INTERLOCKING CONCRETE PAVEMENT (ICP)
Inspection & Maintenance Guidelines

In-Service inspection and maintenance shall include the following activities:

Winter Maintenance:

For winter snow removal Belgard paving stones can be shoveled, snow plowed or snow blown in the same manner as any traditional asphalt or concrete pavement. Belgard paving stones create a functional structural pavement that also provides aesthetic beauty. In an effort to maintain these aesthetics, you should consider the following:

- When using a snow plow or snow plow box, the utilization of rubber or plastic snow blades with properly adjusted ski’s/guides will prevent unwanted rust or scraping marks on your Belgard paving stone pavement.
- When using a snow blower, insure the guides are properly adjusted to keep the rotating impeller from scraping and damaging your Belgard pavement system.

Ice Removal

Only Oldcastle®- approved deicing chemicals are to be used on Belgard Paving Stone Products. The Oldcastle- approved deicing chemicals are Sodium Chloride (NaCl) and, to the extent that temperatures fall below 14 degrees Fahrenheit, Calcium Chloride (CaCl₂) can be used. These deicing chemicals should be used sparingly and only as needed.

Sand is recommended to improve traction and reduce slippery conditions.

Snow and Ice Melt Systems

There are electric and liquid glycol melting systems that can be installed beneath a Belgard pavement system that will reduce or eliminate the need for snow and ice removal. When considering the use of these systems, it is imperative that you review the guidelines and details in the Interlocking Concrete Pavement Institute (ICPI) Tech Spec #12 Snow Melting Systems for Interlocking Concrete Pavements.
Annual inspection and maintenance shall include the following activities:

- Replenish paver joints with additional aggregate if level is more than ½ in. below chamfer bottoms.
- Inspect vegetation around ICP perimeter for cover & soil stability, repair/replant as needed.
- Inspect and repair all paver surface deformations (depressions/settlement) exceeding 1/2 in.
- Repair paver heights offset by more than 1/4 in. above or below adjacent units, or offset by more than 1/8” lippage from paver-to-paver.
- Replace cracked paver units impairing surface structural integrity.
- Check edge restraints and all perimeter paver abutments for settled or low pavers, remove and add sand to bring pavers to proper elevation. Repair/replace edge restraint as required.
- Clean surface annually (typically spring) to remove debris, encrusted sediment, leaves, grass clippings, etc. Leaf blowers or other standard onsite manual methods that are used for standard pavement maintenance may be employed to remove this surface debris.

Notes:

- If needed, replace base aggregates, setting bed and pavers per ICPI’s Tech Spec #6 Reinstatement of Interlocking Concrete Pavement.
- It is not recommended to utilize a pressure washer to clean joints.
- Over time stains or dis-colorization may impact your pavement surface, it is recommended to review ICPI Tech Spec #5, Cleaning, Sealing and Joint Sand Stabilization of Concrete Pavement, for proper care of your Belgard paving stones.

ICP Utility Repair
An advantage of ICP is that they can be removed and reinstated for access to underground utilities.
Should utility repairs be required below the ICP surface, the pavers can be removed by hand without the use of saw cutting equipment or pneumatic jack hammers. Specialty equipment like a paver extractor can be used. Once the first paver is removed, it is relatively easy to remove the remaining pavers to beyond the extent of excavation. Set the pavers aside for future reinstatement. Undisturbed pavers can be secured with a wood or metal frame as shown in the Figure.

The bedding material (typically a course sand) encountered should be removed and disposed of, then replaced with new aggregate. The road base and subbase (if used) can be removed and stored separately for reinstatement. Where repairs require excavation into the underlying subgrade soil, Oldcastle recommends using flowable concrete fill (200 to 500 psi) to support the repaired utility.

When reinstating the dense graded road base stone can be placed, screeded and compacted in 4” thick lifts to achieve the proper elevation up to the 1” thick sand setting bed. When reinstating the pavers, install the pavers slightly higher than the adjacent pavers to account for settlement of the underlying materials (based on depth of excavation). The bedding layer should be 1/8” higher so that once the pavers are reinstalled and compacted, they should be the same elevation as the adjacent units. Once the desired grades are accomplished, sweep jointing material into the joints and vibrate into place; repeat until the joints are full.
**Construction Tolerances for Interlocking Concrete Pavements**

This guideline applies only to the construction of interlocking concrete pavements (concrete pavers) and is NOT applicable for permeable interlocking concrete pavements, and precast concrete paving slabs.

<table>
<thead>
<tr>
<th>Setting Bed Materials</th>
<th>Attribute (See Figure 1)</th>
<th>Construction Tolerances</th>
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</thead>
<tbody>
<tr>
<td>Sand and bituminous setting beds for concrete pavers and paving slabs</td>
<td>Joint width between adjacent units</td>
<td>1/16 in. (2 mm) to 3/16 in. (5 mm)</td>
</tr>
<tr>
<td>Mortar setting beds for concrete pavers and paving slabs</td>
<td>Joint width between paving units with no chamfers</td>
<td>Maximum 3/8 in. (10 mm) – Joints between individual paver units shall be mortared flush with adjacent pavers.</td>
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<tr>
<td>Mortar setting beds for concrete pavers and paving slabs</td>
<td>Joint width between paving units with chamfers</td>
<td>Maximum 3/8 in. (10 mm) – The surface of the mortared joint meets the bottom of the chamfers between adjacent pavers.</td>
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<table>
<thead>
<tr>
<th>All Setting Bed Materials</th>
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</thead>
<tbody>
<tr>
<td>Attribute</td>
</tr>
<tr>
<td>Joint or bond lines</td>
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<tr>
<td>Surface smoothness</td>
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<td>Surface flatness</td>
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Figure 1. Joint width definition for Concrete paving units