

Aratula and Helidon Sewage Treatment Plant free water surface wetlands

(reference site only, no longer operated by TRILITY)



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The Aratula and Helidon Sewage Treatment Plants (STPs) using free water surface wetlands will ensure licence compliance to cater for a predicted increase in future effluent flows



Queensland Urban Utilities commissioned TRILITY and our major subcontractor, Water and Carbon Group, to Design and Construct (D&C) treatment plant upgrades at Aratula STP (50km south of Ipswich, Queensland) and the Helidon STP (near Lockyer Valley Township, Queensland).



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The Design and Construction (D&C) of the free water surface wetlands at the Aratula and Helidon Sewage Treatment Plants (STPs) will ensure licence compliance (Biochemical Oxygen Demand/Suspended Solids (BOD/SS)) ahead of projected flows at each site of between 80kL/day-200kL/day and 220kL/day, respectively. Feasibility studies at both sites found that constructed wetlands would ensure licence compliance in the long term and produce significantly lower effluent in the short term.

The project includes the detailed D&C of the wetlands as well as two years of maintenance during the establishment stage.

Queensland Urban Utilities recognised that constructed wetlands at the Helidon and Aratula sites could be used to achieve process compliance for predicted future flows at the sites. The feasibility and performance outcomes were assessed showing that a 2000m² constructed wetland could achieve licence compliance for the maximum predicted future flows while also reducing effluent by 50 per cent.

While many treatment wetlands around Australia are only considered solutions for nutrient removal, the Aratula and Helidon wetlands are specifically designed to achieve compliance (BOD/SS). Although not part of the licence requirements, they will also treat nutrients and are expected to reduce nitrogen levels to around 6mg/L.



Who

Queensland Urban Utilities is a statutory body responsible for delivering drinking water, recycled water and sewage services to the cities and townships within the boundaries of five local government areas in South East Queensland. Queensland Urban Utilities is one of Australia's largest water distributor/retailers.

What

Design & Construction (D&C) of STP for the treatment of the free water surface wetlands.

Where

The Helidon STP is located near the Lockyer Valley Township in Queensland. The Aratula STP is located 50km south of Ipswich in Queensland.

Why

Future flows at the Aratula and Helidon STPs are expected to rise to between 80kL/d to 200kL/d and 220kL/d, respectively. The D&C of free water surface wetlands will ensure that the STPs remain compliant with BOD/SS licences in the long-term and reduce effluency in the short term.

Snapshot

Client	Queensland Urban Utilities
Type of Contract	Design and Construction (D&C)
Facilities	Constructed wetlands
Technology	Free water surface wetland
Design Capacity	Aratula - 160kL/d Average Dry Weather Flow (ADWF) Helidon - 220kL/d ADWF
Term	Design - 10 weeks Construction - 22 weeks Establishment support and maintenance - 2 years (now complete)
Capital Cost	c.\$1.2m



For further information

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