

# OPERATION GREEN SIDEWALK

## The Conflict between Trees and Sidewalks - Alternatives to a Concrete Sidewalk



This demonstration green infrastructure project was funded by a Sustainable Jersey Grant to evaluate alternative sidewalk materials that are more compatible with mature street trees planted along the curbside of the street.

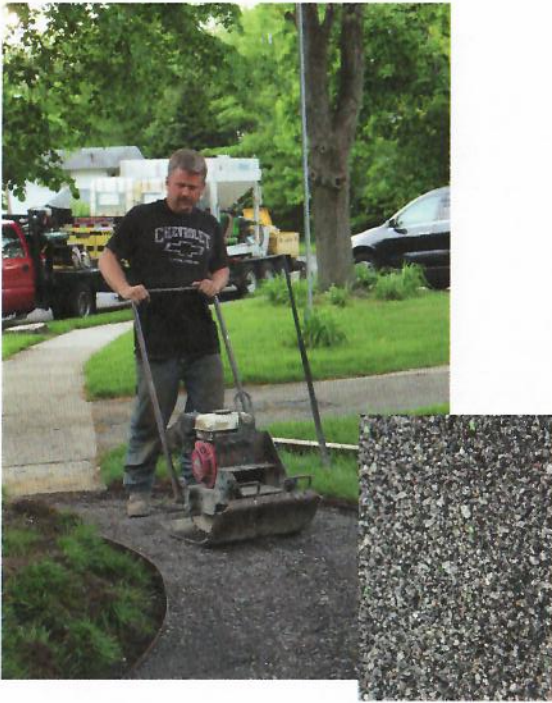
A Mount Holly  
Environmental  
Committee Project



## **FILTER PAVE** ...

Site Location: 17 Thornton Rd

- Full surface porous pour-in-place material significantly reduces stormwater runoff
- Made from recycled glass, stone aggregate and a binder
- Flexible yet rigid and strong
- Eligible for LEED credits
- Effective at reducing Heat Island Effect
- Low Impact Development Strategy
- ADA compliant
- Available in a variety of colors



Estimated Cost per 100 sq ft\* : \$3100

## **POROUS PAVE** ...

Site Location: 408 Buttonwood

### **KBI FLEXI-PAVE** ...

Site Location: Tree pits on Washington and Park Drive

- Full surface porous pour-in-place material significantly reduces stormwater runoff
- Made from recycled tires, stone aggregate and a binder
- Flexible, Durable and Freeze/Thaw resistant
- Eligible for LEED credits
- Effective at reducing Heat Island Effect
- Low Impact Development Strategy
- ADA Compliant, flexible material resists cracking
- Available in a variety of colors



Estimated Cost per 100 sq ft\* :  
Porous Pave \$1880  
Filter Pave: \$2950

## **EP HENRY ECO PAVERS** ...

Site Location: 1 Harmon

- Interlocking Pavers installed over stone base; joints filled with loose gravel is permeable; pavers are not
- Infiltrate, filter and decrease stormwater runoff
- meets USEPA stormwater performance criteria as a structural best management practice
- Eligible for LEED credits
- Base materials easily removed if access to utilities required; then re-installation of pavers
- ADA Compliant, can be used on sloped sites with proper design
- Available in a variety of colors



Estimated Cost per 100 sq ft\* : \$2300

\* Estimated cost based on demonstration project, includes labor and material for removal of old sidewalk, excavation and installation of new permeable sidewalk.

## **PROJECT INFORMATION**

### **BENEFITS OF TREES**

- aesthetically pleasing
- promote physical activity and reduce stress
- abate noise pollution
- sequester greenhouse gases such as carbon dioxide
- conserve energy by cooling our homes
- act as wind breaks to help warm our homes
- important for stormwater management
- improve water quality
- provide important habitats for numerous birds, insects and animal species
- raise property value

### **THE PROBLEM**

- wrong tree in wrong spot can cause damage
- sidewalks are lifted and become trip hazards as tree roots grow - seeking out air and water
- trees need a soil that is moist and loose
- concrete sidewalks need soil that is compact and does not move
- damage to trees comes when the main roots are cut close to the trunk when sidewalk is replaced, weakening tree and causing it to die

### **THE SOLUTION**

- plant correct tree in space provided
- replacement sidewalk should bridge over or around roots DO NOT CUT ROOTS. Consider use of alternative permeable paving compatible with tree roots

### **RESULTS**

- Permeable pavement or porous pavers were successfully installed around large trees with no disturbance to roots. Information provided within.

### **More Info:**

**EP Henry ECO Interlocking Pavers**

<http://www.ephenryecocenter.com/homeowners/products.aspx>

**Porous Pave - Pour-in-place pavement**

<http://www.porouspaveinc.com/>

**Filter Pave -Pour-in-place pavement -** <http://filterpave.net/>

**Flexi-Pave Pour-in-place pavement**

<http://kbius.com/kbi-products/kbi-flexi-pave/>

Project made possible by:

- Mount Holly Environmental Committee
- Mount Holly Township
- Mount Holly Department of Public Works
- Winzinger Incorporated for donated services
- EP Henry for donation of ECO Henry Pavers
- G.W. Lippincott's for materials and supplies
- Grass Master – General Contractor
- Splash Sales & Marketing - Contractor
- Measure Line Surfacing - Contractor

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Video of project showing permeability of material can be found at:

<http://twp.mountholly.nj.us/content/386/426/428/default.aspx>

