

Kwinana Water Reclamation Plant

Land use / development type	Scale
Industrial development	Commercial and industrial lot

Water reuse	Scale
Blackwater reuse	Precinct

Local government	Location
Town of Kwinana	Mason Road

Industry is a large consumer of water within the state of Western Australia with 19% of the integrated water supply system going to business and commercial users. In Western Australia the largest concentration of industrial activity is found in the Kwinana industrial area. Applying the principle of fit-for-purpose use means that the demand on scheme and groundwater can be minimised by utilising recycled wastewater or

drainage water which is suitable for non-drinking purposes when appropriately treated.

In 2004 the Water Corporation commenced the operation of the Kwinana Water Reclamation plant (KWRP) within the Town of Kwinana in an effort to reduce the need for bore and scheme water use within the industrial area. At full capacity approximately 24 megalitres a day of treated wastewater from the Woodman Point Wastewater Treatment Plant is piped to KWRP and processed through microfiltration and reverse osmosis processes. Once treated, 16.7 megalitres of high quality process water is piped to a number of various industries within the Kwinana industrial area each day at a price which is cheaper than scheme water.

Key Project Features

- Fit-for-purpose water supply
- Recycling of treated wastewater for industrial use which reduces the demand for scheme and bore water use
- Decreased volume of treated wastewater is discharged directly into the ocean
- Produces high quality industrial water with less than 50 mg/L total dissolved solids

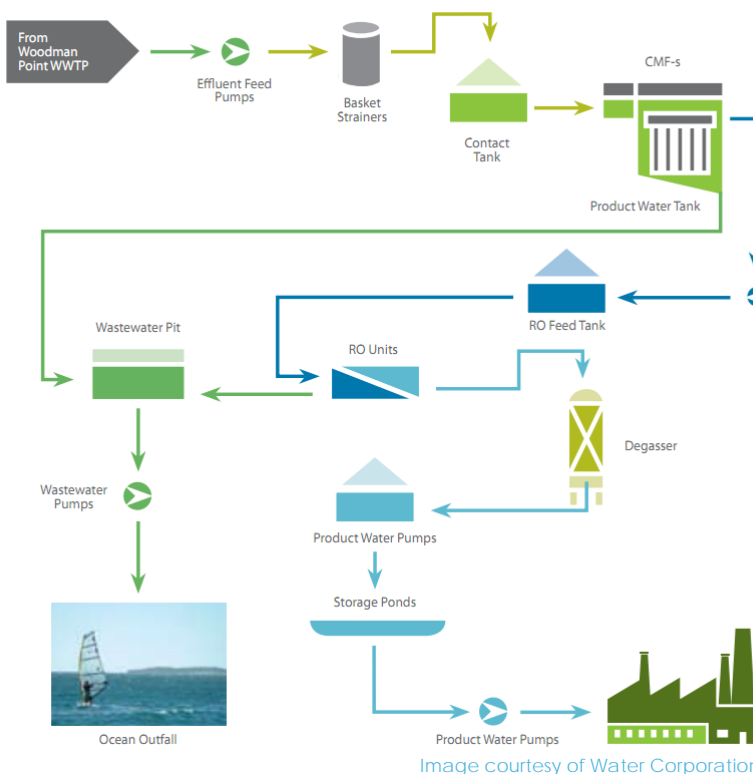


Image courtesy of Water Corporation



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Development Costs

Overall construction cost of plant and pipelines \$28 million

Issues

Wastewater from the Kwinana Water Reclamation Plant is piped into the Sepia Depression Outlet Landline (SDOOL) and discharged 4 km offshore. An environmental monitoring program is carried out at the ocean outfall to ensure there is no harm to the marine and coastal environment through the Perth's Long-term Ocean Outfall Monitoring (PLOOM) program. Contaminants such as heavy

metals, pesticides, nutrients, and pathogens are all monitored closely. The monitoring program along with a management plan was developed to ensure that the ecological and social values of the marine waters are maintained within the vicinity of the Sepia Depression.



Image courtesy of Water Corporation



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Outcomes

The 2010 annual report of the SDOOL released by the Water Corporation revealed that the monitoring has not detected any harmful effects on the marine environment.

It is estimated that approximately six gigalitres per year of scheme water has been replaced by the KWRP.

In 2005 the Water Corporation received an AWA Environmental Merit Award which gave recognition for the environmental benefits provided by the Kwinana Water Reclamation Plant.



Image courtesy of Water Corporation

Further information

[Water Corporation](#)

Town of Kwinana (08) 9439 0200



Government of Western Australia
Department of Planning



Government of Western Australia
Department of Water