

## GOREFIELD England

**Client:** Anglian Water

**Country:** England

**Length of Pipe:** 5000 m

**No. of Valves:** 105

**Volume of Flow:** 15 litres/second

**Specialist Feature:** Vacuum technology selected based on cost-efficiency and reliability over alternative systems.



Gorefield, located near Wisbech, is a beautiful village in East Anglia within the operational area of Anglian Water Services. The benefits of using vacuum technology to serve this village were identified by Anglian Water, after consultation with Barhale Construction and Iseki Redivac.

The system, designed by Iseki Redivac, was installed by Barhale Construction using unique techniques which had been developed especially for these projects with Iseki providing technical assistance and supervision. The two vacuum stations were constructed on vacant land at the edge of each village. This project has also seen the introduction of the very latest in Iseki Redivac's process and control equipment including a computer aided Individual Valve Monitoring and Analysis System. This has further enhanced the operational maintainability of these vacuum systems and has underpinned Iseki Redivac's existing reputation for reliability and efficiency.



Completed in August 2003, the residents of Gorefield are now served by a state of the art sewer system which greatly reduces any potential impact on the environment. The installations, comprising of 5000m of polyethylene sewers and 105 vacuum interface valves, were completed with very little inconvenience to the residents and minimum disruption to local road traffic and businesses.

## GOREFIELD

### Vacuum Pipework

Vacuum sewers in polyethylene sized from Ø90mm to 200mm.

### Vacuum Station Equipment

The vacuum station operates with two rotary vane vacuum pumps rated at 630m<sup>3</sup>/hr.

The sewage discharge pumps installed in the Gorefield vacuum station are centrifugal screw type pumps rated at 17l/s supplied by Hidrostal Ltd.

The vacuum vessel is fully coated inside and out as well as being certified to Lloyds standards. The motor control centre is fully automatic with PLC logic control. All pumps start in rotation and all conditions are monitored with a data logging system.

A PC based valve monitoring consol was designed to allow comprehensive interrogation of each individual vacuum interface valve. This data provides quick and easy identification of potential problems long before it could lead to a line failure.

### Summary

Poor ground conditions, challenging topography, river crossings and the need for installation to take place over a short time span, causing minimal impact to the normal life of the village, made Iseki Redivac the only realistic choice.



Preparation is underway for the vacuum sewers to be laid

### Applications for Iseki Redivac's Technology

- Rural community sewerage systems
- Industrial developments
- Supply bases
- Housing development/compounds
- Hazardous waste collection
- Airports & military installations
- Beach developments
- Remote villages



Iseki Redivac Interface Valve installed in chamber



630m<sup>3</sup>/hr vacuum pumps installed



The large vacuum vessel being lifted into place