

Reed Bed Holding and Filtration for Maltings

Water Solutions Case Study

Oceans-ESU Ltd were approached by a maltings company to provide a solution for the treatment of steep water effluent.



Overview			
Type of Effluent	Area	Load	Notes
Maltings wash water, removal of BOD, COD and suspended solids.	1500m ² (40 x 40m).	Inlet flow rate 1300 ³ /day. Capacity 1300m ³ .	Single stage vertical bed, allowing retention of discharged effluent during low tides.

The company produces 95,000 tonnes of malt per annum for the food and drinks industry at this site in Yorkshire. The process involves soaking grain until it starts to germinate before drying it in kilns. The water remaining from the soaking process is known as 'steep water' and is high in BOD and COD.

The steep water is treated by an activated sludge system and the chemical quality of the effluent already met environmental discharge consents the majority of the time. However, the outfall was sometimes visible at low tide and could be unsightly. The client was keen to improve the quality and appearance of the water that was being discharged into the sea, and contacted Oceans ESU for a solution.



Oceans-ESU designed a vertical flow reed bed system to provide tertiary treatment of effluent in the event of any excursions from the active sludge system. The reed bed was also designed with a meter of freeboard to allow for safe storage of water within the system if required. This provides emergency storage for two days, and allows the client to have greater control over what is being discharged. For example, the water can be retaining in the system for longer to allow additional treatment in the event of a unusually high effluent loading.

The reed bed system has proved to be very successful in improving the quality and appearance of the discharged waters and consistently meets its design criteria.