



City of Cambridge, Massachusetts

Department of Public Works

147 Hampshire Street • Cambridge, MA 02139

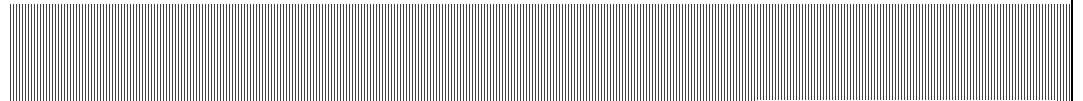
APPENDIX G

Stormwater Control

Permit

Checklists

Version 4
September 2019



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Checklists

This Appendix contains the following checklists:

- **Stormwater Control Checklist** – to be used in the preparation of and submitted along with the Stormwater Control Permit Application package.
- **Stormwater Management Plan Checklist** – to be used in the preparation of and submitted along with the Stormwater Management Plan.
- **Erosion and Sediment Control Plan (including O&M Plan for Temporary BMPs) Checklist** – to be used in the preparation of and submitted along with the Erosion and Sediment Control Plan.
- **Operation and Maintenance Plan Checklist** – to be used in the preparation of and submitted along with the Operation and Maintenance Plan. This checklist can also be used to assist with periodic updates to the O&M Plan.

Stormwater Control Permit Checklist

Stormwater Control Permit Checklist

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You must sign and date this checklist and enclose with completed application package for submittal.

Drawing and Map Standards

The following standards shall guide the preparation of all site plans, elevations, and cross sections. Variations from these standards are permissible where special circumstances warrant for the purposes of greater clarity or ease of handling.

- Sheet Size:**
- The sheet size should be uniform for all submitted documents.
 - Dimensions of 24" by 36" are preferred although the size may be adjusted to reflect lots or parcels of unusual size or shape.
- Scale:** The following scales are suggested:
- Area maps: 1" = 100'
 - Site Maps: 1" = 10' to 1" = 40'
 - Floor Plans and Sections: 1/16" = 1' to 1/8" = 1'
 - Elevations: 1/8" = 1'
 - Standard contours should be 1' intervals with spot elevations as necessary.
- Title Block:** The title block on each sheet shall contain the following information:
- Name of development
 - Name of owner
 - Address of development
 - Stormwater Control Permit Number (leave space for DPW to fill in permit number once assigned)
 - Scale of map or plan
 - North arrow
 - Date of preparation of the map and date of any revisions
 - Signature and seal of Massachusetts registered Professional Engineer required for all drawings

Submission Requirements

- Application Form:**
- Must be signed by all owners (original signatures required).
- Plans:**
- Stormwater Management Plan and Stormwater Management Plan checklist with original signature.
 - Erosion and Sediment Control Plan (including O&M Plan for temporary BMPs) and Erosion and Sediment Control Plan checklist with original signature.
 - Operation and Maintenance Plan and Operation and Maintenance Plan checklist with original signature.
 - NPDES General Permit for Discharges from Large and Small Construction Activities (where applicable)

Stormwater Control Permit Checklist
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- Video or Photo Inspection:**
- A video or photo inspection of existing conditions of the site, right-of-way, and access and egress points.
- Payment of Application and Review Fees**

<i>Applicant's Certification</i>

I, the undersigned, hereby certify that the attached Stormwater Control Permit application submittal includes all items required by the City of Cambridge's Stormwater Control Regulations. I understand that if any of the items required are found to be missing from the submittal, the Stormwater Control Permit application will not be acceptable for review and will be returned as incomplete. The applicant is aware of these criteria and will accept all responsibility for delays due to incomplete submittals. I am enclosing an explanation for each item which I feel is not required and, therefore, have not been included in this submittal package.

Applicant's Signature: _____

Date: _____

Stormwater Management Plan Checklist

Stormwater Management Plan Checklist
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Please prepare one (1) electronic copy of the Stormwater Management Plan to be included in the Application Package. Adhere to the Drawing and Map standards described in the Stormwater Control Permit Checklist and use this checklist to be sure Plan is complete. You must sign and date this checklist and attach to completed Plan for submittal.

Plan Cover Sheet

- Title - *Stormwater Management Plan*
- Project Name
- Project Location
- Assessor Parcel Number
- Stormwater Control Permit Number
- Designer or Other Firm Name and Contact Information
- Applicant Name
- Applicant Address, Phone Number, E-mail Address
- Owner Name
- Owner Address, Phone Number, E-mail Address
- Pre- and Post-Development Site Imperviousness

Submission Requirements

Unless otherwise noted or waived by the Cambridge DPW, all items listed below are required to be submitted as part of this Plan for the application package to be considered complete.

Narrative:

- Briefly describe the nature and purpose of the land development activity, and the area (square feet) to be disturbed. Clearly identify the impact on all thresholds outlined in the Stormwater Control Regulations and Section 3.1 of the Wastewater and Stormwater Management Guidance document (draft).
- Identify the watershed in which the site is located, the receiving waters to which the site stormwater drains, and pollutants of concern (consult the City's Wastewater and Stormwater Management Guidance document and the most recent Massachusetts Integrated List of Waters which can be found at <http://mass.gov/dep/water/resources/tmdls.htm>).
- Describe the existing topography, vegetation, site use, drainage pattern(s), and outfall(s)/discharge points.
- Provide current site impervious area measurements and describe any changes in impervious area. Identify Low Impact Development Techniques to be used, if any.
- Describe neighboring areas such as streams, residential areas, roads, etc. which might be affected by the project's development. Describe how adjacent properties and the City right of way will be impacted by runoff from the site.
- Provide boring logs with profiles, groundwater elevation, and percolation tests to determine on-site infiltration.
- The opinion of a Licensed Site Professional (LSP) may be required to determine if site infiltration is appropriate.
- Describe methods that will be used to maximize groundwater recharge.

Stormwater Management Plan Checklist

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- Provide research results for the site addressing previous use, history of spills, hazardous wastes, etc.). Include information on any Activity and Use Limitation (AUL) that precludes inducing runoff to the groundwater pursuant to MGL Chapter 21E and the Massachusetts Contingency Plan, 310 CMR 40.0000. Resources include the MassDEP's webpage for site locations of cleanup and spills: <http://www.mass.gov/dep/cleanup/sitesloc.htm> and two regulated areas MassGIS layers - *MassDEP Tier Classified Chapter 21E sites* layer and *MassDEP Oil and/or Hazardous Material Sites with Activity and Use Limitation (AUL)*. MassGIS layer list webpage: <https://docs.digital.mass.gov/dataset/massgis-data-massdep-oil-andor-hazardous-material-sites-activity-and-use-limitations-aul>
- Describe the proposed site conditions with regard to site use, drainage design and peak runoff rates, and proposed outfalls/discharge points.
- Identify all source controls that will be used to mitigate pollutant parameters. Label and individually reference each source control on site.
- Identify the prescribed treatment train(s) and the proposed BMPs to be used on site. Provide an overview of the stormwater's path through the on-site BMPs. Provide specific information on how pathogens, nutrients, and other priority pollutants will be mitigated. Provide a description as to where BMPs will be located.
- For all BMPs installed to address Phosphorous reduction describe the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorous removed in mass per year by the BMP.
- Also include any site uses the proponent wishes to be allowed to accommodate within the project at any time in the future.

Site Locus Map:

- An accurately scaled boundary map of the development lot or parcel(s) which is subject of the permit application, and all receiving waters that parcel(s) and its stormwater runoff drain to.

Site Plan:

- Adhere to the following datum standards: Horizontal – NAD 1983 State Plane Massachusetts Mainland (feet). Vertical – Cambridge City base (10.84 feet above mean sea level NGVD 1929).
- A site plan of the development parcel or lots, drawn to scale, and differentiate between existing and proposed items.
- Include the existing conditions on the subject parcel or lot and on lots abutting or directly across the street from the subject parcel or lot.
- Include all existing and proposed utilities (above and below ground),
- Include all existing BMPs and contours.
- Include the location of proposed buildings and any existing buildings to remain, proposed vegetation and existing vegetation to be retained.
- Include the location of parking spaces, driveways, proposed or altered curb cuts and walkways.
- Include the proposed treatment of the perimeter of the site including techniques and materials to be used (e.g. screens, fences, walls, landscaping, etc.).
- Show location of proposed permanent structural and non-structural BMPs with identification. Label BMPs or use an identification system which corresponds with the narrative section.
- Show proposed contours (1 ft.) and new drainage patterns (flow direction arrows).
- Include the location of required open space and the location of any easements or rights of way. *[The location of all proposed open space shall be specifically identified on the plan through distinctive shading or other appropriate technique.]*

Permits:

- A list of all permits (local, state, and federal), including any special permits and variances, obtained for this project (include permit numbers).

Owner of Record:

- Completion of the Owner of Record information on the Land Disturbance Permit Application, a copy of the recorded deed for the applicable lot or parcel, and a list of any special permits or variances granted for the site.

Flood Plain Plans (if applicable):

- Plans, elevations, cross sections showing new building construction, proposed flood water retention systems, and other flood control systems. [Suggested scale of 1"=20'] (Flood Plain Special Permit required).
- Plans must include existing and proposed contours (at one-foot intervals) and spot elevations with those areas proposed to be filled, excavated, or otherwise physically altered within the 100 year flood line as determined by the regulated flood elevation for the 100 year flood plain, Zone A as determined by the relevant Flood Insurance Flood Map.

Drainage Report:

- Include calculations which illustrate compliance with the Stormwater Standards outlined in the Wastewater and Stormwater Management Guidance document.
- Include calculations and hydrographs for pre- and post-development runoff.
- Include calculations supporting the design of the proposed BMPs and any flood control systems. For any BMP listed in Attachment 3 to Appendix F of the 2016 Massachusetts Small MS4 General Permit that is proposed to treat phosphorus include calculations per Attachment 1 to Appendix F (see <https://www3.epa.gov/region1/npdes/stormwater/ma/2016fpd/appendix-f-2016-ma-sms4-gp.pdf>). For BMPs not listed submit phosphorous reduction calculations per best engineering practices.

Wetland Protection Act (if applicable):

- Completion of the Wetland Protection Act Environmental Data Form information as required by the Cambridge Conservation Commission for a Notice of Intent.

Summary of Non-Applicable Items:

- Clearly identify and explain any items which are not applicable to the project. Applicant should cite references.

<i>Applicant's Certification</i>

I, the undersigned, hereby certify that the attached Stormwater Management Plan submittal includes all items required by the City of Cambridge's Stormwater Control Regulations. I understand that if any of the items required are found to be missing from the submittal, the Stormwater Management Plan will not be acceptable for review and will be returned as incomplete. The applicant is aware of these criteria and will accept all responsibility for delays due to incomplete submittals. I am enclosing an explanation for each item which I feel is not required and, therefore, have not been included in this submittal package.

Applicant's Signature: _____

Date: _____

Erosion and Sediment Control Plan (including O&M Plan for Temporary BMPs) Checklist

Erosion and Sediment Control Plan Checklist
Page 1 of 3

Please prepare one (1) electronic copy of the Erosion and Sediment Control Plan to be included in Application Packages. Please adhere to the standards described in the Land Disturbance Permit Checklist and use this checklist to be sure Plan is complete. You must sign and date this checklist and attach to completed Plan for submittal.

Plan Cover Sheet

- Title – *Erosion and Sediment Control Plan*
- Project Name
- Project Location
- Assessor Parcel Number
- Land Disturbance Permit Number
- Contractor or Other Firm Name and Contact Information
- Applicant Name
- Applicant Address, Phone Number, E-mail Address
- Owner Name
- Owner Address, Phone Number, E-mail Address

Submission Requirements

Unless otherwise noted or waived by the Cambridge DPW, all items listed below are required to be submitted as part of this Plan for the application package to be considered complete.

Narrative:

- Briefly describe the nature and purpose of the land disturbing activity, and the area (acres) to be disturbed.
- Describe the existing conditions and adjacent areas which might be affected by the land disturbance.
- Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.). Describe any other areas to be disturbed.
- Briefly describe the soils on site giving such information as soil name, National Resources Conservation Service map unit, erodibility, permeability, depth, texture and soil structure.
- If applicable, describe standards which will be followed for dewatering activities. List Stormwater and Wastewater Infrastructure Permit Number for construction site dewatering activity and identify the point of discharge into MWRA's system or receiving water.
- Describe any critical areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, wet weather/underground springs, etc.).
- Describe and ID the BMPs which will be used to control erosion and sedimentation on the site. Include discussion of any storm drain inlet protection provided to prevent sediment laden water from entering (if applicable).
- Describe how the site will be stabilized after construction is completed (include specifications).

- Provide detailed construction activity schedule – show anticipated starting and completion dates for project events, include vegetation and mulching timeline.

Site Plan:

- A small vicinity map locating the site in relation to the surrounding area.
- Include property boundaries/lot lines.
- Include existing utilities, contours, vegetation, and drainage patterns.
- Include areas which are to be cleared and graded.
- Include the boundaries of different soil types and show critical erosion areas.
- Show all improvements such as buildings, parking lots, access roads, utility construction, etc.
- Show final contours including final drainage patterns.
- Show location of waste material dumpster and how dumpster is to be protected from rain (cover/tarp).
- Locate and detail onsite storage area for paint, building materials, demolition items, and other construction materials.
- Locate and detail soil stockpiles and how they will be protected against erosion.
- Show and detail stabilized construction areas for trucks and other equipment to enter and leave property without tracking onto the public street.
- Locate and ID erosion and sediment control BMPs used on the site, include detail(s) for each BMP.
- Identify any off-site land-disturbing activities and show location of erosion controls off-site.
- List a schedule of regular inspections and repair of erosion and sediment control structures.
- Provide and show location on site for signage required for public. Sign shall be clearly posted at entrance to site and shall read as follows: Work performed under City of Cambridge Stormwater Control Permit #####. Please report any erosion or water quality concerns to the City of Cambridge Dept. of Public Works at 617.349.4800, or CambridgeMa.gov/311

Operation and Maintenance Plan:

- List the individual who will serve as the O&M point of contact. Include 24-hour contact information (phone number required).
- List the individual(s) who will serve as the qualified inspector(s) for this project. Include phone number and proof of qualification.
- Describe how the site is to be managed and kept clean each day. Provide a description on how adjacent public and private roadways will be kept clean (tracking control).
- Provide the inspection and maintenance schedules for each BMP.
- Include inspection checklists (weekly and after rain events), and blank inspection forms. Indicate where inspection logbook will be kept on site.

Spill Prevention Plan (for construction activities): Plan for use in the event of a spill on site.

- Describe the facility, address, activities and materials involved. Include a facility map identifying the key locations of areas, activities, materials, and BMPs.
- Include spill reporting procedures and identify key spill response personnel and hospital contacts.
- Identify the potential spill areas or operations prone to spills/leaks and identify which areas should be or already are “containment” areas.
- Include material handling procedures and safety measures for each kind of waste and spill response procedures including proper record keeping procedures.
- Include a plan to protect all storm drains in the event of a spill.

Erosion and Sediment Control Plan Checklist
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Calculations:

Include detailed calculations for the design of temporary BMPs.

Applicant's Certification

I, the undersigned, hereby certify that the attached Erosion and Sediment Control Plan submittal includes all items required by the City of Cambridge's Stormwater Control Regulations. I understand that if any of the items required are found to be missing from the submittal, the Erosion and Sediment Control Plan will not be acceptable for review and will be returned as incomplete. The applicant is aware of these criteria and will accept all responsibility for delays due to incomplete submittals. I am enclosing an explanation for each item which I feel is not required and, therefore, have not been included in this submittal package.

Applicant's Signature: _____

Date: _____

Operation and Maintenance Plan (Permanent BMPs) Checklist

Operation and Maintenance Plan Checklist
Page 1 of 4

Please prepare one (1) electronic copy of the Operation and Maintenance Plan to be included in Application Package. Please adhere to the standards described in the Stormwater Control Permit Checklist and use this checklist to be sure Plan is complete. You must sign and date this checklist and attach to completed Plan for submittal.

Plan Cover Sheet

- Title – *Operation and Maintenance Plan*
- Project Name
- Project Location
- Assessor Parcel Number
- Land Disturbance Permit Number

- Applicant Name
- Applicant Address, Phone Number, E-mail Address
- Owner Name
- Owner Address, Phone Number, E-mail Address

Submission Requirements

Unless otherwise noted or waived by the Cambridge DPW, all items listed below are required to be submitted as part of this Plan for the application package to be considered complete.

Your Operation and Maintenance Plan will be a living document. Please prepare the O&M Plan with appropriately labeled tabs for each of the City's standard sections. One copy must be submitted to the DPW and at least one copy kept on-site. Please include revision date in the footer on each page.

Section 1:

Narrative:

- Provide an overview of the stormwater's path through the on-site BMPs.
- Discuss the specific inspection and maintenance regimen for each BMP including source controls – provide an O&M sheet for each BMP. O&M sheets should serve as a checklist for design elements that require inspection, the frequency of inspections, and conditions that indicate that maintenance is needed.
- The general requirements listed in Section 4.1.3 of the Wastewater and Stormwater Management Guidance document should be reviewed and incorporated into the inspection and maintenance regimen for each BMP.
- Note any particular characteristics or circumstances that could require attention in the future and include any troubleshooting advice.
- Include manufacturer's data, operating manuals, and maintenance requirements for pumps or other mechanical equipment and any proprietary devices used as BMPs. (Refer to these data in text and attach manufacturers' publications to plan).
- Provide a description on how responsible employees will be trained to perform O&M and how your organization will ensure ongoing training as needed in response to staff changes.

- Include a description of source control implementation procedures, schedules, and inspections. Refer to the Source Controls Fact Sheets in Appendix A of the Wastewater and Stormwater Management Guidance document.

Responsibilities List:

- List all individuals involved with the O&M plan – include names and contact information of all responsible parties, including property owner(s), maintenance contractors, and people who will be performing inspections. Include and clearly designate one O&M point of contact for all responsible parties. 24-hour contact information should be included for this designated individual.
- Include an organization chart showing the relationships of authority and responsibility between the individuals responsible for O&M (this need not be elaborate – a sketch is acceptable).
- If a person other than the owner (for example, a public agency or homeowners’ association) is identified as having the responsibility for maintenance, include documentation illustrating such person’s obligation or agreement to assume this responsibility.

Site Plan: This site plan should include information from the record drawings.

- Include property boundaries/lot lines.
- Show drainage patterns and stormwater runoff flow direction arrows.
- Show and ID all BMPs that will be present permanently. Include plans, elevations, and details for each BMP.
- Show structural controls used to control stormwater flows.
- Show and designate pervious and impervious areas on site.

Spill Prevention Plan (long-term): Plan for use in the event of a spill on site.

- Describe the facility, address, activities and materials involved. Include a facility map identifying the key locations of areas, activities, materials, and BMPs.
- Include spill reporting procedures and identify key spill response personnel and hospital contacts.
- Identify the potential spill areas or operations prone to spills/leaks and identify which areas should be or already are “containment” areas.
- Include material handling procedures and safety measures for each kind of waste and spill response procedures including proper record keeping procedures.
- Include a plan to protect all storm drains in the event of a spill.

Section 2:

Inspection and Maintenance Logs: Owner must keep the past seven (7) years of records on site.

- Provide the inspection and maintenance (preventative and corrective) schedules for each BMP. Schedules for two or more similar BMPs on the same site may be combined.
- Include inspection checklists for each BMP (routine, annual, and after major storms). See Appendix A for inspection considerations for each BMP.

- Include blank inspection forms for each BMP. At a minimum, forms must contain:
 - Inspection date and weather conditions
 - Type of inspection (routine, post-storm, annual, or in response to a problem/complaint)
 - Name of inspector
 - BMP ID and corresponding inspection checklist items
 - Inspection results including exceptions noted and corrective actions needed
- Include blank maintenance log form. At a minimum, record the date maintenance was performed, type of maintenance performed, staff member or contractor who performed the maintenance, and any issues for follow-up. Include copies of any maintenance-related work orders.
- A copy of the O&M Plan must remain on site at all times, inspection and maintenance logs must be kept in this Section and must be submitted to DPW for review upon request.

Section 3:

Updates: Administrative or clerical updates to the Operation and Maintenance Plan can be made at any time and should be placed in reverse chronological order (most recent on top) in a Section called O&M Plan Updates prior to Section 1. No BMP or site changes can be made without prior approval and recertification by the Cambridge DPW. At a minimum, an annual update is required.

- Prior to substantial completion or receipt of a signed Certificate of Occupancy, the initial Operation and Maintenance Plan must be updated, reviewed by DPW and finalized. The updated/finalized O&M Plan will become the first update of the Plan. The first update should include design information or calculations submitted in the detailed design phase (i.e., not included in the Stormwater Management Plan).
- Include a blank update form. At a minimum, this form must include:
 - Date of update
 - Date of last update to plan
 - Sections out of date and updates needed
 - Contact information for site personnel
 - Information on BMPs including Source Controls
 - Records of previous inspections
 - Review of maintenance logs
 - Comparison to maintenance schedule. Note exceptions.
 - Employee and contractor training
 - New employees/contractor training events
 - Refresher training events for existing staff/contractors
 - Annual site inspection and update
 - Overall condition of site and any exceptional circumstances (e.g. sediment deposition, erosion, compromised BMPs, flooding).
 - Inspection results including exceptions noted and corrective actions needed.
 - Overall evaluation of the effectiveness of the O&M Plan. Not certification of its effectiveness or provide DPW with a proposed revised plan for approval.

Applicant's Certification

I, the undersigned, hereby certify that the attached Operation and Maintenance Plan submittal includes all items required by the City of Cambridge's Stormwater Control Regulations. I understand that if any of the items required are found to be missing from the submittal, the Operation and Maintenance Plan will not be acceptable for review and will be returned as incomplete. The applicant is aware of these criteria and will accept all responsibility for delays due to incomplete submittals. I am enclosing an explanation for each item which I feel is not required and, therefore, have not been included in this submittal package.

Applicant's Signature: _____

Date: _____

Owner's Certification

I, the undersigned, hereby certify that I understand and accept the terms specified in the City of Cambridge's Stormwater Control Regulations which include:

1. I am responsible for the maintenance of permanent BMPs on this site.
2. During a transfer of ownership, I am responsible for informing prospective new owner(s) of the requirements of the existing O&M Plan and of the requirement to file a new O&M Plan upon transfer of ownership.
3. I am responsible for allocating and making funds available to perform the required O&M functions on site.
4. The DPW or its authorized representative may conduct inspections whenever it is necessary to enforce any provision of the Land Disturbance Regulation to determine compliance with the regulation.

I understand that failure to comply with the requirements of the approved Operation and Maintenance Plan can result in fines and penalties in accordance with the Wastewater and Stormwater Drainage System Ordinance and the Land Disturbance Regulations.

Owner's Signature: _____

Date: _____