

# Operation & Maintenance Manual

for:

## 100 PROSPECT STREET

**Block(s): 152**

**Lot(s): 51.01 & 51.02**

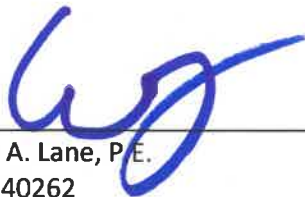
**Borough of Metuchen**

**Middlesex County, New Jersey**

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WAL/je  
MEA # 2022.004  
Dated: May 23, 2023  
Revised:



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## **Purpose**

The intent of this manual is to provide a strategic plan for the party(s) responsible for the operation and maintenance of the stormwater management facility(s) located on the site in question. The plan must be complied with to insure the proper function and prolonged life span of the facility(s).

For regular maintenance, the plan describes a list of procedures to be completed and carried out under a specific schedule and contingency procedures during unusual or infrequent conditions that may arise. In addition to maintenance, a detailed inspection log of tasks/conditions/findings of the stormwater management facilities will be recorded in this manual upon every inspection performed.

THIS MANUAL IS BASED ON THE REQUIREMENTS SET FORTH BY THE *NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES MANUAL, APRIL 2004*.

## **Description**

This manual is intended to describe the maintenance of the stormwater management facilities for a development called 100 Prospect Street, located on Lots 51.01 & 51.02 in Block 152 situated in the Borough of Metuchen, Middlesex County, New Jersey. The purpose of all of these facilities is to provide some degree of the following conditions:

- Provide a temporary means of storage for stormwater.
- Facilitate water quality (to help eliminate contaminants and particulate matter from stormwater runoff).

A stormwater management facility is also commonly referred to as a Best Management Practice (or BMP). The single (1) BMP for this project is as follows:

- Porous pavement - One (1) Porous pavement is proposed. A pervious pavement area with underdrain is used to address water quantity reductions and water quality. It is located on the southern portion of the site.
- Stormwater Collection System— A collection of pipes and drainage structures including manholes and inlets that collect stormwater runoff.

**RESPONSIBILITY**

All BMP operation tasks, maintenance and inspection log entries, as defined within this manual, will be performed by the maintenance staff employed or retained by owner of Lot(s) 51.01 & 51.02 of Block 152, situated in the Borough of Metuchen, Middlesex County, New Jersey or a third party designated by said owner and/or operator. The latest dated party listed below will be considered the party responsible.

DATE:	<u>JANUARY 3, 2023</u>	DATE:	_____
COMPANY:	<u>HES EQUITY LLC</u>	COMPANY:	_____
CONTACT:	<u>ANTHONY HE</u>	CONTACT:	_____
PHONE:	_____	PHONE:	_____
ADDRESS:	<u>100 PROSPECT STREET</u>	ADDRESS:	_____
	<u>METUCHEN, NJ 08840</u>		_____

Additional Information (if applicable): \_\_\_\_\_  
\_\_\_\_\_

DATE:	_____	DATE:	_____
COMPANY:	_____	COMPANY:	_____
CONTACT:	_____	CONTACT:	_____
PHONE:	_____	PHONE:	_____
ADDRESS:	_____	ADDRESS:	_____
	_____		_____

- Any amendment or alteration to this manual (i.e.: change in ownership, the inclusion of third-party maintenance agreements, a modification or addition to maintenance procedures) must be entered in this manual or attached as a rider to this manual, and complete copies submitted to all parties involved and, must be in compliance with the most current guidelines set forth by the New Jersey Department of Environmental Protection Stormwater Management Rules.
- This manual as outlined, or any amendment or alteration to this manual is to be recorded in the deed of record for the property. The deed shall state that any future sale of the property carries with it the responsibility of the new owner to comply with the conditions of this Operation and Maintenance Manual.
- In addition, this manual as outlined, or any amendment or alteration to this manual, must be made available upon request to the local mosquito control or extermination committee and any public entity with administrative, health, environmental, or safety authority over the site.
- The person or party responsible (as named above) for maintenance must maintain a detail log of all preventive and corrective maintenance for the structural stormwater management measures as described in this manual, including inspections and copies of all maintenance related work orders.
- The person or party responsible (as named above) for maintenance shall evaluate the effectiveness of the Operation and Maintenance Plan at least once per year and adjust the plan and the deed as needed.

## **LAWN AND LANDSCAPED AREA MAINTENANCE:**

### **DESCRIPTION**

Maintenance involves routine periodic inspection of the vegetation, fertilization, and the correction of erosion problems.

### ***Schedule III – annually or as noted.***

Shrubs & Trees:	Between March 1 and April 15
Mowing:	As specified per BMP
Fertilize:	Fall - Between September 1 and October 15
Liming:	Between September 1 and October 15
Soil Testing:	Between September 1 and October 15
Pest & Disease Control:	As required.
Overseeding:	Between September 1 and October 15 (As required)
Aeration:	Between September 1 and October 15 (As required)

### **1) Maintenance: General**

- a) The Contractor shall inspect all areas to verify that all work is being performed properly and as scheduled, locate potential problems, and correct unacceptable conditions. A brief verbal report is to be submitted to the Owner. Problems requiring immediate attention shall be reported to the Owner.

### **2) Shrubs & Trees:**

- a) These plants shall be maintained in a natural setting. No shearing is allowed, shrubs and trees will be hand-pruned to remove dead or diseased branches. Dead plant material shall be replaced in kind unless cultural requirements necessitate change. When planting within compacted slopes, excavate larger holes and backfill with a suitable planting medium.

### **3) Mowing:**

- a) All clippings are to be raked, bagged, and disposed off-site to prevent clogging of the outlet structure.

### **4) Fertilize:**

- a) Fall: Fertilizer analyses and rates are to be based on soil test results. Standard fertilizer blends rather than custom blends are assumed.

### **5) Liming:**

- a) One application in the fall as required by a soil test. Minimum requirements - Lime with pulverized dolomite limestone at a rate of 100 lbs./1,000 s.f.

### **6) Soil Testing:**

- a) The Contractor shall take soil samples from grassed areas for the following analysis: ph, available Mg, P, K, C, recommended nitrogen application. Copies of the analyses for each area

are to be furnished to the Owner. Samples shall be taken before liming and fertilization as noted on the schedule.

**7) Turf disease and pest control:**

- a) As required. Submit to the Owner the following information before spraying:
  - i) -Targeted pests or diseases.
  - Materials and methods used.

**8) Overseeding:**

- a) Overseeding is scheduled, as required per field inspection; or a minimum of once every four (4) years. A variseeder or equal equipment should be used to overseed designated lawn areas. Seed type and rate per the following schedule.

- b) Seed type and rates for grass basin bottoms:  
Lofts Reclaim Conservation Mix-Damp Formula  
(At a rate of 5 lbs./1,000 s.f.)
  - 45% Tall Fescue
  - 10% Perennial Ryegrass
  - 25% Poa Trivalis
  - 10% Salty Alkaligrass
  - 5% Redtop
  - 5% Reed Canary Grass

- c) Seed type and rates for lawn areas, grass basin side slopes and berm:  
SCS Seed Mix 16
  - (3.5 lbs./1,000 s.f) Tall Fescue
  - (0.4 lbs./1,000 s.f) Kentucky Bluegrass (blend)
  - (0.4 lbs./1,000 s.f) Perennial Ryegrass (blend)

- d) Seed type and rates for low maintenance areas:  
Lofts Reclaim Native Grass Mixture  
(At a rate of 60lbs/acre)
  - 30% Little Bluestem
  - 20% Indiangrass
  - 20% Azure Blue Fescue
  - 15% Side Oats Grama
  - 10% Big Bluestem
  - 5% Switchgrass

**9) Aeration:**

- a) A coring with 3" minimum hollow tines should be used to aerate lawn areas, followed by a steel drag mat to disperse cores. Coring should be timed for adequate soil moisture to insure proper penetration and plug removal. Coring should be done in conjunction with fertilization and/or liming and overseeding in the fall, once a year

## **POROUS PAVEMENT:**

Schedule II-bi-annually

Schedule III- annually

### ***DESCRIPTION***

The purpose of this section is to prevent the pavement surface and/or the underlying infiltration bed from being clogged with fine sediments. Keeping the system clean, removal of snow and/or ice and appropriate repairs of damaged areas throughout the year will prolong its lifespan. Planted areas adjacent to porous pavement should be also well maintained to prevent soil washout onto the pavement.

#### ***1) Maintenance General:***

a) Contractor shall inspect all areas to verify that all work is being performed properly and as scheduled, locate potential problems, and correct unacceptable conditions. A brief verbal report is to be submitted to the owner. Problems requiring immediate attention shall be reported to the owner.

#### ***2) Maintenance: Schedule II:***

- a) The pavement surface should be vacuumed twice per year.
- b) Maintain planted areas adjacent to pavement. Immediately clean any soil deposited on pavement.
- c) Clean inlets draining to the subsurface bed twice per year.
- d) Repair any damaged areas less than 50 square feet with porous or standard asphalt. Larger areas should be patched with approved porous asphalt.
- e) Under no circumstances is the pavement surface to ever be seal coated.
- f) Do not allow construction staging, soil/mulch storage, etc. on unprotected pavement surface.

#### ***3) Maintenance: Schedule III (winter maintenance):***

- a) Snow and/ or ice removal should be done carefully (i.e., set blade slightly higher than usual).
- b) Salt application is acceptable; however environmentally benign deicers are preferable.
- c) Do not apply abrasives such as sand or cinders on or adjacent to porous pavement.

## **STORMWATER COLLECTION SYSTEM MAINTENANCE:**

Schedule I - four times annually and after every storm exceeding 1 inch of rainfall.

Schedule III - annually

### **DESCRIPTION**

Stormwater collection system maintenance involves routine periodic inspection of the storm collection system, the removal of accumulated sediment and debris, and the correction of any structural problems.

#### **1) Inspection: General**

- a) The Contractor shall inspect all areas to verify that all work is being performed properly and as scheduled, locate potential problems, and correct unacceptable conditions. A brief verbal report is to be submitted to the Owner. Problems requiring immediate attention shall be reported to the Owner.

#### **2) Inspection: Schedule I**

- a) Inlets, conduit, outfalls, and other conveyance elements: Inspect for and clear debris from the gratings, inlets, and pipes. This is to prevent clogging of the inlets and subsequent backup of stormwater runoff. Any problems or defects shall be reported to the Owner.

#### **3) Inspection: Schedule III (annually)**

- a) Visual inspection of all components of the onsite stormwater collection system. Inspect and remove silt and sediment, litter and other debris from all inlets, gratings, and drainage pipes. All inlets and manhole are to be vacuumed. (Frequency of vacuuming may be adjusted if maintenance records indicate that sediment and debris accumulation is insignificant.) In the event that the accumulated material exceeds 10% of the pipe diameter, it must be flushed / vacuumed out of the system.

#### **4) Prevention of Water Pollution**

- a) The contractor's activities shall be performed by methods that will prevent entrance or accidental spillage of solid matter, contaminants, debris or other pollutants and wastes into the downstream conveyance system. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, collected silt and sediment, etc. Disposal of debris and trash should be done only at suitable disposal / recycling sites and must comply with all applicable local, state, and federal waste regulations.





## Inspection Log Entry

Date: \_\_\_\_\_ Performed By: \_\_\_\_\_

### Porous Pavement

Checklist	Physical Condition*				Required Cleaning (y/n)	Description of Maintenance or Damage Report
	1	2	3	4		
Structure Integrity						
Accumulated Sediment						
Filters						

### Stormwater Collection System

Checklist	Physical Condition*				Required Cleaning (y/n)	Description of Maintenance or Damage Report
	1	2	3	4		
Frame and Casting						
Access Steps						
Interior Masonry						
Accumulated Sediment						
Scouring at Outfall						

### Lawn and Landscaped Area Maintenance

Checklist	Physical Condition*				Required Cleaning (y/n)	Description of Maintenance or Damage Report
	1	2	3	4		
General turf condition						
General Landscape Condition						
Pests or Diseases						

Additional Notes: \_\_\_\_\_

\* Denotes a rating table to describe the condition of item (1 being in excellent condition and 4 needing immediate repair).