Selecting the Right Stormwater Solution Just Got Easier...

It’s simple to choose the right stormwater solution to achieve your goals with the Contech Stormwater Solutions Staircase. First, select the runoff reduction practices that are most appropriate for your site, paying particular attention to pretreatment needs. If the entire design storm cannot be retained, select a treatment best management practice (BMP) for the balance. Finally, select a detention system to address any outstanding downstream erosion.

Low Impact Development Site Planner

The Low Impact Development (LID) Site Planner is a free, web-based tool intended to guide you in preliminary selection of the most effective and likely to be approved stormwater control measures that are technically feasible given known site constraints. To utilize this tool, visit www.conteches.com/lidsiteplanner

Benefits of the tool include:

- A fast, easy-to-use tool that follows a Low Impact Development design approach consistent with regulations that prioritize Green Infrastructure.
- Helps minimize the cost and delay of redesigns by prompting users to consider a wide range of common site constraints early in the design process.
-Captures specific site conditions precluding the use of infeasible BMPs.
- Allows flexibility to select flow through treatment controls where runoff reduction is not feasible.
- Provides a summary report with links to design guides, standard details, and specifications for stormwater management approaches that are likely to be feasible and approved on the project.
Filtration and Biological Treatment in One System

Stormwater management regulations such as Low Impact Development (LID) and Green Infrastructure (GI) have proliferated throughout the United States. Implementing LID and GI in urban environments is challenging, as they often require a large footprint. That doesn’t mean LID/GI is not possible, it just means the solution may take a more engineered form. Contech 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 optimized for high volume/flow treatment in a compact system. Its small footprint allows Filterra to be used on highly developed sites such as commercial parking lots, residential streets, parking lots, and urban streetscapes. Filterra is adaptable and can be used alone or in combination with perforated pipes or chambers to optimize runoff reduction.

How The Standard Offline Filterra Systems Works

Stormwater runoff enters the Standard Offline Filterra system through a curb-inlet opening and flows through a specially designed filter media mixture contained in a landscaped modular container. The biofiltration media captures and immobilizes pollutants; some of these 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. The Standard Offline Filterra system utilizes a downstream catch basin or curb inlet for bypass flows allowing for the shallowest profile and most flexible design of any of the Filterra configurations.

In areas where runoff reduction and infiltration are mandated or desirable, Filterra can be paired with other Contech products such as ChamberMaxx or an Urban Green Rainwater Harvesting system to provide even greater alignment with LID/GI goals.
Filterra® Features & Benefits

• **Regulatory Compliance** – Multiple third-party field tests confirmed Filterra meets regulatory requirements for pollutant removal under TAPE, TARP, and NJCAT testing.

• **Value** – Filterra offers a cost effective stormwater treatment system featuring easy installation and simple maintenance.

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

• **Flexible** – Multiple sizes and a variety of configurations available to meet site-specific needs.

• **Versatile** – Filterra is ideal for both new construction and urban retrofits, as well as:
  » Streetscapes
  » Urban settings
  » Parking lots
  » Roof drains
  » Roadways
  » Residential subdivisions

• **Easy Installation** – Delivered on-site, ready to lift and place.

• **Activation** – Performed by Contech-certified providers to ensure effective performance from the start.

• **Maintenance** – Simple and safe (no confined space access), and the first year of maintenance is included with the purchase of every system.
Additional Filterra® Configurations

Filterra is offered in multiple configurations to meet site specific needs. These additional configurations make Filterra a versatile yet effective stormwater BMP with a low life-cycle cost.

Filterra Internal Bypass – Curb
The Filterra Internal Bypass – Curb incorporates a curb 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.

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

Filterra Bioscape®
The Filterra Bioscape system available with or without the concrete vault provides an option for larger drainage areas where standard Filterra is not feasible. Contech provides activation and maintenance services to ensure quality and ease of Filterra component placement.
At the heart of the Filterra system is Filterra engineered biofiltration media; a specified gradation of washed aggregate and organic material homogeneously blended under strict quality controlled conditions. Using data from independent, third-party studies including the University of Virginia (TARP), Herrera Environmental Consultants (TAPE), Terraphase Engineering (NJCAT), North Carolina State University (TAPE & TARP) and Geosyntec Consultants, the filter media has been optimized to operate under high flow rates while maintaining pollutant removal performance. Filterra media is tested for hydraulic functionality, fertility, and particle size distribution to ensure uniform performance.

Filterra media also supports a vegetation component consisting of grasses, shrubs, or trees that assist with the adsorption of pollutants through biological uptake/storage and pollutant consumption by microbes within the plant root zone.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Median Removal Efficiency</th>
<th>Median Effluent Concentration (mg/L)</th>
<th>Third Party Reference Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Phosphorus (TAPE)</td>
<td>70%</td>
<td>0.05</td>
<td>Herrera 2014, NC State 2015</td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td>34%</td>
<td>0.54</td>
<td>NC State 2015</td>
</tr>
<tr>
<td>Total Copper</td>
<td>55%</td>
<td>0.004</td>
<td>UVA 2006, Herrera 2009</td>
</tr>
<tr>
<td>Dissolved Copper</td>
<td>43%</td>
<td>0.003</td>
<td>Herrera 2009</td>
</tr>
<tr>
<td>Total Zinc</td>
<td>56%</td>
<td>0.04</td>
<td>UVA 2006, Herrera 2009, NC State 2015</td>
</tr>
<tr>
<td>Dissolved Zinc</td>
<td>54%</td>
<td>0.1</td>
<td>Herrera 2009</td>
</tr>
<tr>
<td>Total Petroleum Hydrocarbons</td>
<td>87%</td>
<td>0.71</td>
<td>Herrera 2009</td>
</tr>
</tbody>
</table>

Information above is based on results from third party field studies following industry recognized protocols such as TAPE and TARP. Relevant studies are noted for each pollutant, and corresponding data was aggregated to provide realistic and repeatable performance expectations. Some jurisdictions recognize higher removal rates - see your Contech Stormwater Consultant for performance expectations.

Filterra media has been optimized to operate under high flow rates while maintaining pollutant removal performance.
**Filterra® — Regulatory Approvals**

Based on more than 20 years of research and development, testing and field monitoring, Filterra’s performance has been recognized by some of the nation’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, and the City of Portland (OR). Highlights regarding these approvals include:

- Granted ESD (Environmental Site Design) status by the state of Maryland Department of the Environment (MDE).
- GULD-approved for ALL pollutants of concern with the state of Washington Department of Ecology (WA-Ecology) with (2) TAPE field tests.
- Multiple third-party nationally recognized field/lab tests completed: (1) TARP, (2) TAPE, (1) NJCAT and (1) NC-DENR.

**Filterra® — In the Field**

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

**Filterra — Installation**
- Contractor off-loads top and vault separately.
- Set vault to grade on 6” compacted stone, install piping, backfill, set top.
- Leave protective throat plate and tree grate covers in place.

**Filterra — Activation**
- Contractor completes and returns Activation Checklist paperwork.
- Vegetation selection guidance based on your climate zone.
- Contech-certified providers conduct on-site activation with installation of mulch and plant vegetation.

**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 3” layer of mulch.
  - Can be completed by landscape contractor.
  - No confined space entry.

The first year of maintenance is included with the purchase of every Filterra system.
We print our brochures entirely on Forest Stewardship Council certified paper. FSC certification ensures that the paper in our brochures contain fiber from well-managed and responsibly harvested forests that meet strict environmental and socioeconomic standards.

**Next Steps**

**Dig Deeper**

Find all the information you need at www.ContechES.com, including field and laboratory test results, approvals, brochures, design guides, standard details and specifications within the product section of our site.

**Connect with Us**

We're here to make your job easier—and that includes being able to get in touch with us when you need to. www.ContechES.com/localresources.

While you’re there, be sure to check out our upcoming seminar schedule or request an in-house technical presentation.

**Start a Project**

If you are ready to begin a project, contact your local representative to get started. Or you can check out our design toolbox for all our online resources at www.ContechES.com/startaproject.

**Links to Stormwater Design Tools:**

To use the Land Value Calculator, visit: www.ContechES.com/lvc

To use the Design Your Own Detention System tool, visit: www.ContechES.com/dyods

To use the Design Your Own Hydrodynamic Separator tool, visit: www.ContechES.com/dyohds

To use the Rainwater Harvesting Runoff Reduction Calculator tool, visit: www.ContechES.com/rwh-calculator

To use the Low Impact Development Site Planner tool, visit: www.ContechES.com/lidsiteplanner