Pervious Pavements

Ryan Marlinghaus
EarthCare Landscaping 8/12
What we are going to cover:

- The problem with water runoff
- Benefits of pervious pavements
- Types of pervious pavements
- View lots of amazing pictures
Storm Water Runoff

Storm Water Runoff ends up in local streams, creeks, rivers, and lakes.

NC Department of Environment and Natural Resources — Creative Services
Water Pollution
Infiltration

Natural Ground Cover
- 40% Evapotranspiration
- 10% Runoff
- 25% Shallow Infiltration
- 25% Deep Infiltration

75%–100% Impervious Cover
- 30% Evapotranspiration
- 55% Runoff
- 10% Shallow Infiltration
- 5% Deep Infiltration
Benefits of Pervious Pavements:

- Meet US EPA BMP for stormwater control
- Mimics pre-development conditions
- Can reduce ‘heat island effect’
- Can benefit trees & shrubs
- Filters pollutants
- Recharges groundwater
Different types Pervious Pavements:

- Porous asphalt
- Permeable pavers
- Pervious concrete
- Others
Permeable Pavers
Permeable Paver cross-section
Our first Pervious Concrete driveway
2005
What is Pervious Concrete?

Generally consists of rock (coarse aggregate), cement and water.

Has about 20% voids so water flows right through it, up to about 600”/hr

Poured on a bed of a gravel, often ¾” crushed drain rock over a geotextile
Pervious Concrete cross-section

- Portland Cement pervious concrete
- #57 aggregate subbase (depth varies w/ design)
- Non-woven geotextile at bottom and sides of subbase
- Soil subgrade
Pervious Concrete installation
“PrettyPervious”

- More attractive
- Finer texture
- More color and design options
- More consistent
“PrettyPervious”
What is “PrettyPervious”? 

- Very fine aggregate (like coarse sand), cement, admix, color and water.
- Pre-weighed precisely prior to the job, then mixed onsite, the aggregate and cement with the liquid and color.
- Applied ¼” to ½” thick over standard pervious concrete as it is being placed.
- Can also be used as an overlay to repair failed standard pervious concrete.
“PrettyPervious” offers many design options
Any color or banding...
Any pattern
With stone, cobbles or urbanite
From a child’s drawing...
To a backyard patio
Costs

- Regular Concrete $11.50/sft
- Regular Concrete w/color $12.50/sft
- Standard Pervious Concrete $12.00/sft
- Pervious Concrete w/color $13.00/sft
- PrettyPervious Concrete $14.00/sft
- ‘Pervious’ Pavers $16-$21/sft

*all costs include a minor amount of site prep*
Failed flagstone and goldfines path
Solution: PrettyPervious between flagstones
PrettyPervious between “Urbanite”
Regular concrete with gravel
On average vacuum once or twice a year and pressure wash every 5 years

Studies in 13+ year old pervious in Florida show even with no maintenance still acceptable percolation rates
THE END  (of run-off!)
Additional Resources

- www.ICPI.org for permeable pavers
- www.perviouspavement.org
- www.concretenetwork.com/pervious/
- ‘Porous Pavements’ Bruce K. Ferguson
- ‘Sustainable Landscape Construction’ Thompson & Sorvig