



Operation and Maintenance Plan *for* StormTree® Tree Filter System (Internal Sump Models)

The following Operation and Maintenance (O&M) Plan was prepared by StormTree® to assist the designated owner/operator in providing for the successful long-term operation of the tree filter system. It is understood that the O&M Plan will become effective immediately following construction and system installation. Maintenance will be performed as described and required by the owner/operator, assignee, or other third party entity.

Post Installation:

Following the installation of the tree filter (system), including backfilling the area surrounding the system to final grade, the system is considered to be “active” since water, sand, sediment, trash, etc. could potentially enter the system. Should the site not be secured, in that construction activities including grading, paving, or final landscaping have not been completed, the system could be impacted by large quantities of construction debris entering the system. This impact could compromise the system’s ability to function properly causing a reduction in infiltration efficiency and overall performance. It is **highly recommended** that the throat entry and grating surface be covered with wood sheeting, non-woven filter fabric or other materials to restrict the movement of water (and debris) from entering the system until the site is fully secured.

Watering:

The engineered media of a tree filter system is very porous and designed to provide high water conductivity (infiltration) but also sufficient organic material to maintain essential water holding capacity to allow for successful plant growth. Due to the inherent high infiltration capacity of the media, particular attention is required to the installation of plant material and irrigation needs.

The ideal season to install plant material (e.g., trees, shrubs) is Fall (September 1 thru November 1); Spring (April 1 thru June 1) is also a preferred season to install plant material. The acclimation of plant material is most successful during these two seasonal periods. Following plant installation, and at least one month thereafter, it is recommended that twice weekly (deep) watering take place, particularly during periods of drought or minimal rain events. Slow release watering bags are also very beneficial.

If possible, avoid installing plant material during the heat of summer, between approximately June 1 and August 31, due to the potential for placing tremendous stress on plant material following transplanting. Daily watering over a period of several weeks may be required to prevent mortality and allow for the establishment of a healthy root system.

General Maintenance:

Maintenance should optimally be performed on a twice yearly basis: in fall after leaves have fallen; in spring, following all winter sanding operations. If winter sanding operations are not customarily performed as to impact the system, or minimal accumulation occurs, once yearly maintenance may only be necessary.

1. Remove any debris or trash from the concrete surface and/or grating.
2. Remove surface grating surrounding the tree and media bed; remove any visible debris and trash. Should any accumulated sands or sediment be observed on the media surface (including mulch layer), remove to ensure a loose and unobstructed media layer. If the system utilizes a fiberglass grate, refer to No. 5 for additional instructions.
3. Evacuate accumulated debris, sands and sediment within sump via vacuor equipment. If hand tools are to be utilized, shovel out as necessary.
4. If overflow/bypass port and piping exist, remove any debris or obstruction surrounding the atrium grate or exposed inlet.
5. Fiberglass grate: Inspect the grate opening surrounding the tree trunk to determine if the exterior trunk is in contact with, or in close proximity to the grate. If so, with the use of a powered reciprocating saw, or other cutting device, increase the opening by removing portions of the grating material as necessary. Refer to the attached grate cutting specification for proper cutting technique.
6. Replace all grating and securely fasten any hardware. Sand and debris may have accumulated in the gap between the sides of the grate and the concrete ledge. Remove as necessary to allow for proper setting of the grate. **IMPORTANT: If the system utilizes a fiberglass grate, carefully return the grate to the notched ledge, paying careful attention to not allowing the grate to make contact with the trunk of the tree. Severe damage and death of the tree may result if the grate scrapes the tree's bark. DO NOT attempt to drop the grate into place from a standing position.**
7. Complete any required maintenance logs or paperwork.
8. Properly dispose of sands, sediment, debris, and trash.

After several years of operation, depending upon the extent and frequency of winter sanding operations and system maintenance, the system may experience excessive sand loading. This condition may require more thorough cleaning, and possibly renovation to include the removal of the top 4 to 6 inches of surface material (media/mulch), and subsequent replenishing. Although not a proprietary product, the engineered media is a specially blended mixture of several components formulated to maintain a specific infiltration capacity. The mulch is typically a coarsely shredded or chipped, (preferably) hardwood which can be sourced at many box stores or agricultural suppliers.

Please consult StormTree directly regarding media addition/replacement.

For additional information please contact StormTree® (www.storm-tree.com) 401-626-8999.