

STORMWATER MANAGEMENT SOLUTION



ADVANTAGES

ELIMINATE RUNOFF

Capture all stormwater that falls on the pavement and prevent it from contributing to harmful runoff.

PERFORMANCE IN COLD CLIMATES

PICP does not crack or heave in the winter. Eliminate the use of sand and decrease the use of salt. Ice does not form on the surface and plowing is unchanged.

FUNCTIONAL DESIGN

Create a unique design while elevating the impact of stormwater. Use contrasting colors to delineate lines and spaces, instead of maintaining painted lines. Allow your stormwater management system to be a usable pavement.



DURABLE PAVEMENT

Borgert interlocking concrete pavement can be designed to last for years. The pavement is flexible & resistant to fading & cracking. Proper base & maintenance is critical.

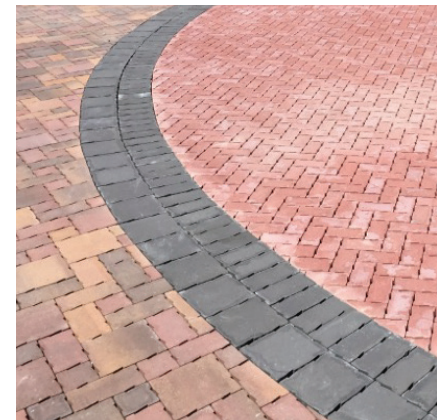
WHAT IS PICP?

Permeable Interlocking Concrete Pavement (PICP) is a permeable pavement. The individual pavers are concrete blocks, but the joint material and base structure allow water to infiltrate. The surface is 100% permeable. Any water that crosses the system will infiltrate. The pavement acts as a natural filter, removing pollutants and cooling the water as it travels through the base. The pavement can be designed for a range of application, from full infiltration back to the groundwater, to capturing the water and reusing it to water vegetation. The pavement maintains the strength of an impervious pavement, but captures the water on site.



WHY USE PICP?

The increase in harmful runoff has had deleterious effects on our water and ecological systems. Runoff picks up pollutants like nitrates, phosphorous, oil, gas and sediment. It runs over hardcover and heats up and speeds up. This poor quality water is then routed into our waterways. The increase in runoff is also stressing and overwhelming our existing stormwater systems. They need to be updated or enhanced to accommodate more water. It has also led to an increase in the need to treat the water before it can be usable. Retention ponds are an inadequate solution, creating polluted, wasted space. The combined effects result in poor water quality, increasing stormwater management fees and decreasing useful space.



WHEN TO USE PICP?

- Green Projects - Earn LEED credits
- Stormwater Management System
- Poor Water Quality
- Flooding Problems
- Hardcover/Space Limitations
- Capture and Reuse
- Any Geology, Any Situation



WHERE TO USE PICP?

- Parking Lots and Plazas
- Green Alleys
- Driveways
- Sidewalks and Tree Wells
- Streets: Intersections; Shoulders
- Public Transit Stations



PICP CROSS SECTION



OPEN-GRADED SUBBASE

No. 2 stone. The section ranges in thickness depending on storage capacity and application.

OPEN-GRADED BASE

No. 57 stone. The thickness can vary, but is typically 4".

OPEN-GRADED BEDDING AND JOINT MATERIAL

No. 8, or 89 stone. Should be clean and angular stone. 1½" to 2"

1) FULL EXFILTRATION

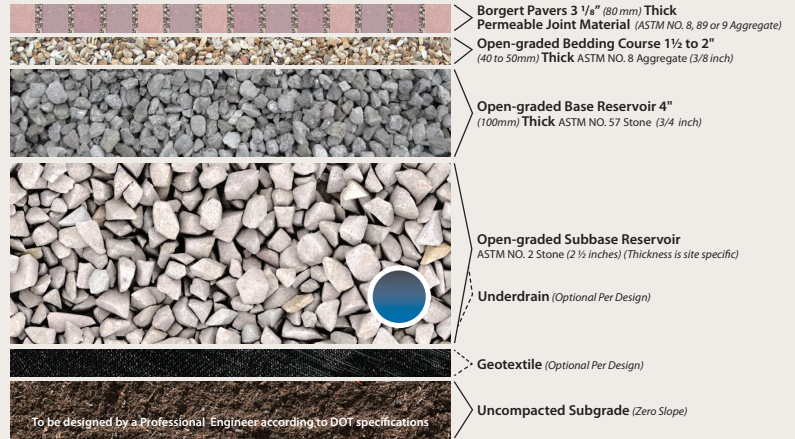
For sandy soils. The water is designed to fully infiltrate into the ground within a 24-48 hour period.

2) PARTIAL EXFILTRATION

For clay soils. Base stores some water to drain into soils and some water drains through pipes.

3) NO EXFILTRATION

For high water tables, bedrock, expansive soils or reuse. All water drains through pipes.



COST ANALYSIS

Consider the life-cycle cost. The pavement can be designed to last over 50 years. Maintenance costs are greatly reduced. Winter maintenance is especially decreased as no sand is needed, less salt is necessary, less ice forms and there is no impact to the pavement. PICP reduces the need for curbing, eliminates piping, retention ponds and other stormwater management practices and can even remove the need to create and maintain lines to delineate spaces. Additionally, the pavement cost combines stormwater management fees and pavement fees.



BORGERT PRODUCTS

Company and Manufacturing

Borgert Products has been a family-owned business since it was established in 1923. It was one of the first companies to manufacture pavers in the Midwest when it started the process in the 1970s. We are affiliated with ICPI, keeping informed with case studies and testing.

We manufacture the pavers using local aggregates in St. Joseph, MN. We are unique because we use granite in our mix. Granite is an angular aggregate and is second only to diamond in its strength. This creates a paver that is resistant to the impacts of salt, freeze-thaw cycles and stress. Our pavers exceed industry standards of 8,000 and less than 5% absorption.

We offer a wide range of shapes, sizes and colors. We have created unique color blends as well as a range of solid colors.



MAINTENANCE

- Intensely studied and verified procedures for a range of applications
- For the heaviest traffic and debris, it is recommended to use a street sweeper equipped with a vacuum 1-2 times annually
- Keep the surface free from debris, sweep and blow clean
- Clogging only occurs in the top 1/4-1/2 inch of pavement
- Worst case scenario: remove joint material and replace, reusing the existing pavers and base materials
- Even poorly maintained pavements preserve sufficient infiltration rates to capture runoff from most storms

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PERMANENT OUTDOOR DISPLAY: MN State Fair Grounds | East Side of Underwood St. | Between Lee & Randall Avenues

0118-150



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