



# Belgard Technical Bulletin

Research | Permeable Paver Maintenance | O&M Manual

## Oldcastle APG

Belgard, part of Oldcastle APG, offers a complete collection of paver and wall products for plazas, terraces, parking areas, roadways, rooftops and retaining walls. Available in a range of styles, premium Belgard products have been found in the nation's finest developments and award-winning commercial and retail properties since 1995. Oldcastle APG is part of CRH's Building Products division. As the largest building materials company in North America, CRH provides a single-source solution for commercial construction projects with a full portfolio that also includes structural masonry, masonry veneers, dry mix products, hardscape jointing sands and sealants, stormwater management systems, concrete infrastructure, architectural glass, lawn & garden products, and composite decking.

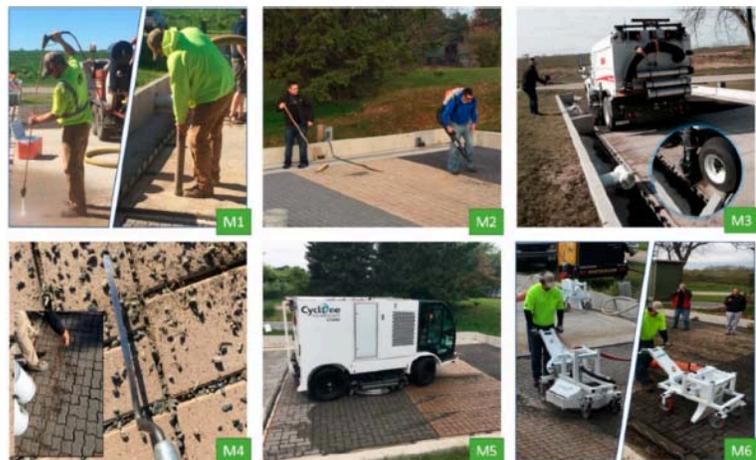
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## Independent Study Proves Ease of Permeable Paver Maintenance

All stormwater control measures (SCMs) require maintenance and this is true for permeable interlocking concrete pavement (PICP). In the past, specifying and implementing a maintenance plan for PICP may have seemed like a daunting task, but research has shown that permeable pavers are one of the easiest and most cost-effective SCM to maintain. In May of 2020, the U.S. Geological Survey released an article titled *Assessment of Restorative Maintenance Practices on the Infiltration Capacity of Permeable Pavement*.



This four year research project was conducted in Madison, Wisconsin, and analyzed three different types of permeable pavement: porous asphalt, pervious concrete, and PICP. The main focuses of the study was to assess six different restorative maintenance practices, both manual and machine assisted, and to quantify their effectiveness on the three types of permeable pavements. The study stated, "Disruption of the aggregate between the joints of PICP, whether by simple hand tools or sophisticated machinery, resulted in significant gains in infiltration capacity," and "In all instances, when the same maintenance practice was done on multiple surfaces, PICP showed the greatest recovery in infiltration capacity." **Click here to download the study.**

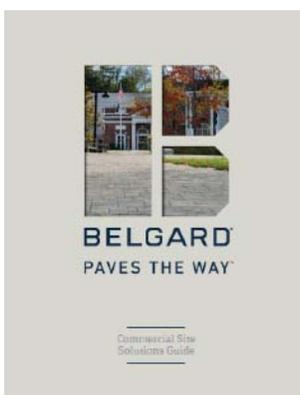
# University of Toronto Study Identifies Most Effective Permeable Paver Maintenance Equipment



## Belgard Paver Design Services

Belgard maintains a staff of seasoned professional engineers and industry experts to answer any question regarding the design, use, or application of Belgard products. In addition to general technical support, our services extend into more project-specific assistance such as value engineering, project-specific details, project-specific specifications, cost analysis comparing permeable paver stormwater management systems to conventional systems, and life-cycle cost analysis. Contact your local Belgard Commercial Representative for more info. [Find a Sales Rep.](#)

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In an effort to gain a better understanding of maintenance equipment and methods that are most effective in restoring infiltration rates of permeable interlocking concrete pavement (PICP) the University of Toronto worked with the Interlocking Concrete Pavement Institute (ICPI) and the City of Toronto Canada and subsequently produced a study titled *Maintenance Equipment Testing on Accelerated Clogged Permeable Interlocking Concrete Pavements*. The completed study delivers valuable data regarding the restoration of infiltration rates after various maintenance methods and equipment are employed. A major conclusion can be gleaned from the study: permeable paver infiltration rates can be fully restored with the correct equipment. **Click here to read the full study.**



Figure 2-2: Test pad following construction (Aug 18<sup>th</sup>, 2017).

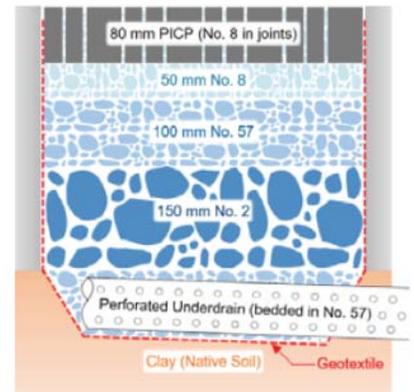


Figure 2-3: Cross-sectional layout of PICP

## Belgard's Operation and Maintenance Guidelines for PICP

Updated for 2021, Belgard has released their PICP Operation and Maintenance Manual. PICP is a stormwater control measure that requires periodic inspection, as well as recommended maintenance to ensure long-term performance throughout the design life of the system. The type of maintenance differs from traditional impermeable pavements, and maintenance methods can vary based on site-specific conditions. All PICP will collect sediment and debris, which results in decreasing infiltration rates over time. This document addresses the key inspection requirements for a Belgard permeable paver system and recommended maintenance methods and equipment. [Download the Belgard PICP O&M Manual here.](#)

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