



## ***CITY OF uMHLATHUZE***

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### *Water Services Development Plan- IDP Water Sector Input Report*

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*for IDP incorporation as directed by the Water Services Act (Act 108 of 1997)*

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### *FY 2018 - 2019*

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## Prepared by:

<i>Designation</i>	<i>Name</i>	<i>Contact No.</i>	<i>E-mail</i>
Mariswe	Sandra Munnik	012 424 9707	sandram@mariswe.com

## Abbreviations and Definitions

DWA	Department of Water Affairs
BDS	Blue Drop Certification System
CoU	City of uMhlathuze
DBSA	Development Bank of Southern Africa
DM	District Municipality
FBS	Free Basic Sanitation
FBW	Free Basic Water
FY:	Financial Year - means in relation to – <ul style="list-style-type: none"> <li>• a national or provincial department, the year ending 31 March; or</li> <li>• a municipality, the year ending 30 June.</li> </ul>
GDS	Green Drop Certification System
IDP:	Integrated Development Plan - An IDP is a legislative requirement for municipalities which identifies the municipality's key development priorities; formulates a clear vision, mission and values; formulates appropriate strategies; shows the appropriate organisational structure and systems to realise the vision and the mission and aligns resources with the development priorities.
LM	Local Municipality
MuSSA	Municipal Strategic Self-Assessment
MPAP	Municipal Priority Action Plan
m <sup>3</sup>	cubic metres = 1 000 liter = 1 kiloliter
MI	Megaliter = 1 000 kiloliter = 1 000 000 liter
NDP	National Development Plan
PPP	Public Private Partnership
SDBIP:	Service Delivery Budget Implementation Plan – is a management, implementation and monitoring tool that enable the Municipal Manager to monitor the performance of senior managers, the Mayor to monitor the performance of the Municipal Manager, and for the community to monitor the performance of the municipality.
WC/WDM	Water Conservation/Water Demand Management
WSA:	Water Services Authority - means a municipality with the executive authority and the right to administer water services as authorised in terms of the Municipal Structures Act, 1998 (Act No. 117 of 1998)

- WSDP: Water Services Development Plan – means the plan to be developed and adopted by the WSA in terms of the Water Services Act, 1997 (Act No. 108 of 1997)
- WSDP Guide Framework Modular tool which has been developed by the DWA to support Water Services Authorities in complying to the Water Services Act with respect to Water Services Development Planning and which is also used by the DWA to regulate such compliance
- WSP: Water Services Provider - means any person or institution who provides water services to consumers or to another water services institution, but does not include a water services intermediary

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## Introduction

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In accordance with the Municipal Structures Act (No. 117 of 1998), the City of uMhlathuze Local Municipality (the City of uMhlathuze or CoU) is the Water Services Authority (WSA) and the Water Services Provider (WSP).

The WSA has a duty to all consumers, or potential consumers, in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water supply and sanitation (collectively referred to as water services). As a WSA, the CoU must focus on water services and on providing at least a basic level of service to consumers in its area of jurisdiction.

To achieve this, the municipality takes a leading role in planning the following:

- Service Level Objectives;
- Water Resources;
- Water Conservation and Demand Management;
- Bulk Infrastructure;
- Institutional Arrangements;
- Organisational Support;
- Financial Management; and
- Tariff Policy.

The CoU is currently in the process of reviewing the Water Services Development Plan (WSDP) which was adopted in 2013. It is envisaged that the 2018/19 WSDP will be council approved by May 2018 and a full copy thereof will be available on the Department of Water and Sanitation's (DWS) WSDP web-based system. The WSDP is a key tool in achieving the objectives as mentioned above. The WSDP also feeds information into the Integrated Development Plan (IDP), which is the annual multi-sectoral plan for the CoU. This report is an outflow of the WSDP review process.

The Water Services Act, 1997 (Act No. 108 of 1997) places a duty on Water Services Authorities to prepare a Water Services Development Plan as part of the process of preparing any integrated development plan. Section 15 (5) of the Water Services Act, 1997 states that:

*A water services development plan must form part of any integrated development plan contemplated in the Local Government Transition Act, 1993 (Act No. 209 of 1993).*

The purpose of this report is to provide relevant and summarized water services development planning inputs for incorporation into the COU integrated development planning process and is structured as follows:

**Section A: Status Quo Overview:** *providing a summarized view of the water services status quo in terms of the water services functional business elements as aligned to the WSDP framework.*

**Section B: State of Water Services Planning:** *presents the status of- and references the water services development plan of the Water Services Authority.*

**Section C: Water Services Existing Needs Perspective:** *an overview of the WSA's assessment and interpretation of its water services, with specific focus on problem definition statements.*

**Section D: Water Services Objectives and Strategies:** *outlines the 5-year water services objectives and strategies as developed through the water services development planning process for incorporation in terms of the integrated development plan and aligned to the water services functional business elements.*

**Section E: Water Services MTEF Projects:** *the agreed water services projects for the medium-term expenditure framework and inclusive of funding sources.*

**Section F: WSDP Projects:** *presents the projects identified during the water services development planning process in order to meet the water services strategies of the water services authority, as aligned to the outflow from the situation analysis per water services business element.*

## Section A: Status Quo Overview

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The uMhlathuze Local Municipality was established on 5 December 2005 after the demarcation process and the local government elections at that time. Following the 2016 local government elections, the former Ntambanana Local Municipality was disestablished, and a portion of its former area was merged into the City of uMhlathuze Local Municipality. The CoU land area covers 123 359 ha.

The Municipality is characterised by highly developed urban areas surrounded by large areas of undeveloped, rural land. CoU Municipality comprises of Richards Bay, Empangeni, Vulindlela, eSikhaleni, eeNseleni, Felixton, Ngwelezane and four Traditional Authority Areas. The Traditional areas (Dube, KwaKhoza, Mkhwanazi North and South and Zunge-Madlebe) cover approximately 35% of the Municipal area.

The CoU contains a mixture of land use types that reflect the natural environment as well as activities associated with commercial and subsistence farming and forestry. Sugar cane and to a lesser extent citrus are the dominant crops under cultivation. Most of the economic activity (approximately 88%) takes place in Richards Bay, Empangeni and Felixton.

The 2016 Community Survey reports that the population for the CoU is 410 456 people within 110 503 households and the 2018/18 Integrated Development Plan (IDP) also reflects these figures. The demographic information used in the 2018/19 WSDP is in line with the 2016 Community Survey and reflects that CoU has a population of 410 457 and 110 503 households.

The 2018/19 WSDP describes the current water services status quo of the WSA's water and sanitation infrastructure plans for the 2018/19 financial year as well as defining their water services future demands and the projects that need to be implemented to address the current and future water services needs.

According to the backlogs quarterly report (31 March 2018), the current water backlog is **5.41%** and sanitation backlog **26.68%** but the Draft IDP Review 2018-2019 reports that the water backlog at 31 December 2017 was **21.67%** and the sanitation backlog **23.19%**. Both reports indicate that the initial backlog figures of 30 June 2017 were revised to include additional households when new wards that were under King Cetshwayo were merged with CoU.

As the Water Services Authority (WSA), the CoU has the responsibility to provide access to basic water supply, as well as basic sanitation that necessary to secure sufficient water and an environment that is not harmful to human health or well-being. Everyone has a right to basic water supply and basic sanitation.

### Topic 1: Settlements, Demographics & Public Amenities

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The following tables provide an overview of the current population and household figures within the City of uMhlathuze. There are currently **410 457** people living within **110 503** households. The average household size within the COU is **4.7** people per household.

The following tables indicate the settlements, urban/rural split and settlement type. The assessment score as indicated on the DWS WSDP online system is included in the tables to illustrate the accuracy of the information in Topic 1: Demographics & Public Amenities.

Settlement densities are highest in the formal urban areas, i.e. Empangeni, Richard's Bay, eSikhaleni, Ngwelezane, eeNseleni, Vulindlela and Felixton. Areas of denser settlement in the rural (Traditional Council) areas have developed at further distances from the formal urban areas. The distribution and allocation of land in the Ingonyama Trust Board land leads to the formation of unplanned settlements which puts pressure on the Municipality to provide water and sanitation services.

**Table 1: Settlement Summary**

1.1 Settlements Summary		
Section	Value	Assessment Score
1.1 Total Population	410 457	80
1.2 Total Number of Households	110 503	80
1.3 Average Household Size	4.79	80
1.4 Total Number of Settlements	56	80

A large percentage (87.5%) of the Municipality is rural and is illustrated in the table below.

**Table 2: Urban/Rural Split**

1.2 Summary by Settlement Group				
Settlement Type	Settlements	Population	Households	Assessment Score
Rural	38	200 496	52 042	80
Urban	18	209 961	58 461	80

Settlement classification for rural areas is according to the number of people per settlement. Settlements with less than 200 people are classified as scattered, a population of less than 5 000 as small and a population of 5 000 and more as dense villages. Most of the communities (28) within CoU are small villages with less than 5 000 people.

The CoU has identified the need to develop a detailed settlement layer that does not reflect the ward boundaries but drills down to suburb level within a ward. The settlement layer will be updated during the development of the bulk water master plan process. The expected completion date of the Bulk Water Master Plan is September 2018.

**Table 3: Settlement Type**

1.3 Assessment Score by Settlement Type						
Main Type	Settlement Type	Settlements	Population	Households	Avg. Household Size	Assessment Score
Rural	Rural - Small Village <= 5000	16	23 283	4 655	5.2	80
Rural	Rural - Dense Village > 5000	14	174 921	46 694	4.64	80
Rural	Rural Scattered	8	2 292	693	3.86	80
Rural	Farming	0	0	0	0.00	80
Rural	Working Towns and Service Centres - Mines, Prisons etc.	0	0	0	0.00	80
Urban	Urban - Former Township	11	119 839	31 475	5.42	80
Urban	Urban - Informal Settlements (Squatter Camp)	0	0	0	0	80
Urban	Urban - Formal Town	7	90 122	26 986	4.22	80

The CoU does not have detailed information available on the number of health and education facilities within its area of jurisdiction. The CoU is aware that they should engage with the Departments of Health and Public Works to collect information on these institutions. The public amenity information displayed in the tables below

is from the DWS Reference Framework dataset and needs to be verified and confirmed by CoU once engagement with the Departments of Health and Public Works have been established.

**Table 4: Health & Education Facilities**

1.4 Amenities Summary		
Amenity Type	Number of Amenities	Assessment Score
Health Facilities	45	10
Educational facilities	122	10

## Topic 2: Service Levels Profile

The WSA has a duty to all consumers, or potential consumers, in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water supply and sanitation (collectively referred to as water services). As the Water Service Authority (WSA) and Water Services Provider (WSP), the CoU has the responsibility of ensuring that all residents residing in the municipal area have access to at least a basic supply through communal water services (standpipe) and sanitation service (VIP).

The main water consumers within the CoU are urban (residential, commercial and light industrial), rural (including tribal areas), bulk industrial, irrigated agriculture and indirect water users (dryland agriculture, invasive plants and commercial forestry).

The CoU has a level of service policy for water and sanitation in place and is defined in the Free Basic Water (FBW) and Free Basic Sanitation (FBS) policies for urban and rural areas. The levels of services are as follows:

### Water Service Level Policy:

- Supply of water through communal water services i.e. standpipe; and
- Supply of uncontrolled volume of water to a household where a water meter is installed.

### Sanitation Service Level Policy:

- In formalised urban areas a waterborne system is implemented and in rural areas ventilated improved pit latrines (VIP) are installed. In peri-urban areas or dense settlements adjacent to urban areas, which are close to a water resource, the municipality promotes the installation of shallow sewers to protect a water source.

The CoU receives funding through the Municipal Infrastructure Grant (MIG), of which **70%** is allocated to water and **30%** to sanitation. Unfortunately, the 30% MIG funding allocated to sanitation is not adequate to reduce the sanitation backlog.

In the 2016/2017 financial year, 99.43% households had access to the basic RDP level of water supply service (communal supply less than 200 meters from a household). The figure of 99.43% was adjusted due to the new wards that were added to the CoU jurisdiction area and that resulted in a decrease in the number of households with a water supply backlog. The households that have access to water services for 2017/2018 is now 94.95% (104 522 households) sourced from the Backlogs report of March 2018. The number of households with backlogs are due to the addition of households from the new wards that were under King Cetshwayo District Municipality. The current overall water backlog is **5.41%** (5 981 households). Bulk water infrastructure needs to be installed within the new wards before the installation of water meters could be considered. This leads to the target (250) of new installations to reduce the backlog, not being met.

It is important to note that the Draft IDP Review 2018-2019 reports that the water backlog at 31 December 2017 was at 21.67% but the 2018/19 WSDP will report on the water backlog as 5.41% as indicated in the last backlog quarterly report of 31 March 2018.

The table below illustrates the improvement in the eradication of the water backlogs since the 2016/2017 financial year and March 2018 and considering the number of households that were added from King Cetshwayo District Municipality.

**Table 5: Improvement in Eradicating the Water Backlog**

Service Level	Baseline (2016/2017)	2017/2018 Target	2017/2018 Target	Stats Ending March 2018
<b>Total households = 110 503 (2016 Community Survey)</b>	<b>Households with access to water</b>	<b>Households with access to water</b>	<b>Amended Targets based on 2016 Community Survey</b>	<b>Household with access to water</b>
<b>ACCESS TO WATER</b>	<b>86 113</b>	<b>87 113</b>	<b>104 880</b>	<b>104 522</b>
House connections	44 308	44 308	47 511	47 511
Yard Connections	41 805	42 260	54 778	54 420
Communal Supply > 200 m (Backlog) Supplied with JOJO Tanks	24 055	23 390	6 623	5 981
New Installations reducing Backlogs (Target)	951	<b>1 000</b>	<b>1 000</b>	<b>Actual Q1 = 335 Actual Q2= 107 Actual Q3 = 200</b>

In the 2016/2017 financial year, 91.13% households had access to the basic level of service for sanitation (one VIP toilet per household). This figure has been adjusted due to the new wards that were added to the CoU that were under King Cetshwayo District Municipality and therefore the revised figure to have access to sanitation is not at 75% but 73.32%. The current sanitation backlog is at **26.68%** (29 483 households). It is important to note that the Draft IDP Review 2018-2019 reports that the sanitation backlog at 31 December 2017 was 23.19% but the 2017/2018 WSDP will report on the water backlog as 26.68% as indicated in the last quarterly backlogs report of 31 March 2018. The table below shows how CoU has improved in terms of eradicating the sanitation backlog.

**Table 6: Improvement in Eradicating the Sanitation Backlog**

Service Level	Baseline (2016/2017)	2017/2018 Target	Stats Ending March 2018
<b>Total households = 110 503 (2016 Community Survey)</b>	<b>Households with access to sanitation</b>	<b>Households with access to sanitation</b>	<b>Households with access to sanitation</b>
<b>ACCESS TO SANITATION</b>	<b>78 928</b>	<b>82 875</b>	<b>81 020</b>
Waterborne Sewerage	43 068	43 068	43 068
VIP Toilets	35 860	37 307	37 952
Backlogs	30841	29 075	29 483
New Installations (VIP)	<b>2 904</b>	<b>2 500</b>	<b>Actual Q1 = 734 Actual Q2 = 751 Actual Q3 = 607</b>

The DWS has changed the way in which water services backlogs are reported on within the WSDP. The National Development Plan (NDP) has set a services target to ensure that all households have at least 90% reliable services by 2019. The following tables indicate the current direct backlog in the CoU that could be ascribed to a lack of infrastructure, water shortages, poor functionality of existing infrastructure or a combination thereof. Most of the backlog within CoU will be addressed when new infrastructure has been installed in the new wards that were added. The assessment score as indicated on the DWS WSDP online system is included in the tables to illustrate the relation to 100% compliancy.

**Table 7: Direct Backlog (Water and Sanitation)**

Direct Backlog (Water & Sanitation)	Totals	Assessment Score
Direct settlement backlog water households. Total households of settlements with a water need (irrelevant the type of need)	5 981	70
Direct settlement backlog water population. Total population of settlements with a water need (irrelevant the type of need)	21 824	70
Direct settlement backlog sanitation households. Total households of settlements with a sanitation need (irrelevant the type of need)	29 483	60
Direct settlement backlog sanitation population. Total population of settlements with a sanitation need (irrelevant the type of need)	115 292	60

**Table 8: Water Supply Level Profile (2016 Community Survey)**

Water Profile	Totals	Assessment Score
<b>Section: Water Services Infrastructure Supply Level Profile</b>		
Piped water inside the dwelling/house-Households	17 787	80
Piped water inside yard-Households	25 812	80
Piped water distance <200m - Households	1 862	80
Piped water distance >201m - Households	751	40
Borehole in the yard - Households	134	40
Rain-water tank in yard - Households	283	40
Water vendor-carrier/tanker - Households	1 980	40
Stagnant water - dam/pool - Households	662	40
Flowing water/spring/ stream/river - Households	0	80
Water Other - Households	7	60

**Table 9: Water Reliability Profile**

Section: Water Reliability Profile	Totals	Assessment Score
Water Supply System	Scheme based	
Total Number of Households having Reliable Service. (Interpret Direct Backlog field above)	104 522	80
Total Number of Households NOT having Reliable Service due to: Infrastructure – EXTENSION	5 981	80

The table above shows that 104 522 households have a reliable service and 5 981 households do not have a reliable service due to new infrastructure that needs to be installed. Currently 94.6% of CoU's households have a reliable water service.

Outcome 9 of the Medium Term Strategic Framework's (MTSF) clearly states the goals that need to be met by 2019. The main objective of these goals is to ensure sustainable and reliable services delivery and are as follows:

- 90% of households to receive reliable and sustainable water supply services by 2019 (official Cabinet decision on 23 July 2014).;
- 80 % of households will have access to acceptable refuse removal services; and
- 1.4 million additional households to be connected to the grid and additional 105 000 households to non-grid energy.

This target is supported by the National Development Plan (NDP) and the new Sustainable Development Goals (SDGs adopted on 25 September 2015).

The critical element and focus of these goals are the issue of ensuring "reliable" services. The issue of unreliable services is a major concern as it is directly related to social and economic impacts with associated unhappiness, protest, unrest and vandalism with subsequent environmental pollution and health impacts. The key factors influencing reliable service delivery include service security, appropriate infrastructure, effective

operation and maintenance, infrastructure asset management, as well as professional business, institutional and financial management.

It must be noted that the figures below reflect formalised connections and exclude unauthorised connections.

**Table 10: Sanitation Level of Service**

Sanitation Profile	Totals	Assessment Score
<b>Section: Sanitation Service Infrastructure Supply Level Profile</b>		
Bucket toilet - Households	79	0
Pit without ventilation - Households	2 889	20
Pit toilet with ventilation (VIP) - Households	10 720	70
Chemical Toilet - Households	14 281	70
Flush toilet (with septic tank) - Households	1 873	80
Flush toilet (connected to sewerage system) - Households	18 546	80
None - Households	930	0

**Table 11: Sanitation Reliability Profile (2016 Community Survey)**

Section: Sanitation Reliability Profile	Totals	Assessment Score
Infrastructure to be upgraded: None to VIP (HH)	19 202	0
Infrastructure requirement: None to waterborne. (HH)	10 281	40
Infrastructure to be upgraded: Pit to VIP (HH)	0	40
Household not having reliable service due to Resource - Water Security	0	40
Household not having reliable service due to Functionality	0	40
Household requiring Existing Scheme Refurbishment	0	40
Household requiring VIP Refurbishment	0	40

The CoU consider the impact of water and sanitation supply to the private development initiatives that are planned for the Municipality and are listed below:

- Zulti South – new mining operations by Richard's Bay Minerals;
- SAPPI Housing Development – establishing of a residential township north of Birdswood;
- Westview Residential – 540 single residential erven, commercial erven, 3 high-density residential erven and conservation area; and
- Carsdale – mixed residential development consisting of 671 single residential erven, 2 commercial erven, group housing and conservation area.

The CoU has many large industrial water users such as Mondi Richard's Bay, Richards Bay Minerals, Tronox, Foskor, Hillside and Bayside Aluminium (BHP Billiton), Tongaat Hulett Sugar Mill, Mpact and the Richards Bay coal terminal and port. Water use has been stable over recent years, but future growth is expected from these industries as well as growth in domestic water use.

### **Public Amenities**

The Municipality currently does not record or monitor the provision of water and sanitation services to schools, tertiary institutions, clinics and hospitals in the urban and rural areas. The CoU is aware that engagement with the Departments of Health and Education is necessary for the Municipality to report on the provision of water services to these institutions.

The public amenity information displayed in the tables below is from the DWS Reference Framework dataset and needs to be verified and confirmed by CoU once engagement with the Departments of Health and Education have been established.

**Table 12: Water Service Levels: Education Facilities**

Associated services facility	Number of facilities	Facilities with No Services	Facilities with Inadequate Services	Total Potential Cost (basic level) (RM)
Water				
2.1.1 Education Plan				
Primary School	0	0	0	0
Secondary School	0	0	0	0
Tertiary	0	0	0	0
Combined	0	0	0	0
Special Needs	0	0	0	0
Other	122	0	11	10
	Total	0	11	0
2.1.2 Health Plan				
Hospitals	3	0	0	0
Health Centres	20	0	0	0
Clinics	22	0	0	0
Other	0	0	0	0
	Total	0	0	0

**Table 13: Sanitation Service Levels: Health Facilities**

Table 15: Sanitation Service Levels: Health Facilities				
Associated services facility	Number of facilities	Facilities with No Services	Facilities with Inadequate Services	Total Potential Cost (basic level) (RM)
Sanitation				
2.1.1 Education Plan				
Primary School	0	0	0	0
Secondary School	0	0	0	0
Tertiary	0	0	0	0
Combined	0	0	0	0
Special Needs	0	0	0	0
Other	122	0	41	10
	Total	0	41	0
2.1.2 Health Plan				
Hospitals	3	0	0	0
Health Centres	20	0	0	0
Clinics	22	0	0	0
Other	0	0	0	0
	Total	0	0	0

### Topic 3: Water Services Asset Management

Bulk Water and Sanitation Master Plans have been developed for the Municipality. Currently the 2014 Bulk Water Master Plan is in the process of being reviewed. The CoU is in the process to appoint a service provider to review the 2015 Bulk Sanitation Master Plan. The review of these documents is necessary to focus on sustainable water schemes and to include new developments, refurbishments and upgrades.

The CoU keeps an Asset Register that documents all the assets, condition, remaining useful lives and financial information. The Municipality has indicated that an Infrastructure Asset Management Plan and an Asset Management Policy is in place. The main aim of the Policy is to ensure the proper maintenance of infrastructure assets. The CoU strives to a fully integrated Asset Management system solution. The Policy complies with GRAP standards. The CoU should consider developing a Water and Sanitation Asset Portfolio Refurbishment Plan, as it will serve as a guideline for the planning and budgeting of future asset renewal and refurbishment needs to its water and sanitation assets. Currently pipe replacements, system maintenance and non-revenue activities are conducted in a reactive manner instead of doing it through a proactive Pipe Replacement Programme.

Borehole developments are restricted to rural areas and privately-owned farmlands. The CoU is aware that the information on the status of boreholes is limited and unreliable. Most boreholes are suspected to have fallen into disuse, following the progressive availability of alternative supply.

The 2017/2018 Asset Register received from the City of uMhlathuze was used to update the current infrastructure components in the DWS Reference Framework database. The table below illustrates the current infrastructure components in the DWS Reference Framework database. The number of WTWs and WwTWs include treatment works not owned by the Municipality as well.

**Table 14: Infrastructure Components**

Assets	Boreholes	Abstraction Points	WTW	Water Pump Stations	Sewer Pump Stations	Water Bulk Pipelines	Sewer Bulk Pipelines	Reservoirs	WWTW	Assessment Score
3.1.1 Total number of components / km of pipeline / units	50	4	5	10	66	436.22	142	414	8	75

### Blue Drop Status

The Municipality has 3 water treatment works (WTW) and 5 wastewater treatment works (WWTW). The Mzingazi, eSikhaleni & Ngwelezane WTWs are owned by the Municipality but operated by Mhlathuze Water. The Ngwelezane WTW received Blue Drop Certification in 2014 with a score of 95.02%. The Municipality also receives water from the Nsezi WTW but this WTW is owned and operated by Mhlathuze Water. The Nsezi WTW also received Blue Drop Certification with a score of 95.38%. The average score for all the WTWs were 89.6%.

### Green Drop Status

A marked improvement in the overall scores for all the WWTWs is noted. The Ngwelezane, Nseleni and Vulindlela WWTWs received Green Drop Certification in 2014 with the average score for all the WWTWs being 84.94%.

The table below indicates the current infrastructure components in terms of functionality, operation, condition and refurbishment needs.

**Table 15: Refurbishment Need & O&M Occurrence**

	Refurbishment Need			O&M Occurrence				Observation		
	High	Medium	Low	Regular	Periodic	Sporadic	None	Dysfunctional	Operational	Prime Condition
Boreholes	0	50	0	0	0	50	0	0	50	0
Reservoirs	258	16	131	1	131	16	0	258	148	0
Water Pump Stations	0	2	7	0	7	3	0	0	10	0
Bulk Lines	189.2	67.8	100.25	25.33	83	58.12	0	0	0	0
WTW	0	0	1	5	0	0	0	0	2	2
WwTW	0	1	4	0	4	3	0	0	7	0

Reservoirs have the highest refurbishment need. Most of the components are operational with O&M occurring periodically.

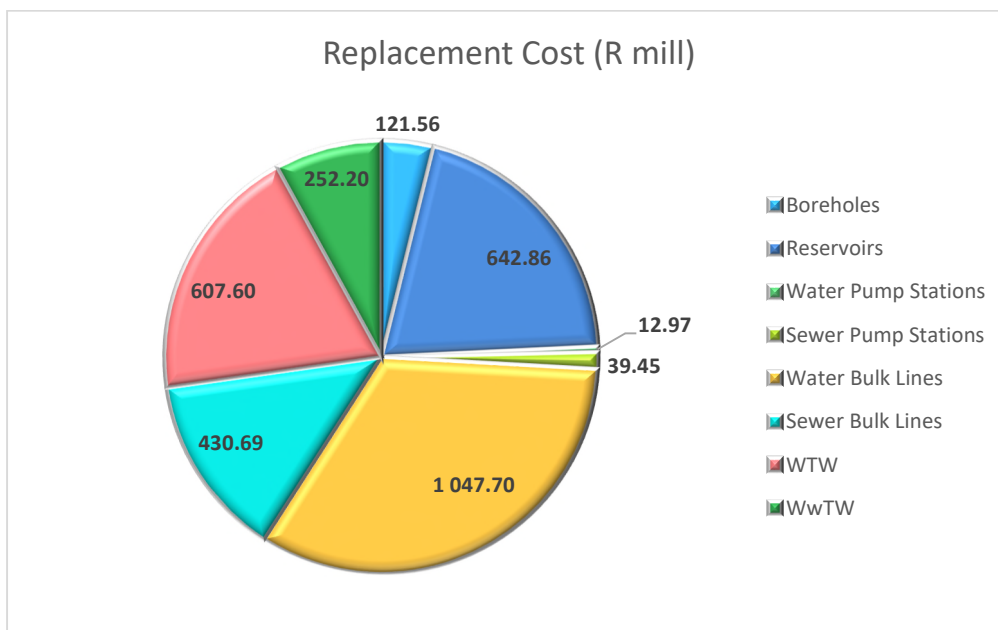


Figure 1 illustrates the total replacement cost at R 3.15 billion. The replacement cost of the water bulk pipelines is the most at approximately R 1 billion followed by the reservoirs at R 642 million and the water treatment works at R607 million.

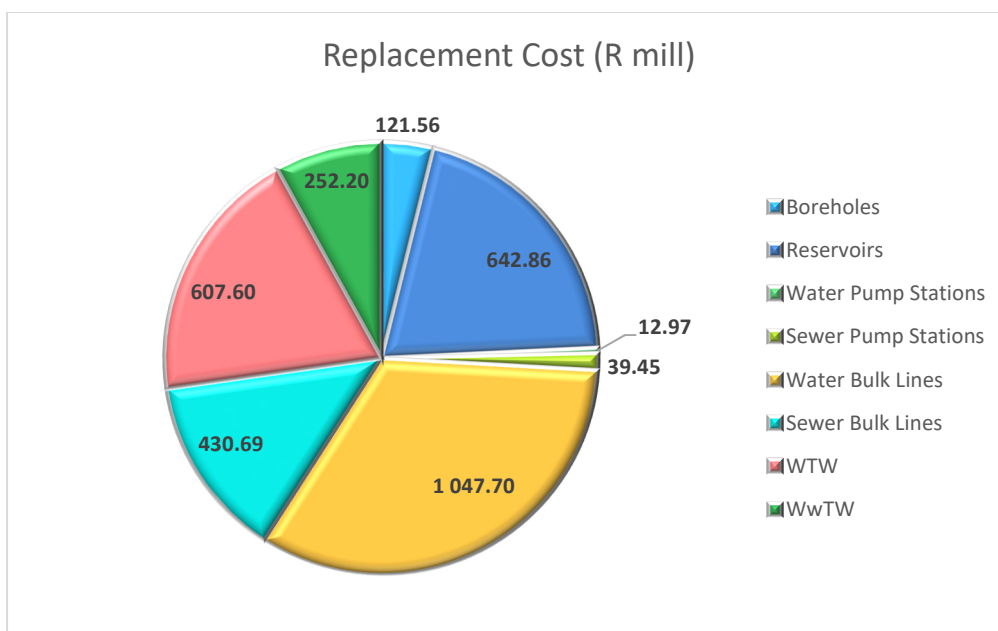
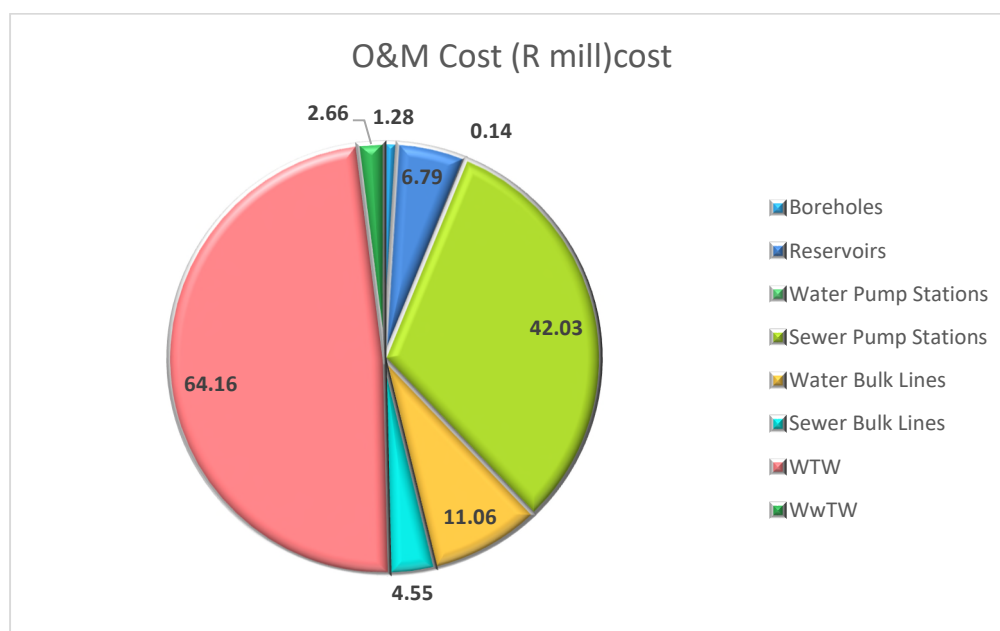


Figure 1: Replacement Cost



**Figure 2: Operation & Maintenance Cost**

Figure 2 above indicates that the total operation and maintenance costs amounts to R 132 million with the O&M costs of the water treatment works the highest at R 64 million per annum followed by the sewer pump stations at approximately R42 million.

#### Topic 4: Water Services O&M

The CoU has adopted an Operation and Maintenance Plan, but the CoU needs to continually review and maintain its Operation and Maintenance Plan. The Municipality is in the process to develop a long term strategy for the operation and maintenance of the water and wastewater treatment works.

#### Topic 5: Water Conservation and Demand Management

Water losses are a major concern for the CoU as they affect not only the operational processes, but also impact the financial, social and environmental aspects of the Municipality. The water loss percentage has stabilised to an average of 18% which is much lower since the Reduction of Non-Revenue Contract was implemented in 2014.

The CoU does have a Water Conservation and Demand Management Strategy in place and the following activities were successfully implemented:

- Pressure reducing valve zones were designed, audited and maintained;
- Leak detection programme;
- Bulk meters audited and replaced where necessary;
- Reservoir outlet meters repaired and replaced; and
- All properties within CoU have been visited and meter and water connections audited.

The CoU is in the process to develop a Management Plan to reduce non-revenue water in the Municipality. Although the CoU is accelerating the delivery of water services, it is also facing the challenge of significant non-revenue water. The Municipality is aware that if water losses are not addressed, it will jeopardise the financial viability of the Municipality and undermine the sustainability of service delivery.

The Department of Water and Sanitation has also increased the regulation of the Water Conservation and Water Demand Management (WC/WDM) affairs of WSAs and WSPs which also encourages the CoU to implement WC/WDM initiatives.

The CoU intends to partner with the Development Bank of Southern Africa (DBSA) and apply for funding and technical support for the development of a Management Plan to reduce non-revenue water in the CoUs area of jurisdiction. The Management Plan's focus will be on reducing non-revenue water and will not necessarily address the broader issues affecting water conservation and water demand management.

Water loss figures are not just through leakages from the system, but also from illegal water connections in the rural areas and connected consumers that are not on the billing database. It is CoU's objective to reduce the levels of unaccounted for water throughout the Municipality by implementing sustainable and effective water conservation and water demand management initiatives systematically.

The CoU faces the following challenges in its efforts to keep the volume of non-revenue water to acceptable levels:

- Allocated budget is insufficient and operating costs cannot be recovered due to non-payment of services and the tariff structure;
- Lack of skilled and experienced staff;
- Key O&M staff work overtime to address leaks, burst pipes and equipment failure;
- Poor and ageing water and sanitation infrastructure;
- Insufficient funds to refurbish infrastructure and for standby equipment;
- Minimal or no bulk or zonal metering in the rural areas;
- Rural areas have a high need for pressure management interventions;
- Pressure management devices are not maintained due to lack of skilled staff; and
- Lack of education and water conservation awareness.

Not all the reduction in non-revenue water can be attributed to the programme as water restrictions were also imposed as well as industries reducing their usage to alleviate the effects of the drought.

The table below illustrates the CoU's strategies to reduce unaccounted water through night flow metering, combatting illegal connections, attending to reticulation leaks and implementing leak and meter repair programmes.

**Table 16: Reducing Unaccounted Water**

Reducing unaccounted water and water inefficiencies			Assessment Score
	5.1.1 Night flow metering	Yes	85
	5.1.2 Day flow metering	Yes	85
	5.1.3 Reticulation leaks	Yes	85
	5.1.4 Illegal connections	Yes	85
	5.1.5 Un-metered connections	Yes	85
	Topic: 5.2 Leak and meter repair programmes. Consumer units targeted by:		
	5.2.1 Leak repair assistance programme	Yes	85
	5.2.2 Retro-fitting of water inefficient toilets	Yes	85
	5.2.3 Meter repair programme	Yes	85
	Topic: 5.3 Consumer/end-use demand management: Public Information & Education Programmes		
	5.3.1 Schools targeted by education programmes	Partial	50
	5.3.2 Consumers targeted by public information programmes	Partial	50

Figures 3 below indicates the Municipality's non-revenue water trend from July 2016 to June 2017 and it averages 22% over the same period. These trends are according to the water balance volumes as recorded by the CoU.

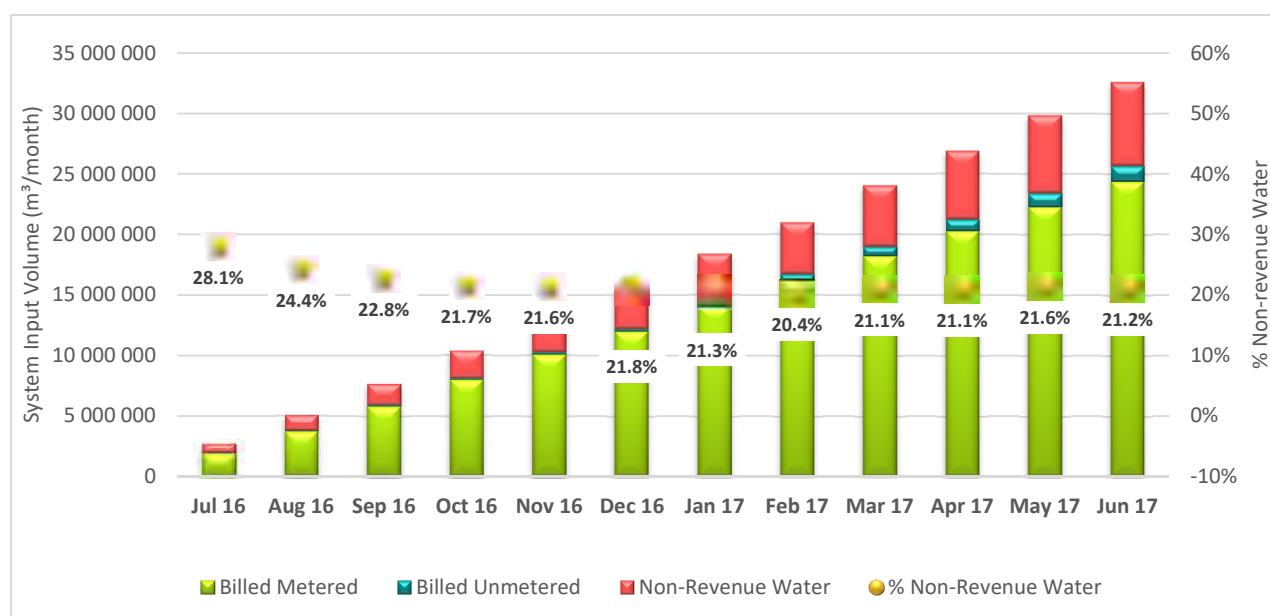
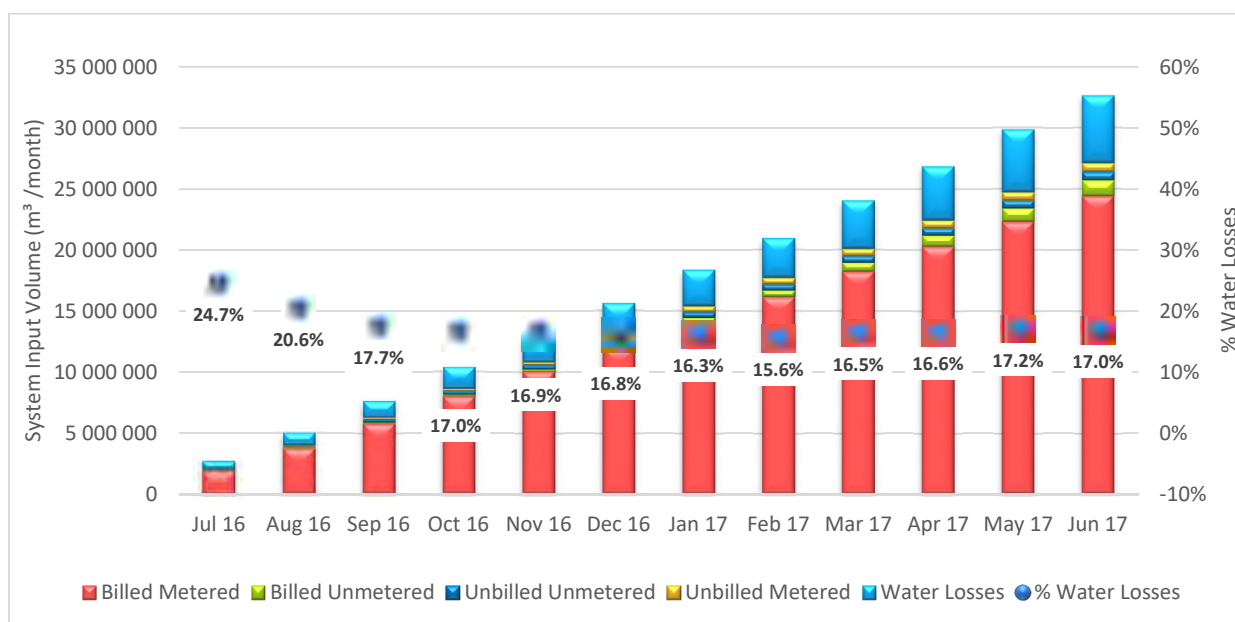
**Figure 3: CoU Non-Revenue Water (NRW) Trend from July 2016 to June 2017**

Figure 4 below indicates the Municipality's water loss trend from July 2016 to June 2017 and it averages 18% over the same period.



**Figure 4: CoU Water Loss Trend for July 2016 to June 2017**

The CoU should consider the Department of Water Sanitation's (DWS) "Water Reconciliation Strategy for Richards Bay and Surrounding Towns", when implementing WC/WDM initiatives as the report recommends interventions the Municipality should consider and aims to meet the potential water requirements in Richards Bay and surrounding towns and rural communities up to 2040. The report recommends the following WC/WDM interventions to be implemented:

- Urban WC/WDM;
- Bulk industrial WC/WDM – continuation of existing initiatives aimed at significant industrial water users but also other industrial water users; and
- Raising of Goedertrouw Dam by 2.8m.

## Topic 6: Water Resources

Water is sourced from the Goedertrouw Dam and the Mhlathuze River and from various natural lakes (Lake Cubhu, Mzingazi and Nsezi) in the catchment and is augmented by transfers from the Thukela River and the Mfolozi River. Lake Nsezi is a coastal lake being fed by rivers further inland and is augmented from the Mhlathuze Weir.

The Municipality controls the Lake Mzingazi and Lake Cubhu supply schemes as well as abstraction from the Mhlathuze River, except from the Mhlathuze Weir and Lake Nsezi, which is the responsibility of Mhlathuze Water. Because the CoU also gets bulk water supplies from Mhlathuze Water, the Water Board is a bulk WSP to the Municipality.

Boreholes are restricted to rural areas and privately-owned farmlands. Information on the status of boreholes is limited and unreliable. Most boreholes have fallen in disuse.

Irrigation is supplied from Goedertrouw Dam under the Government Water Scheme.

The tables below indicate the number of sources that the CoU accesses to supply water to their consumers. CoU relies on surface water as the main water source. Additional water is purchased from Mhlathuze Water.

**Table 17: Water Resources**

* Number of sources	* Current abstraction (Mm3/A)	Components abstraction registered	Components abstraction recorded	* Licensed abstraction (Mm3/A)	Community water supply		Assessment Score
					Rural	Urban	
Boreholes	0	0	0	0	0		0
Surface Water Abstract	75.5	4	4	171.72	9.45	5.002	80
External Sources (Bulk Purchase)	131.15	1					80
Water returned to source		1					80
Conjunctive Use							

**Table 18: Additional Sources from Mhlathuze Water**

Additional Source Available	* Number of sources	Potential Volume	* Licensed abstraction (Mm3/A)	Assessment Score
Ground Water	0	Unknown	0	20
Surface Water	0	Unknown	0	20
External Sources (Bulk Purchase)	1	Unknown		20

The CoU has identified the need to ensure that appropriate groundwater monitoring programmes should be established and implemented to improve the information available on groundwater.

**Table 19: Monitoring**

Topic: 6.2 Monitoring	Assessment Score
6.2.1 % of water abstracted monitored: Surface water	98%
6.2.2 % of water abstracted monitored: Ground water	0%
Topic: 6.2 Monitoring	Assessment Score
6.2.4 Surface water levels (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Weekly 80
6.2.5 Ground water levels (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Never 0
6.2.6 Water quality for formal schemes? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Weekly 80
6.2.7 Water quality for rudimentary schemes? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Monthly 80
6.2.8 Borehole abstraction? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Never 0

### Drinking Water Quality

The Scientific Services section is responsible for the effective management of continually monitoring and maintaining the quality of water within the CoU. The two main sections of the Scientific Services are the laboratory and Water Quality Management section. Samples from various sources are collected for analysis to determine water quality.

An extensive water quality monitoring programme for drinking water has been implemented. The monitoring programme includes the following:

- Water Treatment Works;
- Drinking Water Reticulation monitoring; and
- Wastewater Treatment Works.

The Draft IDP Review 2018-2019 indicates that the Municipality has a Laboratory Information Management System (LIMS) in place. LIMS is software that is used for creating, processing and storage of laboratory information according to ISO 17025 and customer requirements. By use of LIMS, the laboratory can automate workflows, integrate instruments and manage samples, analytical result and associated information for reporting purposes. The Scientific Services is in the process of implementing Labware LIMS which will allow for effective management of data to improve laboratory efficiency and reliability.

CoU reviewed their Water Safety Plans (2016) in consultation with Mhlathuze Water Board who are currently appointed for the operation and maintenance of all the water treatment works within the City of uMhlathuze. It is proposed that the Water Safety Plans be reviewed to align with the new financial year budget planning and the Blue Drop Water Services Audit processes. With the review of the Water Safety Plans, the CoU needs to ensure the Water Safety Plans align with the SANS 241-2015 requirements.

**Table 20: Water Quality**

Topic: 6.3 Water Quality	In place	Status Quo	Assessment Score
6.3.1 Reporting on quality of water taken from source: urban & rural	Yes	95%	90
6.3.2 Quality of water returned to the resource: urban	Yes	95%	90
6.3.3 Quality of water returned to the resource: rural	No	0%	0
6.3.4 Is there a Pollution contingency measures plan in place?	Yes	95%	80
6.3.5 Quality of water taken from source: urban - % monitored by WSA self?	Yes	95%	90
6.3.6 Quality of water taken from source: rural - % monitored by WSA self?	Yes	80%	75
6.3.7 Quality of water returned to the source: urban - % monitored by WSA self?	Yes	95%	95
6.3.8 Quality of water returned to the source: rural - % monitored by WSA self?	Yes	80%	75
6.3.9 Are these results available in electronic format? (Yes/no)	Yes	100%	90
6.3.10 % Time (days) within SANS 241 standards per year		95%	95
6.4 Abstraction IS registered with DWS	Yes	0	50
6.4.1.2 The abstraction IS NOT registered with DWS			0
6.4.2.1 The abstraction IS recorded			50
6.4.2.2 The abstraction IS NOT recorded			0

A Water Quality Monitoring Programme (WQMP) has been developed and implemented. The following areas are monitored for possible pollution:

- Surface water – Lakes Cubhu & Mzingazi, Rural/urban suburbs (stormwater streams), rivers/streams/canals, industrial (stormwater streams), pumpstations (streams close to pumpstations);
- Coastal water – Alkanstrand 1 & 2;
- Groundwater – Municipal cemetery, landfill site; and
- Sewage – Industrial effluent (sewage network).

The CoU has embarked on installing monitoring equipment at all its water and wastewater works to monitor and evaluate the plant process against standards and specifications. The Municipality has partnered with CSIR who will support the current online equipment by integrating the CoU equipment with CSIR Water Quality Monitoring Systems (WQMS).

### **Wastewater Monitoring**

An extensive water quality monitoring programme for wastewater quality has been implemented.

The Draft IDP Review 2018-2019 reports that the Municipality has developed a sewage disposal system. The Municipality ensures that all the contributors connected to the sewer system adhere to the required stipulations of the Water Services By-Laws.

The Water Quality Management section has implemented a permit system which assists the Municipality to minimise impacts to the sewage system from the discharge of effluent by industries.

The Municipality manages all industrial effluent discharge into the municipal sewage system by charging industries penalty fees in cases on non-compliance depending on the severity of the non-compliance. CoU has developed a Trade Effluent Policy which has been adopted by Council.

### ***Feasibility Study to determine the viability of Re-using Treated Wastewater***

The CoU recognised the importance of securing an adequate water supply to support its planned growth. CoU identified that the water demand in 2025 is expected to increase by 75% and the demand is expected to exceed the current lawful water use by the CoU within the next few years. CoU decided to undertake a comprehensive feasibility study and identify the most viable solution for dealing with wastewater and associated by-products generated within the Municipality.

The CoU appointed a Service Provider in December 2016 to conduct a comprehensive feasibility study to determine the viability of re-using treated wastewater to augment its other sources of water supply. The purpose of the feasibility study is to assess whether conventional public procurement or a Public Private Partnership (PPP) for the reuse of waste water is in the best interests of the CoU for the delivery of the service.

The following conclusions were made with the Feasibility Study:

- The expected growth in water demand within the municipal area of CoU will outgrow the available yield from the water sources before a sufficient water augmentation can be implemented. This will result that growth will be limited by the availability of water.
- Due to the proximity of CoU to the sea, the utilisation of treated effluent as re-use water will result in augmenting the water source of CoU. The current total potential re-use volume for the CoU is 79,5 Mℓ /day.
- Currently industries within the CoU are being supplied with potable water for their potable and industrial requirements. Industries indicated that they can utilise 72,91 Mℓ /day of re-use water in lieu of potable water.
- From a water resource perspective, the supply of re-use water should be maximised to match the total demand for re-use water.
- The most beneficial option for the supply of re-use water is a regional treatment works with total capacity of 75 Mℓ/day located at a site that is high enough to gravity feed to the off-takers. The effluent will be collected through a pumped collection system. Various options were identified, and the option selected as the preferred option, entails a 75 Mℓ/day treatment facility on a new regional site, which collects and treats the effluent from the Ngwelezane WWTW, Empangeni WWTW, Alton Macerator, Arboretum Macerator and Mondi Paper Mill WWTW, and supplies treated re-use water to the RB IDZ, Foskor, South 32, RBM and Eskom. Since the existing treatment works at Empangeni and Ngwelezane would be decommissioned and replaced by pump stations, all predicted future domestic effluent flows to these treatment works would have to be accommodated by the new regional waste water treatment plant that will form part of the re-use project. The same principal applies to the flows that will be generated in the catchments of the Arboretum and Alton Macerator sites.
- The site for the regional treatment works is in the process of being secured by the CoU before the RfP process.
- An economic analysis has shown that thermophilic digestion to be the most viable digestion option and it was recommended that thermophilic digesters with biogas beneficiation for electricity production using CHP engines be implemented as part of the project.
- As a social project a composting operation should be implemented as a final sludge treatment for the sludge produced by the waste water treatment works.
- The Environmental Impact Assessment authorisation should commence as soon as TVR-I approval for the project was obtained.
- The project is line with Section 78 of the Municipal Systems Act and all stakeholders are being consulted.
- The tariff structure for sale of treated water to off-takers is comparable to tariffs that off-takers pay currently, while transfers risk to the private party for design, build, finance, manage and operations.

- If the programme is adhered to, construction by the private party may begin as early as June 2019.

## Topic 7: Finance

Service revenue from water has dropped significantly due to the reduction in usage from the effects of the down-turn in the economy in the last few years and a reduction in consumer behaviour due to drought restrictions. The CoU tariff structure includes tariffs for water, sanitation and drought water tariffs (stage 1 – stage 4). Drought water tariffs for stage 5 will be determined and structured in a way that the Council will be able to maintain the required budget as the tariffs are linked to a water reduction which is not currently available. CoU review their tariffs annually and is approved by Council. Tariffs increases are kept below 7% and amended and approved annually. The tiered municipal tariffs provide for an element of cross subsidisation on the tariffs themselves. The level of debt collection has remained consistent and continuous improvement is sort.

Current water, water drought and sanitation tariffs are indicated in the tables below.

**Table 21: Potable Water Tariffs (2017/2018)**

Potable Water	Tariffs 2017/18
<b>Domestic:</b>	
0.0 - 0.2 kl per day – if consumption is lower than 200ℓ per day	R0.00
0.0 - 0.2 kl per day – if consumption is higher than 200ℓ per day	R4.94
0.2 - 0.5 kl per day	R5.93
0.5- 1 kl per day	R13.88
1.0 - 2.0 kl per day	R18.39
Above 2.0 kl per day	R23.99
<b>Other Consumers:</b>	
0.0 - 0.5 kl per day	R10.87
0.5 - 1.0 kl per day	R15.86
1.0 - 2 kl per day	R18.73
Above 2.0 kl per day	R1850

**Table 22: Drought Water Tariffs (2017/2018)**

Drought Water Tariffs	Stage 1 10% Res, 5% Other Reduction	Stage 2 20% Res, 10% Other Reduction	Stage 3 30% Res, 15% Other Reduction	Stage 4 60% Res, 15% Other Reduction
<b>Domestic:</b>				
0.0 - 0.2 kl per day – if consumption is lower than 200ℓ per day	R0.00	R0.00	R0.00	R0.00
0.0 - 0.2 kl per day – if consumption is higher than 200ℓ per day	R5.38	R5.87	R6.40	R6.97
0.2 - 0.5 kl per day	R6.46	R7.04	R7.68	R8.37
0.5- 1 kl per day	R15.13	R16.49	R17.98	R19.59
1.0 - 2.0 kl per day	R20.05	R21.86	R23.82	R25.97
Above 2.0 kl per day	R26.15	R28.51	R31.07	R33.87
<b>Other Consumers:</b>				
0.0 - 0.5 kl per day	R11.85	R12.92	R14.08	R15.35
0.5 - 1.0 kl per day	R17.28	R18.84	R20.53	R22.38
1.0 - 2 kl per day	R20.41	R22.25	R24.25	R26.43
Above 2.0 kl per day	R19.79	R21.18	R22.66	R24.25

**Table 23: Sewerage Charges (2017/2018)**

Sewerage	Unit	Tariffs 2017/18
Developed residential land per kl and capped as per Water Services Bylaw	per kl	R9.50
Developed other than residential land per kl as per Water Services Bylaw	per kl	R9.57
Sewerage (Undeveloped) – Residential on 20kl	20kl	R68.54
Sewerage (Undeveloped) other than Residential	per m <sup>3</sup>	R3.43

CoU identified the operational repairs and maintenance of water and sanitation assets as imperative due to the ageing infrastructure and historic deferred maintenance. For the 2018/2019 financial year the repairs and maintenance budget has been increased. Water infrastructure received only R88 million during the 2017/2018 financial year, but this amount will be increased to R 106 million for the 2018/2019 financial year. Sanitation received R 58 million during 2017/2018 but will receive R 65 million in the next financial year.

The provision of water is the third largest revenue contributor. The severe drought has resulted in lower consumptions by both the households and industries in the area. The challenge the Municipality is facing is that the bulk of the costs are fixed and instead of making a surplus, it is making a deficit.

Another challenge for the Municipality is that most of the households in CoU do not pay property rates or water and sanitation charges as individual properties within the Ingonyama Trust land are not separately valued and not subject to the Municipal Property Rates Act although most of these households receive municipal services such as water and sanitation services.

### ***Free Basic Services and Indigent Support***

There are currently four separate policies that provide support to the indigent.

- The Indigent Policy;
- The Rates Policy;
- The Credit Control Policy; and
- The Free Basic Electricity Policy.

The CoU developed a social package to assist households that are indigent. The social package includes:

- Free water for consumers that consume 200 litres and less per day for a month or the first 6 000 litres of water per month;
- When a consumer uses more than 200 litres per day for a month, then all water consumed needs to be paid for;
- Free sewer, rates and refuse charges if the property is valued less than R120 000;
- Refuse skips are strategically placed; and
- Targeted support to very poor and child run households.

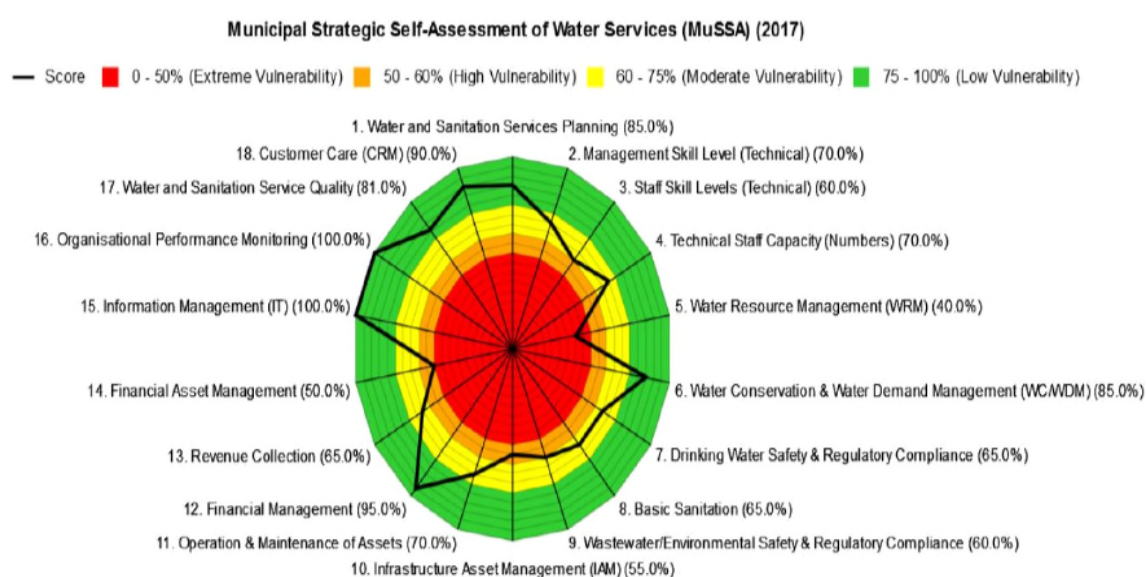
The cost of the social package of the registered indigent households is largely financed from the equitable share received from the annual Division of Revenue Act. For the 2017/2018 financial year the equitable share the Municipality received amounted to R 292 million while the social package totalled R 316.3 million. The Municipality used internally generated funds to bridge the shortfall.

## **Topic 8: Water Services Institutional Arrangements and Customer Care**

The CoU renders the water services provision function including the bulk- and retail functions in both its urban and rural areas. CoU uses Mhlathuze Water to operate and maintain its municipal WTWs and WWTWs on behalf of the Municipality. Because COU also gets its bulk water supplies from Mhlathuze Water, the Water Board is a bulk WSP to the municipality for the supply of Richards Bay.

The Municipal Strategic Self-Assessment (MuSSA) is an annual DWS survey each Water Service Authority must undertake. The objective of the MuSSA is to determine the “business health” of a municipality to fulfil its water services function and to address areas of vulnerability within the WSA. The assessment also shows municipal interventions and improvements that are required. MuSSA’s are generally completed as part of the five (5) year reliability studies for municipalities. COU completed their MuSSA assessment in November 2017. The assessment identifies which key areas of service have the highest vulnerability per municipality. These key areas provide input into a Municipal Priority Action Plan (MPAP) to redress water service vulnerabilities. The MPAP in turn links to the Municipal Water Services Development Plan (WSDP) and the associated Master Plan, the Integrated Development Plan (IDP) and Service Delivery and Budget Implementation Plan (SDBIP).

The spider diagram below illustrates the vulnerability levels across key areas. 40% vulnerability on Water Resource Management is of concern but the CoU is in the process of developing a Lakes Management Plan which will assist in managing the water resources including Lake Mzingazi, Lake Cubhu and other lakes.



The table below indicates the 16 key business health attributes/vulnerability levels of the WSA.

**Table 24: MuSSA – 16 Key Business Health Attributes**

Date of completion		24/11/2017					
Questions							
Municipality type	A - Metro	B1 - LM	B2 - LM	B3 - LM	B4 - LM	C2 - DM	
Water service provider type	Internal (i.e. municipality)	External (e.g. Water Board, service provider)	Combination of internal and external				
Wastewater service provider type	Internal (i.e. municipality)	External (e.g. Water Care Company, service provider)	Combination of internal and external				
Water system maintenance	Internal (i.e. municipality)	External (e.g. service provider)	Combination of internal and external				
Wastewater system maintenance	Internal (i.e. municipality)	External (e.g. service provider)	Combination of internal and external				

Date of completion		24/11/2017					
Questions							
You are able to respond within necessary timeframes to emergencies, via internal staff and resources, or through other procurement processes (e.g. 'as and when' required contracts)	Yes, strongly agree	In place, with occasional non-optimal response	Partially in place, but not ideal	No, disagree	Don't know		
The key staff (i.e. managerial) turnover in your WSA	High: > 25% (i.e. problematic, frequently lose staff)	Moderate: 10 - 25% (i.e. occasionally lose staff)	Low: < 10% (i.e. not an issue, good staff retention)	Don't know			
Your WSA has developed and implemented a scarce skills policy	Yes, developed and implemented	Yes, developed and partially implemented	In development	No, not developed	Don't know		
Your WSA is preparing for the impacts of pending and/or new regulations (for e.g. Regulation 813 (previously Regulation 17) (WTW and WWTW process controllers))	Yes, strongly agree	In process	No, disagree	Don't know			
Your WSA actively provides required drinking water related data to the Regulator (e.g. Blue Drop participation)	Yes, strongly agree	In process	No, disagree	Don't know			
Regular drinking-water quality monitoring and management (including boreholes) is performed for ALL communities/towns in the WSA	Yes, all (i.e. 100% of WSA population)	Almost all (i.e. >95% of WSA population)	Most (i.e. >75% of WSA population)	Some (i.e. >50% of WSA population)	<50% of WSA population	None (i.e. 0% of WSA population)	Don't know
WTWs operational capacity as a function of total design capacity (NOTE: Combine for ALL WTWs within your WSA)	>105%	>100% - 105%	>95% - 100%	90% - 95%	<90%	Don't know	Not applicable
Your WSA actively provides required wastewater related data to the Regulator (e.g.	Yes, strongly agree	In process	No, disagree	Don't know			

Date of completion		24/11/2017					
Questions							
Green Drop participation)							
Regular wastewater quality monitoring and management is performed for ALL wastewater systems in the WSA	Yes, all (i.e. 100%)	Almost all (i.e. >95%)	Most (i.e. >75%)	Some (i.e. >50%)	<50%	None (i.e. 0%)	Don't know
WWTWs operational flow capacity as a function of total design capacity (NOTE: Combine for ALL WWTWs within your WSA)	>105%	>100% - 105%	>95% - 100%	90% - 95%	<90%	Don't know	Not applicable
WWTWs operational COD load as a function of total design load (NOTE: Combine for ALL WWTWs within your WSA)	>105%	>100% - 105%	>95% - 100%	90% - 95%	<90%	Don't know	Not applicable
Your WSA actively provides required water conservation and water demand management related data to the Regulator (e.g. No Drop participation)	Yes, strongly agree	In process	No, disagree	Don't know			
Your WSA actively promotes improved hygiene practices through campaigns in communities (e.g. hand washing education, safe and improved sanitation)	Yes, strongly agree (i.e. campaigns established and functioning)	Partially in place, but not ideal	No, disagree	Don't know			
Billing & accounts - With regards to water and sanitation bills, please indicate the frequency of billing and posting of accounts.	Actual billing and posting of accounts on a monthly basis	Actual billing and posting of accounts at least every 2nd month	Billing and posting of accounts at least on a quarterly basis	Billing and posting of accounts less frequently than quarterly	Don't know		
Development contributions - With regard to new developments, by-laws in your municipality require developers to adequately contribute towards construction of new	Yes, strongly agree	In place, with occasional non-optimal response	in process	No, disagree	Don't know		

Date of completion		24/11/2017					
Questions							
bulk infrastructure (i.e. developers charges).							
Please indicate what proportion of your requested water and sanitation services budget (CAPEX and OPEX) is actually funded?	>100%	>90% - 100%	>80% - 90%	>70% - 80%	<70%	Don't know	
Council is stable with functional Council meetings.	Yes, strongly agree (i.e. Council meetings are held at least quarterly)	Partially in place, but not ideal	No, disagree	Don't know			
Council has functional Oversight Committees and Ward Committees, as appropriate (DM would be served via LM Ward Committees)	Yes, strongly agree (i.e. Oversight and Ward Committees established and functioning)	Partially in place, but not ideal	No, disagree	Don't know			
Council has effective systems of internal control and functional governance structures (internal audit unit, audit committee, risk committee, IT governance)	Yes, strongly agree (i.e. internal audit unit established, and posts filled, governance structures in place, frequent meetings held and risk assessments conducted, audit plan developed and quarterly reports submitted to council)	Partially in place, but not ideal	No, disagree	Don't know			
Forensic investigations are undertaken as and when necessary to ensure adherence to governance requirements (i.e. either internally initiated by the municipality or externally initiated by, for example,	Yes, strongly agree	Partially in place, but not ideal	No, disagree	Don't know			

Date of completion		24/11/2017					
Questions							
Public Protector, Auditor General)							
Your municipality actively implements actions against identified instances of fraud and corruption, maladministration and failure to fulfil statutory obligations	Yes, strongly agree	In place, with occasional non-optimal response	Partially in place, but not ideal	No, disagree	Don't know		
Your municipality has policies, procedures and systems in place that negate the impact of vandalism / sabotage of municipal water and sanitation infrastructure on services delivery	Yes, strongly agree	In place, with occasional non-optimal response	Partially in place, but not ideal	No, disagree	Don't know		
Your municipality has ongoing and appropriate public participation, is transparent in its decision making, and is accountable to its constituency (fiscal and social).	Yes, strongly agree	Partially in place, but not ideal	No, disagree	Don't know			
Those of your 18 MuSSA Business Aspects which reflect Extreme and/or Highly Vulnerable, are included within your WSAs Corporate Risk Register	Yes, strongly agree	Partially in place, but not ideal	No, disagree	Don't know			
Your MuSSA was completed with appropriate inputs from senior officials within Technical Services, Finance and Human Resources (as a minimum these 3 departments should participate).	Yes, strongly agree (i.e. Technical Services HOD, Finance AND HR all participated)	Agree (i.e. Technical Services HOD and either Finance OR HR participated)	Only Technical Services HOD	Other Technical Services	Don't know		

The CoU has a functional customer services system in place. CoU makes use of customer relationship management software where all calls/complaints/incidents are registered. All calls are registered per incident type, priority, description, date, status, address, suburb and by when incident should be resolved. CoU strives to resolve incidents within 24 hours. All calls registered are available electronically. The Municipality also has a customer awareness programme in place where customers are informed of any water and wastewater activities, water quality, pollution, incidents and security concerns.

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## Section B: State of Water Services Planning

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CoU's objective is to provide quality and sustainable drinking water in an integrated manner to all consumers in the area.

To achieve this, the Municipality takes a leading role in planning the following:

- Service level objectives;
- Water Resources;
- Water Conservation and Demand Management;
- Bulk Infrastructure;
- Institutional Arrangements;
- Organisational Support;
- Financial Management; and
- Tariff Policy.

The CoU is currently in the process of reviewing the Water Services Development Plan (WSDP) which was adopted in 2013. It is envisaged that the 18/19 WSDP will be council approved by July 2018 and a full copy thereof will be available on the Department of Water and Sanitation's (DWS) WSDP web-based system. The WSDP is a key tool in achieving the objectives as mentioned above.

## Section C: Water Services Existing Needs Perspective

The existing needs perspective as presented below was developed through a systematic and comprehensive review of the water services function in terms of the WSDP Guide Framework. The output from this process is presented below and includes compliance assessment in terms of:

- The intervention required to address the gap;
- The proposed solution to address the gap; and the
- Future plan / identified projects that would meet the requirement.

The water services situation analysis prompted the development of problem statements which formed the input for the development of the water services objectives and strategies which follows in Section D.

### Existing Needs Perspective and Problem Statements

Topic 1 - Settlement Demographics & Public Amenities						
Section	Intervention Required	%	Solution description as identified by Master Plan	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
1.1 Settlements Summary	Yes	100	Capture the layout of the current settlement footprints	100	Yes	85.71
1.2 Summary by Settlement Group	No	100				100.00
1.3 Assessment Score by Settlement Type	No	100				100.00
1.4 Amenities Summary	Yes	100	Verify water and sanitation supply to education and health facilities in urban and rural areas	100	Yes	85.71

Topic 2 - Service Levels Profile						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
Direct Backlog Water	Yes	100	Provide rural households with basic services through standpipes within 200m walking distance	100	Yes	100.00
Direct Backlog Sanitation	Yes	100	Install VIPs to all households that do not have access to basic sanitation services	100	Yes	100.00
Water Services Infrastructure Supply Level Profile	Yes	100	CoU has a target of supplying 1 000 households per year with communal standpipes in the rural areas	100	Yes	100.00
Water Reliability Profile	Yes	100	CoU identified projects to provide new installations to reduce the number of households not having a reliable service	100	Yes	100.00
Sanitation Service Infrastructure Supply Level Profile	Yes	100	CoU has a target of providing 2 500 households with VIPs in the rural areas	100	Yes	100.00
Sanitation Reliability Profile	Yes	100	CoU identified projects to provide VIPs to ensure a reliable service to all its rural consumers	100	Yes	100.00
Water Services: Education	Yes	100	Verify levels of services to education facilities in urban and rural areas. A working committee is to be established between the CoU and the Departments to ensure that these facilities receive adequate water supply	100	Yes	85.71
Water Services: Health	Yes	100	Verify levels of services to health facilities in urban and rural areas. A working committee is to be established between the CoU and the Department of Health to ensure that these facilities receive adequate water supply	100	Yes	85.71
Sanitation Services: Education	Yes	100	Verify levels of services to education facilities in urban and rural areas. A working committee is to be established between the CoU and the Department of Education to ensure that these facilities receive adequate sanitation	100	Yes	85.71
Sanitation Services: Health	Yes	100	Verify levels of services to health facilities in urban and rural areas. A working committee is to be established between the CoU and the Department of Health to ensure that these facilities receive adequate sanitation	100	Yes	85.71
Health and Educational Facilities	Yes	100	Verify levels of services to education and health facilities in urban and rural areas	100	Yes	85.71

<b>Topic 3 - Water Services Asset Management</b>						
<b>Section</b>	<b>Intervention Required?</b>	<b>%</b>	<b>Solution description as defined by topic situation assessment</b>	<b>%</b>	<b>Is there an Existing project/activity addressing this problem?</b>	<b>Current Demand Overall Scoring %</b>
3.1 General Information	No	100	Develop an Infrastructure Replacement Programme	100	Yes	100.00
3.2 Operation	Yes	100	CoU has identified pipe replacement and upgrade projects	100	Yes	100.00
3.3 Functionality Observation	Yes	100	CoU has identified pipe replacement and upgrade projects	100	Yes	100.00
3.4 Asset Assessment Spectrum	No	100				100.00
3.5 Water and Sanitation schemes	Yes	100	CoU has identified pipe replacement and upgrade projects	100	Yes	100.00

<b>Topic 4 - Water Services O&amp;M</b>						
<b>Section</b>	<b>Intervention Required?</b>	<b>%</b>	<b>Solution description as defined by topic situation assessment</b>	<b>%</b>	<b>Is there an Existing project/activity addressing this problem?</b>	<b>Current Demand Overall Scoring %</b>
4.1 Operation & Maintenance Plan	No	0				100.00
4.1.1 Is There an Operation and Maintenance Plan?	Yes	100	Continual review of the O&M Plan is necessary.	100	Yes	100.00
4.2 Resources	Yes	100	Continual review of the O&M Plan is necessary	100	Yes	85.71
4.3 Information	Yes	100	Continual review of the O&M Plan is necessary	100	Yes	85.71
4.4 Activity Control & Management	Yes	100	Continual review of the O&M Plan is necessary	100	Yes	85.71

Topic 5.1 - Conservation & Demand Management - Water Resource Management						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
5.1 Reducing unaccounted water and water inefficiencies	Yes	100	The CoU is committed to implement their WCDM and Non-Revenue Management Plan to address their water loss challenges through water leak detection, pressure management, meter installations and retrofitting	100	Yes	100.00
5.2 Leak and meter repair programmes.	No	100		100		100.00
5.3 Consumer/end-use demand management: Public Information & Education Programmes	Yes	100	Ongoing education and public information programmes are required to educate users on the effect of water wastage	100	Yes	100.00
5.4: Conjunctive use of surface - and groundwater	Yes	100	CoU to verify the status of boreholes in the rural areas	100		100.00
5.5 Working for Water	No	100		100		100.00

Topic 5.2 - Conservation & Demand Management - Water Balance						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
5.2 Water Balance	No			100		100.00

Topic 6 - Water Resource						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
6.1.1 Current Water Sources	Yes	100	Information on boreholes are very limited and CoU does not have record of the number of operational boreholes in the rural areas	100	Yes	100.00
6.1.2 Additional Sources Available	No	100		100		100.00
6.2 Monitoring	No	100		100		100.00
6.3 Water Quality	Yes	100	Review Water Safety plans	100	Yes	100.00
6.4 Operation	No	100		100		100.00

## Section D: Water Services Strategies

The water services strategies presented below were derived from the water services situational analysis as summarized in Section C: Water Services Existing Needs Perspective and presents the 5-year Water Services strategies as established in the WSA's WSDP.

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
Water Services Development Planning	Compliance to the Water Services Act and regulations with respect to the WSDP performance and Water Services audit	Council adopted WSDP  Annual WSDP Performance and Water Services Audit Report  Annual review of WSDP and IDP incorporation	WSDP 2013	FY2018/19- FY2022 WSDP developed  FY2018 WSDP Performance- and Water Services Audit Report compiled and published by October  FY2018 Water Sector IDP Input Report	WSDP reviewed  FY2019 WSDP Performance- and Water Services Audit Report compiled and published by October  FY2019 Water Sector IDP Input Report	WSDP reviewed  FY2020 WSDP Performance- and Water Services Audit Report compiled and published by October  FY2020 Water Sector IDP Input Report	WSDP reviewed  FY2021 WSDP Performance- and Water Services Audit Report compiled and published by October  FY2021 Water Sector IDP Input Report	WSDP reviewed  FY2022 WSDP Performance- and Water Services Audit Report compiled and published by October  FY2022 Water Sector IDP Input Report
	Adoption of the WSDP	Council adoption of 5-year WSDP as well as annual reviews	Adopted 2013 WSDP	WSDP adopted by Council in May	Annual review of WSDP adopted by Council in May	Annual review of WSDP adopted by Council in May	Annual review of WSDP adopted by Council in May	Annual review of WSDP adopted by Council in May

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
Programme 1 - Settlement Demographics & Public Amenities	Review of demographics and service level profile	Annual update of WSDP Settlement data base	2011 StatsSA settlement database  2016 Community Survey	Use demographics and service level profile as at 2018 based on 2016 Community Survey, figures escalated by growth rates	Use demographics and service level profile as at 2019 based on 2016 Community Survey, figures escalated by growth rates	Use demographics and service level profile as at 2020 based on 2016 Community Survey, figures escalated by growth rates	Use demographics and service level profile as at 2021 based on 2016 Community Survey, figures escalated by growth rates	Use demographics and service level profile as at 2022 based on 2016 Community Survey, figures escalated by growth rates
	Capturing of settlement layer/footprint of settlements	Settlement layer	Ward layer currently the baseline for settlement layer	Capture current settlement footprints	Update GIS database with new settlement layer	Use new settlement layer	Update settlement layer when new settlements develop	Update settlement layer when new settlements develop

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
<b>Programme 2 – Services Levels</b>	Provide all rural households with access to basic water services level (standpipes within 200m walking distance)	Number of rural households without basic services (backlog)	Approximately 5 981 households do not have access to basic water services	Reduce backlog by 1 000 HH	Reduce backlog by 1 000 HH	Reduce backlog by 1 000 HH	Reduce backlog by 1 000 HH	Reduce backlog by 1 000 HH
	Provide households with yard/house connections	Number of households without yard/house connections	Approximately 104 522 households do have access to yard/house connections	Provide 1 000 households with yard/house connections	Provide 1 000 households with yard/house connections	Provide 1 000 households with yard/house connections	Provide 1 000 households with yard/house connections	Provide 1 000 households with yard/house connections
	Provide households with access to sanitation facilities	Number of households without sanitation facilities (VIP)	29 483 households do not have access to basic sanitation facilities (VIP)	Provide 2 500 households with basic sanitation facilities (VIP)	Provide 2 500 households with basic sanitation facilities (VIP)	Provide 2 500 households with basic sanitation facilities (VIP)	Provide 2 500 households with basic sanitation facilities (VIP)	Provide 2 500 households with basic sanitation facilities (VIP)
	Establish formal communication channels with Departments of Health, Public Works and Education to support improved services to schools, clinics and other public buildings	Establish Memorandum of Understanding between stakeholders  Verify number of schools and health facilities with adequate water and sanitation services	Information on the number of schools, hospitals & clinics that have access to adequate water and sanitation services is very limited	Consult with the Dept. of Education, Dept. of Health and Dept of Public Works and establish working committee	Monitor/record service levels of schools and health facilities in rural and urban areas	Monitor/record service levels of schools and health facilities in rural and urban areas	Monitor/record service levels of schools and health facilities in rural and urban areas	Monitor/record service levels of schools and health facilities in rural and urban areas
	Establish processes to ensure quarterly update of indigent register(s)	Indigent register updated on quarterly basis	Indigent register reflects indigents receiving 6kl of water per month free	Update indigent register on a quarterly basis	Update indigent register on a quarterly basis	Update indigent register on a quarterly basis	Update indigent register on a quarterly basis	Update indigent register on a quarterly basis

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
Programme 3 – Water Services Asset Management	Review Bulk Water Master Plan	Bulk Water Master Plan	Bulk Water Master plan (2014) in place	PSP appointed to review 2014 Master plan	Implement Bulk Water Master Plan	Implement Bulk Water Master Plan	Implement Bulk Water Master Plan	Review Bulk Water Master Plan
	Review Bulk Sanitation Master Plan	Bulk Sanitation Master Plan	Bulk Sanitation Master Plan (2015) in place	CoU in process to go out on tender to review master plan Appoint PSP to review master plan	Review Bulk Sanitation Master Plan	Implement Bulk Sanitation Master Plan	Implement Bulk Sanitation Master Plan	Review Bulk Sanitation Master Plan
	Address ageing infrastructure	Develop an Infrastructure Replacement Programme	Ageing infrastructure is leading to reverse backlogs	Develop an Infrastructure Replacement Programme	Implement Infrastructure Replacement Programme	Implement Infrastructure Replacement Programme	Implement Infrastructure Replacement Programme	Implement Infrastructure Replacement Programme
	Verify number of boreholes	Register of boreholes updated	Limited information is available on the number of operational boreholes in CoU as the Municipality does not make use of boreholes as a water sources	Verify number of boreholes	Develop and implement groundwater monitoring programme if boreholes are operational	Implement groundwater monitoring programme	Implement groundwater monitoring programme	Implement groundwater monitoring programme

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
Programme 4 – Water Services – O&M	Review O&M Plan	Comprehensive Functional O&M Plan	O&M Plan in place	Review O&M Plan	Continual implementation of O&M Plan	Continual implementation of O&M Plan	Continual implementation of O&M Plan	Review O&M Plan

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
<b>Programme 5– Conservation &amp; Demand Management – Sub-Programme 1 - Water Resources</b>	Develop education and public awareness information programmes to educate consumers on the effect of water wastage	Education and public awareness information programmes in place	Information programmes are not always available to inform consumers on a regular basis the effect of water wastage and good sanitation behaviour	Present education and public awareness information programmes on a regular basis	Present education and public awareness information programmes on a regular basis	Present education and public awareness information programmes on a regular basis	Present education and public awareness information programmes on a regular basis	Present education and public awareness information programmes on a regular basis

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
<b>Sub-Programme 2 - Water Balance</b>	Develop /revise and implement District wide WCDM Strategy	WCDM Strategy and Implementation plan for the entire District	WSA developed a WCDM Strategy  Leak repair programme and retro-fitting of toilets are in place  Meter repair programme is in place	Implementation of District wide WCDM Strategy  Expand leak repair assistance programme and retro-fitting of water inefficient toilets	Implementation of District wide WCDM Strategy  Expand leak repair assistance programme and retro-fitting of water inefficient toilets	Implementation of District wide WCDM Strategy  Expand leak repair assistance programme and retro-fitting of water inefficient toilets	Implementation of District wide WCDM Strategy  Expand leak repair assistance programme and retro-fitting of water inefficient toilets	Implementation of District wide WCDM Strategy  Expand leak repair assistance programme and retro-fitting of water inefficient toilets

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
<b>Programme 6 - Water Resources</b>	Ensure and monitor compliance to SANS 241-2015 (water quality)	Water quality programme that aligns with SANS 241-2015 requirements	Drinking water quality programme is in place	Review the water quality programme for all formal water schemes	Implement drinking water quality programme	Implement drinking water quality programme	Implement drinking water quality programme	Implement drinking water quality programme

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
<b>Programme 7 – Financial Profile</b>	Review tariff structure to ensure improved cost recovery	Credible tariff structure	Tariff structures are reviewed yearly	Review and implement new tariff structures yearly	Review and implement new tariff structures yearly	Review and implement new tariff structures yearly	Review and implement new tariff structures yearly	Review and implement new tariff structures yearly

	Strategy	Key Performance Indicator	Baseline	WSDP	WSDP	WSDP	WSDP	WSDP
				FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23
				TARGET	TARGET	TARGET	TARGET	TARGET
<b>Programme 8 – Water Services Institutional Arrangements</b>	Annual WSDP Performance and Water Services Audit compliance	Report prepared and submitted end of October each year	WSDP Performance and Water Services Audit report not submitted	Draft and submit WSDP Performance and Water Services Audit Report FY2017	Draft and submit WSDP Performance and Water Services Audit Report FY2018	Draft and submit WSDP Performance and Water Services Audit Report FY2019	Draft and submit WSDP Performance and Water Services Audit Report FY2020	Draft and submit WSDP Performance and Water Services Audit Report FY2021
	Develop an effective call/control centre	95% functional call/control centre	Queries, requests and complaints are recorded through a customer care hotline tollfree number	Develop call/control centre	Implement call/control centre	Address queries, requests and complaints through the call/control centre	Address queries, requests and complaints through the call/control centre	Address queries, requests and complaints through the call/control centre

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## Section E: Water Services MTEF Projects

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The CoU Service Delivery Budget Implementation Plan are presented below and outlines the water services projects which are funded for implementation within the next three years.

The current project allocations over the next three years are estimated at R302 030 700. It should however be emphasised that additional funding will be required to address the full achievement of the water services strategies as outlined in Section D but the extent of such additional funding can only be determined, once initial investigations and activities have been concluded.

Table 25: CoU - Service Delivery Budget Implementation Plan

Function	Function Description	Project Description	Planned Start Date of Project	Planned Completion Date of Project	Adopted 2017/18	Adopted 2018/19	Adopted 2019/20
Sewerage - Pumpstations	Machinery and Equipment	Standby pumps	Jul 17	Jun 20	R600 000	R700 000	R876 100
Sewerage - Pumpstations	Machinery and Equipment	Upgrading of MS2 pump station capacity	Jul 17	Jun 20	R5 000 000	R3 000 000	R3 000 000
Sewerage - Pumpstations	Machinery and Equipment	Upgrading of Birdswood pump station capacity	Jul 17	Jun 19	R2 000 000	R3 000 000	R0
Sewerage - Pumpstations	Machinery and Equipment	Upgrade of MS9 pump station capacity	Jul 17	Jun 20	R2 000 000	R1 500 000	R1 500 000
Sewerage - Pumpstations	Machinery and Equipment	Replacement of pumps	Jul 17	Jun 20	R2 000 000	R2 000 000	R2 000 000
Sewerage - Sewerage Network	Machinery and Equipment	Hillview sewer pump line upgrade	Jul 17	Jun 19	R1 000 000	R1 000 000	R0
Sewerage - Sewerage Network	Office Furniture	Furniture - water and sanitation section	Jul 17	Jun 18	R300 000	R0	R0
Sewerage - Sewerage Network	Water Supply	Meerensee - Garrick rise sewer line replacement 450mm	Jul 17	Jun 20	R1 000 000	R300 000	R2 000 000
Sewerage - Sewerage Network	Land and Buildings	Rural sanitation (counter funding)	Jul 17	Jun 18	R1 000 000	R0	R0
Sewerage - Sewerage Network	Land and Buildings	Mzingazi sewer	Jul 17	Jun 18	R4 000 000	R0	R0
Sewerage - Sewerage Network	Land and Buildings	Veldenvlei pump station	Jul 17	Jun 20	R1 000 000	R7 000 000	R7 500 000
Sewerage - Sewerage Network	Land and Buildings	Upgrade - vulindlela sewer pipeline	Jul 17	Jun 20	R5 000 000	R1 000 000	R2 000 000
Sewerage - Sewerage Network	Land and Buildings	Waste water management (sanitation) projects	Jul 18	Jun 20	R0	R13 000 000	R13 000 000
Information Technology	Machinery and Equipment	Water quality equipment (software)	Jul 17	Jun 20	R3 500 000	R1 000 000	R2 000 000
Water Treatment-Scientific Services	Machinery and Equipment	Water quality equipment	Jul 17	Jun 19	R3 500 000	R1 500 000	R0
Water Treatment-Scientific Services	Machinery and Equipment	Water quality equipment	Jul 19	Jun 20	R0	R0	R3 000 000
Water Distribution - Rural Water	Water Supply	New water meters (rural) - Kwa-Dube traditional areas	Jul 19	Jun 20	R500 000	R300 000	R800 000
Water Distribution - Urban Water	Machinery and Equipment	9 water pumps 4inch	Jul 17	Jun 20	R300 000	R80 000	R158 000
Water Distribution - Urban Water	Water Supply	Upgrade of 110mm water pipe in Alton (behind ZCBF to bus depot)	Jul 17	Jun 18	R500 000	R0	R0
Water Distribution - Urban Water	Water Supply	Upgrading of valves in Birdswood	Jul 17	Jun 20	R300 000	R500 000	R737 100
Water Distribution - Urban Water	Water Supply	Replacement of water pipe reticulation in Meerensee	Jul 17	Jun 20	R200 000	R300 000	R1 053 000
Water Distribution - Urban Water	Water Supply	Replacement of water pipe reticulation in Meerensee	Jul 17	Jun 18	R500 000	R0	R0
Water Distribution - Urban Water	Machinery and Equipment	200 jojo tanks	Jul 17	Jun 18	R600 000	R0	R0
Water Distribution - Urban Water	Water Distribution Capital	Water loss and drought relief project	Jul 16	Jun 20	R1 000 000	R500 000	R0
Water Distribution - Urban Water	Water Distribution Capital	Water loss and drought relief project	Jul 19	Jun 20	R0	R0	R526 500

Function	Function Description	Project Description	Planned Start Date of Project	Planned Completion Date of Project	Adopted 2017/18	Adopted 2018/19	Adopted 2019/20
Water Distribution - Urban Water	Water Supply	Water projects	Jul 17	Jun 20	R13 300 000	R13 000 000	R0
Water Distribution - Urban Water	Water Supply	Water projects	Jul 17	Jun 20	R0	R0	R15 000 000
Water Distribution - Urban Water	Water Supply	Nseleni pipe replacement (WSIG)	Nov 16	Mar 17	R14 000 000	R0	R0
Water Distribution - Urban Water	Water Supply	Richards bay pipe replacement (WSIG)	Nov 16	Jun 20	R0	R17 000 000	R30 000 000
Water Distribution - Urban Water	Water Supply	Ngwelezane pipe replacement (WSIG)	Nov 16	Jun 19	R0	R14 000 000	R0
Water Distribution - Urban Water	Water Supply	Reduction of non-revenue (WSIG)	Mar 17	Jun 20	R14 500 000	R9 500 000	R4 500 000
Water Distribution - Urban Water	Water Supply	Esikhaleni waste water treatment works (WSIG)	Nov 16	Mar 17	R0	R0	R0
Water Distribution - Urban Water	Water Supply	Kwa Dube reticulation (WSIG)	Sep 16	Jun 17	R0	R0	R0
Water Distribution - Urban Water	Water Supply	Kwa Madlebe reticulation (WSIG)	Sep 16	Jun 17	R0	R0	R0
Water Distribution - Urban Water	Water Supply	Empangeni water network improvements (WSIG)	Nov 16	Feb 17	R0	R0	R0
Water Distribution - Urban Water	Water Supply	Upgrade of 110mm water pipe in Alton (behind ZCBF to bus depot)	Jul 17	Jun 18	R300 000	R0	R0
Water Distribution - Water Demand Management	Water Supply	Construction of a second Meerensee reservoir (20ml)	Jul 17	Jun 20	R100 000	R8 000 000	R7 000 000
Water Distribution - Water Demand Management	Water Supply	Empembeni reservoir	Jul 17	Jun 20	R1 000 000	R7 000 000	R7 000 000
Water Distribution - Water Demand Management	Water Supply	New Madlebe water meters	Jul 17	Jun 20	R2 000 000	R500 000	R500 000
Water Distribution - Water Demand Management	Water Supply	Construction of a fourth Esikhaleni reservoir	Jul 18	Jun 20	R0	R4 000 000	R5 000 000
Water Distribution - Water Demand Management	Water Supply	Bulk master plan	Jul 17	Jul 19	R1 200 000	R1 000 000	R0
<b>Total</b>					<b>R82 200 000</b>	<b>R110 680 000</b>	<b>R109 150 700</b>

## Section F: WSDP Projects

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The following water services projects have been identified for possible implementation over the next five years.

Table 26: Projects Listed in the WSDP

Function	Function Description	Project Description	Planned Start Date of Project	Planned Completion Date of Project	Project Cost	Adopted 2017/18	Adopted 2018/19	Adopted 2019/20
Sewerage - Pumpstations	Machinery and Equipment	Standby pumps	Jul 17	Jun 20		R600 000	R700 000	R876 100
Sewerage - Pumpstations	Machinery and Equipment	Upgrading of MS2 pump station capacity	Jul 17	Jun 20		R5 000 000	R3 000 000	R3 000 000
Sewerage - Pumpstations	Machinery and Equipment	Upgrading of Birdswood pump station capacity	Jul 17	Jun 19		R2 000 000	R3 000 000	R0
Sewerage - Pumpstations	Machinery and Equipment	Upgrade of MS9 pump station capacity	Jul 17	Jun 20		R2 000 000	R1 500 000	R1 500 000
Sewerage - Pumpstations	Machinery and Equipment	Replacement of pumps	Jul 17	Jun 20		R2 000 000	R2 000 000	R2 000 000
Sewerage - Sewerage Network	Machinery and Equipment	Hillview sewer pumpline upgrade	Jul 17	Jun 19		R1 000 000	R1 000 000	R0
Sewerage - Sewerage Network	Office Furniture	Furniture - water and sanitation section	Jul 17	Jun 18		R300 000	R0	R0
Sewerage - Sewerage Network	Water Supply	Meerensee - Garrick rise sewer line replacement 450mm	Jul 17	Jun 20		R1 000 000	R300 000	R2 000 000
Sewerage - Sewerage Network	Land and Buildings	Rural sanitation (counter funding)	Jul 17	Jun 18		R1 000 000	R0	R0
Sewerage - Sewerage Network	Land and Buildings	Mzingazi sewer	Jul 17	Jun 18		R4 000 000	R0	R0
Sewerage - Sewerage Network	Land and Buildings	Veldenvlei pump station	Jul 17	Jun 20		R1 000 000	R7 000 000	R7 500 000
Sewerage - Sewerage Network	Land and Buildings	Upgrade - vulindlela sewer pipeline	Jul 17	Jun 20		R5 000 000	R1 000 000	R2 000 000
Sewerage - Sewerage Network	Land and Buildings	Waste water management (sanitation) projects	Jul 18	Jun 20		R0	R13 000 000	R13 000 000
Information Technology	Machinery and Equipment	Water quality equipment (software)	Jul 17	Jun 20		R3 500 000	R1 000 000	R2 000 000
Water Treatment-Scientific Services	Machinery and Equipment	Water quality equipment	Jul 17	Jun 19		R3 500 000	R1 500 000	R0
Water Treatment-Scientific Services	Machinery and Equipment	Water quality equipment	Jul 19	Jun 20		R0	R0	R3 000 000
Water Distribution - Rural Water	Water Supply	New water meters (rural) - Kwa-Dube traditional areas	Jul 19	Jun 20		R500 000	R300 000	R800 000
Water Distribution - Urban Water	Machinery and Equipment	9 water pumps 4inch	Jul 17	Jun 20		R300 000	R80 000	R158 000
Water Distribution - Urban Water	Water Supply	Upgrade of 110mm water pipe in Alton (behind ZCBF to bus depot)	Jul 17	Jun 18		R500 000	R0	R0
Water Distribution - Urban Water	Water Supply	Upgrading of valves in Birdswood	Jul 17	Jun 20		R300 000	R500 000	R737 100

Function	Function Description	Project Description	Planned Start Date of Project	Planned Completion Date of Project	Project Cost	Adopted 2017/18	Adopted 2018/19	Adopted 2019/20
Water Distribution - Urban Water	Water Supply	Replacement of water pipe reticulation in Meerensee	Jul 17	Jun 20		R200 000	R300 000	R1 053 000
Water Distribution - Urban Water	Water Supply	Replacement of water pipe reticulation in Meerensee	Jul 17	Jun 18		R500 000	R0	R0
Water Distribution - Urban Water	Machinery and Equipment	200 jojo tanks	Jul 17	Jun 18		R600 000	R0	R0
Water Distribution - Urban Water	Water Distribution Capital	Water loss and drought relief project	Jul 16	Jun 20		R1 000 000	R500 000	R0
Water Distribution - Urban Water	Water Distribution Capital	Water loss and drought relief project	Jul 19	Jun 20		R0	R0	R526 500
Water Distribution - Urban Water	Water Supply	Water projects	Jul 17	Jun 20		R13 300 000	R13 000 000	R0
Water Distribution - Urban Water	Water Supply	Water projects	Jul 17	Jun 20		R0	R0	R15 000 000
Water Distribution - Urban Water	Water Supply	Nseleni pipe replacement (WSIG)	Nov 16	Mar 17		R14 000 000	R0	R0
Water Distribution - Urban Water	Water Supply	Richards bay pipe replacement (WSIG)	Nov 16	Jun 20		R0	R17 000 000	R30 000 000
Water Distribution - Urban Water	Water Supply	Ngwelezane pipe replacement (WSIG)	Nov 16	Jun 19		R0	R14 000 000	R0
Water Distribution - Urban Water	Water Supply	Reduction of non-revenue (WSIG)	Mar 17	Jun 20		R14 500 000	R9 500 000	R4 500 000
Water Distribution - Urban Water	Water Supply	Esikhaleni waste water treatment works (WSIG)	Nov 16	Mar 17		R0	R0	R0
Water Distribution - Urban Water	Water Supply	Kwa Dube reticulation (WSIG)	Sep 16	Jun 17		R0	R0	R0
Water Distribution - Urban Water	Water Supply	Kwa Madlebe reticulation (WSIG)	Sep 16	Jun 17		R0	R0	R0
Water Distribution - Urban Water	Water Supply	Empangeni water network improvements (WSIG)	Nov 16	Feb 17		R0	R0	R0
Water Distribution - Urban Water	Water Supply	Upgrade of 110mm water pipe in Alton (behind ZCBF to bus depot)	Jul 17	Jun 18		R300 000	R0	R0
Water Distribution - Water Demand Management	Water Supply	Construction of a second Meerensee reservoir (20ml)	Jul 17	Jun 20		R100 000	R8 000 000	R7 000 000

Function	Function Description	Project Description	Planned Start Date of Project	Planned Completion Date of Project	Project Cost	Adopted 2017/18	Adopted 2018/19	Adopted 2019/20
Water Distribution - Water Demand Management	Water Supply	Empembeni reservoir	Jul 17	Jun 20		R1 000 000	R7 000 000	R7 000 000
Water Distribution - Water Demand Management	Water Supply	New Madlebe water meters	Jul 17	Jun 20		R2 000 000	R500 000	R500 000
Water Distribution - Water Demand Management	Water Supply	Construction of a fourth Esikhaleni reservoir	Jul 18	Jun 20		R0	R4 000 000	R5 000 000
Water Distribution - Water Demand Management	Water Supply	Bulk master plan	Jul 17	Jul 19		R1 200 000	R1 000 000	R0
<b>UNFUNDED PROJECTS:</b>								
Operation	Functionality	Capturing of settlement layer and update GIS database with new settlement layer	Not Started yet		R 300 000			
Operation	Functionality	Monitor & record the provision of water and sanitation services to urban and rural education & health facilities	Not Started yet		R 300 000			
Operation	Functionality	Establish processes to update the indigent register	Not Started yet		R 150 000			
Operation	Functionality	Review Bulk Sanitation Master Plan	Not Started yet		R 2 250 000			
Operation	Functionality	Develop an Infrastructure Replacement Programme	Not Started yet		R 300 000			
Operation	Functionality	Review the Operation & Maintenance Plan	Not Started yet		R 300 000			
Operation	Functionality	Develop & implement public information and education awareness programmes	Not Started yet		R 300 000			
Operation	Functionality	Review WCDM Strategy	Not Started yet		R 300 000			
New Infrastructure	Water Supply	Rural water supply (standpipes)	Not Started yet		R 15 000 000			
New Infrastructure	Water Supply	Rural sanitation services (VIPs)	Not Started yet		R 20 000 000			
Resource Development	Water Security	Verify status of boreholes in the rural areas and develop groundwater monitoring programme	Not Started yet		R 850 000			
Operation	Functionality	Review Water Safety Plans	Not Started yet		R 300 000			

Function	Function Description	Project Description	Planned Start Date of Project	Planned Completion Date of Project	Project Cost	Adopted 2017/18	Adopted 2018/19	Adopted 2019/20
<b>Total</b>						<b>R82 200 000</b>	<b>R110 680 000</b>	<b>R109 150 700</b>