

Category	Subcategory	Code / Ordinance	Reference	Recommendation	Priority	Memo Reference Section	Page
Ordinance Actions Required under Draft MS4 Permit	Illicit Discharge Detection and Elimination (IDDE)	Chapter 30		No additional updates likely to be necessary, unless DPW identifies specific regulatory impediments to implementation of the program.	Low	1.1	4
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-220(3) and 30-223	Revise existing regulations to reference Standards #3, 4, 5, 6, and 7 of the MASWMS, for development and redevelopment projects disturbing more than one acre, <i>regardless of the proximity to wetlands</i> .	High	1.2	4
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Subdivision Regulations	IV(F)	Revise existing regulations to reference Standards #3, 4, 5, 6, and 7 of the MASWMS, for development and redevelopment projects disturbing more than one acre, <i>regardless of the proximity to wetlands</i> .	Med	1.2	4
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-223(b)(4)	Revise to reference the minimum MASWMS criteria for recharge, 80% TSS removal, pollution prevention at hotspots, special requirements for discharges to critical areas, and redevelopment requirements (Standards #3, 4, 5, 6, and 7, respectively).	High	1.2(a)	5
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Subdivision Regulations	IV(F)	Revise to reference the minimum MASWMS criteria for recharge, 80% TSS removal, pollution prevention at hotspots, special requirements for discharges to critical areas, and redevelopment requirements (Standards #3, 4, 5, 6, and 7, respectively).	Med	1.2(a)	5
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-223(b)(4)	Consider establishing locally-specific redevelopment standards equal to or greater than the requirement of the MASWMS standard #7 (i.e., show improvement over existing conditions to the maximum extent practicable) and to potentially reflect different stormwater goals between CSO and non-CSO areas. Perhaps also establish minimum requirements that encourage impervious area reductions and require water quality treatment and/or volume reduction for at least a portion of the site during redevelopment.	Med	1.2(b)	5
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	Rhode Island Stormwater Design and Installation Manual, December 2010	Consider establishing locally-specific redevelopment standards equal to or greater than the requirement of the MASWMS standard #7 (i.e., show improvement over existing conditions to the maximum extent practicable) and to potentially reflect different stormwater goals between CSO and non-CSO areas. Perhaps also establish minimum requirements that encourage impervious area reductions and require water quality treatment and/or volume reduction for at least a portion of the site during redevelopment.	Med	1.2(b)	5
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-223(b)(4)	Acknowledge that meeting recharge standards might not be feasible at some sites and provide alternative management options, such as the reduction of impervious coverage to benefit CSO areas by reducing rate and volume of runoff, or allowing for enhanced water quality treatment that benefits areas discharging to the MS4.	High	1.2(c)	5
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(m), 30-223	Establish thresholds for properties, new connections, or redevelopment activities that will trigger compliance with stormwater standards, and clarify which properties are exempt. Since smaller redevelopment projects (<8,000 sq ft of disturbance) make up about 86% of the development activity in Chelsea, this kind of project is where there is the most opportunity to improve existing conditions.	High	1.2(d)	5
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(m), 30-223	Revise the 25,000 sq ft of impervious surface trigger in and require drainage calculations to meet the MASWMS for all projects under major site plan review that meet or exceed a set threshold for the footprint of disturbance or impervious area (e.g., 2,500 sq ft).	High	1.2(d)i	6
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(m), 30-223	Reduce the thresholds for Minor Site Plan Review from 8,000 square feet (sq ft) gross floor area to 2,500 sq ft of disturbance, which could provide an opportunity for the City to incorporate minimum redevelopment requirements for onsite stormwater management, impervious area reduction, and open space/ pervious area requirements at smaller redevelopment sites that need building permits.	High	1.2(d)ii	6

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Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(m), 30-223	Reduce the thresholds and provide an opportunity for the City to: 1) include projects that can have a measureable stormwater impact; 2) take advantage of opportunities to improve existing stormwater quality and quantity; and 3) incorporate minimum redevelopment requirements for onsite stormwater management, impervious area reduction, and open space/ pervious area requirements at smaller redevelopment sites. Suggested thresholds are major (>8,000 sq ft), minor (>2,500 sq ft), and de minimus (<2,500 sq ft) of disturbance.	High	1.2(d)iii	6
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(n)	Be consistent in establishing thresholds, specify which activities will be exempt from standards, and identify what the requirements are for approval. For example, drainage plans for residential structures with less than four (4) units must be approved by the DPW. In this case, the number of residential units is the threshold, which might or might not reflect the extent of site disturbance. In addition, the specific requirements and process for approval of drainage plans is not clear.	High	1.2(d)iv	6
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(a)	Confirm that DPW has authority to direct owners to repair, and in some instances, retrofit existing private property if the "lack of public drains" impairs water quality or poses other negative impacts. Consider adding "inadequate stormwater management" to list of contributing factors.	Low	1.2(e)	6
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	Various	Eliminate or revise references to the WEF Manual of Practice No.9 as this guidance is no longer available.	Low	1.2(f)	7
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-223	Incorporate language that encourages the implementation of GI practices to reduce rate and volume of runoff to the combined sewer system, to take advantage of opportunities for stormwater reuse, and to meet pollutant load reduction goals for the impaired receiving waters. Examples of GI/LID practices designed for CSO abatement that work in Chelsea would mostly be storage devices like underground chambers, small above-ground basins, or permeable pavement.	Med	1.2(g)	7
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(a) and 30-223(c)	Specify minimum Operation and Maintenance (O&M) requirements for private stormwater management systems. Examples of maintenance features for GI/LID practices could be a serviceable sediment trap, open access to the practice above ground, or a maintenance port that gives underground access.	Low	1.2(h)	7
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-223(c)	Update to require that the design and installation of stormwater practices conforms to the requirements of the building and plumbing code, other applicable rules and regulations of the City, and also to the design requirements of the MASWMS.	Low	1.2(i)	7
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-218(m)	Require documentation of water quality treatment, recharge, and rainwater reuse/harvesting limitations for projects that are currently required to provide a property assessment to document that stormwater cannot be retained on-site prior to connection to the City storm drain system.	Med	1.2(j)	7
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-221	Add specific language to reflect water quality impairments and TMDL reduction targets for pollutants of concern in the Mystic River, Chelsea Rivers, and Boston Inner Harbor.	Med	1.2(k)	7
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Zoning Ordinance	34-110(f), 34-214(b)	Update Zoning Ordinance, which references MassDEP's Division of Water Pollution Control, to use a more recent reference to the MASWMS and 303(d) listings under MassDEP. Add "and water quality standards" to the Special Permit criteria of the Zoning Ordinance. The language "Impacts on the natural environment, including drainage" is too vague for considering stormwater and CSO impacts as part of the Special Permit evaluation criteria.	Med	1.2(k)	8

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Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	30-219(d)	Currently, the code provides that runoff from gas station canopies and uncovered fuel dispensing areas shall be drained according to "city rules or, in the absence of such rules, as prescribed by the Director." Clarify what the city rules are, reference MASWMS #5, and recommend required and/or allowable pretreatment practices, such as a sand filter.	Med	1.2(l)	8
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	Article V	Consider restructuring this article to reduce redundant language between the sanitary sewer and stormwater sections. Also, clarify differences between sanitary and storm systems when using the term "sewage disposal." Sections 34-214(d)(4) and 34-183(h) of the Zoning Code, for example, do not reference the stormwater system as one of the specific support systems requiring submittal documentation. Evaluation of stormwater impacts should include specific consideration of any downstream combined sewer system.	Med	1.2(m)	8
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Zoning Ordinance	34-214(d)(4), 34-183(h)	Consider restructuring this article to reduce redundant language between the sanitary sewer and stormwater sections. Also, clarify differences between sanitary and storm systems when using the term "sewage disposal." Sections 34-214(d)(4) and 34-183(h) of the Zoning Code, for example, do not reference the stormwater system as one of the specific support systems requiring submittal documentation. Evaluation of stormwater impacts should include specific consideration of any downstream combined sewer system.	Med	1.2(m)	8
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Subdivision Regulations	Generally	The Draft MS4 Permit proposes tracking of additional information for development and redevelopment projects. Currently, plan submittal requirements can be found in the Subdivision Regulations, Ch. 30, and Section 34-215 of the Zoning Ordinance. Consider revising submittal requirements to improve consistency between the various codes.	Med	1.3	8
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Chapter 30	Generally	The Draft MS4 Permit proposes tracking of additional information for development and redevelopment projects. Currently, plan submittal requirements can be found in the Subdivision Regulations, Ch. 30, and Section 34-215 of the Zoning Ordinance. Consider revising submittal requirements to improve consistency between the various codes.	Med	1.3	8
Ordinance Actions Required under Draft MS4 Permit	Post-construction stormwater management	Zoning Ordinance	Generally	The Draft MS4 Permit proposes tracking of additional information for development and redevelopment projects. Currently, plan submittal requirements can be found in the Subdivision Regulations, Ch. 30, and Section 34-215 of the Zoning Ordinance. Consider revising submittal requirements to improve consistency between the various codes.	Med	1.3	8
Ordinance Actions Required under Draft MS4 Permit	Plan submittal requirements	Chapter 30	Ch. 30, Generally	Add calculations for DCIA and pollutant removal for pollutants of concern to the list of required elements for all plan applications requiring review.	High	1.3(a)	8
Ordinance Actions Required under Draft MS4 Permit	Plan submittal requirements	Zoning Ordinance	34-215	Add calculations for DCIA and pollutant removal for pollutants of concern to the list of required elements for all plan applications requiring review.	High	1.3(a)	8
Ordinance Actions Required under Draft MS4 Permit	Plan submittal requirements	Zoning Ordinance	34-215, 34-214(d)(2)	Add watershed location, relevant water quality impairments, and a description of how proposed stormwater management measures meet water quality or CSO reduction goals. This change could be similar to the Zoning Ordinance Section 34-214(d)(2) of the Special Permit submittal provisions that requires descriptions of surface and groundwater impacts including nutrient loading estimates. This addition might not necessitate engineering design, particularly for smaller projects (<8,000 sq ft of disturbance), but rather a description of anticipated stormwater improvements based on a proposed management system.	Med	1.3(b)	8
Ordinance Actions Required under Draft MS4 Permit	Plan submittal requirements	Subdivision Regulations	III(B)(2)	Revise the "optional list" for what is required in a preliminary plan to include drainage system details in areas draining to impaired water bodies.	Low	1.3(c)	8
Ordinance Actions Required under Draft MS4 Permit	Plan submittal requirements	Chapter 30	Ch. 30, Generally	Include long-term O&M procedures for stormwater management practices as part of definitive plans.	Low	1.3(d)	8

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Ordinance Actions Required under Draft MS4 Permit	Plan submittal requirements	Subdivision Regulations	VI(A)(9)	Revise to require electronic submittal of as-built plans in electronic CAD format to facilitate stormwater infrastructure mapping updates.	Med	1.3(e)	8
Ordinance Actions Required under Draft MS4 Permit	Plan submittal requirements	Subdivision Regulations	III(C)(5)	Specify when soil infiltration/percolation tests are required and the appropriate testing procedures to be followed.	Med	1.3(f)	8
Ordinance Actions Required under Draft MS4 Permit	Erosion and sediment control	Chapter 30	30-220(b), 30-223(b)(2)	Consolidate erosion and sediment control requirements for construction activities mentioned in Ch. 30 Sections 30-220(2) and 30-223(b)(2) and in the Zoning Ordinance Section 34-110(l).	Med	1.4	9
Ordinance Actions Required under Draft MS4 Permit	Erosion and sediment control	Zoning Ordinance	34-110(l)	Consolidate erosion and sediment control requirements for construction activities mentioned in Ch. 30 Sections 30-220(2) and 34-223(b)(2) and in the Zoning Ordinance Section 34-110(l).	Med	1.4	9
Ordinance Actions Required under Draft MS4 Permit	Erosion and sediment control	Chapter 30	Generally	Establish clear triggers for requiring erosion control plans, as well as exempt activities. A clear trigger would be to establish a minimum amount of disturbed area before an erosion and sediment control (ESC) plan is required. The limit of this disturbance should be the same as the <i>de minimus</i> threshold of 2,500 square feet.	Med	1.4(a)	9
Ordinance Actions Required under Draft MS4 Permit	Erosion and sediment control	Subdivision Regulations	VI(D)	Add the installation of temporary erosion and sediment control (practices and final stabilization of exposed soils to the list of items subject to inspection per Subdivision Regulations Section VI (D) (as part of consolidating erosion and sediment control requirements for construction activities in Ch. 30 Sections 30-220(2) and 30-223(b)(2), as well as in the Zoning Ordinance Section 34-110(l).	Low	1.4(b)	9
Ordinance Actions Required under Draft MS4 Permit	Erosion and sediment control	Chapter 30	Generally	Add the installation of temporary erosion and sediment control (practices and final stabilization of exposed soils to the list of items subject to inspection per Subdivision Regulations Section VI (D) (as part of consolidating erosion and sediment control requirements for construction activities in Ch. 30 Sections 30-220(2) and 30-223(b)(2), as well as in the Zoning Ordinance Section 34-110(l).	Low	1.4(b)	9
Ordinance Actions Required under Draft MS4 Permit	Erosion and sediment control	Chapter 30	Generally	Include references to the NPDES Construction General Permit requirements and the MASWMS for construction site stormwater management.	High	1.4(c)	9
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Natural Areas and Open Space	Subdivision Regulations	IV(D), IV(E)	Add definitions for "watercourse" and for "open space". Open space could be defined as the "pervious" portion of a site, which may include naturally vegetated areas or other areas used for active or passive recreational, or stormwater management, including rooftops, plazas, malls, etc. Revise the "lot coverage" definition to reflect all impervious cover on a site.	Med	2.2(a)	10
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Natural Areas and Open Space	Zoning Ordinance	34-78(d), 3-78(l), 34-155(i), dimensional table for each district	Add definitions for "watercourse" and for "open space". Open space could be defined as the "pervious" portion of a site, which may include naturally vegetated areas or other areas used for active or passive recreational, or stormwater management, including rooftops, plazas, malls, etc. Revise the "lot coverage" definition to reflect all impervious cover on a site.	Med	2.2(a)	10
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Natural Areas and Open Space	Zoning Ordinance	All districts	Establish clear standards for useable and non-useable open space in all zoning districts (e.g., percent of total site area, impervious limitations, specific landscaping/vegetative targets, and pedestrian circulation guidance depending on the type of active or passive use).	Med	2.2(b)	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Natural Areas and Open Space	Subdivision Regulations	IV(D)	Consider revising statement containing phrase "graded to dispose properly of surface water" to eliminate reference to disposal of surface water and replace with a statement oriented towards proper conveyance of stormwater across a site. For example, encourage the use of GI/LID practices that can enhance the landscape and also provide appropriate stormwater controls.	Low	2.2(c)	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Natural Areas and Open Space	Subdivision Regulations	IV(E)	Consider adding more specific criteria or reference procedures for determining which individual trees are protected by this section of the Subdivision Regulations.	Low	2.2(d)	11

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Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Natural Areas and Open Space	Zoning Ordinance	34-154(b)	Require that parking to be pervious or otherwise managed to meet a “no net increase in off-site runoff” criteria where the requirements for useable open space might be waived by the Inspector of Buildings to allow for additional off-street parking.	Med	2.2(e)	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Lot Setbacks	Subdivision Regulations	Generally	There are reasonable provisions for flexibility in yard setback requirements and building placement on lots.	Low	2.3	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	IV(A), IV(B)	Revise the general streets description to incorporate GI practices and reduced impervious cover goals for the design and layout of new and repaved/relocated roads.	Med	2.4	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	IV(A), IV(B)	Provide flexibility for reducing the minimum pavement and right-of-way widths (34 ft and 50 ft, respectively) for minor roads where feasible.	Med	2.4(a)i	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	IV(A), IV(B)	Revise curbing requirements to allow a non-curb or alternative curbing options to facilitate use of vegetation, tree pits, and other GI practices in the road right-of-way.	Med	2.4(a)ii	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	IV(A), IV(B)	Provide locally-approved details for curb cuts, catch basin modifications, and street-side practices.	Med	2.4(a)iii	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	V(C)(3)	Revise to provide for alternative drainage designs. Currently, this provision specifies that the stormwater collection system shall consist of catch basins and pipes set along both sides of the road at intervals not exceeding 250 feet - a requirement that could prevent alternative drainage designs.	Med	2.4(a)iv	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	V(B)(3)	Ensure that specified roadway cross section materials do not prevent use of porous pavement. Consider explicitly allowing for porous materials to be used within portions of the road system.	Med	2.4(a)v	11
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	IV(A), IV(B)	Provide some flexibility in street layout and alignment requirements to allow for environmentally-sensitive designs.	Med	2.4(a)vi	12
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	IV(B)	Currently requires residential driveways to be a minimum of 10-ft to 16-ft wide depending on the number of families. For multi-family residential, the Fire Department prefers an 18-ft wide access. In contrast, the Metropolitan Area Planning Council (MAPC) recommends a 9-ft minimum width. There does not appear to be a restriction on the use of pervious driveway materials or two-track designs, although driveways are not allowed to be installed at the same location as drain inlets, which potentially could cause design conflicts.	Med	2.4(b)	12
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	IV(A)(7)	Currently requires all turnarounds to be cul-de-sac designs with a 100-ft diameter and landscaped islands are explicitly allowed. Alternative turnarounds such as “hammerheads” can reduce impervious cover. A minimum cul-de-sac radius of 35 ft is recommended by MAPC under some circumstances. Where central landscape islands are installed, consider establishing planting standards and allowing the island to be used as stormwater management, which might require attention to easement and ownership provisions.	Med	2.4(c)	12

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Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Subdivision Regulations	V(D)(1-4)	Requires a minimum 5-ft wide paved sidewalk to extend the full length and along both sides of the street with a 4-ft wide grass strip. This requirement adds impervious area, does not necessarily promote pedestrian-friendly transit, and might not be necessary for most residential roads. This section also provides specifications for bituminous concrete and concrete pavements. Consider allowing variable sidewalk widths and layouts, particularly where connecting open space, residential areas, schools, and retail businesses.	Med	2.4(d)	12
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Street Cross Sections and Driveways	Chapter 24	24-24	States that every sidewalk within the City be built under the direction of the DPW. Ensure that the DPW allows for pervious materials to be used for sidewalks. Consider allowing variable sidewalk widths and layouts, particularly where connecting open space, residential areas, schools, and retail businesses.	Med	2.4(d)	12
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	34-106(j)	Add proximity to public transportation, public parking garages, or available on-street parking to the list of allowances for reduced off-street parking requirements. Refer to Section 34-183(f)(3) of Smart Growth Overlay District that strongly encourages shared parking particularly where "an MBTA transit station or bus stop is close by." Define proximity as being within a minimum of 300-1,000 ft of main building entrances.	Med	2.5(a)	12
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Smart Growth Overlay District	34-183(f)(3)	Add proximity to public transportation, public parking garages, or available on-street parking to the list of allowances for reduced off-street parking requirements. Refer to Section 34-183(f)(3) of Smart Growth Overlay District that strongly encourages shared parking particularly where "an MBTA transit station or bus stop is close by." Define proximity as being within a minimum of 300-1,000 ft of main building entrances.	Med	2.5(a)	12-13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Smart Growth Overlay District	34-183(f)(3)	Revisit current parking ratios based on local demands and future projections. Refer to Section 34-183(f)(3) on Smart Growth Overlay District for recommended protocol references for determining demand. Refer also to MAPC recommendation of no more than 1 space for every 1,000 sq ft gross floor area for shopping centers.	Med	2.5(b)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Smart Growth Overlay District	MAPC	Revisit current parking ratios based on local demands and future projections. Refer to Section 34-183(f)(3) on Smart Growth Overlay District for recommended protocol references for determining demand. Refer also to MAPC recommendation of no more than 1 space for every 1,000 sq ft gross floor area for shopping centers.	Med	2.5(b)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	34-106(d)	Establish both minimum and maximum parking ratios, and/ or require additional parking above the specified minimum values to utilize pervious materials.	Med	2.5(c)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	34-106(d)	Eliminate percent of compact car spaces allowable (Section 34-106(d)) or increase percent allowable from 25% to 30% (MAPC suggests allowing 30%) to preserve parking garage incentives.	High	2.5(d)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	MAPC	Eliminate percent of compact car spaces allowable (Section 34-106(d)) or increase percent allowable from 25% to 30% (MAPC suggests allowing 30%) to preserve parking garage incentives.	High	2.5(d)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	34-106(g)	Add "pervious pavement and pavers" as allowable materials to the surface requirements for parking lots. Delivery of small volumes of permeable concrete or asphalt is sometimes difficult for small areas but permeable pavers can still be used in those cases.	High	2.5(e)	13

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Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	34-106(j)	Require pervious parking for reserve parking areas subsequently converted from open space to parking.	Med	2.5(f)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	34-106(d)(6)	Encourage applicants to meet Leadership in Energy and Environmental Design (LEED) outdoor illumination standards under Section 34-106(d)(6) for parking lot lighting requirement.	High	2.5(g)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Zoning Ordinance	34-108	Increase landscaping requirement for parking lots, and specifically state that use of landscaped areas for vegetated stormwater practices is encouraged.	Med	2.5(h)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Parking	Chapter 6	6-3	Investigate further any potential conflicts between the Traffic and Parking Commission and the Planning Board when it comes to parking standards.	Med	2.5(i)	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Landscaping requirements	Zoning Ordinance	34-108, Generally	Strengthen by providing vegetative standards for areas other than property line screening (e.g., parking lot islands, sidewalk and road ROWs, and by integrating more explicitly with open space and/or pedestrian circulation provisions.	Med	2.6	13
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Landscaping requirements	Zoning Ordinance	34-108(a)	Add to "Purposes" that landscaping provides an opportunity to integrate vegetated stormwater management practices.	Med	2.6(a)	14
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Landscaping requirements	Zoning Ordinance	34-155(i)(4)	Establish performance standards that define a "sufficient amount" of landscaping for planned developments.	Med	2.6(b)	14
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Landscaping requirements	Zoning Ordinance	Ch. 34	Add language for integrating stormwater management within the definition of landscaping.	Med	2.6(c)	14
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Landscaping requirements	Zoning Ordinance	34-216	Establish canopy coverage targets (e.g., 35% sidewalk coverage within a specified time after planting) to expand on street tree spacing guidelines found in the design guidelines for R3, BR2, and L12 Districts (Section 34-216), which reference achievement of "a continuous canopy" upon maturity.	High	2.6(d)	14
Minimize Impervious Cover and Promote Environmentally-Sensitive Site Design	Pollution prevention	Chapter 22	22-113, 22-114	Consider updating dumpster location and enclosure regulations to prohibit the placement of an uncovered dumpster above or within the direct drainage path to a storm drain inlet, unless drainage is conveyed directly to a treatment practice. Dumpsters should be covered or placed within covered enclosures.	Low	2.7	14
Other Measures to Promote Implementation of GI Practices	Direct references to GI and LID	Chapter 30	30-223	Add language identifying GI as a method to improve water quality conditions and reduce runoff to the combined sewer system and/or separate drainage system. Consider options that encourage selection of practices for runoff rate and volume reduction practices in CSO areas.	High	3.1(a)	14
Other Measures to Promote Implementation of GI Practices	Direct references to GI and LID	Zoning Ordinance	34-155(a), 34-155(i)	Add "to promote green stormwater infrastructure" to the purposes of Planned Development in the Zoning Ordinance (Section 34-155(a)) and add stormwater management as one of the review factors for designing planned developments (Section 34-155(i)).	High	3.1(b)	15
Other Measures to Promote Implementation of GI Practices	Direct references to GI and LID	Zoning Ordinance	34-179(a)	Add "to prevent surface water pollution" to the purposes of the waterfront industrial overlay district.	Med	3.1(c)	15

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Other Measures to Promote Implementation of GI Practices	Direct references to GI and LID	Chapter 30	30-223(b)(5)	Update oil/grit (O/G) separator provision to recommend a broader selection of GI practices, many of which might provide better pollutant removal than a particle separator. O/G separators and proprietary practices should apply pollutant removal efficiencies in accordance with criteria in MASWMS.	Med	3.1(d)	15
Other Measures to Promote Implementation of GI Practices	Direct references to GI and LID	Chapter 30	MASWMS	Update oil/grit (O/G) separator provision to recommend a broader selection of GI practices, many of which might provide better pollutant removal than a particle separator. O/G separators and proprietary practices should apply pollutant removal efficiencies in accordance with criteria in MASWMS.	Med	3.1(d)	15
Other Measures to Promote Implementation of GI Practices	Direct references to GI and LID	Zoning Ordinance	Generally	Specifically reference the Department of the Navy's Policy on LID if portions of the Naval Hospital Commercial District or Naval Hospital Residential District are subject to the Department of Navy's jurisdiction.	Low	3.1(e)	15
Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	Zoning Ordinance	34-80(1), 34-78(j)	Where feasible, consider adding dimensional relief incentives (e.g., more stories) for buildings with green/blue roof infrastructure (height regulations already exempt water tanks and cisterns from height restrictions, except for in the Naval Hospital Districts and Logan Airport Districts).	Med	3.2(a)	15
Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	Zoning Ordinance	34-78(d)	Rooftops could count towards meeting useable open space, which might be an incentive for green (vegetated) or blue (bare) rooftop storage applications. Consider expanding the definition of useable open space to allow for vegetative rooftop practices to be allowable to help meet open space requirements.	Med	3.2(b)	15
Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	Zoning Ordinance	34-216	Ensure recommended building rooftop design elements do not create impediments to cisterns, green roof, or other GI practices for visual purposes.	Med	3.2(c)	15
Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	2009 International Building Code (IBC) used by 8th Edition of the Mass Building Code	1509.3	Tanks having a capacity of over 500 gallons placed in or on a building shall be supported on a masonry, reinforced concrete, steel, or Type IV construction provided that, where such supports are located in the building above the lowest story, the support shall be fire-resistance rated as required for Type IA construction.	Low	3.2(d)i	16
Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	2009 International Building Code (IBC) used by 8th Edition of the Mass Building Code	1509.3.2	Tanks shall not be placed over or near a line of stairs or an elevator shaft, unless there is a solid roof or floor underneath the tank.	Low	3.2(d)ii	16
Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	2009 International Building Code (IBC) used by 8th Edition of the Mass Building Code	1509.3	Roof gardens shall comply with 2009 IBC Chapter 16-Structural Design.	Low	3.2(d)iii	16
Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	2009 International Building Code (IBC) used by 8th Edition of the Mass Building Code	1607.11.3	Where roofs are to be landscaped, the uniform design live load in the landscaped area shall be 20 psf. The weight of the landscaping material shall be considered as dead load and shall be computed on the basis of saturation of the soil.	Low	3.2(d)iv	16

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Other Measures to Promote Implementation of GI Practices	Rooftop practices (e.g., green roofs, cisterns, and blue roofs)	2012 International Building Code (IBC) (not yet adopted by MA)	1507.16.1	New provisions related to green roofs (called roof gardens) that the City should review prior to encouraging green roof applications, as it is likely that these codes will eventually be adopted into future editions of the Massachusetts Building Code.  Section 1507.16.1 prohibits a one-hour fire rating reduction in conjunction with rooftop gardens. Section 1507.16 references the International Fire Codes that include roof garden size limitations, separation distances from combustible rooftop elements, vegetation maintenance standards, and standpipe extension requirements.	Low	3.2(e)	17
Other Measures to Promote Implementation of GI Practices	Stormwater Re-use	Chapter 30	30-197	Promote rainwater harvesting by requiring an evaluation of stormwater reuse opportunities prior to allowing drains to be connected to the MS4 or CSO drainage network.	Med	3.3(a)	17
Other Measures to Promote Implementation of GI Practices	Stormwater Re-use	Chapter 30	30-100	Update regarding water conservation to discuss stormwater re-use opportunities using cisterns, blue roofs, etc.	Med	3.3(b)	17
Other Measures to Promote Implementation of GI Practices	Stormwater Re-use	Chapter 24	24-52	Update for wells, cisterns and other excavations near public ways to discuss cisterns for stormwater re-use.	Med	3.3(c)	17
Other Measures to Promote Implementation of GI Practices	Stormwater Re-use	Plumbing code	10(05)	10(05) requires that drainage piping maintain minimum slopes based on pipe diameter (e.g., three inches in diameter or smaller shall be installed with a minimum uniform pitch of 1/4 inch per foot).	Low	3.3(d)i	17
Other Measures to Promote Implementation of GI Practices	Stormwater Re-use	Plumbing code	10(14.7.b)	10(14.7.b) In water distribution systems that have potable and non-potable water, all pipes must be marked and tagged to identify the type of water distributed.	Low	3.3(d)ii	17
Other Measures to Promote Implementation of GI Practices	Stormwater Re-use	Plumbing code	10(14.7.j)	Water recycling is generally prohibited, but dedicated gray water, black water, and onsite wastewater treatment systems exceptions are provided. Since stormwater/rainwater re-use is not explicitly approved in this State code, the City should consider the feasibility of specifically allowing stormwater/rainwater re-use in its stormwater code with the caveat that the State might still not allow this change. Gray-water is defined as "used water out-flowing from a clothes washer, shower, bathtub or bathroom sink and reused on the same site for below ground irrigation." A dedicated gray-water recycling system includes all piping, valves, pumps, meters, retaining tanks for exterior or interior gray water collection points.	Med	3.3(d)iii	18
Other Measures to Promote Implementation of GI Practices	Stormwater Re-use	Plumbing code	10(17.8)	Roof drain materials used must meet plumbing code specifications (i.e., cast iron pipe).	Low	3.3(d)iv	18
Other Measures to Promote Implementation of GI Practices	Practices in the Road Right-of-Way and/or Sidewalks (e.g. tree pits, porous pavement, linear bioretention; planter boxes	Zoning Ordinance	34-183(g)	Ensure that landscaping screening and window/façade requirements in the Smart Growth Overlay District or in design review under Section 34-216(c) do not restrict the use of stormwater planters, filter boxes, or other streetscape practices generally located in front of buildings and along sidewalks. This is particularly important where 4-ft tree lawn and/or tree pits are required, sidewalk widths are required to be 8-ft minimums with 3-ft tree pits, or vegetation height is restricted (Zoning, Section 34-216(c)). Consider revising ordinances that affect road right-of-way and/or sidewalks to be more flexible for GI/LID practices.	Med	3.4(a)	18

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Other Measures to Promote Implementation of GI Practices	Practices in the Road Right-of-Way and/or Sidewalks (e.g. tree pits, porous pavement, linear bioretention; planter boxes)	Zoning Ordinance	34-78(c)	Provision currently limits vegetation greater than 2.5 ft above curb grades up to 20 feet from property lines of intersecting streets; this does not apply in the retail business district. This could potentially limit green street practices in other Zoning districts. Consider allowing taller vegetation like small trees when GI/LID practices are used.	High	3.4(b)	18
Other Measures to Promote Implementation of GI Practices	Practices in the Road Right-of-Way and/or Sidewalks (e.g. tree pits, porous pavement, linear bioretention; planter boxes)	Subdivision Regulations	IV(H)	Currently requires street trees to be planted within a root barrier; this might preclude the use of GI practices such as infiltrative tree filters. It also requires 4' of grass between the sidewalk and street, which could prevent alternative street-side stormwater practices or reduce vegetative options. Consider removing these restrictions to promote GI/LID practices.	Med	3.4(c)	18
Other Measures to Promote Implementation of GI Practices	Practices in the Road Right-of-Way and/or Sidewalks (e.g. tree pits, porous pavement, linear bioretention; planter boxes)	Chapter 30	30-218	Existing 10 ft requirement could be a potential site constraint on small lots. Consider reducing the distance to 5 ft for distance requirement of construction of storm drains from any new or existing water service connection.	High	3.4(d)	18
Other Measures to Promote Implementation of GI Practices	Practices in the Road Right-of-Way and/or Sidewalks (e.g. tree pits, porous pavement, linear bioretention; planter boxes)	Chapter 24	24-7, 24-21	Revisit snow management provisions to ensure snow removal/storage regulations do not prohibit street-side or parking lot GI practices. Consider allowing more flexible snow removal rules when GI/LID practices are used.	Med	3.4(e)	19
Other Measures to Promote Implementation of GI Practices	Practices in the Road Right-of-Way and/or Sidewalks (e.g. tree pits, porous pavement, linear bioretention; planter boxes)	Chapter 24	24-17	Ensure language does not prohibit a shared stormwater management system, or a management system located within the layout of a public way (e.g., pervious paver alley, tree filters, porous sidewalks, etc. Currently, the discharges of water on or across a city sidewalk or public way are prohibited.	Med	3.4(f)	19