



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

October 2017

## **Critical Water Shortages Disaster Plan – Public Summary**

This is a public summary of the City of Cape Town's Critical Water Shortages Disaster Plan.

It explains the disaster plan but does not provide operational details, which are sensitive in a disaster scenario.

The full plan, comprising three phases, and its supporting sectoral operational plans and protocols, which guide City operations and preparedness actions is the City's operational blueprint in the unlikely event of critical water shortages.

The plan and relevant operational details will be shared with intergovernmental partners supporting the response and appropriate information will be made public during each phase to enable supporting actions from the public, business and civil society.

It assumes no additional water into our system before the next rainy season.

It is important to stress the severity of the situation that Cape Town faces because of the unprecedented and protracted drought.

With the winter rainfall season mostly behind us, it is clear that we are in a much worse position than we were at the same time last year.

**We are now in Phase 1 of the disaster plan which entails water rationing. The other two phases comprises disaster phases and more extreme disaster interventions.**

### **Phase 1**

Disruption of water supply in some areas should be expected as we introduce water rationing through further pressure management and limiting supply.

These measures are needed to avoid entering Phase 2.

While the City and its partners are taking all possible measures to ensure that Phase 2 of the Disaster Plan does not need to be deployed, avoiding intensive water rationing cannot be achieved by the City alone and requires a collective effort by all residents.

If we don't pull together now and drive down water usage even further, we face the risk of disrupting the daily lives of our households and businesses. The risks we face individually and as a City increase significantly in phases 2 and 3 (please see the disaster plan summary to follow).

In order to avoid this disruption, everyone in the city will have to endure some discomfort and inconvenience, but this will be better than the alternative, which is extensive disruption at a later point.

The drought and actions required to get Cape Town through a difficult time are everyone's responsibility, and while the City will continue to lead this process, all residents are going to need to contribute and to take leadership in their own communities.

All water must be conserved now, including non-drinking water from boreholes and other sources.



**Richard Bosman**  
**Executive Director of Safety and Security**  
**City of Cape Town**



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

# **CRITICAL WATER SHORTAGES DISASTER PLAN**

## Public Summary

**Safety and Security Department**

October 2017

**This is a public summary of the City of Cape Town's Critical Water Shortages Disaster Plan.**

**The plan, and its supporting sectoral operational plans and protocols, are guiding City operations and preparedness actions. The plan and relevant operational details will be shared with intergovernmental partners supporting the response and appropriate information will be made public during each phase to enable supporting actions from the public, business, civil society, etc.**

The Critical Water Shortages Disaster Plan for the City of Cape Town constitutes the corporate plan for managing increasingly severe drought conditions as they intensify over time. The plan details actions for the City and its constituent line functions, in the areas of its local government competencies.

This corporate plan, along with the supporting sector plans, form the basis of response planning by the City's intergovernmental partners and supporting entities.

The disaster plan for managing critical water shortages adopts a pessimistic approach, and assumes very little additional supply will arise from water augmentation measures, such as desalination and increased ground water abstraction.

This pessimistic approach ensures the City is prepared for a worst-case scenario.

The Critical Water Shortages Disaster Plan for the City is an actively managed set of preparedness and implementation plans for sectors, such as Water and Sanitation, Fire Services, Metro Police, Traffic Services, City Health, Recreation and Parks, Social Development and Early Childhood Development, as well as various other critical and supporting services, communication protocols and decision processes.

The plan is designed to account for changing conditions in time, particularly those relating to the available supply of the Western Cape Water Supply System (WCWSS) including water use by agriculture and other municipalities from the main supply dams.

### **Principles and objectives of the Critical Water Shortages Disaster Plan**

The Critical Water Shortages Disaster Plan for the City of Cape Town is based on the following fundamental principles which provide a basis for decision-making:

- Minimising the impact of the critical water shortages on human life, dignity and property;

- Ensuring the continuation of critical services, such as health and safety and security services, to the public;
- Ensuring the disaster is prevented from escalating by employing appropriate mitigation measures;
- Ensuring the effects of the disaster on the day-to-day life of the City's residents are reduced;
- Ensuring the protection of the City's infrastructure;
- Ensuring every person in the city has access to sufficient water to drink and is able to maintain health and hygiene;
- Ensuring appropriate measures are in place to limit and respond to outbreaks of water-borne diseases.
- The most vulnerable residents of the city are least able to adapt to an escalating disaster and will require prioritised support;

The Critical Water Shortages Disaster Plan provides for emergency procedures that are to be implemented in the event of a disaster occurrence, including:

- i. the allocation of responsibilities to role players and the processes of co-ordination in the carrying out of those responsibilities
- ii. prompt disaster response and relief that will:
  - save lives
  - reduce further risk exposure
  - reduce suffering
  - protect property
  - reduce economic and social losses
  - protect property
  - protect the environment, and
  - provide for the safety and health of all responders
- iii. disaster recovery and rehabilitation focused on risk elimination and mitigation
- iv. the emergency procurement of essential goods and services
- v. the establishment of strategic communication links; and
- vi. the dissemination of information

### **Phased approach to disaster response**

The Critical Water Shortages Disaster Plan is structured into three phases, which represent progressive levels of severity and disruption, which require three distinct operational responses. The phased approach represents options to ration water use, with each progressive phase responding to an increasingly severe shortage of water supply.

### **Phase 1: Preservation Restrictions – rationing**

The City is currently implementing Phase 1 which includes operational actions which

are activated to prevent the City from having to enter into Phase 2: Disaster Restrictions.

As at the end of September 2017, the National Department of Water and Sanitation (DWS) requires that the City institute a 40% saving across urbanised areas. This necessitates consumption to be driven down to approximately 500 million litres of collective usage per day. It is anticipated that this restriction level may be increased by the DWS.

The City cannot afford to exceed predefined water consumption limits as set by the water restriction levels.

Implementation of this phase includes instituting water rationing through limiting supply and advanced pressure management. Limiting supply entails the controlled manual closing of valves to reticulation sub-districts in the city to further drive down demand. Advanced pressure management entails the limitation of water into the water reticulation system through automatic controllers at specific choke points.

This process does not result in a complete shutdown of the water reticulation system, but it will severely limit available water supply in the system per day, some areas may experience water supply outages. During such time, there may be short periods of limited to no water available to some neighbourhoods. Water users will need to make alternative arrangements for water or store water for usage. It is advised that up to five litres of water is kept as emergency storage for essential usage in the event of intermittent supply. Excessive storage of municipal drinking water is not allowed and water usage must comply with the water restrictions.

The City cannot provide definitive timetables of the outages as the water systems need to be managed flexibly to avoid damage to critical infrastructure. Any zoned outages will likely occur during peak water usage times in the mornings and evenings.

The City will continue to install water management devices to limit the consumption of users who are exceeding the water restriction levels. Further restriction levels will be announced as necessary to drive down consumption to a safe level.

Critical services such as clinics and hospitals will be largely unaffected and mitigation measures will be put in place if they experience intermittent water supply.

## **Phase 2: Disaster Restrictions**

Phase 2: Disaster Restrictions will be implemented if and when the total available surface water storage in the City's allocation from the Western Cape Water Supply System reaches a point where intensive daily rationing is required to ensure the City has enough water supply to safely reach the next rainfall season or the activation of

non-surface water augmentation. Water rationing in this phase will be aimed at maintaining human life and critical services.

Implementation of Phase 2 will be considered when there is a high likelihood the dam storage will drop below 10% before the onset of the winter rains.

This is significantly different from Preservation Restrictions in that the City will more actively assume control over the daily water supply available to households and businesses.

Strategic commercial areas, high-density areas with significant risk of increased burden of disease, such as informal settlements, and critical services, such as hospitals, where possible, will continue to receive drinking water through normal channels. Significant monitoring and enforcement will be put in place to ensure that water usage at these points is significantly reduced.

To supply water to residents, water collection sites will be established across the city. The location of water collection is determined by various factors, such as proximity to appropriate water reticulation infrastructure, accessibility, population density and the safety of premises.

Large numbers of households and businesses will be unable to access drinking water in their homes and places of work. Residents will be able to collect a predefined quantity of drinking water per person per day from these collection sites.

The City's law enforcement and policing resources, as well as the various resources of our intergovernmental partners, such as the South African Police Service and the South African National Defence Force, will be deployed to ensure that general safety is maintained throughout the city in this phase.

In order to preserve the integrity of the sewerage system, the water system will not be shut down completely, as this will cause the sewerage system to fail. In order to keep the sewerage systems in flow and running, the City will inject supplementary sources of water at strategic points.

The available options for injection include:

- treated effluent water
- groundwater
- sea water
- non-drinking water

For each of the aforementioned options, consideration for maintaining public health standards will occur in order to prevent the spread of water-borne diseases.

It should be noted that the City will do everything in its power to prevent the need for Phase 2: Disaster Restrictions to be implemented. However, the City is prepared

to implement disaster restrictions if it is necessary to reduce the daily consumption from the dams to ensure the continuity of basic water supply until no longer required.

### **Phase 3: Full-scale disaster implementation**

Phase 3: Full-scale disaster implementation is the extreme disaster scenario which would occur if the Western Cape Water Supply System no longer has surface water supply which the City can access.

Non-surface drinking water supplies, sourced from groundwater abstraction from various aquifers and spring water, will be available for drinking purposes only. The City will distribute this water, supplemented by bottled water, to residents through water distribution points. Critical services will be significantly reduced.

### **This scenario can be avoided with progressive rationing in Phase 1 and 2.**

As a responsible City, the likelihood of such a risk materialising must be balanced against the potential impact of that risk. It is therefore necessary that the City and its residents and stakeholders plan for such a situation if it were to occur.

Constant monitoring, updating and revision are key to this dynamic situation. The City will continue to use absolutely all drought interventions at its disposal.

In order to get through as much of the expected harsh summer ahead, consumption must be reduced to at least 500 million litres per day.

Addressing the lack of water in our system can only be done if all water users collectively contribute to help us to mitigate this crisis. As a City, we will do whatever it takes to get through this great challenge. We will act within the confines of the law and not erratically and we will use all of our powers and responsibilities in accordance with our disaster status.

Getting through this unprecedented drought remains our priority.

For information on how to meet the 87-litre per day usage requirement, residents should please visit the water restrictions page on the City's website:

[www.capetown.gov.za/thinkwater](http://www.capetown.gov.za/thinkwater) and utilise our water calculator:

<http://bit.ly/ThinkWaterCalculatorCT>

Residents can contact the City via email to [water@capetown.gov.za](mailto:water@capetown.gov.za) for queries about the water pressure reduction, or to report contraventions of the water restrictions (evidence should be provided to assist the City's enforcement efforts), or they can send an SMS to 31373.

Water supplied by the City remains safe to drink and is tested in accordance with safety standards.

Please check your water usage by registering on e-services <http://cct.gov.za/sh5O5>.  
For more information on water management devices, please visit <http://cct.gov.za/mXos4>.

**City of Cape Town**