

CASE STUDY

PROJECT	WASTEWATER TREATMENT FOR CENTRE FOR NATIONAL RESILIENCE
PRODUCT	Biocombi Treatment Plant (BCTP), Membrane Bioreactor (MBR)
INDUSTRY	Infrastructure
LOCATION	Bullsbrook, WA



BACKGROUND

The Centre for National Resilience was established to provide critical infrastructure capable of responding rapidly to global outbreaks and national emergency requirements. The project required a reliable and flexible wastewater treatment solution that could support a facility constructed from bare earth to full operation within an extremely compressed six-month timeframe.

Due to the variable number of occupants expected at the facility, the wastewater treatment system needed to accommodate fluctuating inflows while maintaining treatment performance, operational reliability and compliance with environmental requirements. The client required a solution that could adapt to changing demand without compromising efficiency, sustainability or public health outcomes.

SOLUTION

MAK Water partnered closely with the client to design and deliver a bespoke Biocombi wastewater treatment solution incorporating multiple treatment technologies. The system was engineered and supplied within a demanding project schedule to meet the practical completion deadline while providing the operational flexibility required to manage changing wastewater loads.

Ongoing technical support and service following commissioning, ensuring reliable long-term performance.

MAK WATER KEY SOLUTIONS

- Biocombi Treatment Plant (BCTP) treating 1.5 to 20 m³/d wastewater from kitchen, showers and toilets
- Membrane Bioreactor (MBR) to manage variable feed flows.
- Bespoke Biocombi package incorporating multiple wastewater treatment technologies.
- Customised chlorination plant to maintain site disinfection, supported by ongoing local technical service.
- Discharge of Class C effluent to irrigation field

RESULTS AND BENEFITS

- **Fast project delivery.** Commissioned within the project's stringent construction timeframe, supporting completion of the facility within six months.
- **Operational flexibility.** The combination of BCTP and MBR technologies enable effective treatment across fluctuating wastewater loads and variable occupancy levels.
- **Support for government initiatives.** The project contributed to the successful delivery of critical state infrastructure to respond to public health requirements.
- **Compliance and reliability.** Reliable wastewater treatment performance and environmental and regulatory compliance.
- **Sustainability.** Efficient treatment outcomes supporting responsible water and environmental management.
- **Local service and support.** MAK Water continues to provide ongoing technical expertise, preventative maintenance and operational support to ensure long-term system performance.



BCTP Centre for National Resilience



Centre for National Resilience