

PAVING INSTALLATION GUIDE

7. Pavers

Three main types: open cell grid of concrete or plastic with sand or grass cover; solid interlocking blocks with drainage gaps; porous interlocking blocks.

8. Edge beams

300 x 300mm concrete to fix pavers in place.

6. Bedding material

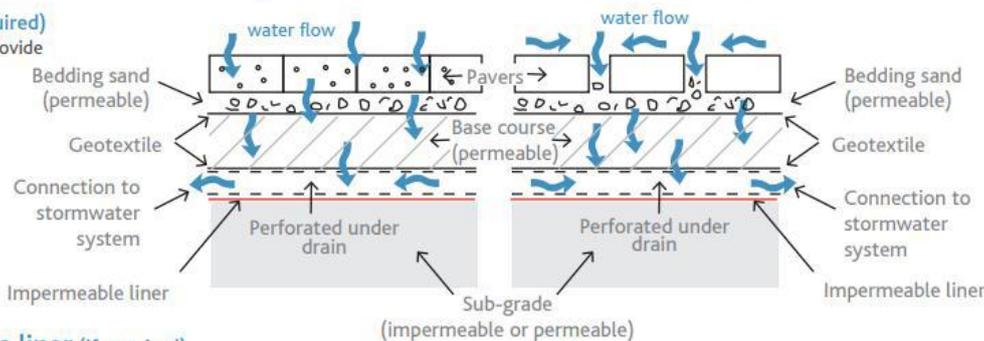
Porous material. May be coarse sand or fine gravel (2-5mm), depending on paver type. Filters pollutants from runoff.

4. Geotextile (if required)

Placed between layers to provide additional tensile strength.

Porous Block Pavers (permeable)

Modular Block Pavers (impermeable)



5. Basecourse

Strong, durable high volume draining material (up to 30% voids). Provides temporary storage for runoff.

9. Overflow

To take excess flows. Includes catchpits.

2. Impermeable liner (if required)

Prevents water draining through to subgrade material. May be specified on sites with poor draining soils, in high groundwater areas or in structurally sensitive soils. On some sites, clay soils create a natural impermeable layer.

1. Sub-grade material

Strong and durable material to withstand wetting and drying over time.

3. Underdrain (if present)

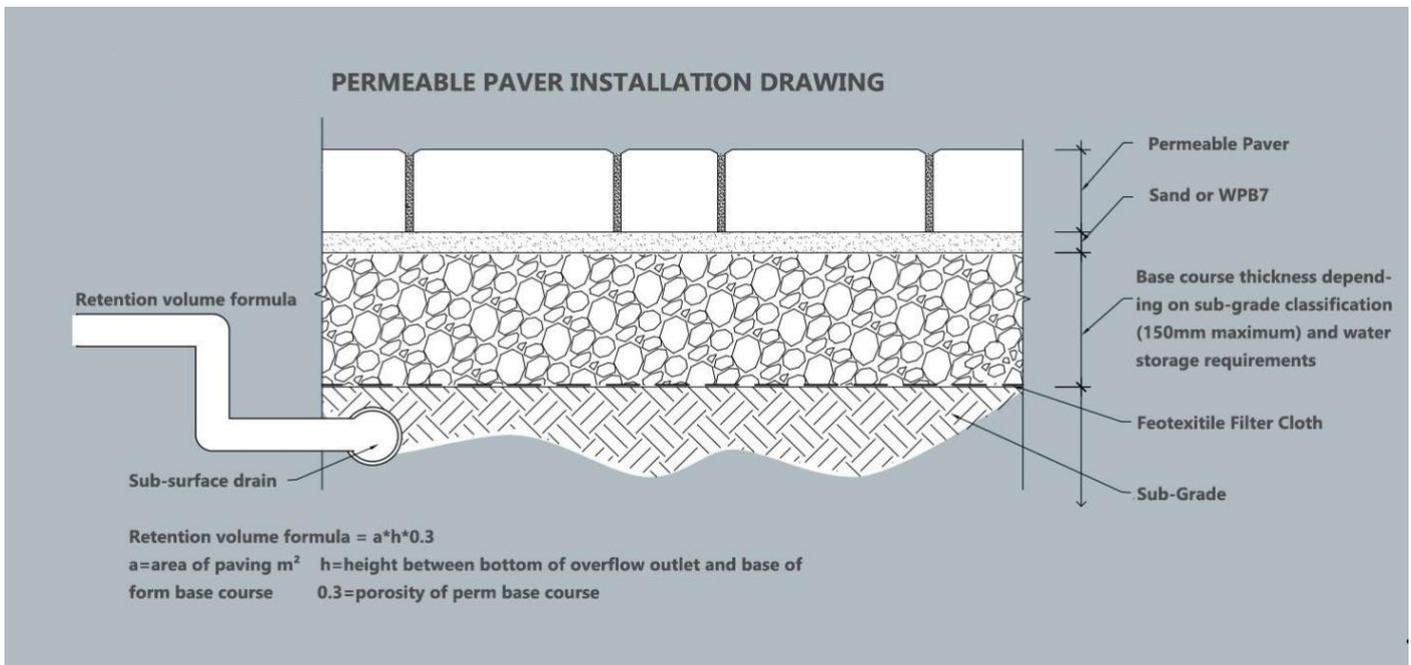
Directs flow draining through pavers. Perforated pipes connecting to local stormwater system.

Permeable pavers shall comply with NZS3116:2002 Table 1 for breaking loads, dimensional tolerance, abrasion and slip resistance.

PLANNING AND PREPARATION

Before initiating the installation of your paving, it is crucial to understand the scope of your project, focusing on conventional laying methods and the management of rain, stormwater, and runoff by the permeable pavers. Make sure to address the following points thoroughly before beginning:

1. Mark out the designated paving area clearly.
2. Confirm the type, location, and height of edging to border the area.
3. Excavate to a depth suited for the anticipated traffic load, considering both Detention or Infiltration system requirements, and factor in the amount of water the system is designed to handle.
4. Post-excavation, the sub-grade should be even, compacted to the required density, and free of standing water, organic material, or debris.
5. If needed, level the sub-grade with bedding sand (prior to laying Geotextile) to smooth out any irregularities.



DETAILED GUIDE

- Bedding Layer: Depending on the chosen permeable paver, a 20mm layer of sand or chip is used as bedding. The material choice is contingent upon the paver type.
- Base Course: This structural drainage layer lies beneath the bedding, either as drainage aggregate or no-fines concrete, functioning as a storage medium for stormwater runoff.
- Sub-Base: Utilize GAP40 or GAP65 to provide a stable foundation in areas of low CBR.
- Sub-grade: The unaltered soil layer at the base of the pavement structure influences the required thickness of the base course.
- Sub-surface Drain: Facilitates water removal from the base course, especially beneficial in impermeable clay sub-grades.
- Filter Cloth: A non-woven geotextile that allows water through but prevents the bedding sand from infiltrating the sub-base aggregates.

INSTALLATION STEPS

1. Lay the geotextile at the base of the excavation, ensuring it extends up the sides and over the top of the sub-base by 30cm, fully encapsulating the storage medium.
2. Add the base course material on top of the geotextile and compact with a vibrating plate compactor until the pavers reach the desired height.
3. Ensure the surface level deviates no more than ± 8 mm over a 3m straightedge after compaction.
4. Cover the base course with geotextile filter fabric, overlapping with the side fabric for full encapsulation.
5. Place the bedding sand or WPB7 chip followed by the pavers, securing the edges to prevent movement of the pavers and bedding material.
6. Pavers must be laid in accordance with NZS 3116:2002, compacted, jointed with material, and then re-compact without jointing material on the surface.
7. Remove any surface contamination with low-pressure water and re-sand the joints.
8. Fully compact all paving within 1m of the working edge at day's end.
9. Final surface elevations should also conform to the ± 8 mm deviation standard over a 3m straightedge.
10. Ensure pavers are at least 5mm higher than adjacent drainage inlets.
11. Clear any remaining sand from the surface before the pavement's initial use.

THINGS TO AVOID

1. Avoid disturbing the surrounding soil before erosion and sediment controls are established.
2. Ensure the impermeable layer is intact, properly placed, and geotextile is between it and the base course.
3. Refrain from using fertilizers or herbicides near the permeable pavement to prevent contamination of waterways.
4. Avoid using scoria as bedding, joint material, or base course, and do not compact paving materials excessively, as it impedes drainage.



FOR ADDITIONAL INFORMATION

For more details on DH Garden Supply's PAVE products, installation methods, or to request free training, please contact our team.