

JANUARY 2018



Permeable Pavement at NIH

Every year at NIH campuses, an astonishing 1.7 million gallons of storm water are diverted from runoff due to the contributions of permeable pavement. That volume of storm water is equivalent to two and a half Olympic-sized swimming pools! This reduction of storm water runoff helps to prevent flash-flooding both on NIH campuses and in the surrounding community watersheds. [Permeable paving systems](#) create this advantage by maintaining the functionality of a non-permeable paved surface while allowing the passage of storm water through the structure. Permeable paving surfaces are installed over layers of compacted gravel that form a reservoir for storm water until it infiltrates back into ground water reserves. The ability of these base layers to detain storm water helps to reduce storm water runoff and downstream flooding.

Additionally, permeable pavement helps reduce the amount of pollutants introduced into storm water runoff. The contaminants that are typically found on parking lot surfaces, such as hydrocarbons, bacteria, metals, and anti-freeze, percolate into the base layers of the permeable paving system. While contained within the system, microorganisms break down or utilize the contaminants before they enter groundwater supplies. The alternative, with a traditional impervious surface, has contaminants carried away by swift-moving storm water runoff to pollute natural water bodies.

Permeable paving also has the added benefit of reducing the need for ice-melt products during winter storms. On a traditional asphalt paving surface, snow and ice is melted numerous times because of thawing during the day and refreezing at night. Over the course of multiple days, the snow and ice gradually makes its way as water into catch basins and through the storm sewer. With permeable paving, ice and snow only need to be melted once to travel directly into the ground as water. This feature saves money on ice-melt products, while also reducing water contamination from such products. This is the first winter season at NIH with large permeable paving systems, such as those around the Northwest Child Care Center. The Office of Research Facilities will be tracking the reduction of ice-melt products and labor hours to confirm potential cost savings from permeable paving systems.

Another advantage of permeable paving systems is the variety of surfaces that can be utilized. A few options include precast pavers, poured pavements (asphalt and concrete), stone, rubber, and stabilized turfgrass. Although many of these types of permeable pavement are already installed on NIH property, a very low percentage of the total paving is permeable. The Northwest Child Care Center, which was completed in the summer of 2017 on the Bethesda campus, has over 30,000 square feet of permeable paving for parking, sidewalks, a fire lane, and playground surfacing. Permeable pavement represents 2/3 of the total pavement installed for the Northwest Child Care Center! In addition, Rocky Mountain Laboratories (RML) has installed nearly 400 linear feet of permeable asphalt in the historically designated "Tick Moat" surrounding the original Quad Building. In order to meet current federal and state environmental mandates, the number of permeable paving installations and retrofits is likely to continue increasing on our campuses. Expect many more projects like those listed above in the years to come!

For a map of permeable paving on the Bethesda campus, please [click this link](#). The annual NIH Earth Day or NIH Take a Hike Day, both in spring, would be a great time to check out many of these installations. For paving questions, please feel free to contact the [ORF Landscape Architect, Brandon Hartz](#).

TAKE ACTION

Go Green Get Healthy HHS



2017 HHS Green Champions Awards

HHS has issued a call for nominations for the 2017 HHS Green Champion Awards! Nominate a fellow employee so they can be recognized for their efforts to promote sustainable practices!

[LEARN MORE](#)

STAFF SPOTLIGHT



Meet the NIH Bethesda Campus Landscape Architect, Brandon Hartz!

Brandon Hartz joined NIH in June 2016 as the Bethesda campus Landscape Architect. He has a wealth of experience using sustainable principles in landscape architecture and now his expertise has joined us at NIH!

[LEARN MORE](#)

NEMS TRAINING

Did you know? Two-thirds of the total pavement installed at the Northwest Child Care Center is permeable pavement. To learn more about storm water management at NIH, please visit the [NEMS Training webpage](#) to view a short (20 minute) NIH environmental awareness training.