Envirolok®

Designed for Nature...Engineered for Life

Envirolok, LLC | www.envirolok.com | ecosolutions@envirolok.com
10101 N Casey Road Evansville, WI 53536 | 608.226.2565

STORMWATER MANAGEMENT

CASE STUDIES

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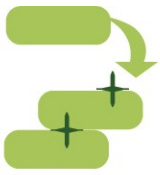
+ ENGINEERED STORMWATER MANAGEMENT

Designers, contractors, and property owners all play a key role in our ability to clean, store, and reuse water. Whether working on a dense urban site or an expansive rural acreage, stormwater management can be costly and use valuable real estate. As an engineered and ecologically advanced system, Envirolok provides a permanent vegetated solution for a variety of stormwater applications at any scale.

Stormwater management solutions can be designed to effectively contain surface water flow while slowing water and allowing sediment to drop out before reaching waterways. Envirolok provides strength & stability while allowing water to infiltrate. As vegetation establishes, rainwater runoff is filtered by plant roots and shoots. Envirolok's wet or dry application provides flexibility for almost any application. Whether you're looking for a transition between grades or reinforcing the channel of a swale, Envirolok can help maximize BMP's within a small construction footprint.

DESIGN

FILL



INSTALL

VEGETATE

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WEST FORK KENNEY RUN - Stormwater Channel Repair

Year Constructed
2016

Project Size
2300 Units, 300' x 40'

Client
Urban Drainage & Flood Control

Reinforcement
Mattress Style

Vegetation — Hydroseed

Engineer
Icon Engineering

Contractor
Naranjo Civil Constructors

+ Project *Snapshot*

After years of large storm events and continuous sedimentation, the existing drainage channel in Golden, Colorado, lost its aesthetic appeal and was no longer functioning to move water and reduce flooding. Through collaboration with Envirolok West, the Urban Drainage and Flood Control District of Colorado, they developed a solution that would handle the storm events, limit sedimentation, and create a new focal feature for the residential neighborhood. Construction began on the project in the spring of 2016. Envirolok was applied as a mattress application to create a naturalized stream corridor by lining the meandering channel bottom with the Envirolok system. The remaining corridor was further reinforced with a mattress application of bags and spikes to provide the strength and capacity to withstand large storm events. Once in place, the project was hydroseeded using a mix of native sedges, forbs, and grasses. Since the installation, the project has held strong, providing a successful green infrastructure solution that is sustainable and aesthetic.

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SOPHIA CREEK - Creekbank Stabilization

Year Constructed: 2015

Project Size: 115m^2

Client: City of Barrie

Reinforcement: Geogrid

Vegetation: Hydroseed

Engineer
GHD – Waterloo, ON

Contractor: City of Barrie

Bag Filler
Marco Clay Products

Approving Authority
Lake Simcoe Region Conservation Authority

+ Project *Snapshot*

After years of flooding and multiple 100-year storm events, the slopes, banks, and stream channel began to fail around an existing culvert. This section of Sophia Creek had approximately 2m high bare slopes undercut by water flow erosion. Working with the City of Barrie, old gabion baskets were removed around the existing culvert, and 25m of creek bank were replaced with the Envirolok system. During construction, Sophia Creek experienced an unprecedented 1:100 year storm event that accelerated erosion and caused the culvert to dislodge into the plunge pool. The Envirolok bags were left standing, much to the surprise of the City of Barrie Public Works officials and the Lake Simcoe Conservation Authority. Once construction was complete, the Envirolok system was hydroseeded with native grass, wildflower, and perennial rye cover crop seed mix. By utilizing Envirolok as a long-term solution, the project team quickly established native vegetative cover that continues to withstand urban storm events.

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WHEATON SANITARY DISTRICT - Culvert Outlet

Year Constructed
2011

Client
Wheaton Sanitary District

Reinforcement
Geogrid

Vegetation
Live Stakes

Engineer
Strand Associates Inc.

Contractor
Benchmark Construction Co.

+ Project *Snapshot*

A contractor went beyond the allowed limits of construction permitted by regulatory agencies and excavated a streambank. The US Army Corps of engineers cited a violation and required it to be restored quickly and promptly. The DuPage County Department of Environmental Concerns recommended the Envirolok System as an appropriate repair to the streambank. The reaction to Envirolok was positive as it remedied the violation without the need to obtain any further permits. Envirolok provided a stable, non-erodible platform for plant growth as well as stabilized the soil below. For additional strength, geogrid was used throughout the system for reinforcement. Once Envirolok was in place, fast-rooting native plantings were incorporated, whose natural habitat is at the water's edge. The Envirolok system solved the problem and created a stabilized streambank that could withstand heavy spring floods and other severe conditions.

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EDGEFIELD GOLF COURSE - Stormwater Swale Repair

Year Constructed
2008

Reinforcement
Geogrid

Vegetation
Plant Plugs

Project Partner
Sunmark Environmental Services, LLC

McMenamins Brewery

+ Project *Snapshot*

A residential subdivision development upstream of a stormwater swale increased impervious surface runoff causing severe scouring of more than four feet in a drainage ditch. The severe scouring was discovered after the removal of invasive vegetation and water runoff was leading to sediment discharge in the wetlands below. Envirolok's patented system was used to build a "mattress" of units that encapsulated the soil, prevented erosion, and served as a medium to vegetate the swale. The forces that caused the scouring were eliminated due to the durable Envirolok fabric acting as a splash guard. The ability of the Envirolok system to withstand flashy storm events solved a persistent and costly erosion issue. Native plants were planted upon completion of construction, replacing their invasive counterparts. Through the Envirolok system and native vegetation, storm event erosion is non-existent, and the ecosystem is growing native species, adding new habitat to the golf course.

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