

Structural BMPs

Stormwater Management

This factsheet is part of our Stormwater Management series. To access this series and many other educational resources, please visit: spcwater.org.

Structural Stormwater Best Management Practices (BMPs) are engineered systems that are designed to mitigate the impacts of stormwater. Structural BMPs are effective tools for stormwater management in both development and retrofit situations.

Structural BMPs include systems that rely on the natural processes of soil and vegetation (e.g. vegetated swale) as well as systems that rely on manufactured components (e.g. water quality filters). Structural BMPs can be utilized to reduce volume and peak flows, and to improve water quality.

The Pennsylvania Best Management Practices Manual divides Structural BMPs into the following groups:

Restoration BMPs

- Riparian Buffer Restoration
- Landscape Restoration
- Soil Amendment & Restoration
- Floodplain Restoration

Runoff Quality & Peak Rate Control BMPs

- Constructed Wetland
- Wet Pond / Retention Basin
- Dry Extended Detention Basin
- Water Quality Filters & Hydrodynamic Devices

Volume & Peak Rate Reduction BMPs

- Vegetated Roof
- Runoff Capture & Reuse

Volume/Peak Rate Reduction by Infiltration BMPs

- Infiltration Basin
- Subsurface Infiltration Bed
- Infiltration Trench
- Rain Garden / Bioretention
- Dry well / Seepage Pit
- Constructed Filter
- Vegetated Swale
- Vegetated Filter Strip
- Infiltration Berm & Retentive Grading
- Pervious Pavement with Infiltration Bed

Other BMPs & Related Structural Measures

- Level Spreader
- Special Detention Areas



Constructed wetlands remove pollutants, and reduce peak flow rates and runoff volume.

For more information about the impacts of stormwater, visit:

- EPA.gov
- depweb.state.pa.us
- pacd.org
- bmpdatabase.org
- spcwater.org



For more information please contact:

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