



The hotly contested Australasian Society for Trenchless Technology Awards recognise excellence, innovation in concept, novelty in technology, environmental benefits, occupational health and safety benefits, and outstanding achievement in Australasia's Trenchless Technology industry.

Water Infrastructure Group project manager, John Gillan, explained that it is crucial to keep the BOOS in a good structural condition as there is no alternative to collect and transport the sewage from Sydney city, inner west and eastern suburbs.

"We used a combination of two technologies – our own Panel Lok uPVC lining system and Calcium Aluminate Cement (CAC). This project was the first time that Sydney Water had used CAC on a large scale for sewer rehabilitation.

"Water Infrastructure Group has a lot of experience in applying CAC products and as part of this project conducted a large-scale trial of two commercially available CAC products. We worked in close cooperation with Sydney Water, their consultant KBR and the CAC product suppliers BASF and Kerneos and a NATA accredited testing agency. A significant outcome of the trial was the technique we developed to achieve consistent bond strength between CAC and brickwork. Previously, there was no data available on bond strengths, but we now have a good understanding of the issues and a reliable technique to achieve the performance results we want," John explained.

Brian Mahon, Group Manager Construction, said that Water Infrastructure Group had developed its Panel Lok™ lining system into a highly refined, efficient and cost-effective process. "Our Panel Lok system is ideal for relining a wide range of pipes and we have focused on developing it for oviform pipes like the BOOS.

"It's great to see this project win the Rehabilitation Project of the Year Award. We had a great team and it is very rewarding to see their efforts recognised," Brian said.

NEW VALVE IMPROVES PERFORMANCE OF WATER RETICULATION SYSTEMS

Providing and maintaining a secure, reliable reticulated potable water supply has long been a problem for the local councils that serve rural and regional communities. Smaller townships in particular often have a system that is unable to deliver a consistent flow because mains are under-sized or have low pressure problems, so water flow at peak periods can reduce to a trickle.

In many such communities residents rely on water from their rainwater tanks to augment the town supply and help sustain an acceptable flow over the day; however, the success of this measure requires regular rainfall to keep tanks topped up.

Product design specialist, Applidyne Australia, has come up with an answer in the form of a pressurised valve that can be easily and cheaply fitted to the pipe that delivers water from the mains to the home.

Developed in conjunction with Salisbury Council in South Australia, the valve allows a regulated "slow" fill from the town supply into residents' rainwater tanks at a rate the town system can sustain. Readily adjustable set-points control the ingress of town water, cutting off the flow when it reaches the desired level within the tank. This level can be set to provide sufficient for daily needs while still leaving space to collect rain.

The whole system ensures households always have sufficient water at reasonable pressure for their daily requirements.

"Our development means the efficiency of local reticulation systems can be substantially enhanced without a major investment in infrastructure such as a full-size new water main and pump stations. The valves essentially "shave" demand



from peak periods by flattening out the supply curve. They are not costly (we estimate around \$200 each) and are easy to install," says Paul van de Loo, managing director of Applidyne Australia.

According to Paul, the valve also has a role in reuse applications, particularly the collection and distribution of stormwater. He says local government authorities throughout Australia are actively pursuing schemes to promote the reuse of stormwater. These include the provision of treated stormwater to homes through a small-diameter reticulation system, which is far less expensive than a full flow system.

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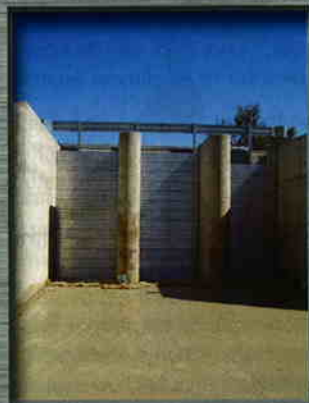
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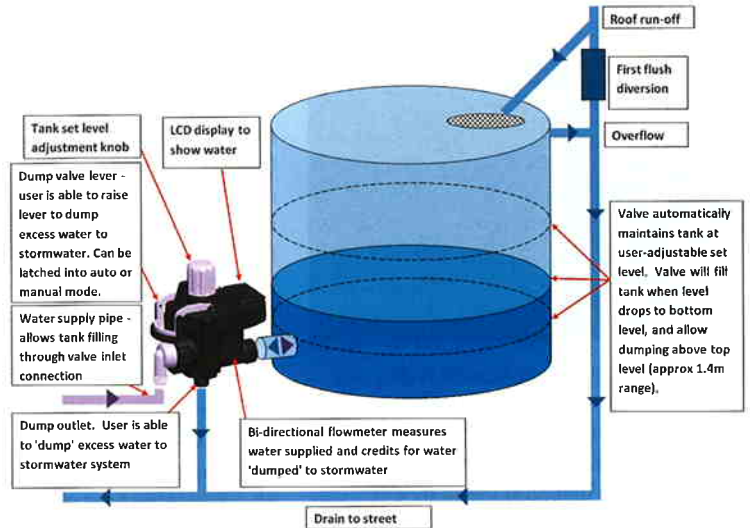


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A disadvantage is that small bore systems do not provide sufficient flow rate for many domestic purposes such as running a garden sprinkler or washing a car. One solution is to provide each home with a rainwater tank to receive the recycled water and a pressure pump to provide required flow rates.

The Applidyne valve can be fitted to the tank inlet pipe, allowing a slow fill to an agreed cut-off point, again leaving room for stormwater in the event of a downpour. When the tank overfills, water is dumped into the stormwater system. A two-way flow meter on the valve registers the volume of recycled water accepted by the householder from the reticulation system and also that of stormwater dumped from the tank.



Applidyne Australia has developed the valve to advanced prototype level and is currently seeking parties who can assist in both an extended trial and product commercialisation.

Email: paulv@applidyne.com.au or visit: www.applidyne.com.au for more details.

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