



WATER RESOURCE CENTER

FACT SHEET

Southwestern Pennsylvania Commission

WATER RESOURCE CENTER

Mission

To promote regional collaboration on water topics; be a leader in facilitating coordination and education; and provide technical assistance to its member governments.

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VEGETATED ROOFS

STRUCTURAL STORMWATER BMPs

Vegetated Roofs are roofs that are covered with specialized media and planted with vegetation; this enables the roof to hydrologically perform in a manner similar to vegetated surfaces. The media holds water, which is eventually evapotranspired by the plants. They can be installed on flat and/or pitched roofs with a slope of $\leq 30\%$ in a variety of settings.

Vegetated roofs' primary function in stormwater management is volume reduction. Additional stormwater benefits include water quality improvements and some peak rate control. Environmental benefits beyond stormwater control include building temperature moderation and wildlife habitat.



The 1st green roof (above) in Westmoreland County is located at the County Conservation District's office. This installation was part of extensive sustainable stormwater retrofit solutions across the site. Photo: wcdpa.com

BMP Profile	
Name	Vegetated Roof
Type	Structural
Grouping	Volume and Peak Rate Reduction BMP
Stormwater Management Benefits	<ul style="list-style-type: none"> ◆ Volume Reduction ◆ Water Quality Improvements ◆ Peak Rate Control
Potential Applications	<ul style="list-style-type: none"> ◆ Residential ◆ Commercial ◆ Ultra Urban ◆ Industrial ◆ Retrofit



A green roof was installed on the Allegheny County Office Building (above) in 2010 as a demonstration project. There are four types of green roof technologies and extensive monitoring equipment in place. Photo: eislerlandscapes.com

Key Considerations for Vegetated Roofs

- ◆ Structural competency must be verified for both dead loads (when dry) and live loads (with rainfall retention)
- ◆ Require optimal waterproofing system to protect against biological and root damage
- ◆ Should not be fertilized or irrigated in order to achieve maximum benefits
- ◆ Performance is improved when coupled with ground infiltration measures
- ◆ Internal building drainage should be designed to manage large rainfall events without inundating the cover

This information was adapted from the Pennsylvania Stormwater Best Practices Manual. Check out SPC's other fact sheets to learn more about specific BMPs, flooding, and more.