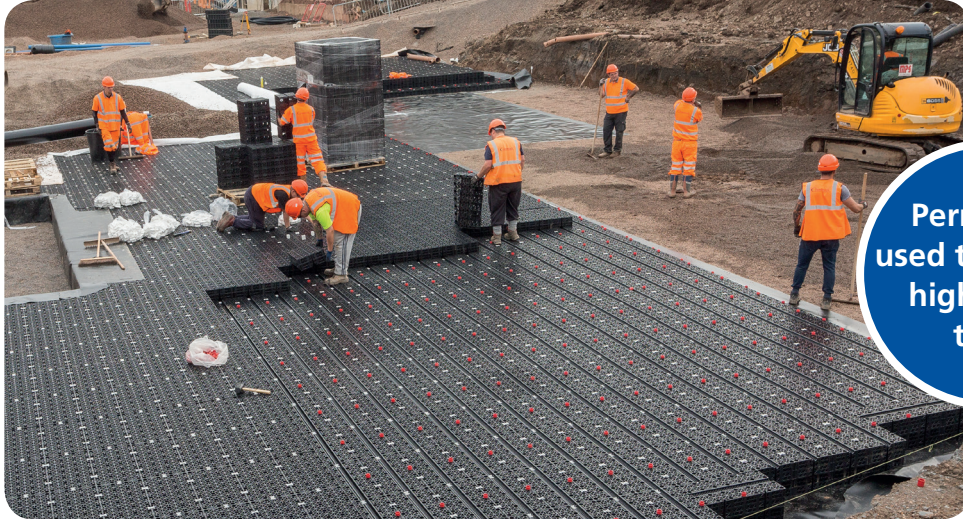


New £150m children's hospital gets the Polypipe treatment

More than 300,000 Permavoid and Polystorm-R modular cells for water attenuation have been installed across the new £150m site of the Royal Hospital for Children and Young People in Edinburgh.



Permavoid
used to combat
high water
table

The hospital complex at Little France will provide the Royal Hospital for Sick Children, the department of clinical neurosciences and the child and adolescent mental health services with a purpose-built location that consolidates three key departments on one central site in the city. Polypipe, working with primary contractor Multiplex, supplied 11 shallow geocellular attenuation tanks that hold a combined volume of up to 2020m³.

"There were a number of challenges on this project, including the need to keep the site open to hospital traffic and the high water table on-site. The on-site teams were able to coordinate deliveries to meet strict installation schedules, ensuring disruption on-site was kept to a minimum and the geocellular tanks, positioned above the high water table, will be able to endure all levels of traffic for years to come."

Rosie Cheetham, marketing manager at Polypipe Civils

The tanks were installed under parking bays and beneath crucial entrances, including the hospital's Accident and Emergency. An intelligent sub-base replacement design was needed to store the appropriate level of water, above the high water table, that gathers on the site during heavy rainfall. Following discussions with Polypipe's technical team, the Permavoid geocellular system was chosen by the project consultant engineer as the primary engineered solution.

In addition, Polypipe supplied the additional attenuation tank using components from its Polystorm range, which included Polystorm R, Polystorm Inspect and Polystorm Access.

CASE STUDY

Project

Royal Hospital for Children and Young People

Client

Multiplex

Application

Stormwater attenuation

Product

Permavoid, Polystorm

Jonathon Mays, procurement manager at Multiplex, said:

"Polypipe was a clear choice for this project as its technical experts were able to assess on-site requirements and define the right products and quantities needed. By working with merchant partner PDM the easy to install Permavoid and Polystorm-R systems could be delivered to site on a timely basis and quickly put into position. Using a geocellular system also reduced the amount of land that needed to be excavated from the site."



The Permavoid tanks were placed beneath permeable and non-permeable paving, wrapped in geomembrane to make them watertight for attenuation. Permatex, a polypropylene geotextile, was installed between the Permavoid layers to ensure passive water infiltration into the tanks.

Demonstrating how the breadth of Polypipe's range can provide a solution for any challenge, 10 of the tanks installed used Permavoid 150mm to hold a volume of up to 1780m³, with one tank using a combination of Polystorm-R with Polystorm Access, and Polystorm Inspect, supplying a further 240m³ volume tank.

With adjoining hospital departments needing to remain open and accessible during construction, a carefully co-ordinated delivery schedule for the products on-site needed to be devised between Polypipe, the selected merchant PDM and the on-site project managers to minimise disruption to patients and medical staff.

