



# Underground Facilities and Green Roof Systems

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# Underground Stormwater Management Facilities

New Castle County's Department of Public Works began requesting that maintenance logs be completed and submitted for all underground (sub-surface) facilities in 2011.

At that time, there were 45 underground (or sub-surface) facilities in our inventory.

Today, we inspect approximately 200 underground facilities, which consist of inlet inserts, urban sandfilters, Raintanks and Stormtech facilities. Because of the trend toward containing and managing runoff in a way that requires less space, we expect this number to grow.

In addition to underground facilities, green roof systems are now being utilized as another way to manage stormwater runoff.

# Underground (Sub-surface) Facility Maintenance

- Underground facilities are to be maintained in accordance with the manufacturer or design engineer's recommendations as listed in the Operations and Maintenance or Maintenance and Inspection Plan.
- The Maintenance schedule will either be noted on the As-Built Plan or in a separate document.
- A minimum of two to four inspections (or the number specified on the Operations and Maintenance Plan) must be performed each year.
- Should the facility require entry, all local and OSHA regulations for confined space entry, must be followed.

# Maintenance Logs

In accordance with the New Castle County, Delaware, Code of Ordinances (Part II Section 12.06.001, Subsection B, item 4)

*“...A stormwater management facility inspection and maintenance log shall be maintained by the property owner(s) on a form obtainable from the Department of Special Services (Department of Public Works”.*

*“The property owner(s) must submit the maintenance log to the Department of Special Services (Department of Public Works) on an annual basis. The maintenance log must be certified and provide that required maintenance has been performed”.*

# 2020 Underground Maintenance Log

*2020 ANNUAL INSPECTION LOG FOR SUB-SURFACE  
STORMWATER MANAGEMENT FACILITIES*



Site Name: \_\_\_\_\_ Unit ID#: \_\_\_\_\_

Facility Location: \_\_\_\_\_ Facility Type: \_\_\_\_\_

**A minimum of two to four inspections (or the number specified on the Operations and Maintenance Plan) must be performed each year.** Below, please provide the date of the inspections, note the observations and list any area in need of maintenance and/or repairs. **All maintenance and/or repairs must be completed no later than December 31, 2020.** On the second page, describe the maintenance performed to correct any deficiencies. **Both pages must be returned for the submission to be complete. Submit a separate log for each facility.**

Date of Inspection	Trash/Floating Debris	Sediment	Structural Issues	Blocked Inlet/Outlet	Facility Holding Water	Other

Owner's Name (Please Print): \_\_\_\_\_ Phone Number: \_\_\_\_\_

Owner or Representative's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

*2020 ANNUAL MAINTENANCE AND REPAIRS FOR SUB-SURFACE  
STORMWATER MANAGEMENT FACILITIES*



Site Name: \_\_\_\_\_ Unit ID #: \_\_\_\_\_

Facility Location: \_\_\_\_\_ Facility Type: \_\_\_\_\_

\*Describe the maintenance performed to remedy any deficiencies noted on the inspection log and the date on which it was performed. **Attach before and after photos of the maintenance and/or repairs completed.**

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Contractor's Name: \_\_\_\_\_

Contractor's Signature: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Contractor's Address: \_\_\_\_\_

Logs are to be returned no later than **January 31, 2021** to: New Castle County, Department of Public Works, Attn: Carolyn Magnotti, via mail to: 187-A Old Churchman's Road, New Castle, DE 19720, fax: (302) 395-5802, or email: Carolyn.Magnotti@newcastlede.gov



# Underground Inspection and Maintenance Logs

- ✓ At a minimum, each log must contain:
  - ✓ The date on which an inspection was conducted
  - ✓ Any noted deficiencies or necessary repairs
  - ✓ Maintenance performed
  - ✓ Before and after photos of the completed maintenance and/or repairs, and
  - ✓ The contractor's information and signature
- Please maintain a separate log for each facility
- Logs are to be submitted no later than January 31st of the following maintenance year. Therefore, 2020 logs are due to our office by January 31, 2021.

# Green Roof Inspection and Maintenance Log

- ✓ A qualified professional should perform the inspection.
- ✓ The facility should be inspected frequently (at least once a month), but again in accordance with your Operation and Maintenance Plan, for plant establishment, leaks, and other functional or structural concerns.
- ✓ The use of herbicides, insecticides, fungicides and fertilizers should be avoided.
- ✓ Photos of completed maintenance are required.
- ✓ Logs are due Jan. 31st



**GREEN ROOF**  
2020 ANNUAL INSPECTION AND MAINTENANCE LOG

Site Name: \_\_\_\_\_ Date: \_\_\_\_\_

Facility Location: \_\_\_\_\_ Facility Unit ID #: \_\_\_\_\_

Owner's Name (Please Print): \_\_\_\_\_

Inspector: \_\_\_\_\_

Name \_\_\_\_\_ Email Address \_\_\_\_\_

Address \_\_\_\_\_ Phone Number \_\_\_\_\_

Inspector's Signature: \_\_\_\_\_

- A qualified professional should perform the inspection and submit **one maintenance log per year, per facility**.
- Return completed logs, no later than **January 31, 2021**, to:  
New Castle County, Department of Public Works,  
ATTN: Carolyn Magnotti, 187-A Old Churchman's Road, New Castle, DE 19720,  
or EMAIL: [Carolyn.Magnotti@newcastlede.gov](mailto:Carolyn.Magnotti@newcastlede.gov), or FAX: (302) 395-5802
- This facility should be inspected frequently (once a month) or as needed for plant establishment, leaks, and other functional or structural concerns or in accordance with the Operation and Maintenance Plan (O&M).
- The use of herbicide, insecticides, fungicides, and fertilizers should be avoided, since their presence could hasten degradation of the waterproof membrane. Irrigation is required for plant establishment during the first year. After the first year, maintenance consists of trash and debris removal, weeding of invasive species, and membrane inspections.
- Photos of Inspections and Completed Maintenance are required and must be attached.

Last revised: February 10, 2020 Page 1



**GREEN ROOF**  
2020 ANNUAL INSPECTION AND MAINTENANCE LOG

Inspection Item	Inspection Completed (Yes / No)	Maintenance Needed (Yes/No)	Dates of Inspection and Completed Maintenance / Comments / Description of Issues
<b>Debris Removal (Monthly)</b>			
Leaf, trash, or debris on roof surface			
Blockage of debris screen for gutter or overflow			
<b>Vegetation (Monthly)</b>			
Plants are healthy and amount are consistent with O&M Plan			
Plant replacement / bare spots			
Weeding /mowing / trimming			
<b>Growing Media/ Soil Substrate (Annual)</b>			
Media is level / thickness per plan			
Erosion			
<b>Structural Components (Annual)</b>			
Irrigation system leaking (if applicable)			
Spalling or cracking of structural parts			
Access/ maintenance routed free of debris and maintained			
Tears or perforation in membrane or geotextile fabric			
Interior building leaks			
Structural Deterioration			

Page 2