

Filtterra®

Stormwater Bio-retention Filtration System



Our waterways. Our future.

Stormwater360
AUSTRALIA

Filtration and biological treatment in one system



Stormwater management regulations such as Water Sensitive Urban Design (WSUD) and Green Infrastructure (GI) have proliferated throughout Europe, North America and Australia.

Implementing WSUD and GI in urban environments is challenging as they often require a large footprint. That doesn't mean WSUD is not possible, it just means the solution may take a more engineered form. Stormwater360 has addressed this need by developing a unique solution - the Filterra Bioretention System.

What is Filterra?

Filterra is an engineered biofiltration device with components that make it similar to bioretention in pollutant removal and application, but has been optimised for high volume/flow treatment in a compact system. Its small footprint allows Filterra to be used on highly developed sites such as landscaped areas, parking lots, and streetscapes. Filterra is adaptable and can be used alone or in combination with other treatment technologies such as EnviroPod or StormFilter.

How Filterra Works?

Stormwater runoff enters the Filterra system through a kerb-inlet opening and flows through a specially designed filter media mixture contained in a landscaped modular container. The biofiltration media captures and immobilises pollutants; some of these pollutants are then decomposed, volatilised and incorporated into the biomass of the Filterra system's micro/macro fauna and flora. Stormwater runoff flows through the media and into an underdrain system at the bottom of the container, where the treated water is

discharged. In areas where runoff reduction and infiltration are mandated or desirable, Filterra can be paired with other Stormwater360 products such as ChamberMaxx to provide even greater alignment with WSUD/GI goals.

Features and Benefits

1 Best Value

Filterra offers the most cost effective stormwater treatment system, featuring low cost, easy installation and simple maintenance.

2 Aesthetics

Landscaping enhances the appearance of your site making it more attractive while removing pollutants.

3 Maintenance

Maintenance is simple and safe (no confined space access), and the first year is FREE with the purchase of every unit.

4 Versatile

Filterra is ideal for both new construction and urban retrofits in both private and public sites as well as:

- Streetscapes
- Parking lots
- Highways
- Urban settings
- Subdivisions
- Industrial settings

Filterra® Configurations



Filterra is offered in multiple configurations to meet site specific needs. These configurations make Filterra a versatile yet effective stormwater treatment option with a low life-cycle cost. For the first time, there is a proprietary WSUD treatment technology for publicly located and owned assets.

Filterra Internal Bypass - Kerb

The Filterra Internal Bypass – Kerb, incorporates a kerb inlet treatment chamber and internal high flow bypass in a single structure. This eliminates the need for a separate bypass structure and enables placement on grade or in a “sag” or “sump” condition.

Filterra Internal Bypass - Pipe

The Filterra Internal Bypass – Pipe, treats stormwater runoff from rooftops or other sub-grade sources such as area drains. Higher flows bypass the biofiltration treatment system via an overflow/bypass pipe design.

Filterra - Street Tree

The Filterra Street Tree accommodates trees larger than the standard small-medium-sized trees used in standard Filterra units. These larger trees can provide benefits to site landscape designs on canopy cover, tree count, or percentage of green area.

Filterra - Sediment Chamber

The Filterra Sediment Chamber includes a pre-treatment chamber that provides settling for debris and sediment, meeting water quality volume temporary hold requirements in some jurisdictions, and provides a treatment-train feature to a standard Filterra.

Filterra - Recessed Top

The Filterra Recessed Top allows for a seamless integration of Filterra into the landscape design with pavers, mulch, sod, or even architectural concrete.

Filterra - StormFilter Overflow

The Filterra StormFilter overflow combines the standard Filterra Internal Bypass System with a StormFilter cartridge configured to treat the internal overflow of stormwater during higher flows.

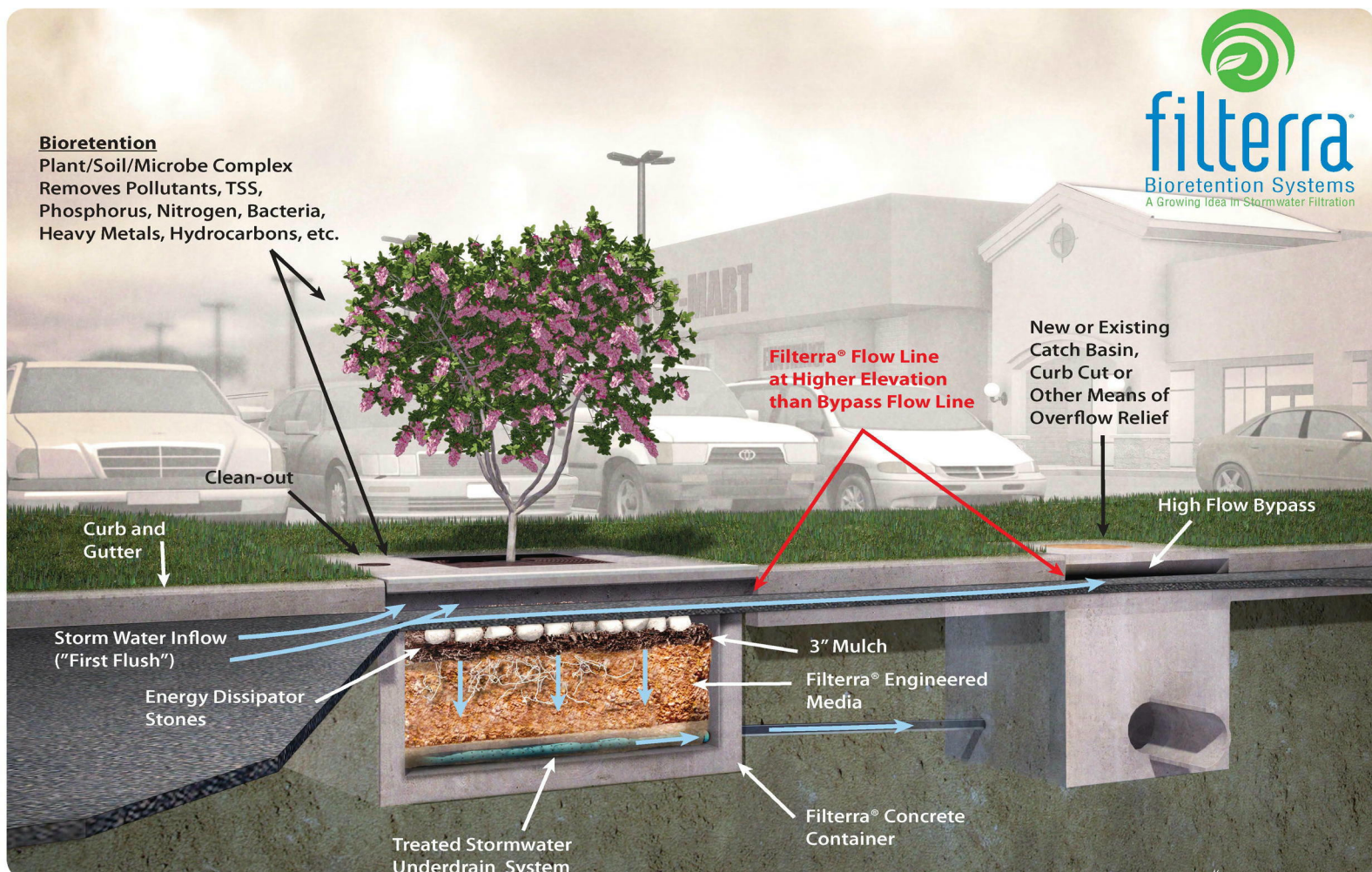


Filterra® - Regulatory Approvals

Based on more than 20 years of research and development, testing and field monitoring, Filterra's performance has been recognised by some of North America's most significant regulatory agencies, including the states of Washington, Virginia, Maryland and New Jersey, the District of Columbia, the Texas Commission on Environmental Quality and the Atlanta (GA) Regional Commission.

Highlights regarding these approvals include:

- Granted ESD (Environmental Site Design) status by the state of Maryland Department of the Environment (MDE).
- General Use Level Designation (GULD) - approved for ALL pollutants of concern with the state of Washington Department of Ecology (WA-Ecology) with (2) Technology Assessment Protocol-Ecology (TAPE) field tests.
- Third-party notationally recognised field/lab tests completed: (1) Technology Acceptance Reciprocity Partnership (TARP), (2) Technology Assessment Protocol-Ecology (TAPE), (1) New Jersey Corporation of Advanced Technology (NJCAT) and (1) North Carolina - Department of Environment and Natural Resources (NC-DENR).



Filterra® - In the Field



We make it easy! The Filterra system is delivered to the job site with all components except plant and mulch.

Filterra – Installation

- Bioretention system sealed from construction sediment.
- Contractor off-loads top and vault separately.
- Set vault to grade on suitable subgrade, pipe up, backfill, set top.

Filterra – Activation

- Contractors: Do NOT remove throat plate nor tree grate covers.
- Vegetation selection guidance based on your climate zone.
- Stormwater360 certified providers conduct on-site activation with installation of mulch and plant.

Filterra – Maintenance

- The first year of maintenance is included with every system.
- Maintenance is low-cost, low-tech and simple:
 - » Remove trash, sediment, and mulch.
 - » Replace with a fresh layer of 3" of mulch.
 - » Can be done by landscape contractor.
 - » No confined space entry.

Sizing Procedure

- 1) Contact Stormwater360 Engineering Department.
- 2) Determine Filterra locations (with effective bypass) in accordance with placement guidelines.
- 3) Determine contributing drainage areas to each Filterra.
- 4) For best results, get us involved early in the design process. Please send your completed project information form along with plans to Stormwater360 for placement and application review.

Placement Review

Because we want your project with Filterra to be a great success, we respectfully require that each Filterra project be reviewed by our engineering staff. This review is mandatory, as proper placement ensures you of the most efficient and cost effective solution, as well as optimum performance and minimal maintenance.

Proper Placement

- 1) Do not place in a sump condition. The Standard Filterra cannot be used as a standalone inlet - it will need effective bypass during higher intensity rainfall events.
- 2) Do not direct surface flow to Filterra in a "head on" configuration. The ideal way to load Filterra to prevent system damage is a cross linear flow (left-to-right or right-to-left) in the gutter in front of the Filterra. This prevents the re-suspension and possible exit of the trapped pollutants, mulch, and engineered media from within Filterra during the high flow bypass stage.
- 3) Refer to example scenarios from Stormwater360.

Design Assistance

Please contact Stormwater360 Design Team on 1300 354 722 or design@stormwater360.com.au.

Stormwater360 supplies and maintains
a complete range of filtration,
hydrodynamic separation, screening and
oil/water separation technologies.

Call 1300 354 722

www.stormwater360.com.au

