CITY OF CAPE TOWN

WATER & SANITATION DEPARTMENT

ANNUAL REPORT 2011/12

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ABBREVIATIONS AND DEFINITIONS

WSDP .....Water Services Development plan

WDM & S ..... Water Demand Management & Strategy

WSA ..... Water Service Authority

SDBIP..... Service Delivery Business Implementation Plan

USPC..... Utility Services Portfolio Committee Report

EAM.....Engineering Asset Management

RPMS .....Regulatory Performance Measurement System

CMA .....Cape Metropolitan Area

MLC .....Metropolitan Local Councils

CMC .....Cape Metropolitan Council

QMS ..... Quality Management Systems

WSP .....Water Service Provider

WWTW .....Waste Water Treatment Works

1. EXECUTIVE SUMMARY

1.1 Purpose

The purpose of the Annual report is to reflect progress on implementing strategic commitments made in the WSDP of the reporting year (2011/12).

1.2 Methodology followed

The branch managers, within the department, were consulted for input covering their areas of responsibility namely:

- Reticulation
- Water Demand Management (WDM)
- Scientific services
- Bulk water
- Wastewater Treatment
- Finance (Water and Sanitation)
- Engineering Asset Management (EAM)

Utility Services Portfolio Committee Report (USPC) and WSDP were used as a source of information for input and verification. Lastly the draft report was circulated for comment to branch managers and finally revised to incorporate comments.

1.3 WSA's area of Jurisdiction

The City WSA provides water and sanitation services to the City Metro and some local municipality. The WSA also supplies water to Stellenbosch municipality, Overstrand and Drakeinstein municipality.

1.4 Availability of the Water Services Audit Report

The audit report is available annually usually finalized in September. This year's report focused on statistics of basic service delivery in informal settlement.

1.5 Summary of progress

The Water and Sanitation Department continues to make progress in the provision of services in the midst of all the challenges it faces. With respect to Domestic consumers, the latest February 2011 City estimate of 1 103 182 households included 193 951 in informal settlements, while the remainder of 909 231 in the formal sector included at least 115 248 backyard dwellers. 93% of households had access to basic sanitation services at January 2012.

2. POLICY AND REGULATION

- Policy

  Another zero tolerance tactic to pollution and infrastructure damage has been the introduction of a clause in the Tariff policy that will ensure cost recovery in

terms of follow up inspections where industries fail to comply with the wastewater & industrial effluent by-law.

- Regulation

  The City received an appreciation award for significant contribution to the enhancement of the Department of Water Affairs Regulatory Performance Measurement System (RPMS) Programme. The award ceremony was part of the WISA 2012 Conference held in May 2012 at the CTICC, Cape Town.

Department of Water Affairs Regulatory Performance Measurement System (RPMS) Appreciation Award to the City of Cape Town.

- By-laws

  The Wastewater & Industrial effluent by-law is in the process of amendment to ensure enhanced enforcement in the regulated sector and recourse for the City where non-compliance occurs.

- Education & Awareness

  In the 2011/12 the unit has put more focus on the education aspect, in particular on sewer blockages caused by deliberate introduction of foreign material (e.g fats/oil/grease; building rubble; garbage, etc) into the municipal system. The programme was officially launched in Strand in October 2010 and has since been rolled out to other parts of the City including:- Du Noon, Brown's farm, Belhar, Sarepta, Wesbank, Nyanga, Happy valley, Kleinvlei, Kalkfontein, Imizamo Yethu, Cape Town food outlets, etc , and on-going.

FIELD WORKERS- SEWER BLOCKAGES EDUCATION AND AWARENESS CAMPAIGN

- Enforcement

  124 fines were issued in the 2011/12 financial year for storm water and treated effluent contraventions. Initially only the storm water bylaw had an approved spot fine for section 56 contraventions, but between August 2011 and April 2012, the relevant Magistrate committee approved spot fines for the Wastewater & Industrial effluent, Treated Effluent and the Water by-laws.

WATER POLLUTION CONTROL INSPECTORATE

3. ANNUAL REPORT

3.1 PERFORMANCE MANAGEMENT SYSTEM

Performance management is developed around progress measurement and reporting regularly. At the moment performance reporting is done on a monthly, quarterly and annually

3.1.1 Performance statistics (SDBIP Statistics)

Additional Service points provided (FYTD) (SDBIP Figures)				
		Sanitation		
	Water	Chemical & Portable*	Other Toilets	Total Toilets
July 2011	49	-38	52	14
Aug 2011	49	-121	62	-59
Sep 2011	49	-120	62	-58
Oct 2011	49	-130	72	-58
Nov 2011	49	103	72	175
Dec 2011	56	2 033	137	2 170
Jan 2012	72	2 473	251	2 724
Feb 2012	79	2 488	271	2 759
March 2012	102	2 475	271	2 746
April 2012	159	2 475	390	2 865
May 2012	164	2 470	420	2 890
June 2012	277	2 682	672	3 354
SDBIP Target (June 2012)	250			2 000
July 2012	10	30	0	30
Aug 2012**	not available	not available	not available	not available
Sep 2012				
SDBIP Target (Sept 2012)	50			500
SDBIP Target (June 2013)	200			2 000

"Additional" chemical and portable toilets provision is measured relative to the number of toilets in-service at the start of the financial year. This figure increases or decreases from month to month based on chemical and portable toilet provision and removal.

3.2 PERFORMANCE HIGHLIGHTS

Table 2 below indicates how well City of Cape Town compares to the rest of the country Metro. The no of assessment categories dropped as from 2009 from 9 to 5 and the blue drop score is still 98.14 % which is quite fine.

Table 1: **Municipal Blue Drop Score**

YEAR OF ASSESSMENT	№ OF ASSESSMENT CATEGORIES	BD SCORE %	COMMENT
2009	9	100	One of only 3 municipalities to get 100%
2010	9	98.18	2nd in SA Top 10
2011	8	97.61	2nd in SA Top 10 Platinum Award for 3 successive BD Awards
2012	5	98.14	6th in SA Top 10 Platinum Award for 4 successive BD Awards

3.3 NATIONAL WATER SERVICES REGULATION STRATEGY

The City takes guidance from the National Water Services Regulation Strategy drafted on the Draft 8.1, May 2007.

The core of regulation is to protect the consumer and the public interest by ensuring the following:

- Compliance with minimum national norms and standards.
- Good performance and efficient use of resources.
- Good contracting practice.

The National Strategy calls for a developmental approach that has the following key components:

- Implementing priority programmes
- Building foundation for effective regulation
- Implement the full scope of regulation

The city endorses this approach and is committed to playing a lead role in implementing and maintaining the full scope of regulation taking into account the protection of the customer while ensuring the public interest

4. DEMOGRAPHICS AND SOCIO –ECONOMIC

Demographics are the most recent statistical characteristics of a population. Commonly examined demographics include gender, race, age, disabilities, mobility, home ownership, employment status, and even location. Demographic trends describe the historical changes in demographics in a population over time (for example, the average age of a population may increase or decrease over time). Both distributions and trends of values within a demographic variable are of interest. Demographics are about the population of a region and the culture of the people there.

4.1 Location

The City of Cape Town (COCT) is located in the Western Cape Province on the south-eastern corner of South Africa as indicated on Figure 1. The total area is approximately 2 461 km2 and its coastline is 294 km long (Annual Report).

Description of settlement types within the City of Cape Town

Urban – Formal towns within vicinity of urban cores.

Dense – Dense rural settlements with population > 5000.

Village – Rural village with population between 500 and 5000.

Scattered – Scattered rural village with population less than 500.

Farmlands – Farming.

Figure 1: Locality Map of COCT

WSA Perspective

4.1.1 Brief History:

Before 1994, the COCT was an area that consisted of a large number of smaller municipalities, or councils. At the time, the dominant municipality, the Cape Town City Council (CCC) owned and operated the bulk water supply system. For billing purposes in the CCC area, the bulk and secondary systems were integrated. Outside of the CCC area, however, the bulk supply system and the secondary distribution systems of the various municipalities were separated – metered bulk off-takes were used by the CCC for billing purposes.

After 1994, the smaller municipalities in the Cape Metropolitan Area (CMA) were amalgamated into 6 Metropolitan Local Councils (MLC's), with the Cape Metropolitan Council (CMC). In December 2000, the City of Cape Town (COCT) was formed; it consisted of the six MLC's and the former CMC.

4.1.2 Situation Assessment

Currently, the COCT carries both the constitutional responsibility for water services provision, as the Water Services Authority, and the operational responsibility, as the Water Services Provider, through the Water and Sanitation Services Department. There is no service delivery agreement in place, yet.

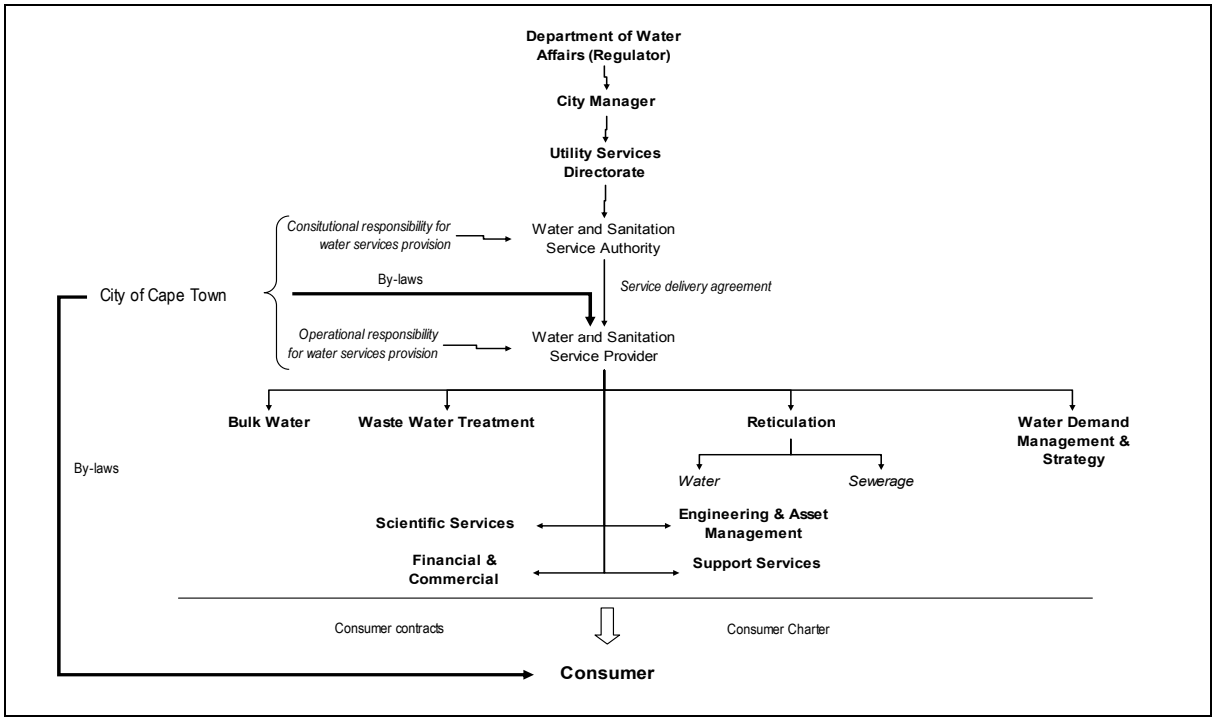

Figure 2: Structure of Water and Sanitation department

The Bulk Water Branch of the COCT operates the bulk water supply system. It supplies bulk water to the eight reticulation districts of the Reticulation Branch – the reticulation districts distribute the water to the end users. Please see figure 3 below of 8 reticulation districts:

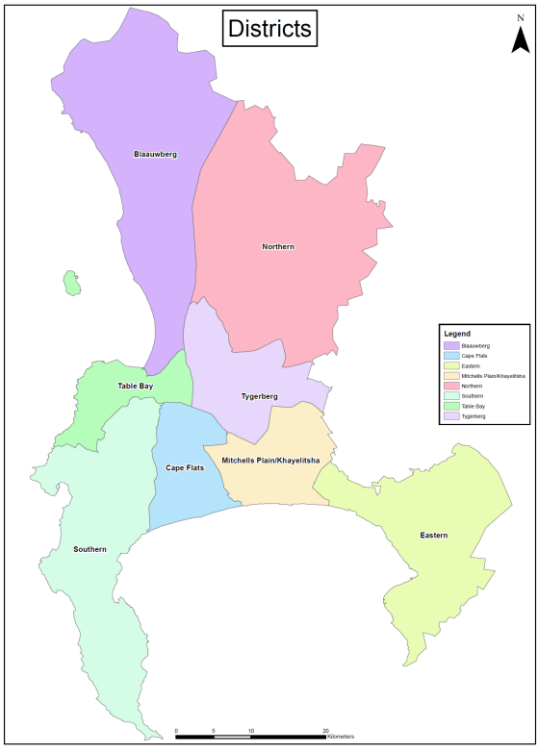

Figure 3: Reticulation Districts

The Drakenstein (including the towns of Paarl and Wellington) and Stellenbosch Municipalities fall outside the COCT area. These municipalities also purchase water in bulk from the COCT.

From a value-chain perspective, raw water is treated at water treatment plants; these water treatment plants are operated by the Bulk Water Branch. The bulk water is then distributed via a network of large diameter pipelines and reservoirs to the districts. The districts, thereafter, distribute the water through the secondary network to the end-users.

The Bulk Water Branch operates the bulk networks up to the metered connection points of the eight districts. The secondary distribution networks are operated by the respective districts.

Wastewater collection and treatment is also carried out by the Water and Sanitation Department. The wastewater collection function falls under the Reticulation Branch, whereas treatment is undertaken by the Wastewater Treatment Branch.

4.1.3 Physical Perspective

Information on the physical attributes of the area, the history, main features and attractions are presented on the COCT's website (http://www.capetown.gov.za).

4.1.4 Topography

The area consists of varying topography which includes flat plains, hills and mountains. High mountains are located fairly close to the sea; e.g. Table Mountain

which exceeds 1 000 m in elevation. Other high mountains on the perimeter include the Hottentots-Holland, Helderberg, Stellenbosch, Jonkershoek, Franschhoek, Wemmershoek, Du Toits, Paarl, Slanghoek, Limiet and Elandskloof mountains. These mountains form an eastern perimeter of mountains around the COCT, as shown on Figure 4.

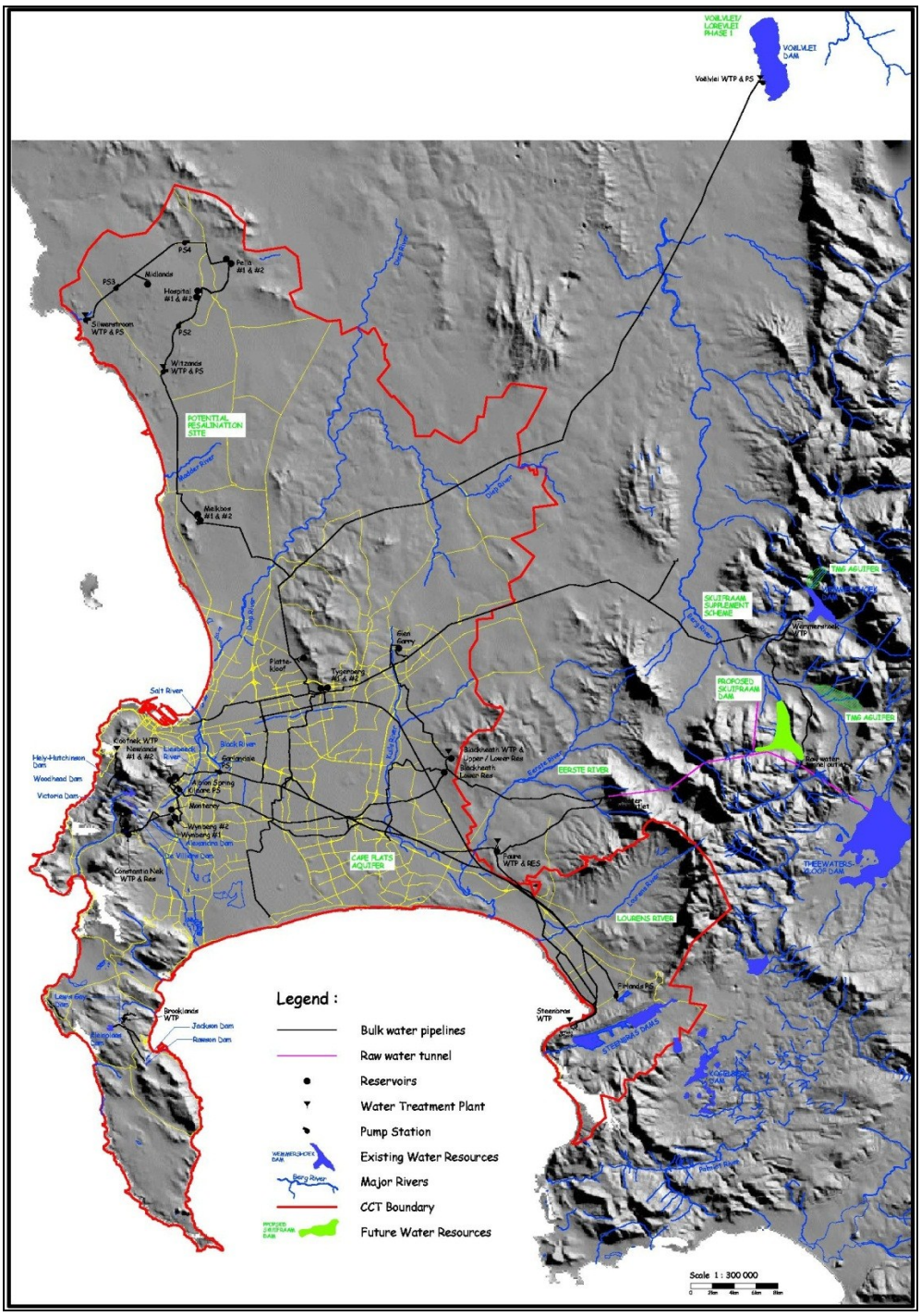

Figure 4: Topography

Source: City of Cape Town GIS

A major portion of the COCT consists of the area known as the Cape Flats, which has an elevation of between 20 and 45 m above sea level. This area is relatively low-lying and can be supplied via the bulk supply network from large reservoirs with top water levels at 110 m above sea level (ASL). The mountainside developments in Somerset-West, along Table Mountain and the Peninsula mountain range, as well as the hilly development in Durbanville, Brackenfell-north, and the Atlantis area are at elevations, which are too high to be supplied from the 110 m ASL reservoirs. Very few areas with water demand are located at elevations higher than 200 m ASL.

The rivers in the COCT are relatively small. Some rivers worth mentioning are the Salt-, the Dieppe-, the Black-, the East-, Quills-, Moderate- and Lorenz rivers. The rivers which are utilised as water sources lie mostly outside of the COCT. These are the tributaries to the Berg River namely the Wolwekloof and Banhoek tributaries, Sonderend-, Palmiet-, Klein Berg- and Leeu rivers. Of these, the Berg River that flows in a northerly and later westerly direction is by far the largest.

4.1.5 Climate

Cape Town has a Mediterranean-type climate with well-defined seasons. Cape Town has a mean annual rainfall of 515mm/annum and an average temperature of 16.7ºC. The CMA is a winter rainfall area.

In the winter months, May through August, cold fronts sweep across the Atlantic and bombard Cape Town with rain and the north-west gales.

The winters are cool with an average minimum temperature of about 7° C. Most of the rainfall occurs in winter, but due to the topography the rainfall varies quite dramatically. In the valleys and coastal plains it averages 500mm per year, while in the mountainous areas it can average as much as 1500mm a year.

The meteorological depressions that typically bring rain to this area during winter move past to the south of the area (and the land mass) during summer; resulting in long dry spells. It is during the dry summer, November through to February, that the water demands are highest, due to the higher temperatures and the fact that watering of gardens is the norm in almost all the residential areas. Summer temperatures average at maximum around 26°C.

The contrast between the winter and summer season complicates the management of a bulk water supply system, as sufficient run-off needs to be stored during winter in order to meet the increased water demand in the hot and dry summer months.

4.1.6 Natural Environment

Cape Town is one of the most beautiful and diverse cities in the world. The city is located in a highly sensitive and vulnerable ecosystem is recognised as a global biodiversity hotspot and is fortunate to have a National park within its boundary. The environment is one of the strongest assets driving tourism and attracting skilled staff for the city's economy. Finding the balance for sustainable development and improving quality of life remains the challenge. Growing consumption, pollution (air,

water, waste) and the protection of the city's biodiversity are key issues that must be addressed.

Cape Town is located within the Cape Floral Region, which is geographically the smallest of the world's six floral kingdoms, but supports the highest density of plant species.

Cape Town supports 2 500 plant species, thus within the Cape Floral Region it is considered an area of particularly high floral diversity (or a local "hotspot" within a global "hotspot"). This floral diversity relates to the steep environmental gradients, including altitudinal, geological and rainfall gradients; that have combined to create a large number of different habitats. Six national vegetation types are found only within the City Of Cape Town's borders, and of these, five are classified as "Endangered" or "Critically Endangered". These vegetation types support species that are unique to Cape Town and many of these are under threat from extinction, owing mainly to habitat destruction and invasion by alien plants.

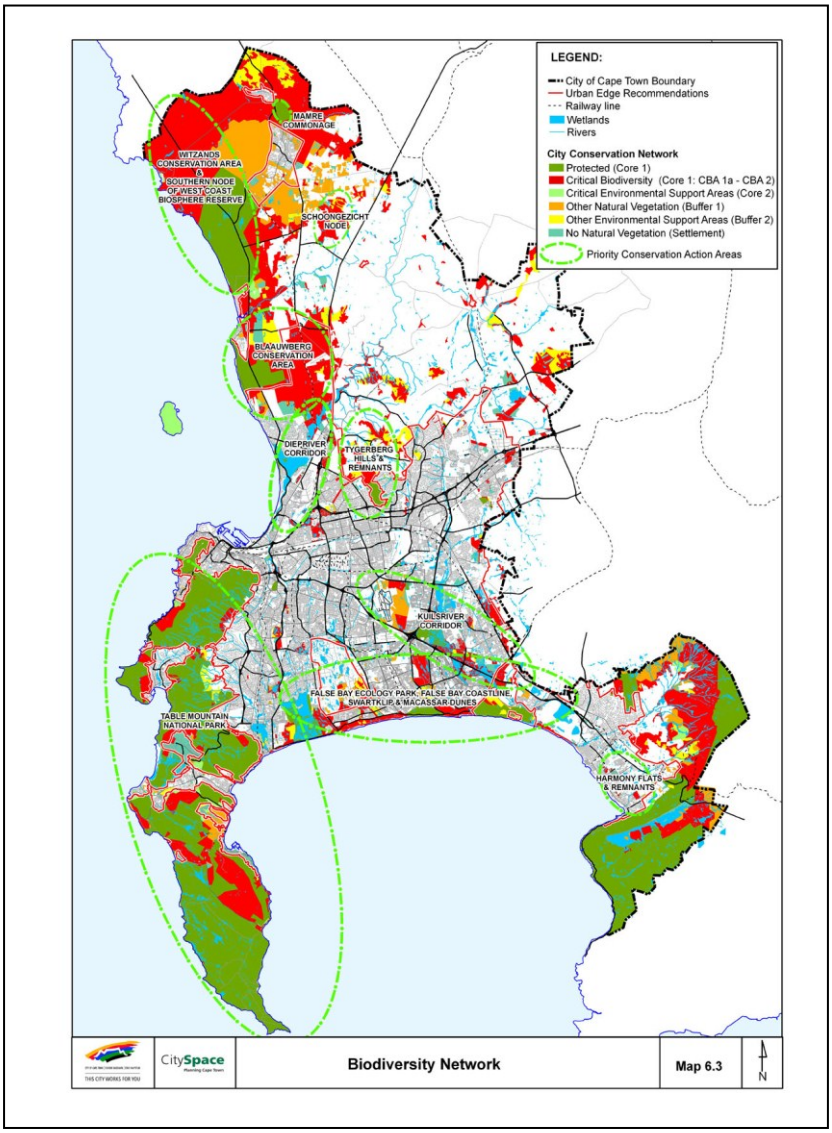

Figure 5: Biodiversity Network: Source: Cape Town Spatial Development Framework: Technical Report 2010

Urban Growth Perspective

Since 1945, Cape Town grew dramatically in size. Compared to 1945, Cape Town is seven times larger and has almost doubled in size since 1977. As of September 2007, the extent of the City of Cape Town is calculated to be 38 408 Ha. Cape Town is growing at a rate of 650 Ha per year. Refer to Figure 6 for location of Urban Growth (Expansion of Urban CT, 2009).

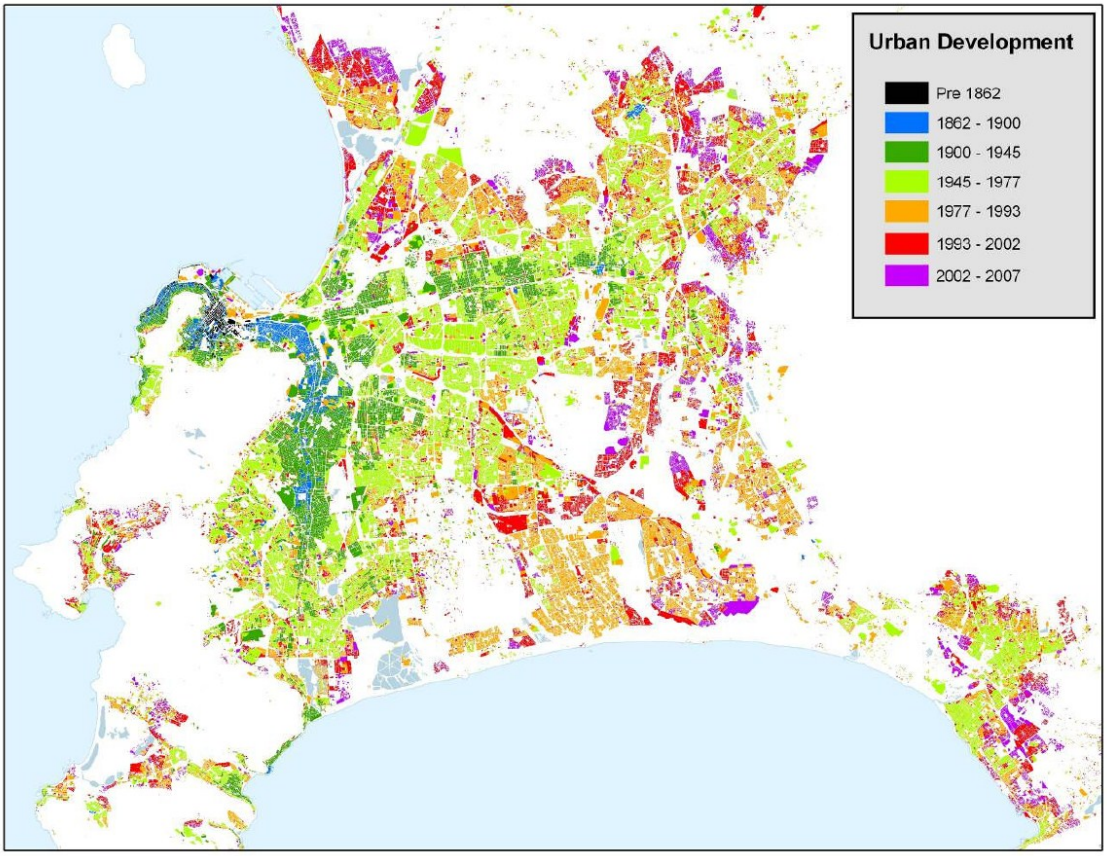

Figure 6: Location of Urban Growth (Source: Expansion of Urban CT, 2009)

Sprawl contributes to increasing commuting times as well as the loss of valuable agricultural land and areas with high biodiversity conservation potential (City of Cape Town, 2006). Much of the recent growth has contributed to sprawl with relatively low density suburban residential development driving this process, although higher density, higher income residential development in the CBD has accelerated in the past few years. Concentration of populations in urban areas greatly reduces the unit cost of piped water, sewers, drains and roads. The use of environmentally friendly energy sources and transport can reduce these costs even further.

The existing land use and potential future development areas are shown in Figure 7 and Figure 8 below.

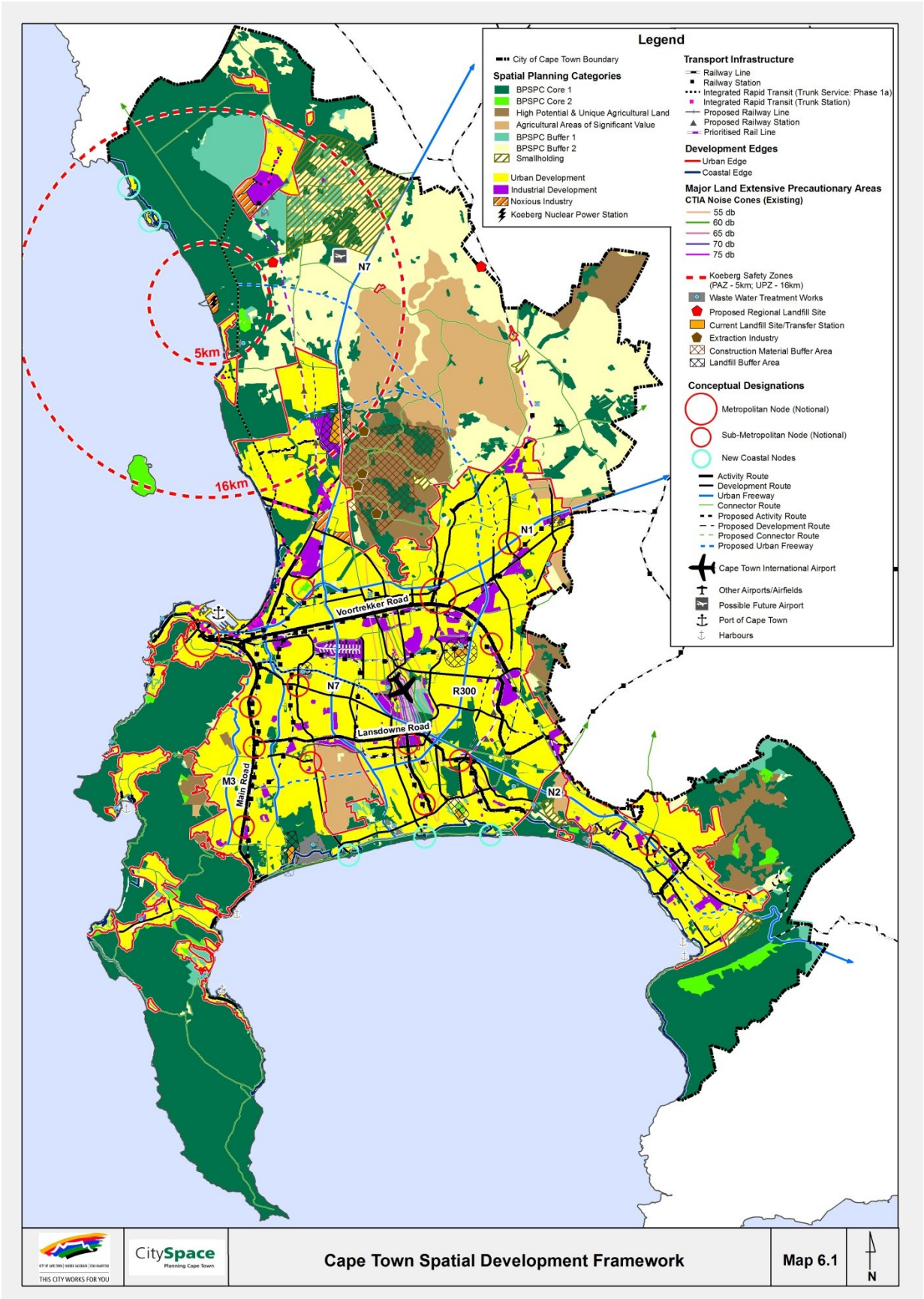

Figure 7: Existing Land Use and Potential Future Development Areas (Source: Cape Town Spatial Development Framework: Technical Report 2012)

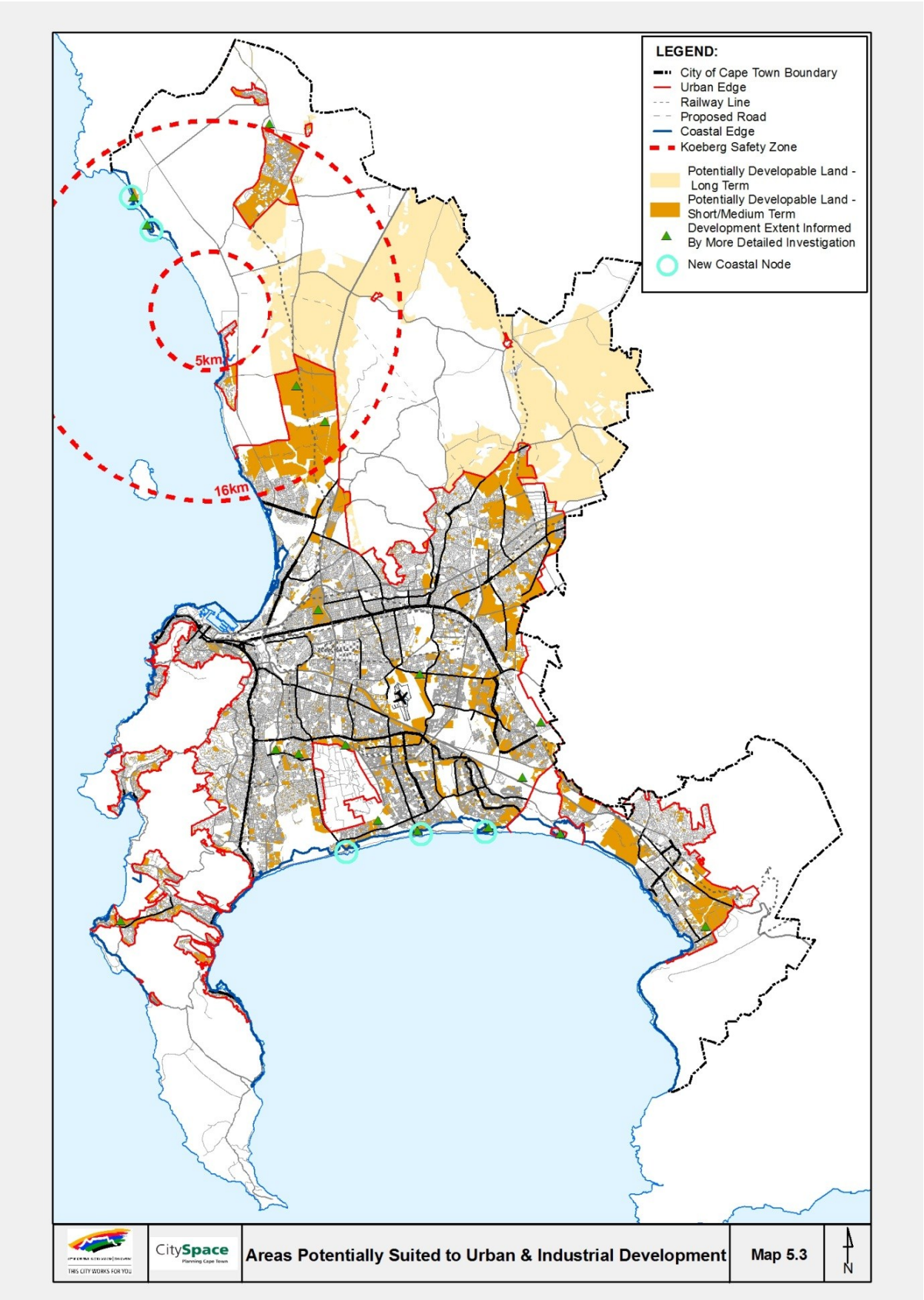

Figure 8: Areas Potentially Suited to Urban and Industrial Development (Source: Cape Town Spatial Development Framework: Technical Report 2012)

The major dams from which the COCT is supplied are situated outside (except for the Steenbras Upper and the Steenbras Lower Dams) the mountainous eastern perimeter of the area:

- The Theewaterskloof dam near Villiersdorp is the major water source of the COCT and forms part of a large inter-basin water transfer scheme that regulates the flow from the Sonderend-, Berg- and Eerste rivers.

- The Voëlvlei dam is the furthest north near Gouda and relies on diversion works in the Klein Berg, Leeu and 24 Rivers for its water supply.

- The Wemmershoek dam is situated in the mountains near Franschhoek and is supplied from various small rivers in the Wemmershoek Mountains (e.g. Tierkloof- and Olifants rivers).

- The Steenbras Upper dam and Steenbras Lower dam are situated in the Hottentots-Holland mountain range near Gordon's Bay, and serve a dual purpose of providing an upper reservoir for the Steenbras Pumped Storage Scheme and for supplying water for domestic/industrial use to the CMA.

- The Berg River Dam is located in the upper reaches of the Berg River near Franschhoek.

- Other smaller dams include the dams on Table Mountain (Woodhead, De Villiers, Hely Hutchinson, Victoria and Alexandra) which are used to supply water to the southern suburbs and the Peninsula, and the dams at Simons Town (Kleinplaas and Lewis Gay) which provide water to the Peninsula.

4.1.7 ... Economics:

During the past decade, Cape Town has remained the second largest contributor to SA's total GDP, it's contribution increasing slightly to 11.99% in 2010. Growth levels have been steady, with Cape Town having one of the highest average annual growth rates amongst the metropolitan municipalities. In addition, its per capita GDP is nearly double compared to the South African average.

Despite Cape Town's positive performance and still being substantially lower in many regards compared to Johannesburg's first-place, eThekwini should be noted as a strong competitor for Cape Town - with a GDPR difference of only R5 billion, and a slightly higher average annual growth rate of 4.09% (source Quantec, Global Insight, August 2011).

The economy of Cape Town has been growing steadily, but change in unemployment has been marginal Despite the continued international fallout of the global economic crisis, the City managed to create 8 246 direct permanent job opportunities in the 2009/10 financial year, and attracted over R1 716 billion in direct investment. This is well above the initial target of R1 billion, and even exceeds the revised target of R1,6 billion.

The City's EPWP continues to contribute to the reduction of poverty and unemployment and generated a further 995 temporary jobs, within Water and Sanitation, for Cape Town citizens and residents (Annual Report 2010/11).

At present, 2011, the population of the COCT is estimated at 3,82 million. HIV and Aids also influence population growth, and pre-2008 trends indicate a lower mortality rate than that originally predicted. It is estimated that the previous growth rate was 36.4% for the period 1999 to 2007. The overall trend is that Cape Town's population will continue to grow each year although at a slower rate than previous years. The number of people living in informal settlements has been growing at an increasing rate and the current housing backlog is estimated at approximately 346 000 units (Housing Information Branch, Strategy Support and Co-ordination, 2011).

This map shows the Socio-economic Status across Cape Town in 2001 and is derived from the % of Households with an income under R19200, the % of adults who have a highest level of education less than matric, the % unemployed and the %

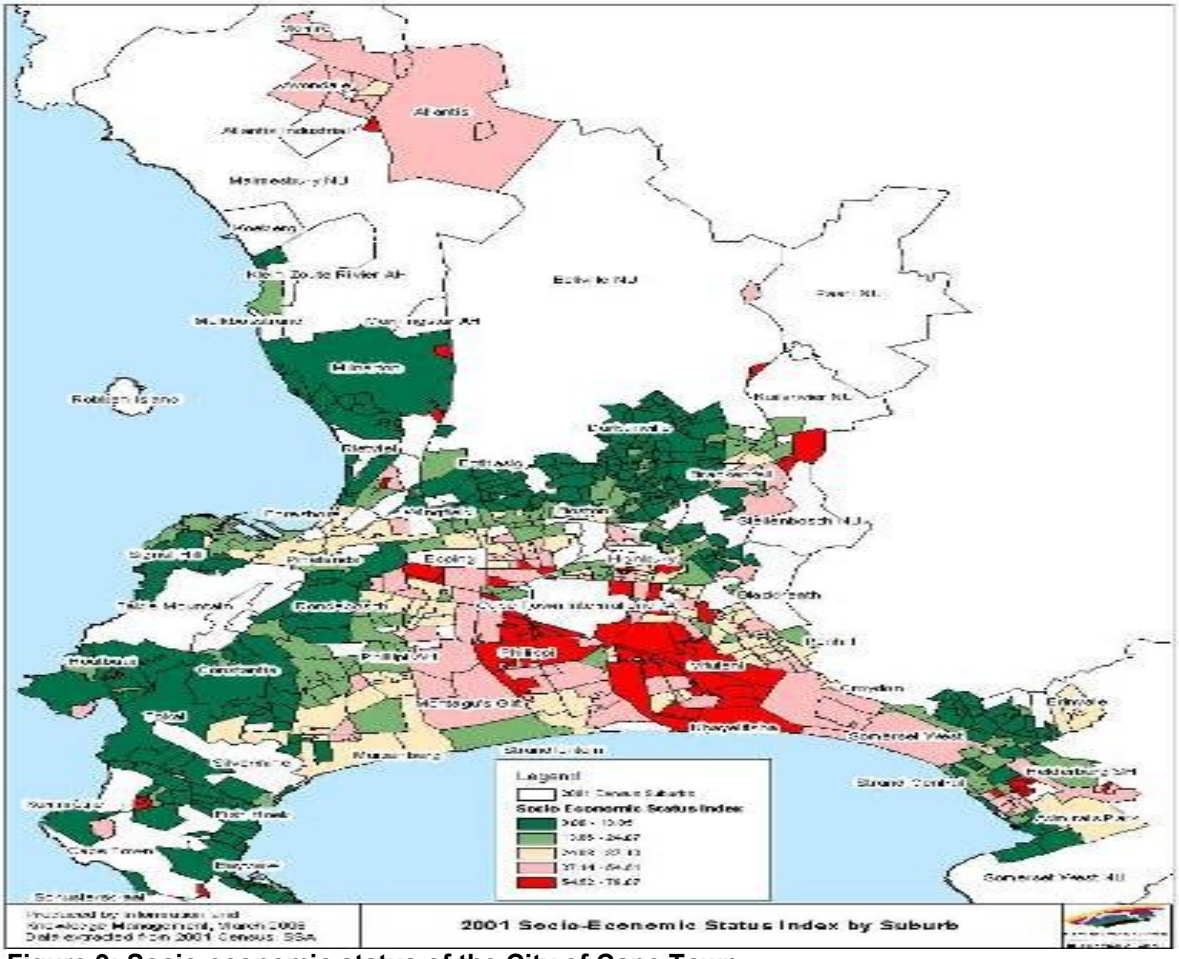

Figure 9: Socio-economic status of the City of Cape Town

employed in elementary and unskilled occupations.

4.2 Social Economic Profile:

4.2.1 Dwellings

A formal dwelling is defined as a structure built according to approved plans, i.e. house on a separate stand, flat or apartment, townhouse, room in backyard, rooms

or flat-let elsewhere. An informal dwelling is defined as a makeshift structure not erected according to approved architectural plans, for example shacks or shanties in informal settlements or in backyards (Statistics South Africa, 2010).

The percentage of households living in formal dwellings has declined from 79.3% 1996 to 71.6% in 2007. The percentage of households living in informal dwellings in settlements has declined from 15.9% in 1996 to 12.2 % in 2007 while those in informal dwellings in yards has increased from 3.3% to 10.7% over the same period (SDI and GIS, 2011).

The number of households in all dwelling types will increase; with the percentage of households living in informal dwellings increasing while that for households in formal dwellings decreasing. The provision of subsidised dwellings by both the City and Province are included in the estimates.

Table 2: Estimated households living in dwelling types for 2010 till 2019 (SDI and GIS, 2011)

Dwelling Type	2010	2014	2019
Formal dwelling	769 139	887 038	1 034 805
Informal dwelling in yard	110 328	130 483	156 927
Informal dwelling in settlement	181 498	214 915	260 286
Estimated total households	**1 060 964**	**1 232 436**	**1 452 018**

Table 3: Informal Dwelling per District (informal settlements)

DISTRICT	Informal Settlements: No. Dwellings (2011)
Ebenezer	5 114
Helderberg	15 414
Hillstar	25 452
Khayelitsha	71 025
Mitchell's Plain	32 919
Northern Panorama	25 870
Southern	15 075
Tygerberg	7 139
Total	**198 008**

There are many areas that are characterised by severe social and economic conditions, high levels of poverty, unemployment, illiteracy, alcoholism, low health status and other deviant behaviour such as crime and delinquency. The health status of residents in informal settlements is low; this is partly due to poor living conditions.

There exists a need for Water and Sanitation to intervene by providing suitable access to suitable sanitation facilities.

4.2.2. Poverty

One measure of poverty is the household subsistence level, below which households are unable to meet their basic needs for clothing, food, cleansing and transport.

Any household having a monthly income below R3 500 is regarded as living in poverty and that this figure is for 2009 (GHS, 2010). Of all households living in Cape Town 34.6% are currently living in poverty. Refer to Figure 11 for the trend in the household subsistence level. For Black African headed households 52.2% have a monthly income below R3,500 as do 29.7% of Coloured headed households. These households all qualify for RDP/state subsidised housing and this once again highlights the need to find innovative ways of providing and managing housing for the poor. A further 23.6% of Black African headed households and 22.3% of Coloured headed households have a monthly income between

R3 500 and R7 000. These households do not qualify for state subsidised housing and do not earn enough to purchase homes privately. Access to affordable rental housing units thus becomes important (Demographics and Socio-Economic Characteristics of Cape Town Report, April 2011).

The unemployment rate in Cape Town was high at 25.82% in 2010, the highest since 2001. Cape Town needs to create an environment which will both enable and encourage economic growth in the region. This in turn will result in the creation of more job opportunities and lead to reduced levels of unemployment.

Although the overall crime rate has shown a decline in Cape Town the level of crime and its associated social and psychological consequences continue to be an area of concern. Of particular concern is the dramatic increase in drug related crime. As high levels of crime can negatively affect the economy in the City this in turn can lead to rising poverty (Demographics and Socio-Economic Characteristics of Cape Town Report, April 2011).

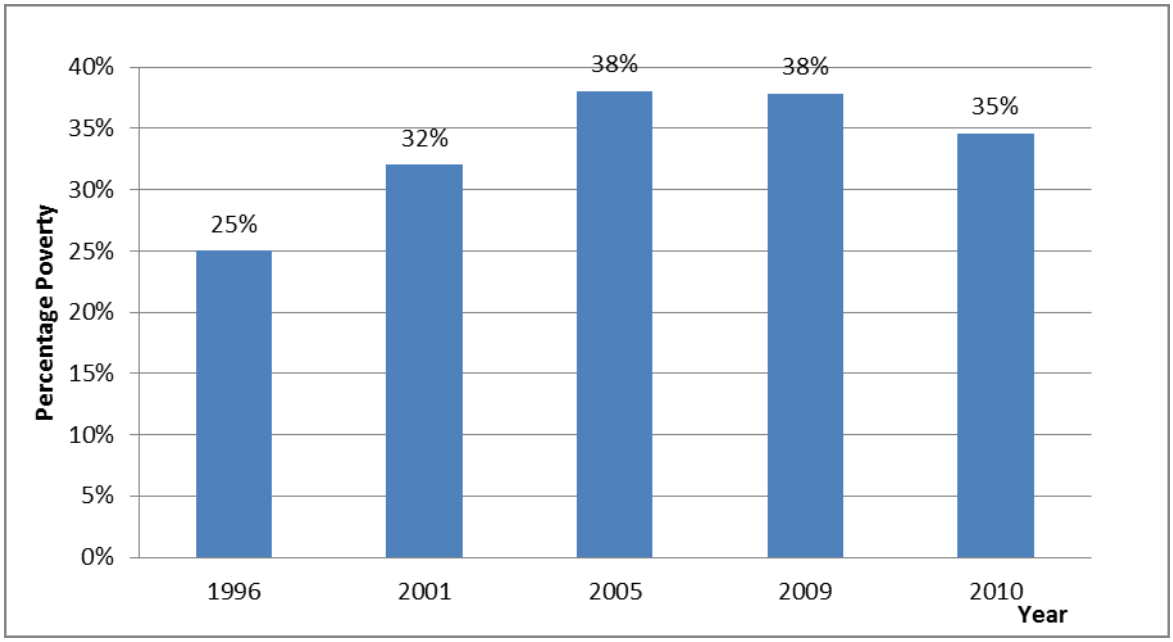

Figure 10: Households earning below Household Subsistence Level (household income below R3500) **Source: Statistics South Africa, 1996, 2001, and 2005 and Strategic Development information and GIS**

4.2.3. Health Status: HIV/AIDS

The incidence of HIV in Cape Town has increased from 17.0% in 2005 to 18.2% in 2009. This is higher than that for the Western Cape which was at 16.8% but significantly lower than that for South Africa at 29.4% in 2009.

The number of people with HIV registered for antiretroviral treatment (ART) has increased from 17,646 in December 2006 to 52,141 in December 2009. In the same period the number of facilities dispensing ART has increased from 28 to 50. These figures do not include treatment at private facilities (Demographic and Socio-economic Characteristics of Cape Town report, April 2011).

The high prevalence on HIV/AIDS in informal areas of the city is explained by a range of factors. This includes poverty and unemployment which increases vulnerability to HIV, urbanisation resulting in social disintegration which increases risk-taking behaviour, inadequate services, sexual violence and rape, disempowerment of women, illiteracy and low levels of education (Bromfield, 2006).

Given the projection that 50% of the Cape Town's population will remain younger than 31 years in the future (as can be seen from the population projection in section 4: 'Cape Town's Developmental Context'), there is a critical need for youth development strategies to be implemented to address future poverty, HIV/AIDS and unemployment and which relate to the social, economic and physical needs of the city's youth.

4.2.4. Regional Perspective

The City of Cape Town is the major economic hub of the Western Cape contributing 76% of the province's GDP. It is bordered by the West Coast DM to the north, the Cape Winelands District Council to the North East and Overberg DM to the South East.

Cities do not function in isolation, but form part of particular regions with a range of different stakeholders that influence their management. The key challenges for developing successful city-regions include securing balanced economic growth, appropriate governance systems to ensure effective cooperative decision-making, an entrepreneurial approach to facilitating investment, and the avoidance of competition between the cities and towns in the city-region system. This acknowledges that major development projects have to be coordinated effectively for the benefit of the city-region as a whole. An important aspect of this is 'spatial coalitions', which are meaningful partnerships with business, civil society and spheres of government, as valuable assets in fostering a competitive regionalism (South African Cities Network, 2006).

Two key strategies impact on the broader Cape Town context; namely, the National Accelerated and Shared Growth Initiative for South Africa (ASGISA), and the Western Cape Growth and Development Strategy (PGDS). ASGISA is a national framework to support a range of key policy thrusts, including macro-economic policy refinement, strategic infrastructure provision, sector investment strategy, labour market skills, small business and governance. Provincially, the PGDS is a strategy for the Province to achieve shared growth and integrated development. It is the core

alignment mechanism for the province and a coordination and implementation strategy driven by the Provincial Government Western Cape. The objectives of the PGDS are:

Identify appropriate levers to shift developmental path

Identify location of regional development motors of shared growth

Commit the Provincial Government to strengthen its contribution to shared growth and development

Design institutional architecture and reforms necessary for achieving shared growth and development

Focus, align and harmonise the Provincial Government planning, budgeting and implementation

Provide a framework for improved collaboration and coordination of all stakeholders in the Province around a shared growth and the development agenda.

Strategies at a metropolitan level should take cognisance of and be aligned to these higher level strategies such as ASGISA and the PGDS, whilst focusing on the particular local challenges (City of Cape Town, 2006).

4.3. TOTAL POPULATION

3 740 000 people in Cape Town; 29,3 % increase since Census 2001 (10 years) ; 46% increase in 15 years (1996- 2011)

Cape Town's population has grown and will continue to grow, both from natural births (although at a slower rate, with fertility levels declining) as well as in-migration.

Average household sizes have been slowly decreasing from 3.92 in 1996 to 3.72 in 2001, with the 2011 average 3.50 likely to continue to decline into the future

Population is starting to show aging trends – especially White population group

Will need to analyse the impact of aging population on affordability of rates and services

Large cohort in the 15 -64 year age group – "window of opportunity"

In 10 year period 2001 – 2011:

- number of households in Cape Town increased 38% (Population increase 29%)
- number of Black African households increased 77% (Population increase 58%)
- number of Coloured households increased **16%** (Population increase 14%)

In 15 year period 1996 – 2011:

- number of households in Cape Town increased 64% (Population increase 46%)
- number of Black African households increased 165% (Population increase 124%)
- number of Coloured households increased **38%** (Population increase 28%)

Table 4: Cape Town 2011 household and population growth

	Households			Population		
	1996 to 2001 % change 5 years	2001 to 2011 % change 10 years	1996 to 2011 % change 15 years	1996 to 2001 % change 5 years	2001 to 2011 % change 10 years	1996 to 2011 % change 15 years
Black African	49.5%	77.1%	164.8%	42.3%	57.6%	**124.3%**
Coloured	19.4%	15.5%	37.9%	12.3%	13.8%	**27.9%**
Asian	15.1%	41.7%	63.2%	9.6%	24.7%	**36.7%**
White	5.5%	13.2%	19.4%	-0.2%	8.0%	**7.8%**
Total	**19.0%**	**37.5%**	**63.6%**	**12.9%**	**29.3%**	**45.9%**

4.4. TOTAL NUMBER OF HOUSEHOLDS AND AVERAGE HOUSEHOLD SIZE

The estimated number of households in Cape Town in 2011 was 1 103 182 having risen from 1 060 964 in 2010 (COCT Stats, 2011). The number of households is expected to increase to about 1.45 million by 2019 (Demographic and Socio-economic Characteristics of Cape Town report of April 2011).

The average household size for all households in Cape Town declined from 3.92 in 1996 to 3.72 in 2001. In 2009 the average household size for all households was 3.75 with Coloured headed households having the largest average households size of 4.35. For Black African headed households the average household size was 3.90 and for White headed households it was 2.36 (Demographic and Socio-economic Characteristics of Cape Town report of April 2011).

4.5. CAPE TOWN CENSUS

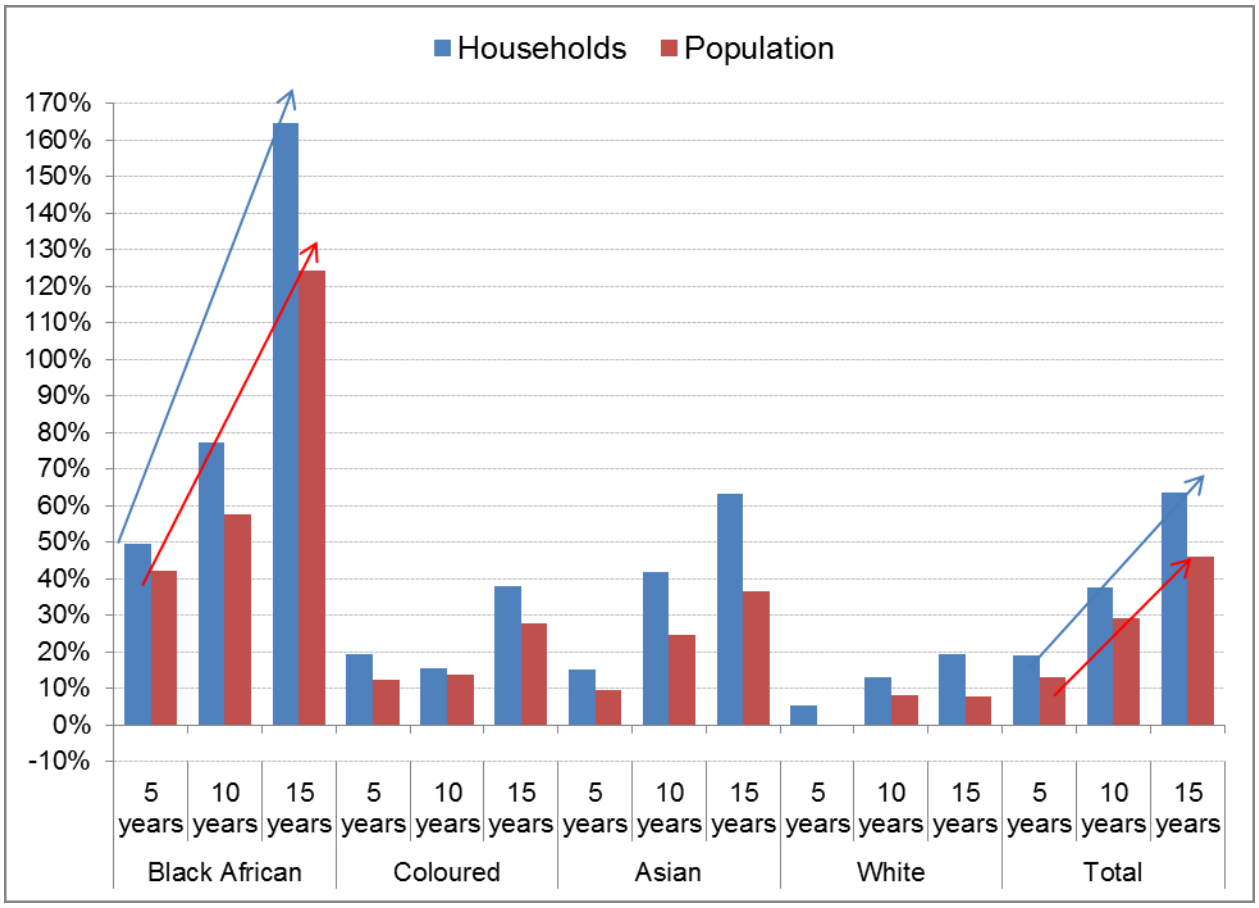

Figure 11: Household vs population growth

4.6. AGE AND GENDER PROFILE

- 57% of Cape Town's population is over 25 years
- 2011 Median age (when data available) will be over 26 years
- Trend of reducing overall proportion in 5 - 24 years age groups
- Population is starting to age, in particular White population group

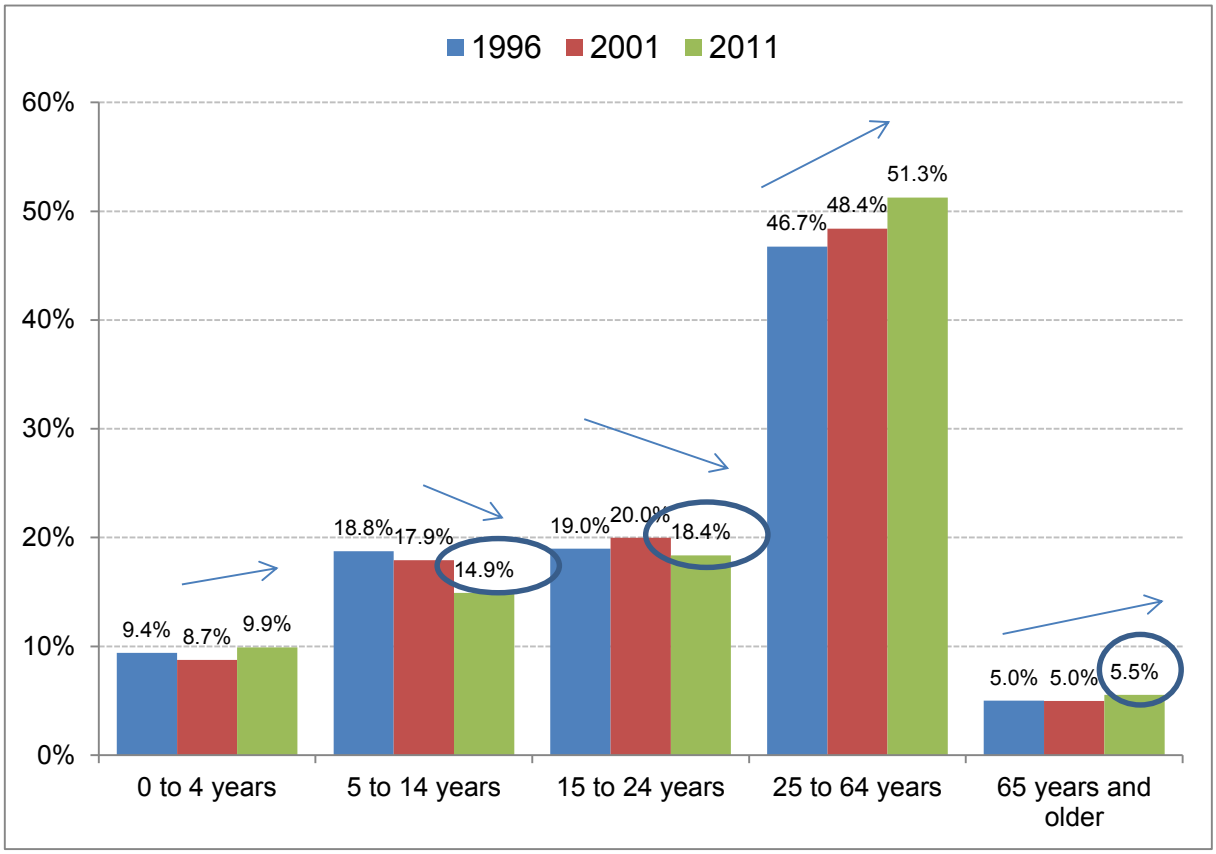

Figure 12: Cape Town Census 2011 categorise by age.

5. SERVICE LEVELS

Having an understanding of the current situation allows the most important aspect of the plan to be addressed, which are the service level targets. This section sets out what services will be provided to consumers, both in terms of level of service and quality of service.

The concept of service levels relates to the options which consumers can be given with regard to the convenience of the service and hence the amount of water which they will consume and the associated wastewater they will generate. There are a range of different service types which can be provided. These are clarified below according to the types reported in the tables.

5.1. SERVICE TYPES:

5.1.1. None or inadequate

This refers to the number of consumer units (or households) that do not have access to basic water supply or Sanitation:

5.1.2. Basic water supply comprises:

- the provision of appropriate education in respect of effective water use;
- a minimum quantity of potable water of 25 litres per person per day;
- at a minimum flow rate of not less than 10 litres per minutes;
- within 200 metres of a household, and
- With an effectiveness of not more than 7 days interruption supply to any consumer per year.

5.1.3. Basic sanitation comprises:

- the provision of appropriate health and hygiene education; and
- a toilet which is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum and prevents the entry and exist of flies and other disease-carrying pests.

5.1.4. Water Service Levels:

- **Communal water supply**

  See 'basic water supply' explained above.
- **Controlled volume supply**

  E.g. Yard Tanks
  Each house is provided with a tank which holds about 200 liters. The tank gets filled up once a day. This type of service is often referred to as an intermediate level of supply.

5.1.5. Uncontrolled volume supply

There are generally two types: either the tap stands outside the house on its own or on the wall of an outside toilet (yard tap) or water is piped into the house to take water to taps in the kitchen, bathroom, toilet, etc.

5.2. SERVICE LEVEL PROFILE OF CCT

With respect to Domestic consumers, the latest February 2011 City estimate of 1 103 182 households included 193 951 in informal settlements, while the remainder of 909 231 in the formal sector included at least 115 248 backyard dwellers. 93% of households had access to basic sanitation services at January 2012.

Table 5: Service Level Profile (as at June 2012)

SANITATION			WATER	
No of toilets in informal settlements	34 255		No of taps in informal settlements	7 381
Avg Toilet servicing ratio, informal settlements	3		Servicing ratio applied	25
HH serviced in informal settlements	116 168		Informal Settlement HH serviced	184 525

Avg HH per toilet, informal settlements	6		Avg HH per tap, informal settlements	26
Backlog in informal settlements	77 783		Backlog in informal settlements	9 426
Formal HH serviced	909 231		Formal HH serviced	909 231
Total HH serviced	1 025 399		Total HH serviced	1 093 756
Total backlog	77 783		Total backlog	9426
% all HH serviced	93%		% all HH serviced	99%
% Informal settlement HH serviced	60%		% Informal settlement HH serviced	95%
% Poor HH serviced	87%		% Poor HH serviced	99%

Source: Water Services and Sanitation

The revised household estimates combined with the necessitated policy change to only use 1 tap per standpipe also mean that the 100% score for households having access to potable water already attained several years ago, has been lost. At the maximum ratio of 25 informal households per tap (a standard set by the City of Cape Town), and with the number of serviceable taps in use confirmed by GPS survey, a backlog of approximately 14 551 is indicated at January 2012. The % of all households serviced is back at 99% while the average household per tap in informal areas is 27.03 (as at January 2012).

5.2.1. Residential consumer units

5.2.1.1. Situation assessment (residential consumer units)

The total number of formal and informal households is given below:

Table 6: Residential consumer units as at June 2012 (Formal & Informal)

	2011/12
Population	3 820 847
Households	1 103 182
Household categories	
Formal	793 983
Informal	193 951
Total	987 934
Backyard dweller	120 257

Source: Water Services and Sanitation; Strategic Information

Table 7: Service Level Categories for Informal Settlements

Category	Land Type	Bulk infrastructure	Distributed space available within settlement	Service Standard
A1	Government owned land, occupation permitted	Available within economical distance.	Adequate	1
			Inadequate	2
		Not available within economical distance	Adequate	3
			Inadequate	4
A2	Private land, occupation permitted	NA (No investment on private land allowed)	Adequate	3
			Inadequate	4
B	Adverse physical conditions, temporary occupation	NA	Adequate	3
			Inadequate	4
C	Occupation prohibited	NA	Adequate	3
			Inadequate	4

No.	Service Standard Target
1	Waterborne sanitation 1:5; taps 1:25
2	Managed all-in-one waterborne ablution facility with janitorial service, supplemented by porta-pottis on demand. Incorporates taps and basins to 1:25
3	Container or dry sanitation to technology-specific household ratio. Taps to 1:25
4	Managed all-in-one conservancy tank ablution facility with janitorial service, supplemented by porta-pottis on demand. Incorporates taps and basins to 1:25
Note	All service points to be within 100m walking distance of households served

5.2.2. Residential consumer units for water

Service levels of existing formal developed and informal areas (excluding rural areas) generally meet the minimum standards as required by the Water Services Act 108 of 1997.

Formal households have either a metered water connection to the house or to a yard toilet with water tap (uncontrolled volume supply). The first 6 kilolitres per month are supplied at no charge (free basic). Informal areas have communal standpipes and water is provided free.

Table 8: Water: Profile of consumers as at June 2012

	Consumers with:	2011/12 (as at June 2012)
1	None or inadequate (Backlog)	9 426
2	Communal water supply	184 525
3	Controlled volume supply	-
4	Uncontrolled volume supply	909 231
5	Total served (2+3+4)	1 103 182
6	Total (1+5)	1 112 608

Source: Water and Sanitation Services

5.2.3. Residential consumer units for sanitation

The general percentage distribution of households with inadequate sanitation services correlate to a large extent with the location of informal settlements as determined through aerial and on-site surveys and depicted in Figure 14 and Figure 15.

Table 9: Profile of sanitation services to consumers (formal and informal)

TOILET TYPE	COUNT	HH SERVICED
Chemical	4 716	23 580
Container	5 481	27 405
Bucket	1 108	1 108
Portapotti	12 104	12 104
Pitliner	312	1 560
Dry Sanitation	187	935
Conservancy tanks	370	1 850
Dehydration (Enviroloo)	165	660
Dehydration (Afrisan)	450	450
Anaerobic	48	96
Flush	9 284	46 420
FORMAL	-	909 231
TOTAL	34 225	1 025 399

Source: Water and Sanitation Services (informal Settlements – as at June 2012

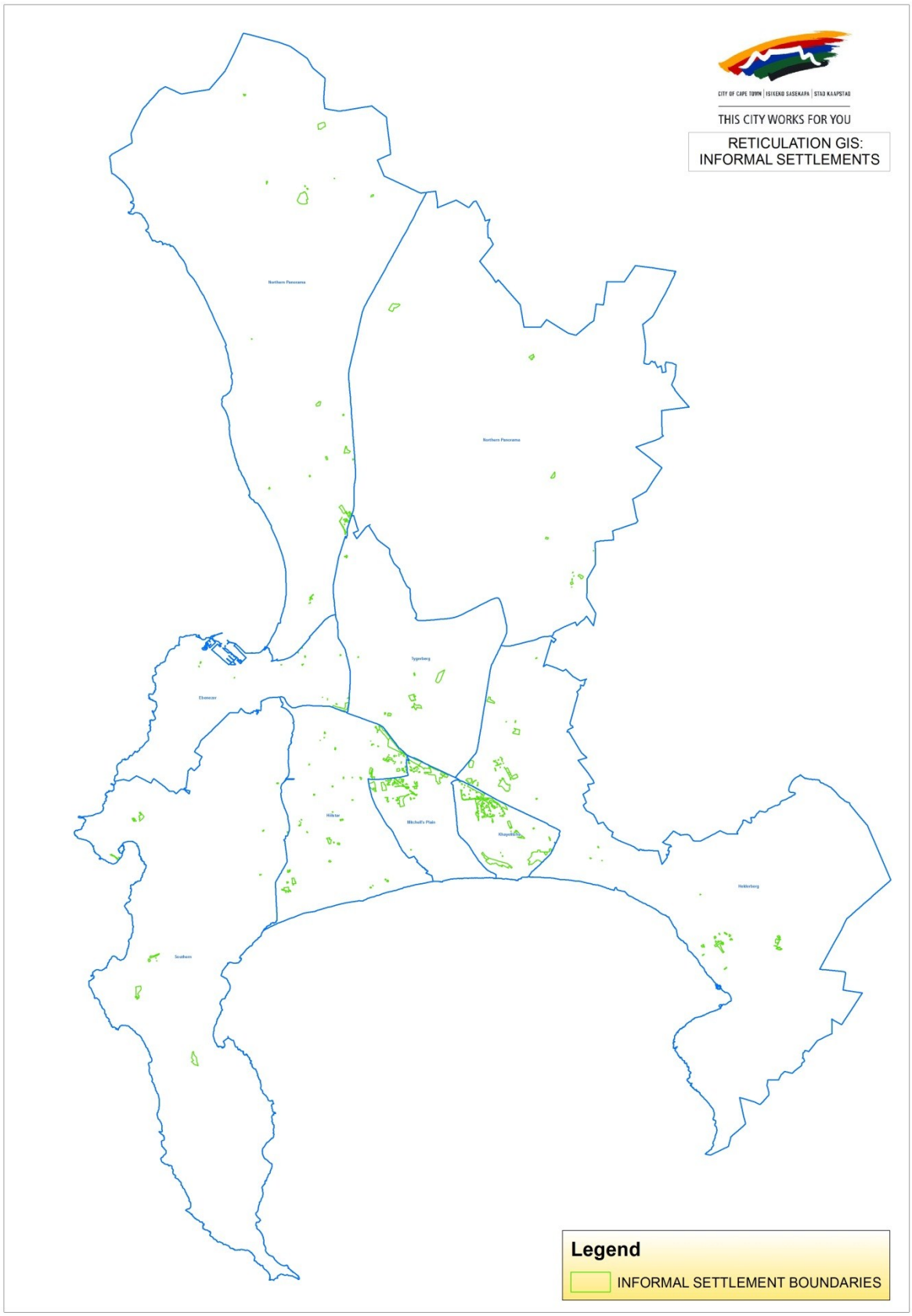

Figure 13: Location of Informal Areas within the City

Formal households generally have water-borne sewer connections with the first 4,2 kilolitres of sewerage conveyed at no charge (free basic). Water and Sanitation Services aim to provide an affordable service to poor households. A free basic service is provided, in the form of the first 6 kℓ/month water supply and the first 4,2kℓ of sewerage conveyance and treatment free of charge to all consumers per month. The City is providing an indigent grant of R38/month to cover an additional water consumption of 4.5kl/month and the corresponding sewage treatment, taking the form of an account reduction to qualifying ratepayers.

In the informal areas a shared toilet is provided. The level of service is considered emergency when it is not provided at the ratio of 1 toilet to 5 families. The recorded average number of informal households per toilet, at January 2012, stands at 5.76 households per toilet. Sanitation is provided at no charge to these areas.

5.2.4. Backyard Dwellers

The City has closed some of the service delivery gaps in informal settlements by linking them to municipal services, as well as phasing in the provision of on-site services to backyarders.

The backyard service programme involves the improvement of living conditions of people living in the backyards of Council rental stock by providing improved access to municipal services. These services will include water, sanitation, refuse removal and electricity. A door-to-door survey is being conducted with proposals on how to improve the living conditions once the survey results have been analysed.

The initial part of this programme involves a pilot of three areas, the implementation of which will be analysed for further roll-out to other areas. The initial three areas of Hanover Park, Factreton and Langa will provide the necessary research information to ensure a smooth roll-out across the city to residents in the backyards of Council rental stock. The first area identified for implementation. The standard is anticipated to at least be comparable with that provided for Incremental Development Areas (IDA's) and Temporary Relocation Areas (TRA's).

The services as provided by Water Services (Reticulation) will be in the form of a concrete structure housing a water borne toilet on the inside, with a washing trough and tap fixed to the outside of the structure, being placed in the backyard where shack dwellings are in place.

The water through a tap on the outside will be regulated through a tagging system, where each backyard shack will be provided with a tagging device, and the supply to the water closet will be regulated through a management device. The supply to this unit will be taken off the main house supply, and all of the free portions, together with the main dwelling's free portion will be deducted from the account rendered to the main dwelling.

Urban Settlement Development Grant (USDG) funding of R26 000 000 has been provided for this Project and has been placed in a Human Settlement WBS.

5.2.5. Grey Water Management

The CSIR is currently undertaking a pilot project to deal with grey water runoff in informal settlements.

5.2.6. Pit Emptying and Sludge Disposal

There are no VIP toilets in the City – these are not suitable given the ground conditions.

5.3. FUTURE TRENDS AND GOALS (RESIDENTIAL AND CONSUMER UNITS)

High density levels: very high dwelling densities in informal settlements (on average about 140 dwelling units per hectare) make it impossible in many instances to provide either services inside settlements or access into the settlement for operation and maintenance purposes. This makes it difficult to provide services at an acceptable level;
Lack of co-operation from land owners: some land owners do not allow the provision of services on their land as they want to discourage the settling of informal residents on their land.

5.3.1. Residential consumer units for water and sanitation

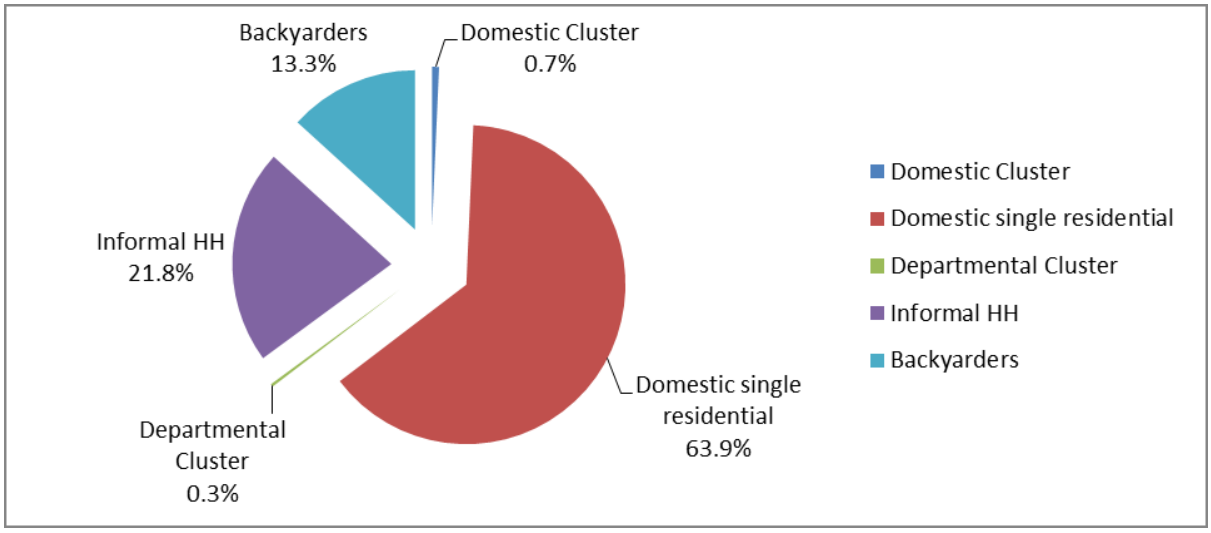

Figure 14: Breakdown of residential consumer units as at 31 December 2011

This break down in residential consumers emphasises the need to focus on improved water and sanitation services onto informal household consumers and backyarders. The break down excludes the back yarders with rental stock.

5.3.1. Grey water management

A joint project with the CSIR is being undertaken.

5.3.2. Pit emptying and sludge disposal

Pit emptying is not applicable, while the disposal of container toilets is taken into the waste stream.

5.3.3. Types of sanitation technology options

Refer to Table 9.

5.3.4. Informal Settlements Backlog Eradication

To eradicate the sanitation service backlog and service the influx of people in informal settlements, the Water and Sanitation Department is implementing a service provision program that is integral to the 10-year Housing Plan.

The total capital requirement over the next 5 years from 2010/11 to 2015/16 to primarily cover sanitation backlog eradication is estimated at R152.5M including allowing for a 5% household growth. Part of the funding is also required for the replacement of black buckets as well as to cater for additional service demand growth in informal settlements due to the influx of people.

The proposed programme for eradicating the backlog according to the Strategic Objective target of 2015/16 is listed in the following table.

Table 10: Proposed backlog eradication programme

SANITATION	Baseline Jun11	Gap	Step	2011/12	2012/13	2013/14	2014/15	2015/16	Total Cost (R / M)
% Informal settlement HH serviced	55.4%	44.6%	8.9%	67.1%	76.5%	85.0%	92.8%	100.0%	
Toilets needed (Backlog eradication)	30 931	26 390	5 278	36 209	41 487	46 765	52 043	57 321	
Aditional Toilets (Address Influx)				37 209	42 487	47 765	53 043	58 321	
Capital Requirement (R / M)	***@ R10 000 per unit avg***			**53**	**53**	**53**	**53**	**53**	**264**
Allocated Budget (R / M)	***Current 5 Year Plan***			**20.5**	**20.5**	**20.5**	**40.5**	**50.5**	**152.5**
Toilet Shortfall	***@ Allocated Budget***			3 228	3 228	3 228	1 228	228	
% Informal settlement HH serviced	***@ Allocated Budget***			**59.0%**	**61.1%**	**62.9%**	**69.0%**	**76.7%**	
% HH Basic Service Shortfall	***@ Allocated Budget***			8.1%	15.4%	22.1%	23.8%	23.3%	
WATER	**Baseline Jun11**	**Gap**	**Step**	**2011/12**	**2012/13**	**2013/14**	**2014/15**	**2015/16**	**Total Cost (R / M)**
% Informal settlement HH serviced	91.6%	8.4%	1.7%	95.2%	96.6%	97.8%	98.9%	100.0%	
Taps needed	7104	2470	494	7 598	8 092	8 586	9 080	9 574	
Additional Taps (Address Influx)				7 798	8 292	8 786	9 280	9 774	
Capital Requirement (R / M)	**@ R4 000 per tap**			**2**	**2**	**2**	**2**	**2**	**10**
Allocated Budget (R / M)	**Current 5 Year Plan**			**2.0**	**2.1**	**2.2**	**2.3**	**2.4**	**11.00**

R11.0 M is required to resolve the water backlog and provide for the anticipated growth in demand.
The City's Housing programme is funded through National grants. Servicing of the informal settlements is funded by the Water and Sanitation department with partial recovery of cost from the national Equitable Share. Depending on the speed of implementing this programme, as for in-situ upgrading or the "decanting" of such settlements to developed formal areas, the informal settlement programme needs to adapt.

6. INFRASTRUCTURE

The City's existing water services infrastructure continues to deteriorate due to a lack of sufficient funding for essential maintenance and/or replacement of aging assets. Historically, maintenance of infrastructure has been mostly reactive, which has resulted in a backlog of overdue maintenance and replacement projects, especially in the City's growth areas such as:

- West Coast / Parklands development corridor
- De Grendel / N7 development node
- Northern development/Fisantekraal corridor

- Bottelary development corridor
- Fast-track housing projects (e.g. N2 Gateway)
- Maccassar / AECI development node

The bulk water systems in the northern areas of the City and the northwest corridor, in particular, are under increasing stress during peak periods due to the rapid population growth in these areas. Further development must be accompanied by infrastructure upgrade and extension. The City is investigating the possibility of seawater desalination as an alternative technology to supply water to these regions.

The City has undertaken an accelerated programme to improve the replacement of water distribution network mains, especially in areas that experience a high incidence of bursts. An extensive Infrastructure Asset Management Programme (IAMP) is also being implemented, which will ensure that:

- A GRAP 17-compliant asset register is developed and maintained
- assets are maintained proactively rather than reactively,
- the total asset lifecycle is managed to maximise the lifespan of those assets and to optimise the life cycle costs,
- maintenance work is effectively coordinated, and
- Operational downtime is significantly reduced.

The past capital spend on the development and maintenance of this extensive infrastructure is outlined in the table below.

Table 11: **Capital spend during the last 4 years as June 2012**

	Adj Budget 2008_2009 Final	Actual Exp 2008_2009	Adj Budget 2009_2010 Final	Actual Exp 2009_2010	Adj Budget 2010_2011 Final	Actual Exp 2010_2011	Adj Budget 2011_2012 Final	Actual Exp 2011_2012 (Pre-Audited)
Sewer Ret	220 372 842	202 340 318	180 892 090	143 988 284	100 729 022	89 543 906	134 970 944	117 568 918
Water Ret	138 816 726	131 020 861	133 058 035	115 660 105	104 870 174	96 268 115	147 814 636	141 323 865
WW Branch	253 721 879	249 676 097	241 200 000	235 200 558	141 500 444	114 108 086	229 445 015	222 941 119
Bulk Water	36 360 661	35 083 218	28 119 234	25 254 840	30 247 556	26 557 650	17 342 953	17 037 756
WDM	45 517 111	44 394 082	16 891 700	12 635 431	19 380 019	14 784 332	25 339 500	24 689 256
EAM	20 295 078	20 180 212	25 854 766	25 819 896	36 585 240	36 475 631	60 900 000	59 651 963
Scientific services	1 500 000	1 494 914	3 200 000	2 072 635	4 603 047	4 575 502	4 004 904	4 004 340
Other	0	0	0	0	0	0	5 000 000	0
Non - Infra	13 160 251	12 750 735	13 627 000	10 424 379	8 991 324	8 432 285	18 439 514	17 939 306
Total	729 744 548	696 940 436	642 842 825	571 056 129	446 906 826	390 745 508	643 257 466	605 156 524

The statistics below highlight the problems or challenges faced by the department, which ultimately hinder service delivery. Some of the challenges have increased over the past three years, others remained the same without any improvement, mostly due to budget constraints, socio-economic pressure and lack of knowledge (in particular the sewer blockages caused by foreign objects).

Table 12: **Chamber Covers Replacement**

2012/13 YEAR STATS AS AT END JULY 2012							YTD - ANNUAL COMPARISON		
CHAMBER COVER REPLACEMENT	BLAAUW-BERG	CAPE TOWN	HELDER-BERG	KHAYE-LITSHA	SOUTH PEN.	TYGER-BERG	YTD-2012/13	YTD-2011/12	YTD-2010/11
Meter Box Cover	1	20	8	0	12	15	56	129	138
Hydrant Cover	6	15	9	0	10	12	52	62	72
Valve Cover	8	0	0	0	0	11	19	39	41
Sewer	9	31	18	0	0	26	84	100	106
TOTAL	24	66	35	0	22	64	211	330	357

Table 13: **Sewer Blockage Incidents**

2012/13 YEAR STATS AS AT END JULY 2012							YTD – ANNUAL COMPARISON		
SEWER BLOCKAGES INCIDENTS	BLAAUW-BERG	CAPE TOWN	HELDER-BERG	KHAYE-LITSHA	SOUTH PEN.	TYGER-BERG	YTD-2012/13	YTD-2011/12	YTD-2010/11
Building Material	23	1	242	20	0	335	621	418	238
Collapses	9	3	24	0	0	16	52	69	93
Fats	333	546	434	148	271	412	2 144	1 748	1 622
Other foreign objects	420	1563	635	16	542	593	3 769	3 757	3 492
Roots	354	306	345	0	485	369	1 859	1 323	1 434
Sand	24	429	358	161	2	91	1 065	849	897
TOTAL	1 163	2 848	2 038	345	1 300	1 816	9 510	8 164	7 776

13 **Table 14: Sewer Networks Repairs and Maintenance**

2012/13 YEAR STATS AS AT END JULY 2012							YTD - ANNUAL COMPARISON		
SEWER NETWORK REPAIRS AND MAINTENANCE	BLAAUW-BERG	CAPE TOWN	HELDER-BERG	KHAYE-LITSHA	SOUTH PEN.	TYGER-BERG	YTD-2012/13	YTD-2011/12	YTD-2010/11
Sewer Pipe Breakage Repair (No.)	6	40	27	0	0	2	75	73	87
Sewer Manhole Repair (No.)	7	13	14	0	5	14	53	42	24
New Sewer Mains Installed (m) Total	0	0	0	0	0	0	0	2	0
Sewer Mains - Replacement (m)	280	0	5 340	0	0	10	5 630	727	923
New connections to sewer network (No.)	3	5	6	0	3	2	19	29	18
Pest Control(No.)	3	6	4	0	19	11	43	24	33

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7. OPERATION AND MAINTENANCE

The focus on improvement of levels of service through creating new infrastructure at great cost results often in overlooking the importance of the development and implementation of sound asset management practices.

Through the assessment of this important function WSAs are enabled to identify areas of concern and it should form the base for the development of an Asset Management Plan. Neglecting the implementation of best practice operational and maintenance procedures would result in ineffective service delivery and shortened life span expectancy of assets. Additional capital expenditure for refurbishment or replacement will eventually be unavoidable.

The two important aspects of asset management under consideration are:

- Operations
- Maintenance

7.1. OPERATION AND MAINTENANCE

7.1.1. Water Network Performance

Water network performance is monitored by recording bursts on particular lengths of pipework. Lengths of pipework have been relayed in past financial years yet other sections continue to age and exhibit increased burst frequencies.

An examination of burst main statistics indicates that the predominant pipe size and type prone to failure are pipe sections made up of fibre-cement in the sizes of 100 mm and below.

Noteworthy observations are that in the South Peninsula and Tygerberg areas, the failing pipework is 100 mm fibre-cement. Both of these districts have similar lengths of pipework and ages (approximately 50 years).

Helderberg and Blaauwberg Districts experience failure both with 100 mm fibre-cement pipe and fibre-cement pipe of less than 100 mm nominal diameter.

In the old Cape Town municipal area the water reticulation performance has benefitted from past infrastructural renewal and therefore has fewer sections of pipe approaching the un-serviceability condition.

Khayelitsha is a relatively new network and does not have pipe sections that require replacement.

In order to reduce the number of burst water mains, a two prong strategy has been employed to minimize capital outlay. The strategy is to pressure manage large distinct areas with failing infrastructure in tandem with the relay of mains which have poor serviceability records.

This strategy has resulted in the reduction of burst water main rates from 64 bursts per 100km per year in the 2010/11 financial year to 39 bursts per 100km per year in

the 2011/12 financial year. The long term aim is to reduce bursts to approximately 15 bursts per 100km per year

Table 15: Water Pipework Replaced in as at August 2012

District	Approx. Length installed Length (km)	Relayed Length (m) 2011/12
South Peninsula District	1577km	28 448m
Cape Town District	2540km	13 456m
Helderberg District	1708km	3 272m
Khayelitsha District	413km	0
Tygerberg District	1585km	5 745m
Blaauwberg District	2393km	39 049m
Total (Total)	10216km	89 975m

Source: USPC Report June, 2012, GIS August 2012

Khayelitsha District has the best performance, well within the target of 15 bursts per 100 km per year. This is because this network is, on the whole, the newest in the Metro. The network of the Cape Town district, whilst being the oldest, has a fairly stable performance but lies above the target performance. The reason for this is that it has benefitted from sustained investment and optimal operations over the years (albeit reduced investment due to diversion of funds to other Metro areas with poorer infrastructural performance). The focus of future investment will be to renew local areas of poor infrastructure so as to equalise area network performance throughout the Metro to an acceptable rate of approximately 15 bursts per 100 km per year.

Aging networks indicate that similar expenditure is required into the future. Operational expenditure (Opex), Repair and Maintenance (R&M), in the 2010/11 and 2011/12 financial years is recorded as R 140 million (including R62m Secondary cost) and R 151million (including R70m Secondary cost) respectively. The majority of this expenditure would be on repairs to burst water mains. At a conservative estimate of R 10 000 per burst, the R&M expenditure would be in the region of R 66 million and R 40 million respectively. Capital expenditure (Capex) to reduce the number of bursts by half would have corresponding Opex R&M savings.

Additionally, an estimated R 12 million per annum of water (at reticulated prices) was being lost due to burst water mains in the 2011/12 financial year.

7.1.2. Sewer Network Performance

Whilst reported sewer blockages are quickly attended to and the cause of the blockages are recorded, there is only a minimum of inspections of the sewers to determine if underlying causes of blockages are related to infrastructural defects. There is a dire need for technical staff to carry out this function.

Predominant infrastructural failures are related to the use of pitch fibre pipe, joint failure in clay pipework and corrosion of cement bulk pipework that carries sewage that is releasing aggressive gases.

Accordingly, sewer replacement is premised on the replacement of 420 km pitch fibre sewers and clay sewers over a five year period.

The condition of bulk sewer pipework is also of concern. Collapses in this pipework indicate that there is an urgent need to determine its condition and thereafter carry out any required rehabilitation before the condition deteriorates to the extent where these sewers have to be reconstructed at double the cost.

GIS records indicate the following:

Table 16: Estimated Sewer Rehabilitation Lengths as at January 2013

Material	Length (m)
Pitch fibre	142 384m
Clay sewers	258 560m

Source: Budget Plan (Vol 4), Reticulation, Five year replacement programme

Operational expenditure (Opex), Repair and Maintenance (R&M), in the previous and current financial years is recorded as R 108 million and R 121 million respectively. Whilst the majority of this expenditure would have been expended on sewer blockage attendance, significant expenditure was incurred in sewer cleaning and other lesser work items. Nevertheless, the savings in Opex R&M due to capital investment into the network would be significant.

7.1.3. Water Process Control, Maintenance and Management Skill

The current classification of the WTW's, is according to Section 26 of the National Water Act (Act No.36 of 1998).

Monitoring Process

The quality of water produced at the CCT's water treatment plants is strictly monitored on a continual basis to ensure compliance with the South African National Standard 241:2006 on drinking water quality. The Scientific Services Branch conducts routine sampling and analysis of potable water produced at all water treatment plants, as well as inspection of treatment processes.

Scientific services have acquired SANS 17025 certification for laboratory quality testing. Expansion of the laboratory is a necessity for improving its capability to undertake a wide spectrum of tests.

The water quality report below indicates the analytical data and approximate distribution for Cape Town drinking water for the period 1 June 2007 to 31 May 2010. The South African National Standards (SANS 241:2006) Specification for a Class I and II water is also stipulated on this report. This report indicates the quality of the drinking water leaving each of the major water treatment plants and the approximate distribution areas they service.

Table 17: Portable Water Quality as at June 2012

Water Supply Outlets	Sample Points Per Water Supply Outlet	Sample Points Sampled	Number of Samples Taken for May		% Compliance SANS 241			
			Chemical	Microbiological	May Month		12 Month Rolling Average	
					Chemical	Microbio logical	Chemical	Micro biological
Water Treatment Plants	10	9	32	28	99	100	99	99
Reservoir *	26	23	76	86	100	100	98	99
Distribution *	107	90	333	352	100	100	98	100
Informal Settlements *	43	35	67	64	100	98	98	98
Total	186	157	508	530	100	100	98	99

Chemical Results:

Sampling point ATL_Pella40, ATL_CIVIC and GPW09 failed due to high iron values. Sampling point INFRM_SETTL_32 failed due to a high aluminium value.

*__Please note:__ Chemical Analyses: 1) pH, Conductivity, Turbidity and Alkalinity were done weekly. 2) Aluminium, Chloride, Calcium, Iron, Manganese, Potassium, Sodium, Sulphate, Nitrate, Nitrite, TDS, Total Hardness, Chromium, Cadnium, Cobalt, Copper, Nickel, Lead, Vanadium, Zinc, Antimony, Arsenic, Selenium, TOC and Fluoride were done every 8 to 9 weeks.

Microbiology Results:

For the month of June only one sample was received from the site Atlantis Final and Melkbos. Second Avenue, De Gama Park exceeded the recommended guideline for drinking water (SANS 241-1:2011). This site had an EC (E.coli) count of 2 CFU (Colony Forming Unit)/ml for the 26th June.

__Informal Settlements:__ There are a number of operational challenges that affect water quality monitoring within informal settlements. The following may lead to contamination of samples and ‘false’ non-compliance results:

- Plastic communal taps are being used for sampling. These taps cannot be flamed prior to sample collection, as required by the sampling procedure, because of the plastic material.
- Taps are not dedicated for sampling, as required by sampling procedure, and are used by the community.
- Location of sample taps in close proximity to or just behind the communal toilets can introduce cross contamination to the tap as users wash, touch and drink directly from the taps.
- Taps are often dirty and leaking.

7.1.4. Waste Water Operations (Process Control), Maintenance and Management Skill

An Operational and Compliance Monitoring Programme that meets the requirements of DWA as stipulated in the Green Drop Criteria was drawn up by CCT and is implemented by the Municipality. Operational samples are taken on a daily basis at all the WWTWs. The compliance samples that are taken on a monthly basis at all the WWTWs are analysed at CCT accredited Scientific Services laboratories and monthly monitoring and inspection reports are compiled.

Table 18: Waste Water Treatment Non-Compliance as at July 2012

WWTW	PROBLEM DEFINITION	CAUSES	REMEDIAL ACTIONS
Bellville	No sample complying on COD, Ammonia and E.Coli. One sample complying on TSS.	Broken diffusers in North and Centre biological reactors are causing poor aeration of the biomass. Experienced belt press mechanical breakdowns which have reduced the mass of sludge to be wasted per day. The UV disinfection system is not in operation due to the poor settling pond effluent.	Construction of the new Membrane Works(20Ml/d) is in progress(long-term plan).A task group comprising Operations and EAM electrical and mechanical sections has been formed to focus on improving the reliability of the dewatering equipment. The settlement ponds are in the process of being cleaned out. The by-pass pipeline to the UV lights is in progress – this will allow the SST effluent to flow directly to the UV disinfection unit.
Borcherds Quarry	Non-compliance on all the parameters	Maturation ponds are full of sludge which is contamination the secondary settling tank effluent which is generally compliant with the General Standard.	The maturation ponds and bypass channel are being cleaned. At the end of June 2012 the bypass pipeline was brought into operation.
Klipheuwel	Non-complying TSS, COD and Ammonia	The septic tank is being cleaned out	This Process was completed and the plant is recovering
Gordons Bay	Non-compliance on COD	Foaming in the reactor	Dosing of chlorine
Mitchells Plain	Non-compliance on ammonia and E.Coli	Maturation Ponds contaminated with sludge due to failure of Archimedean Screw Pumps at Intermediate Pump station.	Removing sludge from maturation ponds. The plant effluent compliant before entering maturation ponds.

7.1.5 Status of Equipment and Plant on Wastewater Treatment Works

Table 19: Status of Equipment and Plant on Wastewater Treatment Works as at June 2012

	WWTW	Description	Intervention Required	Estimated Cost
1	**Athlone**	Primary Tanks, 3 new tanks being installed	One further tank required. This is in progress	R 5 million
2		Grit removal unit appears unsatisfactory.	not applicable at this stage – investigation is in progress	to be determined
3		Gravity thickener - inadequate	new thickener required	to be determined
4		Anaerobic Digesters, full of sand, gas lines corroded, Gas Holder leaking	Replacement or refurbishment – this has been	R 10 million
5		Cape Flats Sewer ex Athlone, partially blocked	Requires refurbishment – Retic to confirm	R 0.5 million
6		Redundant tanks and pipelines and buildings require demolishing	Demolish	Quotations to be obtained
7		Mixed Liquor & RAS Pumps require replacement (over 20 years of age)	Replacement	An appointment of an external contractor may be required
8		Maturation Ponds full of sludge	Refurbishment/ Cleaning	Internal costs. Job not completed yet
9		Sludge Beds are a fire hazard	Require cleaning	Part of the capital project
10		Outer Perimeter Fence incomplete	Requires completion	Part of the capital project
11		Blower #1: faulty	Repair vs replacement being investigated	
12		Interstage screw pump gearbox	Repair vs replace	In progress
13	**Bellville**	Inlet screen 2 out of commission	Repair chain and placed in auto mode	Part of future upgrade plan
14		Belt press 2&3 are out of	Repair and align with automation	In progress

		commission for repairs. are in the process of being repaired to improve sludge dewatering and removal	system	
15		Blower # 3 is out of commission	Requires repairs	In progress
16		Sludge cake pumps cannot accommodate full cake volume	PLC needs to be set to accommodate cake volumes produced	done
17		Pond 2 is out of commission	Needs to be lined with clay or plastic	R 3 – 5 million – part of current upgrade project
18		UV disinfection unit cannot perform reliably – taken out of use	Installation of Med/fine screen pre-UV to prevent damage to UV lights. Improvement in effluent quality.	R 10 million – part of current upgrade project
19		SSTs cannot accommodate high flows.	SST modification to improve settling	R 7 million – will be part of future upgrade project
20		Standby generator not on auto	Requires repair	In progress
21		Re-use pumps not operational	Being replaced	
22	**Borcherds Quarry**	Unable to separate dewatered primary and secondary sludges.	Centrifuges being replaced	R 10 million
23		Blower 3 out of commission due to vibration	Refurbish blower motor – in progress	R 350 000 - ongoing
24		Ponds are full of sludge	Ponds cleaning plan for summer months.	In progress
25		PST 1 requires repairs to scrapers and rope pulley	In progress	done
26	**Cape Flats**	Inlet Screw Pumps, Screws inefficient	Screws and trough require refurbishment	R 5 million
27		Odour Control System requires	Being planned	To be determined

		upgrading		
28		Primary Tank Bridges corroded	Bridge Replacement required	R 10 million
29		Aeration System requires constant repair	Aeration System requires replacement	R 0.5 million
30		Anaerobic Mixers inefficient because of age and breakdowns	Require replacement	R 0.4 million
31		Clarifier Bridges corroded	Require replacement	R 8 million
32		Aerobic Blowers are 30 years old. Have been repaired but will require replacement	Require replacement	Costs to be established once the contractor has assessed the problems
33		Blower #1 gearbox vibration	In progress	
34		Boilers damaged	Needs repair	Being investiaged
35	**Green Point**	Pumps require replacement	Currently underway	Part of capital project
36	**Gordons Bay**	Electrical Panels	To be replaced	In progress
37	**Hout Bay**	Macerator system inadequate requires upgrading	Install fine screenings and grit removal and Improvements in screenings handling	R 10 million
38		Coarse and fine screen and grit removal	In planning	R 5 million
39	**Kraaifontein**	Anaerobic digester not in use. Activated sludge plant is on extended aeration	Demolish digesters. Will form part of a general contract.	R 1 million
40		Ponds are full of sludge	By-pass pipeline and pump station to be constructed. Completion date in early 2012.	Pipeline is part of upgrade contract (in progress). R 5 million for cleaning – being planned.
41	**Macassar**	Standby Generator beyond repair	Replacement. In planning	R2-3 million

42	**Melkbosstrand**	Degritter gearbox	Requires repairs	done
43	**Mitchells Plain**	Coarse Screen outdated and inadequate.	Require replacement	R 5 million
44		Inlet Screws, in poor mechanical condition.	Require replacement	To be investigated
45		Mechanical Screens, old screen requires replacement and screening removal is inefficient	Requires replacement – Retic to plan	R 200 million for the 3rd Cape Flats sewer
46		Inter stage Pump Station	2 Screw Pumps irreparable. One Screw being replaced. Tender being repaired to replace other with submersible.	R 10 million
47		Reactors in bad repair	require refurbishment	R 0.5 million
48		Aeration Blowers leak oil, and breakdown	Require replacement	R 0.2 million
49		Clarifier, one floor has lifted	Need to be repaired	An appointment of an external contractor may be required
50		Anaerobic Digesters off line: require cleaning and pipework and pumps require refurbishment. Boilers need overhaul.	Refurbishment required	Internal costs. Job not completed yet
51		Centrifuge out of commission and Belt Press breakdown problems with inclined conveyor bearing failing.	Replacement/ Refurbishment	Part of the capital project
52		Sludge Beds & Maturation Ponds full of sludge	Require refurbishment	done

53		Maturation Pond Fencing (2 km)	Require fencing for safety reason	Part of future upgrade plan
54		Redundant Equipment and Building	Demolish	R 0.3 million
55	**Potsdam**	UV disinfection performance is erratic when on automatic mode	Investigate the various electronic problems. Place on automatic. The maintenance tender is in progress but there is a delay at SCM.	R 1.4 million spent on replacement lamps and spares The maintenance contract is expected to be to the value of R4 m
56		Inlet screens	Install coarse screens upstream to remove excessive rags	R 8 million – Complete
57	**Simons Town**	Low pH chemical dosing equipment required	Dosing plant being purchased.	R 50000
58		Sludge Beds require replacement with mechanical Dewatering	Capital Projects – to be investigated	R 10 million
59	**Wesfleur**	Domestic blowers	Replace blowers. Interim repair to gearbox to reduce vibration was completed.	R 7 million for replacement
60		Air pipeline corroded	Emergency repairs required.	R1.4m Has been repaired temporarily
61	**Wildevoelvlei**	Anaerobic Mixers are unreliable	Requires investigation	R 1 million
62		No standby Belt Press	Standby Unit required	R 10 million
63		Maturation Pond contain sludge	Require refurbishment and/ or Disinfection Plant	Part of capital project
64		Inlet screens	Install coarse screens upstream to remove excessive rags	R 5 million

7.1.6 Status of Equipment and Plant at Bulk Water Installations (January 2012)

Table 20: Status of Equipment and Plant at Bulk Water Installations

Item no	WTP	Description	Intervention Required	Estimated Cost
1	Faure WTP (BW)	Obsolete and aging SCADA equipment	Replacement of all PLCs. Tender for consultants was advertised on 26 October 2012, to close on 27 November 2012. After consultant design completed, contractor to supply and install.	R 6 million
2	Blackheath WTP (BW)	PAC Dosing System	Complete existing contract. Commissioning and operational acceptance period for Part A completed. Part B is in progress.	R 1 million remaining of R7,7 million Contract amount
3	Blackheath WTP (BW)	Treatment Residue Water Recovery PS	Replace pump motor and associated equipment – Contract in progress	R 950 000
4	Steenbras WTP (BW)	Lime Storage and Transfer system	Complete existing contract – Contractor to address items as per snag list [Completed]	[Completed]
5	Voëlvlei WTP (BW)	Pump System Surge Vessels	Phased refurbishment of 4 large pressure vessels	R 1,5 million
6	Voëlvlei WTP (BW)	Air-scour Blowers	Phased replacement of 2 blowers. One blower replaced during 2010/11. Second blower on order.	R 250 000
7	Witzands WTP (BW)	Acid Regeneration System	Refurbish Acid System	R 2 million
8	Firlands PS (BW)	Obsolete and aging Variable Frequency Drives (VFD)	Replacement of 4 off VSD's. Phase 1 (replacement of 2 VSD's): tender advertised on 26 October 2012, to close on 27 November 2012.	R 25 million
9	Kildare PS (BW)	Obsolete motors and electrical control equipment	Replace pump motors and control	R 1 988 000

			equipment – Contract in progress.	
10	Molteno Reservoir PS No. 2 (BW)	Obsolete and aging pump starter panel	Replace pump starter panel – Contract in progress.	R 415 000

7.1.7 Status of Equipment and Plant on Pump Stations (as at July 2012)

Table 21: Pump Stations Sewer Spillage

Item No.	REPORTED PUMP STATION AND RISING SEWER INCIDENTS: JULY 2012						
	Pump Station	Location	Date	Cause	Point of Overflow	Action taken	Impact
1	Helderberg	Strand	03/07/2012	Pumps # 1 and 3 tripped	Paardevlei	Pumps reset and spill area cleaned	Minor
2	Hout Bay Harbour	Hout Bay	07/07/2012	Main incomer breaker failed	Into sea	City Electrical reset	Minor
3	Hout Bay Harbour	Hout Bay	09/07/2012	Main incomer breaker failed	Into sea	City Electrical reset	Minor
4	Bridgetown	Bridgetown	11/07/2012	Pump # Tripped	Into river	Pumps reset and spill area cleaned	Minor
5	Hout Bay Harbour	Hout Bay	20/07/2012	Pump # 1 and 2	Into sea		Severe

8. ASSOCIATED SERVICES

8.1. WATER SERVICES

8.1.1. Education Plan

All education institutions are supplied with adequate water services in the city. There are therefore no strategies identified with regards to water services. The city will continue to work closely with the Department of Education to ensure that there is always a planned approach to the provision of service as new schools are built. Under the water demand management programme schools have been encouraged to take advantage of the expanding the treated affluent network as a cheaper alternative for irrigating sports fields and landscaped areas.

8.1.2 Health Plan

Water and Sanitation has a direct impact on individual and community health. The current focus for health is:

- Promote safe access to drinking (potable) water
- Investigate complaints relating to water quality.
- Monitor water quality through regular sampling (Microbiological and Chemical).
- Monitoring of recreational water bodies (Vleis, dams and rivers) for possible pollution and contamination.
- Education institutions has to meet health requirements

In any urban context there is always the threat of water borne disease and the threat to water sources. A concerted effort is required to protect water sources. Of particular concern for the city is the threat of ground water contamination (cape flats aquifer). The intensive urban farming on the Cape Flats due its clean draining soils require large amounts of fertiliser and pesticides which possess a direct threat to the aquifer beneath the farms in the Philippi agricultural area.

In the city Informal areas were shared services exits there is venerability to infection and contamination. It is therefore necessary to:

- Keep areas around standpipes clean and clear of stagnant water
- Avoid spillage and keep taps closed when not in use
- Keep stray animals away from the area
- Keep standpipe outlets and soak-aways clean

Promote hygiene amongst users of standpipes by educating them:

- On the fact that stand pipes should only be used for filling containers.
- Standpipes are not to be used for washing clothes or humans.
- The containers should be closed and clean.
- All containers should be disinfected regularly.
- To report vandalism, tampering or contamination of stand pipes.

8.2 SANITATION SERVICES

8.2.1 Education Plan

All education facilities have adequate sanitation services in the city. However a number of education facilities have been vandalised on a regular bases with toilet block being targeted for copper and brass fittings. There is a currently a need to look at regular maintenance and to use alternative materials to brass and copper fittings. The city will continue to work closely with the Department of Education to ensure that there is always a planned approach to the provision of service as new schools that are built.

8.2.2 Health Plan

There is a need to work towards all households having water borne sewer connection in the long term. The current rate of urbanisation, net migration and natural growth will result in creased informality and continued use of shared services. In the short to medium term there is a desperate need to eradicate the bucket system and limit the increase in the number of developments that require conservancy tanks.

The Cities health plan will do the following:

- Ensure safe and timeous disposal of domestic, industrial and medical waste.
- Evaluate and provide input where necessary as regards the efficiency of sewerage/waste/storm water systems.
- Monitor waste generation by residents and business community.
- Ensure that problems related to sewerage removal in areas, where inadequate infrastructure exists (bucket sanitation), are eliminated.
- Investigate flooding problems so as to provide input regarding future prevention.
- Monitor and eliminate illegal waste water discharge into the storm water system (industrial effluent).
- Prevent and limit the spread of health significant pests throughout the community.
- Monitor and control all offensive trades.

To improve cities environmental health the following is planned:

- Investigation of environmental factors relating to the spread of noticeable infectious diseases, and putting preventative measures in place to limit the spread thereof.
- Compiling case histories with regard to Hepatitis, Typhoid and Cholera etc.

- Cholera risk monitoring by means of placing "Moore Pads" at selected sampling points, and the analysis of results.

Shelter and housing related health plan will:

- Promote the provision of dwellings, informal structures conducive to health (ensure adequate ventilation etc.).
- Inspect informal settlements with a view to maintaining minimum hygiene standards and promoting better living conditions.

8. WATER CONSERVATION AND DEMAND MANAGEMENT

The aim of the Water Demand Management and Water Conservation Strategy is to describe, motivate and illustrate the need for a revised, more comprehensive Water Conservation and Water Demand Management (WC/WDM) policy and strategy for the City of Cape Town. This strategy was initially implemented from June 2007. Three years have now passed since the implementation of the strategy. The City of Cape Town has now revised this strategy to further project it towards 2020/21.

Assessment of Water Savings and Growth Projections

The impact of the WC/WDM strategy on curbing water demand basically depends on two main elements:

- The unconstrained growth in water demand (i.e. what the demand would have been without any WC/WDM measures).
- The actual savings realized through the WC/WDM strategy (including abating water demand growth).

There are a number of demand projections that have been developed over the last few years. The DWA Western Cape Water Supply System Reconciliation Strategy used a demand growth rate of 3% to estimate unconstrained demand (i.e. a 'Do nothing' scenario) based on the historical trend for the period between 1991 and 2000 and basing the curve on the reported potable water demand from 2000. Figure 1 below indicates this curve.

The DWA Reconciliation Strategy has also adopted two future water requirement curves namely the High Water Requirement Curve with a demand growth of 3.09% per annum and a Low Water Requirement Curve with a demand growth of 1.43% per annum. Both curves using the demand of 2006 as starting point.

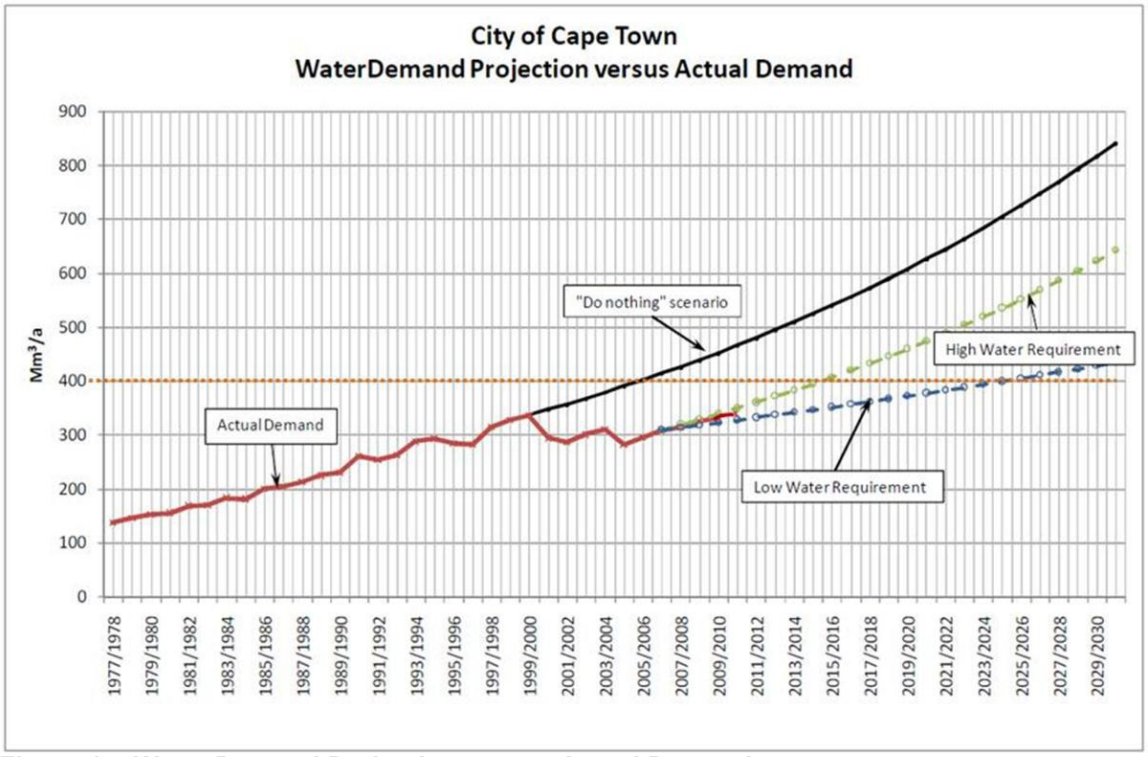


Figure 15: Water Demand Projection versus Actual Demand

Water saving graffiti

The City's most recent pressure management project in Brown's Farm, Philippi, resulted in an immediate drop in the average consumption, minimum night flow and peak flow rates in the area. The total estimated savings from this system alone is R8,25 million per year, and when combined with the savings from other pressure management systems in Khayelitsha, Westbank, Eerste River, Brentwood Park, Langa and Belhar, the annual financial and water savings are massive.

With the implementation of a policy to install water management devices on a prioritised basis, residences defined as indigent now have the means by which to prevent their water consumption from reaching unaffordable levels. These devices are being installed across a range of residences, with more than 9 074 installations having been completed as at 30 June 2011.

During the 2010/11 financial year, the City managed to reduce its percentage of unaccounted-for water even further, to 19,8%, compared to 25,4 % in the last financial year. This is a significant improvement on previous efforts, and well ahead of the target of 22,5%. The success demonstrates the effectiveness of the City's water balance and loss reduction strategy, and reveals that this initiative is having a positive impact on water conservation across the city

It is critical for the City to ensure efficient use of scarce water resources to meet the growing needs of the population. To this end, the City strives to maximise the use of existing infrastructure to drive the achievement of the objectives set out in its Water Demand Management and Water Conservation Strategy.

Effective water demand management is a core requirement for the sustainability of water supply to the city. If water consumption is controlled at the levels expected in the Water Demand Management and Water Conservation Strategy, it may allow the next water resource scheme to be deferred to approximately 2029.

9. WATER RESOURCES

10.1 Major Dam Levels

The table below compares the average storage in the six major and seven minor raw water storage dams of the Western Cape Water Supply System as of August over the past five years.

Table 22: **Storage in the major dams of the WCWSS at 20 August 2012**

MAJOR DAMS	STORAGE						
	CAPACITY MI	% 2008	% 2009	% 2010	% 2011	% 2012	% 13-Aug
WEMMERSHOEK	58 644	96.6	98.3	71.7	72.9	89.4	74.8
STEENBRAS LOWER	33 517	89.7	100.1	56.0	73.5	100.4	100.3
STEENBRAS UPPER	31 767	101.8	100.1	91.6	101.4	102.2	101.8
VOËLVLEI	164 122	95.1	97.1	94.9	82.7	81.7	71.4
THEEWATERSKLOOF	480 250	100.1	104.2	90.9	80.6	89.8	80.7
BERG RIVER	130 000	100.1	101.7	100.1	87.1	101.0	101.8
TOTAL STORED	898 300	885 976	914 713	812 437	735 514	815 256	746 647
% STORAGE		98.6	101.8	90.4	81.9	90.8	83.1

Capacity of the Major Dams of the Western Cape Water Supply System is 99.6%
and that of the Minor Dams 0.4% of the combined capacity of the Major and Minor Dams.

Table 23: Storage in the major dams of the WCWSS at 20 August 2012

MINOR DAMS	STORAGE						
	CAPACITY Ml	% 2008	% 2009	% 2010	% 2011	% 2012	% 13-Aug
KLEINPLAATS	1 368	86.8	100.0	56.4	25.9	99.8	89.3
LEWIS GAY	182	81.3	67.6	41.2	60.4	93.4	93.4
WOODHEAD	954	68.7	102.0	66.8	58.8	100.4	100.8
HELY HUTCHINSON	925	100.0	101.4	34.9	36.7	100.4	100.6
VICTORIA	128	99.7	102.0	64.6	44.4	101.2	97.4
ALEXANDRA	126	95.4	82.7	41.7	44.0	83.5	79.0
DE VILLIERS	243	91.3	91.3	49.6	65.7	100.4	100.4

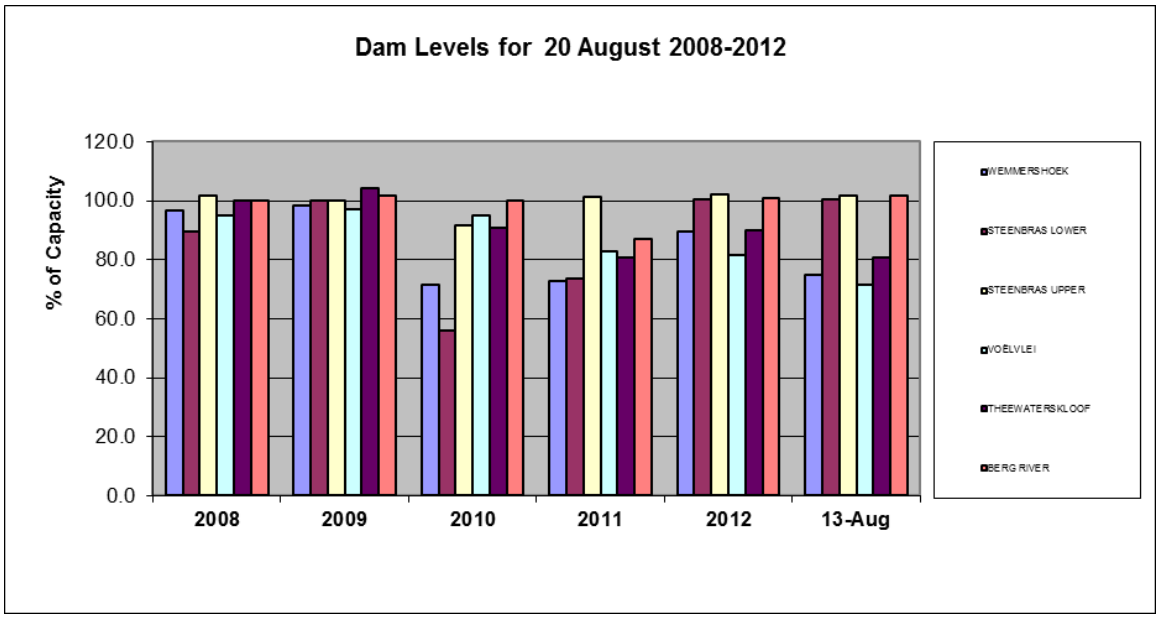


Figure 16: Dam Levels for 20 August 2008-2012

10.2 Water use efficiency (Potable water)

Table 24: **Water use efficiency (Potable water)**

MONTH	VOLUME WATER TREATED (Ml)	VOLUME WATER SUPPLIED (Ml)
2011		
August	23 951	24 975
September	23 781	22 256
October	27 527	25 015
November	27 985	29 047
December	31 207	30 052
2012		
January	34 219	33 007
February	32 184	35 422
March	32 873	31 990
April	25 965	26 295
May	24 139	25 614
June	22 310	22 663
July	23 007	24 624

Volume of water treated: This is the total volume of potable water produced at the City's twelve water treatment works for the month.

Volume of water supplied: This is the total volume of potable water supplied from the bulk water supply system to bulk consumers i.e. the reticulation systems of the City of Cape Town, Drakenstein Municipality and Stellenbosch Municipality.

- Audited financial statement - Not yet available

10. FINANCIAL PERFORMANCE/MANAGEMENT

Audited financial statement - Not yet available

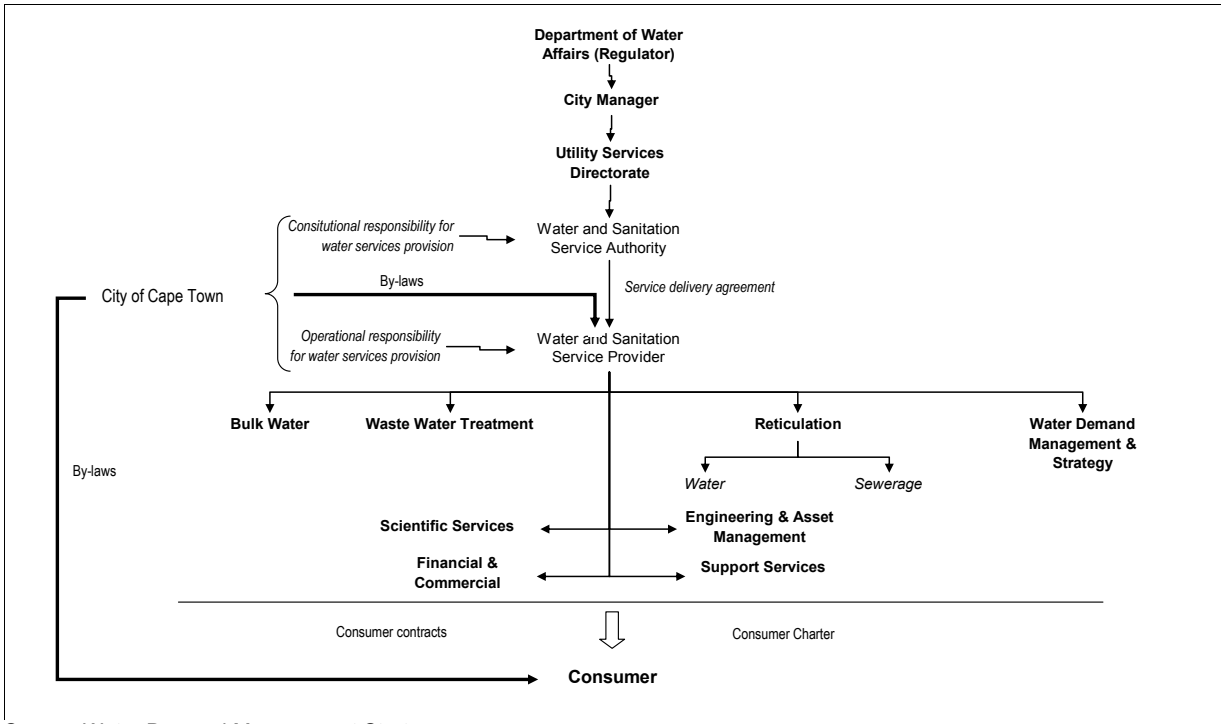
11. WATER SERVICES INSTITUTIONAL ARRANGEMENTS

12.1.1. Water services institutional arrangements

12.1.1.1. Situation assessment (water services institutional arrangements profile)

The new City of Cape Town and the Water and Sanitation Services entity was formed with the amalgamation of the Cape Metropolitan Council and the 6 metropolitan local councils in December 2000.

Water Service institutional arrangements



Source: Water Demand Management Strategy;

On 28 November 2001 Council authorized Water and Sanitation Services to operate as fully-fledged and functional internal business unit in order to, ensure maximum independence and minimum constraints. The City of Cape Town is currently undertaking the constitutional responsibility for water service provision (as the Water Services Authority (WSA)) as well as the operational responsibility (as the Water Service Provider (WSP)). The City is looking at separating the service authority and service provision function to establish a municipal entity. At the moment, there is no service delivery agreement in place.

Processes and Systems

It is intended that all branches achieve ISO 9001:2000 accreditation, in order to enhance processes and systems and promote a world class status for the Water

and Sanitation Services Department. The Progress of each branch is given below:

Bulk Water Branch

In December 2006 Bulk Water Branch successfully maintained its three-year ISO: 9001:2000 Quality Management Systems (QMS) certification (2006 -2009) during the triennial review audits by SABS. Bulk Water is no longer certified, because it failed to maintain the certification. A certification study is being undertaken to remedy this situation.

The Branch was assessed and found to satisfy the requirements of ISO 9001:2000 QMS in respect of: The Management of Water Resources, and the Planning, Design, Development and Maintenance of the Infrastructure for the Catchment, Treatment, Storage and Conveyance for Bulk Water Supply excluding clause 7.5.4 Customer Property.

The Branch has embarked on integrating ISO 9001:2000 QMS with other management systems, such as OHSAS 18001:1999 Occupational Health and Safety Management Systems (OHSMS), including Risk Management Systems, and ISO 14001:2004 Environmental Management Systems.

This alignment of the management system will help the Branch in the facilitation of Integrated Management Systems also known as SHREQ (Safety Health Risk Environment and Quality).

The Branch implemented the OHSAS 18001:1999 (OHSMS) in 2004. The Environmental Management System (ISO 14001:2004) it is still in its development phase.

Controlled Document Management System, ZIZO (Zoom In Zoom Out) software: In 2003 the Branch simultaneously took a decision to also introduce a multidisciplinary document control system that was paperless, user-friendly, flexible, self-expandable to complement ISO 9001:2000 (QMS) and later ISO 18001:1999, and ISO 14001:2004 (EMS) (SHREQ).

Wastewater Treatment Branch

Planning commenced during 2002/2003 for the introduction of an Environmental Management System (EMS) at Potsdam Wastewater Treatment Works that will integrate treatment process requirements and operational control with environmental protection. Specialist consultants are assisting in this initiative which involves both operational and management staff. The EMS is based on best practice approach for such systems with ISO 14001 used as a guide. The EMS will be extended to incorporate the new sections of the Potsdam Works once constructed.

The goal to complete EMS for Potsdam by 2004 has not yet been achieved, mainly due to the final effluent quality not meeting the license application conditions. It is planned to roll the system out to three additional treatment works per annum until all works are included.

Reticulation Branch

The existing ISO Quality Management System certification at South Peninsula (SPA) Water Division is being maintained.

Since 2001, some progress has been made with preparations for certification of the whole of Reticulation. It is envisaged that certification will be achieved over the next few years.

Asset Management Services

During the first quarter of 2004, the Electrical Engineering Maintenance workshop embarked upon obtaining the SABS standardization in order to benchmark them against an acceptable quality standard.

During December 2004 the workshop was audited for ISO 9001 and at the same time pre-audited for ISO 14001 & 18001. During February 2005, ISO 9001 accreditation was achieved while 14001 & 18001 final audit took place in July 2005.

Risk Management

Work has started on an Integrated Risk Management Programme with the appointment of a Risk Manager and the development of a strategy.

Water Demand Management

The ISO Readiness Assessment Project conducted by Umtha Strategy Planning and Development was completed in August 2009. The sole aim of the project was to identify the gaps and challenges that face Water and Sanitation department from implementing ISO 9001:2008 Quality Management System principles and methodology to effectively and efficiently provide water and sanitation services to the citizens of Cape Town.

In the Assessment Report, using the ISO 9001:2008 quality management system matrix, Water and Sanitation Department is presented to be in a crisis mode where there is a lot of “Doing” and “Acting” but very little of “Planning” and “Checking”. Issues that were identified during the Assessment are inter alia, lack of leadership in most strategic positions, loss of staff morale, operational inefficiency, silos mentality and obsolete infrastructure. However the Department is determined to reverse and to redress this crisis situation. In this vein, it has

adopted ISO 9001:2008 Quality Management System as a vehicle through which it can achieve its service delivery mandate.

The Branch is planning on integrating ISO 9001:2000 QMS with other management systems, such as OHSAS 18001:1999 Occupational Health and Safety Management Systems (OHSMS), including Risk Management Systems, and ISO 14001:2004 Environmental Management Systems.

This alignment of the management system will help the Branch in the facilitation of Integrated Management Systems also known as SHREQ (Safety Health Risk Environment and Quality).

12.1.1.2. WSA functions and outputs

In order to fulfil the WSA roles and responsibilities the following major functions that need to be in place are addressed in the table below:
(Y= Yes, N= No, I= insufficient / inadequate, NA= Not applicable)

Table 25: Only general problem areas highlighted.

		Resources available to perform the function				
		Budget	**Bylaws**	**Infrastructure**	**Personnel**	**If no by when?**
Policy Development						
Indigent Policy	Y					Updated annually
Free basic water policy (including equitable share)	Y					
Free basic sanitation policy	Y					
Procurement Policy	Y					
Credit Control and Debt Collection Policy	Y					Updated annually
Regulation and Tariffs						
Water Services bylaws with conditions as required by the Water Services Act	Y		Y			

		Resources available to perform the function				
		Budget	Bylaws	Infrastructure	Personnel	If no by when?
Mechanisms to ensure compliance with bylaws	N		NA			
Tariff structure	Y		NA			
Tariffs promulgated	Y		NA			
Infrastructure development						
Mechanisms to undertake project feasibility studies	Y		NA			
Criteria for prioritising projects	Y		NA			
Mechanisms to assess and approve project business plans	Y		NA			
Mechanisms for selecting, contracting, managing and monitoring implementing agents	Y		NA			
Mechanisms to monitor project implementation	Y		NA			
Water conservation and demand management						
Water conservation and demand management strategy	Y					
Performance management and monitoring						
Performance management systems	Y		NA			
Water Service monitoring and evaluation system	Y		NA			
WSDP						
WSDP information system	I		NA	I	I	2010/11

		Resources available to perform the function				
		Budget	Bylaws	Infrastructure	Personnel	If no by when?
Mechanisms for stakeholder participation	Y		NA			
Mechanisms to monitor and report on WSDP implementation	Y		NA			
WSP institutional arrangements						
Criteria to select appropriate WSPs	Y		NA			
Mechanisms to contract, manage and monitor WSPs	Y		NA			
Mechanisms to approve WSP business plans	Y		NA			
WSA overall capacity	Y		NA			
Sufficient staff and systems to fulfil all WSA functions			NA		I	2008/09
Other (state)						

12.1.1.3. WSA capacity development

Table 26: **WSA capacity development currently in process**

WSA Priorities for capacity development	Capacity needs assessments conducted(Yes/No)	Formal Skills training required (Yes/ No)	Proposed timeframe for capacity development	Estimated Cost
Strategic and Master Planning	Yes	Yes	From date of commencement of contract until 30 June 2013.	R4.5 M/y
Integrated Asset Management Plan	Yes	Yes	-	-

Integration or centralisation of several functions has delivered benefits of improved planning, efficiency and cost saving:

- Strategic and Master Planning;
- Benchmarking;
- Regulation of the new by-laws;
- Fleet maintenance;
- Electrical-/ Mechanical Maintenance.
- Communication both internally and externally has improved with the development of a communication strategy, implemented via, inter alia:
- launching of various road shows, events and ceremonies,
- communication with international cooperation partners and media releases.

Water and Sanitation Services' internal IT capability has streamlined through the acquisition and installation of various new systems such as infrastructure for the new LIMS software at Scientific Services, upgrades to SCADA and Telemetry at reservoirs and works or optimising connectivity such as by sharing the connection to Bellville Compost Plant of Solid Waste.

The Department has developed version 7 of the Workplace Skills Plan.

12.1.1.4. Bylaws affecting water services

Table 27: The bylaws affecting water services are listed in the table below

By-law	Date promulgated	Short Description	Effect on Water Services
Water	18 February 2011	To control and regulate water supply and use in the City of Cape Town and strive for continued availability and access of the resource to all.	Increased awareness on the need to save water, rendering a more sustainable provision of the service where supply meets demand
Wastewater and Industrial Effluent	1 September 2006	To control and regulate sewerage and industrial effluent discharges for the protection of infrastructure and the environment.	Increased awareness amongst the target market triggered behavioural change of environmental protection Increased cost recovery as a means to render a sustainable service.
Credit	Latest as	To give effect to the Council's	Water Services is more

By-law	Date promulgated	Short Description	Effect on Water Services
Control and Debt Collection	Approved by Special Council on 28 May 2012	credit control and debt collection policy, its implementation and enforcement, as required by Section 98 of the Municipal Systems Act, 32 of 2000, and to give effect to the duty imposed by Section 96 of the Municipal Systems Act to collect all money that is due and payable to the Council.	financially sustainable.
By-law relating to Stormwater Management	23 September 2005	To provide for the regulation of stormwater management and to regulate activities which may have a detrimental effect on the development, operation or maintenance of the stormwater system	Greater public awareness on the need to prevent storm water pollution. Increased cost recovery as a means to effect rehabilitation of storm water systems where needed.
Treated Effluent	28 October 2009	To control and regulate the supply and use of treated effluent in the City of Cape Town in line with the Integrated Water Resource Management and Water Conservation Water Demand Management goals	Effective management of the use of treated effluent in a structured and formalised manner in compliance to the National Water Act. More potable water available for other users, with a corresponding reduction of potable water use for irrigation and non-food industrial use.

12.1.1.5. Water services providers (retail water)

The internal Water and Sanitation Department within the City of Cape Town is the retail water provider.

12.1.1.6. Water services providers (sanitation)

The internal Water and Sanitation Department within the City of Cape Town is the retail sanitation provider.

12.1.1.7. Water services providers (bulk water)

The internal Water and Sanitation Department within the City of Cape Town is the bulk water provider. The Department also provides bulk water to Drakenstein and Stellenbosch.

12.1.1.8. Water services providers (bulk sanitation)

The internal Water and Sanitation Department within the City of Cape Town is the bulk sanitation provider.

12.1.1.9. Support services agents (water)

The internal Water and Sanitation Department within the City of Cape Town provides some support functions while some are provided corporately by the City.

12.1.1.10. Sanitation promotion agent

This function is provided in-house by the Water and Sanitation Department. The Health Department of the City also undertakes health and hygiene awareness programmes.

12.1.1.11. Support service contract

The following functions have service contracts:

Wastewater Treatment works at Zandvliet
Meter reading in specific areas

12.1.1.12. Water Services Institutions

There are no public Water Services institutions that assist the City in its WSA functions.

12.1.1.13. WSP staffing levels: water

The delay in the transformation process has had a significant effect on staff morale. There has also been a significant loss of staff as part of the City's strategy to reduce the staff levels through natural attrition. There is an urgent need to attract, develop and retain skilled staff in Water and Sanitation Services.

12.1.1.14. WSP staffing levels: sanitation

The total number of post on Council-approved organogram for the last financial year for water services staff amounted to 4387. However, the total number of

posts filled on the approved water services organogram in the last financial year amounted 4150. This leaves 237 council-approved posts unfilled (Support Services).

12.1.1.15. WSP training programmes

In 2005/06 Version 7 of the Workplace Skills Plan was completed and general operating funds were re-prioritised to enable more appropriate training of staff than originally budgeted. The Pinelands Training Centre was also fully accredited by the ESETA (Energy Sector Education Authority).

12.1.2. Future trends and goals (water services institutional arrangements)

Institutional Reform

The City's strategic intent, aligned with the national agenda and as stated in the IDP, is universal access to basic services and to achieve operational, financial and other efficiencies which will enhance equitable, affordable and effective service delivery and sustainable development. There is a high priority for economic growth and job creation, and ensuring a sustainable city.

Water Services' institutional reform process is also guided by the Strategic Framework for Water Services (SFWS) dated September 2003.

The objectives of the reform process are given in Table below:

Reform Objectives (Strategic Framework for Water Services)
The key objectives of reform are: ❑ Ensure the provision of an appropriate level of water services that are sustainable to all households in South Africa and to implement the free basic water and sanitation policies effectively and efficiently ❑ Improve the performance of water services providers ❑ Improve the financial viability and sustainability of the water services sector by significantly enhancing revenue collection (from those who use in excess of a basic service) and improving consumer management ❑ Improve the accountability of water services providers to water services authorities and to consumers ❑ Use existing capacity, skills and resources in the water services sector in an integrated and optimal way and to attract, develop and retain the necessary professional and technical skills, and improve employment and gender equity ❑ Improve the efficiency of water use so as to ensure the wise use of South Africa's scarce water resources through appropriate demand management and conservation initiatives and ❑ Improve the regulation of water services providers to ensure technical and environmental standards are met, services are provided efficiently and services are appropriately priced.

The key determinant of Water and Sanitation's institutional arrangements is the institutional arrangements of the City as a whole.

The institutional objectives given in the IDP are:

SFA 1 – The Opportunity City

OBJECTIVE 1.1 - Create an enabling environment to attract investment to generate economic growth and job creation
OBJECTIVE 1.2 - Provision and maintenance of economic and social infrastructure to ensure infrastructure -led economic growth
OBJECTIVE 1.4 Leveraging the city's assets to drive economic growth and sustainable development
OBJECTIVE 1.5 Maximise the use of available funding and programmes for training and skills development

SFA 3 – The Caring City

OBJECTIVE 3.2 Adopt appropriate strategies to manage resources sustainably.
OBJECTIVE 3.3 Providing services to all the citizens of the city.
OBJECTIVE 3.4 Ensure innovative human settlements for increased access to those that need them.
OBJECTIVE 3.6 Provide for the needs through improved services in informal settlements and backyard residences.
OBJECTIVE 3.7 Provision of effective Environmental Health services.
OBJECTIVE 3.9 Provision of effective Primary Health Care services.

SFA4 – The Inclusive City

OBJECTIVE 4.1 Promote a sustainable environment through the efficient utilisation of resources
OBJECTIVE 4.2 Ensure responsiveness by creating an environment where citizens can communicated with and be responded to
OBJECTIVE 4.3 Provide facilities where citizens can feel at home with

Human Resources

Primary Objective

The strategic provision is the development and retention of a skilled and motivated workforce for Water Services.

Secondary objective(s)

- Introduce a performance-driven culture through an appropriate reward system.
- Ensure the achieve employment equity

- Ensure effective personnel administration
- Facilitating business process engineering while eliminating duplication of functions.
- Establish Wellness coordination for Occupational Risk Management initiatives, e.g. HIV/AIDS and TB programmes.
- Develop and maintain a skilled and motivated workforce by retraining managers, attending to remuneration levels, and inspiring staff.

12.1.2.1. Water services providers (retail water)

The trends and goals that apply to the service, as outlined in 12.1.2. applies to this.

12.1.2.2. Water services providers (sanitation water)

The trends and goals that apply to the how service, as outlined in 12.1.2 applies to this.

12.1.2.3. Water services providers (bulk water)

The trends and goals that apply to the service, as outlined in 12.1.2. applies to this.

12.1.2.4. Water services providers (bulk sanitation)

The trends and goals that apply to the service, as outlined in 12.1.2. applies to this.

12.1.2.5. Support services agent (water)

The trends and goals that apply to the service, as outlined in 12.1.2. applies to this.

12.1.2.6. Sanitation promotion agent

The trends and goals that apply to the service, as outlined in 12.1.2. applies to this.

12.1.3. Strategic gap analysis

Institutional Reform

The City is looking at separating the service authority and service provision function to establish a municipal entity. At the moment, there is no service delivery agreement in place.

Human Resources

The lack of staff capacity in key areas such as Finance, technical and project management is hampering delivery.

Processes and Systems

Processes and systems to support service delivery need improvement.

12.1.4. Implementations strategies (water services institutional arrangements)

The need for a Water Service Authority as required by the Water Service Act. There is a certification study to access the readiness of the Water and Sanitation for ISO 9001 certification.

HR Strategy

- Budgeting for key financial and technical posts,
- Training and multi-skilling existing staff,
- Actively head hunt – Humanity, Science and Technology students via Tertiary Educational Institutions,
- Establishing Science and Technology mentorships for in-house designated groups.

Processes and Systems

To enhance processes and systems and promote a world class status for the Water and Sanitation Services Department, it is intended that all branches achieve ISO 9001:2000 accreditation.

12. SOCIAL AND CUSTOMER REQUIREMENTS

Consumer's experience of the delivery of water services is not restricted to what level of service they receive, but includes the quality of service rendered. If consumers are satisfied with the quality of service, they are more likely to prepare to pay for the services they receive.

On the water supply side, quality of service includes: water quality, service continuity, complaint response time, meter coverage, billing, and access to pay points. On the sanitation side, quality of service is about the quality of infrastructure provided (basic sanitation) and support for operation and maintenance and also about response times to complaints.

The quality of service in the rural areas is unlikely to be the same as in the urban areas. It is however important that efforts are made to improve the quality of service in the rural areas.

13.1. Customer service

13.1.1. Resources

Table 28: **Resources available to perform the function**

	Item	Resources available to perform the function			
		Budget	Bylaws	Infrastructure	Personnel
1	Quality of service for water: urban	Yes	Yes	Yes	Yes
2	Quality of service for water: rural	Yes	Yes	Yes	Yes
3	Attending to complaints for water: urban	Yes	Yes	Yes	Yes
4	Attending to complaints for water: rural	Yes	Yes	Yes	Yes
5	Attending to complaints for water: urban	Yes	Yes	Yes	Yes
6	Attending to complaints for water: rural	Yes	Yes	Yes	Yes
7	Education for basic water services	Yes	Yes	Yes	Yes
8	Pollution Awareness	Yes	Yes	Yes	Yes

Table 29: **Water Distribution Networks**

2011/12 YEAR STATS AS AT END JUNE 2012							YTD - ANNUAL COMPARISON		
WATER NETWORKS	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2011/12**	**YTD-2010/11**	**YTD-2009/10**
Discoloured Water complaints	32	126	93	7	17	29	304	567	565
Repair to Burst Water Mains	790	594	784	30	794	965	3 957	6 523	6 169
Valves Marked / Plated	23	1 381	231	65	0	74	1 774	2 307	1 756
Valves Replaced / Renewed	114	81	197	116	9	355	872	762	589
Valves Repacked	230	271	249	24	545	74	1 393	1 358	1 440
Fire Hydrants Replaced / Renewed	130	34	133	41	55	142	535	645	414
Fire Hydrants Repacked	175	182	143	54	383	110	1047	1 040	946
Fire Hydrant Nozzles Replaced	26	167	70	55	31	37	386	169	204
Fire Hydrants Installed	5	53	12	15	154	57	296	169	394
New Mains Installed (m)	200	0	678	2	450	0	1 330	8 459	4 484
Water Mains Replaced (m)	39 049	13 456	5 745	5	28 448	3 272	89 975	57 419	53 104
Water Mains Cleaned (m)	2	0	0	17	0	221	240	2 839	3 403

Table 30: **Water Meter Connections**

20011/12 YEAR STATS AS AT END JUNE 2012							YTD – ANNUAL COMPARISON		
	BLAAUW-BERG	CAPE TOWN	HELDER-BERG	KHAYE-LITSHA	SOUTH PEN.	TYGER-BERG	YTD-2011/12	YTD-2010/11	YTD-2009/10
Installed Meter Connections 15 mm	236	0	114	2	45	29	426	758	870
Installed Meter Connections 20 mm	539	975	315	1 003	95	61	2 988	2 019	1 910
Installed Meter Connections 25 mm	18	141	70	6	38	23	296	274	276
Installed Meter Connections 32 mm	2	3	0	0	0	0	5	12	15
Installed Meter Connections 40 mm	17	85	7	0	7	2	118	155	166
Installed Meter Connections 50 mm	11	33	1	0	4	1	50	75	53
Installed Meter Connections 80 mm	7	14	2	0	1	0	24	14	9
Installed Meter Connections 100 mm	1	45	0	0	0	0	46	101	104
Installed Meter Connections 150 mm	0	18	0	1	0	0	19	17	56
Water Meters Replaced	1 517	1 282	573	372	30	1 030	4 804	5 540	10 756
Relocate / Re-fix Meters	1 231	452	214	534	363	674	3 468	4 337	4 947
Water Meters Stolen	107	120	254	7	213	658	1 359	1 570	1 058
Remove Water Meter Connections	5	84	68	3	619	31	810	492	991
Repair Leaks on	5 066	13 239	6 339	1 054	6 371	4 817	36 886	30 642	29 632

Water Connections									
Locate Water Meters	835	0	137	301	0	246	1 519	1 100	3 346
TOTAL	9 592	16 491	8 094	3 283	7 786	7 572	52 818	47 106	54 189

As part of a separate meter replacement project, the following numbers of meters have been attended to in the previous financial year as at June 2012:

- New connections = 3972
- Replaced meters = 4804

Table 31: **Chamber Covers Replacement**

2011/12 YEAR STATS AS AT END JUNE 2012							YTD - ANNUAL COMPARISON		
CHAMBER COVER REPLACEMENT	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2011/12**	**YTD-2010/11**	**YTD-2009/10**
Meter Box Cover	21	333	79	0	81	249	763	910	1 194
Hydrant Cover	9	93	199	9	74	212	596	530	758
Valve Cover	1	60	170	24	11	56	322	393	356
Sewer	171	521	510	68	0	522	1 792	1 386	1 336
TOTAL	202	1 007	958	101	166	1 039	3 473	3 219	3 644

Table 32: Sewer Blockage Incidents

2011/12 YEAR STATS AS AT END JUNE 2012							YTD – ANNUAL COMPARISON		
SEWER BLOCKAGES INCIDENTS	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2011/12**	**YTD-2010/11**	**YTD-2009/10**
Building Material	215	18	3 148	1	1	2 753	6 136	4 934	3 860
Collapses	163	7	320	4	0	377	871	981	1 072
Fats	3 204	6 413	5 171	420	2 575	4 269	22 052	21 260	18 517
Other foreign objects	3 688	16 290	8 639	1 622	6 131	5 740	42 110	40 605	38 391
Roots	3 110	3 145	3 096	8	4 054	3 762	17 175	15 965	14 190

Sand	364	4 080	5 187	837	22	1 318	11 808	9 449	10 701
TOTAL	1 0744	29 953	25 561	2 892	12 783	18 219	100 152	93 194	86 731

Table 33: **Sewerage Blockages per areas of Metro (for month of July 2012**)

	BUILDING MATERIAL	COLLAPSES	FATS	FOREIGN OBJECTS	ROOTS	SAND	TOTAL
SouthPeninsula Area	0	0	271	542	485	2	1300
Blaauwberg Area	0	2	39	56	89	6	192
Durbanville	0	0	90	3	94	1	188
Kraaifontein/Brackenfell	0	6	166	161	107	0	440
Atlantis	23	1	38	200	64	17	343
Bellville Area	2	2	42	108	223	10	387
Goodwood Area	71	7	109	173	121	38	519
Parow Area	262	7	261	312	25	43	910
Khayelitsha	20	0	148	16	0	161	345
CBD & Atlantic Seaboard	1	0	0	277	60	7	345
Mitchells Plain/Philippi	0	0	243	224	6	63	536
Maitland/Pinelands	0	0	12	204	66	4	286
Rosebank/Claremont	0	0	48	156	113	8	325
Athlone/Hanover Park	0	3	131	328	55	96	613
Ikapa	0	0	112	374	6	251	743
Delft/Eerste River/Kuils River	137	12	289	459	208	177	1282
Somerset West/Strand	105	12	145	176	137	181	756
TOTAL	621	52	2 144	3 769	1 859	1 065	9 510

Table 34: **Sewer Networks Repairs and Maintenance**

2011/12 YEAR STATS AS AT END JUNE 2012							YTD - ANNUAL COMPARISON		
SEWER NETWORK REPAIRS AND MAINTENANCE	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2011/12**	**YTD-2010/11**	**YTD-2009/10**
Sewer Pipe Breakage Repair (No.)	61	300	347	10	48	42	808	741	958
Sewer Manhole Repair (No.)	93	163	222	23	21	38	560	667	687
New Sewer Mains Installed (m) Total	1	0	3 530	0	0	0	3 531	1 167	8 337
Sewer Mains - Replacement (m)	12 477	1 663	10 173	102	118	586	25 119	23 990	8 392
New connections to sewer network (No.)	62	59	139	29	16	63	368	372	338
Pest Control(No.)	371	1 915	333	5 876	64	89	8648	2 826	668

13.1.2. Customer services

Infrastructure and personnel is in place for this function and there are also projects to improve the performance.

13.1.2.1 Customer/Consumer Charter

This service charter provides our customers with a clear understanding of our commitment to service and product quality and of the standards we strive to meet.

It also explains the City of Cape Town's obligations and the obligations of the consumers.
The charter includes a list of our service standards and we encourage all users and other stakeholders to measure our performance against these standards, and to communicate any deviations to our hotline number on 0860 10 30 54 or/and 0860 10 30 89. (Water option).

Customer right to access

The water service act (Act no. 108 of 1997) compels the City of Cape Town to provide water and sanitation services that are efficient, affordable, and sustainable.

The City of Cape Town water quality complies with world class standards (WHO & SANS 241).

The City of Cape Town wastewater complies with the DWA: Wastewater General Standards (1984), DWA: Wastewater special standards (1984), National Standards and by laws

The ISO 9001 Quality Management System will:

- Assist integration of previous administrations
- Improve customer satisfaction
- Ensure compliance to OHS and Environmental Standards
- Improve service delivery
- Improving the processes on a continual basis
- Improve efficiency/production- lower costs
- Facilitate performance management
- Boost staff morale
- Ensure documentation of best practices

The Consumer (previously Customer) Charter was introduced as part of this process during 2001.

13.1.2.2. Customer Surveys

Since 2002, Water and Sanitation Services has been conducting research on annual basis to measure consumer satisfaction, needs and perceptions.

Water and Sanitation Objectives for Customer Surveys:

The objectives of conducting a customer survey for Water and Sanitation Department are as follows:

- To enable Water and Sanitation to gain great insights about customer requirements
- To generate feedback about Water and Sanitation's products and services as well as customer service.
- To attune Water and Sanitation towards more focused customer service
- To develop better relationships with customers to achieve brand success
- To assist with quick measures to bring about the desired improvements or address grievances and placate relevant customers
- To drive innovative efforts and initiatives at Water and Sanitation branches
- To consistently and better address customer needs and expectations, maintain brand reputation and facilitate long-term relationships with Water and Sanitation Customers

The findings from the research are, among other things, used:

As an input to ISO 9001:2008 certification.

- to ensure that an acceptable level of service satisfaction is achieved and maintained
- to identify areas needing improvement
- to develop continual improvement initiatives
- to uncover needs not currently being addressed, especially in informal areas or in commercial arena
- to ensure relevance of the Water Service Customer Charter

The following issues are mainly addressed:

- Perception of services received: drinking water, effluent water or sewer(sanitation) drainage
- Evaluation of services rendered when reporting problems or enquiring about water services
- Awareness of environmental initiatives, including water conservation or restrictions
- Awareness of regulation in the sector
- Effectiveness of marketing drives such as around Water Week

- Issues relating to payment and billing procedures for services
- Importance rating and evaluation of services supplied

Customer and Meter Management Strategy

In terms of Chapter 9 Section 95 of the Local Government Municipal Systems Act 2000, the CCT is required to establish a Sound Customer and Revenue Management System. Over the years Local Government has had a wide variety of service policies, service practices and levels of resources in the previous seven Administrations. Water and Sanitation Services is committed to addressing these aspects within an integrated comprehensive Customer and Meter Management Strategy for Water and Sanitation Services to ensure a focussed, effective and efficient service delivery on an equitable basis to all our communities across the City of Cape Town.

The strategic issues, policies, objectives and initiatives of the Customer and Meter Management Section are herewith briefly discussed:

Key Strategic Issues

There are seven key strategic issues on which CCT is basing its customer and meter management strategy:

- An Effective Debt Management Process
- Meter Verification and Meter Accuracy
- Meter Management and Billing
- Meter Reading
- 24/7 Technical Operation Centre
- Corporate Call Centre
- Customer Interaction

13.1.3. Quality of service for water: urban

The overview of the quality of service provided is given in the table below:

Table 35: **Quality of Services Provided**

	Item	**Up until End of June 2012**
1.	Total no. of consumers	623 191
2.	No. of consumers experiencing greater than 7 days interruption in supply per year	Zero
3.	No. of consumers receiving flow rate of less than 10 litres per minute	Zero

4.	Water quality: no chlorination	Zero
5.	Water quality: chlorinated	Zero
6.	Water quality: full treatment	623 191

*Information is not available for the previous years.

The ratings from previous surveys are given in the table below:

Table 36: **Ratings from previous surveys**

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Percentage of customers satisfied with the service	> 80%	83%	87%	89%	n/a	77%	83%	n/a

The 2011/12 figures will be available in March /April as the survey is taking place now.

13.1.3.1. Quality of Services

Attending to complaints for water: urban and rural

On average, monthly water complaints per 1000 customers in 2010/11 declined compared to the previous financial period. Refer to Figure 19.

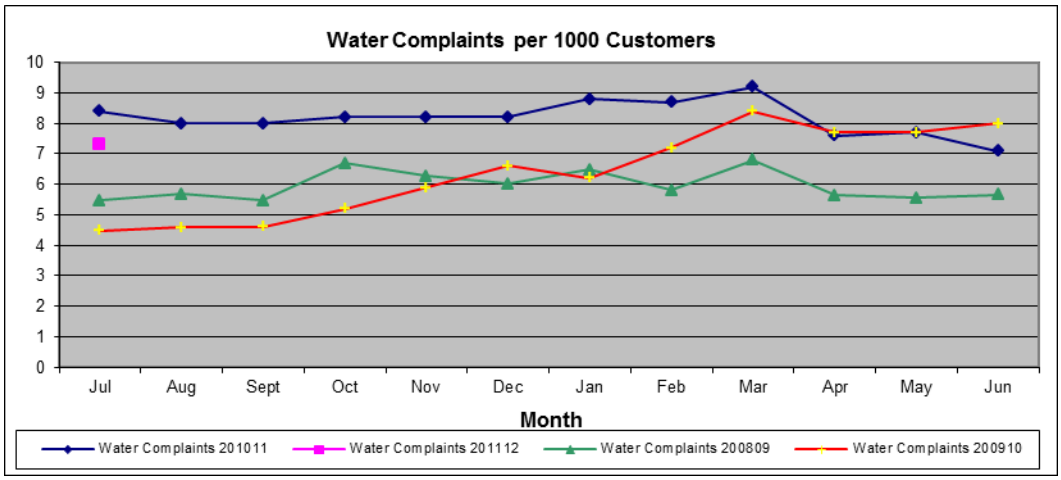


Figure 17: Water Related Customer Complaints
Source: Report to Portfolio Committee

Attending to complaints for Sewer: urban and rural

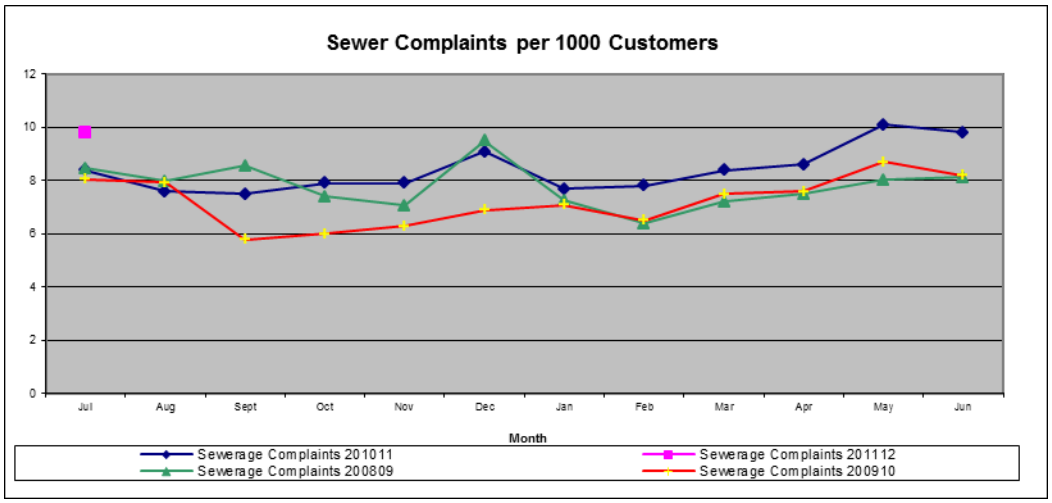


Figure 18: Sewer Related Customer Complaints
Source: Report to Portfolio Committee

Technical Operation Centre (24hr Emergency Service)

The Technical Operation Centre responds to all technical complaints and enquiries such as:

- Burst, leaking and damaged water and mains/leadings and meters
- Water taste and discoloration problems
- Low water pressure or interrupted supply
- Water restriction contravention reporting or advice

All calls are logged and responded to appropriately, becoming part of the Workflow process. All calls reaching the Corporate Call Centre but dealing with Water and Sanitation Services-related matters are re-routed to it.
A number of pilot applications for new technology utilisation towards improved operational processes such as GIS, GPS and Vehicle tracking have been implemented.

Table 37: Cumulative Notification Statistics July 2012 - June 2013

Cumulative Notification Statistics July 2012- Jun 2013 C3 notifications created from *all sources* including TOC							
FORMAL AREAS - WATER			**FORMAL AREAS - SEWER**			**FORMAL**	
CREATED (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**CREATED** (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**WATER % OPEN**	**SEWER % OPEN**
17 185	9 979	7 206	10 650	7 458	3 192	42%	30%
INFORMAL AREAS - WATER			**INFORMAL AREAS - SEWER**			**INFORMAL**	
CREATED (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**CREATED** (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**WATER % OPEN**	**SEWER % OPEN**
686	536	150	748	635	113	22%	15%

Corporate Call Centre

A Corporate Call Centre (Tel 086 010 3089, Fax 086 010 3090, e-mail accounts@capetown.gov.za) has been established by the City, which receives most complaints and requests, also those in respect of water account queries. Any technical complaints or others related to water that cannot be dealt with by the Corporate Call Centre, is forwarded via an electronic notification to the Technical Operation Centre for action.

13.1.3.2. Education for basic water services

Customer Interaction

This function includes engaging the public and educating them in the awareness of Water Conservation, Water Pollution and Water Demand Management. It also deals with broad-impact citizen queries and correspondence as well as matters that are logged at the Corporate Call Centre but which require specialist investigations.

Customer education, communication and liaison are accepted as key strategic issues and are being afforded a high priority in the new structure of Water and Sanitation Services. Water conservation, water pollution, water ingress and payment habits, among others, are all being addressed in a comprehensive and sustainable fashion.

13.1.3.3. Pollution awareness

There is pollution awareness programmes in informal settlements.

13.1.4. Future trends and goals (customer services)

13.1.4.1. Quality of service for water: urban and rural

The goal is to ensure that the percentage of customers satisfied with the service continues to increase and reaches 95% within the next 5 years.

13.1.4.2. Attending to complaints for water: urban and rural

The goal is to ensure that all complaints / queries are routed through the TOC within the next two years and that consolidated statistics on response times and other indicators are available.

13.1.4.3. Attending to complaints for sanitation: urban and rural

Refer to 13.1.4.2.

13.1.4.4. Education for basic water services

The goal is to extend the successful “Hlonipha Amanzi” programme to all currently existing informal areas by mid-2009 and has been achieved. “Hlonipha Amanzi” programme has been discontinued.

13.1.4.5. Pollution awareness

Various education and awareness programmes are being conducted by the Water Conservation and Water Pollution Control departments.

13.1.4.6. Quality of health and hygiene education and awareness

Refer to 13.1.4.4

13. PROJECTS COMPLETED

The project list as provided from the department is given in the table below: (Source: 10 Year Capital Prioritisation spread sheet: Finance).

This is a comprehensive list of Projects which includes the sustainability list. The table lists the total cost of each project. All the projects are for inclusion in the IDP.

The infrastructure projects are listed in group in accordance with their investment reason i.e. new asset, enhancement asset and replacement of asset. Support Services projects are grouped together.

Table 38: Three Year Approved Capital Budget of the CCT 2012/13

WBS Element	WBS Element Description	Directorate Programme	IDP Strategic Focus Area	Corporate Objective	Directorate Objective	1213 Draft Budget 2012_2013 May	1213 Draft Budget 2013_2014 May	1213 Draft Budget 2014_2015 May
C05.01333-F3	Durbanville Collectors Sewers	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	500 000	0
C06.01457-F1	Bellvile North Water Supply system	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	4 000 000	2 000 000	0
C06.01639-F2	Retreat Rising Main - Rehab	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	2 500 000	1 000 000	0
C06.30170-F1	Bellville WWTW - EFF	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	31 000 000	5 000 000	0
C06.30147-F1	Kraaifontein WWTW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	3 000 000

C07.00047-F2	Fish Hoek Outfall Sewer	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	1 000 000	1 000 000	0
C07.00048-F2	Blue Route Interceptor Sewer	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	1 000 000	1 000 000	1 000 000
C07.00407-F1	Northern Area Sewer Thornton	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	52 000 000	60 000 000	18 000 000
C08.00214-F1	De Grendel Reservoir	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	16 000 000	6 000 000	0
C08.11114-F1	Trappies Sewerage System	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	3 000 000
C08.86023-F1	De Gendel Reservoir Link	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led	Provide economic and social infrastructure	1 559 731	0	0

				growth and development				
C08.86024-F1	Contermans Kloof Water Mains	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	8 550 442	0	0
C08.86031-F1	Provision of Sewerage to Croydon	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	5 500 000	0	0
C08.86038-F1	Main Rd Upgrade M/Berg to Clovelly Rehab	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	12 588 000	10 000 000	12 000 000
C08.86045-F1	Design of Sand Trap Philipi sewer Browns	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	2 000 000	2 000 000
C09.86014-F1	Pump Station & Rising Main Du Noon	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	10 000 000	10 000 000	0
C09.86001-F1	Cape Flats Collector Sewer	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	3 000 000	10 000 000	5 000 000

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C09.86008-F1	Ruyterwacht Midblock Water Pipes	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	3 000 000	5 000 000	500 000
C09.86015-F1	Rehab Outfall Sewers Pentz Sandrift m/qu	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	10 000 000
C10.86018-F1	Gordons Bay WWTW-Improvements	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	1 000 000	0
C10.86033-F1	Zandvliet WWTW-Extension	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	5 000 000	0	10 000 000
C10.82001-F1	Cape Flats #1 Rehabilitation	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	500 000	2 000 000	2 000 000

C10.82002-F1	Cape Flats #2 Rehabilitation	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	500 000	2 000 000	2 000 000
C12.86053-F1	On-line effluent monitoring at all WWTW	1.3(a) Sustainable utilisation of scarce resources	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	0	0	1 000 000
C12.86018-F1	Master Planning -EFF	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	400 000	0	0
C12.86019-F2	TMS Aquifer Deep Borehole	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	2 000 000	13 000 000	15 000 000
C10.86130-F1	Regional resources development	3.5(a) Environmental health care programme	A Caring City	Provide effective environmental health services	Provide effective environmental health services	3 000 000	3 000 000	3 000 000
C10.86132-F1	Remove midblock water network-Bishop Lav	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	1 000 000	4 000 000	500 000
C11.86063-F1	Potsdam WWTW - Extension (EFF)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	5 000 000	32 000 000	30 000 000

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C12.86057-F1	Hout Bay Outfall-Refurbish equipment	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	300 000	4 700 000
C12.86059-F1	Macassar WWTW-extension	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	500 000	20 000 000	25 000 000
C13.86000-F1	Replacement of Plant & Equipment (EAMS)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	5 060 000	0	0
C13.86001-F1	Replacement Motor Cont Centre Bellv WWTW	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	6 000 000	0
C13.86002-F1	Upgrade clarifiers - Bellville WWTW	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	1 000 000	0

C13.86011-F1	Replacement of Vehicles (EAMS)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	25 000 000	0	0
C13.86014-F1	Furniture, Tools, Equip: Additional EAMS	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	196 000	0	0
C13.86022-F1	Refurbishment of Labs	3.5(a) Environmental health care programme	A Caring City	Provide effective environmental health services	Provide effective environmental health services	500 000	0	0
C13.86036-F1	Furniture & Equipment (IT): Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	1 000 000	0	0
C13.86037-F1	Furniture,Tools, Equipme: Additional WDM	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	30 000	0	0
C13.86040-F1	Informal Incremental Areas Upgrade	3.4(b) Service delivery programme in informal settlements	A Caring City	Provide for the needs of informal settlements and backyard residences through improved services	Improved servs in informal settlements & byard res	20 000 000	0	0
C13.86041-F1	Bulk Water Infrastructure Replacement	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	10 000 000	0	0

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C13.86043-F1	Laboratory Equipment: Additional	3.5(a) Environmental health care programme	A Caring City	Provide effective environmental health services	Provide effective environmental health services	3 000 000	0	0
C13.86044-F1	Philadelpha WWTW-Improvement	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	1 500 000
C13.86046-F1	Replace &Upgr Sew Pumpstns (citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	7 500 000	0	0
C13.86047-F1	Replace & Upgr Sewer Network (Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	41 000 000	0	0
C13.86048-F1	Replace & Upgr Water Network (citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	57 973 000	0	0
C13.86050-F1	TOC Infrastructure Development	4.1(a) Service management programme (C3)	An Inclusive City	Ensure responsiveness by creating an environment where	Response for citizens to be communicat	1 000 000	0	0

				citizens can be communicated with, and be responded to	ed with			
C13.86053-F1	Cape Flats III	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	15 000 000	35 650 000	16 000 000
C11.86077-F1	Bulk Water Augmentation Scheme (EFF)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	45 000 000	67 000 000
C10.86118-F2	Treated Effluent Re-use	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	0	0	0
C11.86077-F2	Bulk Water Augmentation Scheme (CRR)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	1 700 000	0	0
C11.86078-F1	Pressure Management	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	0	0	20 000 000
C12.86082-F1	Water Supply at Baden Powell Dr to Khaye	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and	Provide economic and social infrastructure	400 000	0	2 000 000

				development				
C12.86084-F1	Completion of Langa Collector Sewer	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	2 000 000	2 000 000	0
C13.86070-F1	Pumpstation and Rising Main Du Noon	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	13 000 000	0	0
C13.86073-F1	New Rest Reticulation Rectification	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	4 500 000	2 000 000	0
C13.86074-F1	Pump Stn Rehab (Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	8 537 750	0	4 500 000
C13.86075-F1	Rehab of Sewer Network (Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	6 000 000	0	0
C12.86074-F1	Construction of new Head Office	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	6 500 000	70 000 000	96 000 000

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C12.86075-F1	Northern Regional Sludge Facility	1.1(c) Identify catalytic sectors, such as oil and gas	An Opportunity City	Create an enabling environment to attract investment that generates economic growth and job creation	Create environment to attract investment	0	0	10 000 000
C12.86079-F1	EAM Depot Realignment - 5 Nodal System	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	35 000 000	6 400 000	0
C13.86055-F1	Replacement Of Plant and Equipment BW	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	150 000	0	0
C13.86056-F1	Plant and Equipment Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	500 000	0	0
C13.86058-F1	Tools and Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	800 000	0	0
C13.86065-F1	Tools & Equipment: Additional (Mech)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	2 000 000	0	0

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C13.86067-F1	Tools & Equipment: Additional (PCS)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	253 000	0	0
C13.86069-F1	Pressure Management: COCT	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	9 000 000	0	0
C13.86072-F1	Infrastructure Replace/Refurbish - WWT	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	28 400 000	0	0
C13.86076-F1	Small Plant & Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	1 000 000	0	0
C13.95014-F1	Treated Effluent: Infrastructure Upgrade	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	3 500 000	0	0
C14.86001-F1	Penhill Sewer Installation	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure	Provide economic and social infrastructure	0	2 000 000	0

				infrastructure-led growth and development				
C14.86003-F1	Specialised Equip: Additional Electrical	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	300 000	0
C14.86005-F1	Furniture & Equipment (IT): Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	500 000	0
C14.86007-F1	Replacement of Vehicles	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	30 000 000	0
C14.86008-F1	Laboratory Equipm: Addition Scientif Ser	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	2 500 000	0
C14.86009-F1	Refurbishment of Labs	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	400 000	0
C14.86011-F1	Furniture,Tools,Equipment:AdditionalEAMS	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	0	276 000	0

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C14.86012-F1	Furniture, Tools & Equip: Additional WDM	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	100 000	0
C14.86013-F1	Furniture,Tools & Equip: Additional WWTW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	100 000	0
C14.86015-F1	Informal Incremental Areas Upgrade	3.4(b) Service delivery programme in informal settlements	A Caring City	Provide for the needs of informal settlements and backyard residences through improved services	Improved servs in informal settlements & byard res	0	25 000 000	0
C14.86016-F1	Infrastructure Replace/Refurbish - WWT	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	5 000 000	0
C14.86017-F1	Master Planning -EFF	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	400 000	0
C14.86021-F1	Pumpstation and Rising Main Du Noon	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	0	5 000 000	0

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C14.86024-F1	Replace & Upgr Sewer Network (Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	63 500 000	0
C14.86025-F1	Replace & Upgr Water Network (citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	82 461 507	0
C14.86026-F1	Replace &Upgr Sew Pumpstns (citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	8 900 000	0
C14.86027-F1	Sundry Equip: Additional various WWTW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	300 000	0
C14.86029-F1	TOC Infrastructure Development	4.1(a) Service management programme (C3)	An Inclusive City	Ensure responsiveness by creating an environment where citizens can be communicated with, and be responded to	Response for citizens to be communicated with	0	0	2 000 000

C14.86030-F1	Tools,Equipm: Addition Design contracts	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	800 000	0
C14.86031-F1	Tools & Equipment: Additional (Mech)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	1 000 000	0
C14.86032-F1	Tools & Equipment: Additional (PCS)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	581 900	0
C14.86033-F1	Replacement of Plant & Equipment (EAMS)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	4 820 593	0
C14.86034-F1	Small Plant & Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	500 000	0
C14.86037-F1	Bulk Water Infrastructure Replacement	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led	Provide economic and social infrastructure	0	10 000 000	0

				growth and development				
C14.92100-F1	Treated Effluent: Reuse & Inf Upgrades	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	0	3 500 000	0
C14.92101-F1	Pressure Management: COCT	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	0	9 000 000	0
C06.01639-F3	Retreat Rising Main - Rehab	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	4 100 000	0	0
C06.30170-F3	Bellville WWTW-USDG	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	58 000 000	3 000 000	0
C06.30201-F3	Athlone WWTW (USDG)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	1 523 750	0	0
C10.86033-F3	Zandvliet WWTW-Extension (USDG)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and	Provide economic and social infrastructure	7 210 000	54 050 000	17 000 000

				development				
C10.86066-F2	Khayelitsha Driftsands Site C	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	5 500 000	0	0
C11.86059-F3	Sandtrap Bridgetown Sewer Pump Station	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	5 000 000	0	0
C11.86060-F3	Philippi Collector Sewer	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	700 000	10 000 000	10 000 000
C11.86063-F3	Potsdam WWTW - Extension (USDG)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	6 000 000	58 300 000	30 000 000
C12.86096-F1	Macassar WWTW Extension (USDG)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	5 500 000	14 400 000	45 650 000
C11.86077-F4	Bulk Water Augmentation Scheme (USDG)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	0	25 100 000	21 700 000

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C12.86008-F2	Infrastructure Replace/Refurbish - WWT	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	2 000 000	0	0
C12.86090-F1	BlacMac Sewer: Upgrade sewer diversion	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	13 000 000	5 000 000	5 000 000
C12.86091-F1	Borchards Quarry WWTW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	11 000 000	0	10 500 000
C12.86103-F1	Scottsdene : Reticulation Network	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	4 473 700	0	0
C06.00571-F2	Klipheuwel WWTW - Upgrade (USDG)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	500 000	0	0

C06.30148-F3	Mitchells Plain WWTW (USDG)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	5 000 000	0	5 000 000
C08.00214-F2	De Grendel Reservoir	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	7 000 000	0	0
C08.86023-F2	De Gendel Reservoir Link	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	10 000 000	0	0
C13.00021-F1	Zone Metering	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	1 240 000	0	0
C13.00023-F1	Logger Installations	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	1 500 000	0	0
C13.00024-F1	Information System Server	2.3(a) Improved information & technology driven policing	A Safe City	Enhance intelligence -driven policing with improved information-gathering capacity and functional specialisation.	Enhance intelligence-driven policing	125 000	0	0

C13.00025-F1	Electronic Drawing Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	720 000	0	0
C13.86048-F2	Replace & Upgr Water Network (USDG)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	4 000 000	0	0
C13.86077-F1	Bulk Sewer (Housing Projects)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	4 455 000	0	0
C13.86078-F1	Bulk Water (Housing Projects)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	9 800 000	0	0
C13.86081-F1	Athlone WWTW-Capacity Extension-phase 1	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	500 000	10 000 000	20 000 000
C13.86083-F1	Tools,Sundry,Equip:Additional Flt Maint.	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led	Provide economic and social infrastructure	65 000	0	0

				growth and development				
C13.86085-F1	WS contingency provision - Insurance	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	500 000	0	0
C13.86086-F1	IT:System,Infrastruct Equip: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	6 500 000	0	0
C13.86087-F1	Pollution Monitoring (WDM)	3.5(a) Environmental health care programme	A Caring City	Provide effective environmental health services	Provide effective environmental health services	2 000 000	0	0
C13.86088-F1	Stormwater Ingress Systems (WDM)	3.5(a) Environmental health care programme	A Caring City	Provide effective environmental health services	Provide effective environmental health services	1 500 000	0	0
C13.86090-F1	Informal settlements water installations	3.4(b) Service delivery programme in informal settlements	A Caring City	Provide for the needs of informal settlements and backyard residences through improved services	Improved servs in informal settlements & byard res	2 000 000	0	0
C13.86091-F2	Water Meters (Retic)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	15 000 000	0	0
C13.86092-F2	Development of Additional Infrastructure	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	16 400 000	0	0

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C14.86038-F1	Bulk Sewer (Housing Projects)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	4 000 000	0
C14.86039-F1	Bulk Water (Housing Projects)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	5 500 000	3 650 000
C14.86042-F1	Bellville WWTW-Replace Screw Pump	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	1 500 000
C14.86043-F1	Melkbos WWTW-Effluent Disinfection	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	300 000
C14.86044-F1	Wesfleur WWTW-Capacity Extension	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	500 000

C14.86045-F1	IT: System, Infra. Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	6 000 000	0
C14.86046-F1	Tools,Sundry Equip:Additional Flt Maint	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	110 000	0
C14.86050-F1	Replacement of Plant & Equipment BW	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	250 000	0
C14.86051-F1	Plant & Equipment Additional BW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	500 000	0
C14.86052-F1	WS contingency provision - Insurance	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	1 000 000	0
C14.86053-F1	Informal settlements water installations	3.4(b) Service delivery programme in informal settlements	A Caring City	Provide for the needs of informal settlements and backyard residences through improved services	Improved servs in informal settlements & byard res	0	2 000 000	0

C14.86054-F1	Water Meters (Retic)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	14 000 000	0
C14.86055-F2	Development of Additional Infrastructure	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	30 000 000	0
C14.86055-F3	Development of Additional Infrastructure	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	15 000 000	0
C15.86001-F1	Furniture & Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	500 000
C15.86004-F1	IT:System,Infrastruct Equip: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	5 000 000
C15.86005-F1	Laboratory Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led	Provide economic and social infrastructure	0	0	1 500 000

				growth and development				
C15.86006-F1	Refurbishment of Labs	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	400 000
C15.86007-F1	Laboratory Extension SANS	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	2 000 000
C15.86009-F1	Tools,Sundry Equip: Additional Flt Maint	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	50 000
C15.86010-F1	Specialised Equipment: Additional	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	330 000
C15.86011-F1	Vehicles,Plant Equip: Additional Flt Man	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	20 000 000
C15.86012-F1	Tools & Equipment (design & contacts)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social	Provide economic and social	0	0	500 000

				infrastructure to ensure infrastructure-led growth and development	infrastructure			
C15.86013-F1	Tools & Equipment: Additional (Mech)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	1 000 000
C15.86014-F1	Tools & Equipment: Additional (PCS)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	352 050
C15.86015-F1	Furniture,Tools,Equipment:AdditionalEAMS	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	220 000
C15.86016-F1	WS contingency provision - Insurance	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	1 000 000
C15.86017-F1	Master Planning -EFF	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	250 000

C15.86019-F1	Treated Effluent: Reuse & Inf Upgrades	1.3(b) Water conservation & water demand mangmnt strategy	An Opportunity City	Promote a sustainable environment through the efficient utilisation of resources	Promote sustainable environment through resources	0	0	2 000 000
C15.86020-F1	Furniture,Tools & Equip: Additional WWTW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	100 000
C15.86021-F1	Sundry Equip: Additional various WWTW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	300 000
C15.86023-F1	Informal Incremental Areas Upgrade	3.4(b) Service delivery programme in informal settlements	A Caring City	Provide for the needs of informal settlements and backyard residences through improved services	Improved servs in informal settlements & byard res	0	0	25 000 000
C15.86024-F1	Replace & Upgr Sewer Network (Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	60 000 000
C15.86025-F1	Replace & Upgr Water Network (Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	79 447 950

C15.86027-F1	Infrastructure Replace/Refurbish - WWTW	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	18 000 000
C15.86028-F1	Informal settlements water installations	3.4(b) Service delivery programme in informal settlements	A Caring City	Provide for the needs of informal settlements and backyard residences through improved services	Improved servs in informal settlements & byard res	0	0	2 000 000
C15.86029-F1	Rehab of Sewer Network (USDG Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	2 000 000
C15.86030-F1	Rehab of Water Network (USDG Citywide)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	2 000 000
C15.86031-F1	Water Meters (Retic)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	13 000 000
C15.86032-F1	Small Plant & Equip: Additional (Retic)	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	500 000

C15.86036-F1	Development of Additional Infrastructure	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	68 131 000
C15.86036-F3	Development of Additional Infrastructure	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	30 000 000
C15.86038-F1	Replacement of Plant & Equipment BW	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	250 000
C15.86039-F1	Plant & Equipment Additional BW	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	500 000
C15.86040-F1	Bulk Sewer (Housing Projects)	1.2(c) Investment in infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	0	0	6 000 000
C15.86041-F1	Bulk Water Infrastructure Replacement	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led	Provide economic and social infrastructure	0	0	10 300 000

				growth and development				
C13.86094-F1	Upgrading of Sewer Connection Erf 267	1.2(b) Maintenance of Infrastructure	An Opportunity City	Provide and maintain economic and social infrastructure to ensure infrastructure-led growth and development	Provide economic and social infrastructure	130 000	0	0

14. NON-FINANCIAL PERFORMANCE

2011/2012 WATER AND SANITATION DEPARTMENTAL SDBIP - FOURTH QUARTER PERFORMANCE

LEAD DIRECTORATE	BASELINE	BASELINE (30 JUNE 2011)	CURRENT ANNUAL TARGET	Frequency	4th Quarter Performance 30 June 2012		RATING	REASONS FOR VARIANCE	REMEDIAL ACTION	COMMENT
					Target	Actual				
	1.A2 Number of job opportunities created through the Expanded Public Works Programme (EPWP)	−	995	Quart	995	1 539		Target exceeded.	Remedial action not required.	
Utility Services	2A.1 Number of outstanding valid applications for sewerage services expressed as a percentage of total number of billings for the service	NEW	<1%	Quart	<1%	0.09		Efforts have been made to comply with the service standards set out in the Service Charter.	Remedial action not required.	
	Complaints service rate for toilets in informal settlements customers	85.4% Notifications received: 1 761 Notifications closed: 1 504	85%	Bi-annual	Bi-annual	88.12% Notifications received: 6 004 Notifications closed: 5 291		Sufficient allocation of maintenance resources to meet the target.	Remedial action not required.	

Utility Services	2A.2 Number of sanitation service points (toilets) installed for informal settlement customers.	4 734	2 000	Quart	2 000	3 354		Target exceeded through the rollout of various toilet technologies thatdemand less social and technical planning durations.	Remedial action not required.	
Utility Services	2A.3 Number of outstanding valid applications for water services expressed as a percentage of total number of billings for the service	NEW	<1%	Quart	<1%	0.43		Efforts have been made to comply with the service standards set out in the Service Charter.	Remedial action not required.	
	Complaints service rate for taps in informal settlements customers	86.5% Notifications received: 2 138 Notifications closed: 1 850	85%	Bi-annual	Bi-annual	87.94% Notifications received: 5 273 Notifications closed: 4 637		Sufficient allocation of maintenance resources to meet the target.	Remedial action not required.	
Utility Services	2A.4 Number of water service points (taps) installed for informal settlement customers.	511	250	Quart	250	277		Effective community engagement allowed for the identification of more space to install water services and eradicate the water servicing backlog.	Remedial action not required.	
Utility Services	2B.1 Megaliters of water consumed to meet water demand target	336 644 Ml	349 633 Ml	Quart	349 633 Ml	330 041 Ml (12 Months)		Water consumption growth has been constrained through a range of water conservation measures: pipe replacement, pressure management, repair of water leaks, installation	Remedial action not required.	

								of WDM devices and awareness efforts.		
	Percentage compliance with 4 critical DWA effluent standards (e-coli count, Ammonia content, Oxygen demanding substances, total suspended solids)	86%	82%	Quart	82%	86.0% (3 Months average)		Higher percentage compliance with effluent standards was achieved due to a range of measures that included upgrade of Waste Water Treatment Works (WWTW) and installation of disinfectant facilities. More pollution control officers were granted peace office status thereby improving enforcement efforts to avoid pollution.	Remedial action not required.	
Utility Services	2C.3 Percentage unaccounted for water	19.8% (12 month moving average)Unaccounted for Water:66 736 Ml (previous 12 months)Water Treated: 336 644 Ml (previous 12 months)	20%	Quart	20%	UAW: 17.1% (12 month rolling average)		Increased levels of interventions in pipe replacement, meter replacement, pressure management, leak repairs, installation of WDM devices, water savings campaign and quick to respond to repairing bursts have resulted in reduced real and apparent losses.	Remedial action not required.	Unaccounted for Water = 4 716 796 Ml (12 months)Total Water treated= 27 503 809 Ml (12 months)

Utility Services	Percentage drinking water compliance to SANS 241	99%	96%	Quart	96%	98.6% (12 Month rolling average)		Water quality in Cape Town is consistently above national targets for "Excellent quality water". This is due to the sound management of the entire water supply process incorporating the principal of continuous improvement. In addition more training was given to process operators during the year and auto labs installed in Water Treatment Plants.	Remedial action not required.	
	Percentage completion of key projects to ensure augmentation of bulk water resources: Desalination Feasibility Study	25%	40%	Quart	40%	40%		-	Remedial action not required.	A consultant has been appointed to conduct the feasibility study.
	Percentage completion of key projects to ensure augmentation of bulk water resources: TMG Aquifer	70%	75%	Quart	75%	74%		Exploratory phase reports have been completed and reviewed. Progress report on pilot phase to be submitted to appropriate Committee.	Expedite reporting on the pilot phase of the project.	

	Annual Review and development of Water Services Development Plan (Annual Report, WSDP)	WSDP 2011/12 approved as part of IDP, 2010/11 Annual Report completed	WSDP 2012/13 approved as part of IDP, 2011/12 Annual Report completed	Annual	WSDP 2012/13 approved as part of IDP, 2011/12 Annual Report completed	WSDP 2012/13 approved as Dept Plan on 17 May 2012. 2010/11 Annual Report is complete.		-	Remedial action not required.	2010/11 Annual Report is complete. Work on the 2011/12 Annual Report can only start on the completion of the 2011/12 financial year.
CS	Retention of scarce skills as measured by % staff turnover	6.50%	≤ 12% within skilled categories	Quart	≤ 12% within skilled categories	4.60%		-	Remedial action not required.	
CS	Staff availability as measured by % absenteeism	4.99%	≤ 4% average for the period 1 July 2011 to 30 June 2012)	Quart	≤ 4% average for the period 1 July 2011 to 30 June 2012)	5.45%		Water and Sanitation reported absenteeism at 5.45% of which 4.74% was sick leave and 0.71% unpaid unauthorised.	Continuous motivating of staff, counselling and where necessary disciplinary action. An initiative is being undertaken to change the shift structure across the Department. The Local Labour Forum 5 commissioned a subcommittee to consult with the unions on the implementation of a operational shift system to reduce overtime and shift work in order to align operations, to curb or reduce absenteeism due to fatigue and to reduce the exorbitant overtime and shift work recorded each month. A report is being drafted which will be submitted to Director for approval.Resource balancing where necessary is being investigated.	

CS	Percentage budget spent on implementation of WSP	71.8%	90%	Quart	90%	88.0%		The adjusted budget impacted negatively on the planned training intervention as no contingencies were in place for this.	- Appointed two labour brokers to focus on the Mayor's Apprentices' project - Proper planning for successful implementation of WSP13	
CS	8A.2 Percentage improvement of responsiveness in service delivery	NEW	100%	Quart	100%	77.78%		Last quarter's performance was pulled down significantly by the low closure rate in the Tygerberg district. This indicator reflects the low closure rate whereas in many cases complaints have in fact been responded to.	The backlog is to be addressed by a project which will close out all complaints that have been addressed. Notifications with revenue implications will be closed when the necessary information is returned from the field and captured.	
CS	% Compliance with EE approved plan per dept in terms of new appointments for the current financial year.	96.09%	% compliance as determined by Dept EE Plans	Quart	% compliance as determined by Dept EE Plans	98.0%		Target exceeded.	Remedial action not required.	
Fin	Percentage of Directorate's Capital budget spent (NKPI)	87.5%	95% of YTD	Quart	95% of YTD	94.1%		Lower than expected spent due to: appeals lodged against awarding of tenders, constraints of timely supply and performance by contractors, obtaining of Environmental Impact Analysis and way-leaves, weather conditions, savings on projects and dependency on other departments.	Planning process to be refined	

Fin	Percentage of Directorate's operating budget spent	101.0%	95-100% of YTD	Quart	95-100% of YTD	100.5%		Target exceeded.	Remedial action not required.	
	Percentage expenditure on Directorate's operational maintenance budget	98.3%	95-100% of YTD	Quart	95-100% of YTD	101.3%		Target exceeded.	Remedial action not required.	
Fin	Revenue collected as a percentage of billed amount	Water: 90.32%Sewerage: 85.94%	Water: 90.5%Sewerage: 90.5%	Quart	Water: 90.5%Sewerage: 90.5%	Water: 82.91%Sewerage: 86.76%		The accounts department uses different calculations to that of the Revenue Department. Revenue figures are calculated on a monthly basis based on outstanding debt and will include internal billing as well as debt written off. This equates to:Water = 92.93%Sanitation = 90.58% as at 30 June 2012.In line with Council's policy, debt action (Restriction) is not effected against the customers deemed as indigent. Such is addressed via the installation of water management devices. There is thus no encouragement / punitive measure which will have an impact on the calculation as performed by the Finance Department.	Water & sanitation department will address consistency of calculation with Accounts and Revenue Departments. Additional staff has already been appointed to increase the number of actions per day.	

Fin	Percentage annual asset verification process completed	93.37%	100%	Annual	100%	90.23%		Although W&S will always strive to verify 100%, the process is impacted upon by a number of circumstances, e.g. moveable equipment not available at time of scanning (laptops, etc.), administrative process not followed correctly (e.g. item condemned but forms could not be traced, items on database which have been auctioned but still on schedules until payment received, movement of offices without informing asset teams and where items have actually gone missing.	Unverified items that not be identified within deadlines are referred back to line managers for investigation and feedback and updated for future exercises. Continuous liaison with line managers to proper procedures are followed.	