

# fareham

## Cost-Effective Emergency Raw Rag-Laden Sewage Over-Pump

Exsel Pumps was called upon in an emergency to supply a system that could over pump a large collapsed sewer main in Fareham. Initially, the contractor was looking at a submersible pump option, but Exsel proposed a more cost effective option utilising electric driven surface mounted immersible pumps with stand-alone vacuum priming systems. This negated the need to build a suction sump for the submersible units which would have cost more money and time—considering also the urgent nature of the project where houses nearby would have been in danger of a sewage overspill. Instead the selected option was to cut two saddles in the existing pipe where Exsel would position suction pipework directly into the line. This also reduced the environmental impact due to odour compared to a large suction sump.

Two 16" (400mm) pumps with 18" (450mm) discharge pipe were utilised each capable of 3,000 m<sup>3</sup>/h (830 l/s) with unrivalled rag handling capability as necessitated. In addition, a back-up 12" Betsy diesel pump was supplied to provide additional standby capability. With a suction lift of about 6 metres the pumps were controlled by a PLC container on variable speed drives with level control probes. Each pump was capable of the predicted maximum flow but it was decided due to the critical nature of the project that both pumps should be running and the level sensing would ramp up the speed of the pumps as the flow conditions increased. This provided a better safety factor considering the wide variance of flows and the proximity of a nearby residential area. Utilising two units of this size reduced the need to operate a higher quantity of smaller pumps offered by competitors which would have required more room on site with more pipe runs and more power requirement.


So critical was the nature of the project that Exsel also installed an SMS system that contacted it's engineers in the event of any alarms. Exsel therefore also providing 24/7 back-up to the application.

### Exsel the Complete Solution Provider

The full installation was carried out by the Exsel Team utilising 450mm diameter flanged steel pipework that provided a secure tamper-proof and leak-free solution. Using this size of pipework reduced the number of pipe runs. The installation Team worked overnight to ensure the over pump capability was set up and running in the quickest timescale but also in the safest manner.




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