



Kingaroy Wastewater Treatment Plant

CLIENT:

South Burnett Regional Council (SBRC)

LOCATION:

Kingaroy, QLD

SERVICE:

Wastewater Treatment

CAPACITY:

12,500 EP. Peak Hydraulic Flow 450m³/h

COMPLETION DATE:

October 2016

ISSUES:

SBRC's existing >30yr old WWTP was not meeting DEHP's requirements. New treatment plant to increase capacity and effluent quality

SOLUTIONS:

Nereda® Technology;
Biosolids Management;
Reuse Plant

BENEFITS:

Compact design; Exceeds effluent design criteria;
Reduced CAPEX and OPEX

PRODUCT:

Nereda® Technology,
Diffused Aeration, Inlet Works, Surface Aeration, Pressure Filtration, Chemical Dosing, Sludge Dewatering, UV and Chlorine Disinfection

South Burnett Regional Council (SBRC) engaged Aquatec Maxcon to undertake the design and construct upgrade of the Kingaroy Waste Water Treatment Plant (WWTP). Aquatec Maxcon was responsible for the process, civil, mechanical and electrical design, all site works and commissioning.

The project is a major milestone for SBRC and was partially funded via the Queensland State Grants "Royalty for the Regions" program.

For the Kingaroy WWTP upgrade, Aquatec Maxcon implemented the following solutions:

- Innovative Nereda® technology for the BNR Plant.
- Biosolids management system was via Aerobic Digestion and GDD/BFP.
- A Multi-barrier (pressure filters, UV and Chlorine) approach was taken for the Reuse Plant.



The majority of works was conducted on the Greenfield site adjacent to the existing WWTP and utilised some components of the existing plant and included a new 1km pipework for the creek outfall. Aquatec Maxcon also carried out the demolition work of the old redundant facilities.

The plant was designed to achieve TN of 8mg/L and TP of 2mg/L and provide Class A reuse

water to the neighbouring golf course and sports fields.

Aquatec Maxcon and SBRC worked collaboratively to achieve a positive outcome for the people of Kingaroy. During the trials for both effluent quality and operating costs, the plant performed exceptionally well achieving an average TN of 3mg/L, TP <1.5mg/L and over 40% savings on operating costs compared to the base design (oxidation ditch).

Kingaroy WWTP is the first Australian Plant to utilise Nereda® technology, which delivers more sustainable outcomes as it uses smaller structures, consumes fewer resources in construction and requires less energy and chemicals with a highly automated control system. In addition, it is the first municipal aerobic granular sludge system in the world to achieve TN3 and to incorporate aerobic digestion of sludge and removable diffusers.

In September 2017, the project won the "Infrastructure Project Innovation Award" at the Australian Water Association's annual Queensland awards night.



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