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**CITY OF CAPE TOWN**

**22 MARCH 2021**

**MEDIA RELEASE**

**City's Plans to Bring New Water Online Surges Ahead Despite Pandemic**

***Projects in the City's New Water Programme are progressing well, despite the challenges of the global pandemic. The programme aims to bring new water online to ensure a safe, reliable supply for years to come through groundwater abstraction, desalination and water reuse, as well as optimising surface supply through clearing thirsty invasive alien vegetation. This as we come to the end of National Water Week and recognise World Water Day today, 22 March. Read more below:***



**Water reuse temporary Demonstration Plant**



**Drilling a borehole at Table Mountain Group Aquifer**

Higher resolution photographs are available here: <http://bit.do/fPNZC>



### **Invasive alien vegetation clearing taking place at Steenbras.**

The City's New Water Programme (NWP), which forms part of the City of Cape Town Water Strategy: Our Shared Water Future, aims to build resilience to the effects of climate change, and future droughts that are expected to be more frequent and severe, and to ensure a safe, reliable water supply for generations to come.

The City's Water Strategy was crafted and adopted in response to the worst drought on record, and served as the foundation for the New Water Programme, through which the City has accelerated efforts to diversify our water sources. The programme aims to produce approximately 300 million litres (ML) per day through groundwater abstraction, desalination and water reuse by 2030.

We are pleased with the progress in actioning these projects, despite the challenges associated with the pandemic. We want to thank the team who is working hard to ensure these plans become a reality to benefit our residents.

### **Water Reuse**

Water reuse refers to treated wastewater that is purified through an advanced purification process to produce drinking-quality water. The City is currently in the design-phase of the permanent Faure New Water Scheme project, which aims to provide 70 ML per day (ultimately increasing to 100 ML per day, if necessary). This water reuse scheme is expected to be completed in 2026.

The City has been preparing for this through consultation with a range of local and international industry experts, as well as civil society, while gaining experience by running a smaller-scale Demonstration Plant currently located at the Zandvliet Wastewater Treatment Works (see below).

Thus far, 17 different stakeholder groups have been engaged, involving participation from over 300 key stakeholder representatives from various branches of government, public health officials, water boards, water research institutions, industries, sustainable development groups, environmental organisations, academics, religious groups, and traditional healers. So far, those consulted have presented helpful considerations to assist the City in implementing water reuse projects.

A peer review panel, including local and international experts, is in the process of being set up through the National Water Research Commission.

Along with Beaufort West and Ballito in South Africa, water reuse is a conventional and significant part of the bulk drinking water supply in various water stressed cities within the United States, Singapore, and Windhoek, among others. Windhoek has been drinking treated wastewater for over 50 years. Perth in Australia is also in the process of planning a reuse scheme.

- **The Temporary Demonstration Plant**

The water reuse temporary Demonstration Plant was originally conceptualised, authorised and constructed as a temporary emergency intervention in response to the severe drought. However, the dam levels supplying the City of Cape Town recovered before the emergency plant was commissioned. Recognising that this created potential for additional stakeholder engagement around this concept, it was therefore repurposed into a Demonstration Plant.

It has been in service since mid-2019 and will be available to the City until the end of May 2021 when the contract with the supplier will come to an end.

Over the contract period, the City has been extensively validating water quality results to ensure that the water from the plant is safe to drink and a viable option for Cape Town. The strictest available standards for purified wastewater are being used in assessments, including international standards prescribed by the World Health Organisation and [United States Environmental Protection Agency, and other countries.](#)

The purified water produced by the Demonstration Plant has not been integrated into the drinking water distribution network. The water produced is currently being used for industrial service water in the operation of the existing Zandvliet Wastewater Treatment Works.

The priority for the City is to learn from the operation of the temporary Demonstration Plant.

More information and videos about water reuse are available here:

<https://www.capetown.gov.za/Family%20and%20home/residential-utility-services/residential-water-and-sanitation-services/water-reuse>

### **Groundwater**

- **Cape Flats Aquifer (CFA) Managed Aquifer Recharge Water Scheme:**

Drilling and construction operations are well under way and the first wellfield (borehole cluster), located in Strandfontein, is almost complete. The first groundwater injected into the water supply network from this scheme is expected towards the end of the third quarter of 2021. The Managed Aquifer Recharge component is planned to be operational by 2024 and will support the City's vision to create a water sensitive city.

Managed recharge means the City will fill up the aquifers where groundwater has been used, on an ongoing basis. Aquifers become an underground storage space which is not affected by evaporation in the same way that dams are.

- **Atlantis Water Resource Management Scheme (AWRMS):**

The AWRMS has been in operation for the past 40 years. The scheme consists of stormwater collection ponds, recharge basins, coastal recharge basins, treatment plants, and two wellfields (Witzands and Silwerstroom).

Currently, the scheme is being upgraded and expanded through the NWP. It is expected to bring in an additional 10 MI per day from the new wellfield situated in between the Witzands and Silwerstroom wellfield. The current yield from the existing wellfield varies between five and 13 MI per day. The refurbishment plan for the existing wellfields will contribute an additional 12 MI/d. The eventual total capacity from the combined Atlantis wellfield will therefore be in the order of 35 MI/d.

The established Managed Aquifer Recharge component uses treated wastewater and stormwater, which is diverted to the recharge basins, where it infiltrates into the sandy aquifer. Only the Witzands Wellfield receives Managed Aquifer Recharge water.

- **Table Mountain Group Aquifer (TMGA):**

This borehole cluster is located alongside the Steenbras Dam and produced its first water in 2020. Thus far, the boreholes drilled have targeted the Nardouw Formation of the TMGA, and these boreholes range from 150m to 350m in depth. These boreholes have the potential to produce a cumulative yield of 19MI per day.

Currently, the City has installed four boreholes, capable of producing 10MI per day. These are injected into the water supply network, coming via the Steenbras Dam and the Faure treatment plant.

Further drilling is under way and targets the Peninsula Formation of groundwater in aquifers there. It is anticipated that the full yield of the Steenbras Cluster will be about 25 MI/d.

Environmental mitigation and controls are administered to ensure the protection of the Steenbras Nature Reserve, which falls within the Kogelberg Biosphere Reserve.

### **Invasive Alien Vegetation Clearing**

Invasive alien vegetation clearing at the Steenbras and Wemmershoek Catchment areas is still in progress to maximise the surface run-off yield and to rehabilitate the area. The City has cleared approximately 400 hectares of pine plantations thus far and aims to remove a further 130 hectares over the next 18 months. As part of the TMGA project, 33 hectares of Eucalyptus and pine trees were cleared along the route of the pipeline to the wellfield.

In addition to this, a partnership programme to manage the clearing of invasive alien plants has been implemented at the Steenbras, Wemmershoek and Atlantis catchments areas, using specialist commercial contractors. The programme is managed through the Invasive Species Unit of the Biodiversity Management Branch. Funding for this project has been provided by the City as well as the Cape Town Water Fund via The Nature Conservancy, and Working for Water. Over the past two years, over 2 500 hectares have been cleared and maintained, creating 705 short-term work and skills development opportunities. The project will continue in 2021, with plans to clear a further 9 000 hectares and create 200 short-term jobs. The City is currently exploring a partnership with The Nature Conservancy to clear invasive alien vegetation in the higher lying areas in the Wemmershoek, Berg River and Steenbras Dam catchments.

### **Desalination**

The temporary desalination plants based at Monwabisi and Strandfontein, which together produced 14MI/d during operation, have been decommissioned and the sites are being rehabilitated, while the pipelines leading to the ocean are removed. These facilities have provided invaluable information about the commercial desalination process and its

technological scope, which has greatly assisted with the planning for the proposed permanent desalination plant.

Plans for a permanent desalination plant, with an approximate yield of 50MI/d, are progressing and the technical feasibility study has been completed, the outcomes of which are currently under review. An assessment of the financial viability and mechanisms for the delivery of infrastructure will be part of the next objective.

**Reminder to Residents:**

The City urges residents and businesses to continue with water-wise usage, keeping in mind that drinking water is a limited resource.

For information about water-wise restrictions and the relevant regulations applicable, please visit: <http://www.capetown.gov.za/thinkwater>. Additional information about the City's Water Strategy and the New Water Programme can be found here: <http://www.capetown.gov.za/general/cape-town-water-strategy>

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