

**DRAFT**

**OPERATION AND MAINTENANCE PLAN  
MILL CREEK MARSHFIELD  
MARSHFIELD, MA**

**INTRODUCTION**

The proposed project includes the construction of seven 3-story apartment buildings, five townhouse buildings, a clubhouse, a maintenance building and a wastewater treatment facility. Drives, parking sidewalks, pool, utilities, stormwater management systems, and soil absorption systems are also a part of this project.

Parcels included in this project are located in the Enterprise Park Subdivision Masterplan (The Masterplan) which was approved in 2004. While not all parcels under this masterplan have been developed, all proposed stormwater structures in the masterplan are constructed and are working as intended as of this writing.

The purpose of the Operation and Maintenance Plan is to ensure that the stormwater management system functions as designed, to minimize the potential of siltation of the wetlands from overland flow, and to minimize the impact on the buffer zone adjacent to the wetlands. The following notes and details are intended to be a minimum set of guidelines, and the Contractor shall be responsible for their implementation. Should additional control be required, the contractor shall take whatever steps are necessary.

The project site includes Lot 6 of the Masterplan. The project is bounded by Commerce Way to the North, Lot 5 to the west, land owned by the Town of Marshfield DPW to the south, and lot 8 and land owned by the Town of Marshfield Conservation Commission to the east.

Topography of the project site is moderate, sloping in the northwesterly direction toward Commerce Way. The high elevation onsite is 197± on the southeast corner of the site, and the low elevation is 146± at the northwest corner of the site.

Presently there are no stormwater controls on the project site. Stormwater runoff flows overland unmitigated northwest offsite to Modera Marshfield and Commerce way. The sub-catchment system from Commerce Way discharges into a large detention basin and forebay northwest of the project site. This detention basin is the primary Best Stormwater Management Practice (BMP) for mitigation in the masterplan.

Land cover on the project site is entirely wooded. There are no natural water bodies on or near the project site. The FEMA Flood Map for the Town of Marshfield does not indicate a flood plain area within the project site.

Stormwater overflow from the offsite detention basin eventually discharges to Huldah Brook in Pembroke, which discharges to Sump Pond, and eventually discharges to North River and the Atlantic Ocean.

## **SILTATION CONTROLS**

The first phase of construction will consist of the placement of siltation controls in accordance with the details and at the locations indicated on the plans. No further construction activity will take place until the siltation controls are inspected and approved. No encroachment or alteration shall occur beyond the erosion control barriers. Erosion control barriers shall be maintained and replaced, if necessary, throughout the course of construction.

## **SITE CONSTRUCTION**

Prior to construction the proposed location of earth stockpiles shall be shown on a plan and shall be approved by the Engineer. Stockpiles that are to be left for more than fourteen (14) days shall be shaped and secured by siltation controls around the downstream perimeter and shall be stabilized by temporary seeding or netting. After erosion and sedimentation controls are in place, the site grading operation will commence. Topsoil on the site will be stockpiled separately and the pile stabilized. The site will be graded to subgrade with the excess soil stockpiled in the designated areas and the utilities installed.

All unvegetated areas, including stockpiles, that will remain unvegetated for greater than 14 days should be mulched or seeded within 7 days of their grading. The perimeter sedimentation controls at the stockpiles should be in place at the end of each day and before rain events.

During the construction of the drainage system, care must be taken to prevent siltation from entering the system. Drainage pipes in open excavations shall not remain open overnight. Silt sacks shall be placed in the catch basins until the surrounding soils are stabilized and the binder course of pavement has been placed. The silt and sand, which may accumulate around the catch basins, shall be removed after every rainstorm. Catch basins shall be set to binder grade until immediately prior to placement of the top course, at which time they will be set at final grade. The drainage system shall be cleaned prior to acceptance.

Work shall commence as soon as practical on the perimeter disturbed areas not to be paved. A minimum of four inches (4") of topsoil is to be placed in these areas and the areas hydroseeded. All areas shall be stabilized within sixty (60) days of disturbance. When weather conditions do not permit stabilization by seeding, hay mulch, straw mats, jute netting or other approved means shall be used for temporary stabilization.

## **INSPECTION AND MAINTENANCE**

Prior to construction, the Contractor shall formulate a schedule for inspection and maintenance of the erosion control measures. This schedule shall establish, at a minimum, the weekly inspections of the sedimentation controls, stockpiles, catch basins, unstabilized areas within the site and a report of any required maintenance. The schedule will also appoint an individual who will be responsible for performing the weekly inspections.

During the weekly inspection, and at any time during the course of construction, the Engineer, the Owner or the individual responsible for the erosion control measures may direct the Contractor to

take immediate action to correct a deficiency or to increase the erosion control measures.

### **ADDITIONAL REQUIREMENTS**

The contractor shall employ measures to control dust during construction. All debris shall be properly contained and disposed of.

Commerce Way shall be swept clean of any soils tracked onto the pavement from vehicles exiting the site.

An extra supply of erosion control tubes and siltation fence shall be kept on site to provide for additional siltation control, as may be required. Any construction equipment observed leaking or dripping oil shall be removed from the site. Temporary grass stabilization shall be applied at rate of 4-pounds/1,000 sf. and conform to the following mix summarized in Table 1.

**Table 1**  
**Temporary Seed Mixture**

SEED	% WEIGHT	
	<u>Min.</u>	<u>Max.</u>
Winter Rye	80	
Red Fescue (Creeping)	4	
Perennial Rye Grass	3	
Red Clover	3	
Other Crop Grass	0.5	
Noxious Weed Seed		0.5
Inert Matter		1

### **CONSTRUCTION SCHEDULE**

- A. Prior to construction, erosion control tubes and siltation fence will be placed at the limits of work, as indicated on the site drawings. The crushed stone access drive shall be constructed. The construction access drive shall be at least 20 feet wide and 50 feet long.
- B. The area of the proposed work shall be cleared and grubbed with topsoil being stockpiled.
- C. Top soil shall be stockpiled and screened for reuse.
- D. The excavation work for the building construction will then commence.
- E. The excavation work for the stormwater infiltration/detention systems would then commence, and the infiltration systems installed.
- F. Storm drains, sewer, water and other utilities to be installed.
- G. Additional siltation fence, erosion control tubes and other erosion controls will be added

- to protect the storm drains and where required to control erosion as construction proceeds. Sedimentation controls shall be installed along the downhill side of all soil stockpiles.
- H. Catch basins shall have either staked haybales placed around the grate and/or have a geotextile bag or silt sack installed until the parking area is paved.
  - I. The pavement subgrade will then be graded, and the gravel and the bituminous base course placed. This shall be completed as soon as practical after the site clearing.
  - J. All disturbed areas not already stabilized will then be covered with a minimum of 4-inches of topsoil and seeded.
  - K. The drainage system shall be completely operational prior to the building roof drains being installed.
  - L. The building roof drains will be in operation immediately after the roof is completed.
  - M. All drainage structures will be cleaned upon completion of construction.
  - N. The siltation controls shall be removed after the site has stabilized.

**BMP MAINTENANCE SCHEDULE FOR CONSTRUCTED SITE**

- 1. Inspect catch basins quarterly if all tributary areas are stabilized with vegetation or monthly if not. Clean out if more than 1/4 full of sediment (1 foot deep in a 4-foot sump). Inspect and clean as necessary after intense rainfall and as soon as practical after winter sanding.
- 2. The infiltration systems should be checked for sediment on a yearly basis. A log of the sediment depth should be maintained. Measure the sediment depth visually by opening the inspection port and the use of a flashlight and measuring rod. If sediment reaches a three-inch depth, the sediment is to be removed by vacuum or jet spray.
- 3. The CDS chambers shall be maintained in strict conformance with the Manufacturer's recommendations. Inspections should occur twice per year and the sediment should be removed when it reaches the 75% depth of the isolated sump. Sediment shall be removed on a clear day when there is no flow entering the system using a vacuum hose.
- 4. Keep all pervious site areas stabilized at all times. Keep any stockpiled earth covered. Remove leaves and trimmings from site.
- 5. Sweep parking areas at least twice per year, in the spring after winter sanding and in the late fall.
- 6. Minimize the use of sand and chemicals for winter de-icing of pavement areas.

7. It is anticipated that the **Mill Creek Residential** will be the owner and responsible for the operation and maintenance of the site. Their address is:

**Mill Creek Residential Trust LLC**  
**84 State Street, Suite 920**  
**Boston, MA 02109**

**Mill Creek Marshfield, Marshfield, Massachusetts  
Stormwater Operation and Maintenance Plan**

**INSPECTION SCHEDULE AND EVALUATION CHECKLIST**

<b>Best Management practice</b>	<b>Inspection Frequency</b>	<b>Date Inspected</b>	<b>Contractor</b>	<b>Current Conditions and Minimum Maintenance / Repairs, If Necessary</b>	<b>Completed Maintenance / Repair (i.e. date, contractor, tasks complete, etc.)</b>
<b>Infiltration Systems</b>	Quarterly				
<b>Proprietary Separators</b>	Biannual				
<b>Catch Basins</b>	Quarterly				
<b>Overall Site Condition</b>	Quarterly				

Property Manager: \_\_\_\_\_ Date: \_\_\_\_\_