

Operation and Maintenance Manual

for:

Gulls View Apartments

Borough of Keyport
Monmouth County, New Jersey

Prepared By:

Menlo Engineering Associates, Inc
261 Cleveland Avenue
Highland Park, New Jersey 08904
T.: 732.846.8585
F.: 732.846.9439

Under the Immediate Supervision of:



Gregory S. Oman, P.E.
NJ PE# 43441

GSO/mm/nf
MEA # 2017.080
Dated: January 8, 2019
Revised: June 16, 2021



O:\Documents\2017\2017.080.01\2017.080.01-Operation & Maintenance Manual.doc

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

The location of the three (3) stormwater management facilities this manual is intended for is now or formerly known as Wayne Retail, located on Lot 1.02 in Block 80, situated in the Borough of Keyport, Monmouth 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).
- Recharge the groundwater supply.

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

- Infiltration Trench – 6' wide section of clean stone and perforated HDPE pipe collecting and infiltrating roof runoff.
- Lawn and Landscaped Area– any area containing stable vegetation, lawn area or landscaping.
- 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 1.02 of Block 80, situated in the Borough of Keyport, Monmouth 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:	JANUARY 8, 2019	DATE:	
COMPANY:	KEYPORT PROFESSIONAL PLAZA, LLC	COMPANY:	
CONTACT:	ARIE BEHAR	CONTACT:	
PHONE:	732-937-5080	PHONE:	
ADDRESS:	525 MILLTOWN ROAD,	ADDRESS:	
	SUITE 402, NORTH BRUNSWICK, NJ 08902		

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.

INFILTRATION TRENCH:

DESCRIPTION

Effective infiltration trench performance requires regular and effective maintenance. Maintenance involves routine periodic inspection of the individual pipes, the removal of accumulated sediment and debris, and the correction of any structural or erosion problems.

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

Schedule III - annually

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) Maintenance: Schedule I

- a) Inspect for and clear excessive debris from the system. Any problems or defects shall be reported to the Owner.
- b) The infiltration trenches should completely drain within 72 hours.

If significant increases or decreases in the normal drain time are observed, or if the 72 hour maximum drain time is exceeded, the system and both groundwater and tailwater levels must be evaluated. Appropriate measures should be taken to comply with the maximum drain time requirements and maintain the proper functioning of the infiltration trench.

3) 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.

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.
 - ii) -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.

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 for 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.

Maintenance Log

Detail logs of all preventative and corrective maintenance performed at the stormwater management measures, including all maintenance-related work orders must be recorded in this log. Document maintenance performed and keep receipts.

[illegible]

Inspection Log Entry

Date: _____ Performed By: _____

Extended Detention Basin

Checklist	Physical Condition*				Required Cleaning (y/n)	Description of Maintenance or Damage Report
	1	2	3	4		
Outlet Structure						
Scouring at Outfall						
Pests or Diseases						
General Landscape Condition						

Stormwater Treatment Device

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

Stormwater Collection System/Infiltration Trench

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 being in need of immediate repair).