

Polypipe delivers vital infrastructure for UK's largest self-build community

Polypipe has supplied a wide range of its thermoplastic pipe products for foul water management, delivering vital infrastructure to the innovative Graven Hill project site in Bicester, Oxfordshire.



Polypipe's thermoplastic pipe products were supplied to deliver vital infrastructure to innovative self-build community.



Polypipe supplied a durable and cost-effective thermoplastic solution which will ensure efficient water management and optimum flood resilience for Graven Hill residents.

The Graven Hill project is set to become the UK's largest self-build community, offering plots for 1,900 homes across the site, with planning for further developments including a primary school, pubs, and convenience shops accepted.

The 188-hectare site will provide purchasers with the chance to build their own home, with a focus on energy efficient materials, modular construction methods, and contemporary design. Following previous positive experiences with Polypipe, contractor Careys Civil Engineering recommended that the original clay and concrete design

specification be changed to a more durable and cost-effective thermoplastic solution, incorporating Polysewer and Ridgisewer. The structured wall pipes offer ring stiffness and strength, while ensuring flexibility to allow for ground movement and differential settlement.

They can also be manufactured to exact specifications and delivered at precise times, reducing labour time on-site. To capture, store and control surface water run-off, over 220m of Ridgistorm-XL large diameter pipes were supplied in a stiffness class of SN2 to suit the site's ground conditions, together with two tanks manufactured using Polystorm-R cells.

Polypipe's Polystorm-R cells have a 95% void ratio, with a load bearing capacity of up to 61 tonnes per square metre, making them ideally suited for trafficked and loaded applications at greater depths. The two tanks will provide over 336m³ of water storage, ensuring flood resilience even in extreme weather events.

CASE STUDY

Project

Graven Hill, Bicester

Client

Careys Civil Engineering

Application

Foul and Surface
Water Management

Product

Polysewer, Ridgisewer,
Ridgistorm-XL and Polystorm-R



The solution included a system for foul water management using over 2,250m of Polypipe's Polysewer and 330m of Ridgisewer structured wall pipes, along with the necessary associated bends and fittings required to fit the pipe runs.

"We were pleased to be selected for the Graven Hill site, thanks to Careys Civil Engineering's past positive experiences using our thermoplastic piping products. The final design incorporated products from across Polypipe's water management range and highlighted how plastic can offer a cost-effective, durable alternative that can still meet approval for adoption criteria. The system will ensure efficient water management and resilience in the face of extreme weather events for years to come."

**Rosie Cheetham,
Marketing Manager,
Polypipe**



**Mick McCaul, Construction Manager,
Careys Civil Engineering**

"We have worked on numerous projects with Polypipe and have remained impressed with their high level of customer service and the quality of their range of products. We recommended that the original specification for the Graven Hill site be changed to a thermoplastic solution, as we knew that it would be safer, easier and quicker for our groundworkers to install, while offering the robust infrastructure required for this large-scale project."