

CHAPPES, FRANCE

Client: Communes de Chappes
Country: France
Length of Pipe: 4500m
No. of Valves: 50
Volume of Flow: 3 litres/second
Specialist Feature: River crossing



Situated approximately 150km south east of Paris, the village of Chappes is near the town of Troyes in the beautiful Champagne region. The village was without a mains sewerage system and relied on septic tanks for the disposal of sewage. Communes de Chappes made the decision that a sewerage system should be installed to serve the village in order to avoid the pollution of the River Seine and to eliminate other environmental contamination caused by inefficient or dysfunctional septic tanks.

The nearby village of Fouchere was also in the process of installing a sewerage system and had chosen Iseki Redivac's technology as the most cost effective solution. After consultation with Iseki Redivac and comparing the installation cost of vacuum and gravity sewers, the vacuum way was chosen as the most suitable option. Not only was the vacuum system easier and cheaper to install but the remarkable capabilities of the technology meant that only one pumping station was required.



The River Seine runs through the middle of the village and conventional sewers would require at least two main pump stations and many lift stations to serve the village. Iseki Redivac's engineers were able to design the sewer network so that the sewer main was able to cross the river by attaching the protected pipe to the underside of the bridge. Such was the effectiveness of the design and quality of construction that the completed vacuum sewerage system has proved very reliable and has exceeded the initial performance parameters.

CHAPPES

Vacuum Pipework

Vacuum sewers in polyethylene sized from Ø90mm to Ø160mm with electro fusion joints.

Vacuum Station Equipment

Two rotary vane air cooled vacuum pumps with a capacity of 200m³/hr.

Two dry well discharge pumps rated at 5l/s, duty and standby.

Vacuum vessel has a 4m³ volume and is epoxy coated inside and out and tested to Lloyds Certification.

The motor control cabinet is fully automatic with a programmable PLC. All pumps start in rotation.

The valve monitoring system which monitors the open/closed mode of each interface valve located around the village can be individually observed from the vacuum station.

Exhaust gases are filtered by passing them through a Biological Filtration Unit situated adjacent to the vacuum station.

Summary

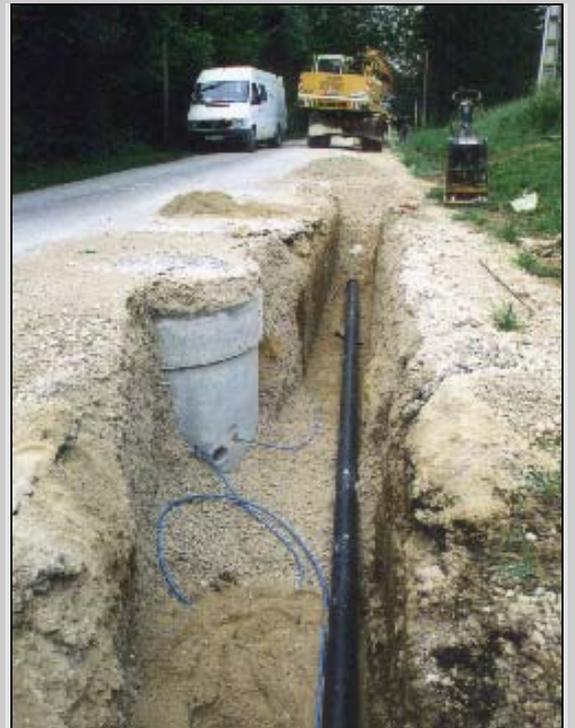
Poor ground conditions, challenging topography, river crossings and the need for installation to take place over a short time span, causing minimal impact to the normal life of the village, made Iseki Redivac the only realistic choice.



Vacuum sewer main crossing the river



Vacuum sewer attached to the bridge abutment



Trench with vacuum pipe, valve chamber and monitoring cable

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