

Newcastle City Council flood alleviation project

Polypipe supplied its Permavoid products to Newcastle City Council for a Defra-funded flood alleviation scheme at Acomb Crescent, Fawdon.



Water
treatment and
management



The housing development had previously flooded during heavy rainfall due to interaction between surface water sewers and the water level in the nearby Ouseburn River. To help prevent future flooding, Polypipe's Permavoid system was installed under a recreational area between a road and the river.

The water management solution comprised of a Permavoid shallow geocellular system, which featured the use of Permavoid Biomat. Permavoid Biomat was incorporated into the design in order to trap and retain any residual and emulsified oils that may be present in surface water from the road before discharging directly into the river.

As the surface water enters the Permavoid attenuation system through kerb drainage, the Permavoid cells had to be installed below the level of the road at the same time as being above the normal river level. As the system is designed for shallow applications, the burial depths could be tightly controlled to ensure the optimum attenuation performance was achieved.

The units provide storage until river levels fall and gravity discharge can begin again

River water is prevented from entering the system by a non-return valve on the outlet.

Acomb Crescent is an area which is particularly prone to flooding, with limited available space for a solution. Polypipe's Permavoid system was ideal for this project and Polypipe's technical team were on hand to design a bespoke solution for the client.

Using Permavoid products on this project not only enabled Polypipe to provide an effective drainage solution, but also helped to ensure that the water is returned to the watercourse in a clean, unpolluted form.

CASE STUDY

Project

Acomb Crescent

Client

Newcastle City Council

Application

Attenuation and Treatment

Products

Permavoid