

Building Community Resilience Through Local Regulations

Participant Guide to Massachusetts Bylaws & Best Practices



Module 6: Bylaw Review

How to Give Regulations
the Low Impact Development (LID) Tune-Up

Context

This document is part of a comprehensive curriculum program, *Building Climate Resilience Through Local Regulations*, developed by Mass Audubon in collaboration with other nonprofit organizations and federal, state and regional agencies. The curriculum contains 8 modules, each of which guides the user through different components of improving community resilience through local regulations that support green designs and nature-based climate solutions. Each module includes a participant guide (e.g., this document) and a PowerPoint presentation.

The full curriculum, supplemental resources and additional information on bylaw review and best practices are available through: [Massachusetts Rivers Alliance](#) and [Mass Audubon](#). The [SNEP Network's website](#) provides additional resources including an interactive virtual storymap and webinar recordings.

Acknowledgements

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The Southeast New England Program (SNEP) Network brings together local environmental organizations, academic institutions, regional planners, and consultants who collaborate to provide municipalities, tribes and organizations in Rhode Island and Southeast Massachusetts access to free training and technical assistance to advance stormwater management, ecological restoration, and sustainable financing goals across the region. The SNEP Network is administered through EPA's partnership with the New England Environmental Finance Center, a non-profit technical assistance provider for EPA Region 1. The SNEP Network supports this bylaw review curriculum as a key resource for communities to update their local regulations for improved nature-based climate solution implementation. Find out more about the SNEP Network at www.snepnetwork.org.

Introduction

Previous modules have introduced concepts about nature-based climate solutions and Low Impact Development (LID). Regulatory barriers to LID can be unintentionally embedded in your local land use ordinances and bylaws in unexpected ways. Common regulatory barriers include requiring a special permit to build sustainably and bylaws or regulations that mandate outdated, unsustainable standards. This module will introduce the Mass Audubon Bylaw Review Tool, which can assist communities in identifying barriers embedded in their regulations and prioritizing areas for updates. The Bylaw Review Tool categorizes bylaw specifications on a scale from “conventional” to “better” to “best” practices for stormwater management. “Conventional” practices usually fail to promote LID techniques, while “Best Practices” actively foster LID in a community while also preserving an area’s natural resources.

Objectives

After completing this module, participants will be able to answer the following questions:

- What is the Bylaw Review Tool? and how is it used?
- How is the Bylaw Review Tool used?
- Why is it important to identify barriers to LID standards and techniques in community bylaws and regulations?

Introducing the Bylaw Review Tool

The Bylaw Review Tool provides communities with a framework to evaluate their local land use regulations. Model specifications and examples used in the tool are derived from the [Commonwealth of Massachusetts’ Smart Growth/Smart Energy Toolkit](#) and other sources on the use of LID and Green Infrastructure (GI) techniques in development. From zoning and wetlands protection bylaws to subdivision rules and regulations, municipalities shape the ways their community develops. By undertaking this review process, communities can ensure that the principles specified in their municipal regulations align with sustainable practices that build resilience to climate change and environmental stressors. These best practices also provide many other benefits to a community’s economic, social, and environmental health and well being.

The Bylaw Review Tool enumerates standards that encourage LID by offering a color-coded index for classifying regulatory specifications and language:

- **“Conventional”** practices (**orange**) fail to address, impede or prohibit LID;
- **“Better”** practices (**yellow**) allow or encourage LID, but do not require it; and
- **“Best”** practices (**green**) require LID and incorporate its practice into the rules, codes, and management practices of the community.



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Because LID techniques incorporate both land use design and stormwater management, it is important to evaluate bylaws and regulations that pertain to both goals. These evaluations are particularly helpful for identifying barriers, discrepancies, and unaddressed considerations. This holistic approach to bylaw review — consolidating the specifications of many different bylaws, regulations, and guidance documents into one Excel workbook — streamlines the analysis process and facilitates interdepartmental cooperation.

Navigating the Bylaw Review Tool

The Bylaw Review Tool is an Excel workbook comprising several sheets: four introductory sheets, two editable analysis sheets, two reference sheets, and two partnership acknowledgement and contact sheets. Navigating between the sheets can be done using the horizontal bar at the bottom of Excel. (Note: The Excel window and navigation bar may appear slightly different depending on the operating system in use) Table 1 below provides an outline of the workbook layout.

Note: Sheets 5 and 6 are the two editable sheets, where the user can enter information and conduct their analysis of local bylaws and regulations.

Table 1. Outline of Bylaw Review Tool workbook structure.

Sheet Number	Title	Purpose	Tab Color
1	Introduction	Introduces the Bylaw Review Tool and its purpose, key areas of analysis, and structure.	Purple (Introductions and Overviews)
2	Open Space Residential Design (OSRD) Overview	Introduces OSRD, Natural Resource Protection Zoning (NRPZ), and cluster bylaw review objectives.	
3	Zoning, Subdivision, Site Plan Review (SPR), Stormwater (SW) Overview	Introduces the goals (see next section) by which Zoning, Subdivision Rules and Regulations, Site Plan Review, and Stormwater Bylaws are grouped and evaluated.	
4	Other Considerations	Provides additional notes, recommendations, and considerations associated with Bylaw Review and updates, to ensure effective implementation.	

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5	Open Space Residential Design (OSRD) Analysis	Provides evaluation criteria for OSRD, NRPZ, and cluster bylaw review, as well as the opportunity to customize rows and columns to suit the community's regulatory framework.	Green (Analysis)
6	Zoning, Subdivision, Site Plan Review (SPR), Stormwater(SW) Analysis	Provides evaluation criteria grouped into separate goals for Zoning, Subdivision Rules and Regulations, Site Plan Review, and Stormwater Bylaw review. Also provides the opportunity to customize rows and columns to suit the community's regulatory framework.	
7	Common Acronyms	Lists acronyms used throughout the Bylaw Review Tool.	Blue (Reference)
8	Resources and Model Bylaws	Provides links to additional references, toolkits, and model bylaws.	
9	Acknowledgements	Lists partners and funders that supported the development of the Bylaw Review Tool .	Yellow (Partnerships)
10	Contact Us	Provides Mass Audubon contact information.	

Bylaw Review Goals

LID is a broad term that encapsulates a holistic approach to development that preserves trees and other natural green infrastructure and incorporates engineered features that mimic natural land cover and its benefits. As such, assessing a bylaw's support of LID principles

needs to be firmly founded in the objectives those principles seek to achieve. For more information on overarching LID principles, see Module 2.

The bylaw language evaluated in Sheet 6 of the Tool is categorized according to five core goals, each of which are described in detail below and in Sheet 3 of the Bylaw Review Tool.

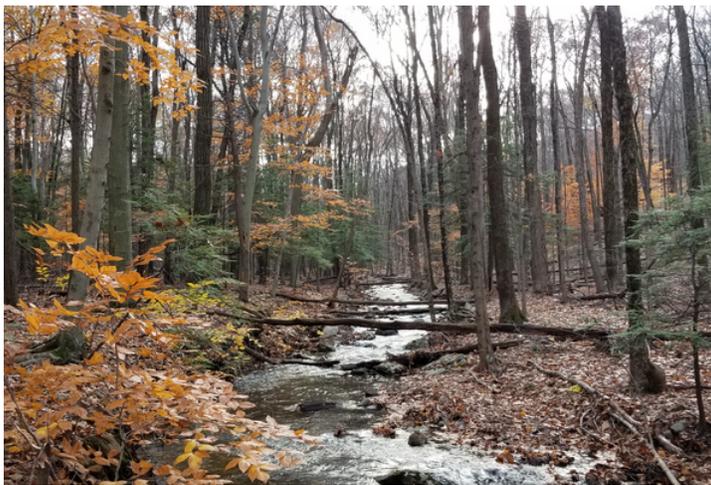
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The Bylaw Review Tool organizes these principles into five core goals:

1. Protect Natural Resources and Open Space;
2. Promote Efficient, Compact Development Patterns and Infill;
3. Smart Designs that Reduce Overall Imperviousness;
4. Adopt Green Infrastructure Stormwater Management Provisions; and
5. Encourage Efficient Parking.

Goal 1: Protect Natural Resources and Open Space

New and re-development projects often denude landscapes prior to construction, with removal of virtually all trees and other vegetation and extensive grading, impacting soils and water flow patterns. Alternatively, factors under this goal seek to limit clearing and grading while encouraging improved soil management, the use of native species, and revegetating disturbed areas. Retaining natural vegetation and soils avoids many of the costs associated with piping and other “gray” stormwater management infrastructure and reduces the need for irrigation, making it the single most efficient means of reducing development impacts on water resources. Additional benefits include preserving habitat for birds and pollinators, preserving trees for shade and clean air, and protecting natural scenery that contributes to property values and a high quality of life.



Bylaws often include vague language, such as “due regard shall be shown for natural features,” that do not provide specific limitations or guidelines that require developers to follow the true intent of the community. The tool identifies provisions of local regulations where measurable, enforceable standards can be adopted to actually protect important natural features and functions.



Goal 2: Promote Infill and Efficient, Compact Development Patterns and Infill

Increased impervious surface cover is the most significant factor contributing to stormwater runoff. Communities can still support development while decreasing the amount of impervious surfaces needed by adjusting requirements related to setbacks, lot size, and frontage (through site plan design). Bylaw language and standards included under this goal help decrease the amount of impervious surfaces and increase infiltration, while still supporting new development.

Goal 3: Smart Designs that Reduce Overall Imperviousness

Local bylaws should address site design components, such as street location, road width, cul-de-sac design, curbing, roadside swales, and sidewalk design and location. These are just a few of the many opportunities available for communities to minimize impervious surfaces and allow infiltration through curb cuts, swales, and cul-de-sacs with bioretention, among other features.

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Goal 4: Adopt Green Infrastructure Stormwater Management Provisions

Bylaw language and standards should seek to explicitly promote LID as the preferred development method. Examples include requiring rooftop runoff be directed into vegetated areas and incentivizing or requiring runoff infiltration wherever soils allow. Bylaws and/or regulations should clearly define LID practices as well as which BMPs are preferred or required. Communities should also require an operations and maintenance plan to ensure the ongoing use of LID methods is effective. Adopting an LID-specific bylaw can also help cement a community's preference for stormwater management methods. Defining LID within its own bylaw also decreases the need to explain it separately in other bylaws, rules, and regulations, thus reducing the potential for any conflict in language between various regulations and bylaws. This section of the tool also includes stormwater management considerations relevant to the Massachusetts general MS4 permit.

Goal 5: Encourage Efficient Parking

Parking accounts for a significant portion of impervious surface within new and redevelopment projects. Consequently, incorporating LID techniques into parking regulations is an enormous opportunity for towns to reduce impervious surfaces. Bylaw language and standards under this goal identify opportunities to reduce the amount of required parking spaces, institute parking maximums, or reduce runoff. Many communities already require landscaping in parking areas, which provides an opportunity to

include curb cuts and infiltration in these areas, thus improving water quality via bioretention and vegetated swales and reducing irrigation requirements.

Reviewing Bylaws

The Bylaw Review Tool facilitates analysis of a range of different bylaws and regulations. Sheet 4, which relates to Open Space Residential Design (OSRD), Natural Resource Protection Zoning (NRPZ), includes editable rows and columns to tailor the worksheet to each community's regulatory framework, context, and needs. Columns can be added if the community under review has more than one bylaw of this type so that bylaws can be evaluated individually or in relation to one another.

These types of bylaws may be found under a variety of different titles: OSRD, NRPZ, cluster, conservation design, planned unit development, or others. These bylaws are often created with one or more of the above goals at their core; thus identifying opportunities within these bylaws is relatively straightforward, particularly in comparison to other more general zoning provisions, which address many more aspects of land use less pertinent to LID analysis. Once the column(s) dedicated to the OSRD, NRPZ, or similar bylaws are completed with text from the community's regulations, it can be compared to the conventional, better, and best practice examples, and color coded accordingly. This comparison will clearly illuminate the existing barriers within these regulations. The following pages provide an example OSRD bylaw review conducted by Mass Audubon for a community.

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Table 2. Example use of the Bylaw Review Tool through the review of a community's OSRD.

MA Open Space Residential Design Best Practices Factors	Conventional	Better	Best Practice	Community's OSRD (Zoning bylaw section 4300: Conservation Subdivision, p34)
Permit Type	Special Permit	By Right	Mandatory	Special permit
Land area to which the zoning is applicable	Only a small amount of developable land	Land of particular environmental sensitivity	All developable land zoned residential	Any creation of five (5) or more lots, whether a subdivision or not, from a parcel or set of contiguous parcels held in common ownership and located entirely within the Residence district
Minimum Open Space	50-65%	65-75%	≥ 75%	Minimum 20% contiguous open space excluding required yards and buffer areas. Open space may be separated by road(s) constructed within the Conservation Subdivision. Not more than 25% of open space shall be wetlands. 10% of open space may be paved or built on for structures accessory to dedicated use.
Yield Calculation	Full plan with full percolation tests	Sketch plan with selected percolation test(s)	By formula	Full plan with full percolation tests. Max # units should be the reasonable # developed with conventional development in full conformance with zoning laws.
Minimum parcel size	≥ 10 acres	5-10 acres	None	Minimum 5 lots, minimum 7,500 sq ft per lot.
Review Process	No detailed analysis of site characteristics in relation to design	Cluster layout	Flexible "OSRD" 4 Step	Flexible four-step design process (see p. 35 of zoning). Sensitive, noteworthy natural resources protected as open space, lots not within 100' of wetland, cannot negatively impact open space. Could include more details on design, from the state model.
Ownership of Open Space	Appropriate to the resources present. For example, agricultural land by the farmer, watershed land by a water dept. or district, habitat land by the conservation commission, or recreational open space by a parks and recreation commission or homeowners association.			The required open space shall, at the owner's election, be conveyed to: the Town or its Conservation Commission; a nonprofit whose principal purpose is the conservation of open space and any of the purposes for such open space set forth in allowed uses; a corporation or trust owned jointly or in common by the owners of the lots within the Conservation Subdivision. (Doesn't reflect state's recommended best practices. The option for private ownership with conservation/agriculture restriction should specify that the CR meets the requirements of MGL Ch. 184 S. 31-33, otherwise deed restrictions are not fully permanent and protective.)
Dimensional Standards; area, frontage, etc.	Specified, < than for standard subdivision	Formulaic reduction with specified minimums	None set or small minimums	Each lot shall contain not less than 7,500 square feet of area (vs. 35,000 for conventional), and have frontage not less than 50' (vs 175). Each lot shall have yards of at least 15'. Structures/dwellings must be a minimum 50' from

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Quality of open space conserved: Specificity of local priorities for natural, cultural, and historic resource conservation	No indication of local conservation priorities, or language that refers only to regulated resource areas.	Lack of specificity regarding local conservation priorities; no map of priority locations	Local priorities clearly and unambiguously stated and mapped for use in site design.	The required open space shall be used for conservation, historic preservation and education, outdoor education, recreation, park purposes, agriculture, horticulture, forestry, or for a combination of these uses. No indication of (specific) local priorities (aside from preserving Dighton's traditional landscape) within these categories, no map of priority locations.
Contiguity of open space; relationship to previously protected open space	No contiguity requirement	Contiguity required within subdivision	Contiguity required; adjacent land considered	Contiguity required within subdivision, no consideration of adjacent protected open space.
Quality of open space conserved: Allowed uses of open space	Allowed use of open space not addressed	Vague language regarding use of conserved open space	Clear list of allowed uses consistent with conservation and recreation goals	The required open space shall be used for conservation, historic preservation and education, outdoor education, recreation, park purposes, agriculture, horticulture, forestry, or for a combination of these uses. No mention of consistency with conservation and recreation goals. 10% of open space may be paved or built on for structures accessory to dedicated use.
Quality of open space conserved: Submission requirements - GIS maps, data, etc. to inform the review process	Vague or no language regarding submission of information on site resources and no specified process for the use of the data submitted.	General non-comprehensive data and mapping requirements; vague process for the application of the data to site design and open space conservation.	Specific plans, maps, & comprehensive data regarding natural, cultural, and historic resources required and used as the basis for open space conservation.	Vague language: "The open space shall include, to the extent feasible, the most sensitive and noteworthy natural, scenic, and cultural resources on the property." No language regarding submission of data or process for use of data.
Relationship to Plans	Relationship to plans not discussed	Optional consideration of open space goals of OSRP, master, and/or regional policy plan	Required consideration of open space goals of OSRP, master, and/or regional policy plan	Relationship to plans not discussed.
Low Impact Design	Not addressed	Encouraged	Required	Not addressed.
Density bonus for enhanced public benefit(s)	No bonus offered	Bonus by special permit	Automatic or formulaic bonus	No bonus offered.
Review Entity	ZBA, council or selectmen as special permit authority	Planning Board	Planning Board	Planning Board

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Flexibility re: open space protection to facilitate wastewater treatment facilities	No flexibility provided	Aggregate calculations allowed by board of health	If necessary, required open space may be reduced by < 10% to accommodate; disposal area deed restricted; aggregate calculations allowed by BoH, etc.	Not addressed.
Monitoring of open space	No specified monitoring requirements and no requirements that would assist the party responsible for monitoring	Loose provisions to facilitate, municipal monitoring, or no specificity regarding monitoring interval	Specific provisions to aid endowed monitoring by a conservation org at stated intervals	If open space is owned by neighborhood trust or corporation, maintenance shall be permanently guaranteed by this entity. <u>If entity fails to provide adequate maintenance within 14 days of notice from the Town, they shall be deemed to have assented to allow the Town to perform maintenance, and shall grant the town an easement for this purpose. Liens placed on each lot for full cost of maintenance until sum is paid to the Town. No specificity regarding monitoring interval or procedures for nonprofit ownership. No mention of town/non-profit owned monitoring. (See state model OSD-NRPZ bylaw.)</u>

Note: We recommend including notations in the respective bylaw review tool cells of where in the existing local bylaw/regulation (page or section number) you found the relevant information added to the cell. This will become very helpful in the future, when actually updating the local bylaws or regulations, making it easier to find the exact provisions needing updates.

The Sheet 5 analysis (for Zoning, Subdivision Rules and Regulations, Site Plan Review, or Stormwater Bylaws) utilizes the same editable format as the sheet for OSRD Analysis. but the language and standards considered in Sheet 5 are grouped according to the goals listed earlier in this module. These goals serve to focus and direct analysis of bylaws and regulations that may be longer and/or more complex than OSRD or NRPZ bylaws. Multiple columns in Sheet 5 enable the user to look for the identified features across each of the community's bylaws and/or sets of regulations. Not every evaluated factor or goal will be within the purview of each regulation. Nevertheless, analyzing these regulatory documents together can help the community identify consistency in regulations across bylaws. This will help form a more complete picture of how these regulations shape development, encourage LID techniques and practices, and adhere to federal and state guidelines.

Note: As with Sheet 4, when filling in the cells remember to note where in the local bylaw/regulations the information was found so it can easily be found later.

Using the Completed Analysis

Once the cells on Sheet 4 and/or 5 are filled in, review the language in comparison to the Conventional/Better/Best Practices columns, and shade each cell with the color that corresponds most closely to what is in the local bylaw or regulation.

After all the cells are filled in and colored, step back and look at the overall picture. Where is there a lot of orange? Is it in a specific bylaw or regulation or across the board on several of the community's land use rules? This will give you a sense of where to prioritize next steps and the

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magnitude of work needed. Are there rows on Sheet 5 where the colors vary across the row? That indicates inconsistencies in different parts of the community's land use rules. Subdivision regulations can be modified by the Planning Board, while changes to zoning or other bylaws require a vote (often $\frac{2}{3}$ majority required) of Town Meeting or City Council, so if those regulations have a lot of orange, that may be "low-hanging fruit" to get started working on updates. Success in one area can help build support for the community to identify additional resources like a state planning grant or assistance from the regional planning agency to undertake updates of more complex or challenging components.



Conclusion

This module introduced the Mass Audubon Bylaw Review Tool and how to use it. The Excel spreadsheet format is easy for the user to read, edit, and update the tool as the community adopts new bylaws and regulations or amends existing ones. The color-coded categories offer a visual aid in assessing a community's progress with making its regulations more sustainable and environmentally friendly by requiring LID techniques that protect natural resources and water quality, and mitigate the effects of climate change and sprawling development.

Trained users are encouraged to bring this Bylaw Review Tool to their municipalities to assist them in identifying regulatory barriers, inconsistencies, or unaddressed concerns that may impede the smooth and streamlined implementation of LID techniques and principles in their communities' development.

The next modules in this series provide additional resources and sources of support to undertake the priority updates identified by using the tool, and guidance on how to undergo the process in cooperation with local officials and community residents.