

Value	A\$360,000,000
Start Date	October 2006
Completion	April 2008
Client	Queensland State Government



Western Corridor Recycled Water Pipeline Project

QUEENSLAND, AUSTRALIA

The Queensland Government awarded McConnell Dowell (in alliance) a major section of the Western Corridor Recycled Water Project (WCRWP).

The WCRWP is an important part of the Queensland Government's \$9 billion South East Queensland Water Grid, the largest urban drought response in Australia. The objective of the WCRWP is to enhance the security of water supply in South East Queensland.

MacDow, as a partner in the Western Pipeline Alliance, was responsible for the design, construction and commissioning of a network of large diameter water pipelines, pump stations and storages between Bundamba and Caboonbah. The purified recycled water is produced at Bundamba Advanced Water Treatment Plant and is supplied to Tarong Power Station and Wivenhoe Dam.

The major elements of the Western Pipeline Alliance's scope of work were a 32km long, 1,451 mm diameter MSCL pipeline from Bundamba to Lowood; and a 48km long and 960 mm diameter GRP pipeline from Lowood to Caboonbah.

A 16km long, 1,200 mm diameter GRP branch pipeline was also constructed from Lowood Pump Station to Lake Wivenhoe, 10km of which was laid in the same trench as the 960 mm dia pipe.

To mitigate impacts on roads, seven bored crossings were completed on the mainline by the team. A 1,500 mm diameter tunnel was bored underneath the Bremer River.

Pipeline facilities included seven pumps at Bundamba (collectively pumping more than 230 ML/d) and a large pumping station in the Lowood Industrial Estate (3 pumps). Two 5ML water tanks were also constructed, one near Lowood for storage and a balancing tank near the town of Esk.

In addition the Alliance completed three HDPE Towns Water supply pipelines:

- 9km long from Lake Wivenhoe to Esk water treatment plant
- 22km long from Esk water treatment plant to the township of Toogoolawah
- 28km from Tarong power station to the Blackbutt reservoir

These lines ensured the continued supply of potable water. The Towns Water Pipelines included a further 4 bored road crossings, an above ground creek crossing (pipe bridge), 2 pump stations, an upgrade of the pumping facilities at the Wivehoe intake tower and installation of a secondary line up the intake tower.

The project team developed a number of innovations during the project including the use of standardised pipe bends to simplify procurement and materials handling; rock

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prospecting - sending out drilling crews ahead of the main laying crew to determine geotechnical conditions; and the development of a robotic trench shield that reduced the need for benching. The project team effectively managed all the land owner issues with a dedicated group of professionals who set up communication protocols and procedures. All impacted landowners were fully informed and consulted before, during and after construction. The project was truly "fast-track" and the team met all the schedule milestones whilst ensuring key performance objectives for safety, environment, quality, and stakeholder management were also achieved.

Alliance partners: Queensland Government, Abigroup Contractors, GHD

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