Trust WPL and Soma Service to supply National Trust

WPL Ltd and installation partner Soma Services have installed HiPAF Sewage Treatment Plants at National Trust property Fountains Abbey. WPL Ltd and Soma Services were appointed by the National Trust to provide solutions for their wastewater management needs at Fountains Abbey, a World Heritage Site in North Yorkshire. An increase in visitor numbers and tighter standards forecast by the Environment Agency meant that existing systems needed to be upgraded or replaced in several different locations throughout the property, including foul flow from toilets and visitor centre restaurant; a toilet block and tea rooms treated by old septic tanks and foul drainage of the onsite holiday cottage development.

Utilising existing equipment to shape new system

In the 1980s, a treatment system had been installed on land adjacent to the Fountains Abbey West Gate to treat foul flow from toilets and the visitor centre restaurant. This system was well maintained by a local contractor and as a result gave good service. However, with plans for increased visitor numbers, Soma Services were engaged to monitor the performance of the plant and to recommend a cost effective upgrade to ensure future compliance with the requirements of the Environment Agency. The consented discharge standard only included numerical reference to BOD5 and suspended solids, but with future flows in mind and the likelihood of tighter standards being imposed by the Environment Agency, consideration needed to be given to the removal of ammonia.

The August Bank Holiday period was selected to monitor visitor numbers and performance of the plant in detail. A sampling strategy was devised to monitor the response of the existing plant to variations in visitor numbers.

The contract to install the new WPL HiPAF treatment plant was awarded to Soma Services. The existing system, although old, was still in good mechanical order and utilising this equipment as part of the new scheme offered substantial savings. A WPL HiPAF biozone/humus module was selected to operate in series with the existing unit. Ongoing sampling of the system since installation has shown that, at current visitor levels, the upgraded works provides full nitrification as well as compliance with the consented standards and it has been calculated that the system can now deal with a significant increase in visitor numbers without further modification.

Package treatment plant serves two locations

Following the successful completion of the West Gate project, a similar exercise was carried out at the Studley Royal Canal Gates location at Fountains Abbey. Here a toilet block was served by an old septic tank and filter bed discharging to a soakaway which had not operated correctly for some time. Smell nuisance had been reported and a long term solution was required. The nearby tea rooms were also served by a septic tank which again gave rise to some degree of smell nuisance.
The solution proposed was the installation of a WPL package sewage treatment plant serving both locations with a discharge to the lake consented by the Environment Agency. Theoretical calculations of foul flows to treatment from visitor numbers were compared with water meter readings. A basis for design was agreed with WPL Ltd and a HiPAF was selected for installation in a wooded area behind the tea rooms.

Carefully constructed soakaway system

Also within the Fountains Abbey Estate is the How Hill Holiday Cottages development where the local planning authority required particular attention to foul drainage of the site. A solution was provided after discussion and negotiation with Natural England to address the issues of the Great Crested Newt population. In accordance with the Consent to Discharge obtained from the Environment Agency, a WPL HiPAF package sewage treatment plant was installed and a soakaway system carefully designed and constructed to follow the contours of the site. In this way, the highly treated effluent from the HiPAF is dispersed into the ground, eliminating the risk of adverse environmental impact on the site, the adjoining land and water feature.

WPL Ltd is an internationally-recognised leader in the design, manufacture and supply of standardised and bespoke environmental sewage, wastewater and commercial kitchen grease management process solutions.

www.wplinternational.com