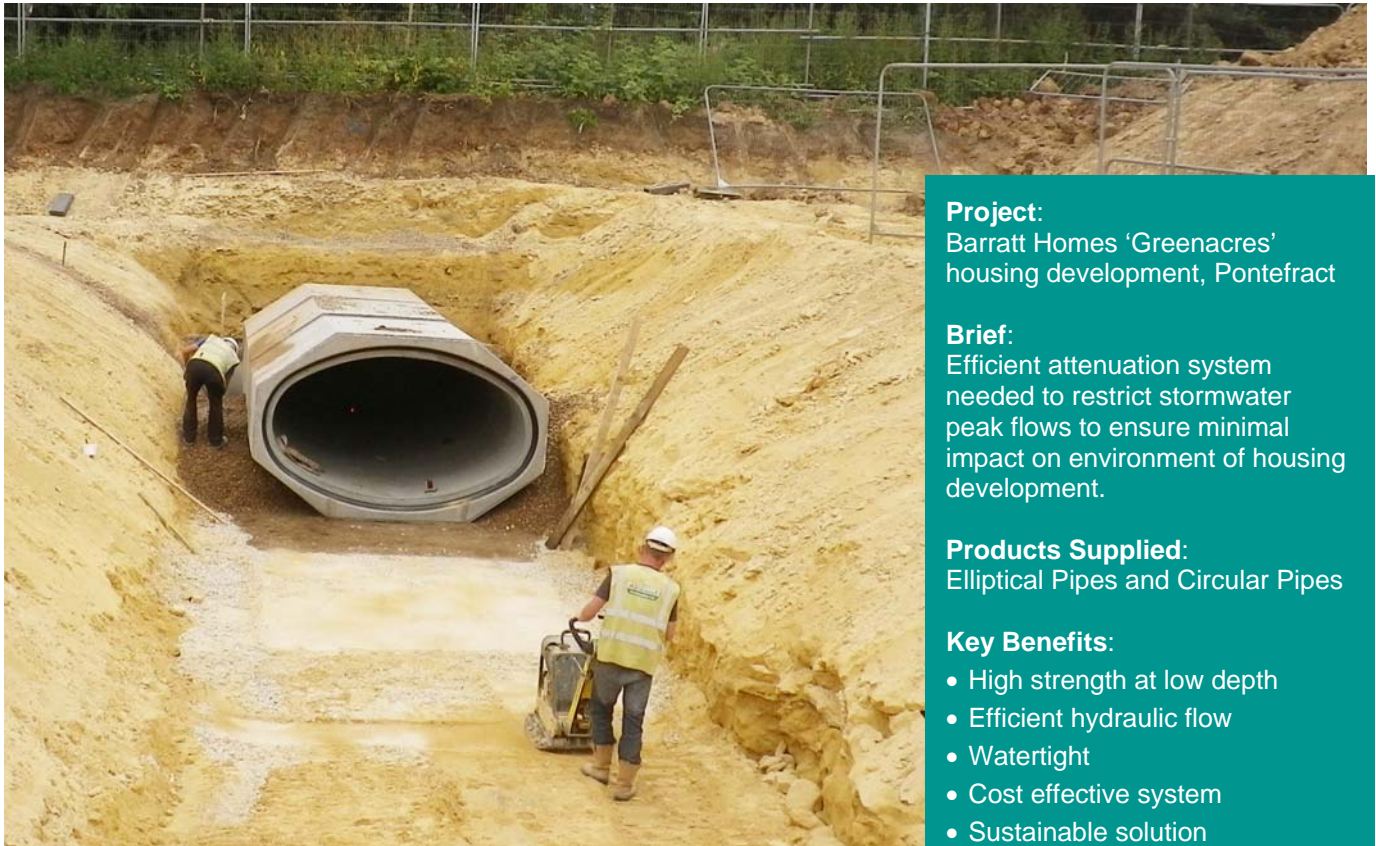


CASE STUDY - Barratt Homes Pontefract

Stanton Bonna elliptical pipes minimise flood risk from greenfield site



Project:
Barratt Homes 'Greenacres'
housing development, Pontefract

Brief:
Efficient attenuation system
needed to restrict stormwater
peak flows to ensure minimal
impact on environment of housing
development.

Products Supplied:
Elliptical Pipes and Circular Pipes

Key Benefits:

- High strength at low depth
- Efficient hydraulic flow
- Watertight
- Cost effective system
- Sustainable solution

Stanton Bonna Elliptical Pipes provide a sustainable solution to help manage stormwater peak flow at a new housing development.

The demand for new housing in Pontefract led to an £8M investment by Barratt Homes which included 48 properties on a 3.2 acre site just off Pontefract Road.

" We were really happy with the products, service and ease of installation . . . "

Martin Towey
PJ Towey Construction Ltd

With the area being a greenfield site, the developers, Barratt Homes had to ensure that the local environment was not impacted. The brief was to ensure stormwater peak flows off site 'mimicked' the existing situation.

The site had its challenges with the landscape being quite steep, limited depth was available for the installation and the attenuation tank would need to accommodate vehicle loading to Highways Agency standards.

Luke Martin, engineer for Barratt Homes, explained ". . . circular storage pipes would not have a large enough cross sectional area to keep the attenuation in the lower part of the site. We would have needed very deep drainage with extensive costs associated."

The project was originally specified with 2400 x 1500mm box culverts with dry weather flow channels installed at the invert in three runs.

Luke Martin and the consultant designers (Haigh Huddleston) reviewed the project and systems available.

They then selected Stanton Bonna's elliptical pipes since they offer the following benefits:

- > perfect profile for low cover levels.
- > in situ secondary inverting is not required for dry weather flows.
- > no extra jointing materials required due to integrated watertight elastomeric gasket
- > Stanton Bonna elliptical pipes were cost effective due to their low cost and quick installation.

Luke Martin continued, *"The use of elliptical pipes was a lower cost option than box culverts when restricted to keeping the attenuation within the adoptable carriageway"*.

The Stanton Bonna technical team worked closely with the design consultants on the side entry manhole fittings, a bespoke spigot fitting and end walls to complete the design and layout.

A total of 31 x 2.4m lengths of Elliptical pipe (DN 2650 x 1500) were supplied, including fittings with end walls, a 600mm diameter spigot and 18 degree bend. A further 22 x DN 1600 circular precast concrete pipes were supplied on request in replacement of originally specified plastic pipes.

Stanton Bonna's Site Support Technician, Chris Taylor, assisted the contractors, PJ Towe Construction Ltd, with on site training and support before the products were delivered, as this was the first time they had fitted this type of system.

Martin Towe said, *"Chris Taylor was a great help to the guys on site and made it a lot easier to work with the elliptical pipes. Overall we were really happy with the products, services and ease of installation. Once the team got started the installation was quite quick"*.

Contact us for further information:

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Elliptical pipe fitting with side entry manhole



Elliptical pipe with end wall and 600mm diameter spigot



The pipeline installation was at a low cover level so strength of the system was as important as efficient flow

DID YOU KNOW?
precast concrete pipes and manholes
provide a **lower carbon footprint.**



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<http://goo.gl/Wptmog>
or scan the QR code

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