

# Be part of the Integrated Water Leaks Repair Project

Save water,  
make your bill  
more affordable!



CITY OF CAPE TOWN | ISIXEKO SASEKAPA | STAD KAAPSTAD

THIS CITY WORKS FOR YOU

**WATER HOTLINE 0860 103 054**

## PURPOSE OF THIS BOOKLET

This booklet should help you to:

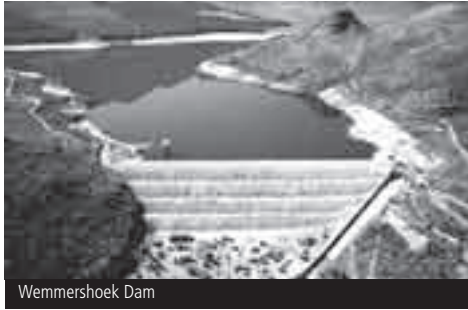
- learn about piped clean water and piped waste water (sewage)
- the Integrated Water Leak Repair Project
- how you can reduce your water consumption
- free basic services, clean water and waste water (sewage) tariffs
- calculate your water and waste water (sewage) bill
- identify water leaks
- read your meter
- repair your water leaks
- reduce your water consumption
- understand the City's responsibilities and the responsibilities of Water Services
- understand your own responsibilities

This book belongs to \_\_\_\_\_

Stand or Erf No \_\_\_\_\_ in \_\_\_\_\_

## HOW CLEAN WATER IS SUPPLIED TO YOUR PROPERTY

Rain water is stored in dams, treated in treatment plants to make it drinkable and then transported to your dwelling through reservoirs and water pipes.



Wemmershoek Dam



Wemmershoek water treatment plant

## HOW WASTE WATER (SEWAGE) FLOWS AWAY FROM YOUR PROPERTY

The water that flows away from the sink, toilet, shower, bath and other sanitaryware is called waste water or sewage. It flows through pipes and is treated at waste water treatment plants. The water leaving these plants (treated effluent) flows back into rivers and the sea.



Athlone water treatment

## WHY CLEAN WATER AND WASTE WATER (SEWAGE) COST MONEY

The dams, pipes, treatment plants and reservoirs all cost money to build and maintain – that is why the users have to pay for water and waste water (sewage) services.

## WHO IS RESPONSIBLE FOR CLEAN WATER AND WASTE WATER (SEWAGE) SERVICES IN YOUR AREA?

The Department of Water Affairs and Forestry is responsible for the dams although the City owns some of its own dams. The Water Services Department of the City of Cape Town is responsible for ensuring you have water and waste water (sewage) services.



**WATER SERVICES**



## WHY AN INTEGRATED WATER LEAKS REPAIR PROJECT?



Typical house with outside toilet

Many Cape Town residents have water consumption far higher than they should have. This wastes water and money. Projects have been set up to deal with these challenges. This project focuses on the specific challenges in poor communities like yours where the

municipal property values are generally less than R100,000. The project aims to save water and make your water and waste water (sewage) bill more affordable by empowering you to identify and repair your water leaks and reduce wasteful consumption. It will deal with all aspects including the social, regulatory, commercial and technical aspects.



Typical house with inside toilet

## WHY THESE HIGH WATER CONSUMPTIONS?

The main reasons for the high water consumption are:

- water leaks.
- people wasting water



Toilet cistern float valve leaking



Toilet cistern float valve missing

## HOW YOU CAN REDUCE YOUR CONSUMPTION

If you:

- learn how to maintain your plumbing in good condition.
- close the stopcock as soon as water leaks appear.
- repair the water leak.
- become aware of the amount of water you are using by reading your water meter regularly.
- stop the unnecessary use of water.

Then you will:

- save a lot of water.
- reduce your water and sewage bill and make it affordable to you.
- reduce the need for new dams, treatment plants, reservoirs and pipelines and therefore save all the citizens of Cape Town a lot of money.



Leak into toilet bowl

Dripping tap



Toilet cistern has buckled because the lid has been left off



Flush valve in toilet cistern is missing



Plastic stopcock



Brass stopcock

## HOW THE PROJECT WILL RUN

If you are an owner of a property you are responsible for maintaining your plumbing in good order and for repairing water leaks on your property. The people residing on the property, whether it be the owner or the tenant, are responsible for ensuring that they use only the water they need and can afford.



Typical water meter

However, during the course of this project all household water leaks will be repaired **FREE OF CHARGE**. This will be a once off opportunity.

After the project you will again be responsible.



Replacing a float valve on a toilet cistern

Trained community liaison officers will be visiting your house to assist you to identify water leaks, to read your water meter, to show you how to maintain your plumbing in good order and how to reduce your water consumption to what you need and what is affordable to you.



A community liaison officer will visit you



Read your water meter regularly



Restricted plumber noting leaks



Replacing a float valve in a toilet cistern



Adjusting the float arm



Removing a flush valve washer



Fitting a new flush valve washer

After that plumbers (called Restricted Plumbers because they have had a shortened training) will repair the water leaks. Some of these trained restricted plumbers will be assisted to set up small businesses so that they can repair any future water leaks at rates that are affordable to you.

By only using the amount of water you need and can afford and paying your bill monthly you will become a "waterwise" user. As explained later, if you maintain your water consumption below 11 kilolitres per month you will not have to pay a cent!

## FREE BASIC CLEAN WATER AND WASTE WATER (SEWAGE) SERVICES

Every month you are supplied with 6 000 litres (6 kilolitres) of clean water and 4 200 litres (4,2 kilolitres) of waste water (sewage) is removed free of charge in accordance with national policy.

## INDIGENT GRANT

Where the municipal value of your property is less than R100,000 you also have a R20 Indigent Grant credited to your account.

At current tariffs the water and sewage bill for 11 kilolitres of water is R20,01 incl VAT. If you live on a property with municipal value less than R100 000, this means you can use 11 kilolitres of water and only pay 1 cent for water and sewage.

## HOW THE QUANTITY OF WASTE WATER (SEWAGE) IS CALCULATED

The disposal of waste water (sewage) is calculated as 70% of the water consumption up to a maximum of 28 kilolitres per month (70% of 40 kilolitres). This means that for any water consumed above 40 kilolitres per month there is no additional waste water (sewage) disposal charge.

## TARIFFS

Water and waste water (sewage) are charged using block tariffs. The more water you consume and the more waste water (sewage) you dispose of, the more you pay per kilolitre (kl). Keep the tables below up to date with the current tariffs. The tariffs usually change on 1 July of each year.

### WATER BLOCK TARIFF (PER KL):

<b>Block (kl)</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/2010</b>
0-6	R0,00				
6-12	R2,39				
12-20	R5,10				
20-40	R7,55				
40-50	R9,33				
Above 50	R12,31				

### WASTE WATER (SEWAGE) BLOCK TARIFF (PER KL):

<b>Block (kl)</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/2010</b>
0-4,2	R0,00				
4,2-8,4	R1,60				
8,4-2,8	R3,90				
Above 28	R0,00				

... trained restricted plumbers will be assisted to set up small businesses so that they can repair any future water leaks at rates that are affordable to you!

## HOW TO CALCULATE YOUR WATER AND WASTE WATER (SEWAGE) ACCOUNT

### *Example : Water consumption of 30 kl over a period of 32 days*

The tariff blocks change depending on the period between meter readings. Because the period between meter readings is more than a month (365 days ÷ 12 months = average of 30,417 days per month) in this case, the blocks will increase in the ratio of 32÷30,417.

#### Water tariff blocks for 32 days

Block 1	0	6,312
Block 2	6,3120	12,6250
Block 3	12,6250	21,0410
Block 4	21,0410	42,0820
Block 5	42,0820	52,6030
Block 6	52,6030	above

Water consumption of 30 kl

Block 1: 6,3120 kl @ R0,00 = R 0,00  
 Block 2: 6,3120 kl @ R2,39 = R 15,09  
 Block 3: 8,4160 kl @ R5,10 = R 42,92  
 Block 4: 10,959 kl @ R7,55 = R 82,74  
 TOTALS 30,000 kl  
 R140,75 excl VAT

#### Sewage Tariff Blocks for 32 days

Block 1	0	4,4190
Block 2	4,4190	8,8370
Block 3	8,8370	29,4580
Block 4	29,4580	above

Waste water (sewage) disposal=30 x 0.70=21 kl

Block 1: 4,4190 kl @ R0,00 = R 0,00  
 Block 2: 4,4190 kl @ R1,60 = R 7,07  
 Block 3: 12,1630 kl @ R5,10 = R 47,43  
 TOTALS 21,000 kl  
 R 54,50 excl VAT

### *Example : Water consumption of 20 kl over a period of 29 days*

The tariff blocks change depending on the period between meter readings. Because the period between meter readings is less than a month (365 days ÷ 12 months = average of 30,417 days per month) in this case, the blocks will decrease in the ratio of 28÷30,417.

#### Water Tariff Blocks for 29 days

Block 1	0	5,7210
Block 2	5,7210	11,4410
Block 3	11,4410	19,0680
Block 4	19,0680	38,1370
Block 5	38,1370	47,6710
Block 6	47,6710	above

Water consumption of 20 Kl

Block 1: 5,7210 kl @ R0,00 = R 0,00  
 Block 2: 5,7210 kl @ R2,39 = R 13,67  
 Block 3: 7,6270 kl @ R5,10 = R 38,91  
 Block 4: 0,9320 kl @ R7,55 = R 7,03  
 TOTALS 20,000 kl  
 R 59,61 excl VAT

#### Sewage Tariff Blocks for 29 days

Block 1	0	4,0040
Block 2	4,0040	8,0090
Block 3	8,0090	26,6960
Block 4	26,6960	above

Waste water (Sewage) disposal=20x0,70=14 kl  
 Block 1: 4,0040 kl @ R0,00 = R 0,00  
 Block 2: 4,0040 kl @ R1,60 = R 6,41  
 Block 3: 5,9910 kl @ R5,10 = R 23,37  
 TOTALS 21,000 kl  
 R 29,77 excl VAT

**WATER** (Period 20/01/2008 to 17/02/2008 - 29 Days) (Actual Reading)  
 AT 45 DAN SOHLWA MPULANI / ERF 2882  
 Meter No: C-2409409 / Consumption 20,000 KL / Daily Average 0.680 KL

* Consumption charge (Dept)		
(1) 5.1210 KL @ R 12.00 61.4520 KL @ R 2.3600		
(2) 1.6210 KL @ R 2.1000 74.0300 KL @ R 7.8500	59.61	59.61

**REFUSE** (Period 31/01/2008 to 28/02/2008)  
 AT 45 DAN SOHLWA MPULANI / ERF 2882

* Disposal Charge (1 X 210LBR X 1 Removal)	48.38	
* Disposal Charge Rebate	48.38	
* Basic Waste Disposal Levy		1.82
(R 48000 X R 0.0004780000) = R 21.88 (12)	1.82	0.00
* Disposal Charge Rebate		

**SEWERAGE** (Period 20/01/2008 to 17/02/2008 - 29 Days) (Actual Reading)  
 AT 45 DAN SOHLWA MPULANI / ERF 2882

* Disposal Charge		
(1) 4.0040 KL @ R 2.1000 84.0840 KL @ R 1.8000		
(2) 3.9510 KL @ R 2.9000	29.77	
Basic Charge		0.00
Indigent Grant		20.00

Add interest on outstanding balance 4.31  
 Add 14% VAT on Amounts marked with \* above 12.52

**LATEST ACCOUNT: TOTAL DUE**

86.72

METER DETAILS	PROPERTY VALUES	OLD READING	NEW READING	UNITS USED
WATER	Meter C-2409409071	49,000KL (Actual)	68,000KL (Actual)	20,000KL
RATES	Land Value R 11000.00	Building Value R 27000.00	Total R 48000.00	

**ANNUAL PROPERTY RATES / ERF 2882**

Description	Value	Rate	Rate Assessed
Site	11000.00	0.0118200	130.02
Building	37000.00	0.0118200	437.34
Valuation Rebate	48000.00	0.0118200	567.84
<b>Rate Assessed</b>			<b>0.00</b>

## VISIBLE AND AUDIBLE LEAKS

Mostly you can see or hear a water leak. You can see a dripping tap or pipe. A toilet cistern that is continuously leaking makes a loud noise.



Toilet cistern float valve missing



Leak into toilet bowl



Dripping tap

## IDENTIFY LEAKS THAT YOU ARE NOT AWARE OF

Some leaks are more difficult to notice e.g. a slow leak into the toilet bowl. If you look closely you will notice it.

Then there are underground or non-visible leaks. You can confirm these leaks by using the water meter.

- Close all taps and inform everyone in the house not to use water until you tell them to.
- Wait 30 minutes to ensure the geyser and toilet cisterns are full.
- Read the water meter. If the red numbers are moving then you have a water leak.

If there is a very slow leak the smallest red number will move very slowly. You may need to not use water for a few hours to pick this up.

If you have an underground leak call a qualified or restricted plumber to come and repair it.

## LEARN HOW TO READ YOUR WATER METER



Read your water meter regularly

## ESTIMATING YOUR MONTHLY WATER CONSUMPTION

If you want to estimate what your monthly water consumption will probably be, read the meter 7 days apart. Estimated monthly consumption = 7 day consumption x 30,417 days ÷ 7 days. If you think that your consumption is going to be too high, take steps to reduce it straight away before you get your bill. You can save a lot of water and money that way.

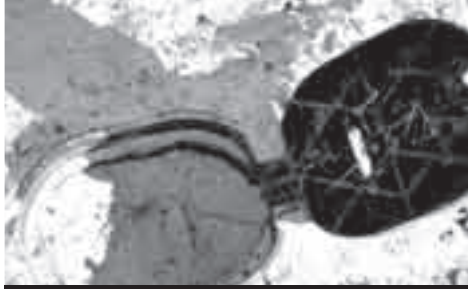
## REPAIRING WATER LEAKS

Many water leaks are fairly easy to fix as long as you have had some training. If you have not had any training it is better to call a qualified or restricted plumber.

Be sure that you close the stopcock (the tap that closes the main water supply to your property) before you do any water leaks repairs. In any event, as soon as a leak appears you should have closed the stopcock so that you do not waste water and end up with a high water and waste water (sewage) bill at the end of the month.



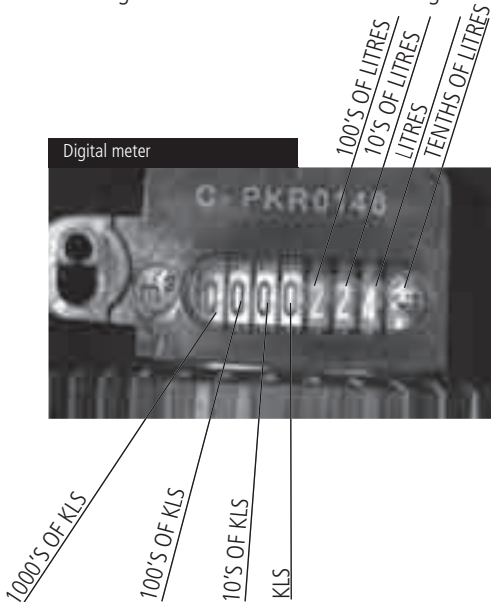
Meter box key



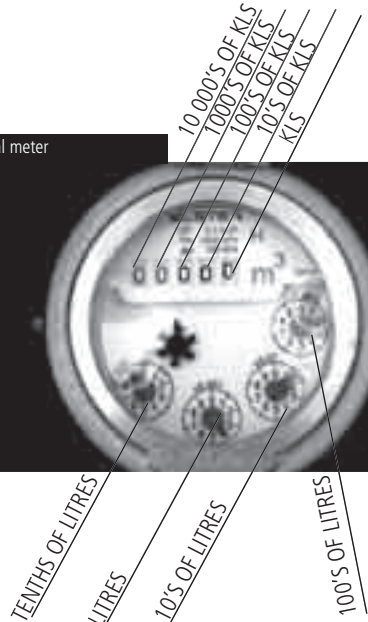
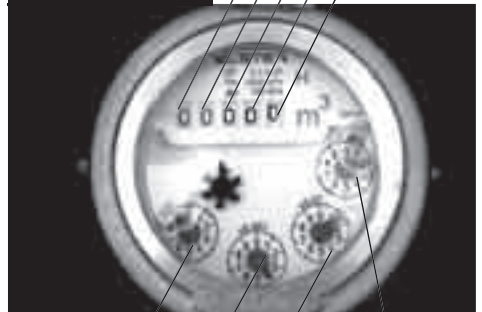
Meter box

If the meter is locked the municipality can open it with a meter box key. The important thing to understand is what the numbers on the water meter mean. The diagram below shows you how to read the digital and dial meter. The meter is read monthly by the City. The water consumption is calculated by subtracting the previous month's reading from the current month's reading.

Digital meter



Dial meter



## Leaking taps

Tap drips continuously despite being in the closed position.

This usually requires the washer to be replaced.

The steps are slightly different depending on whether you have a brass or plastic tap. Steps for replacing a tap washer:

1. Close the property stopcock
2. Open the tap fully.
3. Unscrew the cover (brass taps).
4. Unscrew the spindle.
5. Remove the washer.

Note: Make sure you have the correct washer-size for the tap.

6. Fit the washer.
7. Reinstall the spindle.
8. Screw down the cover (brass taps).
9. Close the tap, open the water supply stopcock and check for leaks again.

## Leaking toilet cisterns

Make sure that you understand the difference between the manufacturers' makes before you attempt to fix a toilet cistern. If in doubt, call a qualified or restricted plumber. Close the property stopcock before doing repairs.

### REPLACING A WASHER ON A TAP



### TYPICAL CISTERNS



### **1. Incorrect adjustment of the float arm**

Water flows over the overflow because the float arm is adjusted too high.

You must be careful not to break the plastic socket that fits into the float valve. Hold the float arm with one hand while bending the end with the float (ball) slightly downwards. To be sure you do not break the plastic socket, take the whole float arm off by unscrewing the float valve.

If the arm is fitted with an adjusting nut, turn the nut to lower the float.



Aluminium float valve - adjustment by bending



Plastic float arm with adjusting nut

### **2. Float arm is missing**

Water flows continuously through the float valve. The float arms of the manufacturers differ so make sure that you have the correct float arm. Put the correct float arm in position and fit the split pin.

### **3. Replacing float washer**

Water flows through the float valve even when the arm is held in the position that should close the float valve.

Different manufacturers use different mechanisms. Take the float valve along with you when you purchase a float washer to ensure that you get the correct one. The supplier can fit the new washer for you at the store.

### **4. Float valve is missing**

Make sure you replace the float valve with the correct one for that cistern type.



Toilet cistern float valve missing



Replacing a float valve on a toilet cistern

### **5. Flush valve washer has perished**

Water flows into the toilet bowl even when the water level is below the overflow pipe. Remove the flush valve by holding the part that is fixed to the cistern and turning the top part of the flush valve. Be careful not to break the mechanism.

Do not apply a lot of force. If you cannot remove the top part of the flush valve call a qualified or restricted plumber. Pull the old washer out and replace it with a new one. Ensure you have the correct washer for the specific cistern type.

Sometime this type of leak is not because of the washer but because there is dirt or some other object that causes the washer not to seat properly. Clean the area and refit the top of the flush valve.



Removing a flush valve washer



Fitting a new flush valve washer

#### ***6. Leak at the joint between the cistern and the flush valve***

Water drips from the joint between the cistern and the float valve onto the floor. As a result the water level is never high enough to close the float valve and it runs continuously.

Firstly tighten the holder nuts. Tighten by hand and then turn one small turn with a spanner. Do not overtighten. If the leaks persist, then remove the flush valve by unscrewing the holder nuts, replace the washer that sits between the flush valve and the cistern and then refit.



In all cases, if the leak still persists after your attempt to fix the water leak call a qualified or restricted plumber.

... ensure that you do not overtighten the holder nuts!

## HOW TO REDUCE YOUR WATER CONSUMPTION

### Basin

- Never brush teeth or wash hands, dishes, plates etc. under a running tap. Always use a plug or catch the waste water for re-use.
- Never run a tap wastefully.
- Regularly inspect taps for drips and repair defective taps, dripping tap (1 drip per second) could waste up to 30 l a day (that is equivalent to 10 000 l a year!)
- Replace tap washers regularly and fit tap aerators to restrict and spread the flow, this saves water yet feels like you are using the same amount of water.

### Toilet

- Never flush a toilet unnecessarily (if it's yellow let it mellow, if it's brown flush it down).
- Always use water saving devices in toilet cisterns to minimize flush volumes.
- Regularly inspect toilet flushing mechanisms for water tightness, internal overflowing and repair defects promptly.

### Dishwashing

(excluding dishwasher)

- Try to wash dishes only once or twice a day.

### Garden/ outdoor

- Re-use shower, bath and dish water on your garden as much as possible.
- On watering days, don't water your garden between 10:00 and 17:00.
- Mulch gardens to retain water.
- Don't wash a car with a hosepipe, use two buckets.

### Bath & Shower

- Take a shower of about 3 minutes using "water wise" shower nozzle and catch as much water as possible for use in the toilet.
- Never run a deep bath, share bath water and then re-use the bath water to flush the toilet or water the garden.

### Washing machine

- Only use the washing machine on full load.

### Geyzer

- Regularly inspect for geyzer overflows and repair defects promptly.

'Unless you are very careful, watering your garden and installing a shower or bath may make it difficult for you to maintain your water consumption below 11 kl/month'

## CITY OF CAPE TOWN AND WATER SERVICES RESPONSIBILITIES

- To build dams and infrastructure that transports water from the big dams (that are far away from the City) to your doorstep.
- To provide for water treatment, thus ensuring that when you get water from your tap, it is clean and safe for drinking, cooking and washing.
- Provide you, within reason, with continuous water and waste water (sewage) services.
- Minimise service downtime caused by repairing burst and leaking municipal water pipes and blocked municipal waste water (sewage) pipes.
- Maintain the water system at a sufficient pressure.
- Read your water meter accurately on a monthly basis.
- Provide you with an accurate bill.

## WHERE TO PAY YOUR WATER AND WASTE WATER (SEWAGE) ACCOUNT

You can pay your water and waste water (sewage) account at the following places:

- Your local municipal office.
- A local municipal office where you work, shop or do business.
- At the South African Post Office (SAPO), Shoprite and Pick 'n Pay stores.

- At any branch of ABSA bank, a/c no. 4056584569 branch code: 631609. Your nine-digit contract account number must be listed on the deposit slip.

Always take your account with you when you pay and keep a receipt.

## YOUR RESPONSIBILITIES

You should report any queries and problems to This will help the City and Water Services deliver a better service to you.

Report problems and queries with your

- meter reading

- consumption and
- account to the CITY CALL CENTRE at 086 010 3089.

Report

- pipe bursts and water leaks on the Council side of the meter and in the street
- sewage overflows and blockages that are not on private property
- low water pressure to the WATER HOTLINE at 086 010 3054.

A call to these numbers costs the same as a local call. It is not a cell phone number. You can also report these problems to the local municipal office.

On your property you must:

- maintain your plumbing in good order.
- make sure you stop water leaks as soon as they appear (by closing the stopcock).

- repair water leaks as soon as possible at your own cost.
- keep checking for water leaks by reading your meter often.
- reduce your water consumption to only what you need.
- reduce the amount of water you use to the bill you can afford.
- work together with Water Services to make water and waste water (sewage) services work for your community.
- pay for the services above with your free basic and the R20 Indigent Grant.
- not flush foreign objects, used oil and materials into the sewer system.
- not discharge rain / surface water to the sewer system.
- ensure that the water meter and sewer boundary chamber are always accessible.

## LET'S ALL BECOME "WATERWISE" USERS...

You will become a 'waterwise' user if you:

- only use the amount of water you need.
- close the stopcock as soon as a water leak appears.
- only turn the stopcock on if you need water. Don't leave water leaks to run continuously. It's a waste.
- repair the water leak as soon as possible.
- use only the amount of water you can afford.
- pay your water and sewage bill on time every month .

If your municipal property value is less than R100,000 and you maintain your water consumption below 11 kilolitres per month you will not need to pay a cent!

... work together with Water Services to make water and waste water (sewage) services work for your community.



Cut out

WATER HOTLINE  
at 086 010 3054.

CITY CALL CENTRE  
086 010 30 89

Cut out



CITY OF CAPE TOWN | ISIXEKO SASEKAPA | STAD KAAPSTAD

THIS CITY WORKS FOR YOU