the Maine Department of Environmental Protection’s Rules (“Direct Watersheds of Lakes Most at Risk from New Development, and Urban Impaired Streams”).

**Climate Resilient Northeast Native Vegetation** – Means plants identified as native to the Northeast as identified by the Northeast Regional Invasive Species & Climate Change (RISCC) Network or a Maine Licensed Landscape Architect.

**Common Plan of Development or Sale** - Means a “subdivision” as defined in Title 30-A M.R.S. §§ 4401 *et seq.* (the Maine Subdivision statute) and in \_\_\_\_\_ of the Municipality’s code of ordinances.

**Construction Activity** – Means any activity on a Site that results in Disturbed Area.

**Discharge** - Means any spilling, leaking, pumping, pouring, emptying, dumping, disposing or other addition of pollutants to the Waters of the State, other than groundwater.

**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. Replacement of a building is not considered routine maintenance of the building and is therefore considered Disturbed Area.

**Drainageway** – Means the same as "Drainageway" defined in 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 Intensity Soil Survey** – Means a Class A survey defined by the March 2009 Guidelines for Maine Certified Soil Scientist for Soil Identification and Mapping, prepared by the Maine Association of Professional Soil Scientists.

**High Permeability Soils** – Means hydrologic soil groups A or B as determined by on-site soil testing by a certified soil scientist using a High Intensity Soil Survey.

**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 under drained artificial turf fields are all considered impervious.

**Low Impact Development (LID)** - 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.

**Maine Licensed Landscape Architect** – Means a person who has an active Landscape Architect license from the Maine Board of Licensure for Architects, Landscape Architects, and Interior Designers.

**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 Systems (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 roads, 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.

**Parcel** – Means the same as "Tract or parcel of land" as defined at 30 M.R.S. §4401.6 *et seq.*

**Permitting Authority** - Means the Code Enforcement Officer, Planning Board, or other official or body authorized by State law or the Municipality's 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.

**Regulated Small MS4** - Means any Small MS4 authorized by the most recent, in-force 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 all those located partially or entirely within the Urbanized Area.

**Runoff** – Means the part of precipitation from rain or melting ice and snow that flows across a surface as sheet flow, shallow concentrated flow or in Drainageways.

**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).

**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 which is proposed for Construction Activity, including open space, Stormwater Treatment Measures, and Disturbed Area, subject to this Ordinance.

**Stormwater**- 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** - Means the mechanism by which any road, sidewalk, or other structural feature of a Site will cross or pass over or through a Water of the State which has a stream bank full width of 6 feet or less.

**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.

**Time of Concentration** – Means the same as “Time of concentration” defined in Chapter 500.

**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.

**Waters of the State** – See 38 M.R.S. §361-A (7).

## **C. Applicability**

The Low Impact Development (LID) Performance Standards contained in Section E of this Ordinance apply to any Project in the Municipality’s urbanized area for which an application for subdivision or site plan approval is filed with the Municipality on or after 7/1/2024, which results in:

- a. Disturbed Area of one or more acres of land, or
- b. 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

## D. Objective

LID is a process of developing land that mimics the natural landscape and hydrologic regime. LID begins at the design phase of a new development or redevelopment, incorporating planning techniques that minimize site clearing and impervious surfaces to reduce impact and stormwater runoff generated from the site. By reducing the volume of water leaving a site, the pollutant loading is also reduced. Other techniques that will reduce the volume and peak flow rates of runoff from the development are then incorporated throughout the site. LID is an effective tool that reduces pollutant loading, thermal impacts, stream flows, and minimizes stream channel erosion.

LID is not a one-size-fits-all, rigid set of standards. The goal of the standards and requirements of this section is to provide a flexible approach that can lead to benefits to the developer, the municipality, and the environment.

## E. Performance Standards

1. The following performance standards shall be required for any project that meets the applicability provision above:

A. Prioritize the protection of the following sensitive areas as listed below (highest priority listed first) by not disturbing land in these areas:

- i. Waters of the State and associated shoreland protection areas.
- ii. Protected Natural Resources
- iii. Predevelopment Drainageways
- iv. High Permeability Soils
- v. Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Setback Buffer areas
- vi. Significant and Essential Wildlife Habitats

*Note that the applicant will need to provide a description in their narrative of how they have prioritized these areas for protection from disturbance.*

Exception: Removal of Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation that is diseased or in poor condition is allowed.

B. 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.

C. Stream Crossings for Waters of the State shall be designed in accordance with Maine Stream Smart Principles to preserve natural pre-development Drainageways.

Exception:

Stream Crossings over portions of streams that are artificially channelized are not subject to this standard.

D. Projects not located in the Village Commercial, High Density Residential, or Commercial-2 Districts shall preserve the natural pre-development Drainageways on the Site by using the natural flow patterns and pathways for the post-construction drainage system.

Exceptions are allowed if the Time of Concentration for a predevelopment Drainageway is the same as or shorter than the post-development Drainageway.

Exception: The applicant may submit an “alternative analysis” which demonstrates that this performance standard is impracticable.

E. 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, 4.C.(3) Types of treatment measures allowed, and 4.D Phosphorus standard (for lake watersheds only) and additionally:

i. Individual Stormwater Treatment Measure may not treat more than one acre of Impervious Area

ii. Vegetation used in Stormwater Treatment Measures and General Buffers shall be Maine Native Vegetation or Climate Resilient Northeastern Native Vegetation

F. Infiltration Standard: Provide volume control on-site, through infiltration or storage, in accordance with the following:

i. Volume to be controlled = (total area of Impervious Area after New Development and Redevelopment – total area that existed before New Development and Redevelopment) x Rd

ii. Where Rd is the groundwater recharge depth based on the USDA/NRCDS hydrologic soil group as follows: Rd = 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

iii. Stormwater Treatment Measures with liners may not be used to meet the volume requirement via storage.

iv. Restrictions and requirements identified in Sections D(2) through D(4) of Appendix D Infiltration basins, drywells, and subsurface fluid distribution systems; of Chapter 500 apply.

Exception: For Sites in Rural and Suburban areas where infiltration will disrupt the preservation of the predevelopment Drainageways, an exception from the infiltration standard will be allowed.



Exception: If 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, the Site does not need to meet the volume control standard.

Exception: The municipality may allow infiltration on an alternate site within the same watershed in-lieu of on-site infiltration.

G. Minimize Impervious Area and the Effect of Impervious Area from road runoff:

i. At least 70% of roadway Runoff shall be directed into a Stormwater Treatment Measure

H. Minimize Impervious Area from parking areas:

i. Vehicle parking stall dimension standard: maximum of 9-foot x 18-foot stall

Exceptions for public safety vehicles or if the project's use specifically requires parking spaces larger than 9'x18' for vehicles necessary for operation may be requested and approved by the Planning Board.

I. Runoff from on-site roofs, sidewalks, and peak-use overflow parking Runoff shall be directed into Stormwater Treatment Buffers or Stormwater Treatment Infiltration Measures.

J. Construction equipment movement, laydown areas and parking shall be restricted to the Disturbed Area. Areas to be vegetated shall be tilled and the soils amended with organic matter as needed based on the results of soil tests.

K. Snow storage areas shall be depicted on site plans. The location of snow storage areas in Stormwater Treatment Measures and Shoreland Zoning Setback Buffers shall be prohibited.

L. Performance standard waiver request: If the applicant for any applicable project deems any of the performance standards in this section as impracticable, they may request a waiver of the standard(s) in question. For the waiver request to be considered, the applicant shall demonstrate in the project narrative why the performance standard(s) are impracticable. In addition, the applicant shall provide in the project application an alternative LID technique that aims to accomplish a similar LID goal as the standard that has been requested to be waived. The permitting authority may find that the proposed alternative LID technique meets the intent of the waived standard and is adequate as a substitute. In no event shall a waiver be granted without reasoning and a proposed alternative.

*Note: It is the intent of this waiver to recognize that LID aims to be a flexible approach, and not one size fits all, as is mentioned in Appendix F of the General Permit.*

*Note to Maine DEP: These performance standards were taken largely from the Maine Model Ordinance for Low Impact Development Strategies developed by SMPDC, CCSWCD, and Integrated Environmental Engineering, Inc. under award CZM NA21NOS4190082 to the Maine Coastal Program from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce.*

*In addition to these standards, the Town of Orono believes that there are currently existing performance standards in the Town's Ordinance as well as future amendments under consideration that aim to accomplish LID goals. Some of these standards that support LID goals include:*

- *Clustered Development option for subdivisions on lots of 3 or more acres which requires anywhere from 25 to 55 percent of the parcel acreage to remain as open space.*
- *Adoption of a Village Residential Overlay District which makes the creation of two-family dwellings out of existing single-family dwellings easier. This incentivizes adding housing within existing structures.*
- *Existing site plan review criteria which speak to preserving the landscape insofar as practical by minimizing disturbance, the development reflecting the natural capabilities of the site, and preserving natural drainage ways.*
- *A current ordinance amendment under consideration to reduce residential off-street parking minimum requirements from 3 spaces per dwelling unit to 1 or 2 spaces dependent upon the number of bedrooms in the dwelling.*

## **F. Submission Requirements**

*Note to Maine DEP: The following submission requirements will be incorporated into the Town's existing Site Plan and Subdivision Review ordinance articles.*

### **1. Project Narrative**

The applicant shall provide a Project narrative describing:

- the overall approach to Stormwater management at the Project Site,
- a listing 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 the applicant has prioritized protection of sensitive areas from disturbance, and
- a rationale for any waivers from performance standards.

### **2. Project Contacts and Qualifications**

The applicant shall provide contact information (i.e., name, company if applicable, phone number, physical address, and email address) as described below:

- Maine Licensed Landscape Architect
- Maine Certified Soil Scientist
- Maine Professional Engineer

### 3. Project Plans Contents

The applicant shall submit Project Plans which shall consist of a graphic representation of the Site at a scale no smaller than 1 inch = 100 feet showing:

- 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

### 4. 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.