

DERWENTHORPE, YORK

Lead contractor commissioned to design and install approximately 5km of pre-insulated pipe for a decentralised heat network, serving 580 residential units built by David Wilson Homes.



CLIENT: VEOLIA

CONTRACT VALUES:
£1.6M + £500K



PROJECT PHASES

Initial project phases ran from February to August 2015 with a contract value of £1.6m. Further phases worth £500k commenced in August 2016.

KEY PROJECT INFORMATION

Redesign of Existing Systems

Following a previous tender exercise which had rendered this project commercially unviable, Dalkia entered into feasibility consultations with Eneteq to redesign the existing network. Eneteq's extensive industry experience delivered solutions for the high level project viability issues as well as practical solutions in relation to pipe material specification, coordination, alignment and routing, along with improved civils detailing. Eneteq developed and negotiated a business model with the customer to ensure a redesign of the system which enabled the scheme to meet its commercial requirements.

Capability of Design

Modelling from base principles up, Eneteq revisited the system. Many factors were considered such as system diversity, demand, flow rates, operating temperatures and pressures, material specifications, coordination and routing with consideration for current legislation, incentivisation and funding.



THE DISTRICT HEATING NETWORK SPECIALISTS

Eneteq also assessed civils design, priority depth reduction and increased access provision to leak detection systems. All findings were scoped, priced and presented in a formal report along with options for alternative solutions.

The report findings also highlighted one of the main cost drivers was the use of all steel pre-insulated pipes. Eneteq introduced the innovative twin CopperFlex connections, the first UK-based application of this technology, trench depth was subsequently reduced and pipes rerouted to minimize material pipe length. This re-engineering reduced the cost / house entry by 50%.

In addition, a number of Energy Centre modifications were also recommended including:

- Sectional separation for improved future operational diversity.
- Increased system monitoring via additional heat meters and controls.
- Improved flushing and top up design.
- Introduction of remote dual pressure control valve (DPCV) to provide improved system control.

Installation

Project scope included end to end testing including Non-Destructive Testing (NDT) of the steel welds and joint casings as well as static and hydraulic pressure testing. Eneteq also undertook the flushing of the pre-insulated pipe.

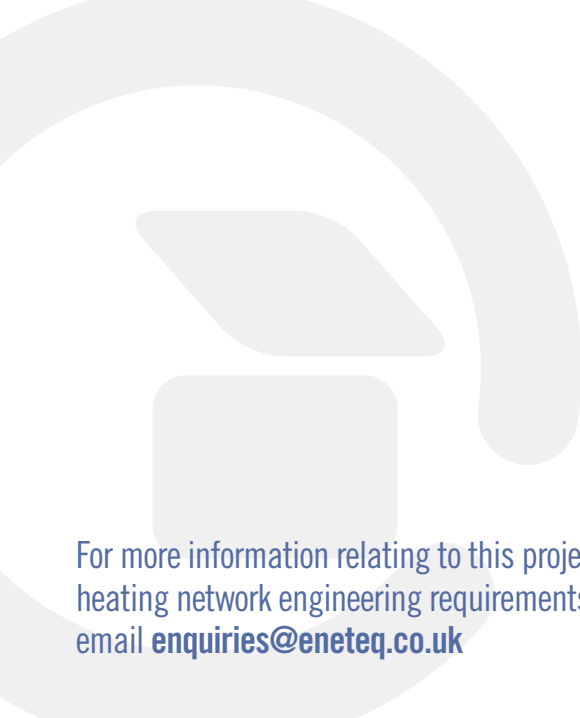
Drawing on its in house capabilities, Eneteq also amended the civils specification to ensure compliance with the pre-insulated pipe manufacturer's requirements and delivered improved coordination with the site developer to ensure on time programme delivery.

End to End Programme Management

All materials were procured by Eneteq's purchasing team with a preferred group of suppliers. An on-site prefabrication shelter and yard was built for pre-fabrication work and materials delivery and distribution. In accordance with Eneteq's programme management requirements, full time non-working SMSTS site supervision was provisioned to work with all interested parties, coordinating all project elements in line with the build-out of the residential units. During the programme, the site developer changed its construction programme to a non-linear build progression. This made it necessary for Eneteq to adapt its installation methods. This was adopted with no adverse effect on project delivery and each project phase was completed on time in line with the principal developer's programme.

IN SUMMARY

The Eneteq team was able to cover all project scope including civils excavation, the supply and install of pre-insulated pipe, testing and commissioning of the network, network integration and provision of AS Built drawings.



For more information relating to this project or to discuss your own district heating network engineering requirements, please call **01327 770170** or email **enquiries@eneteq.co.uk**



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