

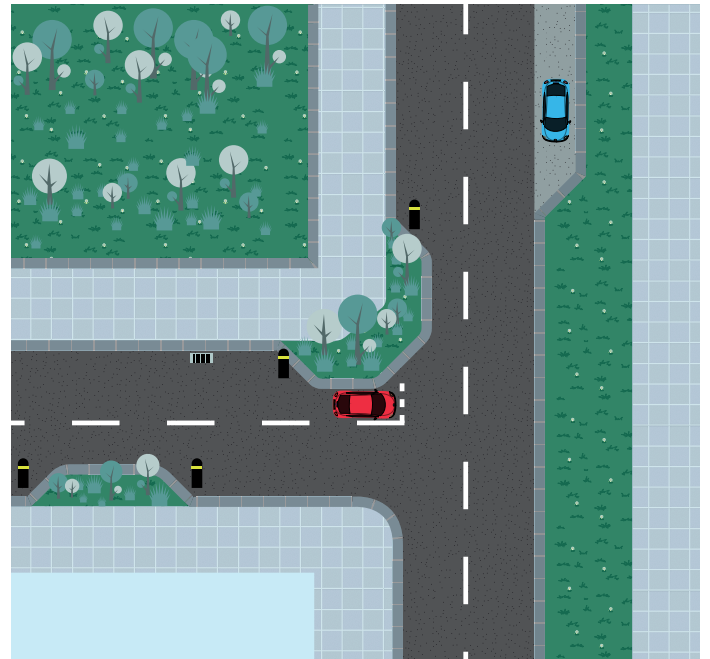
## Permavoid in the Urban Environment - Roads & Highways

The management of surface water run-off from roads and highways can provide substantial benefits to the built environment, encouraging the use of water as a valuable resource.

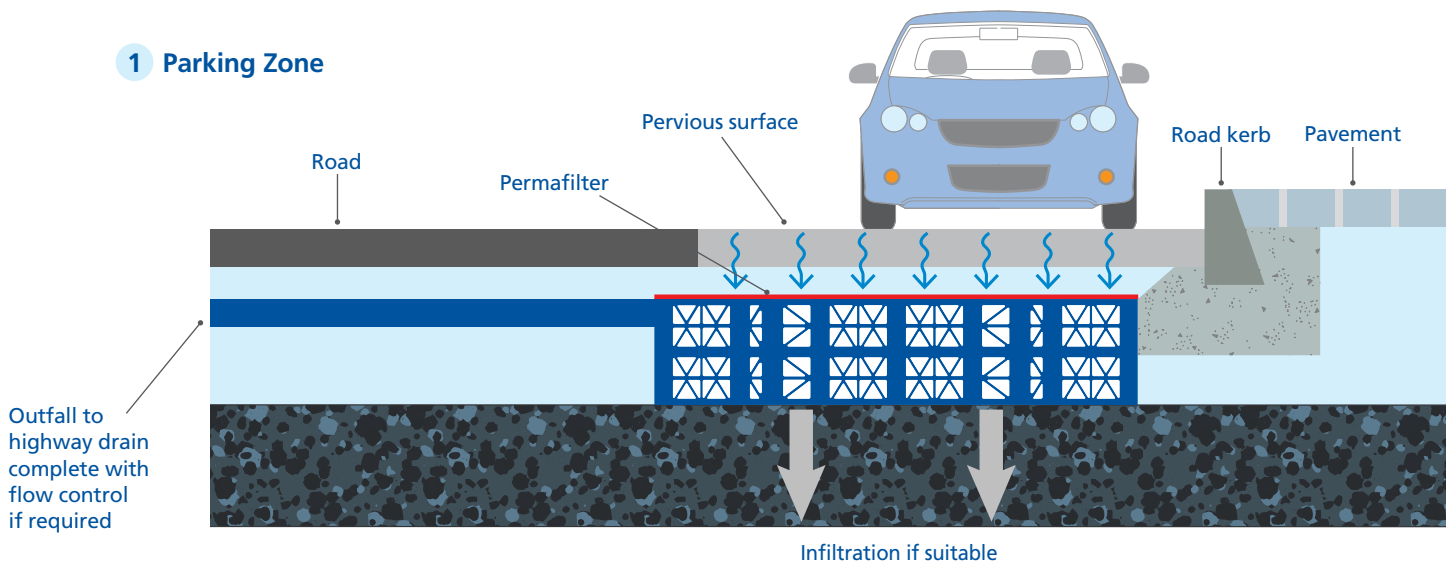
As a result, water management features can be prime design elements in road and highway drainage. Incorporated into a new development or retrofitted into an overall SuDs scheme, Permavoid can enhance the natural environment by providing improved retention, attenuation, infiltration and treatment at source.

### Parking Zones

Pervious off road parking zones can be incorporated into highway designs, particularly in residential areas. Installed beneath pervious surfaces, the Permavoid range of components perform as a sub-base replacement and drainage system to manage the majority of rainfall events, providing treatment and retention at source, at shallow depths.



### 1 Parking Zone



Strong Interlocking Raft



Beneath porous & non-porous surfaces



Source Control



Treatment



Retention

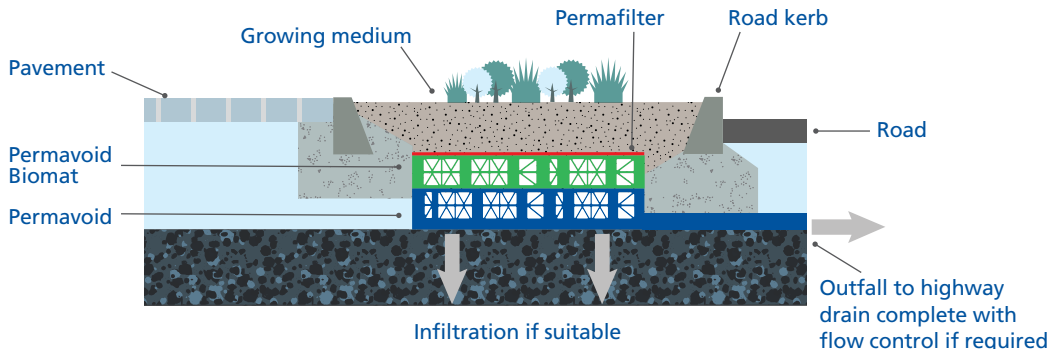


Attenuation

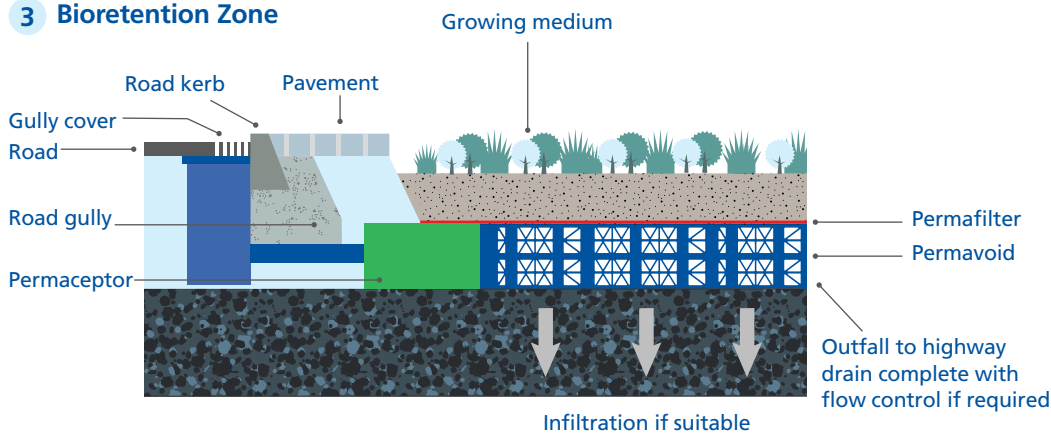


Infiltration

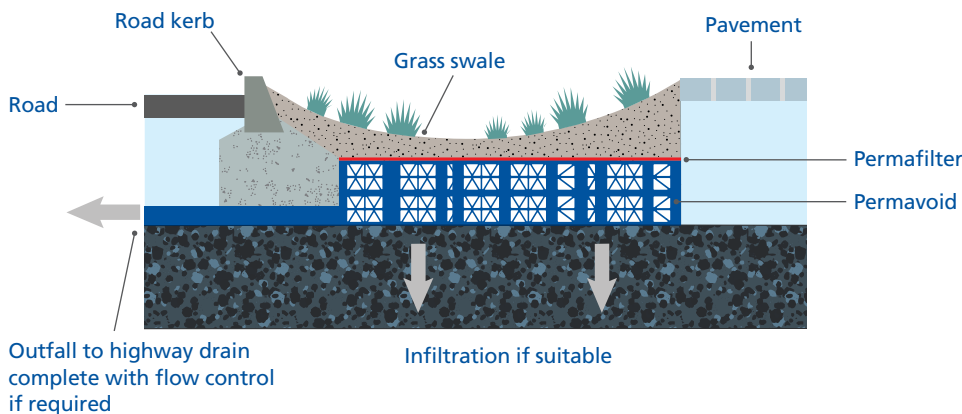
## 2 Bioretention Zone



## 3 Bioretention Zone



## 4 Grass Swale



### Bioretention Zones

The stormwater run-off from highway and pavement areas can be collected and treated using bioretention areas. Incorporated into traffic calming zones, bioretention systems can enhance biodiversity and amenity, along with providing effective stormwater management at source.

### Key benefits

- Traffic calming
- Easy to retrofit
- Reduced pollution loading
- Aesthetically pleasing spaces
- Shallow, easy to maintain systems
- Create small source control sub-catchments

### 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 to provide effective retention, infiltration and treatment.



## Contact Us

to find out about our Technical Workshop

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