

Operations & Maintenance Plan

Introduction

The following Storm water Operations & Maintenance plan is prepared for 19 Kimball Beach Road, Hingham, MA. All erosion and sediment control measures to be used are to be constructed and installed according to the 'Massachusetts Erosion and Sediment Control Guidelines for Urban and Sub-Urban Areas.'

The plan consists of the following elements:

- Owner's information
- Estimated budget
- Operation and maintenance guidance – Pre and Post Construction
- Proposed inspection log

All erosion and sediment control measures must be installed prior to commencement of any work. All sediment and erosion control measures shall remain in place until the entire site has been stabilized. The site is deemed stabilized when all landscaped areas have been loamed and seeded with vegetation having had the chance to establish itself. Any proposed paved areas shall have its binder course of pavement installed prior to the removal of these control measures.

The long-term operation and maintenance of a stormwater management system is as critical to its performance as its design and construction. Proper operation and maintenance ensure that the BMP will continue to remove pollutants effectively over the long-term, decreases the risk of re-suspending sediment; and therefore, improves water quality. Without proper maintenance, BMPs are likely to fail and no longer provide the necessary stormwater treatment.

- **Property Owners:**

Name and contact information:

19 Kimball Beach RD LLC
24 Cypress Dr Dartmouth MA 02747
Gracajason@gmail.com
508-815-6214

The owner(s) of the property shall be responsible for all future maintenance for elements of any stormwater management system. Therefore, if the units become condos, the condo association will be responsible for all future maintenance. Documentation of such maintenance shall be submitted to the City at regular intervals and no less than annually.

Evidence of proper maintenance will be required to be submitted to the City annually. The City should have the right to enter and maintain all stormwater systems if adequate maintenance of the systems is not being performed, with costs assumed by the owner.

- **Estimated annual Operation & Maintenance budget:** Approximately 1,000 dollars.

- **Operations & Maintenance**

The following operations and maintenance plan has been developed in order to preserve the drainage infrastructure that will be constructed and to ensure the drainage and infiltration system continues to function as designed.

- **Before & During Construction Operation and Maintenance Plan:**

- Significant efforts shall be made to only disturb the minimum amount of area necessary to reduce potential erosion and sediment runoff. The control of dust in disturbed areas shall consist of at the least, wetting of disturbed soil or application of calcium chloride as required to minimize airborne dust.
- A stabilized construction entrance shall be installed to reduce the tracking of material onto the main road, in if necessary, a wheel wash station put in place.
- Straw wattles shall be installed per the site plan to prevent sediment from being washed off site.
- All drainage structures shall be protected by filter fabric (or approved equal) to prevent sedimentation from entering the drainage system during the construction period.
- Driveway, pavement and roadway (if required) areas shall be swept to remove sediments prior to introduction into the storm water management system.
- Drainage structures shall be inspected daily and cleaned as necessary of all sedimentation and construction materials during the construction period.

- The contractor is required to contact the engineer of record for drainage system inspection at least 72 hours prior to backfilling in order to receive inspection signoff.

- **Post Construction Operation and Maintenance Plan**

Once the construction is completed, it is the owner's responsibility to maintain the items outlined below to ensure the efficiency and integrity of the drainage systems. The post construction inspections shall take place at a minimum of once during the Spring (March-May), and a minimum of once during the fall (September – November) and after every major storm.

- All drainage structures and pipes shall be inspected on a minimum on a semi-annual basis. These inspections shall take place during the spring and fall months of the year. The inspector shall take note of any debris/sediment/clogging and shall document the condition of each structure. Based upon the observed condition, the inspector shall make recommendations if any further action is required.
- All drainage structures, including manholes and catch basins, shall be inspected four times per year and shall be cleaned of all sand, debris, and sediment four times per year or whenever the depth of deposits is greater than or equal to one foot.
- Roof Gutters shall be inspected annually and after major rain events. Remove leaves and sediment as necessary to allow rainwater to flow to the system.

- **Cultec R-150XLHD Maintenance procedures:**

- Storm-tech system shall be inspected at a minimum on a semi-annual basis, or after a major storm event.
- Remove lid and cap from inspection ports
- Using a flashlight and stadia rod, measure the depth of sediment
- If sediment is above 3" depth, then cleaning is required
- A licensed professional shall provide cleanout/ flushing services of all sediment and debris via cleanouts and catch basins located per plans.
- All caps and covers shall be replaced
- Winter Maintenance: Snow Removal: A four season parking surface, street or plaza may be plowed with truck-mounted blades, power brooms, snow-blowers or manually shoveled. Salt may be used to melt ice but will affect the quality and pH of water leaving the permeable paver system and could require additional

monitoring and analysis. Sand should not be used as this will accelerate rate of clogging in voids and will require increased frequency of sweeping. Open graded chips may be used for traction when ice is present, but more than likely will require sweeping and removal in the spring.

An INSPECTION LOG example format is shown below on Table B.1. This must be filled every time an inspection or maintenance activity is performed on any element of the stormwater management on site, included but not limited to:

- a) Pretreatment devices.
- b) Vegetation or filter media.
- c) control structures.
- d) Embankments and slopes.
- e) Inlet and outlet channels and structures.
- f) Underground drainage.
- g) Sediment and debris accumulation in storage and forebay areas (including catch basins).
- h) Any nonstructural practices.
- i) Any other item that could affect the proper function of the stormwater management system

