



**CLIENT:**  
Brisbane Water

**LOCATION:**  
Sandgate, QLD

**SERVICE:**  
Water Treatment

**CAPACITY:**  
110,000 EP

**CONTACT:**  
Peter Ferrando

**ISSUES:**  
Existing trickling filter plant unable to meet licence

**SOLUTIONS:**  
Construction of new BNR facility within the existing site.

**BENEFITS:**  
Product met the requirements for discharge into the sensitive waters of Moreton Bay.

**PRODUCT:**  
All mechanical process equipment

**COMPLETION DATE:**  
April 2006

## Sandgate Wastewater Treatment Plant

Sandgate WWTP upgrade was delivered as part of the Brisbane Water Enviro Alliance (BWEA) in which Aquatec Maxcon was a partner. The plant was extremely constrained being bounded by Cabbage Tree Creek with residential properties on the northern side of the suburbs of Shorncliffe and Deagon, and an important bird habitat and RAMSAR wetland.

The upgrade involved heavy brownfield demolition and replacement of out-dated infrastructure and mechanical equipment, with new state of the art technology, while maintaining operation of the existing plant. The extremely constrained site necessitated the development of the compact SCOOTA configuration with bioreactors wrapped around the clarifiers to achieve the lowest possible footprint.

Features of the upgrade included:

- Increased capacity from 18ML/d to 25 ML/d, servicing an ultimate population of 110,000 persons
- Replacement of existing trickling filters with anaerobic selectors and oxidation ditches to improve nitrogen and phosphorus removal using high efficiency fine bubble aeration to minimise energy inputs.
- New 45m diameter final settling tanks
- New sludge dewatering and handling facilities
- Installation of ultra violet (UV) disinfection equipment to replace existing chlorine disinfection
- Odour mitigation works during construction and new odour control facilities for the plant
- Decommissioning of primary settling tanks and digesters.

The project was completed on time and was awarded the Project of the Year Award in 2008 for the National Project Management Achievement Awards.

BOD <sub>5</sub>	<5mg/L
TSS	<5mg/L
TN	< 5mg/L
TP	< 5mg/L
Turbidity	<2 NTU

