

VICTORIAN DESALINATION PROJECT

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FACT SHEET THE DESIGN



TDV/FS-0008-02



WATER NOW AND FOR THE FUTURE. FOR SURE.

INNOVATIVE DESIGN, MINIMAL IMPACT

The Victorian Desalination Project brings together architecture, ecology, the landscape and world-class technology to create one of the most significant and large scale environmental design projects in Australia.

Based on the concept of a 'green line' running throughout the site and featuring an innovative living

roof, the design fully integrates the built form with the landscape, making the plant barely visible from all public viewing points.

Extensive rehabilitation works have been carried out to transform and rejuvenate the area, restoring a missing link in the coastal landscape and creating a new ecological reserve for the community to enjoy.

THE SITE: BEFORE



Located on the Bass Coast near Wonthaggi, the site of the desalination plant had been cleared over the years through mining and farming. Indigenous flora and fauna had been replaced with farmland and original sand dunes degraded or removed entirely.



THE SITE: **AFTER**



The 225 hectares of land surrounding the plant has been rehabilitated in one of the largest ecological restoration projects ever undertaken in Victoria. The restoration includes over 3.5 million new plants and 150,000 trees, a constructed dune system and the creation of wetlands, coastal and swampy woodlands and new habitat for local fauna.

These areas of restoration link existing small isolated areas of vegetation, increasing habitat for birds and animals.

A WORLD CLASS DESIGN

EMERGENCY ACCESS ROADS

Mouth of Powlett Road will remain an emergency access road for local residents.

ENERGY EFFICIENT DESIGN

As well as its compact, modular design, the plant uses world-leading energy recovery devices in the reverse osmosis process to significantly reduce power consumption.

BUILDING HEIGHT

The plant site is lowered to provide the best operational outcome and lowest energy use. The highest point of the main building is 20 metres high but barely visible from surrounding areas, screened by constructed dunes.

CONSTRUCTED DUNE SYSTEM

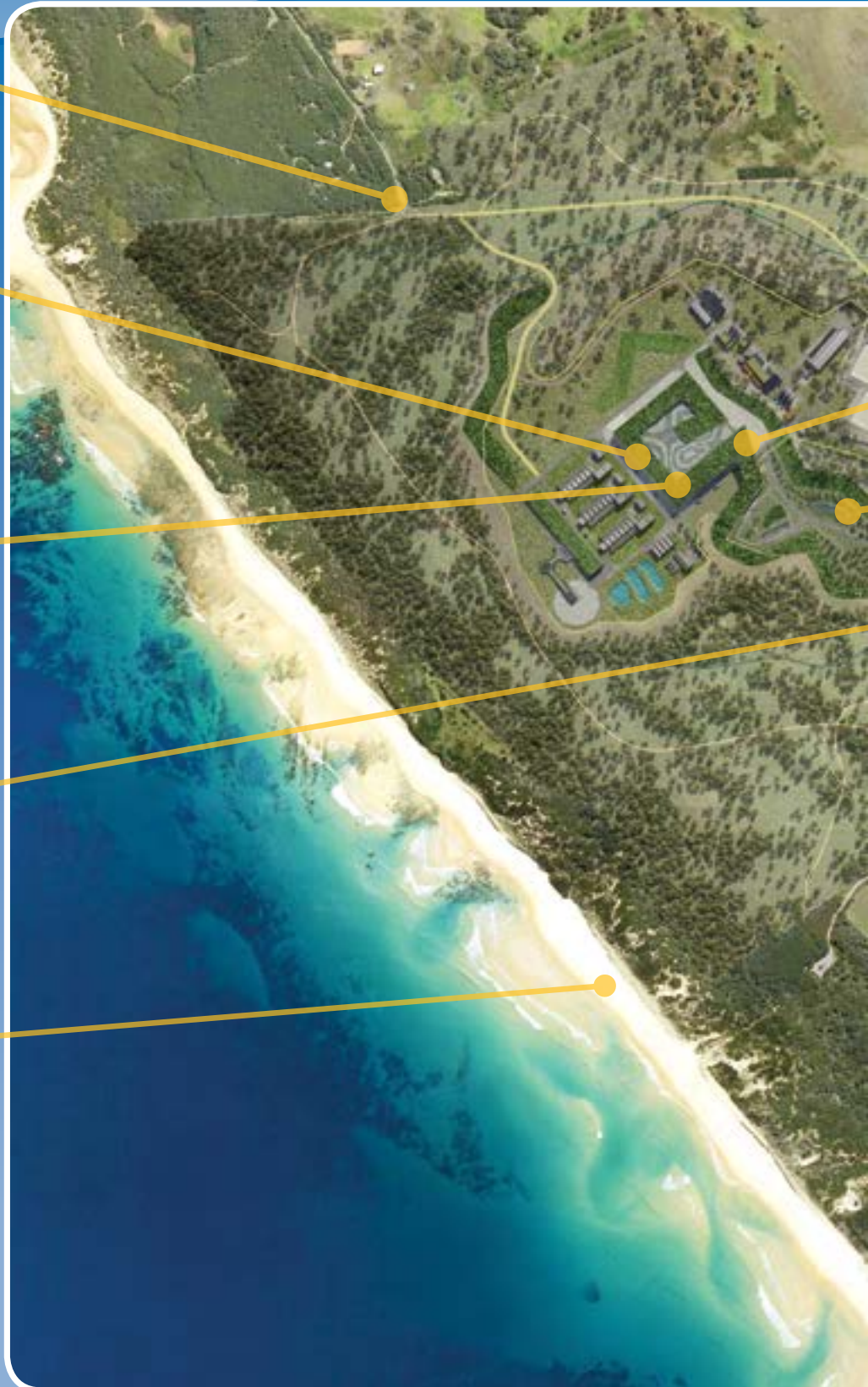
Dunes integrate the plant with the natural landscape and provide visual and acoustic protection to neighbours nearby.

MAINTAINING BEACH ACCESS

Williamsons Beach will remain open and available for public enjoyment throughout the life of the project.

RENEWABLE ENERGY

The plant and transfer pipeline's power requirements is 100% offset by renewable energy.





INNOVATIVE LIVING ROOF

A 'living roof', completely covered with living indigenous ground covers, tussocks and low shrubs helps blend the plant into the natural landscape, provide acoustic protection, corrosion resistance, thermal control and reduced maintenance.

WATER STORAGE PONDS

Water storage ponds with a capacity of 1000 cubic metres capture run off from the living roof and administration buildings for irrigation onsite.

SMALL PLANT FOOTPRINT

Even though the plant is one of the biggest in the world, it has a very small footprint, taking up just 38 hectares of the 263 hectare site.

MAJOR ECOLOGICAL RESTORATION

The remaining 225 hectares have become the focus of one of the largest ecological restoration projects in Victoria's history, complete with wetlands, coastal and swampy woodlands, and new habitat for local fauna.

INDIGENOUS VEGETATION REINSTATED

More than 3.5 million plants and 150,000 trees have been planted to reinstate indigenous vegetation cleared over the years to make way for mining and grazing.

NEW ECOLOGICAL RESERVE TO ENJOY

A new 8km network of pedestrian, cycling and horse riding paths on the plant site link with existing trails.



BUILDING HEIGHT

The plant site has been lowered, allowing the plant to be integrated into the landscape and reducing the amount of energy needed to lift seawater into the plant.

The highest point of the main building is 26 metres above sea level; 20 metres above ground level, but barely visible from surrounding areas.

NEW ECOLOGICAL RESERVE

The plant occupies just 38 hectares of the 263 hectare site. The remainder of the area involves one of the largest single ecological restoration projects of its kind ever undertaken in Victoria – restoring and enhancing the natural habitat and creating a new coastal park for future generations to enjoy.



CONSTRUCTED DUNES

Excavated soil has been kept on site and used to construct a series of dunes that will integrate the plant with the landscape and minimise visual and noise impacts for neighbouring areas.

GREEN LINE

The architectural concept is based on a 'green line' that runs through the site, changing form and content as it moves from a natural landscape element to a constructed dune formation, a living roof, a footprint encompassing buildings and ultimately, a restored landscape within an ecological reserve.





LIVING ROOF

A key feature of the design is its living roof, the largest of its kind in Australia. It is completely covered with living indigenous vegetation to camouflage the plant, provide acoustic protection, corrosion resistance and thermal control, and reduce maintenance needs.

Using indigenous vegetation helps with restoring the natural ecology of the area.

VISUAL IMPACTS

In response to community concerns about visual impacts on the coast line, the desalination plant has been designed to be barely visible from all public viewing points.



VIEW FROM KILCUNDA TO THE NORTH-WEST OF THE PLANT SITE

The desalination plant is barely visible from Kilcunda. The green roof and constructed dunes blend into the coastal landscape.



OFFSHORE VIEW FROM WILLIAMSONS BEACH

The desalination plant isn't visible from Williamsons Beach or from offshore. Existing and constructed dunes provide visual screening of the plant from the beach area.

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CONTACT US



FREECALL
1800 811 214



WEB
www.aquasure.com.au



EMAIL
contactus@aquasure.com.au



POST
AquaSure C/- PO Box 885
Wonthaggi 3995