

# Stormwater Operations & Maintenance Plan

2 Randolph Street, Canton, MA

December 21, 2018

## **SECTION 1: INTRODUCTION & RESPONSIBLE PARTIES**

The following Operations and Maintenance Plan (O&M Plan) has been prepared on behalf of the applicant to provide a mechanism outlining the minimum requirements for consistent inspection and maintenance of the stormwater management system to be installed at 2 Randolph Street in Canton, Massachusetts. This O&M Plan has been prepared in compliance with Massachusetts Department of Environmental Protection Stormwater Regulations, 314 CMR 21.00. The O&M Plan contains operation and management procedures recommended within the DEP Stormwater Regulations and the EPA's National Pollution Discharge Elimination System (NPDES) Best Management Practices (BMP's).

The stormwater management system to be installed is depicted on Sheet C-1 of the site development plans entitled "Drainage Plan", prepared by Strong Point Engineering Solutions, LLC, revised December 13, 2018 and includes subsurface stormwater infiltration chambers, landscape area drains, and a deep-sump catch basin.

If any portion of this O&M Plan is subject to future revision or change, the responsible party shall promptly notify the Town of Canton Conservation Commission. This O&M Plan outlines base requirements for proper site management. The property owner must obey all applicable state and local regulations. This plan shall not supersede any applicable regulations; rather, it shall act as an additional set of guidelines for specific property use. In the event that the protocol given in this plan contradicts any of the aforementioned regulations, the more stringent rule shall prevail.

### 1.1 STORMWATER MANAGEMENT SYSTEM OWNER

#### **During Construction**

Steven & Patricia Cohen  
4 Randolph Street  
Canton, MA 02021

#### **Post Construction**

TBD

### 1.2 PARTIES RESPONSIBLE FOR OPERATIONS AND MAINTENANCE

The party responsible for the operations and maintenance of the stormwater management system associated with the proposed infrastructure shall be determined at a later date unless otherwise delegated to a third-party. In the event that operations and maintenance responsibilities are to be delegated to a third-party by the property owner, the third-party shall comply with the minimum requirements set forth in this O&M Plan.

Third parties shall include any contractor or sub-contractors hired to provide services relative to this O&M plan including but not limited to snow removal, landscaping, and stormwater management systems inspection and maintenance.

### 1.3 RIGHT OF ENTRY

During construction of the proposed project, The Town of Canton Conservation Commission or their designee may at reasonable times and in a reasonable manner enter the subject property for the purpose of inspection relative to the proposed construction.

## **SECTION 2: NON-STRUCTURAL BMPS: SOURCE CONTROL AND POLLUTION PREVENTION**

Source control can reduce the types and concentration of contaminants in stormwater runoff; in turn, this can result in improved stormwater quality and can reduce the treatment demand on the stormwater management system. The following section outlines basic requirements for non-structural BMP's to aide in pollution prevention and minimize the contact of stormwater with potential pollutants.

### 2.1 LAWN CARE AND MAINTENANCE

Methods and treatments used in the process of lawn care and maintenance have the potential to introduce hazardous materials and debris to the stormwater management system. This section details basic minimum operational procedures to be followed during lawn care and maintenance.

#### **2.1.1 STORAGE, HANDLING, & APPLICATION OF TREATMENT CHEMICALS**

- a) Fertilizers and other treatment chemicals to be used for the property shall not be stored onsite. Such treatment chemicals should be kept at an offsite location for storage.
- b) Transfer of treatment chemicals from offsite storage to the site shall occur in open air or a properly ventilated area. No containers shall be left open and unattended.
- c) Appropriate means of spill prevention shall be utilized. If a spill does occur, regardless of size, it shall be cleaned immediately in accord with the protocol given in Section 4.4 of this document. No container shall be left open and unattended.
- d) Products used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, care should be taken to limit exposure to stormwater areas as appropriate (i.e. avoid applying before heavy rains, do not apply to frozen ground, do not apply to stormwater conveyance channels, etc.).
- e) Fertilizers utilized for landscaping and lawn care shall be slow release and contain low-nitrogen.

#### **2.1.2 VEGETATION MANAGEMENT AND WASTE DISPOSAL**

- a) Care should be taken to ensure that no clippings, debris, or other wastes resulting from any vegetation management process shall be cast toward any stormwater conveyances.





- b) No clippings, debris, or other wastes resulting from any vegetation management process should be stored in a location or manner where they have the potential to migrate into any stormwater conveyances.
- c) Clippings, debris, and other wastes resulting from any vegetation management process shall be disposed of off-site in accordance with applicable regulations.

### **SECTION 3: STORMWATER MANAGEMENT SYSTEM: BMPS AND OTHER COMPONENTS**

The proposed stormwater management system to be installed on-site will consist of a network of BMP's and other components including; subsurface infiltration facilities, landscape area drains, and a deep-sump catch basin. The following section details the general functionality and inspection and maintenance requirements for each of these components.

#### **3.1 SUBSURFACE INFILTRATION SYSTEMS**

Subsurface infiltration systems are underground systems that capture runoff, and gradually infiltrate it into the groundwater through rock and gravel.

Two subsurface infiltration systems shall be installed on site. Each system will consist of a network of prefabricated chambers embedded in crushed stone encased in filter fabric on the top and sides.

##### **3.1.1 SUBSURFACE INFILTRATION SYSTEMS INSPECTION FREQUENCY**

- a) At minimum, subsurface infiltration management systems should be inspected quarterly for sediment accumulation, blockages, structural deficiencies, and any other defects that may impair their intended function. The systems should be inspected via the inspection ports provided and should include the inlet and outlet to the system.
- b) Quarterly inspections should include one inspection following each the foliage and snow removal seasons.

##### **3.1.2 SUBSURFACE INFILTRATION SYSTEMS MAINTENANCE GUIDELINES**

- a) Subsurface infiltration management systems generally require less frequent maintenance than other BMP's since the bulk of sediment should be removed in the stormwater treatment train prior to reaching the subsurface system. However, it is imperative to keep the systems free of accumulated sediment that could clog the stone and substrate and that may impair the ability of the system to infiltrate effluent.
- b) Subsurface infiltration management systems should be cleaned of all sediment with a hydro-vacuum yearly following the snow removal season or whenever accumulated deposits or ponding is observed.
- c) All removed sediment and other materials shall be disposed of off-site in accordance with current MassDEP policy and regulations.



### 3.2 LANDSCAPE AREA DRAINS

Landscape area drains are designed to receive stormwater from vegetated surfaces.

Four (4) landscape area drains are proposed to be installed in the rear yard and will drain to a subsurface infiltration system.

#### 3.2.1 LANDSCAPE AREA DRAIN INSPECTION FREQUENCY

- a) At minimum, landscape area drains should be inspected quarterly for sediment accumulation, blockages, structural deficiencies, and any other defects that may impair their intended function.
- b) Quarterly inspections should include one inspection following each the foliage and snow removal seasons.
- c) Inlets to each landscape area drain should be inspected following any significant storm event for any clogging and/or accumulation of debris that could impede its ability to accept stormwater runoff.

#### 3.2.2 LANDSCAPE AREA DRAIN MAINTENANCE GUIDELINES

- a) Landscape area drains should be cleaned of all sediment if the depth of accumulated deposits is over the invert of the pipe.
- b) Any debris accumulated around the inlet to a landscape area drain shall be removed immediately.

### 3.3 DEEP SUMP CATCH BASINS

Deep sump catch basins are underground retention systems designed to remove trash, debris, and coarse sediment from stormwater runoff, and serve as temporary spill containment devices for floatables such as oils and greases.

All deep sump catch basins are equipped with four-foot deep sumps to trap sediment and debris and the outlet pipe is hooded (inverted elbow) to separate oil and grease from the effluent.

Pollutants are not actually removed from the deep sump catch basin until they are cleaned out; therefore regular maintenance is required to reduce the risk of resuspension and subsequent discharge of sediments during large storm events. Frequent cleaning also results in more available volume for future storms and enhances overall performance.

One (1) deep sump catch basin is to be installed along the edge of the proposed driveway.



### 3.3.1 DEEP SUMP CATCH BASIN INSPECTION FREQUENCY

- a) At minimum, deep sump catch basins should be inspected quarterly for sediment accumulation, blockages, structural deficiencies, and any other defects that may impair their intended function.
- b) Quarterly inspections should include one inspection following each the foliage and snow removal seasons.
- c) Inlets to each deep sump catch basin should be inspected following any significant storm event for any clogging and/or accumulation of debris that could impede its ability to accept stormwater runoff.

### 3.3.2 DEEP SUMP CATCH BASIN MAINTENANCE GUIDELINES

- a) Deep sump catch basins should be cleaned of all sediment quarterly or whenever the depth of accumulated deposits is greater than half the distance from the invert of the lowest pipe to the bottom of the sump.
- b) Any oils, if accumulated to any visible degree, shall be removed using absorptive pads.
- c) Any debris accumulated around the inlet to a deep sump catch basin shall be removed immediately.
- d) All removed sediment and other materials shall be disposed of off-site in accordance with current MassDEP policy and regulations.

### 3.4 STORMWATER MANAGEMENT SYSTEM MINIMUM INSPECTION AND MAINTENANCE FREQUENCY SUMMARY

<b>Component</b>	<b>Min. Inspection Freq.</b>	<b>Min. Maintenance Freq.</b>
Subsurface Stormwater Systems	Quarterly*	As needed
Landscape Area Drains	Quarterly*	As needed
Deep-Sump Catch Basins	Quarterly*	As needed

\*Quarterly inspection should include one inspection following each the foliage and snow removal seasons.









