



Filterra™ Stormwater Bioretention Filtration System

The Urban Solution for LID

The Filterra™ System

The Filterra System is similar in concept to bioretention in its function and applications but has been optimized for high volume/flow treatment and high pollutant removal. Its small footprint allows it to be used on highly developed sites such as landscaped areas, parking lots and streetscapes. Filterra is exceedingly adaptable and can be used alone or in combination with other BMPs.

Stormwater runoff enters the Filterra System through a curb-inlet opening and flows through a specially designed filter media mixture contained in a landscaped concrete container. The filter media captures and immobilizes pollutants; those pollutants are then decomposed, volatilized 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.

Features and Benefits

Verified Performance. Multiple third-party field tests confirmed Filterra meets regulatory requirements with verified pollutant removal under TAPE, TARP, and NJCAT testing.

Regulatory Compliance. Third party field testing confirmed that Filterra meets state regulatory requirements for pollutant removal under TAPE and TARP testing.

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

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

Versatile. Filterra is ideal for both new construction and urban retrofits, as well as:

- Streetscapes
- Parking lots
- Highways
- Urban settings
- Roof drains

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

Design Support. Our engineers can assist you with all aspects of each Filterra application, including flora selection and sizing.¹

LEED. Obtain up to 12 points for LEED Certification.

A Highly Effective System

Filterra is well-suited for the ultra-urban environment with proven high removal efficiency for many toxic substances such as petroleum and heavy metals.



Filterra™ monitoring unit at a port.

Expected Pollutant Removal

(Ranges Varying with Particle Size, Pollutant Loading and Site Conditions)

| | |
|--------------------------|-----------|
| TSS Removal | 85% |
| Phosphorus Removal | 60% - 70% |
| Nitrogen Removal | 43% |
| Total Copper Removal | > 58% |
| Dissolved Copper Removal | 46% |
| Total Zinc Removal | > 66% |
| Dissolved Zinc Removal | 58% |
| Oil & Grease | > 93% |

Information on the pollutant removal efficiency of the filter soil/plant media is based on third party lab and field studies.



Maintenance is simple and safe.



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Design Assistance

Visit www.imbriumsystems.com for details and design tools including example layouts, detail drawings, specifications, product design worksheet, and other essential design information.

Quebec Sizing Table

| Filterra Size | Max Design Imp Area | |
|---------------|---------------------|-------|
| | m ² | ha |
| mm | | |
| 1150 x 1350 | 510 | 0.051 |
| 1350 x 1550 | 560 | 0.056 |
| 1300 x 2400 | 650 | 0.065 |
| 1600 x 2750 | 1,060 | 0.106 |
| 2000 x 3000 | 2,100 | 0.21 |
| 2000 x 3500 | 2,280 | 0.228 |
| 1981 x 3962 | 2,450 | 0.245 |

NOTE: Sizing basis is using Montreal rainfall data (Station ID 5250) & continuous simulation, and Filterra's testing infiltration rate.

1. Determine Filterra locations (with effective bypass and appropriate slope < 4%) using example layout details.
2. Determine contributing drainage areas to each Filterra.
3. Choose the corresponding Filterra size from the above Sizing Table. Contact Imbrium for site specific sizing if required.
4. For best results, get us involved early in the design process. Please complete a Product Design Worksheet and include plans for placement and application review.

Proper Placement

1. Filterra should be placed on grade (not in a sump condition) with a downstream bypass structure to accommodate flows from higher intensity rainfall events.
2. To prevent scour and resuspension of collected pollutants, cross linear flow (left-to-right or right-to-left) into the Filterra throat opening is recommended. "Head-on" flow into the curb inlet is not recommended.

Cold Climate Considerations

Bioretention systems such as Filterra rely on the vegetation to assist in pollutant removal. Winter road clearing efforts can wreak havoc on roadside landscaping and stormwater structures. For the best performance, Imbrium recommends the following:

1. Use salt tolerant plants. Refer to Imbrium's recommended plant list for Filterra systems.
2. Consider using taller species for system visibility and identification during large snow events.
3. Perform maintenance at the end of winter just prior to the growing season to remove mulch contaminated with winter sands and salts. Flush system with water to wash out any remaining salt.

Filterra Placement Example



Filterra System showing curb-inlet opening.

Placement Review

Because we want your project with Filterra to be a great success, we respectfully require that each Filterra project be reviewed by Imbrium's 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.



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