

LOW IMPACT DEVELOPMENT—DO YOUR LOCAL CODES ALLOW IT? *A checklist for regulatory review*

Low Impact Development strategies can reduce the “environmental footprint” of new housing and businesses. However, outdated local codes and standards may prohibit the use of LID techniques or may discourage developers by requiring special permits or variances.

Simple modifications to local codes can encourage builders and property owners to apply low impact techniques, while also ensuring high quality development, adequate access, and public safety. Some communities may also wish to enact a stormwater/LID bylaw (described elsewhere in this Toolkit), but a comprehensive review of local codes should happen before writing a bylaw; the emphasis of both efforts should be on creating a predictable, streamlined process that encourages developers to try LID techniques.

This checklist is a tool that citizens, officials, and developers can use to review their local codes for consistency with LID principles. It is important to remember that conditions are different in each community. Some of the recommendations here may not be appropriate for your city or town. A careful review may also identify other opportunities not listed here; be sure to consider local area plans, redevelopment authorities, groundwater protection districts, planned unit developments, and other local policies or entities.

Finally, the best way to ensure the success of a regulatory review is to make it a collaborative effort. Be sure to involve representatives from all relevant boards and departments, public works officials, emergency response officials, watershed advocates, and developers, so that their concerns are heard and addressed early in the process.

*This publication is one component of the **Massachusetts Low Impact Development Toolkit**, a production of the [Metropolitan Area Planning Council](#), in coordination with the [I-495 MetroWest Corridor Partnership](#), with financial support from the [US EPA](#). The Massachusetts Low Impact Development Interagency Working Group also provided valuable input and feedback on the LID Toolkit. For more information, visit www.mapc.org/lid.*

Zoning Bylaw and Site Plan Review Standards

Dimensional Requirements

- Permit the location of bioretention areas, rain gardens, filter strips, swales, and constructed wetlands in required setback areas and in buffer strips.
- Minimize setback distances in residential districts in order to increase flexibility with regard to house location.
- Permit reduction in frontage (and corresponding road length/paved area) where appropriate, such as in open space residential developments, at the outside sideline of curved streets, and around cul-de-sacs.
- In rural, low-density areas, establish limits on impervious lot coverage (e.g., 15%.) This strategy is not appropriate for town centers, transit-oriented districts, and moderate density neighborhoods, where compact development should be encouraged.

Dimensional Requirements, continued

- ☑ Establish limits on the extent of lawn area on residential lots, either area or percentage of lot.
- ☑ Bylaw should establish regulatory controls over tree clearance and removal of mature trees/forest stands.

Open Space Developments

- ☑ Permit open space residential developments (cluster development or conservation subdivision design) as a “by right” form of development (no special permit required.) Permit flexible site design criteria such as reduced setbacks and smaller lot sizes. See model Open Space Residential Development bylaw for further recommendations (www.greenneighborhoods.org.)
- ☑ Permit construction of LID stormwater management techniques (bioretention, swales, filter strips) on land held in common.

Parking Requirements

- ☑ Permit use of permeable paving for parking stalls and spillover parking areas.
- ☑ Do not require more than 3 off-street parking spaces per 1000 square feet of gross floor area in professional office buildings.
- ☑ Do not require more than 4.5 off-street parking spaces per 1000 square feet gross floor area of shopping centers.
- ☑ Do not require more than 2 off-street parking spaces per single family home.
- ☑ Establish parking maximums.
- ☑ Establish formulas for the utilization of shared parking for uses with different peak demand periods (e.g., office peak demand period 9am – 5pm; housing peak demand period 6pm – 8am.) Allow reduction of parking requirements if shared parking is proposed. Provide model shared parking agreements that can be included as deed restrictions or permit requirements.
- ☑ Allow reduced parking for homes and businesses near major transit stops.
- ☑ Permit stall width of 9 feet or less for a standard parking space.
- ☑ Permit stall length of 18 feet or less for a standard parking space.
- ☑ Recommend or require smaller stalls for compact cars, up to 30% of total number of parking spaces.
- ☑ Establish landscaping requirements for parking areas that include vegetated islands with bioretention functions.

Common Driveways

- ☑ Permit the use of common driveways to serve up to four houses, including OSRD lots that do not meet standard dimensional requirements.

Site Plan Requirements

- ☑ Allow bioretention areas, filter strips, swales, and constructed wetlands to count towards fulfillment of site landscaping/open space requirements.
- ☑ Require driveway width no more than 9 feet.
- ☑ Permit use of pervious material for single family driveways (porous pavers, paving stones, pervious asphalt or concrete), and/or use of ‘two-track’ design for residential driveways.

Site Plan Requirements, continued

- ☑ Allow discharge of uncontaminated rooftop runoff to lawn areas and buffers, with level spreader or other velocity reduction mechanism.
- ☑ Allow temporary (72-hour) ponding of stormwater prior to infiltration.
- ☑ Require development of a stormwater management and erosion control plan for construction activities. Ensure that standards comply with NPDES Phase II requirements (see <http://cfpub.epa.gov/npdes/index.cfm> for more information about the NPDES program.) Be sure that the plan includes a maintenance program and provides for inspection by local authority.

Subdivision Rules and Regulations/Roadway Design Standards

Street Location

- ☑ Considerations for street layout should include reducing street length and minimizing total paved area (including cul-de-sacs), with the goal of protecting site hydrology. Identify the need to reduce cut and fill, do not run streets across steep hillsides, route streets along ridgelines, protect important natural features.

Street Cross Sections

- ☑ Permit a minimum pavement width of 18-22 feet on low-traffic local streets in residential neighborhoods. Allow narrower pavement widths along sections of roadway where there are no houses, buildings, or intersections, and where on-street parking is not anticipated. It is especially important to involve public works officials and emergency response officials in this discussion.
- ☑ Permit the use of "open section" roadways with roadside swales. Do not require the use of conventional curbs for the full length of all streets in residential neighborhoods. Where curbs are deemed necessary to protect the roadway edge, allow the use of perforated curbs (that allow runoff to flow into swales) or "invisible curbs" (flush with the road surface.)
- ☑ Establish criteria for the design of roadside swales to ensure adequate stormwater treatment and conveyance capacity.
- ☑ Permit placement of utilities under the paved section of the right of way or immediately adjacent to the road edge (so that the land adjacent to the roadway can be used for swales.)
- ☑ Permit use of permeable paving for road shoulders/parking lanes in residential neighborhoods, with use of conventional paving for travel lanes only.
- ☑ Permit the use of permeable paving for sidewalks.
- ☑ Permit sidewalk placement on one side of the street only in low-density residential neighborhoods.
- ☑ Provide flexibility with sidewalk layout; e.g., alternative pedestrian circulation layout that uses common areas, rather than street rights of way.
- ☑ Sidewalks should be designed so that the runoff is disconnected from the stormwater system. e.g, place a green strip

Site Work

- ☑ Encourage developer to limit clearing within the right-of-way to the minimum necessary to construct roadway, drainage, sidewalk, and utilities, and to maintain site lines; do not require clearing and grubbing of entire right-of-way.

Site Work, continued

- ☑ Require contractors to reestablish permeability of soils that have been compacted by construction vehicles. For example, contractor can rototill lawn areas prior to seeding to re-establish void space (hence permeability and infiltration) of the soils.

Dead Ends

- ☑ Minimize the required radii for cul-de-sacs. A radius of 35 feet is optimal, depending on emergency vehicles.
- ☑ Allow the creation of landscaped island (and bioretention cells) within cul-de-sacs.
- ☑ Permit use of one-way loop streets to eliminate turnarounds.
- ☑ Permit “hammerhead” turnarounds instead of cul-de-sacs.

Board of Health Bylaw and Regulations

- ☑ If the Board of Health has standards for drainage/infiltration systems, rely on setback distances established in Title 5 and the MA Stormwater Policy Manual Volume 2. Do not require additional setbacks or classify stormwater structures so as to increase the minimum setback distances (e.g., some local codes require dry wells and bioretention areas to meet the same setbacks as a septic system.) Such requirements hamper the use of small, decentralized stormwater management techniques.
- ☑ If current codes require oversized or “double capacity” systems (as compared to Title 5 requirements), evaluate the presumed water quality benefits of such requirements against the landscape/stormwater impacts associated with the clearing and excavation involved in building these oversized systems.
- ☑ Do not require reserve septic fields to be cleared of at the time of development.

Wetlands Bylaw and Regulations

- ☑ Permit the use of low impact stormwater structures (such as bioretention areas, infiltration trenches, or grass swales) within the buffer zone of (state or local jurisdictional) wetland resource areas, provided the location of these structures is not in conflict with any other setback criteria required by Massachusetts Wetland Protection Act regulations or the MA Stormwater Management Policy Handbooks.
- ☑ Provide opportunities for staff and Commission members to participate in LID workshops or conferences.

Department of Public Works / Building Inspector

- ☑ Ensure sufficient funding for DPW to perform maintenance of existing stormwater management facilities.
- ☑ Create mechanisms for enforcement of maintenance agreements; establish regulations/fines for property owners who fail to maintain stormwater facilities.
- ☑ Determine if local building codes prohibit use of permeable paving, narrow driveways, green roofs, and other LID techniques.
- ☑ Local plumbing codes should permit the use of harvested rainwater for interior non-potable uses such as toilet flushing.
- ☑ Provide opportunities for staff participation in LID workshops or conferences.
- ☑ Implement LID demonstration programs at city or town hall, schools, DPW, etc.