



# Metropolitan Area Planning Council

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## MEMORANDUM

TO: Elaine Lazarus, Planning Director, Town of Hopkinton  
FROM: Christine Wallace, P.E., Senior Regional Planner, MAPC  
DATE: June 30, 2009  
RE: Low Impact Development Evaluation: Suggested Revisions to Existing Bylaws and Regulations

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As the final component of MAPC's stormwater technical assistance project funded by MET, this memorandum evaluates the town of Hopkinton's existing local bylaws and regulations to assess their consistency with Low Impact Development (LID) principles. This review is intended to identify areas of the town's local codes that could be modified to promote stormwater management that encourages recharge and employs techniques such as LID. In addition, this memorandum also provides recommendations on how to modify existing codes in the event that design standards or criteria conflict with the recently adopted Stormwater Management Bylaw.

MAPC has reviewed the following Town of Hopkinton Bylaws and Regulations for this memorandum:

- Town of Hopkinton Zoning Bylaw (Chapter 210 of the Hopkinton General Bylaws), last revised May 5, 2008
- Town of Hopkinton Rules and Regulations Relating to the Subdivision of Land, last revised June 16, 2003
- Town of Hopkinton Wetlands Protection Bylaw (Chapter 206 of the Hopkinton General Bylaws), last revised May 5, 2008
- Town of Hopkinton Wetlands Protection Regulations, last revised June 16, 2003
- Town of Hopkinton Board or Health Code of Regulations, last revised August 9, 2007

The Subdivision Rules and Regulations and the Zoning Bylaw would benefit from modifications designed to promote the use of lower impact site design and stormwater management techniques. In general such modifications would reduce impervious area, incorporate more LID stormwater practices (such as bioretention, infiltration, vegetated swales, and filter strips), and better preserve open space. The Open Space and Landscape Preservation Development (OSLPD) for subdivisions allowed in the Town's Zoning follows many LID principles, but these principles are not required for subdivisions if clustering is not chosen by the developer. The review also found that the Zoning Bylaw, Subdivision Rules and Regulations, and Wetlands Regulations have statements that do not necessarily conflict with the new Stormwater Bylaw, but do not reflect the fact that the stormwater bylaw exists.

Table 1 below provides more specific recommendations on how to further promote LID in the town of Hopkinton. Please note that the order of the list is based on general categories and not necessarily the order in the codes.

**Table 1: Suggested Revisions to Hopkinton’s Bylaws and Regulations to Further Promote Low-Impact Development Principles**

Reference	Topic	Existing Requirement	Recommendations
Subdivision – Section 8.2.3	Street Design: Width	Non-Residential street width required is 30 feet. Major street is 24 feet. Minor street is 22 feet. Rural street is 20 feet.	Residential road widths should be minimized as much as possible. Low-density residential should be 18-22 feet wide. Allow narrow widths where there are no houses, buildings, intersections, or where on-street parking is not anticipated.
Subdivision – Section 8.2.2	Street Design: Edge Treatment	Granite curb or cape cod berm required on all streets and cul-de-sacs.	Curb and gutters should not be required for residential streets. If protection of the roadway edge is a concern, permit alternate methods such as perforated curbs, flush curbs, or other mechanisms.
Subdivision – Section 8.2.3	Street Design: ROW Width	“The minimum width of street rights-of-way shall be 50 feet unless otherwise specifically allowed by the Board. The Board may require street rights-of-way, which in its judgment, may become major or non-residential streets to be more than 50 feet in width.”	50 feet is appropriate for a ROW width, but consider making it a maximum rather than a minimum. Utilities should be allowed underneath the pavement.
Subdivision – Section 8.2.5.B.	Street Design: Cul-de-Sacs	Minimum paved diameter required is 90 feet for industrial and commercial, and 80 feet for residential.	Minimum diameter should ideally be 70 feet, but up to 90 feet is also acceptable.
Subdivision – Section 8.2.5.C.	Street Design: Cul-de-Sacs	Landscaped islands in cul-de-sacs are allowed, but there are no provisions allowing for stormwater management.	A landscaped island inside should be permitted for all cul-de-sacs, and should allow for vegetated stormwater management in the island.
Subdivision – Section 8.2.5.	Street Design: Cul-de-Sacs	No current provisions for alternate layouts	Alternative layouts, such as hammerheads or one-way loop streets, should be allowed on short streets in low-density residential areas.
Subdivision – Section 8.3.1	Sidewalks: Width	Width of 5 feet required.	Minimum sidewalk width should be 4 feet or less.
Subdivision – Section 8.3.1	Sidewalks: Design	Grass strip of at least 3.5 feet required between pavement and sidewalk.	Consider removing this requirement to reduce ROW width and to allow for alternate drainage options.
Subdivision – Section 8.3	Sidewalks: Layout	No provisions for alternate walkway networks	Alternate pedestrian networks should be allowed to substitute for sidewalks where applicable.
Subdivision – Section 8.3.	Sidewalks: Materials	No provisions for permeable sidewalk materials	Permit use of permeable surfaces for sidewalks.
Subdivision – Section 8.3	Driveways: Width	No provisions in the Subdivision Regulations for driveway widths	Minimum driveway width should be 9 feet for one-way and 18 feet for two-way.
Subdivision – Section 8.3	Driveways: Materials	No current provisions for pervious materials	Pervious materials should be allowed for single-family home driveways.
Subdivision – Section 8.3	Driveways: Materials	No current provisions for two-track driveways	Two-track driveways should be allowed for single-family driveways.

Reference	Topic	Existing Requirement	Recommendations
Subdivision – Section 8.3	Driveways: Shared	No current provisions for shared driveways in the Subdivision Regulations	Shared driveways should be allowed in residential developments.
Subdivision – Section 7.4.4.	Open Space	Park land required. “The minimum amount of land to be reserved shall consist of 1 acre for each subdivision under 25 acres, and for subdivisions over 25 acres in area, reservations of open space shall total 1 acre plus 4% of the total land area over 25 acres.”	Add language such as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within the open space area and count towards the requirement.”
Subdivision – Section 8.4.2	Stormwater Management	“Stormwater Management Systems...”	If the Stormwater Bylaw jurisdiction ever expands to cover wetland resource areas, consider adding the language: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Hopkinton Stormwater Management and Erosion Control Bylaw where applicable.”
Subdivision – Section 8.4	Stormwater Management	Catch basins, manholes, and piping required for conveyance.	Alternate, open-section drainage methods and materials should be allowed. Design criteria should be established for swales alongside the road for stormwater treatment.
Subdivision – Section 8.4.10	Stormwater Management	“Stormwater Basins shall be designed...”	Consider revising the size of the stormwater basin to be not for the 100-year storm event, but for the 10-year and to be evaluated for the 100-year in accordance with the MA Stormwater Regulations.
Subdivision – Section 8.4.10	Stormwater Management	“Stormwater Basins shall be designed...”	This section only specifies for the design of stormwater basins, however, there should also be design standards for low-impact development stormwater practices such as bioretention, vegetated swales, filter strips, and rain gardens.
Zoning – Section 210-124.B.3.	Parking Lot Driveways: Width	“...access driveways from the street to parking lots shall not be less than 24 feet in width. If the access driveway will be one-way, a narrower dimension may be proposed...”	Minimum driveway width should be 9 ft. for 1-way and 18 ft for 2-way.
Zoning Section– 210-119.1.A	Driveways	“A driveway within a wetland resource area shall be a minimum of 12-feet in width...”	Minimum driveway width should be 9 ft. for 1-way and 18 ft for 2-way.
Zoning – Section 210-11.C.	Driveways: Common	“Common driveways may be permitted in an open space and landscape preservation development, provided that each common drive serves no more than two lots.”	Consider allowing the use of common driveways for up to four residences in any residential district.

Reference	Topic	Existing Requirement	Recommendations
Zoning – Section 210-124	Parking Design: Ratios	Required spaces are minimums.	Consider having parking ratios be a maximum rather than a minimum
Zoning – Section 210-124	Parking Design: Ratios	No provision for reduction if near mass transit for standard subdivisions	Ratio should be reduced if mass transit nearby
Zoning – Section 210-124.A.(2).	Parking Design: Compact Spaces	“in parking lots containing more than 50 parking spaces, 20% of such parking spaces may be for small car use”	Commercial parking lots should recommend or require at least 30% compact spaces. Consider lowering threshold to less than 50 parking spaces.
Zoning – Section 210-124	Parking Design: Pervious Materials	No current provisions for pervious parking lot materials	Pervious materials should be allowed for stalls and spillover areas. Add language such as: “Pervious materials such as porous pavers, paving stones, reinforced grass, and pervious pavement may be allowed in lower volume stalls or overflow parking areas.”
Zoning	Lot Layout: Setbacks and Frontages	Standard dimensional requirements for varying zoning districts. Open Space and Landscape Preservation Developments (OSLPD) (Zoning Article XVII) and the Open Space Mixed Use Development Overlay District (OSMUD) (Zoning Article XXVI) allow reduced dimensions and lot areas.	For standard subdivisions and some commercial areas, minimize setback distances in order to increase flexibility for building location and permit reduction in frontage where appropriate (such as OSRD, around cul-de-sacs, at outside sideline of curved streets) to reduce road length and paved areas, and increase open space.
Zoning –	Lot Layout: Lawn Requirements	No current provisions for lawn extent limits	Establish limits of extent of lawn area on residential lots, either by area or by percentage of lots.
Zoning –	Lot Layout: Impervious Area Limits	No current provisions for impervious limits in low-density areas. However, a special permit is required in the Water Resource Protection District if a lot has the greater of 15% or 2500 SF of impervious area. (Zoning Section 210-70.C.1)	In low-density areas, consider establishing limits on impervious lot coverage (i.e. 15 %). (Not appropriate for town centers or moderate density neighborhoods where compact development should be encouraged).
Zoning – Article XVII – Section 210-106	Open Space: Clustering	Open Space and Landscape Preservation Development (OSLPD) is allowed in place of standard subdivisions. It may be required by the Board for subdivisions larger than 10 acres (per Zoning Section 210-126.1	Should be a by-right form of development (no special permit required).

Reference	Topic	Existing Requirement	Recommendations
Zoning – Section 210.124.D.	Open Space: Landscaping Requirements for Parking Lots	“Landscaping and Screening Requirements...”	Stormwater practices in parking islands, landscaped areas and setbacks should be allowed or required. Add language such to this section as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within the landscaped areas and count towards the requirement.”
Zoning – Section 210.121.1.D.	Open Space: Landscaping Requirements for non-residential uses in residential areas	Buffers are required for a non-residential use in Residence A, B, Lake Front or Agricultural district. “Pedestrian and bicycle trails may be located within buffer areas.”	Stormwater practices in buffers should be allowed. Add language such to this section as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within the landscaped areas and count towards the requirement.”
Zoning	Conservation: Incentives	No current provisions of conservation incentives	Should be incentives to developers or landowners to conserve non-regulated land (i.e. open space design, density bonuses, stormwater credits, lower property tax rates)
Zoning – Article XX – Site Plan Review	Stormwater Management	No stormwater provisions	If the Stormwater Bylaw jurisdiction ever expands to cover wetland resource areas, consider adding another section with the language: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Hopkinton Stormwater Management and Erosion Control Bylaw where applicable.”
Wetlands Regulations – Section 5.3	Stormwater Management	Performance Criteria for Subdivision Roadways and Parking Lots	If the Stormwater Bylaw jurisdiction ever expands to cover wetland resource areas, consider adding another section after 5.3.4 with the language: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Hopkinton Stormwater Management and Erosion Control Bylaw where applicable.”
Wetlands Regulations – Section 5.9	Stormwater Management	“All stormwater runoff systems shall...”	If the Stormwater Bylaw jurisdiction ever expands to cover wetland resource areas, this section may need to be revised. Language should be added such as: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Hopkinton Stormwater Management and Erosion Control Bylaw where applicable.”