

Vacuum Lifting Systems Used on Water Projects

Vacuum lifting systems have been used extensively for handling pipes in the oil and gas sector in Australia. More recently, however, vacuum lifters have been used for handling water and sewerage pipes.

The Water Authority of Western Australia (WAWA) has been using vacuum lifters made by Vacuumlift Australia for the past two years with excellent results.

According to Mr Keith Middleton, transport foreman with WAWA, "We have handled different types and sizes of pipes using vacuum lifters. This system has enabled us to handle pipes more efficiently with reduced costs and greater safety. We have handled Tubemakers Sintacoated pipes up to 1400 mm in size and weighing 9.6 tonnes and 1950 mm concrete pipes with relative ease".

Mr Middleton cited not having to climb on pipes or dig under them to attach slings or chains as being significant advantages of using vacuum lifters over other methods of lifting. The other significant advantage is that by using a suction pad the pipe weight is more evenly spread over a greater surface area so there is no point loading and consequently no damage to the pipe or coating. "Lifting these huge pipes has virtually become a one man job and has been done with a perfect safety record," said Mr Middleton.

The WAWA lifters were custom made by Vacuumlift Australia and have a 10 tonne safe working load. The units are fully self contained, radio remote controlled and can be used on many types of cranes such as side booms, Hiabs and draglines.

Sophisticated controls and an alarm



The self contained RC10 lifter handled 1950 mm dia. concrete pipes for the Water Authority of WA.

system ensure safe operation. The lifters are engineered to lift three times their safe working load, are ruggedly built and require little maintenance.

Vacuum lifting equipment is being used worldwide for lifting pipes, steel plate, stone and concrete slabs. Vacuumlift Australia has also exported units to South East Asia. One specially designed lifter, attached to a single crane, is being used to lift pipes and sheet piling up to 42 m in length for construction work in Singapore.

A greater awareness of productivity and safety issues in industry should see an increase in the use of vacuum lifting technology.

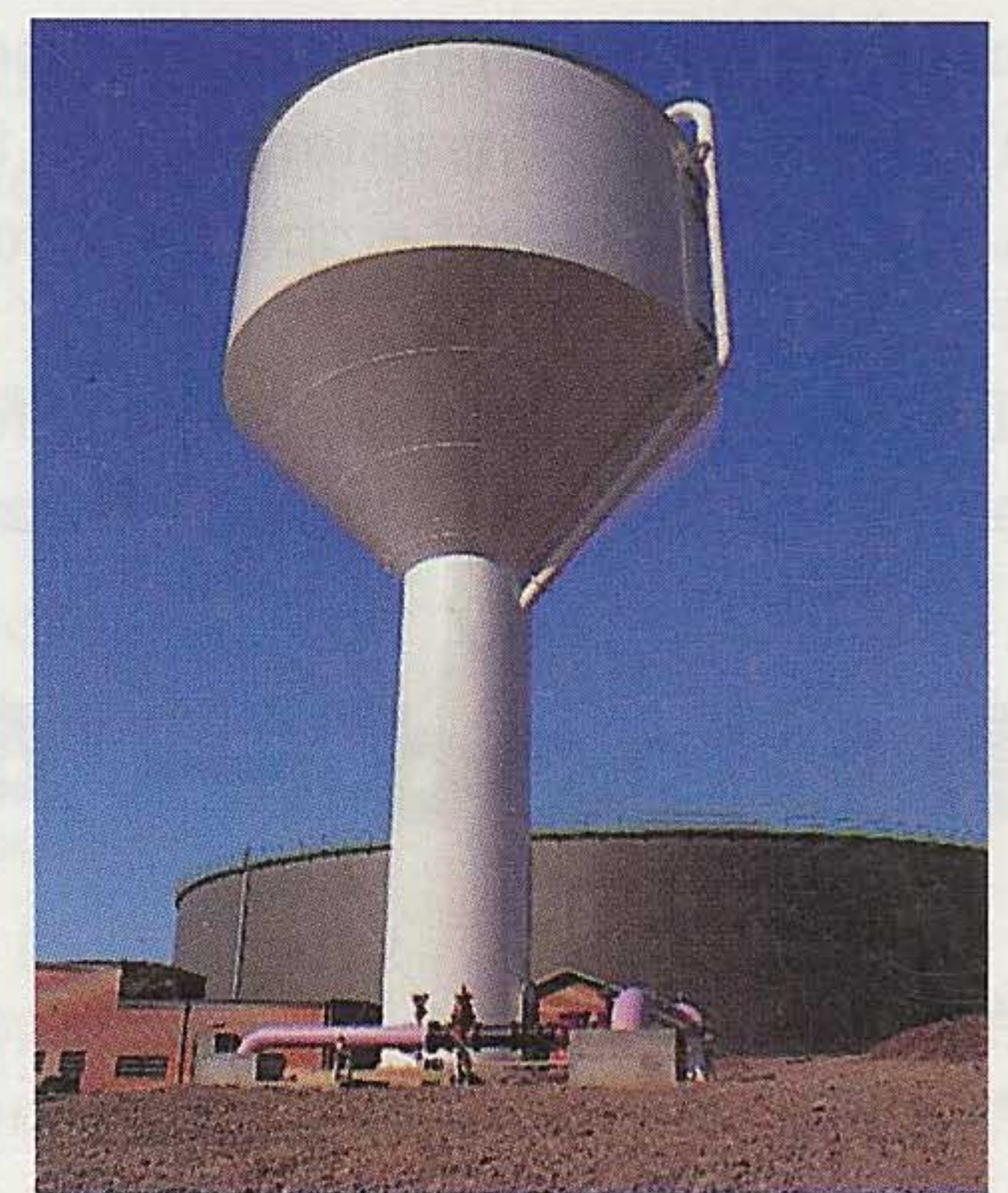
Different capacity lifters, engineered and built to individual specifications, are available to suit any carrier.

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Recycled Water System

Rouse Hill Infrastructure Consortium (RHIC) are responsible for financing and managing the design and construction of water sewerage and drainage services to the Rouse Hill Development Area. On completion the Sydney Water Corporation will own and operate the water based infrastructure.

As part of a strategy to increase the efficiency of water usage, conserve water and reduce the volume of effluent discharged into the river systems, Sydney Water Corporation decided to implement a full dual water supply system for the Rouse Hill Development Area.



Rouse Hill storage tank.

RHIC appointed a joint venture between John Holland Construction and Engineering Pty Limited and Bilfinger & Berger (Australia) Pty Limited as the contractor for stage 1 works. CMPS&F was appointed as principal consultant to the contractor.

Part of the CMPS&F responsibility was to design and document a recycled water system consisting of the following main facilities:

- recycled water plant and pump station
- 34 km of recycled-water pipelines
- 3 recycled-water reservoirs

Highly treated effluent from the Rouse Hill Sewage Treatment Plant is recycled for domestic uses such as flushing toilets and garden irrigation. Recycled water rates are cheaper than those for potable water.

The recycled water must meet the NSW Guidelines for Urban and Residential Use.



Vacuumlift Australia's excavator / pipehandler unloading pipes on the Moomba - Sydney pipeline.

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