



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

**THINK
WATER**
THINK LESS
THAN 87ℓ A DAY

City's position on groundwater system installations.

Sarah Rushmere
December 2017

Making progress possible. **Together.**

KEY PRINCIPLES FOR ALTERNATIVE WATER USE

1. **Quality required for different uses** – as per 1996 national guidelines. See matrix.
2. **Applications & licensing are required**
3. **Imperative to prevent potentially dangerous alternative water from contaminating drinking water system** on the premises and for surrounding area. Reduced Pressure Zone (RPZ) valve back-flow preventers are mandatory.
4. **Discharge to correct place** – overflow to stormwater or to sewer if harmful chemicals or substances
5. **Colour code the pipes**
6. **'Do not drink' signage**



SOURCES OF WATER:	RAINWATER	GROUND WATER	SURFACE WATER	GREYWATER	TREATED EFFLUENT
	TEST FIRST, AND TREAT ACCORDING TO USE				
USES OF WATER:					
Plant bed irrigation (subsurface)	4	4	4	4	
Fire fighting	3 (Categories 3 & 4)	3 (Categories 3 & 4)	3 (Categories 3 & 4)	3 (Categories 3 & 4)	
Vehicle cleaning	3	3	3	3	
Food garden (subsurface) & lawn irrigation	4	4	4	4	
Outdoor hard surface cleaning	3 (Category 4)	3 (Category 4)	3 (Category 4)	3 (Category 4)	
Swimming pools*	SANS 241*	SANS 241*	SANS 241*	SANS 241*	
HVAC	3 (All 4 categories)	3	3	3	
Toilet flushing**	**	**	**	**	
Fish ponds	1	1	1	1	
Indoor surface and kitchen cleaning	1	1	1	1	
Laundry washing	1	1	1	1	
Cooking & food preparation	1	1	1	1	
Body washing (ablution)	1	1	1	1	
Drinking	SANS 241	SANS 241	SANS 241	SANS 241	
Water features (no contact)	1	1	1	1	
Water features (e.g. splash parks)**	SANS 241	SANS 214	SANS 214	SANS 241	

KEY/ EXPLANATION

COLOUR CODE	RISK OF USE	WATER QUALITY REQUIRED FOR INTENDED USE	TESTING AND TREATMENT REQUIRED, FOR INTENDED PURPOSES
USE WITH DISCRETION	Low, negligible risk No direct human contact with water	Low	<ul style="list-style-type: none"> No testing or treatment required. Use with discretion.
TEST QUALITY AND TREAT FOR USE/S	Moderate risk Some human contact with water	Moderate	<ul style="list-style-type: none"> Test water quality Check results against national guidelines for intended use. Treat if required. For this low risk category, treatment may be unlikely.
TEST QUALITY AND TREAT FOR USE/S	Medium risk Greater human contact	Medium	<ul style="list-style-type: none"> Test water quality Check results against national guidelines for intended use. Treat as required. For this risk category, treatment is likely.
TEST QUALITY AND TREAT FOR USE/S	Very high risk High levels of contact and human ingestion	High	<ul style="list-style-type: none"> Test water quality Check results against national guidelines for intended use. Treat as required. For this high risk category, high level of treatment is essential. Regular quality testing necessary to determine ongoing water quality and suitability for use. Filtering and or treatment will be necessary.
	No alternative water sources permitted for these uses – as per City’s Water Bylaw. Unless by contract as a Water Service Intermediary	N/A	N/A

Application, registration and licencing

ALTERNATIVE WATER TYPE	FROM NATIONAL DWS	FROM CITY OF CAPE TOWN
Rainwater	No licencing.	Approval for installation
Groundwater	Licencing – General Authorisation or Water Use Licence	Approval for drilling, and register the source, and get approval for installation
Surface water	Licencing – General Authorisation or Water Use Licence	Approval for installation
Greywater	No licencing.	Approval for installation
Treated effluent – own treatment	Licencing required.	Approval for installation
Treated effluent – from City	N/A for consumers buying from City	Approval for installation

City approval & inspection

- Current groundwater and treated effluent applications systems stay 'as is' for now. Apply to borehole.water@capetown.gov.za and treated.effluent@capetown.gov.za respectively.
- Greywater & rainwater applications: download 'Alternative Water System Application Form' from City's website, see <http://cct.gov.za/CBzOc>. Email with attachments to water@capetown.gov.za
- City capacity for inspection to be boosted
- Plumbing Certificate of Approval to be compulsory. City started engagement with plumbing industry, and they're pioneering training programme now.

RPZ valve back-flow preventer

- **Specifications & functionality outlined in SANS 1808-15.** If products approved according to this standard are not easily available locally, the City will also accept international standards for RPZs from organisations such as the German Institute of Standardization (Deutsche Institut vur Normung– DIN) or the American Water Works Association (AWWA). Locally available RPZ models include the products manufactured by ARI and Caleffi.
- **Local suppliers** so far:
 - Equilibrium Water, importing Caleffi range (www.equilibrium-water.com)
 - Ultra control valves (www.ultravalves.co.za)
 - Wholesale plumbing supply in Mphumalanga (www.wholesaleplumbingsupply.co.za)
- **City has approached these specialist retailers:** Plumblink, Incledon, CP&B, OnTap, Brights, Buco, Build It and Builders Warehouse.

NOTE: City of Cape Town does not endorse any particular product or service provider and cannot be held liable for any non-performance.

Colour codes

- Greywater = lilac, Pantone 522 colour code
- Groundwater = dark green with two grey stripes
- Rainwater = no specific colour, but labelling recommended.
- Treated effluent = orange

Signage for main thoroughfare and point of use



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**NON-DRINKING WATER IN USE.
DO NOT DRINK!**

**KUSETYENZISWA AMANZI ANGASELWAYO.
MUSA IKUWASELA LA MANZI!**

**NIEDRINKBARE WATER IN GEBRUIK.
MOENIE DRINK NIE!**

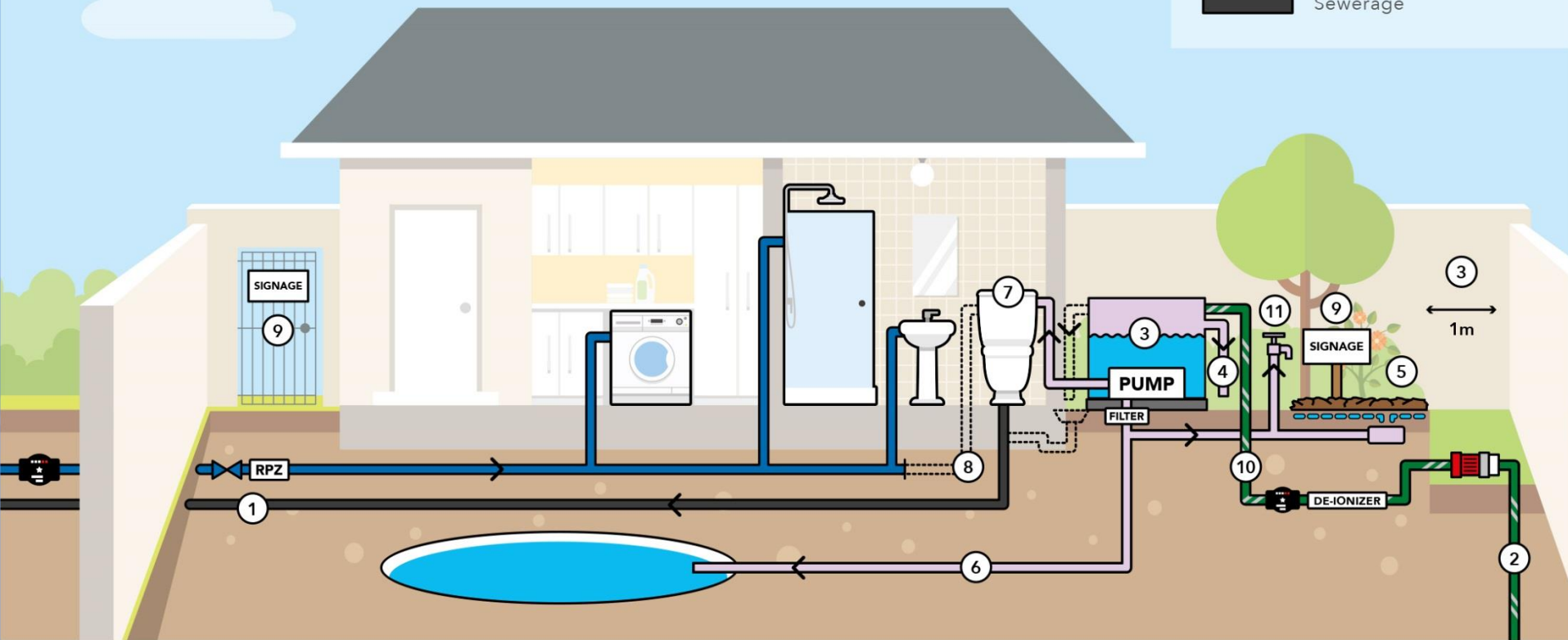
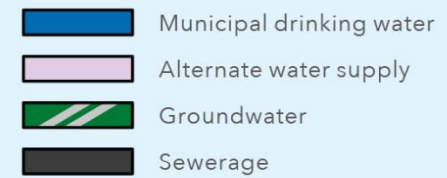
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Appropriate signage as per SANS 1186-1:2008

GROUNDWATER SYSTEM FOR OUTDOOR AND INDOOR USE



1. Municipal drinking water supply into property fitted with a Reduced Pressure Zone (RPZ) valve back-flow preventer. (Mandatory).
2. Groundwater sources (wellpoint, borehole or spring water) connected to storage tank.
3. Collection and treatment (if testing indicates it is required) of groundwater in storage tank. Installation of tanks can be below or above ground, but must comply with national building regulations, SANS 2001-CC2 and manufacturer's specifications. Any underground tank installation must also be at least 1m away from the boundary wall.
4. Storage tank overflow to stormwater or a garden for aquifer recharge if not treated. If treated with chemicals, the overflow must discharge to sewer.
5. Groundwater for drip/subsurface irrigation under a thick layer of mulch (not sprayed for health reasons and to reduce evaporation), vehicle washing and/or hard surface cleaning.
6. Groundwater for topping up pool. Pool cover as per requirements of water restrictions.
7. Groundwater for toilet flushing.
8. Municipal water supply to cistern must be disconnected.
9. Official signage weather proofed, to be placed in main thoroughfare e.g. at entrance and at points of use to warn people not to drink this water.
10. Borehole water meter to be installed by owner as per water by-law.
11. This water is not for drinking, cooking or ablution. Preferably, make it a 'demand' tap so that nobody drinks from it or wastes water from it.

PLEASE DO USE – BUT RESPONSIBLY

Under current Water Bylaw & legislation:

- **Alternative water systems subject to City approval**, and groundwater and surface water subject to national Dept of Water & Sanitation licensing.
- **No alternative water for drinking, cooking and body washing** (ablution). Due to health risks and City's statutory responsibility for providing drinking quality water.
- **No full 'off-grid' for water for homes**. Risks and monitoring/enforcement costs too high to allow for homes
- **Some 'off-grid' for large consumers** such as large residential developments and businesses which contract with the City as Water Service Intermediary, and can show reliable treatment and monitoring system, and backflow-prevention.

Alternative water use entirely at risk of consumer, City not liable.

Useful City website links

Commercial water restrictions explained	http://cct.gov.za/OtU1g
Apply for supply of treated effluent	http://cct.gov.za/iNPx2
Apply to sink a borehole or wellpoint or use an alternative source of water	http://cct.gov.za/CBzOc
Register a borehole or wellpoint	http://cct.gov.za/juF60
Alternative water application	http://cct.gov.za/bC2nV
Water and sanitation education resources	http://cct.gov.za/QpD2V





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**2010 Water Bylaw
Under review.
Public participation coming shortly**

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Thank You

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