



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 SWALE STRUCTURAL STORMWATER BMPS

Vegetated Swales are shallow channels, planted densely with vegetation, designed to reduce the rate of stormwater and encourage infiltration. Additional stormwater management benefits of vegetated swales include improved water quality and volume reduction.

Vegetated swales can be incorporated into a variety of landscapes, including residential, commercial, industrial, and highways/roads. In areas with steep slopes, check dams can increase the effectiveness of vegetated swales by further slowing the rate of stormwater and therefore increasing opportunities for infiltration.



Vegetated swales can be incorporated into a variety of landscapes, including retrofit situations. Above is an example of a parking lot that was retrofitted with a vegetated swale to perform on-site stormwater management and improve aesthetics.

Table with 2 columns: BMP Profile, Name, Type, Grouping, Stormwater Management Benefits, Potential Applications. Rows include Vegetated Swale, Structural, Volume and Peak Rate Reduction by Infiltration, Water Quality/Peak Rate Control/Volume Reduction/Groundwater Recharge, Residential/Commercial/Industrial/Retrofit/Highway/Road.



In areas with steep slopes, check dams can be included in the design of a vegetated swale to increase stormwater management performance. The check dams attenuate the water, slowing the peak rate and allowing more time for infiltration.

Key Considerations for Vegetated Swales

- Better alternative to conventional conveyance systems due to ability to remove some pollutants and reduce speed of stormwater
Utilize minimum of 24" of permeable soil beneath plants
12" - 24" of base rock layer should be placed below soil layer
Plant with native vegetation that is tolerant of wet and dry conditions
Maintenance plan is essential for long term success
Can be designed to aesthetically enhance surroundings
Should discharge to additional stormwater BMP or traditional stormwater infrastructure

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.

Photos: lacreekfreak.files.wordpress.com & oseh.umich.edu