Borgert PICP Maintenance Recommendations:

OVERVIEW:

Borgert's Permeable Interlocking Concrete Pavement (PICP) System is a stormwater management technique to prevent harmful runoff from entering waterways. The system is considered 100% permeable and can be designed to capture a certain design storm's precipitation and infiltrate the water back into the ground or exfiltrate out through a pipe. The system traps a high amount of pollutants and debris in the joints, preventing it from entering waterways or drinking water supplies. This does lead to the need to maintain the system. This document provides an overview of maintenance techniques and guidelines depending on the type of project.

REGENERATIVE AIR VACUUM TRUCK

CLOGGED

CONSIDERATIONS:

Tolerance: A conservative initial infiltration rate of the system is 300 inches/hour. Slight clogging of the system can still allow infiltration rates to accommodate the design storm.

WELL-MAINTAINED

Contributing Areas: If there is a high ratio of run-on to surface area of the system, greater and more frequent maintenance will be required.

Slope: If the system itself is sloped, the area must be large enough to capture the design storm on the system without running off. Current estimates from research indicate a slope less than 10% will not impact the infiltration rate.

Ice: If the goal is to eliminate the formation of ice, the snow needs to be removed promptly and the systems must remain unclogged.

PREVENTATIVE MAINTENANCE:

Joint Material: Keep the joints filled with the proper material, check and refill every 6 months. The fill should reach the top of the chamfer.

Proper Installation: Use techniques and materials according to Borgert's specifications; keep the site clean and unclogged during installation.

Surrounding Vegetation and Planting: Ensure that the adjacent landscaping is strong, prevents erosion of soils onto the pavers, and does not contribute to clogging from falling leaves or fruits. Promptly remove grass clippings.

Awareness: Ensure anyone working near the site is aware of the system and does not place landscaping materials on the system or close enough to cause future runoff and no snow is piled throughout the winter. Do not allow sanding during the winter.

REFILLING JOINT MATERIAL

Lack of maintenance will cause the system to clog, defeating the purpose of using permeable pavement. Clogging will also cause deterioration of the paver as it will sit in a constant state of saturation.

WINTER MAINTENANCE:

Snow Removal: Shovel or plow as immediately as possible following a snowfall. Do not pile on permeable surface.

Salt/Deicing Chemicals: Do not use sand. The best option is to use the joint material for grit.

Salt: When the system is clean and snow is removed promptly, far less salt/deicing chemicals should be used. Use proper judgement to gauge the amount of ice. There will most likely be little ice accumulation on the surface.

STANDING WATER

EVIDENCE OF CLOGGING:

- **Standing water during or directly following a minor storm event**
- **Visible debris in the joints**
- **Water running off or pooling in large areas**
- **Weed growth**

TOOLS:

Preventative:
- Leaf blower
- Hard bristle broom

Small Scale:
- Shop vacuum
- Small scale street vacuum

Large Scale:
- Regenerative Air Vacuum: Will remove the top ½" of debris and joint material, new joint material must be swept back into the joints. This is a restorative technique that will return the system to near its initial infiltration capacity.
- Street Sweeper: Will remove loose debris on the pavers or on the top layer of the joints. This will not remove embedded debris and should be performed more frequently to avoid the need for more restorative tactics.

MAINTENANCE PLAN:

- Inspect the area directly following a rain event to check for standing water *(after a major event & at least 3 times a year)*

- Use small-scale techniques to address small areas of clogging

- Maintain the correct level of joint material

- General preventative maintenance to reduce the need for major restorative techniques

- Regenerative Air Vacuum: when major clogging occurs. Recommended 1-2 times a year for commercial applications and once every 1-5 years for residential applications, vacuuming frequency depends on usage.