FocalPoint BioFiltration System Utilized in Urban Retrofit for Certified Greenroad Application

*Reduced Infrastructure Cost * Reduced Maintenance Cost *

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FocalPoint is a scalable biofiltration system which utilizes the efficiency of high flow rate engineered media. FocalPoint provided stormwater quality treatment in a much smaller footprint than traditional bioretention.
FOCALPOINT BIOFILTRATION SYSTEM PROFILE

3” Layer of Shredded Hardwood Mulch:
Pre-treatment Mechanism. Removal and Replacement of Mulch Represents the Bulk of System Maintenance!

6” Bridging Stone & Separation Layer:
Clog-Proof Clean Stone & Micro-Mesh Replace Traditional Geotextile Layer No geotextile = no clogging

18” High Performance Media:
Flows at 100” Per Hour, Resistant to Clogging

Pollutant Removal:
TSS = 91%
Nitrogen = 48%
Phosphorus = 66%

High Performance Underdrain:
9.45” Modular Tank, or “Flat Pipe” w/95% Open Surface Collects Water Efficiently.
Optional 2” Low-Profile Panel Addresses Shallow Applications.
Expand into Modular Tanks for Larger Storage Needs.
The primary feature that makes Bagby Street a Greenroads design is a series of biofiltration planter boxes (called out as “Rain Gardens”) that line both sides of Bagby street and collect stormwater runoff, storing it and filtering it through FocalPoint Biofiltration systems.

**Why use FocalPoint Rain Gardens?**
- Water quality
- Landscape feature
- Reduce irrigation
- Detention
- Mimic pre-existing
- Save money
Existing utilities can create complications with construction in highly urbanized areas.

The modularity of the FocalPoint Biofiltration system made is very simple to adapt to the conditions on site.

| FocalPoint Mesh covering FocalPoint Flat Pipe Under-Drain | Bridging Stone over the Flat Pipe Under-Drain and Separation mesh |
Each FocalPoint Rain Garden had the same basic layers and components of the system installed.

- **FocalPoint High-Flow Engineered Media**
- **Overflow Inlet**
- **FocalPoint Inspection Port**
- **3” Hardwood Bark Mulch**
Instead, they could place the FocalPoint between two v-notch weirs, in an area that required \( \frac{1}{20} \)th of the space a typical biofiltration system would require.

With the biofiltration system away from the tree roots, the design team met their two primary goals; street trees and biofiltration.
Due to the robust root system of most street trees, the design team was concerned that placing the trees in a typical biofiltration planter box would lead to the root system damaging the underdrain of the biofiltration system and clogging it, causing the planters to flood.

One of the critical project design goals was to provide street trees within the right of way while also removing pollutants such as heavy metals, floatables, sediment and oil and grease from the roadway stormwater runoff.
Stormwater enters the FocalPoint “Rain Garden” through curb cuts. “V” notch galvanized weirs control flow into the FocalPoint Biofiltration media. The FocalPoint system provides a reduced footprint in which the stormwater runoff can be treated and then fed into the existing MS4 infrastructure.
The sidewalk area around the FocalPoint Rain Gardens – (shown on right during construction and below after brick paving was installed) provide a nice finished appearance to the urban retrofitted project.
Bagby Street Constructed High Flow Focal Point “Rain Gardens”
ACF’s Engineering team can provide project specific support or you can access the tools below:

- Specifications
- Calculator
- CAD Details
- Flow Rate & Pollutant Removal Documentation
- Media Certification
- Installation & Maintenance Manuals
- Performance Guarantee
- And More!

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