# CASE STUDY

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| PROJECT | **LEACHATE TREATMENT** |
| PRODUCT | Brackish & Seawater Reverse Osmosis (BWRO/SWRO) |
| INDUSTRY | Infrastructure and Urban Development |
| LOCATION | Regional NSW |

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water | wastewater | sewage

## BACKGROUND

Construction and demolition waste streams from infrastructure and urban development are disposed in dedicated Construction and Demolition (C&D) landfill, separate to putrescible waste from households. Landfills produce leachate that will exceed environmental discharge limits imposed by the local environmental authorities, if not treated to remove contaminants.

Through routine sampling and monitoring, a regional NSW landfill operator identified bromine levels that exceeded their discharge limits. MAK Water was approached to work in collaboration with the onsite wastewater treatment team to provide a rapid solution to limit bromine concentration to below discharge limits in the treated leachate, and reduce the volume of waste that had to be trucked off-site for disposal.

## SOLUTION

Rental Brackish Water Reverse Osmosis (BWRO) plants were used as the final polishing stage to reject bromine following extensive pretreatment upstream. A Sea Water Reverse Osmosis (SWRO) plant was used to concentrate all the reject brine streams, further reducing disposal costs.

### MAK WATER KEY SOLUTIONS

- Customised RO plants engineered for the treated leachate feedwater
- Containerised rental BWRO and SWRO plants for quick plug and play onsite installation and integration
- Brine concentrator reduced brine waste by 50%

*Brackish Water Reverse Osmosis (BWRO) plant*

## RESULTS AND BENEFITS

- **Plant availability**. MAK Water has one of Australia's largest RO rental fleets meaning that the plants were immediately available for the client
- **Turnkey Solution**. Dedicated engineering team and workshop capacity to provide customised RO rental plants for rapid deployment to site
- **Compliance**. The treated leachate was compliant with environmental discharge requirements
- **Sustainability**. Concentrated brine stream reduced disposal volumes and costs for the client.


*Sea Water Reverse Osmosis (SWRO) plant*