

Polypipe supply unique stormwater solution for a rural residential development in Houghton Regis

Polypipe has provided a stormwater attenuation solution for a luxury residential development in the heart of the idyllic Bedfordshire countryside.



Renowned developers, Taylor Wimpey, called upon Polypipe to provide an engineered drainage solution, designed to work with a sloping gradient found on site. Set in the countryside town of Houghton Regis, the Regent's Place large-scale residential

More than 500m of Ridgistorm-XL supplied for countryside residential development.

development comprises of a mix of 180 two, three and four bedroom houses nestled in a tranquil area that offers stunning views of the landscape.

The landscape surrounding the Regent's Place development features a large public open space with limited footprint for drainage design and sloping gradients. Taking on the challenge, Polypipe worked closely with Taylor Wimpey and Consultant Engineers JPP Consulting, to design a stormwater solution, incorporating staggered legs to take site conditions into account, that also met site

The attenuation tank supplied for the Regent's Place project boasts a 3m diameter offset RIDGISTORMCheck Vortex Flow Control Chamber which controls discharge water from the tank at an agreed rate of 10l/s, so the local watercourse is not overwhelmed. To control additional flow when required, the chamber also features a penstock flow control.

requirements and adopted elements laid out under Section 104 agreement for approving water company, Anglian Water.

CASE STUDY

Project

Regent's Place (Houghton Regis)

Client

Taylor Wimpey

Application

Stormwater attenuation system for Section 104 agreement

Products

Ridgistorm-XL, RIDGISTORMAccess Manholes, RIDGISTORMCheck Vortex Flow Control Chamber

The Regent's Place development required a below ground stormwater solution, able to store up to 2,052m³ of surface water run-off to cater for both '1 in 30' year and '1 in 100 plus 30% climate change' year storm events.

Polypipe supplied over 500m of Ridgistorm-XL to form 14 pipe runs in 2100mm diameters. Polypipe's technical team engineered designed the pipe to ring stiffness SN2 to meet the ground conditions, burial depths, native soil pressures and loading on-site. The system was tested to pass required deformation and buckling checks in accordance with BS EN 1295-1.

To accompany the pipe runs, the Ridgistorm-XL system incorporated 34 pre-fabricated modularised fittings which included 90° bends and 'F', 'T' and double 'T' fittings to fit the limited on-site dimensions perfectly.

The socket and spigot nature of these engineered fittings kept jointing to a minimum allowing for easy pipe alignment and speedy installation using electro-fusion jointing. This in turn significantly reduced on-site installation time and cost.

Polypipe has worked on many residential projects in the past and understand the implications surrounding routine maintenance work. In order to make maintenance work less strenuous and overall safer for installers, Polypipe also supplied x10 RIDGISTORMAccess Manholes in diameters 1200mm and 1800mm. The manhole access assists workmen by providing easy access to a pipeline.



Keith Millard, Senior Engineer at Taylor Wimpey said:

"Polypipe designed the required stormwater attenuation system to not only fit the available area, but also saved us time and costs on the installation by delivering the system and fittings as one piece modular units ready to install."