

CASE STUDY

MULTI-FUNCTIONAL DESIGN: SPRINGWOODS VILLAGE

SUMMARY

Springwoods Village is the nation's largest Low Impact Development, nestled on approximately 2,000 acres on the southern bank of Spring Creek at the confluence of Interstate 45, the Hardy Toll Road and the Grand Parkway on Houston's north side. Anchored by Exxon Mobile's 385-acre campus, Springwoods Village is a master planned multi-use development where ecology and development are carefully balanced to create a truly unique sense of place. Coventry Development Corporation's Development Standards and Guidelines helped serve the declaration that "Springwoods will balance nature, urbanism, and diversity to promote a timeless and healthy way of life", by strongly encouraging the use of Low Impact Development Practices such as bioretention, bioswales, vegetated structural roadway shoulders, permeable pavers and rainwater harvesting and reuse. Scattered throughout both the public and private areas, you will find Low Impact Development Best Management Practices.

LID Stormwater Management for the 100-Year Storm

CHALLENGE

Creatively Designed for Maximum Impact:

The main artery through Springwoods Village is Springwoods Village Parkway. It dissects the development and connects Interstate 45 to the Grand Parkway and is the gateway to the new Exxon Mobile Campus. The design team had to consider a number of factors, but the primary concern was flood control. The team chose to use a typical boulevard section with a crowned center median, but instead of curb and gutter, the design team used bioswales on each side of the road. Due to the terrain of the site, there were gabion walls strategically placed in the swales to prevent the velocities in the swale from ever exceeding a more than three cubic feet per second. In order to prevent the swales from becoming excessively deep, it was decided to use a tiered rock void storage approach below the bioswales to store the 100 year storm and mitigate any potential flooding at the low points of the road in the intersections.

SOLUTION

Why FocalPoint HPMBS:

In order to get water into the stone voids below the swale, the design team needed a solution that could infiltrate the 100 year storm and get the water into the stone in as clean a manner as possible to prevent costly future maintenance. They chose the FocalPoint High Performance Biofiltrations Systems due to its 100 inch per hour infiltration rates and efficiency at removing up to 90% Total Suspended Solids. On Springwoods Village Parkway, there are over 100 FocalPoint High Performance Biofiltrations Systems. For the purposes of Springwoods Village Parkway, reliability was essential to the long term sustainability of its drainage system.



STORMWATER MANAGEMENT DONE RIGHT
The Right Solutions. The Right Way. The Right Reasons.

