

**WasteWater Treatment capacity had to be increased to cope with higher footfall at Dyrham**

Transformed from a Tudor country house into a Baroque mansion, Dyrham Park has attracted an ever increasing annual visitor number. Such is the popularity of the house and grounds, year on year visitor numbers have escalated surpassing the Bio-Bubbles 1994 design specification.

No spare land was available at the treatment works and to relocate and rebuild a whole new works would have been extremely costly. Our process engineers needed to find a solution to process more waste through the existing concrete tank assets whilst still making sure compliance to numerical consented standards was maintained for final effluent discharged to a tributary of the River Boyd catchment.

The solution was to use the improved reliable technology available to better manage the process with its huge feast and famine types of loading. The aeration capacity was increased by fitting new aeration grid matrix's and more than doubling the amount of air available when required; this with dissolved oxygen probes in each Reactor meant that the appropriate level of treatment could be provided to the given organic loading on the day.

The installation of 'Hach Lange' mixed liquor Suspended Solids meters meant that our process engineers could monitor the increased sludge production and therefore maximise the process possible within the existing tank structures.

Due to the Bio-Bubble compounds position within the park; an extremely sensitive area; great care with the aesthetics and noise production was paramount to satisfy planners and not to become a bad neighbour. A big part of the solution is regular remote monitoring via a new broadband link to the system thus enabling process engineers to become part of the management of the system.



Dyrham Park is among the oldest deer parks in the country and still supports an ancient herd of circa 200 Fallow deer. The herd numbers need to be managed as part of the land management of the 270 acres, selective culling provides venison for the on-site shop. Dyrham Park recently underwent major roof replacement works along with many other improvements to further benefit the visitor experience.



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