

Jaspers Treburley Wastewater Treatment Plant

Jaspers Limited, Treburley

- Complete wastewater treatment plant
- Designed to treat wastewater produced from an abattoir
- Small footprint
- High quality permeate to be re-used for wash down of animal sheds and agricultural vehicles
- Peak flow to treatment of 104 m³/d



Description	Value	Note
Current Status	Operational	Commissioned July 2007
Client	Jaspers Ltd.	Industrial Operations
Market Type	Industrial – Cattle Slaughterhouse	
Population Served	2,850	
Flow	47 m ³ /d	Average Daily Flow
Consent/Permit	10:10:10 BOD:SS:NH4N	mg/L
Performance	<10:<10:<10 BOD:SS:NH4N	mg/L
Brief Description	A new membrane wastewater treatment plant to treat the low flow, high COD concentration waste stream produced by the abattoir at Treburley to satisfy the Environment Agency discharge consent and to reduce water consumption through re-use.	

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Process Description

The new wastewater treatment plant is being constructed by MBR Technology at Treburley Abattoir to treat the wastewater produced by the abattoir. This excludes blood which has a different disposal route.

Design data	
Overall Flow to full treatment:	
Maximum Flow Rate:	104 m ³ /d
Average Flow Rate:	47 m ³ /d

Plant data	
MLSS:	12,000-18,000mg/l
No of membrane units:	3
Membrane model:	ES125
Membrane surface area:	300 m ²

Project Status	
Commissioned:	Dec 2007
Operated by:	Jaspers Ltd.

The influent to the plant is pumped via an existing pumping station to a 3mm perforated plate automatic screen. From the screen the wastewater flows under gravity into the MBR treatment tank where the mixed liquor activated sludge degrades the COD.

The MBR treatment tank contains 3 no. ES125 panel Kubota flat sheet membrane units which separate the treated effluent from the mixed liquor activated sludge. The membranes also remove bacteria and viruses from the treated water. Due to the high influent COD load, the MBR treatment tank incorporates a fine bubble diffused air zone to ensure the efficient transfer of oxygen to the mixed liquor activated sludge.

Following treatment in the MBR plant, the permeate will gravitate into a permeate tank. From the permeate tank, the permeate is pumped as required to the water re-use storage tank. Any permeate that is not re-used will flow under gravity to a new river outfall.

Selection of the MBR system for wastewater treatment has meant that the treated effluent quality is such that over 40% of it can be re-used for applications such as wash down of animal sheds and agricultural vehicles.