

Maintenance of StormChamber™ Systems

The StormChambers provide great flexibility in facilitating maintenance tasks through different arrangements of StormChamber system components. These can be used individually, or in combination, to best accommodate local requirements, hydrologic parameters, and engineering design constraints. Each is discussed individually below:

1) Pre-treatment devices.

The use of our SedimenTrap makes it unnecessary to use a separate pre-treatment device. SedimenTraps are used along with the StormChamber™ system to help with sediment management.

Two SedimenTraps are typically used for each StormChamber system - in the first and last chamber of the row receiving the storm water inflow. Sediment that escapes capture in the first SedimenTrap™ eventually gets washed down to the one in the last chamber of the row. Use of our SedimenTraps in this manner provides the same function as pre-treatment units, but at a fraction of the cost. They also provide a significantly longer effective life.

2) Vacuum truck tube through 10 inch clean-out riser.

The StormChambers are designed with a defined top portal area at the “down-flow” end of the chamber that can be cut out to accept up to a 10 inch diameter riser pipe. The 10 inch riser can be used as an observation well and for access of a vacuum truck tube that can be used to remove sediment from the SedimenTrap. The “down-flow” ends of the StormChambers have end walls that are closed on the bottom. The closed bottom functions similar to a coffer dam, with most of the sediment depositing prior to flowing into the next chamber, facilitating its removal through the riser pipe from the SedimenTrap, which is positioned directly above this area.

It is recommended, at a minimum, that SedimenTraps be placed at the first and last chamber of each row of StormChambers which receive the flow from the stormwater inlet(s).

3) Sacrificial StormChamber row (in accommodation of the commonly utilized management practice of benign neglect).

An additional row of StormChamber can be added for accumulation of sediment with minimal effect on the stormwater storage requirements of the system. This would be utilized as the “first row” of chambers – the row that accepts the stormwater flow from the inlet structures. Because the flow from the first row of chambers will have to make 90 degree turns through connecting pipes into the adjacent row, velocity of flow will decrease and most of the transported sediment load deposits within the first row of StormChambers.

4) Grated inlet structures.

The use of fully grated inlet structures will keep the vast majority of debris out of the StormChamber system. (It is suggested that these be placed near the entrance to the establishment being constructed as an incentive for owner maintenance).

5) Inlet structures with sumps.

The use of inlet structures with a 2-4 foot sump is recommended. This will allow for additional capture of sediment that can easily be removed with a vacuum truck or other device before it gets into the StormChamber system.

A sumped inlet structure placed at both ends of the first row of StormChambers can also be used to facilitate sediment removal within the StormChamber system. Under this alternative, one or more additional chamber(s) is added to the beginning and end of the first row, the end of each being inserted directly into the sumped inlet structures. This provides for physical access into the first row for maintenance (see “Example Configurations” section).

6) Protected stormwater inlets during construction.

It is highly recommended that, under any of the above alternatives, the StormChamber system not be opened to receive stormwater flows until construction of the site has been completed. Even then, all stormwater inlets must be protected from sediment loading until the site is completely stabilized. Complete stabilization implies that the construction site has been cleared of construction-related debris and has incurred at least two storm events sufficient to wash most soil and other particulate matter off impervious surfaces.

Inspection and Maintenance Schedule

Inspect through the risers quarterly and after each large storm event. It is recommended that a log book be maintained showing the depth of water in the StormChamber at each observation in order to determine the rate at which the StormChamber system dewateres after runoff producing storm events. Once the performance characteristics of the StormChamber have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data suggests that a more frequent schedule is required. Sediment should be removed when deposits approach within six inches of the rim of the SedimenTrap.

*Contact HydroLogic Solutions for technical assistance at 1.877.426.9128
or email us at info@hydrologicsolutions.com.*