

### Novozymes

#### Water reuse project saving up to 500,000 Litres annually

The Hindmarsh based company Novozymes has taken a positive step to reduce its water consumption and help our environment. Through consultation with SA Water's Business Water Saver Program, Novozymes has implemented a project to re-use reverse osmosis (RO) reject water within its staff amenities. RO is a water purification process where water is passed through membranes under pressure to remove impurities which generates purified water and a reject stream.

This project is expected to save up to 500,000 Litres annually, which is equivalent to the approximate annual water consumption of three average households. Novozymes contacted the Business Water Saver Program to discuss water minimisation opportunities and the reject water from the RO system was highlighted as a potential re-use opportunity. Water quality analysis determined that the TDS (Total Dissolved Solids) is only slightly raised from that of mains water. Novozymes completed the project plans, which were submitted to the Department of Health, who approved the project and a plumber was engaged to complete the work.

Novozymes were able to feed all amenities, including showers, toilets and hand basins with the reject water. Because the quality of water used in the manufacturing process treated by the RO is required to be very high, the quality of the reject is also high. Prior to the RO the mains water is treated with a multimedia filter before being softened, passed through an activated carbon filter and treated with UV. This pre-treatment produces high quality reject water that has been approved by the department of health to be used for all purposes apart from drinking within the amenities including showering. Signage for staff has been erected.

The reject water is initially captured in a 1m<sup>3</sup> concrete sump and the overflow is automatically diverted to Trade Waste when full. The reject water from the sump is pumped to a header tank on the roof, from which the amenities are fed. A simple system is used to supply mains water if reject supplies are not adequate by using a level sensor.

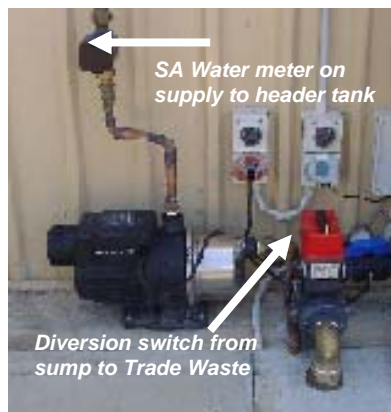
The Business Water Saver Unit provided two meters, one to place on the supply of reject water to the header tank and the other on the mains water supply. Novozymes will take regular meter readings to determine exactly how much mains water they are saving. Novozymes decided that it is important for their company to do their bit to save water and the project should be completed for environmental reasons alone.



SA Water's Business Water Saver Officer Leah Maxwell with Novozymes representative Simon Rofe



Sign on bathroom doors  
PW = purified water



Header tank on roof