

CAPE TOWN – Water for a thirsty city (Part 2)

In this second instalment of a two-part series, Petro Kotzé investigates the water supply of Cape Town under British rule and the work of non-governmental organisation Reclaim Camissa and others to transform water resource management in the Mother City.

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The Platteklip Stream is now canalised.

By the time the British took permanent occupation of the Cape in 1806, the settlement was experiencing a serious water shortage, and because Dutch company VOC had not wanted to spend too much of its profits on this half-way station, the water supply system had not changed significantly since Van Riebeeck's time.

The solution offered by leading engineer of the day, John Rennie, in 1918, was to build a 250 000 gallon reservoir in what is now Hof Street. This waterhouse was filled

with water from the Oranjezicht, Platteklip and Waterhof springs. The structure was demolished in the 1900s.

Under the guidance of the appointed water superintendent, John Chrisholm, the first cast-iron pipeline of 12-inch diameter was laid down in Long Street, and branches of small bore were extended to cross the street. Around this time, the Burgher Senate was also empowered to impose and raise a tax necessary to fund the pipes. Chrisholm built several pumps to lift water from underground tanks, filled

by mountain springs. One of these, the Hurling Swaai Pump in Princess Street, Oranjezicht, still stands, and has been declared a national monument.

The chiming of the death bell of the town's once appealing canals commenced around 1827. By this time, they had become little more than polluted dumping grounds. Systematically, the structures were arched over and enclosed. By the end of the 1850s the last stretch of the Heerengracht had been covered and the street was renamed Adderley



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The Hurling Swaai Pump in Princess Street, Oranjezicht, still stands, though somewhat dilapidated. It has been declared a national monument.

Street. When the bubonic plague broke out in Cape Town in 1901, the last of the open water courses was closed.

A series of reservoirs were built in the coming years to try and quench the thirst of the growing city. Of significance are No 1 and No 2 reservoirs. In 1849, at a cost of £2 700, Chrisholm built a 2,5 million gallon reservoir, known as No 1 reservoir. It still lies between Orange and Hof streets, and was fed by the winter flow of the Oranjezicht spring. Due to its apparent success, No 2 Reservoir, with a capacity of 12 million gallons, followed in 1856. No 1 has been

The flat rocks of the Platteklip Stream, and what it would have looked like where the washer women of the old Cape settlement did their laundry.



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empty for a number of years, while No 2 is filled with runoff from the Main and Waterhof springs, and is used for fire-fighting and the watering of the old Company gardens.

A THIRSTY CITY

By 1856, the municipality had acquired a portion of the Waterhof Estate, the Kotze spring (on the Leeuwenhof Estate) and the mills along the Platteklip stream so that pipes could be spread over the whole of town. The municipality also started investigations into water purification. The first attempt was a slow sand filtration bed built along Platteklip Gorge.

In 1877, the Town Council purchased a section of the estate known as Kampement to allow for the construction of another reservoir, named after Sir John Molteno, the first Prime Minister of the Cape. Completed in 1880, it was, at first, fraught with problems. Designed to hold 40 million gallons, the Molteno reservoir stood empty until 1882 due to exceptionally low winter rainfall.

When the drought broke, the eastern embankment collapsed and, as the reservoir filled up, leaks continued to appear, at one time so severe that it flooded a number of streets. It was not fully repaired until 1886. Today, it serves as a service reservoir and supplies water to the lower areas of Green Point and Sea Point.

Disaster struck the ill-fated Molteno reservoir once again on 4 June, 1900, when celebrated aeronaut and balloonist, Prof Isodore Michaels, ascended from Good Hope Gardens in his hot air balloon. The wind took him towards the mountain. Michaels escaped via a parachute and landed in the middle of Molteno reservoir. Entangled in his parachute ropes, he subsequently drowned. The reservoir had to be drained and cleaned, leading to another period of water shortage for Cape Town.

In the late 1880s, a bold plan to augment diminishing water supplies to the Molteno reservoir from the plateau behind Table Mountain, through the Twelve Apostles, was hatched. This tunnel was completed in 1881 and water from the Disa River was diverted into it.

In the early 1890s, it was also decided that sewage seepage from urban development above the city's historic springs compromised the water's potability. It was decided to divert the water away from domestic consumption and into the sea.

However, the city kept on growing. In 1984, construction of the Woodhead Dam commenced on top of Table Mountain. By the time the dam was completed, the city's new sewerage system had been implemented, and the demand for water grew once more. At the end of the South African War, the large number of British troops that had flooded into Cape Town added to the water shortage. As a result the Hely-Hutchinson Dam was constructed, while three dams were built nearby, also on the mountain, to supply the municipality of Wynberg.

In the 20th century a succession of much larger dams were built further away from the city, the latest being on the Berg River near Franschhoek. However, projections show that pressure on water resources will increase in the Western Cape as temperatures rise due to climate change and population growth. The rulers of the Mother City will no doubt have to look for alternative sources to meet the growing demand for water.

RETURN OF THE LOST SPRING

In 2008, the City of Cape Town commissioned a feasibility study into alternative water sources for irrigation of Green Point Common, as opposed to the use of potable water, which had been used up to that date. Among others things, desalinated seawater, groundwater, greywater treatment, rainwater

harvesting and the harvesting of spring water from the slopes of Table Mountain were considered.

The study concluded that the harvesting of spring water from the once life-sustaining Oranjezicht springs, from which water still runs through a series of stormwater drains into the Atlantic, was indeed the most cost-effective source for the City's purpose. The consequent report notes that the spring water is not potable, and will require treatment to meet drinking water standards.

The flow from the springs has been monitored, with a flow from the new main spring measured as being some 28 l/s. Combined with the flow of other formalised springs in the area, the measurement increases to 40 l/s. This is more than sufficient to meet the annual irrigation needs of the Common,

SOURCES

- *From Rivulets to Reservoirs – The Story of Cape Town's Water Supply from 1500 to the Future*, unpublished manuscript (1970) by Joe Lison
- *Our Water Our Culture – A Glimpse into the Water History of South African People*, by Marlese Nel et al.
- *Preliminary Investigation Report – Feasibility Study: the Supply of Irrigation Water to Green Point Common* by Arcus Gibb (2008). Commissioned by the City of Cape Town (Report No: **R030800196**)
- *Reclaim Camissa – The Place of Sweet Waters*, compiled by Caron von Zeil
- 'Water for the tip of Africa' by Tony Murray in *Civil Engineering*, October 2008
- The Oranjezicht Higgovale Neighbourhood Watch website (www.ohwatch.co.za)
- Reclaim Camissa Facebook site
- City of Cape Town website (www.capetown.gov.za)

Thanks to Reclaim Camissa for information and photographs.



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Green Point Stadium, the Metropolitan Golf Course and Mouille Point Beachfront. And so, the city could, once again, to some extent at least, be connected to the sweet waters of Camissa.

RECLAIM CAMISSA

Reclaim Camissa is a non-profit organisation aimed at providing stewardship for the waters that flow from Table Mountain to the Atlantic Ocean, through the concept of 'civic hydrology'. Founder, Caron von Zeil, explains that this entails transforming the city's stormwater infrastructure through a sustainable water management system, so that citizens are engaged with their water in ways that a conventional stormwater infrastructure cannot provide.

In the case of Cape Town, this entails a 'resurfacing' of some of the original watercourses within the urban fabric of Cape Town, in ways that are functional, renewable, sustainable and symbolic.

Concepts include dockside markets at the ocean's edge, water taxis to navigable canal connections; a series of linked walkways moving through the old city via a 'green pedestrian spine', re-instating the *leiwater*

system to create walking routes that link the heart of lost heritage and cultural spaces; reservoirs and water sustainability parks which are functional, recreational and educational; a public water museum at the original spring in Oranjezicht; reinstatement of the old Platteklip mountain filtration plant and a washer-women museum at the old *wasplatz* or wash-houses found at the start of the Hoerikwaggo Trail leading up to Table Mountain.

Von Zeil, also a member of the Oranjezicht Heritage Society (OHS), stresses that better use must be made of Cape Town's scarce water resources. An OHS presentation to the City helped to establish the Platteklip fountain as a source for irrigating the Green Side Common.

Reclaim Camissa's mission is to, by 2020, let the people of Cape Town gather around 'the common heritage of Camissa, the very waters that defined the location of the city, reflecting the public past and embracing a new civic infrastructure – this time inspired by a deliberate recognition and respect for the social; cultural and ecological significance of this water.'

Interested parties can visit the organisation's Facebook page. □

In 1869 a filterbed was built alongside Platteklip Gorge. This, the earliest attempt at purification, was by means of slow sand filtration.