

MAINTENANCE PLAN

For BLUE ROOF

STORMWATER MITIGATION

PROJECT:

75 CRESCENT AVENUE
JERSEY CITY, NEW JERSEY

ARCHITECT:

HAMPTON HILL ARCHITECTURE
109 LIBERTY VIEW DRIVE, #1 GA
JERSEY CITY, NJ 07302
PH: (201) 516-2133

DEVELOPER:

BAK GROUP
359 CENTRAL Avenue
Guttenberg, NJ 07093

PREPARED BY:



ENGINEERING, P.C

347 MERCER LOOP, JERSEY CITY, NJ 07302

TEL: (201)736-7546

Email : ksiengineering@gmail.com

STORMWATER MAINTENANCE REPORT
75 CRESCENT AVENUE, JERSEY CITY-NEW JERSEY

Introduction:

Regular and thorough maintenance is necessary for stormwater management measures to perform effectively and reliably. Failure to perform such maintenance can lead to diminished performance, deterioration, and failure, in addition to a range of health and safety problems including mosquito breeding, vermin, and the potential for drowning. The potential for such problems to develop is accentuated by many of the very features and characteristics that allow stormwater management measures to do their job, including standing or slowing moving water, dense vegetation, forebays, trash racks, dams, and the need to continually function in all types of weather. Stormwater management measures are also expected to become the repositories for sediment, nutrients, trash, debris, and other pollutants targeted by the NJDEP Stormwater Management Rules. For this reason, stormwater management measures share maintenance requirements with which require regular inspection and cleaning, sediment and debris removal, and periodic replacement.

In recognition of these needs and potential problems, the NJDEP Stormwater Management Rules require that a maintenance plan be developed for all stormwater management measures incorporated into the design of a major development.

Project Description:

The 75 Crescent Avenue, Jersey City, Hudson County, New Jersey on Block 16902 and Lot 29. The site currently comprises a vacant vegetated lot on a total lot area of approximately 4,994 sq.ft. (0.11 acres). Refer to existing site plan and the site photographs (Appendix-A).

The proposed site comprises Four (4) storied, Seven (7) Residential Units, a lawn area at the rear, a covered parking lot, a covered driveway, a walkway. The floor plans are included in

A preconstruction and post construction hydraulic and hydrologic (H&H) analysis is done to meet the requirements of N.J.A.C 7:8, New Jersey Best Management Practices Manual April 2021, and Jersey City MUA Stormwater Ordinance and other documents and standards as mentioned in the design references; and utilizing NRCS Computer Software Hydrology Studio Version 2021 3.0.20.

Drainage computations are done for the preconstruction site condition for the vacant undeveloped lot and compared with the post construction development. The post construction drainage computations are done for the building top area, landscape area and pervious paved area.

A Blue Roof Drainage system has been designed at the roof by providing a roof drain as per the design report. The drainage discharge carries the target flows, as per NJDEP and Jersey City Stormwater Management requirements. The flow discharges to the outside combined sewer on Crescent Avenue.

Stormwater Maintenance Objective:

This maintenance plan has been prepared to ensure that the stormwater management facilities (roof drains) in place are operating efficiently, and reliably. The property owner shall ensure the long-term/perpetual operation, maintenance, repair, and safety of stormwater management facilities.

Maintenance procedures are required to maintain safe operation of the stormwater management facility by reducing the occurrence of problems and malfunctions. To be effective, maintenance shall be performed on a regular basis and include such routine procedures as training of staff, periodic inspections, silt and debris removal, and review of maintenance and inspection work to identify where the maintenance program could be more effective.

Repair procedures are required to correct a problem or malfunction of the roof drains to restore the intended means of operation and safe condition of the facility. Based on the severity of the problem, repairs shall be performed on an as-needed or emergency basis (rainstorms), and as per the manufacturer's specifications. These includes, structural repairs, mosquito control, removal of debris, sediment and trash which affects the discharge flow capacity etc.

As mentioned in the introduction, if the stormwater management facility becomes a danger to public safety, or public health, or if it is in need of maintenance, the concerned municipal entity may notify the owner of the property (or the responsible person) in writing. Upon receipt of such notice, the responsible person shall have fourteen (14) days or sooner to initiate maintenance and repair of the facility in a manner acceptable to the municipal entity (municipal engineer). If the responsible person fails or refuses to perform such maintenance and repair, the municipality may immediately proceed to do so and shall invoice the cost thereof to the responsible party.

The responsible person/party shall maintain a detailed log of all preventive and corrective maintenance for the structural stormwater measures (roof drains and impermeable roof) as incorporated in the design of the development. This includes a record of all inspections and copies of all maintenance-related work orders. The responsible party shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed. The responsible party shall retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation. The responsible party shall permit the municipality the right of access for inspection measures, and for maintenance. In case the ownership of the stormwater facility changes, the responsible party shall update the maintenance, plan to include all of the updated owner information. The responsible party shall then forward the plan via registered mail to the municipal entity, within the 90 days of the change of ownership.

Maintenance of Roof Drain System:

The conveyance system's inlets and pipes are expected to receive and possibly accumulate debris and sediments. These pipes and inlets must be inspected for clogging and excessive debris and sediment accumulation at least annually, as well after every storm event exceeding 1-inch of rainfall. Sediment removal should take place when all runoff has drained from the conveyance pipe network and the system is reasonably dry. Disposal of debris, trash, sediment, and other waste material shall be done at suitable disposal/recycling sites in accordance and in compliance with the federal state, county and local municipality storm drain ordinance.

All structural components of the roofing must be inspected for cracking, subsidence, breaching, wearing, and deterioration at least annually for potential failures or deterioration.

The routine equipment expected to be utilized for the maintenance tasks include the maintenance log, a pen, a jet vacuum vehicle, shovels, lighting equipment, a wheel barrow or truck for hauling the debris. An approximate cost of maintenance is around \$2,000 to \$3,000 per year.

Refer to the Maintenance Log attached.

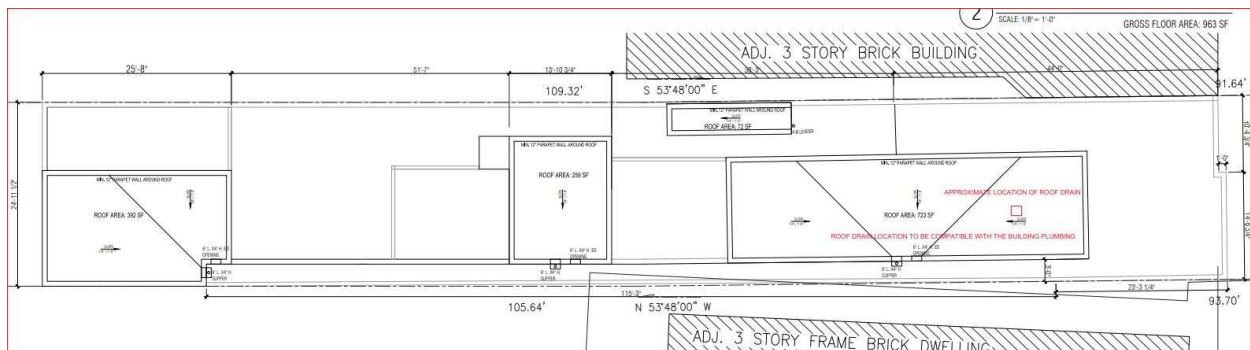


Figure-1-Roof Drain Layout

General Maintenance Plan Requirements:

1. The name, address, and telephone number of the person or persons responsible for the preventative and corrective maintenance of the stormwater management measure.
2. Specific preventative and corrective maintenance tasks such as removal of sediment, trash, and debris; mowing, pruning, and restoration of vegetation; restoration of eroded areas; elimination of mosquito breeding habitats; control of aquatic vegetation; and repair or replacement of damaged or deteriorated components.
3. A schedule of regular inspections and tasks. Detailed inspection tasks and schedules for specific structural stormwater management measures.
4. Maintain a budget for maintenance tasks, including sediment, trash, and debris removal.
5. Maintain equipment, tools, and supplies necessary to perform the various preventative and corrective maintenance tasks.
6. Maintain, repair and replacement instructions for specialized, proprietary, and nonstandard measure components, including manufacturers' product instructions and user manuals.
7. Maintain equipment required to protect the safety of inspection and maintenance personnel.
8. Dispose of the debris resulted from the cleaning and maintenance operation to approved disposal and recycling sites as per the federal, state and local procedures.
9. Maintain the As-built construction plans of the stormwater management measure and copies of pertinent construction documents such as laboratory test results, permits, and completion certificates.
10. The Stormwater system must be accessible for inspection and maintenance. Therefore, trees, shrubs, and underbrush must be pruned or trimmed as necessary to maintain access to the stormwater management measure via roadways, paths, and ramps.
11. For the stormwater management measure, the maintenance personnel must be trained and knowledgeable for the maintenance tasks and/or the operation and care of maintenance

equipment. The person with maintenance responsibility must evaluate the maintenance plan for effectiveness at least annually and revise as necessary.

12. Copies of the maintenance plan must be provided to the owner and operator of the stormwater management measure.
13. A detailed, written log of all preventative and corrective maintenance performed at the stormwater management measure must be kept, including a record of all inspections and copies of maintenance-related work orders.

MAINTENANCE LOG**75 Crescent Avenue, NJ**

S.No	Maintenance Evaluation	Yes	No	Action(s) Required if "yes"
1	Is there a buildup of sediment (in excess of 3-inch) of trash, debris or any other stormwater pollution?			Remove sediment and evaluate on-site upstream systems. Dispose debris in accordance with Federal, State, local County and local Municipal Ordinance.
2	Is there standing water?			Evaluate downstream systems for clogging or trash sediment buildup.
3	Is there any structural failure?			Consult the design engineer to determine safety and/or stability of the system.
4	Are there visible signs of cracking, subsidence, erosion and deterioration of any of the storm conveyance systems?			Consult the design engineer to determine safety and/or stability of the system.
7	Does the maintenance program need to be amended to provide a more effective maintenance program?			Address suggested changes to the responsible party for the stormwater maintenance facility.

MAINTENANCE LOG

75 Crescent Avenue, NJ

[illegible]