

StormGarden

HIGH RATE BIOFILTER

Taking Low Impact Design (LID) to New Heights



The StormGarden Advantage

StormGarden is a patent-pending Low Impact Design (LID) micro-bioretenion system that has been engineered for high flow treatment and high pollutant removal. The high flow-through rate of the engineered media results in a much smaller footprint than traditional bioretention systems, thus treating the same amount of stormwater runoff at a fraction of the cost.

Stormgarden is unique in that it has a "Runoff Reduction Infiltration Panel" that allows a portion of the runoff to infiltrate into the ground thus replenishing the groundwater supply and reducing the volume of runoff discharging downstream. The panel also allows the unit to completely drain between storm events to prevent bacteria growth and nitrogen release during the next storm.

How it Works

Stormwater runoff enters the StormGarden unit through a curb inlet opening and flows down through the engineered filter media mixture that is contained in a landscaped concrete structure. The filter media captures sediment, nutrients, metals and hydrocarbons and removes them from the runoff. The stormwater runoff flows down through the media and into an underdrain pipe at the bottom of the structure, where the treated water is discharged. However, a portion of the treated water exits the structure through the infiltration panel into the surrounding soil.

Benefits

- 20% to 30% smaller footprint than the competition due to a higher media flow-through rate.
- Increased pollutant removal efficiencies due to runoff reduction capabilities.
- Factory installed bio-media insures that the system will perform as designed.
- Easily maintained by local landscape companies.

Expected Pollutant Removal

The following information on the pollutant removal efficiency of the StormGarden filter is based on third party field studies.

- Total Suspended Solids (TSS) > 91%
- Total Phosphorous > 60%
- Total Copper > 60%
- Dissolved Copper > 36%
- Total Zinc > 79%
- Dissolved Zinc > 64%
- Oil & Grease > 34%

Available Options

- External or Internal Bypass
- Side or End Inlet
- Multi-Chamber Systems with Pre-treatment Chamber
- Roof Drain Systems
- Outlet/Junction Chamber
- Boxless Filters

STORMGARDEN SIZING CHART

Filter Sizes (ID)		Tree/Grate Quantity	Rated Flow Capacity (cfs)	Rated Flow Capacity (gpm)	Max. Drainage Area Treated (ac)
W (ft)	L (ft)				
4	4	1 EA	0.052	23.3	0.26
4	5	1 EA	0.065	29.1	0.32
4	7	1 EA	0.091	40.7	0.45
4	11	2 EA	0.143	64.0	0.71
5	6	1 EA	0.097	43.6	0.48
6	7	1 EA	0.136	61.1	0.67
6	9	1 EA	0.175	78.5	0.87
6	11	2 EA	0.214	96.0	1.06
6	13	2 EA	0.253	113.4	1.25
7	13	2 EA	0.295	132.4	1.46

C=1.00, I=0.20 in/hr

C - Values from San Diego County Hydrology Manual (2002)

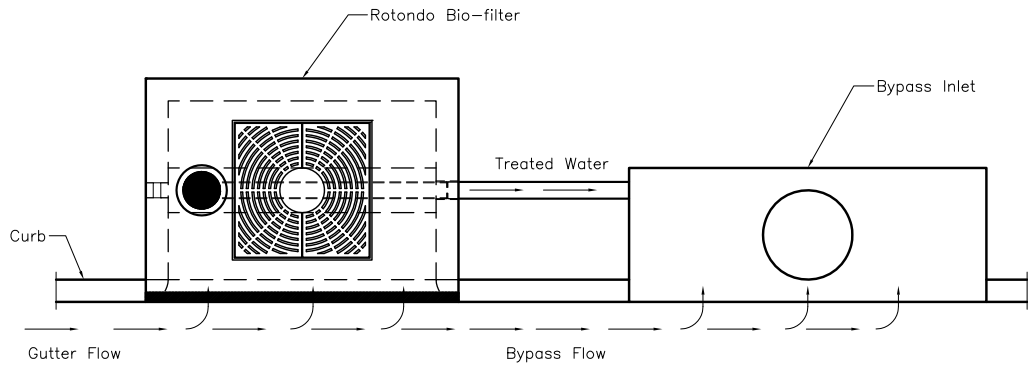
I - Values reflect Uniform Intensity Approach targeting 85%-ile storm (CASQA)



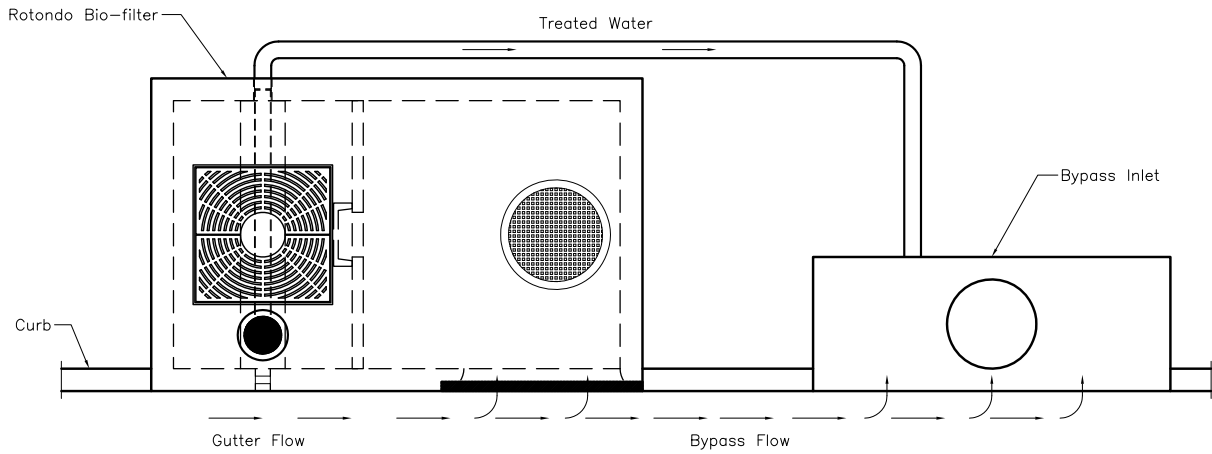
Boxless StormGarden



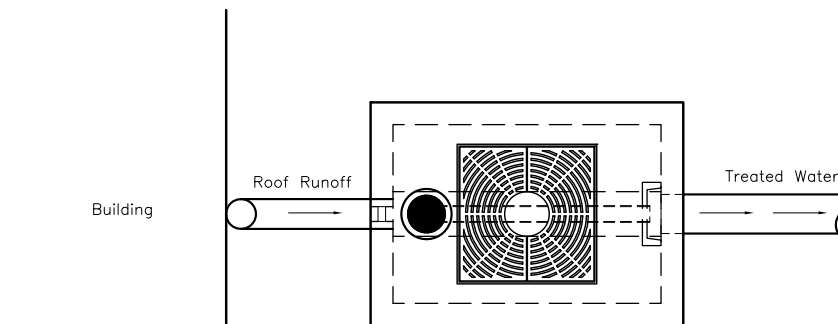
StormGarden with a pre-treatment chamber



STANDARD CONFIGURATION



PRE-TREATMENT CONFIGURATION



ROOFDRAIN CONFIGURATION