

Permavoid System: **Residential Developments**

In residential projects, the need to balance the provision of land for housing and public amenities, whilst protecting biodiversity and 'making space for water', provides an ever-increasing challenge.

Incorporated in conjunction with soft SuDS techniques, Permavoid can help to overcome this challenge by 'making space for water' and providing detention, infiltration/soakaway, attenuation and treatment at source.

The result is a sustainable development which enhances the ecological benefits of the site to its residents.

Key benefits

- Create small source control sub-catchments
- Enables design with the treatment train concept
- Shallow, easy to maintain systems
- Reduced pollution loading
- Aesthetically pleasing spaces
- Easy to retrofit
- Improved health and safety benefits



Strong Interlocking Raft



Beneath porous & non-porous surfaces



Source Control



Treatment



Detention

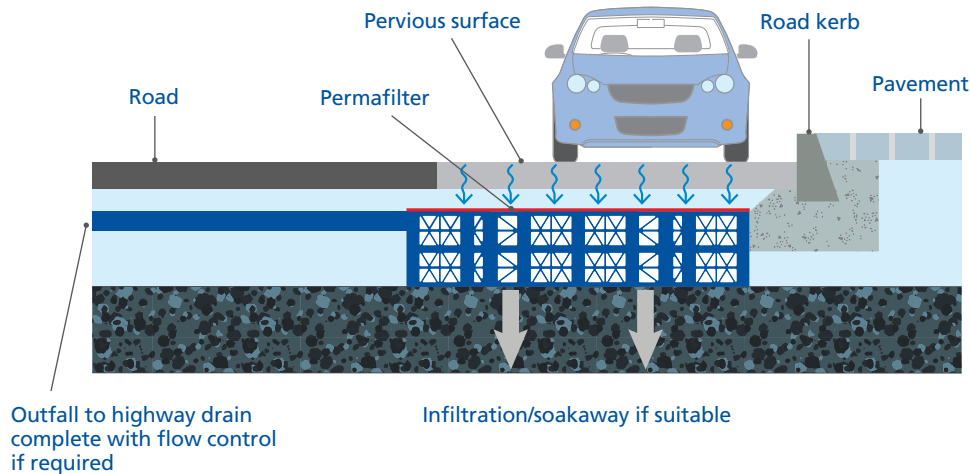


Attenuation



Infiltration/Soakaway

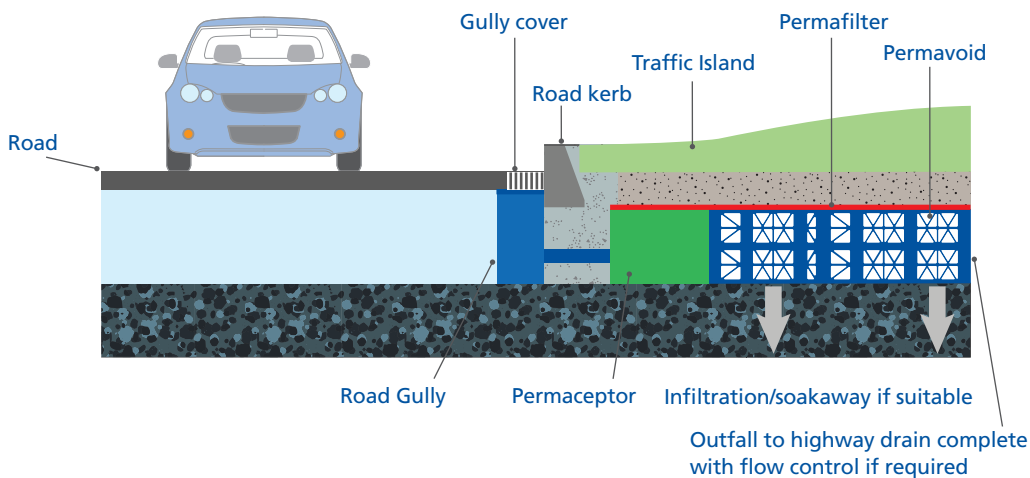
1 Car Parking



1. Car Parking

Permavoid used as a sub-base replacement solution below permeable paving prevents rainwater running straight off driveways, providing source control, treatment, detention, attenuation or infiltration/soakaway.

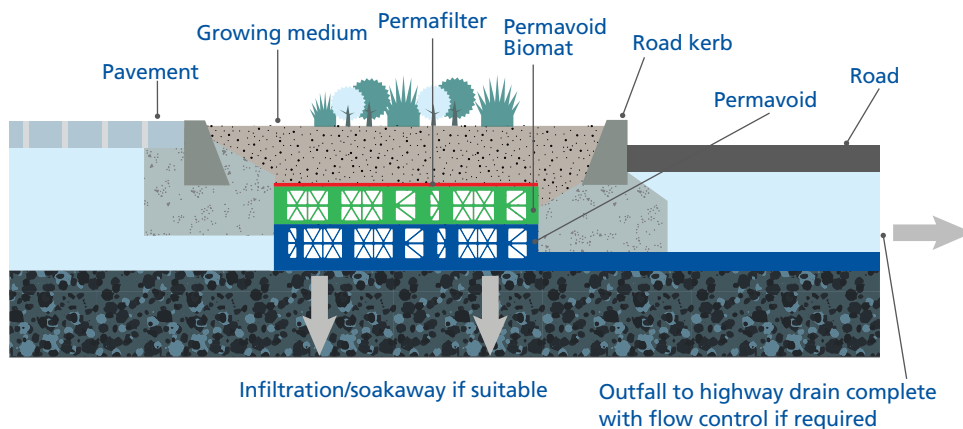
2 Permeable Roads and Traffic Islands



2. Permeable Roads and Traffic Islands

Permavoid can be used as a sub-base replacement solution below permeable roads and turning islands in order to prevent stormwater run-off, and provide source control, treatment, detention, attenuation or infiltration/soakaway.

3 Bioretention Zone



3. Bioretention Zones

Stormwater run-off from highway and pavement areas can be collected and treated using bioretention areas, complete with Permavoid treatment solutions. This protects biodiversity and amenity whilst providing effective stormwater management at source.



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Source Control



Treatment



Detention

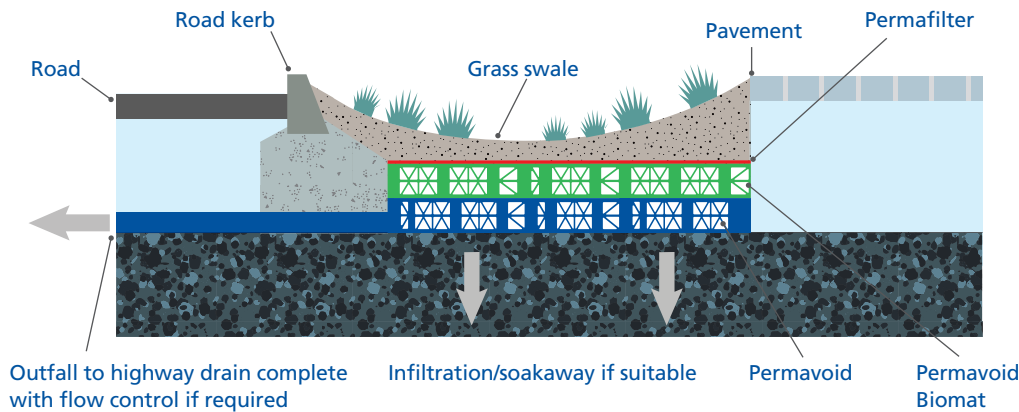


Attenuation



Infiltration/Soakaway

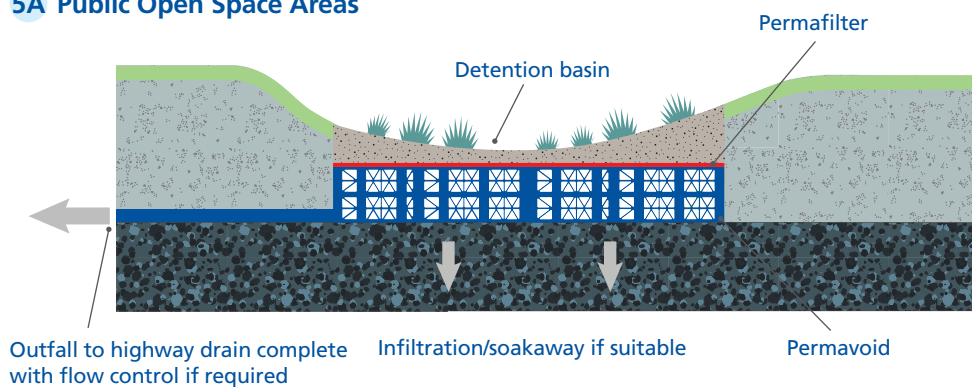
4 Grass Swale



4. Grass Swales

The Highways agency have used grass swales alongside roads and highways for many years due to their cost-effective nature. Swales are designed to be shallow for safety reasons and can be underdrained with Permavoid to provide maximum storage capacity with additional treatment benefits.

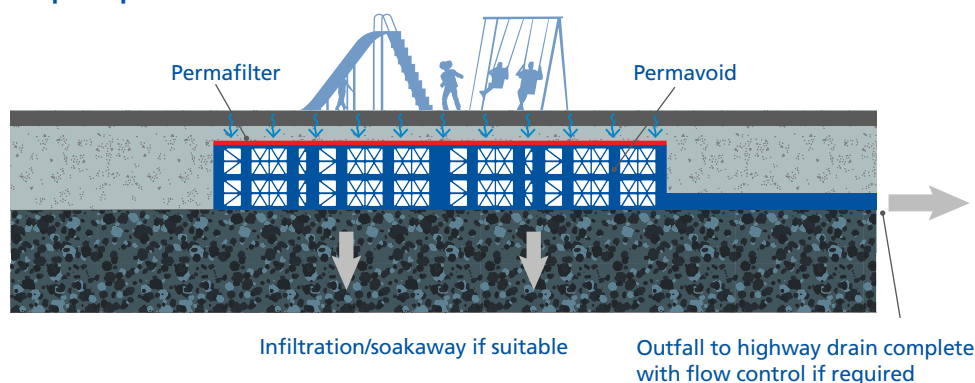
5A Public Open Space Areas



5a. Public Open Space Areas

Stormwater run-off from residential sites can be discharged into the Permavoid system below a detention basin to provide safe attenuation or infiltration/soakaway. Only during heavy rainfall periods will water rise into the landscaped basin.

5B Public Open Space Areas



5b. Public Open Space Areas

Permavoid can be used as a sub-base replacement system below ground, freeing up space above to be utilised by the community for amenity, and landscaped to improve biodiversity.



Contact Us

to visit our Technical Centre

Look out for our Permavoid Technical Manual, available to download from our website