

SUSTAINABLE URBAN DRAINAGE

Eco Fact Sheet 5

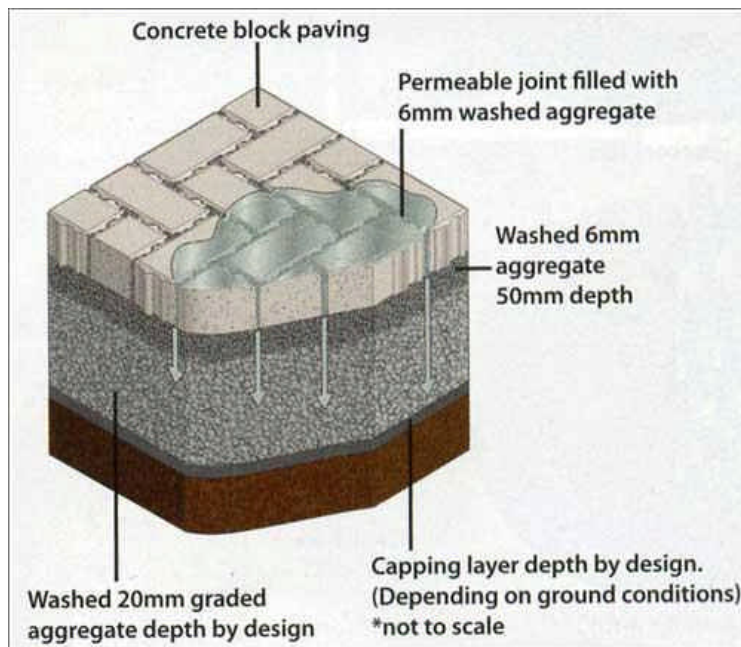


SUDS - Sustainable Urban Drainage Systems

When covering a larger area with paving, of any type, dealing with rainfall should be a serious consideration. During a typical storm vast amounts of water can fall onto the large area of a car park or driveway and this has to have somewhere to go. Creating a water trap where huge lakes form whenever there is a downpour **must** be avoided!

Problems of water management are worsened when paved areas have slopes and low points. These are the natural places for water to gather, and they will get silted up and damaged very quickly unless something is done to prevent the water running to these points in the first place.

The modern, most effective, solution to cover a large area is to use 'permeable' paving. This consists of small brick or concrete sections closely butted together, but not actually physically connected. These 'blocks' can be laid out in an attractive pattern, for example marking parking places and roadways with different colours. However, the secret to a good permeable paving area is the way that rain water is handled.



Permeable paving blocks are often laid upon oil separation layers in car parks.

This is in turn placed on a permeable aggregate layer, which allows water to disperse in the area where it falls.

There is no need to add in a complicated sewerage or piped drainage system in many cases.

For really large areas, a simple piping system can be added so that excess water can be removed and dealt with, but this is often easy to do on all land areas because of the straightforward way that the permeable blocks are laid.

Frost damage is unlikely, because water is dealt with so efficiently and because there is an amount of movement between blocks. The insulating effect of the blocks also goes a long way to creating a long lasting covering – usually much better than a tarmac covering.

For any larger area, you may need to consult experts to have your land assessed. This will ensure that all of the features of your particular land and the uses that you will have, are taken into account. However, in the long run, a permeable block paving area, combined with appropriate 'SUDS' will ensure that you have a long lasting area that is usable all year round, whatever the weather.

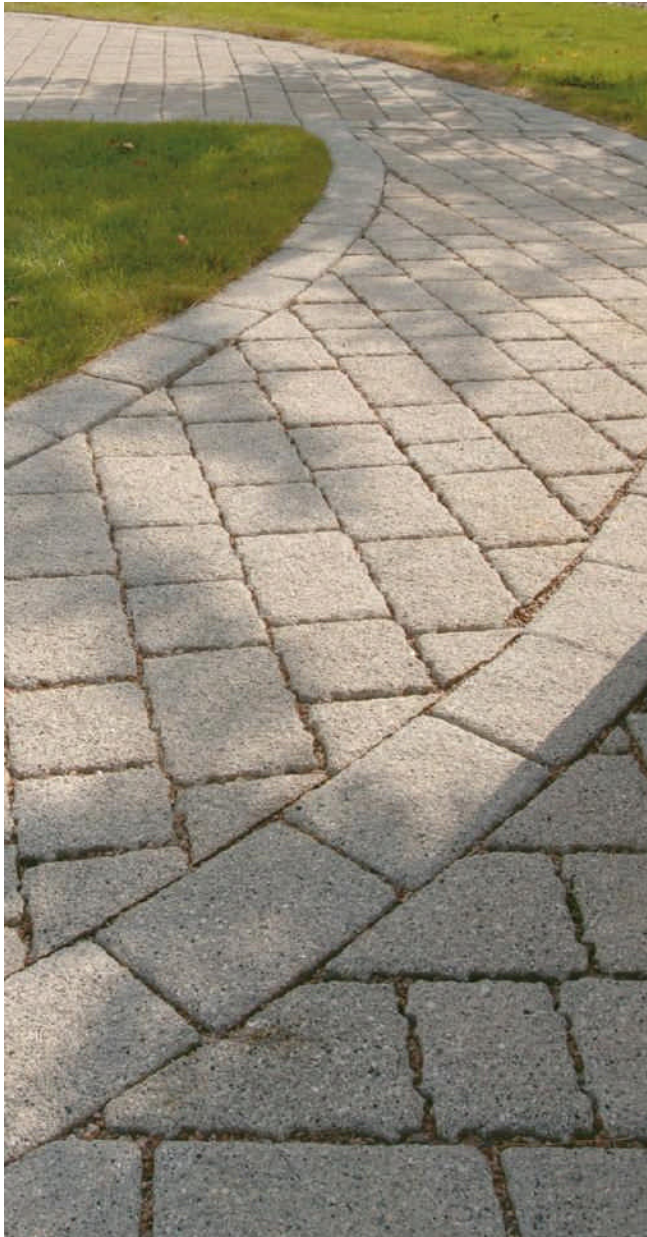
New Government legislation for front garden paving

Planning permission 'permitted development' rights that previously allowed householders to pave their front gardens for 'hard standings' without planning permission has changed. Planning permission is now required to lay traditional impermeable driveways that allow uncontrolled runoff of rainwater from the front gardens onto the road, because this can contribute to flooding and pollution of watercourses

If a new driveway or parking area is constructed using permeable surfaces such as permeable block paving, porous asphalt, or gravel, or if the water is able to soak into the ground via soil borders, or a soak-away, planning permission will not be required.



These new planning rules also apply to existing hard-standing where they are being replaced and apply to hard surfaces exceeding 5 square metres in area.



The Reason

More and more householders are laying hard surfaces over front gardens to provide off-road parking. Previously there were no restrictions on a householder's ability to do so.

Hard surfaces lead to accelerated run-off of surface water which can overload sewerage systems in more urban areas. This problem is likely to intensify as climate change produces more torrential downpours.

The Government intends, therefore, to require that paving installed using permitted development rights does not make this problem worse.

In future, paving in front gardens will not be permitted, unless the surface allows the water to drain away naturally. This can be achieved in a number of ways - most simply by ensuring that water runs off to an unpaved area such as a garden border.

'SUDS' can be cost-effectively designed to work with retained natural features such as ditches or ponds, and to form an integral part of hard and soft landscaped areas. In this way, they can contribute towards an attractive scheme that enhances the nature conservation and amenity value of the development, while also making the best use of the valuable water resource.