CASE STUDY

PROJECT MMF – UF AND RO PRE-TREATMENT
PRODUCT Multi-media filtration for UF pre-treatment
INDUSTRY Food and Beverage
LOCATION Brisbane, Queensland

BACKGROUND

A contractor for the largest abattoir in the southern hemisphere is trailing the recycling of the abattoir's wastewater back to their processing plant. The pilot plant comprised a containerised Ultra Filtration (UF) & Reverse Osmosis (RO) system fed from a pond of wastewater that had previously been treated by a Dissolved Air Floatation (DAF) system. The treated water from the pilot plant was then reused in the meat processing facility as wash water. The waste pond water from the DAF contained treatment polymer and high suspended solids (TSS), which was clogging the bag filters and restricting flow to the UF-RO plant.

The abattoir's contractor presented the issue to MAK Water. Our smart water people worked closely with the contractor to design a fit-for-purpose solution that eliminated blockages while increasing plant performance. We designed and manufactured a more reliable pre-treatment solution, replacing the bag filters that continually fouled with polymer & suspended solids.

SOLUTION

Multimedia Filtration (MMF) with glass media to replace bag filters.

MAK WATER KEY SOLUTIONS

- Custom designed MMF pre-treatment for poor quality pond-stored DAF treated water with high TSS and polymer content.
- 24" x 72" MMF vessel
- Glass media filtration to 1µm
- Standalone control panel for automatic operation to work with UF/RO pilot plant.
- Backwash pump and 3-way valve to automatically backwash MMF with UF filtrate
- Pressure sensors and monitoring
- Onsite plant commissioning and operator training
- Ongoing service and maintenance contract

MAK Water MMF Pre-Treatment neatly installed between pilot plant container and balance tanks

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RESULTS AND BENEFITS

- **Reduced downtime.** Reduced plant stoppages and reduced UF cleaning intervals
- **Technical Support** Expert advice and consultation with all parties throughout the process.
- **Ongoing service**. and plant maintenance by MAK Water
- **Improved Water Quality. RO** water quality improved - permeate conductivity reduced from 150µS to 70µS and TSS reduced from 14 mg/L to consistently less than 1mg/L
- **Integration.** With the standalone control panel, this plant was easily integrated with the existing UF/RO plant