Constructed Wetlands for wastewater treatment

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Case study

Eye Veterinary Clinic, Marlbrook, near Leominster, Herefordshire

The green-field site chosen for the new, state of the art, Eye Veterinary Clinic, is in the corner of a large grass field that is virtually flat. There are no watercourses nearby and the red Herefordshire Marl soil is renowned for its poor porosity. Whatever we did, all wastewater and run-off would have to be treated and disposed of on the site. A septic tank and soakaway drains for sewage disposal were ruled out early on as an option. Our solution was to design and install a 3-stage combination vertical and horizontal flow reed-bed system for the treatment of the sewage generated by staff and visitors to the Clinic, and dispose of treated effluent via a surface ground wetland soakaway. All veterinary waste is collected separately and collected for disposal as a special waste. The high quality effluent produced by the reed-bed is discharged into a large pond with a waterfall at one end of a long mound constructed from the spoil excavated in making the pond. The pond and the waterfall face towards the main entrance of the Clinic and provide a restful calming setting for anxious pet owners.

Roof water from the building, and the run-off from the tarmac car parking areas run along a winding vegetated ditch into the pond. The water in the pond is constantly being recycled via a gravel filter bed and the waterfall; a process which cleans the water further and keeps it oxygenated. In heavy rain and winter conditions excess water in the pond overflows via a broad gravel bed into an unlined wetland area planted with willows and bunded around its margins. Here clean excess water soaks away over time. In the 6 years since this system was built the wetland has filled in storm conditions but never once overflowed.

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