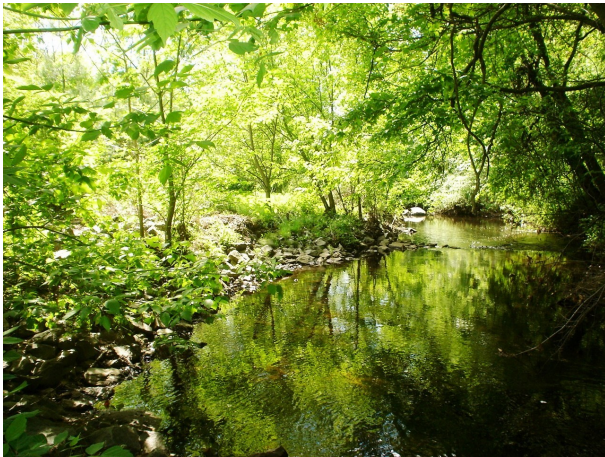


## COSTS

- Labor and materials costs were \$36,000
- Design costs were \$3,500 through the Rutgers Cooperative Extension Water Resources Program (other costs may be higher)



Troy Brook behind the Parsippany-Troy Hills DPW.  
Photo credit Pat Rector.

## MAINTENANCE

Regular maintenance for this pervious paver area includes mowing, irrigation (as necessary especially in the first year) and fertilizers (if needed). Irrigation and fertilizers were not required at this site.

Replacement seeding may be necessary if bare areas become apparent. If erosion becomes apparent, the flow should be slowed, perhaps with river stone to break the velocity.

Deicing salts should not be used as this would negatively impact the grasses.

A snowplow may be used to clear the surface. The blade does not have to be lifted when plowing.

*Cooperating Agencies:* Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

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# RUTGERS

New Jersey Agricultural  
Experiment Station



## **PERMEABLE GRASS PAVERS** Greening the Department of Public Works (DPW) Facility in the Troy Brook Watershed



The Parsippany Department of Public Works (DPW) facility is approximately three acres. Most of the area consists of impervious surfaces. During a 1.25 inch two hour water quality storm, an estimated 71,275 gallons (9,801 ft<sup>3</sup>) of stormwater runoff are generated at the facility.

Brochure created by Pat Rector, Rutgers Cooperative Extension Environmental and Resource Management Agent for Morris and Somerset Counties and Christopher C. Obropta, Ph.D., PE., Associate Extension Specialist in Water Resources

Implementation Project completed by Rutgers Cooperative Extension Water Resources Program and Rutgers Cooperative Extension of Morris County under a 319(h) Grant from the NJ Department of Environmental Protection

## THE SITUATION



The emergency access road behind the DPW facility building was a dirt road that sloped towards the Troy Brook.

Photo credit Pat Rector

The Troy Brook is adjacent to the Parsippany-Troy Hills Department of Public Works (DPW) facility. The Troy Brook has an impairment for biological life, and the Troy Brook Regional Stormwater Management Plan has identified the DPW facility as an area that contributes to localized flooding issues in the stream. The emergency access road behind the buildings had previously allowed stormwater runoff to the stream.

The stormwater runoff carried sediment and phosphorus, while the runoff from the roof downspouts ponded and caused flooding in the offices in the building.

## THE SOLUTION



Long view of the pavers immediately after installation.

Photo credit Pat Rector, 9/25/2009

Utilizing funding from a Section 319(h) of the Clean Water Act grant from the NJDEP, permeable grass pavers were installed. Grass pavers are placed on roads or parking areas that do not receive heavy traffic. The pavers allow grass to grow between them, facilitating infiltration and decreasing the amount of runoff from the area. The pavers have reduced stormwater runoff from the road area and the side bank. Drainage from the rooftop that had previously caused flooding in the offices is also directed to the pavers, and the rooftop runoff is infiltrated. The offices no longer flood. During Hurricane Irene when Parsippany-Troy Hills received over seven inches of rain, the office in the building did not have any water whatsoever!

## GRASS PAVERS



Grass Pavers at Parsippany-Troy Hills Department of Public Works Facility Emergency Access Road during a rain storm — note there is no runoff from the grass paver areas. Photo credit Pat Rector

The grass paver area is approximately 180 ft. x 12 ft. (2,160ft<sup>2</sup>), with runoff of approx. 2,000 ft<sup>2</sup> from the road and 7,160 ft<sup>2</sup> from the roof. An estimated 105,862 gallons/yr. of rainwater is now being captured and treated onsite.



Pervious pavers at Parsippany-Troy Hills Department of Public Works facility Emergency Access Road. Note the downspout from the roof leading to the pavers. Photo credit Pat Rector, 5/2011