



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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NON-STRUCTURAL BMPs

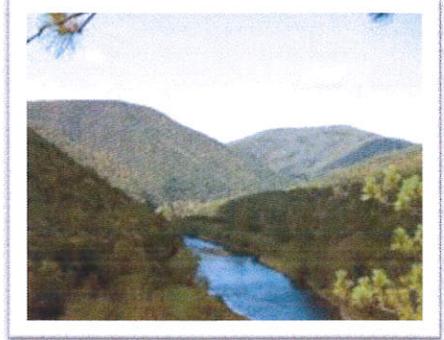
STORMWATER MANAGEMENT

Non-Structural Stormwater Best Management Practices (BMPs) focus on the prevention of stormwater generation, therefore effectively reducing runoff volume, and decreasing development costs while increasing property value and marketability.

Non-structural BMPs refer to the suite of options available to avoid and/or minimize damages associated with stormwater volumes and runoff from development. The most effective way to manage stormwater begins with the prevention of problems. It is much more efficient and cost-effective than attempting to correct problems after development has occurred. Utilizing non-structural BMPs is the most important step in managing runoff.

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

- ◆ Protect Sensitive and Special Value Resources
- ◆ Cluster and Concentrate
- ◆ Minimize Disturbance and Minimize Maintenance
- ◆ Reduce Impervious Cover
- ◆ Disconnect / Distribute / Decentralize
- ◆ Source Control



Protect Sensitive and Special Value Resources

- ◆ Protect Sensitive / Special Value Features
- ◆ Protect / Conserve / Enhance Riparian Areas
- ◆ Protect / Utilize Natural Flow Pathways in Overall Stormwater Planning and Design

Cluster and Concentrate

- ◆ Cluster Uses at Each Site; Build on Smallest Area Possible
- ◆ Concentrate Uses Area-wide through Smart Growth Practices

Reduce Impervious Cover

- ◆ Reduce Street Imperviousness
- ◆ Reduce Parking Imperviousness

Disconnect / Distribute / Decentralize

- ◆ Rooftop Disconnection
- ◆ Disconnection from Storm Sewers



Protection of sensitive areas, such as this riparian area and steep slopes (top right) and forested wetland (bottom right) are examples of non-structural BMPs. Photos : summitpost.org & Erin Kepple

Minimize Disturbance and Minimize Maintenance

- ◆ Minimize Total Disturbed Area
- ◆ Minimize Soil Compaction in Disturbed Areas
- ◆ Re-Vegetate and Re-Forest Disturbed Areas Using Native Species

Source Control

- ◆ Streetsweeping

Benefits of Non-Structural BMPs

There are environmental, economic, and social benefits associated with incorporating non-structural BMPs into site planning and development. These benefits may include but are not limited to:

Environmental

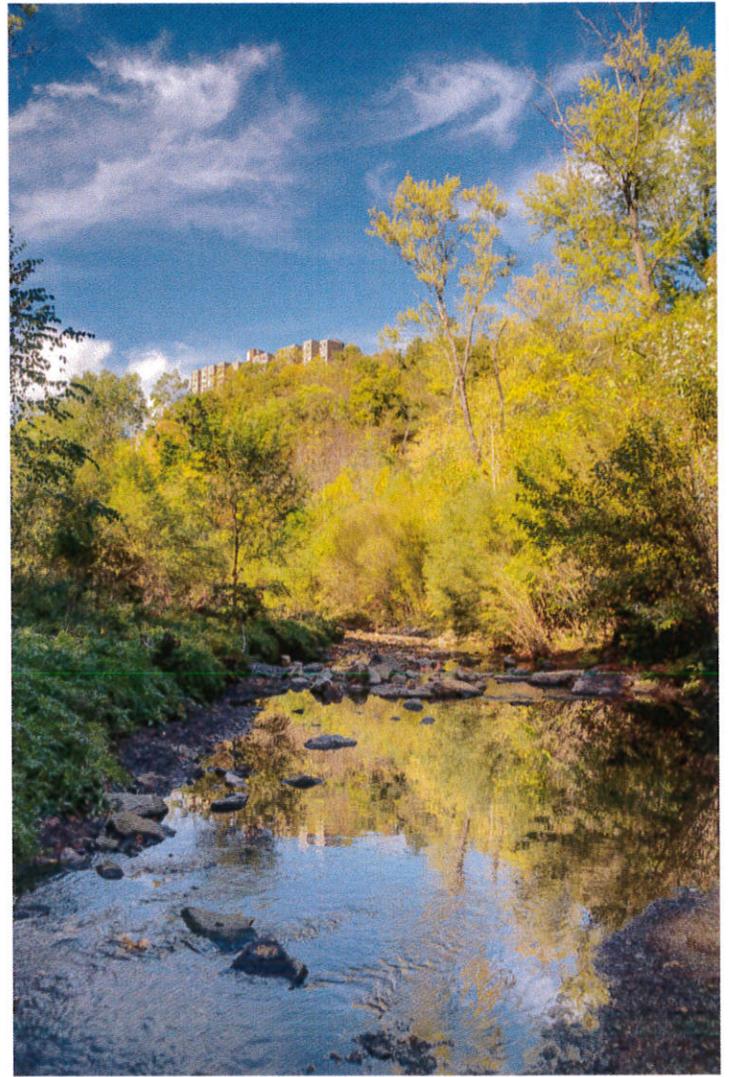
- ◆ Maintains a more natural and functional landscape
- ◆ Promotes harmony between development and existing natural systems
- ◆ Mitigates flooding through reductions of peak flows
- ◆ Retains wildlife habitat and supports biodiversity
- ◆ Reduces soil erosion
- ◆ Protects drinking water supply through groundwater recharge
- ◆ Encourages decentralized treatment, infiltration, and evaporation of precipitation, helping to prevent negative consequences associated with stormwater
- ◆ Protects water quality and aquatic habitat
- ◆ Protects and improves air quality

Economic

- ◆ Reduction in stormwater infrastructure costs
- ◆ Disconnection of impervious surfaces to infiltration areas decreases pressure on existing stormwater or combined sewer system
- ◆ May help to increase community marketability and property values
- ◆ Reduces development cost
- ◆ Rooftop disconnection and use of rain barrels can save money for landscape irrigation

Social

- ◆ Preserves open space
- ◆ Reduces heat island effect
- ◆ Provides recreational opportunities
- ◆ Improves neighborhood aesthetics
- ◆ Reduces noise pollution



Protecting, conserving, and enhancing riparian areas is an important non-structural BMP. Riparian areas are very effective at protecting and improving water quality. This non-structural BMP has many additional stormwater management benefits, including but not limited to: volume reduction, groundwater recharge, and peak rate control.

For More Information

To learn more about non-structural BMPs, stormwater management, and more, visit the following websites:

- ◆ <http://water.epa.gov/infrastructure/greure/index.cfm>
- ◆ http://spcwater.org/ed_bmp_specnonstruct.shtml
- ◆ <http://www.stormwaterpa.org/non-structural-bmps.html>
- ◆ <http://www.bmpdatabase.org/>
- ◆ <http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-8305>

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.