



# ***HARRY GWALA DM***

---

## ***Water Services Development Plan- Summary Report***

---

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

---

### ***FY 2018***

---

### **Background and Motivation**

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 an 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 Department of Water Affairs has developed water sector-specific requirements for local government's integrated development plans as a means to ensure sufficient incorporation of water services delivery matters in local government's strategic planning processes. The Department assesses the incorporation of water sector-specific matters during the IDP review and comment cycles. To improve local government's compliance with the water sector-specific requirements of its IDP's, the Department of Water Affairs has developed a '**Water Sector IDP Report**' template in October 2010. The Water Sector IDP Report template contains outputs from Module 1 of the WSDP Guide Framework towards providing status quo information as well as the WSA's self-assessment of its planning maturity for each of the elements of the water services business.

The need has been expressed for the review of the WSDP: IDP Outflow report to address the following:

- Enable sufficient and appropriate narrative for IDP integration
- Alignment with the latest WSDP Guide Framework as established in the WSDP System
- Incorporation of Water Services-specific Objectives and Strategies
- The distinction between approved MTEF projects and conceptual projects as prompted by the WSA's water services development planning initiatives

This template termed the WSDP: IDP Outflow Report replaces the Water Sector IDP Report template of October 2010.

## Abbreviations and Definitions

---

DWS	Department of Water and Sanitation
BDS	Blue Drop Certification System
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.
m <sup>3</sup>	cubic metres = 1 000 liter = 1 kiloliter
MI	Megaliter = 1 000 kiloliter = 1 000 000 liter
SDBIP:	Service Delivery Budget Implementation Plan – is a management, implementation and monitoring tool that enables 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.
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	A modular tool which has been developed by the DWS 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 DWS to regulate such compliance
WSP:	Water Services Provider - means any person or institution who provides water services to consumers or another water services institution, but does not include a water services intermediary

## Table of Contents

Abbreviations and Definitions.....	3
Table of Contents.....	4
<i>Introduction</i> .....	5
<i>Section A: Status Quo Overview</i> .....	6
Business Element 1: Demographics .....	6
Business Element 2: Service Levels .....	7
Business Element 3: Socio-economics .....	11
Business Element 4: Water Services Infrastructure Management (Infrastructure) .....	12
Business Element 5: Water services Infrastructure Management (O&M) .....	14
Business Element 6: Water Resources.....	16
Business Element 7: Conservation and Demand Management.....	16
Business Element 8: Financial profile.....	18
Business Element 9: Water Services Institutional Arrangements.....	18
<i>Section B: State of Water Services Planning</i> .....	19
<i>Section C: Water Services Existing Needs Perspective</i> .....	21
<i>Section D: Water Services Objectives and Strategies</i> .....	26
<i>Section E: Water Services MTEF Projects</i> .....	34
<i>Section F: WSDP Projects</i> .....	38

## ***Introduction***

---

*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 an 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 summarised water services development planning inputs for incorporation into the Harry Gwala WSA\_integrated development planning process and is structured as follows:*

***Section A: Status Quo Overview:*** *providing a summarised 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 a 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 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

This section gives a brief overview and summary of **Section A** of the WSDP (**Module 1**). The WSDP document and the WSDP website should be consulted for more detailed information.

### Business Element 1: Demographics

The demographic section includes details regarding the population, number of households and types of urban and rural dwellings. Initially the demographic information was provided in the DWS GDB on a settlement level which was based on the household survey done in 2016 (superseded the 2011 CENSUS data).

From consultations with the WSA, the demographics as contained in the GDB were, however, updated as the WSA did not agree with the figures as per the CENSUS or those provided in the 2016 household survey. The households as per the ESKOM household count in 2013 and any additional houses as identified through the aerial photo was then used in conjunction with the population per SAL areas as identified in the CENSUS 2011 data. The population figures were calculated by multiplying the people per household (CENSUS 2011) and the households (aerial photo and ESKOM households). The calculated figures are given below in **Table A1**:

**Table A.1 Settlement demographic**

Main Type	Type	Amount of Settlements	Population	Households	Avg Household Size
Rural	Rural - Dense Village > 5000	11	92 642	18 301	5.08
	Rural - Small Village <= 5000	205	242 789	51 130	4.77
	Rural Scattered	132	108 654	22 376	4.94
	Farming (People living on farms)	37	49 869	10 378	4.49
<b>Rural Total</b>		<b>385</b>	<b>493 954</b>	<b>102 185</b>	<b>4.82</b>
Urban	Urban - Formal Town	13	74 146	20 135	3.86
	Urban - Former Township	1	2 522	653	3.90
	Urban Fringe - Informal Settlements	0	0	0	0
<b>Urban Total</b>		<b>14</b>	<b>76 668</b>	<b>2 0788</b>	<b>3.88</b>
<b>Grand Total</b>		<b>399</b>	<b>570 622</b>	<b>12 2973</b>	<b>3.86</b>

**Note:** \* aligned with Household survey 2016

As can be seen from **Table A1**, the majority of Harry Gwala WSA is rural with more than **79%** of the population residing in the rural areas. This makes service delivery a challenge as some of the rural areas cannot be serviced as they are too remote. The provision of basic services is thus an issue.

The WSA is also currently doing a DM wide survey per settlement and ward to identify the service levels and the number of households. When this survey is completed, the data should be updated in the GDB of the WSDP to reflect the correct situation. The WSA can also investigate the agricultural land uses (farms) to ensure proper resource planning.

During the completion of the WSDP, the IDP was being completed. The population figures per LM are shown in **Table A.2** below as presented in the IDP versus those calculated in the WSDP:

**Table A.2 Settlement demographic – IDP vs WSDP**

Municipality	Population size - WSDP	IDP	Population size - CS 2016	Population size - Census 2011
Dr Nkosazane Dlamini Zuma	140 666	118 480	119 598	12898 + 100 548
UBuhlebezwe Local Municipality	137 480	118 346	108 628	101 691
UMzimkhulu Local Municipality	224 300	197 286	197 286	180 302
Greater Kokstad Local Municipality	68 176	76 753	76 753	65 981
<b>Harry Gwala District Municipality</b>	<b>570 622</b>	<b>510 865</b>	<b>502 265</b>	<b>461 419</b>

From **Table A2** it can be seen that the population figures in the WSDP are a lot higher than those presented in the IDP and other studies. The main reason for this could be that the WSDP figures were calculated using

the aerial photo estimation and the ESKOM household count and the people per household per SAL as in the CENSUS 2011 data. Due to the extensive growth, especially in Umzimkhulu and Unbuhlebezwe, the WSDP population figures are deemed to be more accurate. There is, however, a need to accurately calculate the population for Harry Gwala.

The number of public amenities are also shown in the WSDP. The data was based on the most up to date data provided in the latest DWS GDB. A few schools were added from sources such as the surveyor general. The number of health and educational facilities in Harry Gwala is shown in **Table A.3**.

**Table A.3 Settlement demographic – Public amenities**

Amenity type	Number of amenities
Health facilities	67
Educational facilities	501

Harry Gwala WSA did not provide any updated lists of schools and hospitals. This should be looked at in the next WSDP update.

## Business Element 2: Service Levels

The service levels section includes details on the sewer and water service levels for both urban and rural areas (households and public amenities). The water and sanitation service levels were identified from discussions with each LM's operational manager and relevant superintendents. The sanitation service levels were slightly more difficult to define than the water service levels. In Umzimkhulu discussions could not be had with relevant personnel to identify sanitation service levels. Where service levels could not be defined through discussions with relevant LM staff, the UAP service levels, that were determined on a water supply footprint level, were used. This was the most up to date dataset to use for the update of the WSDP.

The existing service levels information in the GDB provided by DWS, as based on the community survey in 2016, was deemed inaccurate and the WSA requested that the above method is used for the WSDP for a more accurate depiction of the situation.

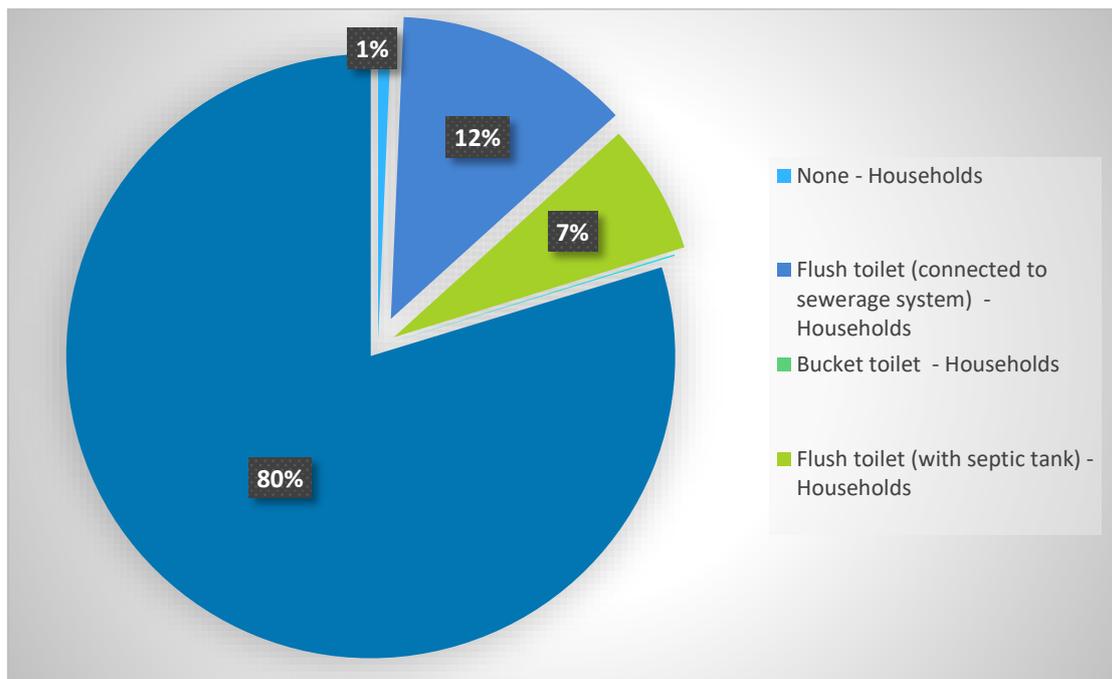
It should be noted that the UAP was completed a few years ago and the information can be outdated and that the discussions with the LM managers could have some errors. The WSA is also currently doing a DM wide survey per settlement and ward to identify the service levels and the number of households. When this survey is completed, the data should be updated in the GDB of the WSDP to reflect the correct situation or the most accurate reflection of the service levels.

The service levels per number of households and population is shown per service level category, as defined by DWS, in **Table A.4** below and graphically in **Figure A1 and A2**:

**Table A.4: Residential water services delivery access profile: Water and sanitation**

Water / Sanitation	Category	Rural		Urban	
		Households	Population	Households	Population
Sanitation	None - Households	832	3865	0	0
	Flush toilet (connected to sewerage system) - Households	69	178	15366	49688
	Bucket toilet - Households	0	0	0	0
	Flush toilet (with septic tank) - Households	6918	28324	1635	4680
	Chemical Toilet - Households	0	0	0	0
	Pit without ventilation - Households	0	0	84	277
<b>S Total</b>		<b>102185</b>	<b>445151</b>	<b>20788</b>	<b>67383</b>
Water	Piped water inside the dwelling/house - Households	1638	6179	17594	56533
	Water Other - Households	3756	16634	48	458
	Piped water inside yard- Households	695	2773	0	0
	Stagnant water - dam/pool- Households	0	0	0	0
	Water vendor-carrier/tanker - Households	22154	102967	26	128
	Piped water distance <200m - Households	64628	274973	2183	7724
	Flowing water/spring/ stream/rive - Households	9059	40456	0	0
	Piped water distance >201m - Households	255	1168	937	2541
	Borehole in the yard - Households	0	0	0	0
Rain-water tank in yard - Households	0	0	0	0	
<b>W Total</b>		<b>102185</b>	<b>445150</b>	<b>20788</b>	<b>67384</b>

From **Table A.4** it can be seen that the majority of households are serviced by VIPs and piped water within a distance of 200m from the property which are RDP level of service. There are however still several households not serviced to RDP level.



**Figure A.1: Household sanitation access profile**

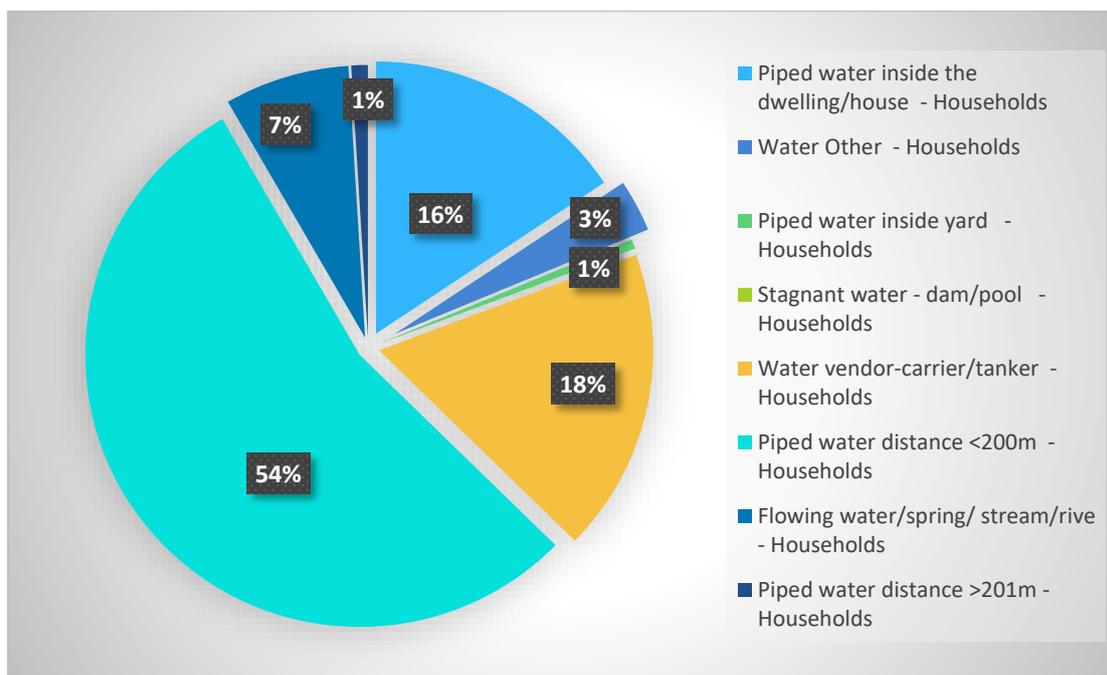


Figure A.2: Household water access profile

The settlements in the WSDP defines households with backlogs as areas where the services are below RDP level (water and sewer). The RDP level is for sanitation and water provision is VIPs or standpipes less than 200m away. The number of households and population that have backlogs (below RDP level) is shown in Table A.5 as determined in the IDP and per the WSDP.

Table A.5: Comparison between IDP and WSDP backlogs

Municipality	WSDP			IDP		
	Households	Backlog HH	%	Households	Backlog HH	%
<b>Sanitation</b>						
Umzimkhulu	49 616	9 484	19%	48 641	19 866	41%
Nkosazana Dlamini-Zuma	28 714	8 729	30%	29 983	6 183	21%
Ubuhlebezwe	26 801	2 871	11%	26 231	3 201	12%
Greater Kokstad	17 842	1 154	6%	15 214	0	0%
<b>Harry Gwala District Municipality</b>	<b>122 973</b>	<b>22 238</b>	<b>18%</b>	<b>120 069</b>	<b>29 250</b>	<b>24%</b>
<b>Water</b>						
Umzimkhulu	49 616	11 094	22%	48 641	16 168	33%
Nkosazana Dlamini-Zuma	28 714	13 261	46%	29 983	15 097	50%
Ubuhlebezwe	26 801	9 903	37%	26 231	10 670	41%
Greater Kokstad	17 842	29	0%	15 214	3 816	25%
<b>Harry Gwala District Municipality</b>	<b>122 973</b>	<b>34 287</b>	<b>28%</b>	<b>120 069</b>	<b>45 751</b>	<b>38%</b>

From Table A5 it can be seen that more than 28% of the households require water services (38% as per the IDP) and 18% sanitation services (24% as per the IDP). Those households currently have inadequate services and are below RDP level.

The differences between the IDP and WSDP backlogs are due to the service levels being populated via discussions with operations and the use of the UAP produced in the WSDP. The discrepancies in the backlogs illustrates the need to do a proper service levels investigation on a settlement level to ensure that the correct number of backlogs are noted to ensure there are projects to reduce and eradicate them.

Not only does the WSDP define areas that are below RDP level, but also where areas are not supplied with adequate water and sewer services even if the type of service is above RDP level (such as inadequate source or infrastructure). The total backlogs, irrespective of need, are shown in Table A6:

**Table A.6: Residential water services delivery: Water and sanitation backlog**

Category	Households	Population
Direct settlement backlog water. Total with a water need (irrelevant the type of need)	59 597	253 217
Direct settlement backlog sewer. Total with a sewer need (irrelevant the type of need)	23 364	99 334

In the urban areas, sanitation infrastructure is present, but the infrastructure is old and needs to be replaced or refurbished. There is also a massive need to upgrade/refurbish the treatment works. From **Table A.6** it can also be seen that more than half the households require some form of water services due to resource or infrastructure issues.

The new WSDP format also indicates what type of backlog eradication is required in each of the settlements. The types of backlog eradication are indicated per number of households in **Table A.7**:

**Table A.7: Required backlog eradication types per number of households**

Type	Water needs to eradicate the backlog	Households
Resource	Conservation & Demand Management	0
	New Source	23075
Infrastructure	Refurbishment	6551
	Extension	959
	New scheme	31183
	Replace old	0

As can be seen from **Table A.7** the majority of the households with backlogs require a new source or a new scheme to eradicate the water backlogs (dried up springs/boreholes or scheme not able to supply increased number of households).

The section also contains details regarding the type of water and sanitation provision and if it is adequate or not regarding health and educational facilities. The education and health facility data (location, type and name) was taken from the information on the facilities provided by HGDM, but the majority from the GDB provided by DWS. The service levels were based on the settlement service levels or where information was provided in the GDB. The service levels per facility type are shown in **Table A.8** and **Figure A3 and A4**.

**Table A.8: Amenities service level adequacy**

Associated services facility	Number of facilities	Facilities with Adequate Services	Facilities with Inadequate Services
<b>Sanitation provision</b>			
<b>Educational facilities</b>			
Primary School	277	95	182
Secondary School	81	31	50
Tertiary	1	0	1
Combined	140	21	119
Special Needs	2	2	0
Other	0	0	0
<b>Health facilities</b>			
Hospitals	8	8	0
Health Centers	24	14	10
Clinics	35	7	28
Other	0	0	0
<b>Water provision</b>			
<b>Educational facilities</b>			
Primary School	277	164	113
Secondary School	81	60	21
Tertiary	1	0	1
Combined	140	95	45
Special Needs	2	2	0
Other	0	0	0
<b>Health facilities</b>			
Hospitals	8	8	0
Health Centers	24	14	10
Clinics	35	7	28
Other	0	0	0

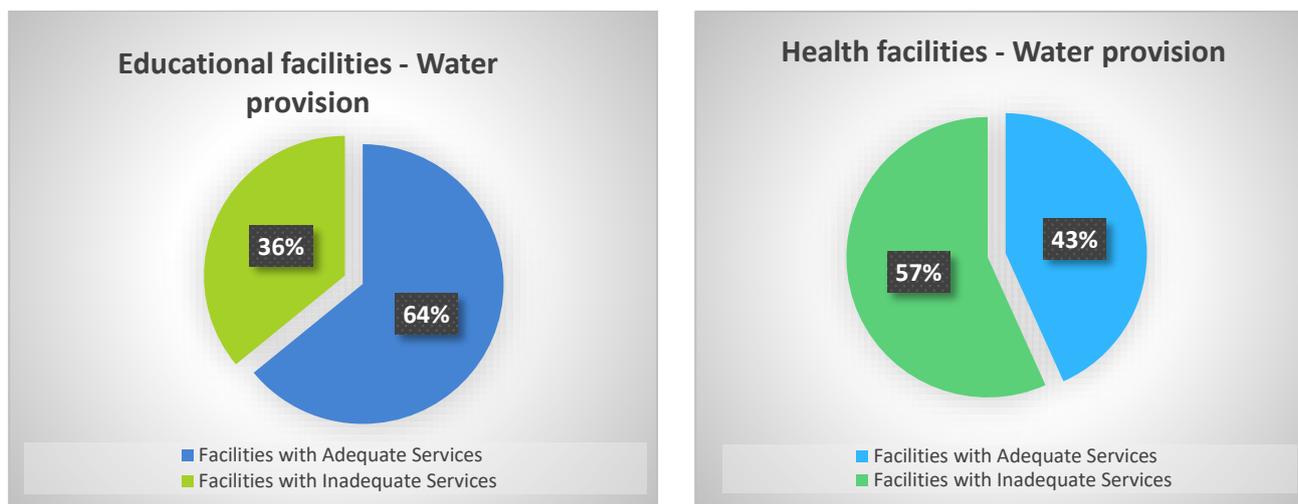


Figure A.3: Amenities water access profile

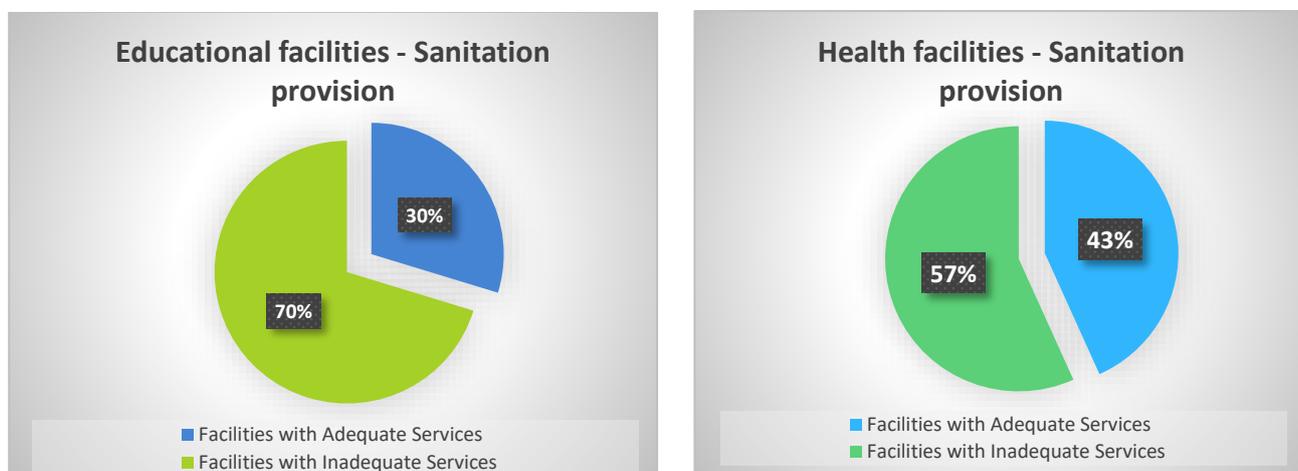


Figure A.4: Amenities sanitation access profile

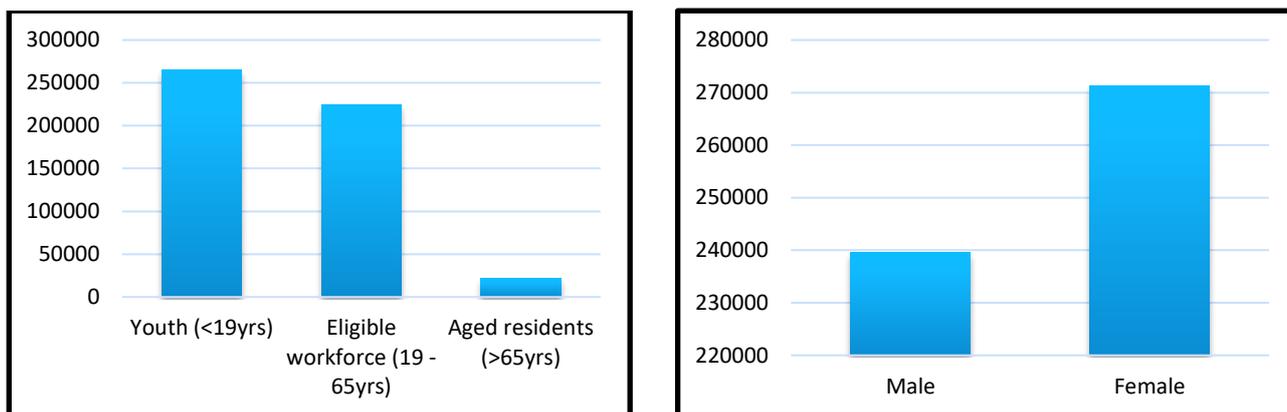
From the **Table A.8**, it can be seen that the majority of facilities have inadequate water and sewer services. As the majority of the service levels were estimated, a detailed study of all services should, however, be conducted to ensure adequate service level representation in WSDP. After this process has been completed projects, need to be proposed to improve service provision to the critical facilities.

Strategies and projects are in place to improve the service levels in most areas where there is a lack of services, or the services are inadequate. Funding is the largest issue in HGDM, not the identification of projects and strategies. HGDM relies mainly on grants for infrastructure projects as revenue from billing is inadequate for infrastructure projects. The relevant projects are listed in the WSDP and the MTEF section.

### Business Element 3: Socio-economics

The socio-economic section includes the most up to date information regarding the socio-economics of the WSA as generally provided by STATS SA. The socio-economic information was completed from the STATS SA website based on the community survey done in 2016.

The WSA has a relatively even split between male and female residents, with the females being slightly more. Almost half of the population are between 18 – 65 years of age (working force) (see **Figure A5**).



**Figure A.5: Population profile**

The household income section and economic status for HGDM was completed from Census 2011 data. From the data, Harry Gwala has very high levels of unemployment, and in general, the households are very poor. This is due to the low economic growth in the DM, only small urban areas with little work opportunities and the main industry being agriculture and forestry.

The employment profile, economic sectors information, demographic trends and migration details were not available from either HGDM or STATS SA. Details regarding these are required for proper resource planning, and strategies need to be put in place to investigate. STATS SA or HGDM need to implement a strategy to gather the specific information.

**Business Element 4: Water Services Infrastructure Management (Infrastructure)**

This section gives details regarding the infrastructure: Incidents, safety inspection, monitoring of the WWTW, the condition of infrastructure, refurbishment, replacement and new development costs, lifespan and useful life, capacity.

Limited to no information was available regarding the inspection and condition of all the infrastructure. As the majority of the infrastructure was managed by each LM separately previously and not by HGDM WSA as a whole, the information is thus scarce and not accessible or available. The assessment of the infrastructure was based on meetings with the relevant LM infrastructure managers and superintendents of each scheme and are mainly estimations.

It should be noted that HGDM does not have a department responsible for water quality and monitoring, the infrastructure department is responsible for this, but resources need to be allocated.

Currently, there are 13 sewer schemes based on the WTW and 168 Water schemes. The respective schemes are listed in **Table A10 and A11**:

**Table A.10: Sewer schemes**

BULWER	RIETVLEI	UNDERBERG
FRANKLIN	RIVERSIDE	HIMEVILLE (PACKAGE PLANT)
HLANGANANI/POLELA	ST APOLLINARIS/CENTOCOW	CREIGHTON
IXOPO	UMZIMKHULU	UNDERBERG RDP (PACKAGE PLANT)
KOKSTAD		

Table A.11: Water schemes

ANTIOCH SCHEME	KLIPSPRUIT SCHEME	NDAWANA SCHEME
BOMBO SCHEME	KNOEKFARM	NDZOMBANE SCHEME
BORNDRAND SCHEME	KOKSHILL RA SCHEME	NETHERBY
BULWER BULK (FUTURE)	KOKSHILL RB SCHEME	NGCESHANI WATER SCHEME
BULWER NKELABANTWANA WATER SCHEME	KOKSTAD WATER SCHEME	NGQOKOZWENI SCHEME
BULWER SCHEME	KRAANSDRAAI / GLEN EDWSRD WATER SCHEME	NGQUMARENI SCHEME
BULWER-NKELABANTWANA NKUMBA (FUTURE)	KROMHOEK SCHEME	NGWANQA SCHEME
CARRISBROOKE SCHEME 2	KWABASE/PIKININI SCHEME	NGWINJINI WATER SCHEME
CENTOCOW / ST .APOLLINARIS/MAKHOLWENI SCHEME	KWAFILI / RUSTFONTEIN SCHEME	NJUNGA AND RHALODI SCHEME
CHIBINI (FUTURE)	KWAJAMES SCHEME	NKWEZELA WATER SCHEME
CLYDESDALE SCHEME	KWAMAKHOBA WATER SCHEME	NOKWEJA WATER SUPPLY SCHEME
COMMONVILLE/HOPEVALE SCHEME	KWASENTI WATER SCHEME	NOMANDLOVU SCHEME
CORINTH SCHEME	KWASOKHELA SCHEME	NONGIDI SCHEME
CREIGHTON WATER SCHEME	LUKHANYENI/MDENI WATER SCHEME	NTAKAMA SCHEME
DELAMZI SCHEME	LUKHASINI WATER SCHEME	NTLAMBAMASOKA SCHEME
DIPHINI/DUMISA SCHEME	LUSIZNIN SCHEME	NTSIKANI SCHEME
DONNYBROOK / GALA WATER SCHEME	LUWAMBENI SCHEME	NXAPHANXAPHENI SCHEME
DONNYBROOK SCHEME	MACABAZINI WATER SCHEME	NYANISWENI
EASTLANDS SCHEME	MACHUNWENI SCHEME	NYANISWENI WATER SCHEME - KS
EBOVINI / EMAZABEKWENI WATER SUPPLY SCHEME 3	MAGQAGQENI SCHEME	NYANISWENI WATER SCHEME - UMZ
EBUTHA - WATER TANKER	MAGQORHOLWENI WATER SCHEME	NYEMBE SCHEME
EDGERTON SCHEME	MAHEWINI WATER SCHEME	NZIMANKULU SCHEME
EMAUS SCHEME	MAHHEHLE WATER SUPPLY SCHEME	OKHETHENI WATER SCHEME
EMVUBUKAZI / KWABALA SCHEME	MAHRWAQA (FUTURE)	OQAQENI WATER SCHEME
ENGWAQA	MAKHOLWENI SCHEME	PAKKIES WATER SCHEME
ENHLANHLENI/EMAKHOLWENI SCHEME	MALENGE SCHEME	PITELA SCHEME
ERITH TRUST/EBHAYI/KWATHATHANE SCHEME	MAMBATHENI WATER SCHEME	PUNGASHE/MHLABATSHANE SCHEME - HG
ESICEDENI/QLASHE AREA SCHEME	MANGWANENI WATER SCHEME	RIESDALE SCHEME
ESIKHESHINI SCHEME	MARAISKOP	RIETFLEI SCHEME
ESIQANDULWENI WATER SUPPLY SCHEME	MARIATHAL WATER SCHEME	RIVERSIDE SCHEME
ESIZINGENI	MARIATHAL WATER SCHEME (FUTURE)	ROCKY MOUNT SCHEME
FOUNTAINS/MATHATHANEScheme	MASAMANI KHUKHULELA WATER SCHEME	SANDANEZWE WATER SCHEME
FRANKLIN WATER SCHEME	MASAMANI WATER SCHEME	SDADENI WATER SCHEME
GOSO SCHEME	MASHAWINI SCHEME	SIKHULU SCHEME
GREATER IMPENDLE 2 GREATER STOFFLETON - HG	MAWUSI SCHEME	SINGISI FACTORY SCHEME
GREATER MBULWELENI (FUTURE)	MBHULELO SCHEME	SMALL MAHOBE SCHEME
GREATER MKHUNYA (FUTURE)	MBULELWENI WATER SCHEME	SPITZKOP SCHEME
GREATER PANINKHUKU SCHEME	MDAYANE WATER SCHEME	SPRINGVALE WATER SUPPLY SCHEME
GREATER SUMMERFIELD SCHEME	MDENI SCHEME	ST BARNABAS SCHEME
GUDLINGDABA SCHEME	MFULAMHLE SCHEME	ST PAUL SCHEME
GUGWINI & SIFLONHLWENI SCHEME	MGODI/SKEI WATER SUPPLY SCHEME	STEPMORE
HIGHFLATS	MKHUNYA	STRANGERS REST SCHEME
HIGHLANDS/WASCHBANK SCHEME	MNKANGALA SCHEME	TARSVALLEY WATER SCHEME
HIMEVILLE SCHEME	MNQUMENI (FUTURE)	THUTHUKANE WATER SCHEME
HLANGANANI/POLELA SCHEME	MNQUNDEKWENI WATER SCHEME	TSAWULE SCHEME
HLOKOZI SCHEME	MNYWANENI WATER SCHEME	UFAFA (FUTURE)
HLOKOZI WATER SUPPLY SCHEME	MOTYENI/SMALL MAHOBE SCHEME	UMZIMKHULU SCHEME
HOPEWELL/CARRISBROOKE SUPPLY SCHEME	MPHITHINI WATER SCHEME	UNDERBERG SCHEME
HOPEWELL/KWADAYI SUPPLY SCHEME	MPHOLA/GAYBROOK SCHEME	VIERKANT WATER SCHEME
IBISI SCHEME	MPOFINI WATER SCHEME	VOYZANA WATER SCHEME
IBISI/MFUNDWENI WATER SCHEME	MQATSHENI/MAGUZWANA-STEPMORE	VUKA WATER SCHEME (NOT OPERATIONAL)
INDAWANA SCHEME	MQHOKWENI SCHEME	WATERFALL/NTLANGWINI SCHEME
IXOPO BULK (FUTURE)	MZIKI-AGRI VILLAGE	WENSBURG
IXOPO WATER SUPPLY SCHEME	NARAZETH SCHEME	ZIQALABENI SCHEME
JABULA/NDZIMANKULU SCHEME	NCAKUBANA (FUTURE)	
JOLIVET/VULAMEHLO WATER SUPPLY SCHEME - CROSS BORDER	NCAMBELE/BLOEMFONTEIN SCHEME	
KILIMON WATER SCHEME (FUTURE)	NDABAYILALI SCHEME	

<b>UMZIMKHULU</b>	<b>UBUHLEBEZWE</b>
<b>GREATER KOKSTAD</b>	<b>DR NKOSAZANA DLAMINI-ZUMA</b>

The bold LM schemes, shown in the table above, were used for the water balance purposes as the NRW project was done on LM scale and not per water scheme as little to no bulk meter data on a scheme level was available.

From **Table A.11** it can be seen that HGDM has over 150 water schemes. This is an issue as there are several small borehole or spring schemes, but very few regional bulk schemes making operation and maintenance an issue. Through discussions with the operational staff, it was also noted that most of these small schemes incur issues due to over-use and drying up. There is thus a need for more sustainable water supply in HGDM via regional bulk schemes.

A summary of the current water and sewer infrastructure is given in **Table A.12** as contained in the above schemes:

**Table A.12: Number of water and sanitation infrastructure and capacities**

Water		
Item	Number	Total capacity
Boreholes	1988	
Abstraction works	184	
WTWs	23	37.67ML/d
Water pump stations	73	
Water bulk pipelines	787.8km	
Water reticulation pipes	1 401.2km	
Reservoirs	713	69ML
Sewer		
Item	Number	Total capacity
Sewer pump stations	4	
Sewer bulk pipelines		
Sewer reticulation pipes	103.8km	
WWTWs	13	11.68ML/d

As can be seen from **Table A12**, there is very little to no information regarding the capacities of the pump stations or abstraction works (surface and ground).

A proper infrastructure survey needs to be conducted on the existing infrastructure regarding their: condition, replacement needs, replacement/refurbishment costs, lifespan etc. An infrastructure and asset management programme needs to be put in place by HGDM to improve the management of their infrastructure.

It should be noted that HGDM also does not currently have a good register of all their VIPs. A study should be done by surveying the position of the VIPs and their condition.

### Business Element 5: Water services Infrastructure Management (O&M)

This section is related to the operation and maintenance of the water infrastructure (not sewer). HGDM technical staff provided information relating to the water infrastructure. There is currently no system in place to manage and catalogue the equipment and associated staff relating to the operation and maintenance of the water infrastructure. There is an asset register but it needs revising as a lot of the infrastructure is not included in the asset register.

There are three categories assessed regarding O&M in the WSDP:

1. Resources
2. Information
3. Activity control and management

The different infrastructure is then assessed according to the three categories and assessed on a status quo and impact. There is a need to establish if the operation and maintenance are adequate (zero compliance – no intervention required) and the impact it has (critical to no impact).

In general, the O&M assessment showed that most of the aspects are below minimum requirements. From the discussions with HGDM operational staff, the following critical areas of concern were raised that need to be addressed:

- Spare parts (resources)
- Budget (resources)
- As-Built info. (information)
- Quality control procedures (activity control and management)

There are also green and blue drop reports for the majority of the treatment works. The treatment works and their scores are given in **Table A.13 and A.14** below:

**Table A.13: WTW and respective blue drop scores**

WTW	BD Score
ESIQANDULWENI WTW	44.81%
MNQUMENI WTW (FUTURE)	0.0%
MQATSHENI WTW	0.0%
FRANKLIN WTW	47.29%
BULWER TOWN WTW	46.02%
ST APOLLINARIS/CENTOCOW WTW	64.7%
MACHUNWINI WTW (PACKAGE PLANT)	0.0%
KWANJUNGA WTW (PACKAGE PLANT)	0.0%
VIERKANT WTW (PACKAGE PLANT)	0.0%
UMZIMKHULU TOWN WTW	51.59%
HIGHLANDS/WASHBANK WTW (PACKAGE PLANT)	48.75%
ISIBI WTW	65.56%
UNDERBERG WTW	66.64%
NOKWEJA WTW (PACKAGE PLANT)	49.48%
RIVERSIDE WTW	63.89%
HLANGANANI/POLELA WTW (PACKAGE PLANT)	68.05%
BULWER WTW	47.43%
KOKSTAD WTW	66.31%
IXOPO WTW (UW)	90.11%
CREIGHTON WTW	69.92%
NGWANGWANE WTW (FUTURE)	0.0%
HIGHFLATS WTW	0.73%
DONNYBROOK WTW	0.99%

**Table A.14: WWTW and respective green drop scores**

WWTW	GD Score
UNDERBERG RDP (PACKAGE PLANT)	0.0%
HIMEVILLE (PACKAGE PLANT)	0.0%
KOKSTAD	64.1%
UMZIMKHULU	71.4%
IXOPO	0.0%
CREIGHTON	0.0%
RIETVLEI	0.0%
FRANKLIN	0.0%
BULWER	49.0%
HLANGANANI/POLELA	60.1%
UNDERBERG	53.6%
RIVERSIDE	73.3%
ST APOLLINARIS/CENTOCOW	51.8%

From the scores above it can be seen that several of the WTW and WWTW need improved O&M, substantiating the above O&M assessment and the need for it to be improved. There are also several

WWTWs and WTWs that need to get assessed (highlighted in red). It should be noted that a few of the WTW and WWTW are now maintained by UW and not HGDM themselves.

## Business Element 6: Water Resources

---

This section includes details on the number of sources, their abstraction volumes (licensed and current) and also the number of communities (urban and rural) supplied. Also if there is monitoring in place and if there is a monitoring plan. Details of how frequently and if the abstraction and water quality is monitored and if it is by the standards is also included and what the water quality measures in place and the industries and their usage and effluent volumes.

Apart from UW bulk purchases (mainly in Ixopo), water is abstracted from boreholes and surface abstraction works and is not monitored in the majority of the schemes. There is a water quality monitoring plan in place, but no monitoring of the groundwater and surface water levels or abstraction volumes is conducted. Water quality monitoring is done by UW as there is no specific department at HGDM for water quality monitoring, especially at the treatment, works. Limited to no information was available regarding the large industries and their water use and effluent release.

The available water sources should be analysed regarding their available and existing abstraction volumes, and monitoring should be done regularly. A proper water quality and water use monitoring program also needs to be put in place for both the abstraction and groundwater sources, as well as industrial users to analyse their influent and effluent.

## Business Element 7: Conservation and Demand Management

---

This section contains two separate topics as discussed below:

### 7.1 Water resource management

This section contains information regarding unaccounted water and water inefficiencies, high pressures for residential consumers, Leak and meter repair programmes and consumer/end-use demand management.

Very little information was available regarding the water resource management section of the WSDP. HGDM currently doesn't have a hydraulic model or analysis which can be used to identify the high-pressure zones and very little information is available regarding the metering and leaks in HGDM.

The WSA indicated no available resources or plan in place to allow the monitoring and management of this function. The concept of WC/WDM has recently been introduced, and recommended interventions are to be prioritised. WC/WDM Programmes and interventions to be implemented to ensure compliance by the WSA. A hydraulic model is also required to identify any issues in the current network.

There is currently no working for water programme in place to reduce alien vegetation. There was, however, a programme in place in the past to manage alien vegetation. The WSA conducts information sessions for the public and schools regarding end-use management.

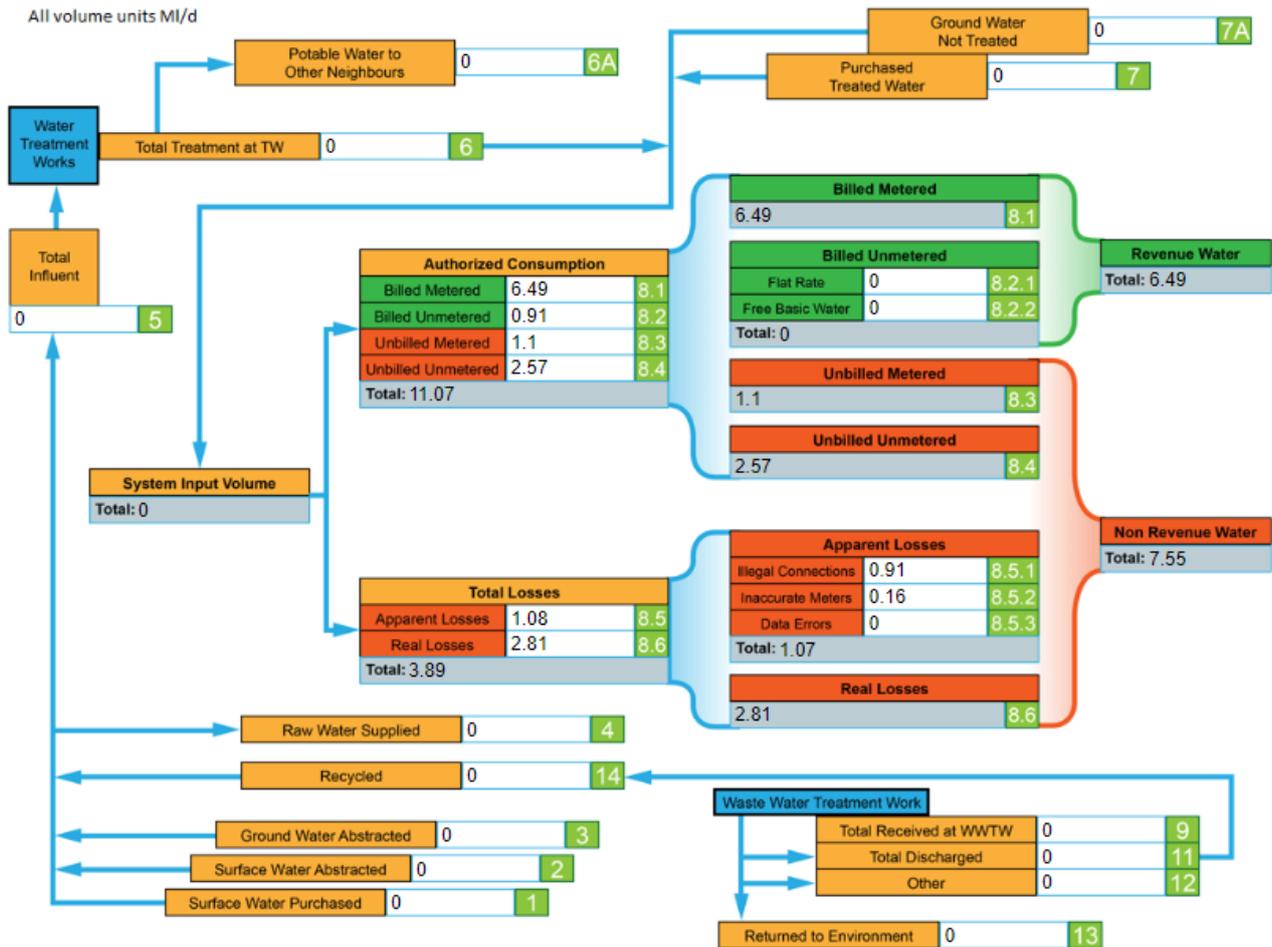
### 7.2 Water balance

This section contains information regarding the water balance on a scheme or WSA level. The data was completed on a local municipality, scale as bulk meter and consumer data was very limited, to be able to complete the water balance on a smaller scale. The billing database also had several inaccuracies, and several assumptions had to be made regarding consumption as stated in the JOAT NRW report. The actual purchased volumes from UW was also not available. Limited information was also available regarding the volumes of

water at the WTW, WWTW, abstraction works and groundwater sources as inlet and outflow meters are limited and not read.

No information was provided regarding the supply to other neighbours. Due to the recent restructuring of the ward and LM boundaries, no information was available regarding how much water is supplied to the neighbours. Proper logging and metering are required in Impendle/NDZ as Umgungundlovu WSSA still supplies an area now in Harry Gwala. There is also an area in Ubuhlebezwe that is supplied from Ugu and another supplied from UW. Bulk meters need to be installed to ensure the ward changes are accounted for and noted in the water balance.

The current WSA level water balance, as calculated by JOAT, is shown in **Figure A.6**.



**Figure A.6: WSA level water balance**

From **Figure A.6** it is clear that the WSA has very high losses which account for almost a third of the consumption. It is thus imperative that HGDM implements the proposed solutions as stated in the NRW master plan as completed by JOAT to improve the water balance accuracy and completeness and improve NRW. The current status of the water balance is in critical need of interventions as the water loss is excessive. Logging needs to be done or meters installed to produce a proper water balance at all WTW, WWTW, abstraction works and groundwater sources. A strategy should also be put in place to replace and install consumer meters.

## Business Element 8: Financial profile

---

Information regarding the expenditure, capex and revenue is required in the WSDP. Very limited information was provided regarding the expenditure, capex and revenue by HGDM. Information regarding the water balance cost were taken from the NRW master plan from JOAT, and HGDM financial department provided the financial information regarding some of the water resources aspects.

Information regarding revenue and CAPEX was not provided and needs to be updated by HGDM. Of the financial information available from HGDM, the information is not as split up in the categories as the WSDP requires.

The current structure of the WSDP does not include strategies for improving the financial profile. HGDM does, however, have to look at improving it's cataloguing of financial information and include more categories to align with the WSDP.

## Business Element 9: Water Services Institutional Arrangements

---

This section relates to the MuSSA and context information questionnaires. The purpose of these questionnaires is to give a broad indication of the status of the WSA and a bit of background and if the necessary procedures and resources are available.

The questionnaires were provided to the WSA, and the various departments in the WSA were contacted to provide accurate information.

The most critical issues that were raised through completing the questionnaires were:

- Water and wastewater quality monitoring and management – should be improved
- Project monitoring and, implementation – better procedures should be put in place
- Limited staff – several of the WSA positions are not filled due to budget constraints
- Informal and rural areas backlog – still several settlements not serviced
- Budget constraints to fund projects to improve water and sanitation provision
- Budget for operation and maintenance is totally insufficient

## ***Section B: State of Water Services Planning***

As promulgated in terms of section 16 of the Water Services Act, a WSA must prepare and adopt a new development plan every five years, unless substantial deviations. This section contains the discussion of the detailed plans which has been instituted as part of the WSDP and the status of the WSDP.

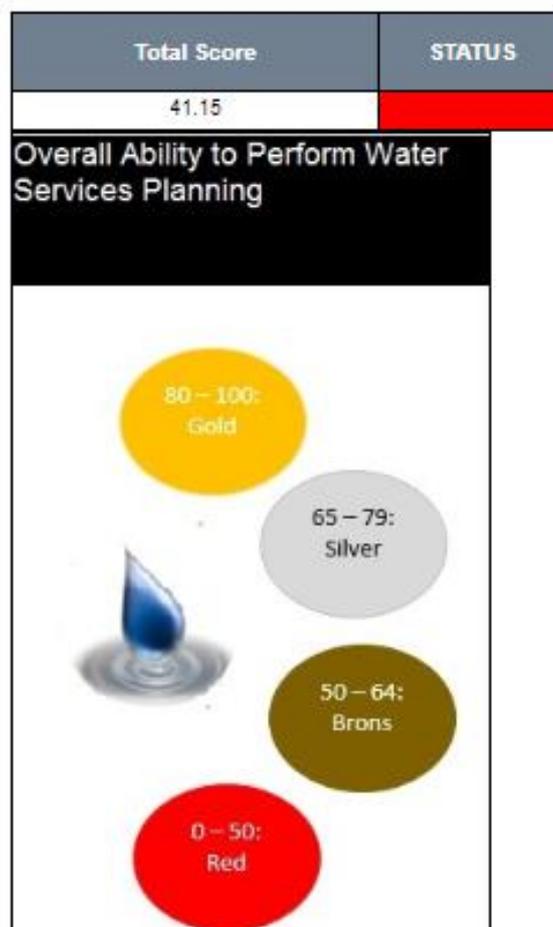
### **WSDP Status**

The previous WSDP was completed in 2011/2012 for HGDM by Bhungane Consultants. No update of the WSDP was completed since then. The WSDP has also not been updated to the new DWS standardised web platform.

It should also be noted that there are several water and sanitation projects currently in place or planned/in the pipeline in the WSA to improve service levels, but the major issue is getting funding for the projects.

There was no WSDP score for the 2011/2012 WSDP as it was still in the old format.

After completing the existing needs perspective and master plan perspective for the current WSDP (see sections that follow), the score of the WSDP falls in the **red category 41.15%**. This indicates that the WSDP for the WSA is currently in the lowest scoring category and significant improvements are required to improve the score.



It is imperative to complete master plans to improve the score of the WSDP.

**Detailed plans**

To determine the status of the infrastructure, not only is the WSDP required, but any assisting documents also need to be investigated. There were two major detailed plans recently done for HGDM regarding their water and sewer services:

Plan name	Description
JOAT NRW Report	JOAT completed a NRW report for HGDM WSA in 2017/2018. The report contained information regarding the water balance and information regarding the non-revenue water and contained information which was an integral part of the WSDP. Several recommendations were also proposed which should be used for proposed projects for the WSDP.
SMEC UAP	SMEC completed a UAP for HGDM in 2014. The study investigated the bulk water infrastructure, water resources, water backlog, water demand and gap analysis. The report gave a good indication of where there are backlogs and how the areas can potentially be serviced and which areas cannot be serviced as they are too remote. Also looked at the future demand scenario. This report was used to indicate the backlogs and possible projects for the WSDP.

---

### ***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 in the form of an assessment score and a strategic assessment.*

*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**.*

**Table C.1: Existing Needs Perspective and Problem Statements****Demographics**

Item	Strategic interpretation
Settlements Summary	Settlements have been discussed with WSA. Some households were taken from Eskom HH count done in 2013 and counting HH from an aerial photo. The population figures were calculated using the HH and the number of HH from CENSUS 2011. The WSA didn't agree with WSDP and census household and population figures. Study per settlement needs to be completed to assess households and population figures more accurately.
Summary by Settlement Group	Urban and rural figures are accurate. Population and households figures need to be updated with a more accurate study.
Assessment Score by Settlement Type	Settlements have been discussed with WSA and checks have been made versus the CENSUS 2011 and UAP data provided. The identification of settlement types are adequate, but the settlement households and population figures still need to be assessed in more detail.
Amenities Summary	Public amenities figures were not available at the WSA - Public amenity figures need to be discussed with health and education departments to ensure a correct number of facilities to ensure correct planning. The backlogs and service levels also need to be confirmed.

**Table C.2: Existing Needs Perspective and Problem Statements****Service Levels**

Item	Strategic interpretation
Direct Backlog Water	Projects are in place to improve water services of backlog area, but funding is an issue and lack of regional bulk water supply schemes.
Water Services Infrastructure Supply Level Profile	There is no proper VIP or sanitation service level asset register to assess backlog situation. There are several new rural expansions without proper planning and assessment regarding basic service provision. There are projects in place each year reducing backlogs. Areas that are below RDP level sanitation supply (VIP) needs to be serviced with either VIPs or waterborne sanitation.
Sanitation Service Infrastructure Supply Level Profile	The service levels still need more investigation for a more accurate representation. Using the current service levels, more than half of the households are above RDP level water supply. However, 18% of the households are served via water tankers and 7% via springs and rivers with no proper schemes. There is thus a large portion (25%) of the WSA that is below RDP level water supply which needs to be serviced.
Water Services: Education	The service levels still need more investigation for a more accurate representation. Using the current service levels and reliability profile, the majority of the backlog areas require either infrastructure or where there is a scheme in place a more reliable resource.
Sanitation Services: Education	The service levels still need more investigation for a more accurate representation. Using the current service levels, more than half of the households are above RDP level sanitation supply. However, 35% of the households are served via PIT toilets. There is thus a large portion (35%) of the WSA that is below RDP level sanitation supply which needs to be serviced.
Health and Educational Facilities	The service levels still need more investigation for a more accurate representation. Using the current service levels and reliability profile, the majority of the backlog areas require the existing PIT toilets to be upgraded to VIPs. Some of the VIP areas are also planned to be upgraded to waterborne

Direct Backlog Sanitation	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Majority of the facilities have inadequate water provision and needs to be addressed.
Water Reliability Profile	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Some of the facilities have inadequate water provision and needs to be addressed.
Sanitation Reliability Profile	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Some of the facilities have inadequate sanitation provision and needs to be addressed.
Water Services: Health	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels.
Sanitation Services: Health	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Some of the facilities have inadequate sanitation provision and needs to be addressed.

**Table C.3: Existing Needs Perspective and Problem Statements** **Water Services Asset Management**

Item	Strategic interpretation
General Information	The WSA has an asset and disaster management plan in place. It does, however, not have a plan in place to manage untreated effluent. The asset register also needs to be updated to include all the missing schemes and infrastructure.
Operation	The asset register does not include information regarding security incidents and safety inspections performed. The information was discussed with LMs and assumptions were made. Proper assessment of security incidents and safety inspection are required.
Functionality Observation	Very little to no information was available in the asset register regarding replacement value of the infrastructure. There was also no information available regarding the refurbishment or new development costs. There was also no information regarding the physical condition of the infrastructure and information was provided and assumed based on meetings with operational managers of each LM.
Asset Assessment Spectrum	No information was available regarding the expected lifespan of the infrastructure. Very little to no information was also available regarding the infrastructures age to determine expected lifespans of the infrastructure.
Water and Sanitation schemes	There are several rudimentary schemes in HGDM. There should, however, be more regional schemes implemented as the maintenance and sustainability of the rudimentary schemes are difficult, and several of the schemes are not operating as they should. Some of the treatment works also do not have green and blue drop reports and should be addressed.

**Table C.4: Existing Needs Perspective and Problem Statements****Water Services O&M**

Item	Strategic interpretation
Operation & Maintenance Plan	There is currently an operation and maintenance plan in place. The plan should, however, be improved and implemented. The plan is currently not implemented as it should, mainly due to budget constraints.
Is There an Operation and Maintenance Plan?	There is currently an operation and maintenance plan in place. The plan should, however, be improved and implemented. The plan is currently not implemented as it should, mainly due to budget constraints.
Resources	The main concern in terms of resources to the WSA in terms of all its infrastructure is budget. The WSA doesn't have enough budget to operate and maintain its infrastructure. After the budget, the WSA has issues regarding the amount of staff and spare parts, which is again linked to the budget.
Information	According to the WSA, there are very little to no As-built information available regarding the infrastructure. The relevant as-builts should be collected from the consultants and surveys should be completed where necessary. There is an asset register in place, but should also be updated. Several of the schemes is not included in the current asset register. There is sufficient information available regarding the tools and equipment, and there are manuals and safety plans.
Activity Control & Management	The WSA shows very little compliance with the active control and management of its infrastructure. The major area of concern is the quality control procedures which are non-existent.

**Table C.5: Existing Needs Perspective and Problem Statements****Conservation & Demand Management**

Item	Strategic interpretation
Reducing unaccounted water and water inefficiencies	The WSA stated that there is only partial metering taking place in the WSA, mainly in urban areas where there are proper house or yard connection. The rural schemes have no metering, which is a big issue especially in terms of the water balance. There are programmes to improve leaks and un-metered connections but are not sufficient.
Leak and meter repair programmes	The WSA stated that there is currently active leak and meter repair programmes in place. There is, however, a need for retrofitting inefficient toilets. There are also several illegal connections (yard connection from communal standpipe) which increases leakage.
Consumer/end-use demand management: Public Information & Education Programmes	There are currently programmes in place for educating schools and communities regarding end use/consumer demand management. The WSA states that these are adequate, but further awareness and education is necessary.
Conjunctive use of surface - and groundwater	No information was available regarding artificial recharge, and only information on one scheme was available regarding rainwater harvesting. There is thus a need to investigate artificial recharge and rainwater harvesting in the WSA.
Working for Water	Currently, there are no programs in place to remove alien vegetation or to reduce alien vegetation. Alien vegetation typically has a high water use and should thus be removed. There have been programs in the past, but none are currently in place.

Water Balance	Limited to no information was available regarding the water consumption/metering and water resources (purchased and ground and surface water sources - abstraction volumes). This made the accuracy of the water balance very low, and several assumptions were made. The current NRW due to inadequate metering needs to be addressed.
---------------	---

**Table C.6: Existing Needs Perspective and Problem Statements****Water Resources**

Item	Strategic interpretation
Current Water Sources	Limited information was provided on the sources and additional sources available and their volumes and abstraction volumes
Monitoring	Limited information was provided on the sources and additional sources available and their volumes and abstraction volumes. The UAP completed looked at current and additional sources. There is, however, a need to complete a WSA master plan to identify possible additional sources and assess the current infrastructure in more detail.
Water Quality	Information was provided regarding monitoring of sources by the technical staff of the WSA. Monitoring occurs either never or very rarely. No monitoring is done regarding the groundwater sources, and only some of the more formal schemes surface water abstraction is monitored. A need for proper monitoring of the schemes and sources are required. The monitoring of sources is also vital for the water balance.
Operation	The WSA provided information on the water quality. According to the WSA, UW mainly conducts the quality monitoring of the sources (abstraction) and the water that is returned. The WSA does not monitor water quality. There is no staff dedicated to water quality and monitoring in the WSA. There is a need to improve quality monitoring in the WSA.
Additional Sources Available	Most of the abstraction points (surface and ground) are registered with the DWS, but in general, they are not recorded. Proper monitoring of the abstraction points are required.

---

***Section D: Water Services Objectives and Strategies***

---

*The water services objectives and 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 objectives and strategies as established in the WSA's WSDP.*

**Table D1: WSDP FY2018: Water Services Objectives and Strategies****WSDP FY2017: Strategies and Objectives**

Nr	Objective Strategy	Key Performance Indicator	Baseline (FY2017 status quo)	WSDP Year 1	WSDP Year 2	WSDP Year 3	WSDP Year 4
				FY2018	FY2019	FY2020	FY2021
				Target	Target	Target	Target
<b>Topic 1 - Settlement Demographics &amp; Public Amenities</b>							
1	Settlement (urban and rural) survey assessing households and population	All settlements should be investigated, and the number of households and population numbers should be determined. GPS locations should also be taken	Currently, the information is based on Eskom households, and the number of people per household from CENSUS 2011 data was used to determine the population.	Present to council need for settlement assessment to provide funding and resources	Complete settlement survey	Update WSDP with new settlement figures	Update WSDP
2	Public amenities should be investigated with the cooperation of the health and education departments	All public amenities (health and education) should be investigated, and the number of facilities and their type should be determined. GPS locations should also be taken	Currently, the information is based on information contained in the existing GDB and from information provided by the surveyor general. The WSA didn't provide any data.	Present to council need for public amenity assessment to provide funding and resources	Complete public amenity survey	Update WSDP with new public amenity figures	Update WSDP
<b>Topic 2 - Service Levels Profile</b>							
1	Settlement survey assessing service levels - both water and sewer	Settlement survey needs to be completed assessing the service levels of each of the settlements in Harry Gwala (rural and urban) for both water and sewer. The survey will aid in identifying the backlog areas in terms of service provision in Harry Gwala.	Discussions were had with infrastructure regarding water and sewer service provision as Census and DWS service levels were incorrect. The service levels still need more investigation for a more accurate representation.	Presenting to council need for settlement assessment to provide funding and resources	Complete settlement survey	Update WSDP with new settlement figures	Update WSDP
2	Areas that are below RDP level water supply needs to be supplied via new schemes or regional schemes	Areas that are below RDP level water supply needs to be supplied via new schemes or regional schemes	Using the current service levels, more than half of the households are above RDP level water supply. However, 18% of the households are served via water tankers and 7% via springs and rivers with no proper schemes. There is thus a large portion (25%) of the WSA that is below RDP level water supply which needs to be serviced.	Presenting to council need for improving areas below RDP level of water provision to provide funding and resources	Upgrade below RDP level of water services areas	Upgrade below RDP level of water services areas - update WSDP	Upgrade below RDP level of water services areas - update WSDP

3	Areas that are below RDP level sanitation supply (VIP) needs to be serviced with either VIPs or waterborne sanitation.	Areas that are below RDP level sanitation supply (VIP) needs to be serviced with either VIPs or waterborne sanitation.	Using the current service levels, more than half of the households are above RDP level sanitation supply. However, 35% of the households are served via PIT toilets. There is thus a large portion (35%) of the WSA that is below RDP level sanitation supply which need to be serviced.	Presenting to council need for improving areas below RDP level of sewer provision to provide funding and resources	Upgrade below RDP level of sewer services areas	Upgrade below RDP level of sewer services areas - update WSDP	Upgrade below RDP level of sewer services areas - update WSDP
4	Assessment of service levels of Health and education facilities for planning and design	An assessment of the service levels of the Health and education facilities in Harry Gwala is required for planning and design and ensuring the facilities have adequate services	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels.	Get health and education facility information from respective departments	Update service levels and WSDP	Update WSDP	Update WSDP
5	Facilities with backlogs need to be properly serviced.	Facilities with backlogs need to be properly serviced.	Some of the facilities have inadequate water and sewer provision according to the current service levels and needs to be addressed.	Present to council need for providing proper services to health and educational facilities to provide funding and resources	Improve backlogs of facilities and update WSDP	Improve backlogs of facilities and update WSDP	Improve backlogs of facilities and update WSDP
6	A water and sanitation masterplan needs to be completed for the WSA on a bulk and reticulation scale for the existing and future demand scenario	A water and sanitation masterplan needs to be completed for the WSA on a bulk and reticulation scale for the existing and future demand scenario	Currently, there is no proper masterplan that assesses the infrastructure (sewer and water) and looks at the existing and future demands of the WSA. A master plan is imperative to adequately plan infrastructure	Present to council need for a proper water and sewer master plan to provide funding and resources	Complete masterplan and reduce backlogs	Complete masterplan and reduce backlogs	Complete masterplan and reduce backlogs
7	The existing sources should be investigated, and future sources identified	The existing sources should be investigated, and future sources identified	Currently, the biggest issue with the existing schemes is source reliability. There is a need for more sustainable sources.	Present to council need for the investigation of the existing and future sources to provide funding and resources	Investigate existing and future sources	Implement new sources to improve scheme supply and update WSDP	Implement new sources to improve scheme supply and update WSDP
<b>Topic 3 - Water Services Asset Management</b>							
1	The WSA should improve the asset management plan and develop a plan to manage untreated effluent	The WSA should update and improve the asset management plan and develop a plan to manage untreated effluent	The WSA has an asset and disaster management plan in place. It does, however, not have a plan in place to manage untreated effluent. The asset register also needs to be updated to include all the missing schemes and infrastructure.	Present to council need to improve the asset management plan and develop a plan to manage untreated effluent to provide funding and resources	Improve the asset management plan and develop a plan to manage untreated effluent and update WSDP	Implement the improved asset management plan and plan to manage untreated effluent and update WSDP	Update WSDP

2	The WSA to do a proper assessment of security incidents and safety inspections performed	The WSA to do a proper assessment of security incidents and safety inspections performed	The asset register does not include information regarding security incidents and safety inspections performed. The information was discussed with LMs and Assumptions were made. Proper assessment of security incidents and safety inspection are required.	Present to council need to do a proper assessment of security incidents and safety inspections performed to provide funding and resources	Conduct a proper assessment of security incidents and safety inspections performed and update WSDP	Conduct a proper assessment of security incidents and safety inspections performed and update WSDP	Conduct a proper assessment of security incidents and safety inspections performed and update WSDP
3	Proper replacement, refurbishment and new development costs need to be determined for all the water and sanitation infrastructure in Harry Gwala.	Proper replacement, refurbishment and new development costs need to be determined for all the water and sanitation infrastructure in Harry Gwala. This can be achieved with a sewer and water master plan	Very little to no information was available in the asset register regarding replacement value of the infrastructure. There was also no information available Regarding the refurbishment or new development costs. There was also no information regarding the physical condition of the infrastructure and information was provided and assumed based on meetings with operational managers of each LM.	Present to council need to determine a replacement, refurbishment and new development costs for all the water and sanitation infrastructure to provide funding and resources	Determine replacement, refurbishment and new development costs for all the water and sanitation infrastructure and update WSDP	Determine replacement, refurbishment and new development costs for all the water and sanitation infrastructure and update WSDP	Determine replacement, refurbishment and new development costs for all the water and sanitation infrastructure and update WSDP
4	The expected lifespan on the infrastructure should be determined based on the age and the condition of the infrastructure.	The expected lifespan on the infrastructure should be determined based on the age and the condition of the infrastructure. A proper assessment of the infrastructure and their ages are required	No information was available regarding the expected lifespan of the infrastructure. Very Little to no information was also available regarding the infrastructures age to determine expected lifespans of the infrastructure.	Present to council need to determine expected lifespan on the infrastructure to provide funding and resources	Determine expected lifespan on the infrastructure and update WSDP	Determine expected lifespan on the infrastructure and update WSDP	Determine expected lifespan on the infrastructure and update WSDP
5	Investigate and implement more regional water and sanitation schemes.	Investigate and implement more regional water and sanitation schemes. This can be addressed with the water and sewer masterplans	There are several rudimentary schemes in HGDM. The feasibility of regional schemes should be investigated as the maintenance and sustainability of the rudimentary schemes are difficult, and several of the schemes are not operating as they should.	Presenting to council need to investigate and implement more regional water and sanitation schemes to provide funding and resources	Investigate and implement more regional water and sanitation schemes and update WSDP	Investigate and implement more regional water and sanitation schemes and update WSDP	Investigate and implement more regional water and sanitation schemes and update WSDP
6	Blue and green drop reports should be done for outstanding treatment works, and the existing works should be refurbished or upgraded as the score are very low	Blue and green drop reports should be done for outstanding treatment works, and the existing works should be refurbished or upgraded as the score are very low	Some of the treatment works also do not have green and blue drop reports, and the ones that do have are not in good working order and should be addressed.	Presenting to council need for assessing the infrastructure condition to provide funding and resources	Complete asset register assessment	Update WSDP	Update WSDP

7	Update of asset register to include physical condition of all the assets.	Update of asset register to include physical condition of all the assets.	Currently, the asset register does not include the physical condition of all the infrastructure	Present to council need to ascertain the physical condition of the infrastructure to provide funding and resources	Ascertain the physical condition of the infrastructure and update asset register and WSDP	Ascertain the physical condition of the infrastructure and update asset register and WSDP	Ascertain the physical condition of the infrastructure and update asset register and WSDP
<b>Topic 4 - Water Services O and M</b>							
1	Develop and implement improved operation and maintenance plan for the effective operation and maintenance of assets. Improved budgets should be allocated to improve O&M.	Develop and implement improved operation and maintenance plan for the effective operation and maintenance of assets. Improved budgets should be allocated to improve O&M.	There is currently an operation and maintenance plan in place. The plan should, however, be improved and implemented. The plan is currently not implemented as it should, mainly due to budget constraints.	Present to council need to develop and implement an improved operation and maintenance plan to provide funding and resources	Develop and implement an improved operation and maintenance plan	Update WSDP	Update WSDP
2	The proper physical survey needs to be conducted and a GIS need to be created as very little information is available.	The proper physical survey needs to be conducted and as-built drawings need to be created as very little information is available regarding physical information which limits the capacity of operational staff	According to the WSA, there is very little to no As-built information available regarding the sewer and water infrastructure. The relevant as-builts should be collected from the consultants, and physical surveys should be completed where necessary.	Present to council need to survey infrastructure and collect as-builts to provide funding and resources	Survey infrastructure and collect as-builts and update WSDP	Survey infrastructure and collect as-builts and update WSDP	Survey infrastructure and collect as-builts and update WSDP
3	The asset register needs to be updated, and all the infrastructure of existing schemes should be included.	The asset register needs to be updated, and all the infrastructure of existing schemes should be included.	There is an asset register in place but should also be updated. Several of the schemes infrastructures is not included in the current asset register.	Present to council need to update asset register to provide funding and resources	Update asset register and update WSDP	Update asset register and update WSDP	Update asset register and update WSDP
4	Develop systems and processes for effective activity control and management - especially in terms of risk and quality	Develop systems and processes for effective activity control and management - especially in terms of risk and quality	The WSA shows very little compliance with the active control and management of its infrastructure. The major area of concern is the quality control procedures which are non-existent.	Present to council need to develop systems and processes for effective activity control and management to provide funding and resources	Develop systems and processes for effective activity control and management	Update WSDP	Update WSDP
5	Budget to be improved regarding operation and maintenance as currently not enough budget	Budget to be improved regarding operation and maintenance as currently not enough budget	The main concern in terms of resources to the WSA in terms of all its infrastructure is budget. The WSA doesn't have enough budget to operate and maintain its infrastructure.	Present to council need for the improved O&M budget to provide funding and resources	Improve O&M with an increased budget and update WSDP	Improve O&M with an increased budget and update WSDP	Improve O&M with an increased budget and update WSDP

6	More staff and spare parts need to be allocated to WWTW and WTW plants and pump stations for optimal operation	More staff and spare parts need to be allocated to WWTW and WTW plants and pump stations for optimal operation	After the budget, the WSA has issues regarding the amount of staff and spare parts, which is again linked to the budget.	Present to council need for more staff and spare parts to provide funding and resources	Acquire more staff and spare parts and update WSDP	Acquire more staff and spare parts and update WSDP	Acquire more staff and spare parts and update WSDP
<b>Topic 5.1 - Conservation &amp; Demand Management - Water Resource</b>							
1	WC&DM Programmes and interventions to be implemented to ensure compliance by the WSA.	<p>WC&amp;DM Programmes and interventions to be implemented to ensure compliance by the WSA. Especially regarding:</p> <ul style="list-style-type: none"> <li>- Reducing unaccounted water and water inefficiencies</li> <li>- Leak and meter repair programmes</li> <li>- more public awareness and education programmes</li> <li>- artificial recharge and rainwater harvesting investigation and monitoring</li> <li>- alien vegetation removing programs</li> </ul>	<p>The WSA stated that there is only partial metering taking place in the WSA, mainly in urban areas where there are proper house or yard connection. The rural schemes have no metering, which is a big issue especially in terms of the water balance.</p> <p>The WSA stated that there is currently active leak and meter repair programmes in place. There is, however, a need for retrofitting leaking toilets. There are also several illegal connections (yard connection from communal standpipe) which increases leaking.</p> <p>There are currently programmes in place for educating schools and communities regarding end use/consumer demand management. The WSA states that these are adequate, but more awareness and education is necessary.</p> <p>No information was available regarding artificial recharge, and only information on one scheme was available regarding rainwater harvesting.</p> <p>Currently, there are no programs in place to remove alien vegetation or to reduce alien vegetation. Alien vegetation is typical for high water users and should thus be removed. There have been programs in the past, but none are currently in place.</p>	Present to council need for proper WC&DM programmes and interventions to provide funding and resources	Develop and implement WC&DM Programmes and interventions and update WSDP	Develop and implement WC&DM Programmes and interventions and update WSDP	Develop and implement WC&DM Programmes and interventions and update WSDP

Topic 5.2 - Conservation & Demand Management - Water Balance							
1	Implement strategies as contained in NRW report compiled by JOAT. Especially regarding metering of sources and consumers (metering of standpipes etc.)	Implement strategies as contained in NRW report compiled by JOAT. Especially regarding metering of sources and consumers (metering of standpipes etc.)	Limited to no information was available regarding the water consumption/metering and water resources (purchased and ground and surface water sources - abstraction volumes). This made the accuracy of the water balance very low, and several assumptions were made. The current NRW due to inadequate metering needs to be addressed.	Present to council need for proper metering to provide funding and resources	Improve metering of sources, reservoirs and consumers - Update WSDP	Improve metering of sources, reservoirs and consumers - Update WSDP	Improve metering of sources, reservoirs and consumers - Update WSDP
2	The WSA to develop and implement the water monitoring plan.	Develop and implement the water monitoring plan.	The water monitoring plan is not in place with limited resources to manage these functions effectively.	Develop and implement the water monitoring plan.	Develop and implement the water monitoring plan.	Update WSDP	Update WSDP
Topic 6 - Water Resource							
1	The available sources should be analysed regarding their available abstraction volumes and existing abstraction volumes.	All abstraction sources should be logged and monitored to determine the available abstraction volumes and the existing abstraction volumes. Proper yield analysis of sources is also required	Limited information was provided on the sources and additional sources available and their volumes and abstraction volumes	Present to council need for proper source analysis to provide funding and resources	Analyse available and existing abstraction volumes and update asset register to include volumes	Update WSDP	Update WSDP
2	A proper source monitoring program needs to be put in place - monitoring and metering of both ground and surface abstraction is required	A proper source monitoring program needs to be put in place - monitoring and metering of both ground and surface abstraction is required	Information was provided regarding monitoring of sources by the technical staff of the WSA. Monitoring occurs either never or very rarely. No monitoring is done regarding the groundwater sources, and only some of the more formal schemes surface water abstraction is monitored. A need for proper monitoring of the schemes and sources are required. The monitoring of sources is also vital for the water balance.	Present to council need for proper source monitoring to provide funding and resources	Implement and develop source monitoring	Update WSDP	Update WSDP
3	Proper water quality and water monitoring program needs to be put in place - water and wastewater	Proper water quality and water monitoring program needs to be put in place - water and wastewater	The WSA provided information on the water quality. According to the WSA, UW mainly conducts the quality monitoring of the sources (abstraction) and the water that is returned. The WSA does not itself monitoring water quality. There is no staff dedicated to water quality and monitoring in the WSA. There is a need to improve quality monitoring in the WSA.	Present to council need for proper water and wastewater quality monitoring program to provide funding and resources	Develop and implement water and wastewater quality monitoring program	Update WSDP	Update WSDP

4	Register and record all abstractions with DWS - licensing all necessary abstractions	Register and record all abstractions with DWS - licensing all necessary abstractions	Most of the abstraction points (surface and ground) are registered with the DWS, but in general, they are not recorded. Proper asset management and monitoring of the abstraction points are required.	Register and record all abstraction works with DWS	Update WSDP	Update WSDP	Update WSDP
---	--	--	--	--	-------------	-------------	-------------

## Section E: Water Services MTEF Projects

The Water Services Medium-Term Expenditure Framework (MTEF) projects are presented below and outline the water services projects which are funded for implementation within the next three years. **Table E.2** provides the projects identified for implementation in **FY2018 to FY2020**.

There are 6 project categories which projects fall in generally:

1. Infrastructure projects
2. Source development projects
3. Demand management projects
4. O&M Commitments – operations and maintenance
5. Institutional
6. Water services programs – awareness programs

It should be highlighted that the projects included herein, represents only projects for which funding has already been secured, and therefore does not comprise the comprehensive water services project requirements of the WSA.

The summary of the MTEF water services projects may be presented as follows (note that HGDM only currently have infrastructure and demand management projects in place):

**Table E.1: Summary of MTEF Projects**

MTEF Projects								
	2018		2019		2020		Total	
	No	Value	No	Value	No	Value	No	Value
<b>Sanitation</b>	4	R27 830 085.38	2	R39 550 000.00	6	R68 277 330.12	12	R135 657 415.50
<b>Water</b>	22	R371 549 856.82	10	R256 397 936.88	12	R282 153 095.40	44	R910 100 889.10
<b>Total</b>	<b>26</b>	<b>R399 379 942.20</b>	<b>12</b>	<b>R295 947 936.88</b>	<b>18</b>	<b>R350 430 425.52</b>	<b>56</b>	<b>R1 045 758 304.60</b>

**Table E2: WSDP FY2018: Projects identified for implementation in FY2018 to FY2020**

Financial year 2018														
Nr	Project number	Project name	Description	Project type	Project Solution	Main Category	Project cost	Own	MIG	RBIG	ACIP	DFR	MWIG	Other
1	2006MIGFDC43113400	Kokstad Rudimentary Water Projects	The project is for the eradication of water backlogs in the Greater Kokstad Municipality and entails basic water supply to 1730 people living in 288 households in the rural areas of the Local Municipality. The level of service ranges from springs and	Water	Basic Supply	Infrastructure	R 74 000 000.00	R -	R 16 882 613.85	R -	R -	R -	R -	R -
2	2011MIGFDC43197840	Kokstad Wastewater Works	Bhugane Consulting engineers were requested to assist the Sisonke District Municipality in preparing for the Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The finding	Sanitation	Sanitation Bulk	Service Levels	R 5 081 436.00	R -	R 3 223 580.85	R -	R -	R -	R -	R -
3	2017MIGFDC43258223	KwaMay-Theekloof Water Supply Project (Ward 11,13 and 14)	To provide approximately 5,746 people living in 1,202 households with a safe and reliable supply of potable water. The rural communities within the project area presently use rivers, boreholes and springs for the supply of water. These are not reliable	Water	Basic Supply	Infrastructure	R 33 197 661.00	R -	R 11 780 958.78	R -	R -	R -	R -	R -
4	2008MIGFDC43121865	Umzimkhulu Bulk Water Supply (AFA) MIS 213980	The project lies in the area of Umzimkhulu Town and Clydesdale, wards 16 and 17 of the Umzimkhulu Local Municipality which falls under the Sisonke District Municipality. The communities are in need for an increase in the safe, adequate and reliable so	Water	Basic Supply	Infrastructure	R 22 673 324.00	R -	R 248 234.94	R -	R -	R -	R -	R -
5	2012MIGFDC43209529	Umkhunya Water Supply Schemes (AFA) MIS 224801	The project area Mkhunya comprises of Sangcwaba, Mahlubini, Phumobaia, S'inqandulweni, Nkweletsheni, Butateni, Zasengwa, Amanuswa, Mnyanyabuzi, Skokfela, Kwanobhunga, Nongegana, Springvale & Mziki Agri-village areas. These areas fall under Ward 5 of	Water	Basic Supply	Demographics	R 158 300 915.51	R -	R 10 239 070.91	R -	R -	R -	R -	R -
6	2008MIGFDC43164061	Gudintaba Water Supply Scheme	unavailable	Water	Basic Supply	Infrastructure	R 150 501 606.00	R -	R 20 704 965.08	R -	R -	R -	R -	R -
7	2015MIGFDC43234511	Ncakubana Water Supply Scheme - Phase 2	Ncakubana Water supply Scheme falls within the Ubuhebezw LM of Sisonke District Municipality. The source of the interim water supply is the Creighton Water Supply Project due for completion in November 2014. The scheme entails village reticulation	Water	Basic Supply	Infrastructure	R 21 147 773.20	R -	R 11 739 574.77	R -	R -	R -	R -	R -
8	2013MIGFDC43216686	Umzimkhulu Sewers Upgrade Phase 2 (Ward 16)	This Phase 2 project includes the construction of sewer reticulation and bulk connector pipelines in uMzimkhulu town (CBD and mainly the surrounding townships), which falls within Sisonke DM. This project is in effect a continuation of the current Ph	Sanitation	Sanitation Bulk	Infrastructure	R 25 704 247.00	R -	R 1 093 375.00	R -	R -	R -	R -	R -
9	2013MIGFDC43211711	Greater Summerfield Water Project		Water	Source Development	Service Levels	R 6 042 000.00	R -	R 16 536 438.00	R -	R -	R -	R -	R -
10	KNR022	Greater Killmon Water Supply Project	This project aims to serve the Greater Killmon and neighbouring communities. The project area is located in Ingwe Local Municipality which falls under Sisonke District Municipality. The population to be served by this project is 31 975 in 5 944 hou	Water	Regional Bulk	Infrastructure	R 556 363 974.00	R -	R -	R 90 000 000.00	R -	R -	R -	R -
11	2015MIGFDC43234925	Greater Nomandlovu Water Supply Scheme	The project area falls within the Ingwe Local Municipality and encompasses electoral wards 4, 5 and 6. The project area is approximately 19,75km <sup>2</sup> in extent and will predominantly serve the south of Donnybrook Town. The main objective is to provide a	Water	Internal Bulk	Infrastructure	R 58 259 121.00	R -	R -	R 8 971 184.44	R -	R -	R -	R -
12	2013MIGFDC43211042	RECTIFICATION & UPGRADE OF FAIRVIEW AND IKOPO TOWN SEWER SYSTEM	Ikopopo Town is partially serviced by predominantly 160mm diameter asbestos cement pipe. The areas that are not serviced by means of waterborne sewer have septic tanks; soak ways and conservancy tanks that are desludged by the Sisonke District Municip	Sanitation	Internal Sanitation	Infrastructure	R 74 239 598.00	R -	R 11 290 000.00	R -	R -	R -	R -	R -
13	2008MIGFDC43164095	Ithubalethu Water Supply	The Ithubalethu water supply scheme falls under Ubuhebezw LM of Sisonke area. The project entails securing a reliable and sustainable water source either surface or/and ground water, installing a package treatment plant to treat the raw water to th	Water	Basic Supply	Infrastructure	R 101 402 919.00	R -	R 10 703 164.26	R -	R -	R -	R -	R -
14	2008MIGFDC43162292	Esigaadulweni WTW Refurbishment		Water	Internal Bulk	Infrastructure	R 58 187 715.36	R -	R 3 059 955.19	R -	R -	R -	R -	R -
15	2006MIGFDC43112291	Underberg Bulk Water Supply Upgrade Phase 2 (AFA) MIS 180557	Construction of water supply in the Underberg area	Water	Basic Supply	Infrastructure	R 29 919 385.62	R -	R 7 927 092.56	R -	R -	R -	R -	R -
16	2013MIGFDC43214207	Nkelabantwana Nkhumba Water Supply		Water	Internal Bulk	Service Levels	R 12 511 684.00	R -	R 360 803.98	R -	R -	R -	R -	R -
17	2013MIGFDC43209944	Centocow Community Water Supply (AFA) MIS 183977	The project lies in the area of Centocow which is approximately 15km from the Creighton Town in the Ingwe Local Municipality which falls under the Sisonke District Municipality. The communities are in need for an increase in the safe, adequate and r	Water	Basic Supply	Service Levels	R 65 362 818.46	R -	R 8 600 164.43	R -	R -	R -	R -	R -
18	2011MIGFDC43195108	Mangwaneni Water Supply Project	This project will provide RDP water supply to 1444 residents through boreholes and bulk pipelines.	Water	Internal Bulk	Resource Development	R 22 926 177.53	R -	R 5 411 984.21	R -	R -	R -	R -	R -
19	2017MIGFDC43265383	Mqatsheni Stepmore Water Project (AFA 2)	The purpose of this project is to effect the implementation of an acceptable level of service by means of a full reticulation network with communal standpipes. New infrastructure incl. 15.5km of 50-75mm bore reticulation pipework and 2 PRVs (RWIG).	Water	Reticulation	Infrastructure	R 58 200 000.00	R -	R 8 401 188.93	R -	R -	R -	R -	R -
20	KNR007	Greater Bulwer Donnybrook Water Scheme Phase 2	Construction of bulk lines to link potable water to a series of schemes across the Ingwe and Ubuhebezw areas abstracting water from the Stephen Dlamini Dam which is to be constructed.	Water	Regional Bulk	Infrastructure	R 343 337 429.00	R -	R -	R 120 000 000.00	R -	R -	R -	R -
21	2012MIGFDC43206981	Greater Kokstad Water Conservation and Demand Management (AFA) MIS 210744		Water	Reticulation	Infrastructure	R 700 886 939.05	R -	R 1 800 000.00	R -	R -	R -	R -	R -
22	2012MIGFDC43207875	Greater Nomandlovu Water Supply Project Phase 2		Water	Regional Bulk	Infrastructure	R 104 347 224.53	R -	R 9 230 070.91	R -	R -	R -	R -	R -
23	2008MIGFDC43164857	Ingwe Household Sanitation Project		Sanitation	Internal Sanitation	Infrastructure	R 29 000 000.00	R -	R 12 223 129.53	R -	R -	R -	R -	R -
24	2011MIGFDC43201662	Kokstad Bulk Water and Sewer Upgrade		Water	Internal Sanitation	Infrastructure	R 20 465 370.49	R -	R 4 000 000.00	R -	R -	R -	R -	R -
25	2008MIGFDC43158668	Ncakabana Water Supply Scheme Phase 2		Water	Reticulation	Infrastructure	R 42 820 573.19	R -	R 4 000 000.00	R -	R -	R -	R -	R -
26	2017MIGFDC43257650	Ufafa Water Supply Project Phase 2		Water	Reticulation	Infrastructure	R 15 944 708.00	R -	R 952 391.58	R -	R -	R -	R -	R -
								<b>R -</b>	<b>R 180 408 757.76</b>	<b>R 218 971 184.44</b>	<b>R -</b>	<b>R -</b>	<b>R -</b>	<b>R -</b>

Financial year 2019															
Project Nr	Project number	Project name	Description	Project type	Project Solution	Main Category	Project cost	Funding Source (R'000)							
								Own	MG	BBG	ACP	DF	MMG	Other	
1	2012MIGFDC43209529	Umkhunya Water Supply Schemes (AFA) MIS 224801	The project area Mkhunya comprises of Sangcwaba, Mahlubini, Phumobala, S'ngandulweni, Nkweletsheni, Butateni, Zasengwa, Amanyuswa, Mnyanyabuzi, Skokfela, Kwanobhunga, Nongegana, Springvale & Mziki Agri-village areas. These areas fall under Ward 5 of	Water	Basic Supply	Demographics	R 158 300 915.51	R -	R 27 376 535.45	R -	R -	R -	R -	R -	R -
2	2008MIGFDC43164061	Gudintaba Water Supply Scheme	unavailable	Water	Basic Supply	Infrastructure	R 150 501 606.00	R -	R 17 510 000.00	R -	R -	R -	R -	R -	R -
3	2013MIGFDC43211711	Greater Summerfield Water Project		Water	Source Development	Service Levels	R 6 042 000.00	R -	R 20 000 000.00	R -	R -	R -	R -	R -	R -
4	KNR022	Greater Killimon Water Supply Project	This project aims to serve the Greater Killimon and neighbouring communities. The project area is located in Ingwe Local Municipality which falls under Sisonke District Municipality. The population to be served by this project is 31 975 in 5 944 hou	Water	Regional Bulk	Infrastructure	R 556 363 974.00	R -	R -	R 100 000 000.00	R -	R -	R -	R -	R -
5	2015MIGFDC43234925	Greater Nomandlovu Water Supply Scheme	The project area falls within the Ingwe Local Municipality and encompasses electoral wards 4, 5 and 6. The project area is approximately 19.75km <sup>2</sup> in extent and will predominately serve the south of Donnybrook Town. The main objective is to provide a	Water	Internal Bulk	Infrastructure	R 58 259 121.00	R -	R 20 198 072.28	R -	R -	R -	R -	R -	R -
6	2013MIGFDC43211042	RECTIFICATION & UPGRADE OF FAIRVIEW AND IXOPO TOWN SEWER SYSTEM	ixopo Town is partially serviced by predominantly 160mm diameter asbestos cement pipe. The areas that are not serviced by means of waterborne sewer have septic tanks; soak ways and conservancy tanks that are desludged by the Sisonke District Municip	Sanitation	Internal Sanitation	Infrastructure	R 74 239 598.00	R -	R 20 000 000.00	R -	R -	R -	R -	R -	R -
7		Hlokozi Water Project	This project entails the provision of a basic level water service to the community of Hlokozi. Hlokozi is situated approximately 15km south of the town of Highflats in southern KwaZulu Natal.	Water	Basic Supply	Demographics	R 43 980 240.00	R -	R 15 000 000.00	R -	R -	R -	R -	R -	R -
8	2013MIGFDC43209944	Centocow Community Water Supply (AFA) MIS 183977	The project lies in the area of Centocow which is approximately 15km from the Creighton Town in the Ingwe Local Municipality which falls under the Sisonke District Municipality. The communities are in need for an increase in the safe, adequate and r	Water	Basic Supply	Service Levels	R 65 362 818.46	R -	R 22 571 152.55	R -	R -	R -	R -	R -	R -
9	2012MIGFDC43206981	Greater Kokstad Water Conservation and Demand Management (AFA) MIS 210744		Water	Reticulation	Infrastructure	R 700 886 939.05	R -	R 20 000 000.00	R -	R -	R -	R -	R -	R -
10	2008MIGFDC43164857	Ingwe Household Sanitation Project		Sanitation	Internal Sanitation	Infrastructure	R 29 000 000.00	R -	R 19 550 000.00	R -	R -	R -	R -	R -	R -
11	2011MIGFDC43201662	Kokstad Bulk Water and Sewer Upgrade		Water	Internal Sanitation	Infrastructure	R 20 465 370.49	R -	R 3 265 398.15	R -	R -	R -	R -	R -	R -
12	2008MIGFDC43158668	Ncakabana Water Supply Scheme Phase 2		Water	Reticulation	Infrastructure	R 42 820 573.19	R -	R 10 476 778.45	R -	R -	R -	R -	R -	R -
								<b>R -</b>	<b>R 195 947 936.88</b>	<b>R 100 000 000.00</b>	<b>R -</b>				

Financial year 2020															
Nr	Project number	Project name	Description	Project type	Project Solution	Main Category	Project cost	Funding Source (R'000)							
								Own	MIS	BUG	ACIP	DR	MWIG	Other	
1	2006MIGFDC43119879	Franklin Bulk Water & Sewerage Upgrade (AFA) MIS 199955	Upgrade of the existing and the construction of new bulk infrastructure (i.e. water, sanitation) for the town of Franklin. The project area Mkhunya comprises of Sangwaba, Mahlubini, Phumobala, S'ngandulweni, Nkweletsheni, Butateni, Zasengwa, Amanyusa, Mnyanyabuzi, Skokfela, Kwanobhanga, Nongegana, Springvale & Mtaki Agri-village areas. These areas fall under Ward 5 of	Sanitation	Internal Sanitation	Infrastructure	R 4 436 715.00	R -	R 4 000 000.00	R -	R -	R -	R -	R -	R -
2	2012MIGFDC43209529	Umkhunya Water Supply Schemes (AFA) MIS 224801	unavailable	Water	Basic Supply	Demographics	R 158 300 915.51	R -	R 28 300 000.00	R -	R -	R -	R -	R -	R -
3	2008MIGFDC43164061	Gudintaba Water Supply Scheme	This Phase 2 project includes the construction of sewer reticulation and bulk connector pipelines in uMzimkhulu town (CBD and mainly the surrounding townships), which falls within Sisonke DM. This project is in effect a continuation of the current PH	Water	Basic Supply	Infrastructure	R 150 501 606.00	R -	R 23 500 000.00	R -	R -	R -	R -	R -	R -
4	2013MIGFDC43216686	Umzimkhulu Sewers Upgrade Phase 2 (Ward 16)		Sanitation	Sanitation Bulk	Infrastructure	R 25 704 247.00	R -	R 18 947 329.12	R -	R -	R -	R -	R -	R -
5	2013MIGFDC43211711	Greater Summerfield Water Project		Water	Source Development	Service Levels	R 6 042 000.00	R -	R 28 300 000.00	R -	R -	R -	R -	R -	R -
6	KNR022	Greater Killimon Water Supply Project	This project aims to serve the Greater Killimon and neighbouring communities. The project area is located in Ingwe Local Municipality which falls under Sisonke District Municipality. The population to be served by this project is 31 975 in 5 944 households. The project area falls within the Ingwe Local Municipality and encompasses electoral wards 4, 5 and 6. The project area is approximately 19.75km <sup>2</sup> in extent and will predominately serve the south of Donnybrook Town. The main objective is to provide a	Water	Regional Bulk	Infrastructure	R 556 363 974.00	R -	R -	R 97 923 192.00	R -	R -	R -	R -	R -
7	2015MIGFDC43234925	Greater Nomandlovu Water Supply Scheme	Donnybrook falls within Ward 5 of the Ingwe Local Municipality and the current population of the area is estimated at 1612 people. The project has been designed to provide at least a connection point for each household, to be located a meter inside t	Water	Internal Bulk	Infrastructure	R 58 259 121.00	R -	R 9 300 000.00	R -	R -	R -	R -	R -	R -
8	2012MIGFDC43209884	Donnybrook Bulk Sewer Upgrade	This project aims to serve the Creighton and neighbouring communities. The project area is located in Ingwe Local Municipality which falls under Sisonke district Municipality. The population to be served by this project is 12 054 in 2 940 households.	Water	Basic Supply	Infrastructure	R 30 173 853.00	R -	R 2 470 829.74	R -	R -	R -	R -	R -	R -
9	2012MIGFDC43201939	Creighton Water Supply	Ixopo Town is partially serviced by predominantly 160mm diameter asbestos cement pipe. The areas that are not serviced by means of waterborne sewer have septic tanks, soak ways and conservancy tanks that are desludged by the Sisonke District Municip	Sanitation	Internal Sanitation	Infrastructure	R 74 239 598.00	R -	R 12 800 000.00	R -	R -	R -	R -	R -	R -
10	2013MIGFDC43211042	RECTIFICATION & UPGRADE OF FAIRVIEW AND IXOPO TOWN SEWER SYSTEM		Water	Basic Supply	Infrastructure	R 101 402 919.00	R -	R 6 359 176.66	R -	R -	R -	R -	R -	R -
11	2008MIGFDC43164095	Ithubalethu Water Supply	The Ithubalethu water supply scheme falls under Ubuhebezw LM of Sisonke area. The project entails securing a reliable and sustainable water source either surface or/and ground water, installing a package treatment plant to treat the raw water to the scope of the work is to provide the communities of eBovini and eMazabekweni with safe and accessible potable water. Water will be sourced from the neighboring Nokweja Water Project and will be fed into a storage reservoir in central eMazabekweni	Water	Basic Supply	Demographics	R 27 376 620.00	R -	R 16 200 000.00	R -	R -	R -	R -	R -	R -
12	2012MIGFDC43209813	Ebovini/ eMazabekweni Community Water Supply (AFA) MIS 180558	The purpose of this project is to effect the implementation of an acceptable level of service by means of a full reticulation network with communal standpipes. New infrastructure incl. 15.5km of 50-75mm bore reticulation pipework and 2 PRVs (MWIG).	Water	Reticulation	Infrastructure	R 58 200 000.00	R -	R 11 500 000.00	R -	R -	R -	R -	R -	R -
13	2017MIGFDC43265383	Mqatsheeni Stepmore Water Project (AFA 2)		Water	Reticulation	Infrastructure	R 700 886 939.05	R -	R 31 500 000.00	R -	R -	R -	R -	R -	R -
14	2012MIGFDC43206981	Greater Kokstad Water Conservation and Demand Management (AFA) MIS 210744		Water	Regional Bulk	Infrastructure	R 104 347 224.53	R -	R 25 800 000.00	R -	R -	R -	R -	R -	R -
15	2012MIGFDC43207875	Greater Nomandlovu Water Supply Project Phase 2		Sanitation	Internal Sanitation	Infrastructure	R 29 000 000.00	R -	R 10 500 000.00	R -	R -	R -	R -	R -	R -
16	2008MIGFDC43164857	Ingwe Household Sanitation Project		Water	Internal Sanitation	Infrastructure	R 20 465 370.49	R -	R 995 897.00	R -	R -	R -	R -	R -	R -
17	2011MIGFDC43201662	Kokstad Bulk Water and Sewer Upgrade		Sanitation	Internal Sanitation	Infrastructure	R 21 166 000.00	R -	R 2 000 000.00	R -	R -	R -	R -	R -	R -
18	2007MIGFDC43122743	Umzimkhulu Urban and Peri Urban Sanitation						R -	R 252 507 233.52	R 97 923 192.00	R -	R -	R -	R -	R -

## **Section F: WSDP Projects**

---

*The current needs projects that are funded and as included in the MTEF project list are given below. 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 that the extent of such additional funding can only be determined, once initial investigations and activities have been concluded.*

**Table F1** contains the list of all the projects and their costs as contained in the current WSDP.

**Table F2** contains the existing needs assessment and the projects relevant per topic and also the conceptual projects that need to be included in the IDP and project planning.

**Table F3** contains the projects as identified from each topic investigation where there is currently not a project.

**Table F4** contains the proposed projects that were identified from the public participation of the WSDP. These projects should be included in the IDP and the project planning.

Table F.1: WSDP project list

Project Description			Project Category	Total Cost
Project Name	Project Number	Project Description	Main Category	Total Project Cost
Bulwer Dam Emergency Intervention - Water Supply Scheme	2013MIGFDC43209796-09/2011-08	This Scheme falls within the Sisonke DM, more specifically Bulwer Town. The water source is the Luhane River with the aim to provide Bulwer town with a more sustainable water source for the short term until the Greater Bulwer / Donnybrook Scheme is	Water	R 38 294 310.00
Bulwer Wastewater Works	2011MIGFDC43201511-08/2010-11	Bhungane Consulting engineers were requested to assist the Sisonke District Municipality in preparing for the Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The finding	Sanitation	R 1 122 205.00
Bulwer WTW Refurbishment	ZKZNSIS06		Water	R 3 030 667.00
Bulwer-Nkelabantwana-Nkumba Water Supply Project	ZKZNSIS03	Provide potable water supply within 200m walking distance to approximately 13 523 people located within the 2 702 households making up the Bulwer-Nkelabantwana-Nkumba Water Supply Projects; as per the Sisonke District Municipality's Water Services De	Water	R 65 362 818.00
Centocow Community Water Supply (AFA) MIS 183977	2013MIGFDC43209944-04/2012-02	The project lies in the area of Centocow which is approximately 15km from the Creighton Town in the Ingwe Local Municipality which falls under the Sisonke District Municipality. The communities are in need of an increase in the safe, adequate and r	Water	R 65 362 818.46
Chibini Water Supply Project	2007MIGFDC43123749-09/2006-15; 07/200*	The Chibini Water Supply Project falls under Ubuhlebezwe Local Municipality within the Sisonke District Municipality area of jurisdiction. The main objective of the project is to provide approximately 6272 people living in 1162 households with a support	Water	R 28 254 405.00
Creighton Water Supply	2012MIGFDC43201939-01/2011-13	This project aims to serve the Creighton and neighbouring communities. The project area is located in Ingwe Local Municipality which falls under Sisonke District Municipality. The population to be served by this project is 12 054 in 2 940 households.	Water	R 30 173 853.00
Donnybrook Bulk Sewer Upgrade	2012MIGFDC43209884-01/2012-10	Donnybrook falls within Ward 5 of the Ingwe Local Municipality, and the current population of the area is estimated at 1612 people. The project has been designed to provide at least a connection point for each household, to be located a meter inside t	Sanitation	R 60 454 073.00
Ebovini/ Emazabekweni Community Water Supply (AFA) MIS 180558	2012MIGFDC43209813-04/2012-03	The scope of the work is to provide the communities of eBovini and eMazabekweni with safe and accessible potable water. Water will be sourced from the neighbouring Nokweja Water Project and will be fed into a storage reservoir in central eMazabekweni	Water	R 27 376 620.00
Emergency Sewer Intervention and Rectification for Bhongweni Area	2007MIGFDC43122607-09/2006-07; 04/200*	Emergency Sewer Intervention and Rectification for Bhongweni Area within the Greater Kokstad Municip	Sanitation	R 31 100 134.45
Emergency Sewer Intervention and Rectification for the Trunk Sewer Serving the Greater Kokstad Area	2014MIGFDC43227159		Sanitation	R 4 276 938.00
Enhlanhleni and KwaPitela Water Project (AFA) MIS 200174	2014MIGFDC43227282	The project entails the provision of basic water services to the eNhlanhleni and KwaPitela areas, in the KwaSani Local Municipality area. In KwaPitela a scheme exists in the area which was developed (CMIP No. 2003 C43 132) at the cost of R1.3m and the	Water	R 5 767 271.00
Eradication of pit latrines, septic tanks and conservancy in Creighton	2008MIGFDC43158620-01/2008-03; 08/201*	Sisonke District Municipality has identified the need for sound engineering planning to ensure that the progressive development of a sustainable sanitation solution to Creighton is undertaken in terms of an agreed framework plan. The Municipality req	Sanitation	R 5 970 012.00
Eradication of Sanitation Backlog in Ubuhlebezwe	2013MIGFDC43211692-06/2012-03		Sanitation	R 36 802 555.00
Esiqandulweni WTW Refurbishment			Water	R 58 187 715.36
Fencing of Water Infrastructure in Ingwe and Kwasani	ZKZNSIS10		Water	R 1 329 490.00
Franklin Bulk Water & Sewerage Upgrade (AFA) MIS 199955		Upgrade of the existing and the construction of new bulk infrastructure (i.e. water, sanitation) for the town of Franklin.	Sanitation	R 4 436 715.00
Franklin Wastewater Works	2006MIGFDC43112225-01/2006-16	Sisonke District Municipality prepared for the Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The findings of the investigation were discussed in a business plan submitted	Sanitation	R 13 470 770.02

Gala Donnybrook Phase 1 Water	2011MIGFDC43201530-08/2010-12	Gala Donnybrook Phase 1 Water project is located within Ward 3 in the Ingwe Local Municipality, and includes Gala, Diphini, Gqumeni and Isigodini villages (Isigodini Esikulu), and is valued at R11.854m (R14 438/household). The scheme will serve 821	Water	R 972 101.00
Greater Bulwer Donnybrook Water Scheme	2007MIGFDC43158647-02/2008-17	Construction of Bulwer (Stephen Dlamini) Dam & bulk lines to link to a series of schemes. Project incl. An Emergency Intervention scheme for interim water supply. This incl. Construction of a weir, treatment & storage for water to Bulwer town.	Water	R 11 853 590.00
Greater Bulwer Donnybrook Water Scheme Phase 2	KNR007-09/2011-08	Construction of bulk lines to link potable water to a series of schemes across the Ingwe and Ubuhlebezwe areas abstracting water from the Stephen Dlamini Dam which is to be constructed.	Water	R 343 337 429.00
Greater Kilimon Water Supply Project	KNR022	This project aims to serve the Greater Kilimon and neighbouring communities. The project area is located in Ingwe Local Municipality which falls under Sisonke District Municipality. The population to be served by this project is 31 975 in 5 944 houses.	Water	R 556 363 974.00
Greater Kokstad Water Conservation and Demand Management (AFA) MIS 210744	2012MIGFDC43206981-06/2011-11		Water	R 700 886 939.05
Greater Mbhulelweni Water Supply Project		This project aims to serve the Greater Mbhulelweni and neighbouring communities. The project area is located in Ingwe local municipality which falls under Sisonke District Municipality. It is in the vicinity of Donnybrook town and will serve the community.	Water	R 20 572 751.00
Greater Nomandlovu Water Supply Project Phase 2	2012MIGFDC43207875-02/2011-05		Water	R 104 347 224.53
Greater Nomandlovu Water Supply Scheme		The project area falls within the Ingwe Local Municipality and encompasses electoral wards 4, 5 and 6. The project area is approximately 19.75km <sup>2</sup> in extent and will predominately serve the south of Donnybrook Town. The main objective is to provide a	Water	R 58 259 121.00
Greater Paninkukhu Water Supply Scheme	2011MIGFDC43201818-01/2011-14	Construction of a dam; 6Ml treatment plant; 8Ml command reservoir and water bulk network to approximately 9 651 households. In addition to the above, a Rudimentary Programme will be implemented.	Water	R 43 345 270.00
Greater Paninkukhu(Kwamthwane) Bulk Water Supply Project (Ward 6,7,8,9,10,12,13,14,18,19)	ZKZNSIS15-11/2013-04		Water	R 16 727 625.77
Greater Summerfield Water Project			Water	R 6 042 000.00
Greater Summerfield Water Project	2013MIGFDC43211711-06/2012-09	Sisonke District Municipality has identified the need for sound engineering planning to ensure that the progressive development of sustainable, basic water supply to the Umzimkhulu area is undertaken in terms of an agreed framework plan to serve ap	Water	R 199 192 776.68
Greater Tarrs Valley Water Supply	ZKZNSIS09		Water	R 282 094 439.00
Greater Umzimkhulu Sanitation Project	ZKZNSIS08		Sanitation	R 4 800 000.00
Gudlintaba Water Supply Scheme		unavailable	Water	R 150 501 606.00
Harding Weza RB Water Supply Scheme	MIG/EC0129/W/05/05	Bulk upgrade ( WTW, Bulk pipelines, reticulation infills etc.). An additional Funding application is being prepared and will be submitted to DWS	Water	R 2 859 180.00
Harding Weza Regional Bulk Water Supply Planning (AFA) MIS 207998	ZKZNUGU02	This application is for funding to undertake the planning and feasibility work related to building a dam in the Weza River near to the Weza WTW. The work undertaken in this project will benefit existing consumers that presently have lower than basic	Water	R 500 000 000.00
Highflats Town Bulk Water Supply Scheme	2008MIGFDC21159642-07/2010-10	High flats town is situated 20km south-east of Ixopo and falls under the jurisdiction of Ubuhlebezwe LM which falls under Sisonke DM. The population to be served by this project is 19 000. The High flats town is currently receiving water from boreholes.	Water	R 157 184 687.00
Himeville sanitation project	2013MIGFDC43209153-02/2010-06; 06/201*		Sanitation	R 33 369 810.00
Hlokozi Water Project		This project entails the provision of a basic level water service to the community of Hlokozi. Hlokozi is situated approximately 15km south of the town of Highflats in southern KwaZulu Natal.	Water	R 43 980 240.00
Hlokozi Water Supply Phase 4 - 520 households	2008MIGFDC43164137-05/2008-02		Water	R 35 411 292.00
Hopewell			Water	R 9 317 508.42
Horseshoe Sanitation Project-New (AFA) MIS 224972	ZKZNSIS04	The communities of Horseshoe and Mphela, comprising a population of 6,007 people (1,462 households) are currently served by Ventilated Improved Pit (VIP) Latrines.	Sanitation	R 9 906 193.00
Ingwe Household Sanitation Project	2008MIGFDC43164857-04/2008-03; 12/201*		Sanitation	R 29 000 000.00

Ithubalethu Water Supply		The Ithubalethu water supply scheme falls under Ubuhlebezwe LM of Sisonke area. The project entails securing a reliable and sustainable water source either surface or/and groundwater, installing a package treatment plant to treat the raw water to the	Water	R 101 402 919.00
Ixopo - Mariathal Water Supply Project	2011MIGFDC43201672-08/2010-03	The construction of 7000m bulk mains to provide water directly to 335 households and indirectly to 1162 households in the Ixopo- Mariathal region. The construction of the water reticulation network to 335 households. The construction of new reticulation.	Water	R 24 298 593.00
Khukhulela Water Supply	2011MIGFDC43201172-08/2010-04	The Khukhulela water supply project falls under Ingwe LM of Sisonke DM area. The project entails the provision of a basic level of service to some 641 households (3600 people). The scope of work includes construction of the water reticulation network	Water	R 24 420 017.43
Kokstad Bulk Water and Sewer Upgrade	2011MIGFDC43201662-08/2010-05		Water	R 20 465 370.49
Kokstad Rudimentary Water Projects		The project is for the eradication of water backlogs in the Greater Kokstad Municipality and entails basic water supply to 1730 people living in 288 households in the rural areas of the Local Municipality. The level of service ranges from springs and	Water	R 74 000 000.00
Kokstad Wastewater Works	2011MIGFDC43197840-03/2010-05	Bhungane Consulting engineers were requested to assist the Sisonke District Municipality in preparing for the Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The finding	Sanitation	R 5 081 436.00
Kwa-May - Thee Kloof Water Supply Project Phase 2	2011MIGFDC43201519-08/2010-13		Water	R 3 252 249.00
KwaMay-Theekloof Water Supply Project (Ward 11,13 and 14)		To provide approximately 5,746 people living in 1,202 households with a safe and reliable supply of potable water. The rural communities within the project area presently use rivers, boreholes and springs for the supply of water. These are not reliable.	Water	R 33 197 661.00
KwaTshaka Rural Water Supply Schemes	2013MIGFDC43216569-06/2012-07	The existing KwaTshaka Water Supply Scheme falls under UMzimkhulu LM of Sisonke DM area. Sisonke DM inherited some water supply schemes from Alfred Nzo DM on 1 March 2006, with the incorporation of UMzimkhulu into KwaZulu Natal.	Water	R 44 830 378.00
Mahwaqa Water Supply	2012MIGFDC43201792-07/2010-12	The planned scope of work will consist of the following items: Access Grant funding for the implementation of the project; construction of the water reticulation network to approximately 113 households as identified from recent orthophotos; construct	Water	R 4 336 727.51
Makhoba Housing Water - Eradication of GKM Water Backlogs	2012MIGFDC43209640-04/2012-10	Bulk Water Supply for 1400 houses in Springfontein and Argyll areas of Kokstad. House being built by Dept of Human Settlement. Part of the resettlement programme of the Makhoba Community which is a Presidential project. Springfontein will have bore h	Water	R 7 283 163.75
Mangwaneni Water Supply Project	2011MIGFDC43195108-03/2010-03	This project will provide RDP water supply to 1444 residents through boreholes and bulk pipelines.	Water	R 22 926 177.53
Mangwaneni Water Supply Project (AFA) MIS 201670	ZKZNSIS11	The scope of works covered in the planning phase of the project is to prepare a DWSF Generic Water Feasibility Study (May 2005 format) and Mig registration forms for the above project to enable the Sisonke district Municipality to access the funds	Water	R 8 045 483.00
Mhlabatshana Bulk Water Supply Phase 3 & 4	2009MIGFDC43179853-08/2008-02; 01/201*	Provision of Bulk infrastructure ( Bulk pipeline & Reservoirs	Water	R 8 525 482.61
Mhlabatshane Bulk Water Supply	ZKZNUGU21	Scope of works can be broken into 3 components: Umgeni Water Bulk - construction of the dam, pump station, WTW and a reservoir; Ugu DM Bulk - bulk pipelines and reservoirs; and Reticulation.	Water	R 45 000 000.00
Mhlabatshane Dam Planning and Pre-Feasibility	KNR013-02/2012-05; 05/2008-04;01/2007*	This project is a funding application to undertake the planning and pre-feasibility work related to the construction of the proposed Mhlabatshane Dam. The Scope of Work includes an assessment and confirmation of the technical feasibility.	Water	R 483 482 000.00
Mhlabatshane Regional Water Supply Scheme	2006MIGFDC21148770-01/2007-09	This project, the Mhlabatshane Regional Water Supply Project consists of a Regional Bulk Portion and an Internal Bulk and Reticulation Portion.	Water	R 1 545 840.00
Mhlabatshane Reticulation Infills	2007MIGFDC21122316-05/2008-04	Provision of reticulation infrastructure.	Water	R 153 803 192.00
Mkhunya Water Supply Scheme	ZKZNUGU22	This project is to replace current supply system from the source works and water package treatment plant to meet current AADD req., pumping mains and storage facilities to link up with existing reticulation.	Water	R 15 000 000.00
Mnqumeni/Santombe Water Supply Scheme Phase 4	ZKZNSIS14-03/2014-05		Water	R 10 287 427.71

Mqatsheni Stepmore Water Project (AFA 2)	2017MIGFDC43265383	The purpose of this project is to effect the implementation of an acceptable level of service using a full reticulation network with communal standpipes. New infrastructure incl. 15.5km of 50-75mm bore reticulation pipework and 2 PRVs (MWIG).	Water	R 58 200 000.00
Mqatsheni Stepmore Water Project (AFA) MIS 201756 (AFA) MIS 224919	ZKZNSIS13-03/2014-04	The project entails the provision of basic water services to the communities of Mqatsheni and Stepmore in the KwaSani Local Municipal area. The project entails the development of infrastructure to abstract, treat and provide water at a basic level of	Water	R 9 838 375.25
Ncakabana Water Supply Scheme Phase 2	2008MIGFDC43158668-03/2014-04		Water	R 42 820 573.19
Ncakubana Water Supply Scheme - Phase 2	2015MIGFDC43234511	Ncakubana Water supply Scheme falls within the Ubuhlebezwe LM of Sisonke District Municipality. The source of the interim water supply is the Creighton Water Supply Project due for completion in November 2014. The scheme entails village reticulatio	Water	R 21 147 773.20
Nkelabantwana Nkhumba Water Supply	2013MIGFDC43214207-09/2012-08		Water	R 12 511 684.00
Nokweja / Mashumi Community Water Scheme	ZKZHH16	Upgrade of bulk infrastructure and extension of the reticulation to a previously unserved area (Mhlabashane)	Water	R 15 414 420.00
Nokweja WTW Refurbishment	ZKZNSIS05		Water	R 979 248.00
Nokweja/Mashumi Water Supply Scheme Upgrade - 3421 households			Water	R 9 251 633.52
Nomandlovu: KwaSpheni Water Supply Scheme phase 2 - 401 households			Water	R 10 000 000.00
Ntwasahlobo, Netherby and Ridge Water	2008MIGFDC43158969-01/2008-05	This project entails the provision of basic water supply to the Ntwasahlobo, Netherby and Ridge areas in the KwaSani Local Municipality. This project will entail upgrade of the Makhuzeni Greater Stoffelton/ Mkomozana abstraction and water treatment	Water	R 17 990 150.00
Pakkies Ext Phase 2	2011MIGFDC43195345-03/2010-04	The project serves to provide the Pakkies area in Kokstad with rudimentary levels of water services. Some 150 households will be served, and about 1200 people will benefit. The previous area that was served was Ekethuleni and Thutakani which is about	Water	R 5 325 727.00
Pakkies Water Supply Scheme	ZKZNSIS12	Provision of 2 x 30kl bulk reservoirs, the elevation of 2 existing polyethylene tanks; 600m of the new bulk pipeline; a reticulation system comprising of the existing standpipes & 17 new standpipes & a pipe network of approx. 6083m	Water	R 5 355 727.00
Polela Wastewater Works	2011MIGFDC43201767-08/2010-14	Sisonke District Municipality prepared for the Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The findings of the investigation were discussed in a business plan submitted.	Sanitation	R 1 349 505.00
Polela Water Supply	2007MIGFDC43123451-09/2006-11	The Polela Water Supply Scheme is an existing scheme supplying some 7631 people in the Polela community approximately 13 km from Bulwer. This proposal makes provision for the upgrading of the existing waterworks and the addition of bulk and reticulation.	Water	R 2 245 058.00
RECTIFICATION & UPGRADE OF FAIRVIEW AND IXOPO TOWN SEWER SYSTEM	2013MIGFDC43211042-06/2012-01	Ixopo Town is partially serviced by predominantly 160mm diameter asbestos cement pipe. The areas that are not serviced using waterborne sewer have septic tanks; soak ways and conservancy tanks that are desludged by the Sisonke District Municipality.	Sanitation	R 74 239 598.00
Refurbishment of Creighton Water Treatment Works	2012MIGFDC43207664-03/2011-02	Creighton Water Treatment Works has a capacity of 1.0 ML/day. It is a Class D works. The works consist of raw water supply from Umzimkhulu River, raw water balancing tank, clarifier, and clarified water holding tank, 2 No. pressures filters and che	Water	R 1 879 871.00
Refurbishment of Esiqandulweni Water Treatment Works	2012MIGFDC43207478-03/2011-03	Esiqandulweni Water Treatment Works has a capacity of 3 m3/hr. It is a Class D works. The works consist of raw water submersible pump in Mkomazi River, package plant in a container with a generator, plastic prefabricated clarifier, pressure filters an	Water	R 1 329 490.00
Refurbishment of Hlanganani Water Treatment Works	2012MIGFDC43207682-03/2011-04	Creighton Water Treatment Works has a capacity of 1.0 ML/day. It is a Class D works. The works consist of raw water supply from Umzimkhulu River, raw water balancing tank, clarifier, and clarified water holding tank, 2 No. pressures filters and che	Water	R 1 979 941.00
Refurbishment of Nokweja Water Treatment	2012MIGFDC43206884-03/2011-07	Nokweja Water Treatment works have a capacity of 1.8 ML/day. It is a class D works. The works consist of raw water supply from Umzimkhulu River. 2 No. clarifiers, 2 No. sludge dams. the scope of works includes, but is not limited to the following	Water	R 979 248.00
Refurbishment of Umzimkhulu Water Treatment Works	2012MIGFDC43207686-03/2011-10	Umzimkhulu Water Treatment Works has a capacity of 5 ML/day. It is a Class D works. The works consist of raw water inlet with chemical dosing, flocculation channel, 3 No. clarifiers, 4 No. balancing tanks, 5 No. pressure filters, clear water reservoir	Water	R 2 516 025.00

Refurbishment of Underberg Water Treatment Works	2012MIGFDC43207673-03/2011-11	Underberg Water Treatment Works has a capacity of 3.6 ML/day. It is a Class D works. The works are currently being upgraded under a separate contract. The aim of this business plan is to address issues such as staff/operator training, a compilation of O	Water	R 771 962.00
Riverside Wastewater Works	2011MIGFDC43201609-08/2010-15	Sisonke District Municipality prepared a Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The findings of the investigation were discussed in a business plan submitted by	Sanitation	R 1 458 151.00
Riverside WTW Refurbishment	ZKZNSIS07		Water	R 1 651 142.00
San Souchi - Bulwer Farm Water Extension (AFA) 195607	2006MIGFDC29122393-01/2010-11	The project entails the transfer of water from the existing St Souci Water Supply Scheme to the Bulwer Farm Area via 10km of 200 dia pumping main. Further, it includes the construction of the balance of the required storage, the transfer of bulk water	Water	R 34 488 365.00
Santombe Water Supply - Phase 3	2011MIGFDC43203339-02/2011-06	The project involved development of the water source and reticulation to RDP standards in the villages of Masameni, Mnyameni, Ndlovini and Ehlanzeni.	Water	R 83 698 348.00
Shayamoya- Emergency Sewer intervention (Greater Kokstad LM)	2013MIGFDC43209490-04/2012-05	The Sisonke District Municipality as the Water Services Authority has a legislative requirement to provide a hygienic water supply and sanitation to all people within the district and has embarked on a programme to deliver these services to all house	Sanitation	R 3 976 570.80
Sisonke District Municipality Rural Rainwater Harvesting Programme	2013MIGFDC43208961-06/2012-02	As the Water Services Authority, the Sisonke DM has as provided in the Water Services Act the responsibility to ensure access to water and sanitation services to the residents within its area of jurisdiction. The Water Services Department has prepared a	Water	R 29 885 584.50
St Apollinaries Water Treatment Works	2012MIGFDC43205407-03/2011-09	St Apollinaries Water Treatment Works has a capacity of 1.1 ML/day. It is a Class D works. The works consist of raw water supply from UMzimkhulu River via pumps, raw water balancing tank clarifier, clarified water holding tank, pressure filter, chemi	Water	R 1 994 236.00
St. Apollinaris Wastewater Works	2011MIGFDC43201500-08/2010-16	Sisonke District Municipality prepared for the Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The findings of the investigation were discussed in a business plan submitted	Sanitation	R 1 336 639.00
Ufafa Water Supply Project	2012MIGFDC43202029-01/2011-15	The proposed site is located in the Amala phansi district in Ward 2 of Mbonambi Local Municipality. The ward councillor is Councillor M.C Hlongwane. Population to benefit from the community hall is approximately 7,500 people and 1 071 households acco	Water	R 42 744 568.00
Ufafa Water Supply Project Phase 2			Water	R 15 944 708.00
Umkhunya Water Supply Schemes (AFA) MIS 224801	2012MIGFDC43209529-04/2012-09	The project area Mkhunya comprises of Sangcwaba, Mahlubini, Phumobala, S'nqandulweni, Nkweletsheni, Butateni, Zasengwa, Amanyswa, Mnyanyabuzi, Skokfela, Kwanobhunga, Nongegana, Springvale & Mziki Agri-village areas. These areas fall under Ward 5 of	Water	R 158 300 915.51
Umzimkhulu Bulk Sewage Upgrade (AFA1) 165031	2007MIGFDC43122743-09/2006-02; 06/200*	The project lies in the area of Umzimkhulu Town and Clydesdale, wards 16 and 17 of the Umzimkhulu Local Municipality which falls under the Sisonke District Municipality. The communities are in need of bulk sanitation services.	Sanitation	R 21 166 000.00
Umzimkhulu Bulk Water Supply (AFA) MIS 213980	2008MIGFDC43121865-08/2006-45; 06/201*	The project lies in the area of Umzimkulu Town and Clydesdale, wards 16 and 17 of the Umzimkulu Local Municipality which falls under the Sisonke District Municipality. The communities are in need of an increase in the safe, adequate and reliable so	Water	R 22 673 324.00
Umzimkhulu Sanitation - VIP installation 260 households			Sanitation	R 3 000 000.00
Umzimkhulu Sewers Upgrade Phase 2 (Ward 16)	2013MIGFDC43216686-04/2012-11	This Phase 2 project includes the construction of sewer reticulation and bulk connector pipelines in uMzimkhulu town (CBD and mainly the surrounding townships), which falls within Sisonke DM. This project is in effect a continuation of the current Ph	Sanitation	R 25 704 247.00
Umzimkhulu Urban and Peri Urban Sanitation			Sanitation	R 21 166 000.00
Umzimkhulu Wastewater Works	2011MIGFDC43201610-08/2010-17	Sisonke District Municipality prepared for the Green Drop assessment of 2010. The work was visited and assessed in terms of asset conditions, operations and treatment process. The findings of the investigation were discussed in a business plan submitted	Sanitation	R 1 882 689.00
Underberg Bulk Water Supply Upgrade Phase 2 (AFA) MIS 180557	2006MIGFDC43112291-05/2006-17; 04/200*	Construction of water supply in the Underberg area	Water	R 29 919 385.62
Water Supply for Identified Villages under Umzimkhulu Jurisdiction - Sbomvini, Magcalini and Tsuale - 588 households			Water	R 8 683 608.00

**Table F.2: WSDP project list – per topic strategy**

Section	Interpret Situation Assessment	Intervention Required?	%	Solution description as identified by Master Plan	%	Is there an Existing project/activity addressing this problem?	%	Project Reference	Does this current listed project/activity address the problem totally?	%	Project/Activity Approved by Council as part of WSDP Database?	%	Approved by the council, in project/activity database and part of 5 yr IDP cycle projects	%	Project/Activity listed in 3 yr MTEFcycle	%
1.1 Settlements Summary	Settlements have been discussed with WSA. Some households were taken from Eskom HH count done in 2013 and counting HH from an aerial photo. The population figures were calculated using the HH and the number of HH from CENSUS 2011. The WSA didn't agree with WSDP and census household and population figures. Study per settlement needs to be completed to assess households and population figures more accurately.	Yes	100%	Households and population figures need to be updated through a settlement survey.	100%	Yes	100%		No	0	No	0	No	0	No	0
1.2 Summary by Settlement Group	Urban and rural figures are accurate. Population and households figures need to be updated with a more accurate study.	Yes	100%	Households and population figures need to be updated through a settlement survey.	100%	Yes	100%		No	0	No	0	No	0	No	0
1.3 Assessment Score by Settlement Type	Settlements have been discussed with WSA and checks have been made versus the CENSUS 2011 and UAP data provided. The identification of settlement types are adequate, but the settlement households and population figures still need to be assessed in more detail.	Yes	100%	Households and population figures need to be updated through a settlement survey.	100%	Yes	100%		No	0	No	0	No	0	No	0
1.4 Amenities Summary	Public amenities figures were not available at the WSA - Public amenity figures need to be discussed with health and education departments to ensure a correct number of facilities to ensure correct planning. The backlogs and service levels also need to be confirmed.	Yes	100%	Public amenities figures not available at WSA - Public amenity figures need to be discussed with health and education department	100%	No	0		No	0	No	0	No	0	No	0

Section	Interpret Situation Assessment	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	%	Project Reference	Does this current listed project/activity address the problem?	%	Project/Activity Approved by Council as part of WSDP Database?	%	Approved by the council, in project/activity database and part of 5 yr IDP cycle projects	%	Project/Activity listed in 3 yr MTEFcycle	%
Direct Backlog Water	Projects are in place to improve water services of backlog area, but funding is an issue and lack of regional bulk water supply schemes. Too many small rudimentary schemes to backlog situation. Areas that are below RDP level water supply needs to be supplied via new schemes or regional schemes	Yes	100%	Master plan to assess supply to backlog areas needs to be completed, and regional supply needs to be investigated and implemented where feasible. Areas that are below RDP level water supply needs to be supplied via new schemes or regional schemes	100%	Yes	100%		No	0	No	0	No	0	No	0
Direct Backlog Sanitation	There is no proper VIP or sanitation service level asset register to assess backlog situation. There are several new rural expansions without proper planning and assessment regarding basic service provision. There are projects in place each year reducing backlogs. Areas that are below RDP level sanitation supply (VIP) needs to be serviced with either VIPs or waterborne sanitation.	Yes	100%	A proper investigation needs to be completed regarding sanitation provision and backlog reduction. Areas that are below RDP level sanitation supply (VIP) needs to be serviced with either VIPs or waterborne sanitation.	100%	Yes	100%		No	0	No	0	No	0	No	0

Water Services Infrastructure Supply Level Profile	The service levels still need more investigation for a more accurate representation. Using the current service levels, more than half of the households are above RDP level water supply. However, 18% of the households are served via water tankers and 7% via springs and rivers with no proper schemes. There is thus a large portion (25%) of the WSA that is below RDP level water supply which needs to be serviced.	Yes	100%	Areas that are below RDP level water supply needs to be supplied via new schemes or regional schemes	100%	Yes	100%		No	0	No	0	No	0	No	0
Water Reliability Profile	The service levels still need more investigation for a more accurate representation. Using the current service levels and reliability profile, the majority of the backlog areas require either infrastructure or where there is a scheme in place a more reliable resource.	Yes	100%	Areas that are below RDP level water supply needs to be supplied via new schemes or regional schemes	100%	Yes	100%		No	0	No	0	No	0	No	0
Sanitation Service Infrastructure Supply Level Profile	The service levels still need more investigation for a more accurate representation. Using the current service levels, more than half of the households are above RDP level sanitation supply. However, 35% of the households are served via PIT toilets. There is thus a large portion (35%) of the WSA that is below RDP level sanitation supply which needs to be serviced.	Yes	100%	Areas that are below RDP level sanitation supply (VIP) needs to be serviced with either VIPs or waterborne sanitation.	100%	Yes	100%		No	0	No	0	No	0	No	0
Sanitation Reliability Profile	The service levels still need more investigation for a more accurate representation. Using the current service levels and reliability profile, the majority of the backlog areas require the existing PIT toilets to be upgraded to VIPs. Some of the VIP areas are also planned to be upgraded to waterborne	Yes	100%	Areas that are below RDP level sanitation supply (VIP) needs to be serviced with either VIPs or waterborne sanitation.	100%	Yes	100%		No	0	No	0	No	0	No	0
Water Services: Education	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Majority of the facilities have inadequate water provision and needs to be addressed.	Yes	100%	The service levels of each of the facilities need to be investigated and assessed. Facilities with backlogs need to be properly serviced.	100%	Yes	100%		No	0	No	0	No	0	No	0
Water Services: Health	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Some of the facilities have inadequate water provision and needs to be addressed.	Yes	100%	The service levels of each of the facilities need to be investigated and assessed. Facilities with backlogs need to be properly serviced.	100%	Yes	100%		No	0	No	0	No	0	No	0

Sanitation Services: Education	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Some of the facilities have inadequate sanitation provision and needs to be addressed.	Yes	100%	The service levels of each of the facilities need to be investigated and assessed. Facilities with backlogs need to be properly serviced.	100%	Yes	100%		No	0	No	0	No	0	No	0
Sanitation Services: Health	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels.	Yes	100%	The service levels of each of the facilities need to be investigated and assessed. Facilities with backlogs need to be properly serviced.	100%	Yes	100%		No	0	No	0	No	0	No	0
Health and Educational Facilities	The service levels of the health and education facilities were based on the service levels identified from the operational meeting with each LM and the UAP data. A detailed study into each of the facilities is however required for a proper assessment of the service levels. Some of the facilities have inadequate sanitation provision and needs to be addressed.	Yes	100%	The service levels of each of the facilities need to be investigated and assessed. Facilities with backlogs need to be properly serviced.	100%	Yes	100%		No	0	No	0	No	0	No	0

Section	Interpret Situation Assessment	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	%	Project Reference	Does this current listed project/activity address the problem totally?	%	Project/Activity Approved by Council as part of WSDP Database?	%	Approved by council, in project/activity database and part of 5 yr IDP cycle projects	%	Project/Activity listed in 3 yr MTECycle	%
3.1 General Information	The WSA has a asset and disaster management plan in place. It does however not have a plan in place to manage untreated effluent. The asset register also needs to be updated to include all the missing schemes and infrastructure.	Yes	100%	The WSA should improve the asset management plan and develop a plan to manage untreated effluent.	100%	No	0%		No	0	No	0	No	0	No	0
3.2 Operation	The asset register does not include information regarding security incidents and safety inspections performed. The information was discussed with LMs and assumptions were made. Proper assessment of security incidents and safety inspection are required.	Yes	100%	The WSA to do proper assessment of security incidents and safety inspections performed	100%	No	0%		No	0	No	0	No	0	No	0
3.3 Functionality Observation	Very little to no information was available in the asset register regarding replacement value of the infrastructure. There was also no information available regarding the refurbishment or new development costs. There was also no information regarding the physical condition of the infrastructure and information was provided and assumed based on meetings with operational managers of each LM.	Yes	100%	Proper replacement, refurbishment and new development costs needs to be determined for all the water and sanitation infrastructure in Harry Gwala. There is also a need to determine the general physical condition of the infrastructure.	100%	No	0%		No	0	No	0	No	0	No	0
3.4 Asset Assessment Spectrum	No information was available regarding the expected lifespan of the infrastructure. Very Little to no information was also available regarding the infrastructures age to determine expected lifespans of the infrastructure.	Yes	100%	The expected lifespan on the infrastructure should be determined based on the age and the condition of the infrastructure.	100%	No	0%		No	0	No	0	No	0	No	0

3.5 Water and Sanitation schemes	There are several rudimentary schemes in HGDM. There should, however, be more regional schemes implemented as the maintenance and sustainability of the rudimentary schemes are difficult, and several of the schemes are not operating as they should. Some of the treatment works also do not have green and blue drop reports and should be addressed.	Yes	100%	Investigate and implement more regional water and sanitation schemes. blue and green drop reports should be done for outstanding treatment works	100%	No	0%		No	0	No	0	No	0	No	0
----------------------------------	---	-----	------	--	------	----	----	--	----	---	----	---	----	---	----	---

Section	Interpret Situation Assessment	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	%	Project Reference	Does this current listed project/activity address the problem?	%	Project/Activity Approved by Council as part of WSDP Database?	%	Approved by the council, in project/activity database and part of 5 yr IDP cycle projects	%	Project/Activity listed in 3 yr MTEFcycle	%
4.1 Operation & Maintenance Plan	There is currently an operation and maintenance plan in place. The plan should, however, be improved and implemented. The plan is currently not implemented as it should, mainly due to budget constraints.	Yes	100%	The WSA to develop and implement an improved Operation and Maintenance Plan	100%	No	0		No	0	No	0	No	0	No	0
4.1.1 Is There an Operation and Maintenance Plan?	There is currently an operation and maintenance plan in place. The plan should, however, be improved and implemented. The plan is currently not implemented as it should, mainly due to budget constraints.	Yes	100%	The WSA to develop and implement an improved Operation and Maintenance Plan	100%	No	0		No	0	No	0	No	0	No	0
4.2 Resources	The main concern in terms of resources to the WSA in terms of all its infrastructure is budget. The WSA doesn't have enough budget to operate and maintain its infrastructure. After the budget, the WSA has issues regarding the amount of staff and spare parts, which is again linked to the budget.	Yes	100%	Develop and implement an operation and maintenance plan for the effective operation and maintenance of assets. Improved budgets should be allocated to improve O&M.	100%	No	0		No	0	No	0	No	0	No	0
4.3 Information	According to the WSA, there are very little to no AS-built information available regarding the infrastructure. The relevant as-builts should be collected from the consultants and surveys should be completed where necessary. There is an asset register in place but should also be updated. Several of the schemes infrastructures is not included in the current asset register. There is sufficient information available regarding the tools and equipment, and there are manuals and safety plans	Yes	100%	Develop and implement an operation and maintenance plan for the effective operation and maintenance of assets. Collect all as-builts from consultants regarding infrastructure and survey where required. The asset register needs to be updated, and all the missing infrastructure should be included.	100%	No	0		No	0	No	0	No	0	No	0
4.4 Activity Control & Management	The WSA shows very little compliance with the activity control and management of its infrastructure. The major area of concern is the quality control procedures which are non-existent.	Yes	100%	Develop systems and processes for effective activity control and management (activity control and management)	100%	No	0		No	0	No	0	No	0	No	0

Section	Interpret Situation Assessment	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	%	Project Reference	Does this current listed project/activity address the problem totally?	%	Project/Activity Approved by Council as part of WSDP Database?	%	Approved by the council, in project/activity database and part of 5 yr IDP cycle projects	%	Project/Activity listed in 3 yr MTEFcycle	%
5.1 Reducing unaccounted water and water inefficiencies	The WSA stated that there is only partial metering taking place in the WSA, mainly in urban areas where there are proper house or yard connection. The rural schemes have no metering, which is a big issue especially in terms of the water balance. There are programmes to improve leaks and un-metered connections but are not sufficient.	Yes	100%	WC&DM Programmes and interventions (Reducing unaccounted water and water inefficiencies) to be implemented to ensure compliance by the WSA.	100%	No	0		No	0	No	0	No	0	No	0

5.2 Leak and meter repair programmes.	The WSA stated that there is currently active leak and meter repair programmes in place. There is, however, a need for retrofitting inefficient toilets. There are also several illegal connections (yard connection from communal standpipe) which increases leaking.	Yes	100%	WC&DM Programmes and interventions (Leak and meter repair programmes.) to be implemented to ensure compliance by the WSA.	100%	No	0		No	0	No	0	No	0	No	0
5.3 Consumer/end-use demand management: Public Information & Education Programmes	There are currently programmes in place for educating schools and communities regarding end use/consumer demand management. The WSA states that these are adequate, but more awareness and education is necessary.	Yes	100%	WC&DM Programmes and interventions (more public awareness and education programmes) to be implemented to ensure compliance by the WSA.	100%	No	0		No	0	No	0	No	0	No	0
5.4: Conjunctive use of surface- and groundwater	No information was available regarding artificial recharge, and only information on one scheme was available regarding rainwater harvesting. There is thus a need to investigate artificial recharge and rainwater harvesting in the WSA.	Yes	100%	WC&DM Programmes and interventions to be implemented (artificial recharge and rainwater harvesting investigation and monitoring) to ensure compliance with the WSA.	100%	No	0		No	0	No	0	No	0	No	0
5.5 Working for Water	Currently, there are no programs in place to remove alien vegetation or to reduce alien vegetation. Alien vegetation is categoristic of high water use and should thus be removed. There have been programs in the past, but none are currently in place.	Yes	100%	WC&DM Programmes and interventions (alien vegetation removing programs) to be implemented to ensure compliance by the WSA.	100%	No	0		No	0	No	0	No	0	No	0

Section	Interpret Situation Assessment	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Project Reference	Does this current listed project/activity address the problem?	%	Project/Activity Approved by Council as part of WSDP Database?	%	Approved by the council, in project/activity database and part of 5 yr IDP cycle projects	%	Project/Activity listed in 3 yr MTEFcycle	%
5.2 Water Balance	Limited to no information was available regarding the water consumption/metering and water resources (purchased and ground and surface water sources - abstraction volumes). This made the accuracy of the water balance very low, and several assumptions were made. The current NRW due to inadequate metering needs to be addressed.	Yes	100%	Implement strategies as contained in NRW report compiled by JOAT. Especially regarding metering of sources and consumers (metering of standpipes etc.)	100%	No	0	No	0	No	0	No	0	No	0

Section	Interpret Situation Assessment	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Project Reference	Does this current listed project/activity address the problem?	%	Project/Activity Approved by Council as part of WSDP Database?	%	Approved by the council, in project/activity database and part of 5 yr IDP cycle projects	%	Project/Activity listed in 3 yr MTEFcycle	%
6.1.1 Current Water Sources	Limited information was provided on the sources and additional sources available and their volumes and abstraction volumes	Yes	100%	The available sources should be analysed regarding their available abstraction volumes and existing abstraction volumes.	100%	No	0	No	0	No	0	No	0	No	0

6.1.2 Additional Sources Available	Limited information was provided on the sources and additional sources available and their volumes and abstraction volumes. The UAP completed looked at current and additional sources. There is, however, a need to complete a WSA master plan to identify possible additional sources and assess the current infrastructure in more detail.	Yes	100%	Complete a WSA masterplan to assess additional sources	100%	No	0		No	0	No	0	No	0	No	0
6.2 Monitoring	Information was provided regarding monitoring of sources by the technical staff of the WSA. Monitoring occurs either never or very rarely. No monitoring is done regarding the groundwater sources, and only some of the more formal schemes surface water abstraction is monitored. A need for proper monitoring of the schemes and sources are required. The monitoring of sources is also vital for the water balance.	Yes	100%	A proper source monitoring program needs to be put in place	100%	No	0		No	0	No	0	No	0	No	0
6.3 Water Quality	The WSA provided information on the water quality. According to the WSA, UW mainly conducts the quality monitoring of the sources (abstraction) and the water that is returned. The WSA does not itself monitor water quality. There is no staff dedicated to water quality and monitoring in the WSA. There is a need to improve quality monitoring in the WSA.	Yes	100%	Proper water quality and water monitoring program needs to be put in place	100%	No	0		No	0	No	0	No	0	No	0
6.4 Operation	Most of the abstraction points (surface and ground) are registered with the DWS, but in general, they are not recorded. Proper asset management and monitoring of the abstraction points are required.	Yes	100%	Proper asset management and recording/monitoring of all sources are required	100%	No	0		No	0	No	0	No	0	No	0

Table F.3: WSDP project list (future) – as per conceptual projects per topic

WSDP Assumed Project Number	Project Description	Project Main Focus	Intervention Category / Business Element	Intervention Horizon	WSA Priority	Project cost
HGDM_P_1	Investigate socio economics of HGDM	Institutional	Demographics	Immediate solution	High	
HGDM_P_2	Implement and maintain an Asset Register Monitoring Programme	Operation	Operation	Immediate solution	High	
HGDM_P_3	Develop and implement an Operation and Maintenance Plan.	Operation	Operation	Immediate solution	High	
HGDM_P_4	Improve water quality monitoring programme.	Operation	Operation	Immediate solution	High	
HGDM_P_5	Upgrade existing infrastructure and improve wastewater quality monitoring programme.	Operation	Operation	Immediate solution	High	
HGDM_P_6	Investigate existing sources - abstraction volumes	Demand Management	WCDM	Immediate solution	High	
HGDM_P_7	Industrial water users - implement and develop water quality and use monitoring program	Demand Management	WCDM	Immediate solution	High	
HGDM_P_8	Develop and implement WC&DM Programmes and interventions	Demand Management	WCDM	Immediate solution	High	
HGDM_P_9	Logging at all sources and WTWs and WWTWs	Demand Management	WCDM	Immediate solution	High	
HGDM_P_10	Bulk meters to be installed in all areas where neighbours are supplied	Demand Management	WCDM	Immediate solution	High	
HGDM_P_11	Investigation and implementation of NRW report solutions to improve NRW and water balance	Demand Management	WCDM	Immediate solution	High	
HGDM_P_12	Investigate water service institutional arrangements - specifically regarding policies, bylaws and regulations and develop and update where applicable	Institutional	Institutional Arrangements	Immediate solution	High	
HGDM_P_13	Formulate internal monitoring and assessment procedures	Operation	Operation	Immediate solution	High	
HGDM_P_14	Develop and implement the performance management and monitoring system.	Operation	Operation	Immediate solution	High	
HGDM_P_15	Improve call centre to handle complaints and incidents better	Operation	Operation	Immediate solution	High	
HGDM_P_16	Settlements/schemes investigation –households, population and service levels	Institutional	Demographics	Immediate solution	High	
HGDM_P_17	Water and sewer masterplans - regional	Operation	Operation	Immediate solution	High	
HGDM_P_18	Water and sewer masterplans – scheme level	Operation	Operation	Immediate solution	High	

**Table F.4: WSDP project list (future) – as per public participation**