

# MODERN BIOSWALES AND DETENTION TO THE RESCUE

## INCREASING LOT YIELD BY USING LOW IMPACT DEVELOPMENT

### Project Details

The Camellia development, a 90-acre single-family residential project located in Fort Bend County outside of Houston, Texas, exemplifies the power of Stormwater Multifunctional Design in transforming stormwater management into a tool for enhancing community value and development efficiency.

Originally, the stormwater strategy relied on large detention canals designed to handle a 100-year, 24-hour storm event—about 13 inches of rainfall in one day—while aiming to place 100% of homes on an amenity. However, this approach limited lot yield and carried high construction costs.

By shifting to a modern Stormwater Multifunctional Design approach, the development team was able to significantly increase lot yield, reduce construction costs, and create more amenitized spaces for future residents, all while meeting stringent flood mitigation requirements.





## What Convergent Water Technologies Provided

Convergent Water Technologies delivered a flexible, space-efficient stormwater solution using the FocalPoint High-Performance Modular Biofiltration System (HPMBS). Installed within the medians of community roadways, these bioretention systems slowed and treated stormwater runoff using engineered high-flow media while also providing storage and infiltration capacity.

FocalPoint's modular underdrain and storage system enabled a smaller installation footprint compared to traditional detention infrastructure, reducing the likelihood of contractor error and lowering long-term maintenance costs. As an added benefit, when dry, the bioswales created attractive green spaces featuring decorative plantings—offering aesthetic value in addition to function.

## Why the Developer Chose Stormwater Multifunctional Design and FocalPoint

The project team selected FocalPoint HPMBS and a multifunctional design strategy for several compelling reasons:

- Increased Lot Yield – Allowed for 323 total lots, 99 more than the original design using traditional detention canals.
- Cost Efficiency – Reduced cost per lot by \$13,543, saving the developer over \$937,000 in total construction costs.
- Amenity Maximization – Enabled 99% of lots to front green spaces or water features, enhancing marketability and community appeal.
- Environmental Benefits – Achieved pollutant reductions of 85% for Total Suspended Solids (TSS), 52% for Total Phosphorus (TP), and 60% for Total Nitrogen (TN).
- Scalability and Performance – FocalPoint's design minimized installation footprint while maximizing filtration and durability.

By integrating FocalPoint biofiltration systems into the roadway medians, the Camellia project demonstrated that stormwater management can go beyond compliance to unlock real financial, environmental, and community value.



### Distributed by Convergent Water Technologies

Convergent has decades of experience in developing and delivering problem solving stormwater innovations. Convergent believes that adopting new ideas quickly, and integrating the process of innovation into stormwater regulation, product development and distribution is the only answer to our looming water crisis.

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