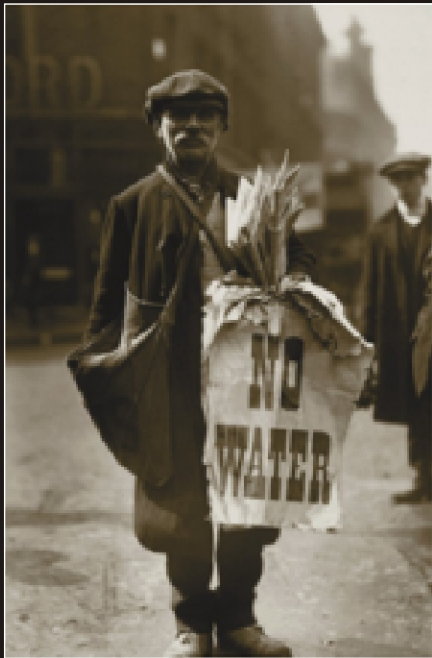


└ RAND WATER ─

└ WATER WISE CENTRE - PRETORIA ─



BY HENNIE VAN WYK

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┌ Client Profile ─┐



## THE FULL SERVICE WATER UTILITY

Rand Water was appointed as the sole bulk water supplier to Gauteng in 1903, and has never totally failed to supply its customers with water. As times have changed, Rand Water has evolved to meet the progressive requirements of a growing population and expanding economy. It has been a key partner in the development of Gauteng, South Africa's industrial powerhouse and is well positioned to play an even more strategic role in the future.

Rand Water has a very large area of supply and the magnitude of this quantity of water it controls is significant. There needs to be a clear concern about environmental issues concerning the use and protection of our natural resources. Environmental Management has become integral to Rand Water's overall management strategy.

The water supply chain needed to provide the user with world class drinkable water is a very intricate system of interactive government and privatised wholesalers and retailers. There are many catchment and water purification techniques that form the source of supply and these are discussed in detail in the appendix on Rand Water.

Rand Water provides a wide range of professional services which assists this company in playing a dominant role in the decisions concerning water affairs in the country. Some of these include:

- Planning
- Surveying
- Geographical Information Systems
- Design
- Project Management
- Quality Management
- Construction Supervision
- Installation Supervision
- Commissioning

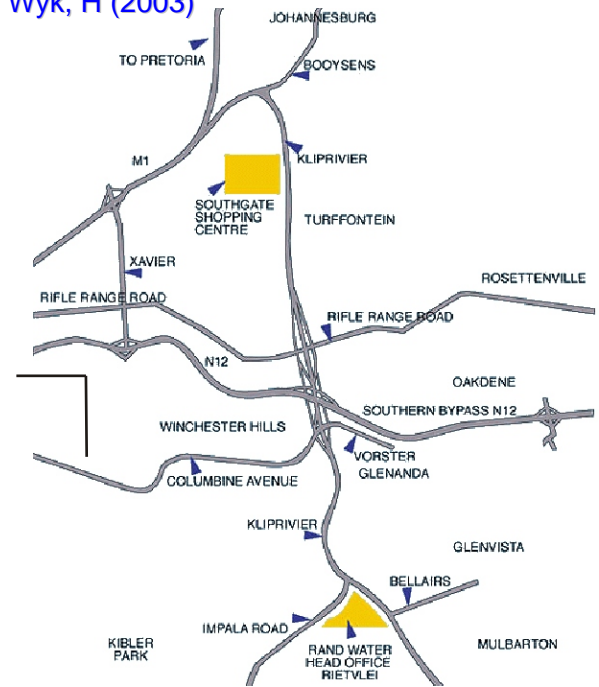


Fig1. Road Map (RAND WATER Corporate Profile, 2002) (not to scale)



Fig 2. Mother and Child at entrance to Rand Water



- Training
- Pipeline renovations
- Infrastructure refurbishment

All the above-mentioned services are structured to be 100% within the aim of Rand Water, which is the meeting of the water demand and provision of a product of purity and world class standard. Quality auditing and water quality research are high on their priority list.

Their endeavour to deliver a world class product is well balanced with the very important aspect of water cycle management. In trying to keep this balance, Rand Water realised the importance of getting the community involved. They have established many community-based projects where they are reaching out to the broader community to try and involve as many people as possible in the quest to protect our natural resources and more specifically our water resources.

Rand Water has a specific department dealing with these matters, called the Community Based Projects Department. Currently it has the following projects running:

- Mnweni Trust
- Winterveldt Water Supply Project
- Winterveldt Eco-Circle Vegetable Garden Project
- Bushbuchridge Infrastructure Project
- Ten Morgen Rural Community Sanitation Project
- DACE Alien Vegetation Eradication Project
- Informal Settlement Encroachment Project
- Leaks Repair Project

Specifics on each project are given in the appendix on the client profile.

The proposal for a Water Wise Centre in Pretoria will exactly suite the objectives of the Department of Community Based Projects and Education. This would be the ultimate community project run by Rand Water in trying to educate the nation in the awareness of methods on how to live water wise and ways of collecting, cleaning and storing water for your own personal use.

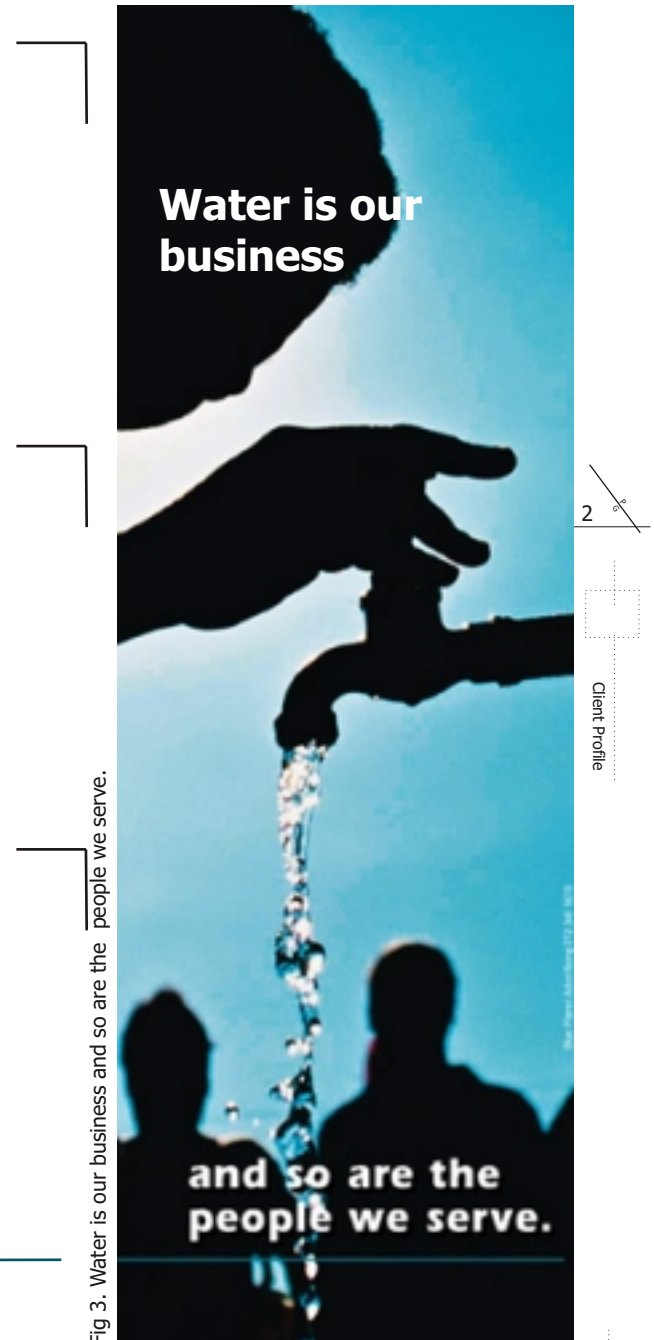


Fig 3. Water is our business and so are the people we serve.





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Rand Water presents educational programmes to scholars of all ages. Earlier this year, the author was invited to join one of these programmes to witness what they do for the learners and to see what facilities they have for executing this function.

The programme starts at 9:30 in the morning when the children arrive by transport, organised by the school itself.



Fig 4. Learners arriving for educational programme

The only facility available at Rand Water itself is a thatched roof structure at the back of the office building. It is used for multiple functions such as personnel functions, as well as the Water Wise Educational Programmes.



Fig 5. Current facility available at Rand Water Nature Reserve

The learners enter the facility and here they are educated in basic principles on how to live Water Wise. They use different educational media for different age groups. For this specific group they used a puppet show and a live mascot to bring across certain principles.



Fig 6. Rand Water educational staff

The puppet show includes interesting characters that share their experiences with the learners. The learners can associate with the problems the characters encounter and learn along with them.



Fig 7. Puppet show

A live mascot, Manzi - the Water Wise Tapduck, talks to the learners and in these conversations it discusses many methods save water in our daily routine .



Fig 8. Live Water Wise mascot

The puppet show is presented by the Delta Environmental Centre and is externally contracted to fulfill and educational function.

After the puppet show the learners are taken on a nature walk and they learn how certain plant species are adapted specifically to store water in times of water scarcity.



Fig 9. Delta Environmental Centre - contracted for the puppet show



Fig 10. Nature walk

After each Educational Program presented by the staff of the Rand Water Nature Reserve, a responsible person from the participating school/institute receives an evaluation form to fill in on the spot. In this form they can make suggestions as to how the whole presentation can be improved. Ms. Maria Mphomane - Educational Officer Rand Water - gave me access to these forms and some of the suggestions that the schools/institutions had made are given below:

- Learners should be divided into smaller groups
- Learners should find the centre legible
- Water features where the learners can experience fish and catch some insects will be useful
- The purification process should be demonstrated in some way
- Work sheets should be provided for the children to make notes
- A mini lab where learners can do small experiments should be provided
- Many more visuals should be used to illustrate the concept of living Water Wise
- There should be hands-on activities in which the learners can participate
- A film on water should be shown
- A tuck shop would be welcome
- Drinking water should be provided at regular intervals
- Sufficient toilet facilities must be available
- More shaded areas should be provided

The Delta Environmental Centre in Johannesburg has better facilities for their specific needs. They have an extensive list of Water Wise activities where learners can have an out-of-the classroom, hands-on watery experience:

- Puppet shows
- Manzi, the Water Wise Tapduck
- "Life is Water & Water is Life" Theatre Production
- Dipping for Water Life
- Are our Rivers Healthy?
- Water Ecology
- Water Wise Walks
- Water Wise Gardening
- Water Wise Orientation
- Discovering Water in the Water Wise room
- Exploring the Museum
- Water and Music
- How much water do you use?
- How Tap Water is Cleaned
- Wastewater: The Untold Story
- Educator Workshops
- School Projects

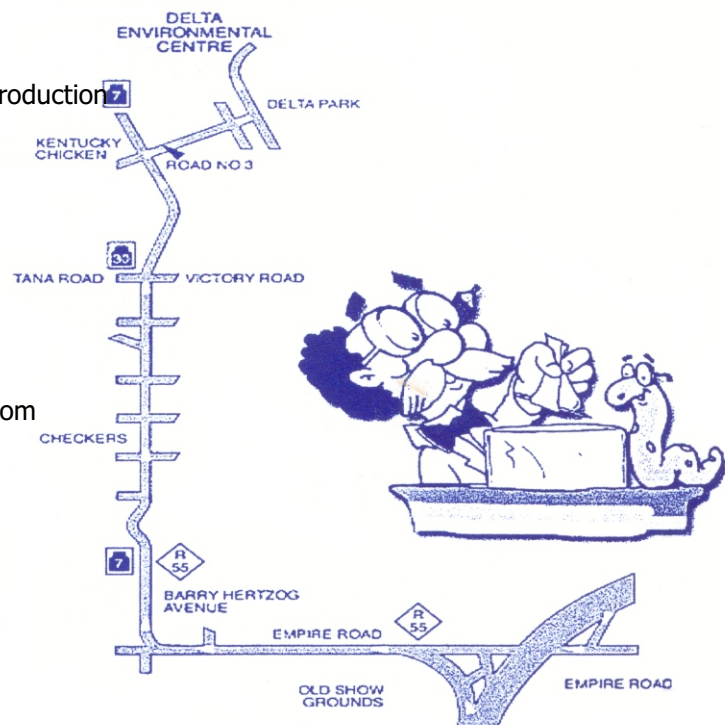


Fig 11. Road map to Delta Environmental Centre (not to scale)

Although they have a better facility, the spokesperson for the centre, Ms. Avril Owens - Educational Officer Delta Centre - was very excited by the idea of having a new centre designed from scratch. She gave some ideas generated from practical experience on what such a centre should provide:

- Try and use the walls for education. Colourful cartoons make the place interesting, and depending on what the cartoons are 'saying' can make what is on the walls educational for the learners in a fun way. Eg. the water cycle can be depicted in an interesting way on the wall.
- If benches or tables are going to be used for experiments etc., make sure that they are at the right level for learners and not too high. Keep in mind that some might be disabled.
- Use every possibility as a resource e.g.. the outside could be designed as a water wise garden instead of being just an ordinary garden or being covered by paving. The garden can then be used to teach water wise gardening principles to learners, and they can see just how many wonderful indigenous plants there are.
- The river near the building must be used for water quality analysis, but a man-made wetland could also be included into the design of the garden to highlight wetlands, their importance to us and their plight.
- Lots of toilets must be provided. The bathrooms must be retrofitted with dual-flush toilets, tap aerators, etc.
- The design must ensure that all the rooms are accessible to disabled learners.
- When teaching, one needs to use many different methods. Each room should be different, e.g. one for doing experiments and another for hands-on activities, one filled with exhibitions for information gathering, another possibly for showing video's, doing slide shows etc.
- It is important that a tuck-shop and a place for the learners to eat lunch should be provided. Recycling bins need to be provided.
- Energy saving devices e.g. energy-saving light bulbs must be used. The building should be well sealed so that heat does not escape.



Fig 12. Water Wise garden at Delta Environmental Centre

