CASE STUDY

PROJECT	**WASH BAY WASTEWATER TREATMENT FOR TRAIN SUPPORT FACILITY**
PRODUCT	Dissolved Air Flotation and Oil Water Separator
INDUSTRY	Infrastructure
LOCATION	Hemmant, Queensland

BACKGROUND

QR National (Queensland Rail National, now Aurizon Holdings) required a wastewater treatment solution, to treat effluent from the truck and container wash bay at their transport depot, to a standard complying with Brisbane City Council's trade waste guidelines.

As a renowned specialist in design and manufacture of wash bay wastewater treatment systems, MAK Water was engaged by QR National to design, manufacture, install and commission a plant, to treat 10,000 litres per day of combined truck and shipping container wash bay wastewater.

SOLUTION

The design incorporated an oil water separator (OWS), flocculation and dissolved air floatation (DAF) processes to remove solids, oil and grease contaminants from the effluent.

A series of jar tests were completed during the process design phase of the project, to confirm the treated water quality from a dissolved air flotation process would be suitable for sewer discharge, as per local council guidelines.

DISSOLVED AIR FLOTATION AND OIL WATER SEPARATOR

- Dual submersible feed pumps

- Oil Water Separator pre-treatment, for load sharing off the DAF during heavy oil contamination events

- The system uses hydroxide precipitation, flocculation and DAF clarification to remove silt, heavy metals, seeds, weeds and pests from the water

- The system adjusts the pH to meet discharge requirements

RESULTS AND BENEFITS

- **Lowest total operating cost.** Due to the large quantities of wastewater generated in the wash bay, onsite treatment was the only economical solution

- **Compliance.** The wastewater treatment system complies with local council sewer discharge requirements

The dissolved air flotation system and oil water separator on site

The system uses hydroxide precipitation, flocculation and DAF clarification to remove silt, heavy metals, seeds, weeds and pests from the water