

SCHEME

Shiremoor Flood Alleviation

CLIENT

Seymour Civil Engineering Contractors Ltd on behalf of Northumbrian Water Ltd

WEHOLITE SOLUTION

2.1m Diameter Flood Alleviation Tank with 6,000m³ Capacity

£4m Flood Alleviation Scheme



An improvement scheme, delivered by Seymour Civil Engineering Contractors Ltd (Seymour) on behalf of Northumbrian Water Ltd (NWL), is using an innovative water management solution to reduce the risk of flooding in North Tyneside.

The 12 month flood alleviation project costing £4.1 million at a residential development in the village of Shiremoor, will feature a bespoke-designed solution manufactured by ASSET International Ltd.

Following periods of extreme rainfall in 2005, extensive property and curtilage flooding occurred on three occasions at a housing development, Park Estate, on the outskirts of the village.

Almost 150 homes on the estate were affected by the flooding; in February 2006 NWL subsequently added the houses onto the DG5 At-Risk Registers - these registers were created by OFWAT in September 1989 to catalogue all UK properties estimated to flood more than once in ten years.

Ian Davison, project manager for NWL, explained how the Park Estate was considered a priority area for flood alleviation work. He said: "Removing properties in the area we serve from the DG5 At-Risk Register by sourcing and using sustainable solutions to flooding has been one of our key priorities in the wake of such adverse weather conditions.

THE ESSENTIAL HDPE WATER MANAGEMENT SOLUTION

CONTACT ASSET International Ltd:

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"There are many homes estimated to be situated in areas of high flooding risk in the county, researching all possible options ahead of delivering any flood alleviation scheme is essential if we are to find a long-term solution."

Design consultants Mott MacDonald Ltd (Mott MacDonald) presented 14 possible design options to NWL. ASSET's innovative high-density polyethylene (HDPE) pipe, WEHOLITE, was deemed the most suitable solution for this specific project. Mr Davison, added: "This is the first time Northumbrian Water has used WEHOLITE in one of our flood alleviation schemes, and have calculated significant benefits in using this innovative solution, including potential time and cost savings."

Mott MacDonald worked in collaboration with ASSET on behalf of NWL, to design a unique tank system consisting of 15 parallel pipe runs - each pipe measures 2.1m in diameter and 114m in length.

In addition, several existing sewers were increased in size and re-directed into the new WEHOLITE tank system, which has a capacity of 6,000 cubic metres when full.

Upon project completion, rainwater will enter the tank system via a large inlet manifold. The water will then be stored in the tank and gradually released through a smaller outlet manifold into the existing sewer system down stream.

David Holloway, site agent for Seymour, commented on the ease of installation using WEHOLITE. He said: "Compared with other projects we've worked on, WEHOLITE proved very efficient in terms of reducing the project delivery time, which is an important factor in ensuring that a scheme involving numerous partners is delivered within the agreed time-frame."

"ASSET manufactured and later delivered the pipes to site, which caused less disruption to the surrounding communities and also reduced the amount of time spent in the ground by workers during the installation process. This ultimately decreased health and safety risks for all."

Simon Thomas, managing director of ASSET, based in Newport, South Wales, commented: "With the recent flooding crisis top of the public agenda, this scheme demonstrates how an innovative and bespoke solution can provide a long-term solution to water infrastructure issues."

"We're delighted to have been given the opportunity to act as the partner of choice in this project and hope to work with NWL on other similar schemes in the future".

ASSET's solution is delivered and off-loaded on-site ready for installation by Seymour Civil Engineering Contractors Ltd.



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