

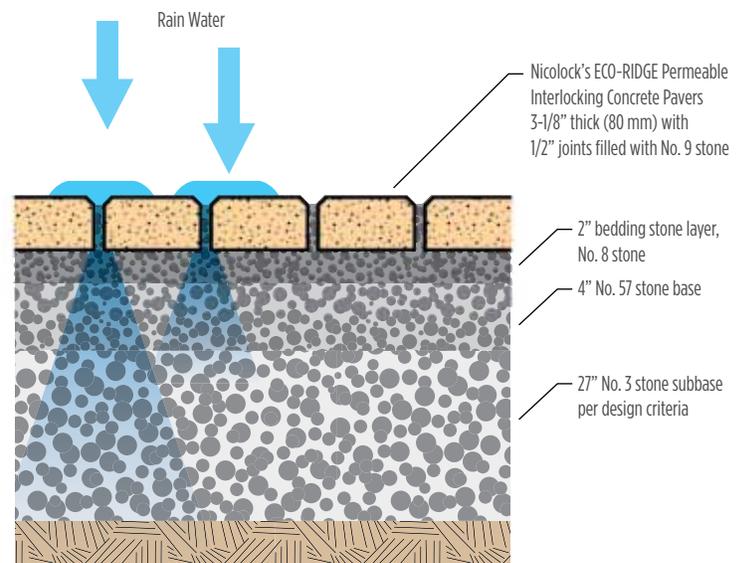


Long Island Permeable Pavement Providing Long-Term Surface Infiltration Performance Data

An 8,800 SF permeable interlocking concrete pavement (PICP) was installed in 2010 at a commercial facility at Century Building Materials, a construction supply yard in Lindenhurst, Long Island, New York. A PICP system was installed to manage stormwater in lieu of twenty dry wells. The innovative green project provided a real financial incentive along with an aesthetic heavy duty pavement to the property owner.

The site is located over a glacial deposit of sands and gravels. The subgrade at the site was characterized by a sieve analysis and found to be poorly graded sand, which is known to be very permeable. The site is flat and the water table is approximately 10 ft below the ground surface. Conditions are ideal for direct vertical infiltration of stormwater.

The Town required no run-off for paving improvements to the site. Stormwater runoff from a rooftop and surrounding areas totaling 100,000 SF is managed completely by the PICP system. The contributing runoff area is 11 times the permeable pavement surface area. The system performs very well because, the base/subbase is properly sized for the design volume, the additional contributory runoff is sediment-free roof drainage delivered directly to the subbase and the subgrade is granular material ideal for infiltration.



PICP Cross Section

The total drainage design volume calculation was based on a 1.5" rainfall local regulatory requirement for 100,000 SF of the property. A minimum surface infiltration design rate of 10 in/hr was established. The resulting PICP cross-section installed was a 36-inch thick flexible pavement.

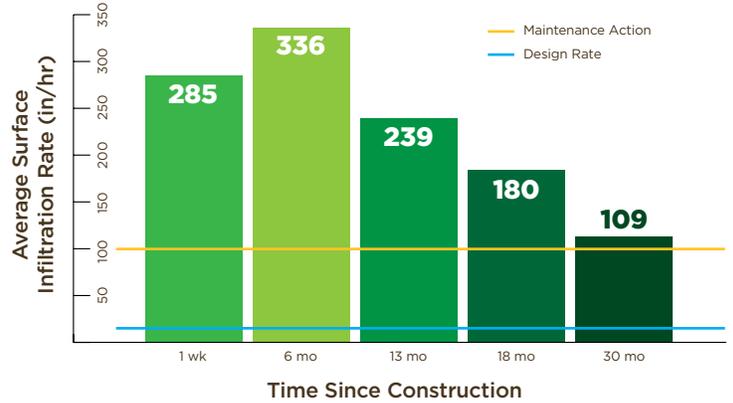
Surface Infiltration

The PICP system is performing as designed and is not generating any run-off even during large rainfall events. Five rounds of post-construction surface infiltration tests using ASTM C1701 have been completed to date. No joint maintenance has been done at the site so that the effect of clogging could be measured over a period of time.

Surface infiltration testing was carried out in accordance adapted ASTM C1701, Standard Test Method for Infiltration Rate of In Place Pervious Concrete. Test methodology included pre-wetting, and two iterations at three locations. The field test utilized a constant head single ring Infiltrometer with plumber's putty used to seal the ring to the pavement.



Surface Infiltration Over Time



Since installation, the project site has received record regional rainfalls. To date, standing water on the PICP installation has not been observed, nor has any run-off occurred, even during Hurricane Irene (4.4 inches), or Super Storm Sandy. Since no maintenance has occurred at this commercially active facility, a decrease in surface infiltration rates over time was expected. Surface infiltration rates remain well above the 10 in/hr design. A vacuum sweep program of the PICP surface will be implemented when the infiltration rate falls below the 100 in/hr maintenance action level. Data will be collected following the vacuum program to evaluate the effectiveness of vacuuming the pavement surface.



Grading Plan