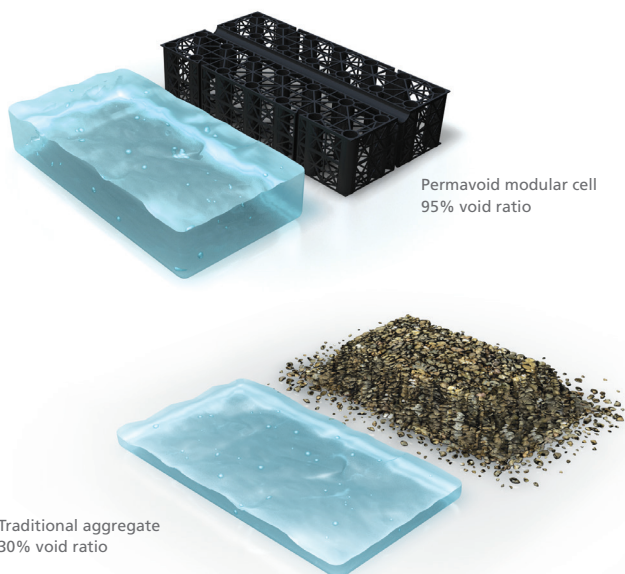
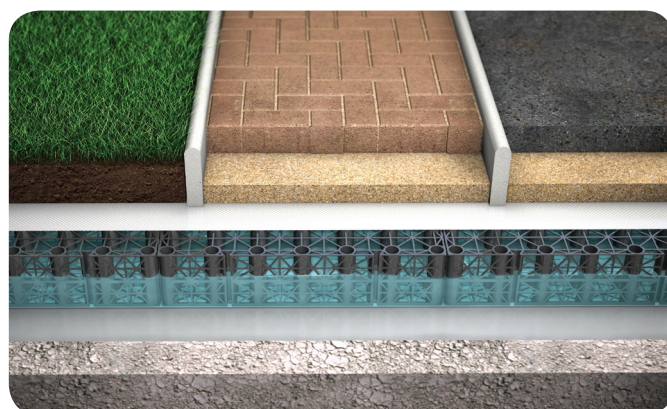
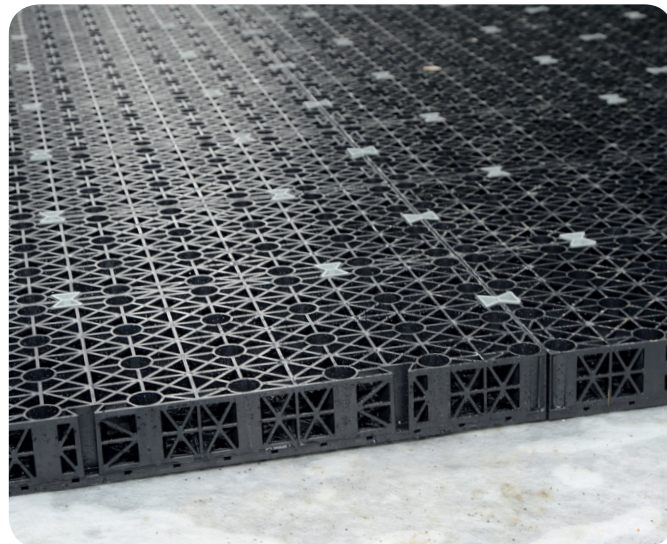


With increasing urbanisation of already crowded towns and cities, and the effects of climate change on rainwater intensity, we need to look to more sustainable ways of managing the flow of rainwater. Traditionally, rainwater is collected and removed from roofs and podiums as quickly as possible, and held in below ground attenuation tanks before being pumped to storm water sewer.

The time and space required to construct these tanks, when both are at premium brings its own challenges. By using roofs and podiums to temporarily attenuate rainwater and releasing it at a controlled flow rate. The available space can then be used to generate revenue as a rentable space, or increased car parking within the footprint of the building.



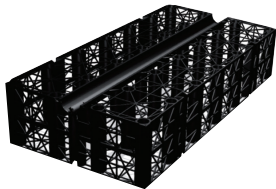
Permavoid modular cell  
95% void ratio

Traditional aggregate  
30% void ratio

### How Polypipe Terrain can help

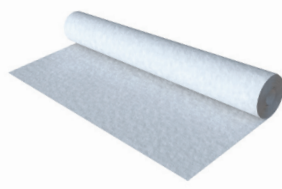
The Permavoid Rainwater interception system is designed to be used in place of a traditional rainwater attenuation or retention systems. Providing a unique high strength, consistent structural raft with all the benefits of a high voided modular geocellular structure.

The system comprises of load bearing, high strength modular cells, robust geotextiles (to provide pre-treatment), geomembranes, rainwater outlets incorporating flow control and engineered PVCu and HDPE pipework systems.



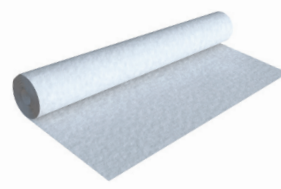
#### Permavoid (85mm & 150mm)

Geocellular sub-base replacement system that locks together to form an interlocking raft of exceptional high compressive and tensile strength.



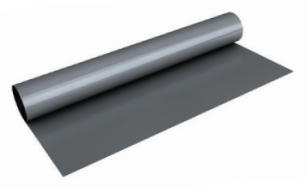
#### Permavoid Wicking Geotextile

A non-woven, dimpled, needle - punched geotextile designed for hydrocarbon pollution treatment.



#### Permafilter Geotextile

A non-woven geotextile designed for hydrocarbon pollution treatment.



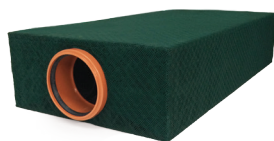
#### Geomembrane

An impermeable membrane for wrapping around Permavoid structures to form watertight tanks.



#### Terrain Rainwater Interception Outlets

Designed to control the rainwater run off from roof areas and podium decks.



#### Permavoid Rainwater Diffuser Unit

Permavoid units encapsulated with a 2mm mesh fabric diffuse the collected run-off into the surrounding granular sub-base.



#### Terrain PVC

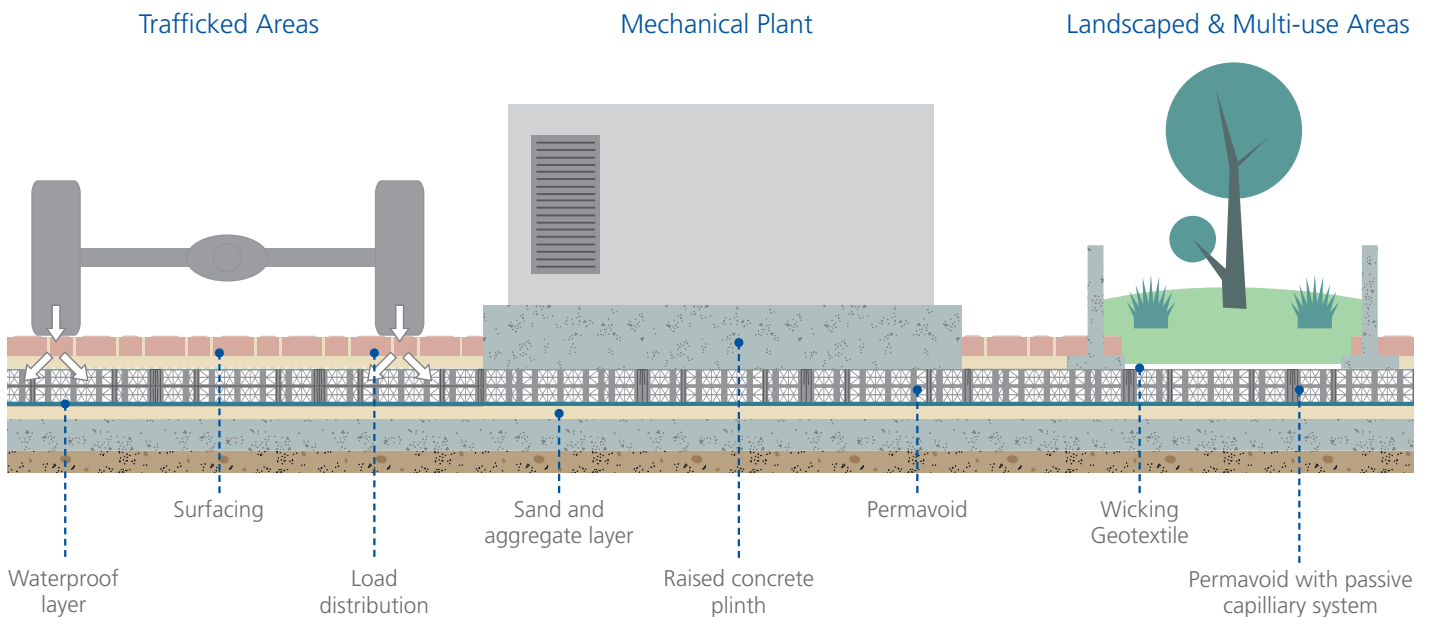
A comprehensive range of pipes and fittings offering flexible installation.



#### Terrain FUZE HDPE

A top-to-bottom solution for all above ground drainage and many chemical waste applications

The inherent strength of Permavoid modular geocellular units allow the system to be incorporated in a wide range of SuDS solutions.



#### Traffic Conditions from:

- Roof/podium and basement car parks
- Podium Service yards
- Roof and podium maintenance access routes

#### Raised Plinth

Mechanical Plant areas allowing rainwater to flow to Terrain interceptor rainwater outlets and mitigating standing water on roof/podium levels.

#### Suitable for:

- Green, Brown or Blue Roofs
- Roof Gardens
- Leisure and sport roofs and podiums
- Agri roofs or podiums



### Contact Us

to find out how we can further help with your tall building project.

Next month's bulletin will be a round up of 2016's Technical Bulletins