F A C T S H E E T

District Council of Yorke Peninsula

Marion Bay Desalination Plant

Reliable and good quality water supplies were required for the expanding population of the Marion Bay area, and to service the Caravan Park and other residential and tourism type industries

In November 2002, reports indicated that that water quality of the Carribie Basin did not meet the standards for human consumption.

After a lengthy process, Council decided to pursue sea water desalination as a way to obtain good quality water. The reasons for this were that it was a membrane based process, it incorporated proven technology, it was simple too operate (in a remote area), it was a robust design and it was SA built.

Benefits of the Desalination Plant

- Reduce the cost of future secondary water supply.
- Improves the quality of secondary water supplies in the Marion Bay Caravan Park, businesses and the residents.
- Reduce maintenance costs associated with bore water.
- Allow for rejuvenation of the water basin.

Costings of the Plant

- The project cost approximately $500,000.
- Council obtained granted totalling $55,000.
  - $45,000 from the Department of Environment and Heritage (Federal, community water grants)
  - $10,000 from SA Tourism Commission – Tourism Infrastructure Fund

Capabilities

- The plant is capable of producing 65kl of water a day.
- The plant is currently running at 55kl per day when required.
- Storage of 750kl has been provided.

Distribution

- To Caravan Park
- Via standpipe for contractor
- Public Pump (used via a swipe card).
- Swipe cards area available for purchase at Council's Warooka Branch Office during normal business hours.
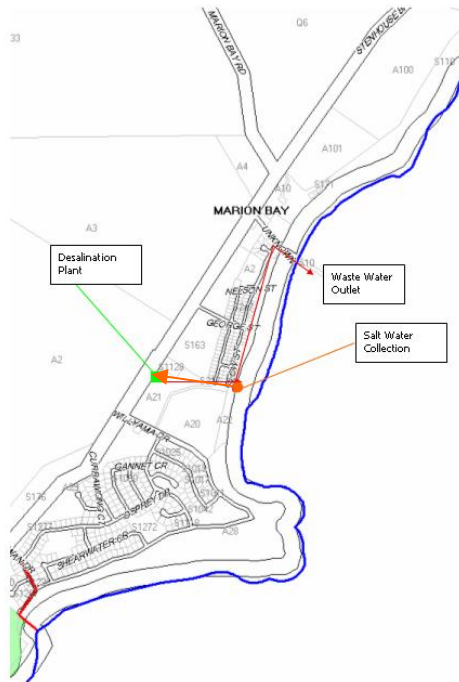
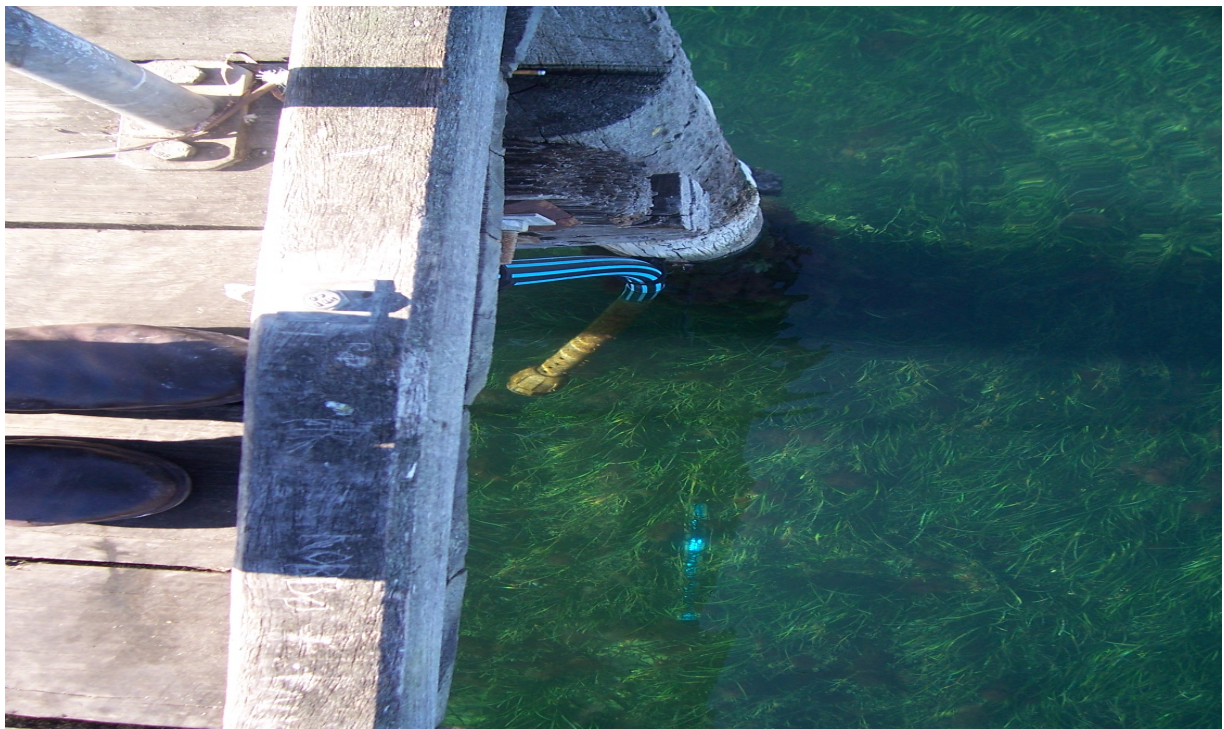We have water !!!

The Desalination plant

Map of Marion Bay desalination plant

Location Map

This is what makes it all work.

The brine returns to the sea at the end of the jetty

THE REVERSE OSMOSIS PROCESS

MULTI MEDIA
PRETREATMENT

CARTRIDGE
FILTERS

HIGH PRESSURE
PUMP

FEED
FROM
BEACH
WELL

**REMOVE SUSPENDED SOLIDS
SILT & SAND**

ANTISCALANT

HIGH EFFICIENCY
ENERGY RECOVERY
TURBINE

**HIGH PRESSURE
FOR MEMBRANES**

BRINE
BACK TO SEA

**REDUCE
CORROSIVITY OF
WATER**

MEMBRANE IN
PRESSURE VESSEL

POTABLE
WATER
OUTLET

PERMEATE

CALCITE
FILTER

**REMOVAL OF SALTS
FROM THE WATER**