

2020

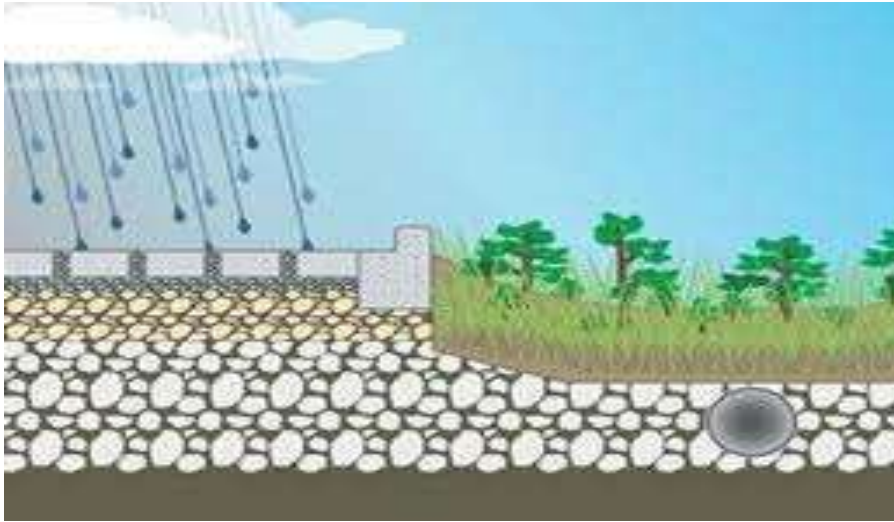




Stormwater Solutions

Brian D. Williams, CPESC
Stormwater Specialist

Minimizing effective imperviousness



Dealing with Stormwater





















GeoCurve



















Blocksom















FODS































Post Construction

Water: Low Impact Development

[Contact Us](#) [Share](#)

[Water Home](#)

[Drinking Water](#)

[Education & Training](#)

[Grants & Funding](#)

[Laws & Regulations](#)

[Our Waters](#)

[Pollution Prevention & Control](#)

[Applications & Databases](#)
[Low Impact Development](#)
[Impaired Waters & TMDLs](#)
[Permitting \(NPDES\)](#)
[Polluted Runoff](#)

You are here: [Water](#) » [Pollution Prevention & Control](#) » [Low Impact Development \(LID\)](#)

Low Impact Development (LID)

[Fact Sheets and Reports](#) | [Design/Guidance Manuals](#) | [Information Resources and Centers](#) | [Videos and Other Multi-Media](#)

LID is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. There are many practices that have been used to adhere to these principles such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions. LID has been characterized as a sustainable stormwater practice by the Water Environment Research Foundation and others.

NPS Categories

- [Abandoned Mine Drainage](#)
- [Agriculture](#)
- [Forestry](#)
- [Hydromodification & Habitat Alteration](#)
- [Marinas & Boating](#)
- [Roads, Highways & Bridges](#)
- [Urban Areas](#)
 - [Low Impact Development](#)
- [Wetland & Riparian](#)

Stormwater Treatment Train:
Rain Guardian – Flexamat - FocalPoint



Stormwater Treatment Train:
PaveDrain – R-Tanks



Preserver



Bioretention Inlets





Rain Guardian Pretreatment Chambers

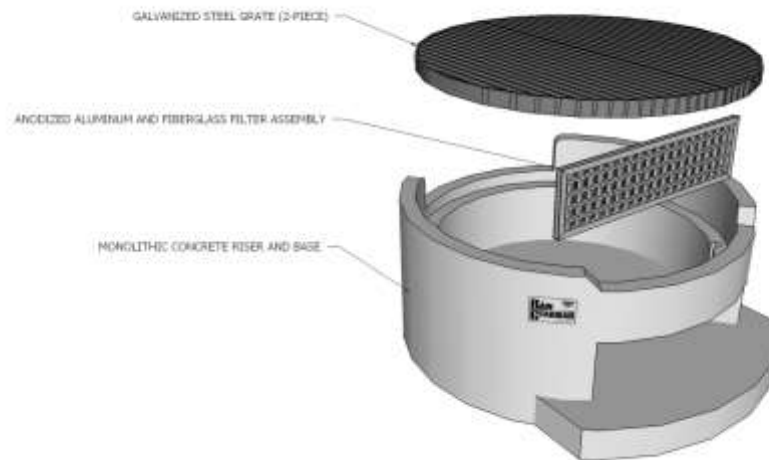


Bunker



Turret

Rain Guardian Turret

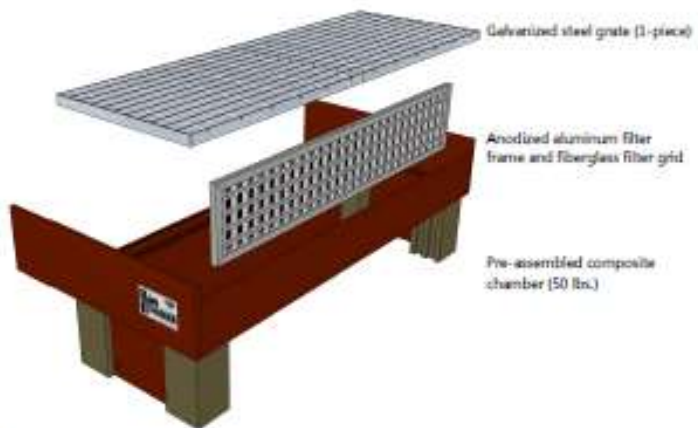


4.5 ft³ storage







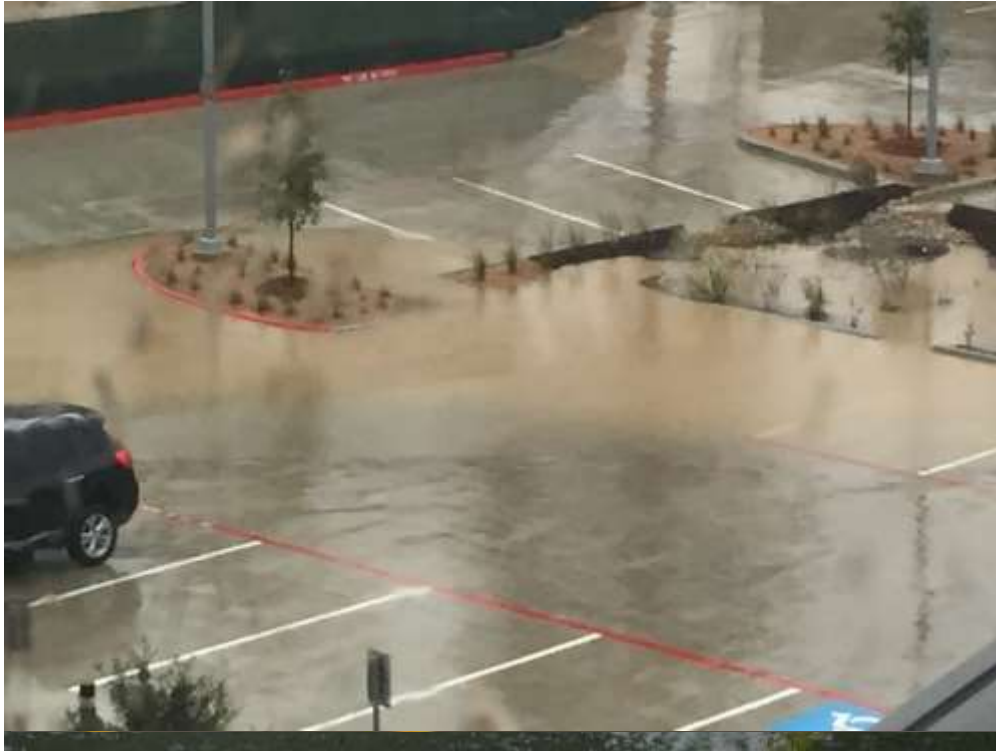






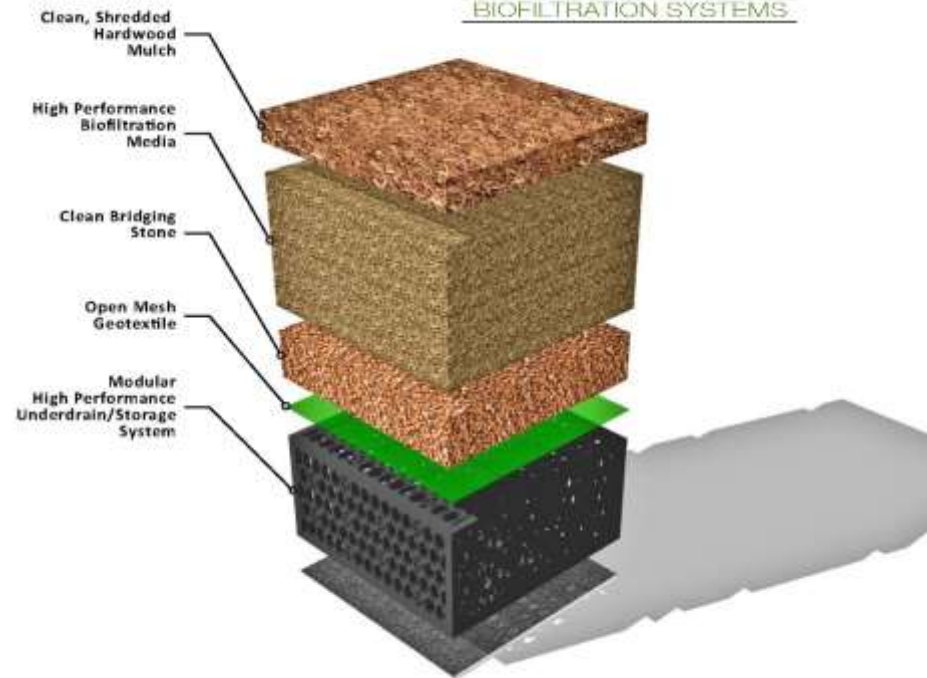
Rain Guardian Turret onto Flexamat





FocalPoint

BIOFILTRATION SYSTEMS



Traditional Biofiltration Systems Low Flow Rate – Large Footprint

6,072 SF of Biofiltration Bed using 10" HR
Media



High-Performance Modular Biofiltration System High Flow Rate – Small Footprint

216 SF of Biofiltration Bed using 100" HR Media

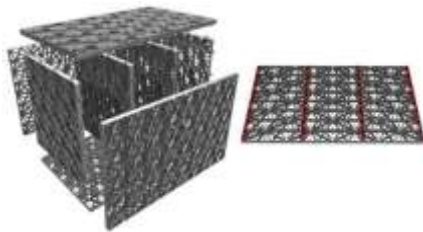


High Flow Rate – Size Matters



Modular tanks for underdrain & storage





Miramesh and Pea Gravel



Filtration Media



Shredded Mulch



Gabion Energy Dissipation (optional)



Buttoned Up until Commissioning



Mature FocalPoint (Aug. 25, 2017 = 3 years growth)



Drone Fly-over















The Future is **Multifunctional**

- ▶ Pavements
- ▶ Landscapes
- ▶ Drainage
- ▶ Rooftops





























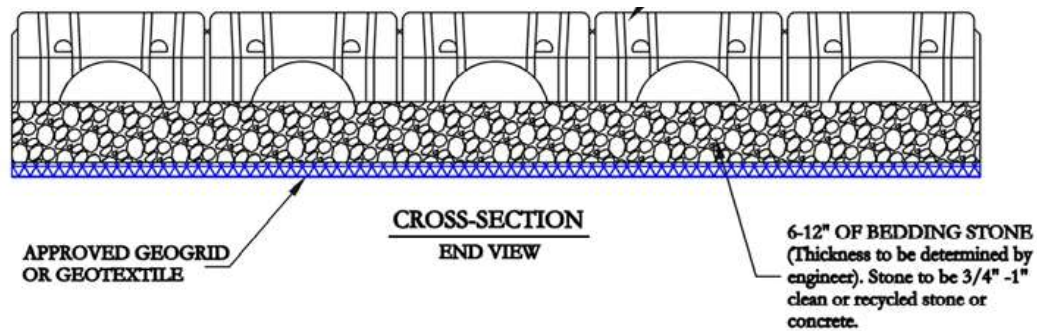


Porous Pavement





Typical PaveDrain Cross-Section



Machine Lay Installation







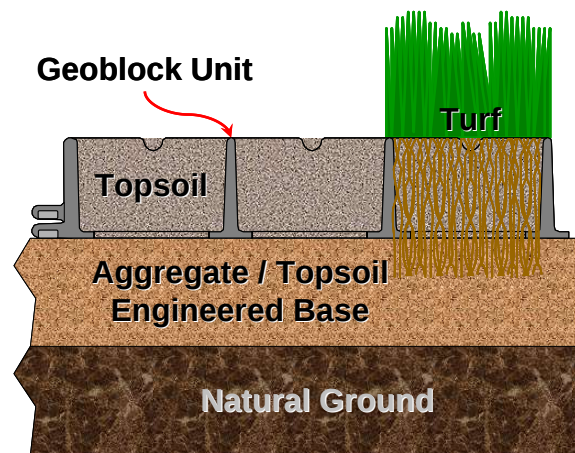








Vegetated Porous Pavements



SYSTEM COMPONENTS:

- Geoblock Unit
- Engineered Base
- Selected Topsoil Infill
- Selected Vegetation





































































ASP Enterprises, Inc.

15263 Cooper St.

Omaha, NE 68138

- Brian D. Williams bwilliams@aspent.com
- Lynn Ewoldt lewoldt@aspent.com
- Bill Murphy, P.E. bmurphy@aspent.com



www.aspent.com



Questions?

