PERVIOUS SURFACES: WHAT DO THEY LOOK LIKE?

POROUS ASPHALT can be used just about anywhere that impervious asphalt is installed.

PERMEABLE PAVERS allow runoff to permeate into vegetation or aggregate in between paver spaces. They are resistant to heavy loads and have high durability.

POROUS CONCRETE permits stormwater to infiltrate directly through the surface and reduces the amount of runoff.

Financial and other support for this project is provided by the Pennsylvania Association of Conservation Districts through a grant from the Pennsylvania Department of Environmental Protection under Section 319 of the Clean Water Act, administered by the U.S. Environmental Protection Agency.

BIRTH OF A POROUS CONCRETE RETROFIT

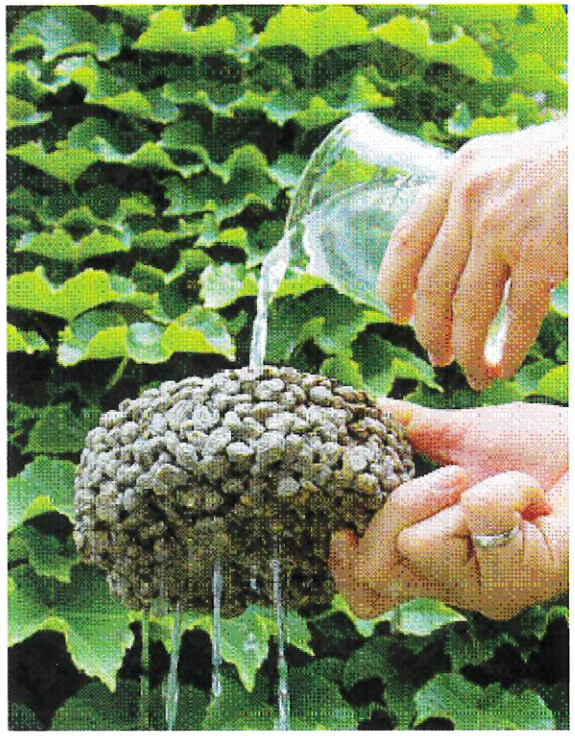
This porous concrete sidewalk project can be seen at the Berks County Agricultural Center.

Stormwater Best Management Practices Interpretive Trail

Nonpoint Source Pollution Reduction Strategy:

PERVIOUS SURFACES

Porous Concrete & Asphalt Permeable Pavers



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ABOUT THIS TRAIL

The Berks Conservation District Stormwater Best Management Practices Interpretive Trail was developed to educate visitors about stormwater management; nonpoint source pollution and its impacts; and, strategies for reducing water pollution that can be implemented at home, at work, or in the community.

What is nonpoint source pollution (NPS)? NPS pollution occurs when precipitation flows over lawns, parking lots, farm fields, city streets and forests picking up pollutants and carrying them into our streams, rivers and oceans.

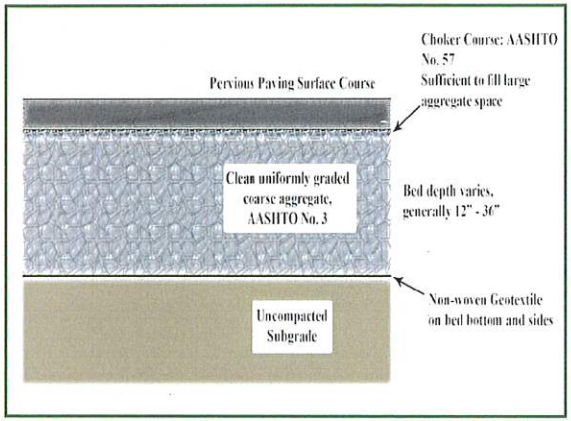
Activities such as littering, oil leaks, lawn over-fertilization, and improper disposal of chemicals contribute to the contamination of our local waters. If left unchecked, these activities eventually increase the level of pollution content in our streams & waterways.

What can we each do? Strategies for managing stormwater and reducing nonpoint source pollution can be accomplished in many ways. Some of those ways are demonstrated on this trail and include Installation of Pervious Surfaces, Water Quality Units, Rain Gardens or Bioretention Areas, and Subsurface Infiltration Systems.

Was this information helpful? Log on to **www.co.berks.pa.us/conservation** to take our Trail Survey and enter to win a prize!

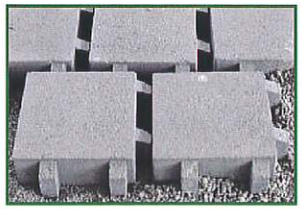
ON THE TRAIL: PERVIOUS SURFACES

Porous Concrete & Asphalt is similar to regular concrete or asphalt , just without sand and "fine" particles incorporated into the mix. This practice allows for void space and water to penetrate through the surface, which makes it more environmentally friendly. These surfaces are created by a layer of porous materials over top a bed of clean aggregate and a layer of geotextile fabric. The stone bed temporarily stores surface runoff, and allows stormwater to directly infiltrate (permeate) into the soil below. The stone bed and fabric act as a filter to remove some pollutants during the groundwater recharge process. This concept also allows the area to be more efficient at snow melt and reduces icing potential on its surface.



Schematic of a typical pervious pavement surface.

Permeable Pavers also reduce runoff by allowing stormwater to infiltrate through the surface to the underlying soils.



QUALITIES & BENEFITS

Environmental Benefits:

- Increases water infiltration into the ground.
- Reduces high "flash flood" flows in streams by capturing water.
- Reduces runoff and flooding impacts.

Maintenance:

- Less winter maintenance compared to regular concrete surfaces.
- Use of approved de-icers such as ***magnesium chloride*** are preferred to avoid clogging the void spaces.
- Vacuum twice per year, or as needed, to remove sediments or other contaminants.

Application:

- Can be used in all areas with traditional sidewalks or impervious surfaces.

Take Note:

- Costs for materials themselves can be higher than with conventional methods, but are reduced if a drainage system would have been required otherwise.
- Can be more labor intensive to keep at optimum efficiency.
- Installation experience is required.
- Site evaluation and infiltration testing should be conducted prior to installation.
- Pavement should not be placed on recent fill or compacted fill areas.
- Void space should be 20- 40% in the aggregate layer, depending on specs.