

Southern Sources Desalination Plant - Integrated Suite of Projects

The Binningup Desalination Plant is located near Bunbury, Western Australia. It supplies water to the state capital Perth, as well as the nearby regional city of Bunbury. It is designed to initially deliver 50 gigalitres of potable water per year, and subsequently will deliver 100 gigalitres, or 20% of Perth's requirements.



The project included the laying of a 30 kilometres of 1.3m (51") pipeline to the South West Integrated System via ultimately two 32ML storage tanks near Harvey. The total cost of the project is \$1.085 billion, and comprises seawater intake tunnels, seawater pumping station, Filtration, Microfiltration, Reverse Osmosis, Chemical dosing, Storage and Transfer systems.

From the Harvey tank(s) the water is gravity fed 70km, along with other water sources Stirling dam and Samson Brook Water treatment plant, to a new \$xxx million dollar Ravenswood pump station used for bulk water movement.

This pump station comprises large two banks of pumps, one 6MW set capable of pushing 265ML/d into the Mandurah and Perth systems (30km), and one set of 3MW pumping capacity capable of pushing 130ML/d into the Perth hills storage dams some (some 70km for banking of water). The overall transfer system comprised significant trunk main upgrades and tie-ins, numerous surge vessel sites, PRV, air valving and surge relief valves along the length of the system. It also included upgrades to North Dandlaup pump station, and a new 30km trunk main from the new pump station to Dandlaup including Regulating valves and transition valves for online destination changes.



The Southern Seawater Desalination Integration Project won:

- Australian Institute of Project Management Project of the year award, and best construction project for projects in excess of AUD\$1B.
- Institute of Engineers overall winner, as well as winning in the categories of Infrastructure and Building and Management of Engineering.



MO Consultants delivered the following services to the above project:

- **Overall Integration Commissioning Manager**
- **SCADA Design Manager**
- **Technical Writer ('Remote Operations' and 'O&M' manuals)**
- **SCADA Commissioning Manager**