

DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449

March 4, 2022

To: The Honorable City Council
From: James McGonagle, Commissioner of Public Works
Subject: Stormwater Ordinance Q & A

Councilors,

Attached please find the questions and answers related to the proposed stormwater ordinance discussion from the January 19, 2022 Public Facilities Committee meeting. This information includes the comments from the Charles River Watershed Association.

The next discussion of the proposed ordinance is tentatively scheduled for March 23, 2022.

Please contact me with any questions.

Stormwater Management and Erosion Control Ordinance and Rules & Regulations

Docket Item:# 111-22

January 19, 2022, Public Facilities Committee Meeting Questions and Answers

1. Discuss how it was decided what goes into ordinance versus what goes into regulations.

The ordinance provides the framework for the requirements and the rules and regulations provide the details. The City will be able to address changes in the requirements through the rules and regulations without having to amend the ordinance.

Developing stormwater regulations is a common approach due to the technical subject matter. Many neighboring communities including Lexington, Watertown, Wellesley, Natick and Dedham have stormwater regulations as a supplemental document to their ordinance or bylaw.

The draft ordinance and the rules & regulations included input and review from our Law Dept.

2. If a homeowner is adding a small addition, it doesn't seem equitable to require a full topographic survey of the property. Can we define a boundary or threshold if the site is generally flat and/or the addition is a small change to the landscape? It would be helpful to define a threshold for smaller projects. Could we develop some limits and triggers for these types of projects?

Our Rules & Regulations do not state the entire lot must be land surveyed for topography. We work with the Design Engineer in order to evaluate the extent of topographic survey needed based upon the nature of the site and the proposed project. Currently, Engineering typically receives existing conditions plans with topography for the entire lot, regardless of project size. Note that boundary surveys are required for all permits, so the owner / developer needs to procure land survey services in all cases. Modern topographic survey technology has improved the efficiency of topo data collection, with the use of computerized data collection devices and robotics. The cost difference between producing topo data at 1-foot contours vs 2-foot contours is minimal, if not negligible.

The following survey costs are approximate, do not include design, and they will vary based on lot configuration.

For Land Disturbance, expect \$ 2000 to \$4000

For Minor Stormwater projects, expect \$4000 to \$8000

For Major Stormwater projects, expect \$8000 to \$16000

3. Could we make requirements stricter for bigger projects? If a site is newly developed, we count all new impervious surface against the natural state of the land but if an existing home is demolished and replaced than I am not sure why we are using a delta of existing impervious surface against the new impervious surface. Does this create a complication we cannot overcome?

We have updated the Rules & Regulations (Minor Stormwater Permit section (pg. 5)) to clarify this better. To paraphrase: small projects, such as new garages and additions will only need to manage the stormwater runoff created by this new structure. Projects that involve complete demolition of existing structures in order to build new structures will be required to manage stormwater runoff from the total impervious surface area on the property.

4. The CRWA staff reviewed the ordinance and rules & regulations and provided feedback to the City.

CRWA comments will be included in the Friday packet.

5. The EPA has listed the phosphorus reduction target for the City of Newton as 61% in the MS4 permit. This is one of the largest reduction goals of the Charles River watershed communities. Reduction requirements of 50 and 60 % for development seem low. Why aren't we trying to make owners and developers achieve a 65% reduction as recommended in the Total Maximum Daily Load (TMDL) for Nutrients in the Upper/Middle Charles River Report?

While it is true, the Charles River Phosphorus TMDL model outlines a 65% phosphorus reduction from specific land uses (i.e., commercial, high, and medium density residential); our phosphorus reduction requirements are consistent with the 'Stormwater Management in New Development and Redevelopment' detailed in Section 2.3.6 of the MS4 (Stormwater) General Permit administered by EPA. EPA expects multiple strategies will be employed by communities to reduce phosphorus in stormwater, such as, removing illicit sewer connections (from the City's drainage system), street sweeping and catch basin cleaning – in addition to controlling it from new and redevelopment. We understand that EPA has factored these additional strategies into developing the reduction targets we are adhering to per the MS4 Permit.

As our Phosphorus Control Plan is developed, we will reassess whether the % reductions need to be updated. For special permit projects, we have more flexibility and will continue to request higher phosphorus reduction amounts.

6. The formula used for precipitation appears to be from 1998, is that the most up to date model? May want to use a more current model.

The Engineering Division's current policy to require a pre- and post-construction evaluation using Cornell University Northeast Regional Climate Center 100-year storm data (8.78 inches over 24 hours) and National Oceanic and Atmospheric Administration (NOAA) Atlas 14 100-year storm (8.5 inches over 24 hours) are widely accepted as appropriate standards for stormwater best management practices (BMPs). (We use the higher number.) The design storm requirement was updated in January 2017, based on recent hurricane events. The city engineer will continue to revise this design storm requirement periodically, based on NOAA Atlas 14 and Cornell University Northeast Regional Climate Center data. The criteria that is most important is the volume of runoff. We require Applicants / Permittees to retain, infiltrate or treat stormwater on site.

7. Should tree protection be incorporated into this ordinance?

This will be incorporated into a proposed amendment to the Tree Ordinance.

8. Is the City going to need additional resources to administer these new requirements?

Engineering Division personnel are prepared to administer these new requirements for the stormwater permit process. We currently have enough resources among the Office Engineers, the Permits Engineer, and the field Construction Inspectors, to administer this program. All stormwater permits will be applied for on-line, on the new NewGov permitting software. This software allows Engineering Division to share the permit applications with Inspectional Services Department, the Planning Department, and any other Department that may need to review them. We have already set up a template of the stormwater permits on NewGov, and we will finalize this once the Ordinance and Rules and Regulations are voted and approved by the City Council. For large commercial projects, the special permit process should include requirements for the developer to provide engineering oversight during construction.

9. Will the City be measuring success of this permitting program by sampling outfalls?

Yes, we will continue to monitor and collect samples for the duration of the current MS4 Permit. Success will also be measured by tracking the volume of material accumulated in all catch basins prior to cleaning. We have implemented a real-time data collection system in our Utilities work order software to collect this information.

Notes compiled by

Jennie Moonan, PE, Stormwater Program Director
Heather Miller, Esq., General Counsel and Policy Director
Charles River Watershed Association

on the

City of Newton Stormwater Management and Erosion Control Ordinance Draft 09-13-21 and
Stormwater Management and Erosion Control Rules & Regulations Draft 9/23/21

January 2021

Charles River Watershed Association (CRWA) has reviewed the draft Stormwater Management and Erosion Control Ordinance (dated September 13, 2021) and the draft Stormwater Management and Erosion Control Rules & Regulations (dated September 23, 2021) and offers the following comments and recommendations.

Draft Stormwater Management and Erosion Control Ordinance

Sections 29-149 Administration and 29-150 Permit Procedures

In § 29-149(b), the ordinance states only that “The commissioner of public works shall adopt, and periodically amend as deemed necessary, rules and regulations relating to the detailed requirements, procedures, and administration of this ordinance.” In Section 29-150(b), the ordinance states that “The commissioner of public works shall set forth the application procedures and requirements - including but not limited to content of applications, stormwater management plan and operations and maintenance plan contents, technical requirements, inspections, and project closeout process in the rules and regulations promulgated under section §29-149(b) of this ordinance.”

We recommend that the ordinance provide more specificity about the standards that must be used when developing the regulations to ensure compliance with the U.S. EPA NPDES MS4 General Permit. For example, the Northern Middlesex Stormwater Collaborative Model Stormwater Bylaw (August 2020) provides, in relevant part, that “Stormwater Management regulations, rules or guidance shall identify requirements for Administrative Land Disturbance Approval and Land Disturbance Permits required by this bylaw and consistent with or more stringent than the relevant requirements of the most recent MS4 Permit.”

In Section 29-150 Permit Procedures, subsection (b) Procedures and Requirements, consider adding the following to the end: “The requirements shall be consistent with or more stringent than the relevant requirements of the most recent version of the Massachusetts Stormwater Management Handbook and the U.S. EPA NPDES MS4 General Permit. The requirements should be considered minimum requirements, and where any provision of this ordinance or rules and regulations imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall take precedence.” (This language comes from the Town of Bedford’s Stormwater Management Bylaw). Alternatively, “Where an inconsistency exists between the Massachusetts Stormwater Handbook, the U.S. EPA NPDES MS4 General Permit, and these regulations, the stricter requirement shall apply.” (This language comes from the Town of Lexington’s Stormwater Management Regulations).

Section 29-150 Permit Procedures

In subsection (a) Permit Required, consider adding the term “alteration” to this such that it reads “No alteration or land disturbing activity...”

Section 29-152 Final report and certificate of compliance

Subsection (2.) states, in part, “...including compliance with performance standards for Best Management Practices (BMPs) as noted in manufacturer’s literature and/or Environmental Protection Agency’s performance curves in the NPDES Small MS4 Permit.” We recommend moving this language to the regulations instead of the ordinance. It requires additional explanation and detail, and these references may also change over time—it would be much easier to revise the regulations than the ordinance.

Draft Stormwater Management and Erosion Control Rules & Regulations

Section 4 Applicability, subsection A. Exemptions

As you’re aware, the MS4 General Permit section 2.3.6 a.ii.4.b provides flexibility for certain roadway projects: “Redevelopment activities that are exclusively limited to maintenance and improvement of existing roadways, (including widening less than a single lane, adding shoulders, correcting substandard intersections, improving existing drainage systems, and repaving projects) shall improve existing conditions unless infeasible and are exempt from part 2.3.6.a.ii.4 (80% TSS and 50% Phosphorus removal). Roadway widening or improvements that increase the amount of impervious area on the redevelopment site by greater than or equal to a single lane width shall meet the requirements of part 2.3.6.a.ii.4.” The way that the City has attempted to incorporate this flexibility into the regulations raises some concerns about potential inconsistencies between the definitions section and exemptions section which probably warrants further review and discussion.

We also recommend that the regulations require projects to address other existing and future TMDLs and pollutants of concern.

The regulations do not address the Final Pathogen TMDL for the Charles River Watershed (Jan. 2007). We recommend that:

- For any sewer and storm drain infrastructure remaining on site, the proponent should confirm the condition and that there are no illicit connections.
- As appropriate, a project should provide pet waste stations or trash cans that are emptied on a sufficiently frequent schedule, catch basin grates cast with the term “Do not Dump – Drains to River,” and signs about the importance of picking up after your pet.
- Frequent cleaning of catch basins and water quality units should be required as part of the long-term operation and maintenance program as this is a critical way to reduce the discharge of bacteria.

Pollutants of concern identified on the most recent Integrated List of Waters should also be considered for the receiving waterbody. We recommend that the language below from the Northern Middlesex Stormwater Collaborative Model Stormwater Regulations (August 2020) be used to broadly address these concerns, and that more specific language as noted above be used to address the pathogen TMDL.

- “(1) To the extent that the project will discharge, directly or indirectly, to a water body subject to one or more pollutant-specific Total Maximum Daily Loads (TMDLs), implement structural and non-structural stormwater best management practices (BMPs) that are consistent with each such TMDL.
- (2) To the extent the project will discharge, directly or indirectly, to an impaired water body not subject to a TMDL, implement structural and non-structural stormwater BMPs optimized to remove the pollutant or pollutants responsible for the impairment.”

Subsection B.1 provides, for Minor Stormwater Permits, that “Stormwater management systems for new development and redevelopment sites shall be designed to retain the volume of runoff equivalent to, or greater than, two (2) inches multiplied by the *net increase* in impervious surface area on the site.” It is not clear why the net increase in impervious surface area would be used instead of the *entire* impervious area? We recommend changing this to “multiplied by the entire impervious surface.”

Subsection C. Major Stormwater Permits requires projects to “Retain the volume of runoff equivalent to, or greater than, two (2) inches multiplied by the total post-construction impervious surface area on the site” for both new and redevelopments. We agree with this requirement. There is a provision for a waiver at subsection C.1, which is only available to sites that disturb less than one acre. We recommend considering a tiered approach for the waiver that would at a minimum implement the requirements in the MS4 General Permit of 1.0 inch (new development) and 0.8 inches (redevelopment) across the total post construction impervious surface area on the site.

Section 8 Standard Conditions

We support the requirement for post-construction annual reporting on operations and maintenance of Stormwater Management Systems for Major Stormwater Permits. Ideally this would be required for all permits that have any structural or non-structural controls.

Section 9 Stormwater Management Certificate of Compliance (SMCC)

It is not clear whether there are any required timelines for the certificate of compliance. The MS4 General Permit requires that the City, at a minimum, require “the submission of as-built drawings no later than two (2) years after completion of construction projects. The as-built drawings must depict all on site controls, both structural and non-structural, designed to manage the stormwater associated with the completed site (post construction stormwater management).” We recommend revisiting this section to ensure it is consistent with the MS4 General Permit requirements.

Question re off-site mitigation per the MS4 General Permit: Is there no interest in allowing off-site mitigation in the same USGS HUC12?

Appendix B: Low Impact Development Practices

While Section 5 Design Standards, subsection B.4 requires that “Proposals must analyze, propose, and implement Low Impact Development (LID) Best Management Practices (BMPs), unless PROVEN IN WRITING TO THE SATISFACTION OF THE City Engineer to be infeasible. See Appendix B for LID BMPs. If infeasible, Applicants shall demonstrate reasons why LID BMPs are infeasible and demonstrate compliance with design standards through generally accepted methods.”, we are concerned that Appendix B could be more rigorous and reflect the phased approach that is more in line with LID:

- What natural features are located on-site and what features can be preserved?
- If preservation is not possible, where can natural systems be recreated?
 - What GSI will you use to recreate and promote natural movement of water?
 - What tree canopy will be provided?
 - What habitat will be provided?
- Etc.

There are numerous LID checklists available that the City may wish to employ such as: mapc.org/wp-content/uploads/2017/11/LID_Local_Codes_Checklist.pdf