



# TOWN OF DEDHAM

## GUIDELINES FOR STORMWATER INFILTRATION SYSTEMS

### How to comply with the requirements of the Blanket Stormwater Permit

#### **ELIGIBILITY**

It is the responsibility of any person proposing a project that increases impervious area up to and including 1,000 square feet to obtain a Blanket Stormwater Management Permit from the Building Department.

It is the responsibility of any person proposing a project that increases impervious area exceeding 1,000 square feet to obtain a Stormwater Management Permit from the Conservation Commission.

#### **REQUIREMENTS**

##### **Special Conditions to be Performed Prior to Start of Construction:**

A copy of this Permit shall be kept on-site at all times during construction. All contractors and subcontractors engaged during construction shall be provided with a copy of this Permit and all supporting documents before commencing work.

The applicant shall provide the Building Department with a **forty-eight (48)** hour notice, in writing, before starting any work authorized or required by this Permit.

If a different stormwater infiltration system other than that originally proposed is to be used, the applicant shall submit an amended application to the Building Department for review and written approval.

The use of metal roof material is prohibited, unless the applicant, prior to installation, provides to the Building Department a statement from the manufacturer stating that the type of treatment provided to the roofing assures that neither oxidation of the roof material will occur, nor will the roof be subject to deterioration from atmospheric pollutants, i.e. "acid rain". In no case shall an untreated copper or galvanized metal roof be permitted.

##### **Stormwater System Design and Specifications:**

###### **Step 1: Calculate**

The proposed stormwater management system shall store and infiltrate the required 2 inch depth of runoff originating from the impervious surface of the proposed project. If the project is designed to send runoff from existing roof drains onto the new roof runoff from the portion of the existing roof that drains onto the new roof must be included in the calculations for the infiltration system. See Permit Application for instructions.

###### **Step 2: Infiltration Systems**

The Commission does not endorse specific infiltration systems; however examples of acceptable infiltration systems are listed below. Infiltration systems come in both concrete and plastic. Approved Plastic HDPE systems include Cultec (<http://www.cultec.com>) and Stormtech (<http://www.stormtech.com>) infiltrators, among others. Concrete systems include precast systems and many companies offer a wide assortment of catch basins/manholes and leaching chambers.



### Step 3: Location

The system must be located 10 feet away from the foundation. The distance from the most remote downspout shall be considered when connecting to the collection manifold system. The conveyance system shall be installed at a constant grade, (i.e. no sag points that would interfere with the flow of stormwater to the infiltration chambers), of not less than one percent.

### Step 4: Excavate

Before excavating check the dimensions of the system purchased and account for the depth of stone required below the system, as well as the 6 inches of loam required above the system. The 6 inches of loam above the system shall set the top of the excavation at finished grade.

The applicant must contact the Building Department for a site inspection of the hole prior to the installation of the filter fabric. The inspector will verify that the excavation is above the groundwater table and that the soils will percolate (clay soils will not percolate).

If groundwater is found in the hole, a shallower system must be used. The Building Department must be contacted if water is found in the hole and the applicant must submit an amended application for official approval by the Building Department.

### Step 5: Install Filter Fabric

Non-woven filter fabric, of a type approved by the Building Department, shall be placed along the sidewalls of the excavation. No filter fabric shall be used below the system.

### Step 6: 1.5 to 2 Inches Double Washed, Crushed Stone

The infiltration system shall be underlain and surrounded by a minimum of 6 inches of **DOUBLE WASHED** crushed stone. The crushed stone shall be of a grade from **1.5 to 2 inches**. The crushed stone locks the filter fabric in place.

### Step 7: Install the Infiltration System

Place the approved system in the trench. At this point the system should be underlain by a minimum of 6 inches of **DOUBLE WASHED** crushed stone. Next surround the infiltration system with a minimum of 6 inches of **DOUBLE WASHED** crushed stone. Contact the Building Department for a site inspection *prior* to final grading.

Once the system, stone and fabric have been inspected cover the top of the system with the filter fabric, allowing for penetration of the observation port, or frame and cover, as may be appropriate. The opposite sides of the filter fabric shall overlap by at least 2 feet.

### Step 8: Manifold Collection System

A 4" schedule 40 PVC pipe made to be water tight comprises the manifold collection system tying in each of the downspouts from the guttering system serving the proposed project. The invert (bottom) of the infiltration system, which includes the **DOUBLE WASHED** crushed stone base, shall be above seasonal high groundwater elevation.

**Step 9: Access/Observation Port**

One access/observation port shall be located on the infiltration system at the opposite end from the inflow. The observation port must be installed so the bottom is above the crushed stone. The observation port shall be fitted with a Fernco Flexible Coupling, which shall be cut in half so each end has the stainless steel adjustable clamp. The coupling holds the observation port in place. The access/observation port shall be raised to finish ground surface.

**Step 10: Gutters**

Gutters shall be utilized on the proposed addition, positioned so as to capture all of the runoff from the roof area square footage indicated in the application. Gutters shall be protected by screens, or leaf guards, or other appropriate technology, to minimize the introduction of detritus into the infiltration system. Gutters shall be attached to downspouts, each of which shall be outfitted with screened overflows at or above finished grade. All joints shall be made water-tight so as to eliminate the inflow of soil materials that are backfilled against the piping system.

**Step 11: Final Inspection**

Prior to the issuance of an Occupancy Permit by the Building Department the inspector will ensure that the gutters are tied into the system and installed correctly. Contact the Building Department for a final inspection.

**INSPECTIONS: 3 Inspections Required**

- 1) The stormwater infiltration trench excavation shall be inspected by the Building Department *prior* to the installation of the filter fabric
- 2) The system shall again be inspected *after* the installation of the DOUBLE WASHED crushed stone
- 3) Finally, the system shall be inspected *before* backfilling

**Special Conditions to be Observed During the Course of Construction:**

- All excavated earth material not used during the course of this project and all construction waste and debris shall be removed from the site and disposed of in accordance with applicable regulations.
- If any documented or undocumented underground storage tanks other than those associated with a septic system are discovered during the course of construction, the applicant shall immediately contact the Dedham Fire Department and Conservation Commission prior to the excavation and removal of any such tanks.
- The applicant shall immediately control any erosion problems that occur on-site. No sediment may runoff from the site onto adjacent properties. If any erosion problems occur it may become necessary to install erosion and sedimentation controls in association with this project.

**Special Conditions to be Performed After Completion of Construction:**

- The applicant shall submit an "as-built" plan to the Building Department upon completion of the project. An Occupancy Permit will not be issued until the system has been installed and inspected by the Building Department.

Contact the Building Department at 781-751-9180 with any questions