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BREDE VALLEY MUNICIPALITY

Water Services Development Plan- IDP Water Sector Input Report

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

FY 2019 - 2020

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Prepared by:

<i>Designation</i>	<i>Name</i>	<i>Contact No.</i>	<i>E-mail</i>
Director Technical Services	J. A Steyn	0233482802	jsteyn@bvm.gov.za
Snr Manager Water Services	J. D. Pekeur	0233482803	jpekeur@bvm.gov.za
Manager Water Services (Treatment)	S. Langner	0233482802	slangner@bvm.gov.za

Abbreviations and Definitions

DM	District Municipality
DWA	Department of Water Affairs
BDS	Blue Drop Certification System
FY:	Financial Year - means in relation to – <ul style="list-style-type: none"> • a national or provincial department, the year ending 31 March; or • a municipality, the year ending 30 June.
GDS	Green Drop Certification System
IDP:	Integrated Development Plan - An IDP is a legislative requirement for municipalities which identifies the municipality's key development priorities; formulates a clear vision, mission and values; formulates appropriate strategies; shows the appropriate organisational structure and systems to realise the vision and the mission and aligns resources with the development priorities.
LM	Local Municipality
MuSSA	Municipal Strategic Self-Assessment
MPAP	Municipal Priority Action Plan
m ³	cubic metres = 1 000 liter = 1 kiloliter
MI	Megaliter = 1 000 kiloliter = 1 000 000 liter
NDP	National Development Plan
SDBIP:	Service Delivery Budget Implementation Plan – is a management, implementation and monitoring tool that enable the Municipal Manager to monitor the performance of senior managers, the Mayor to monitor the performance of the Municipal Manager, and for the community to monitor the performance of the municipality.
WSA:	Water Services Authority - means a municipality with the executive authority and the right to administer water services as authorised in terms of the Municipal Structures Act, 1998 (Act No. 117 of 1998)
WSDP:	Water Services Development Plan – means the plan to be developed and adopted by the WSA in terms of the Water Services Act, 1997 (Act No. 108 of 1997)
WSDP Guide Framework	Modular tool which has been developed by the DWA to support Water Services Authorities in complying to the Water Services Act with respect to Water Services Development Planning and which is also used by the DWA to regulate such compliance
WSP:	Water Services Provider - means any person or institution who provides water services to consumers or to another water services institution, but does not include a water services intermediary

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Introduction

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

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

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

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

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

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

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

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

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

Section A: Status Quo Overview

In terms of provincial notice 490/2000 (Provincial Gazette Extraordinary 5590) of 22 September 2000, the former municipalities of De Doorns, Rawsonville, Touws River and Worcester Transitional Council were dissolved and the Breede Valley Municipality (WC 025) was established. Latter came into effect on 6 December 2000. The Breede Valley Municipality is classified as a Category B municipality.

The Breede Valley Municipality covers an area of approximately 3 833 km² stretching from the Du Toitskloof Mountains in the south-west to the Kwadousberg Mountains in the south-east and including the towns of Rawsonville, Worcester, De Doorns and Touwsrivier as well as the rural areas adjacent to and between these towns and the Matroosberg rural area. The most striking feature of the Breede Valley in the Western Cape is its scenic beauty. Majestic mountains, fertile valleys, vineyards and vast plains, covered with indigenous semi-desert vegetation, captivate the soul. According to the Census 2011 figures the region has a counted population of 166 825 (inclusive of the informal settlements). Population size provides an indication of the volume of demand for government services in a particular geographical space. It also serves as a planning measure to assist budget planners to match available resources to address the relative demand for services.

The local municipality is approximately 100 kilometres east of Cape Town. It is part of the Cape Winelands District municipality. Breede Valley has the 2nd largest population in the Cape Winelands District which has a population size of 787 490. Breede Valley municipality's head office is located in Worcester.

Figure A1.1 below indicates the location of Breede Valley Municipality in respect with the Cape Winelands District Municipality and Western Cape Provincial.

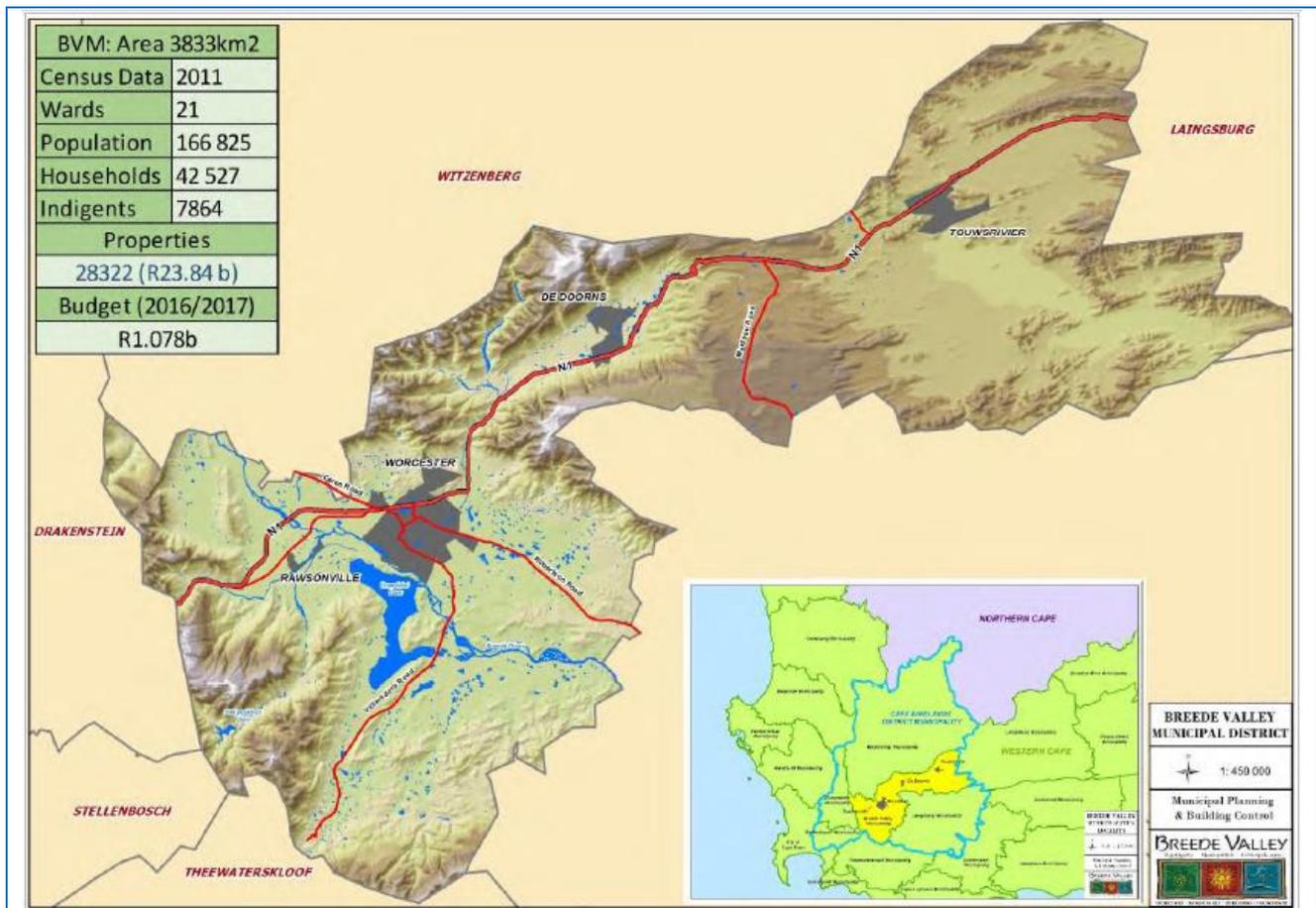
Figure A1.1: Location of Breede Valley Municipality Province



Topic 1: Settlements and Demographics

The population of Breede Valley was counted at 166 825 during the 2011 census which comprised approximately 42 527 households. The households are spread over a number of formal and informal settlement areas, which subsequent to the 2011 local elections were split into 21 wards. The increase in households and counted residents/households provides for a possible revenue increase in revenue, but also an increase in the demand for services. Figure A1.2 below indicates the location of Breede Valley Municipality authority area of jurisdiction.

Figure A1.2: Map of WSA area of jurisdiction



The Breede Valley Municipality is currently structured into 21 wards. The region has a counted population of 176 578 comprising of 47 569 households, based on the Community Survey 2016 StatsSA data, of which approximately 14,7% (7000) are classified as indigent.

Figure A1.3: Location of Municipal Wards within the Breede Valley Municipality

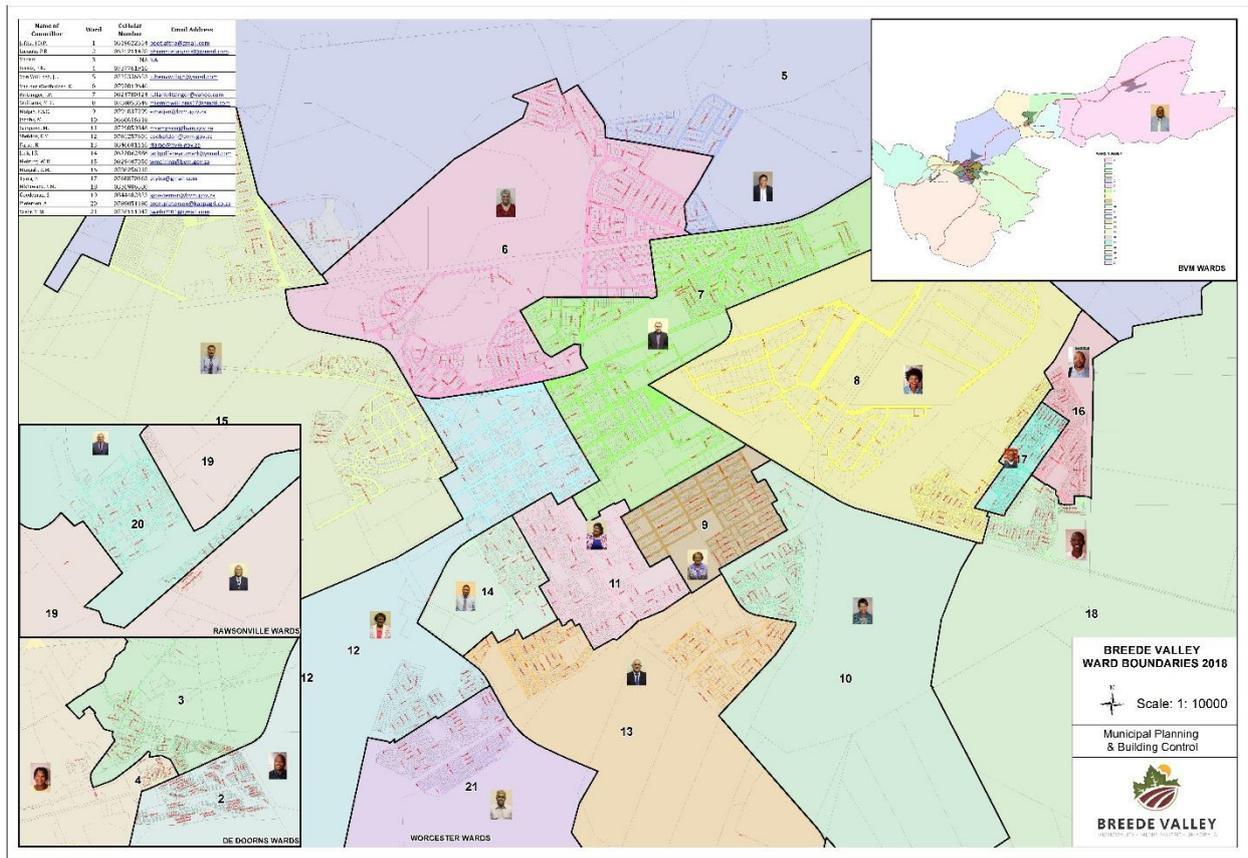


Table 1: Settlement Summary

1.1 Settlements Summary		
Section	Value	Assessment Score
1.1 Total Population	176578	100%
1.2 Total Number of Households	47569	100%
1.3 Average Household Size	3.7	100%
1.4 Total Number of Settlements	4	100%

Table 2: Urban/Rural Split

1.2 Summary by Settlement Group				
Settlement Type	Settlements	Population	Households	Assessment Score
Rural				
Urban	4	176578	47569	100%

Table 3: Settlement Type

1.3 Assessment Score by Settlement Type						
Main Type	Settlement Type	Settlements	Population	Households	Avg. Household Size	Assessment Score
Rural	Rural - Small Village <= 5000	-				
Rural	Rural - Dense Village > 5000	-				
Rural	Rural Scattered	-				
Rural	Farming	-				
Rural	Working Towns and Service Centres - Mines, Prisons etc.	-				
Urban	Urban - Former Township	-				
Urban	Urban - Informal Settlements (Squatter Camp)	-				
Urban	Urban - Formal Town	4	176578	47569	3.7	100%

Table 4: Health & Education Facilities

1.4 Amenities Summary		
Amenity Type	Number of Amenities	Assessment Score
Health Facilities	18	100%
Educational facilities	58	100%

Topic 2: Service Levels

Brede Valley Municipality has a comprehensive Performance Management System in place which is used to monitor organisational performance. The SDBIP is the process plan and performance indicator / evaluation for the execution of the budget. The SDBIP is being used as a management, implementation and monitoring tool that assists and guide the Executive Mayor, Councillors, Municipal Manager, Senior Managers and the community. The plan serves as an input to the performance agreements of the Municipal Manager and Directors. It also forms the basis for the monthly, quarterly, mid-year and the annual assessment report and performance assessments of the Municipal Manager and Directors. The Performance Audit Committee reviews the municipality's performance management system, which includes the quarterly reports produced and submitted by Internal Audit.

The performance evaluation of the water and sanitation indicators / targets, as included in the SDBIP and completed for the end of June 2017, is as follows (KPIs for Capital Projects and the Operational Performance):

Service Delivery Indicators for Water and Sanitation Services

Ref	KPI	Unit of Measurement	Wards	2016/17		Overall Performance for 2017/18	
				Target	Actual performance	Target	Actual
TL4	Compile a new 5-year Water Service Development Plan (WSDP) and submit to MayCo for approval by 31 March 2018	WSDP submitted by 31 March 2018	All	New performance indicator for 2017/18. No comparative audited results available	New performance indicator for 2017/18. No comparative audited results available	1	1
TL5	Complete the project for the replacement of water pipes by 30 June 2018	Project completed	All	New performance indicator for 2017/18. No comparative audited results available	New performance indicator for 2017/18. No comparative audited results available	1	1
TL6	Complete Langerug water supply pipeline to Transhex development by 30 June 2018	Project completed	10; 18	New performance indicator for 2017/18. No comparative audited results available	New performance indicator for 2017/18. No comparative audited results available	1	1
TL10	Achieve 90% of capital budget spent on the construction of the Langerug 20 Mega Litre Reservoir through Transhex development by 30 June 2018	% of capital budget spent	10; 18	New performance indicator for 2017/18. No comparative audited results available	New performance indicator for 2017/18. No comparative audited results available	90%	99.94%
TL18	Number of formal residential properties that are billed for water as at 30 June 2018	Number of residential properties which are billed for residential consumption water meters charged residential domestic tariffs or residential flat rate tariffs using an erf as a household except municipal flats where the rental register will be used to determine the number households	All	18 898	19 419	19 420	20 813

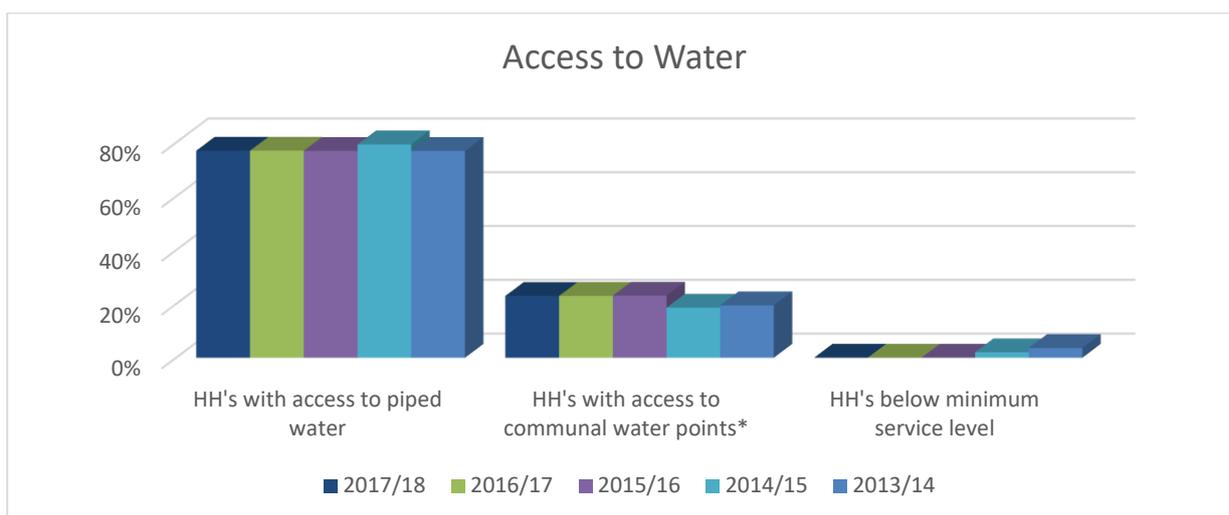
Ref	KPI	Unit of Measurement	Wards	2016/17		Overall Performance for 2017/18	
				Target	Actual performance	Target	Actual
TL7	Achieve 90% of capital budget spent on the construction of Transhex sewer pump station and rising main by 30 June 2018	% of capital budget spent	10; 18	New performance indicator for 2017/18. No comparative audited results available	New performance indicator for 2017/18. No comparative audited results available	90%	82.92%
TL8	Complete the project for the placement of	Project completed	All	New performance	New performance	1	1
	sewerage pipes by 30 June 2018			indicator for 2017/18. No comparative audited results available	indicator for 2017/18. No comparative audited results available		
TL20	Number of formal residential properties that are billed for sanitation/sewerage services as at 30 June 2018	Number of residential properties which are billed for residential sewerage tariffs using the erf as property	All	18 050	18 191	18 190	18 351
TL24	Provide free basic sanitation to indigent households earning less than R4500 as at 30 June 2018	Number of indigent households receiving free basic sanitation	All	8 000	7 864	7 860	8 053
TL9	Complete Belt Press at Worcester WWTW by 31 December 2017	Project completed	5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 21	New performance indicator for 2017/18. No comparative audited results available	New performance indicator for 2017/18. No comparative audited results available	1	1
TL11	80% of sewerage samples comply with effluent standard {(Number of sewerage samples that comply with SANS/Number of sewerage samples tested) x100} during the 2017/18 financial year	% of sewerage samples compliant	All	80%	94.98%	80%	88.34%

Residential water services delivery access profile

The residential water services delivery access profile is presented below and is aligned with the format proposed for the Municipal Annual Report as contemplated in the MFMA. It is emphasized that this access profile does not consider quality- or adequacy of services as presented in the next section. It also has to be noted that the figures below indicate the service level within the urban edge only. There are a number of households outside the urban edge such as farms that are not serviced by the municipality. No detail information on the level of service is available for these households. The census 2011 does indicate there are a number of households outside the urban edge that do not have access to adequate water and sanitation services. The provision of services to these areas however fall outside the mandate of the Municipality. Reporting is therefore done on the areas within the urban edge.

Table : Residential water services delivery access profile: Water

Census Category	Description	Year 0		Year - 1		Year - 2		Year - 3		Year - 4	
		FY2017		FY2016		FY2015		FY2014		FY2011	
		Nr	%								
	WATER (ABOVE MIN LEVEL)										
Piped (tap) water inside dwelling/institution	House connections	20 813	65%	18 992	64%	18 898	64%	17 350	65%	15 882	62%
Piped (tap) water inside yard	Yard connections	3 803	12%	3 803	13%	3 803	13%	3 803	14%	3 803	15%
Piped (tap) water on community stand: distance less than 200m from dwelling/institution	Standpipe connection < 200 m	7 376	23%	6 813	23%	6 813	23%	4 967	19%	4 989	19%
	Sub-Total: Minimum Service Level and Above	31 992	100%	29 608	100%	29 514	100%	26 120	98%	24 674	96%
	WATER (BELOW MIN LEVEL)										
Piped (tap) water on community stand: distance between 200m and 500m from dwelling/institution	Standpipe connection: > 200 m < 500 m										
Piped (tap) water on community stand: distance between 500m and 1000m (1km) from dwelling /institution	Standpipe connection: > 500 m < 1 000 m	0	0%	0	0%	0	0%	545	2%	924	4%
Piped (tap) water on community stand: distance greater than 1000m (1km) from dwelling/institution	Standpipe connection: > 1 000 m										
No access to piped (tap) water	No services	0%	0%	0%	0%	0%	0%	0	0%	0	0%
	Sub-Total: Below Minimum Service Level	0	0%	0	0%	0	0%	545	2%	924	4%
	Total number of households	31 992	100%	29 608	100%	29 514	100%	26 665	100%	25 598	100%

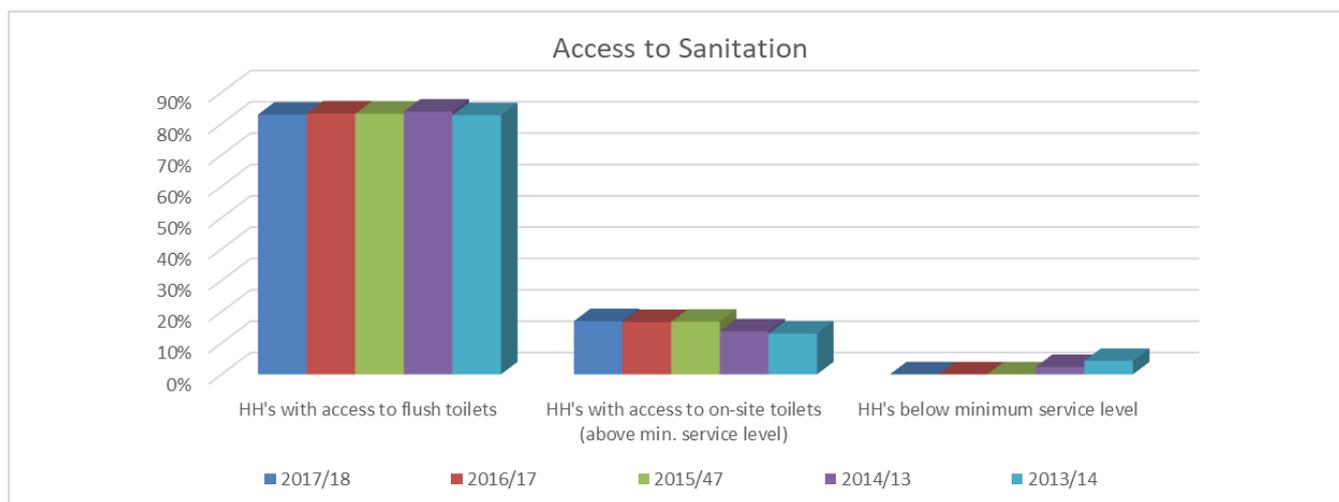
**Table 5: Improvement in Eradicating the Water Backlog**

LM	Urban / Rural	2017/18		2016/17 (-Y1)	
		Water backlog HH	Water Backlog Population	Water backlog HH	Water Backlog Population
BVM	Rural	-	-	-	-
BVM	Urban	7376	27380	6813	26725

The table below provide a summary of the level of service for sanitation services within the urban edge of the Breede Valley Municipality. The service provided by Breede Valley Municipality is relatively high/acceptable. All formal areas have access to waterborne sanitation services. In informal areas chemical toilets are provided in accordance with the prescribed ratio (per person's toilet).

Table: Residential water services delivery access profile: Water

Census Category	Description	Year 0		Year - 1		Year - 2		Year - 3		Year - 4	
		FY2017		FY2016		FY2015		FY2014		FY2013	
		Nr	%								
	SANITATION (ABOVE MIN LEVEL)										
Flush toilet (connected to sewerage system)	Waterborne	18 351	73%	18 191	73%	18 050	73%	16 945	74%	23 680	82%
	Waterborne: Low Flush	0	0%	0	0%	0	0%	0	0%	0	0%
Flush toilet (with septic tank)	Septic tanks / Conservancy	2 634	10%	2 634	11%	2 634	11%	2 348	10%	100	0%
Chemical toilet	Non-waterborne (above min. service level)	4 179	17%	4 179	17%	4 179	17%	3 164	14%	3 740	13%
Pit toilet with ventilation (VIP)		0	0%	0	0%	0	0%	0	0%	0	0%
Other		0	0%	0	0%	0	0%	0	0%	0	0%
	Sub-Total: Minimum Service Level and Above	25 164	100%	25 004	100%	24 863	100%	22 457	98%	27 520	96%
	SANITATION (BELOW MIN LEVEL)										
Pit toilet without ventilation	Pit toilet	0	0%	0	0%	0	0%	0	0%	0	0%
Bucket toilet	Bucket toilet	0	0%	0	0%	0	0%	0	0%	0	0%
Other toilet provision (below min. service level)	Other				0%		0%	0	0%	0	0%
No toilet provisions	No services	0	0%	0	0%	0	0%	545	2%	1 233	4%
	Sub-Total: Below Minimum Service Level	0	0%	0	0%	0	0%	545	2%	1 233	4%
	Total number of households	25 164	100%	25 004	100%	24 863	100%	23 002	100%	28 753	100%

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

LM	Urban / Rural	2017/18		2016/17 (-Y1)	
		Sanitation backlog HH	Sanitation Backlog Population	Sanitation backlog HH	Sanitation Backlog Population
BVM	Rural	-	-	-	-
BVM	Urban	4179	15512	4179	16394

Table 7: Direct Backlog (Water and Sanitation)

Direct Backlog (Water & Sanitation)	Totals	Assessment Score
Direct settlement backlog water households. Total household of settlement with a water need (irrelevant the type of need)	7376	23%
Direct settlement backlog water population. Total population of settlement with a water need (irrelevant the type of need)	27380	23%
Direct settlement backlog sanitation households. Total household of settlement with a sanitation need (irrelevant the type of need)	4179	17%
Direct settlement backlog sanitation population. Total population of settlement with a sanitation need (irrelevant the type of need)	15512	17%

The residential water services delivery adequacy profile as presented below aligns with the service level category of the WSDP Guide Framework and considers the water resources-, operational- and infrastructure needs of the water services provider by the Breede Valley Municipality. In essence, the above, paves the way for the identification of projects to address the relevant needs. When interpreting the adequacy profile, it should be recognised that a specific settlement that are serviced by the municipality, may have more than one need and hence, that provision is made for double counting of households, where such duplication needs have been identified. It should also be emphasized that where areas are serviced privately such as households residing on farms, that the adequacy service level has been identified as Adequate: Informal as per the guidelines for the DWA Reference Framework, meaning that any infrastructure development needs (as may be evident from the access profile) is not assigned for implementation by the Breede Valley Municipality.

It must be noted that the adequacy profile is based on levels of service for the areas within the urban edge and aligned with the Department of Water Affairs, reference framework figures. The adequacy profile represents a WSA perspective and hence, includes all wards located within the Breede Valley municipal boundary.

The Breede Valley Municipality's water services adequacy profile contains the following needs:

1. Infrastructure- and services needs to be extended in informal settlements of Rawsonville, Avian Park, Zweletemba, Sand Hills, Orchards and Touws River.
2. There is a high need of refurbishment for both the water- and sewer infrastructure.

Table 8: Water Supply Level Profile

Water Profile	Totals	Assessment Score
Section: Water Services Infrastructure Supply Level Profile		
Piped water inside the dwelling/house-Households	20813	65%
Piped water inside yard-Households	3803	12%
Piped water distance <200m - Households	7376	23%
Piped water distance >201m - Households	0	-
Borehole in the yard – Households	0	-
Rain-water tank in yard – Households	0	-
Water vendor-carrier/tanker - Households	0	-
Stagnant water - dam/pool - Households	0	-
Flowing water/spring/ stream/river - Households	0	-
Water Other – Households	0	-

Table 9: Water Reliability Profile

Section: Water Reliability Profile	Totals	Assessment Score
Water Supply System	3	
Total Number of Households having Reliable Service. (Interpret Direct Backlog field above)	31992	100%
Total Number of Households NOT having Reliable Service due to: Resource - Conservation & Demand Management	-	-
Total Number of Households NOT having Reliable Service due to: Infrastructure – EXTENSION	-	-

Table 10: Sanitation Level of Service

Sanitation Profile	Totals	Assessment Score
Section: Sanitation Service Infrastructure Supply Level Profile		
Bucket toilet - Households	0	
Pit without ventilation - Households	0	
Pit toilet with ventilation (VIP) - Households	0	
Chemical Toilet - Households	4179	17%
Flush toilet (with septic tank) - Households	2634	10%
Flush toilet (connected to sewerage system) - Households	18351	73%
None - Households	0	

Table 11: Sanitation Reliability Profile

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

Table 12: Water Service Levels: Education Facilities

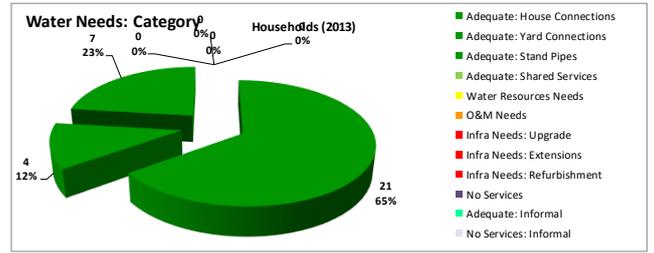
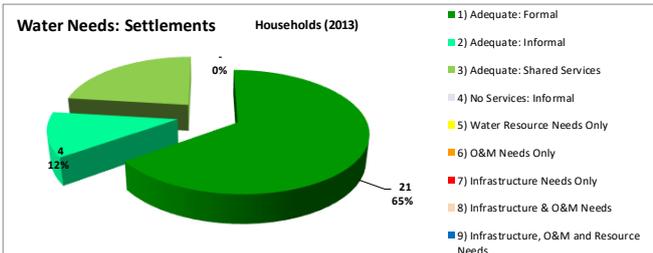
Associated services facility	Number of facilities	Facilities with No Services	Facilities with Inadequate Services	Total Potential Cost (basic level) (RM)
Water				
2.1.1 Education Plan				
Primary School and Secondary	56	0	0	-
Tertiary	2	0	0	-
	Total			
2.1.2 Health Plan				
Hospitals	4	0	0	-
Clinics	14	0	0	-
	Total			

Table 13: Sanitation Service Levels: Health Facilities

Associated services facility	Number of facilities	Facilities with No Services	Facilities with Inadequate Services	Total Potential Cost (basic level) (RM)
Sanitation				
2.1.1 Education Plan				
Primary & Secondary Schools	56	0	0	-
Tertiary	2	0	0	-
	Total			
2.1.2 Health Plan				
Hospitals	4	0	0	-
Clinics	14	0	0	-
	Total			

Residential water services delivery adequacy profile (Water)

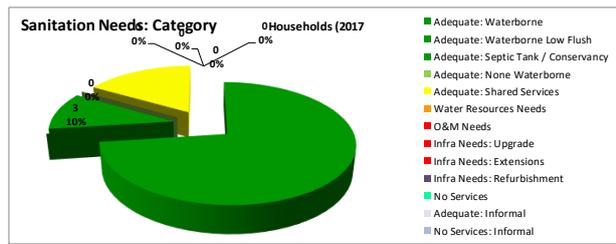
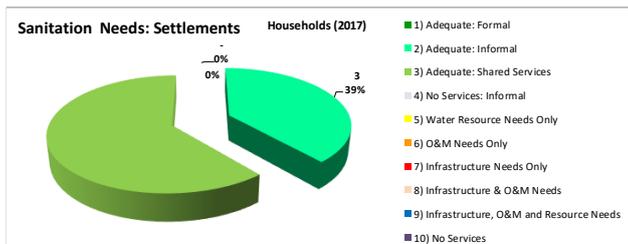
Water Categorisation	Number of settlements	FORMAL																		INFORMAL								
		Adequate												Water Resource needs		O & M Needs		Infrastructure Needs				No services		Adequate		No services		
		House Connections		Yard Connections		Stand Pipes		Shared Services		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH
1	9	20,813	65%																									
2	23			3,803	12%																							
3	0					7,376	23%																					
4	29																											
5	0																											
6	0																											
7	3																											
8	0																											
9	0																											
10	0																											
Total Household Interventions required		21		4		7		0		0		0		0		0		0		0		0		0		0		0



1	Adequate	3	Adequate: Shared services	5	Water Resource Needs <u>Only</u>	7	Infrastructure Needs <u>Only</u>	9	Infrastructure, O&M & Resource Needs
2	Adequate: Informal	4	No Services: Formal	6	O & M Needs <u>Only</u>	8	Infrastructure & O&M needs	10	No Services

Residential water services delivery adequacy profile (Sanitation)

Water Categorisation	Number of settlements	FORMAL																		INFORMAL								
		Adequate												Water Resource needs		O & M Needs		Infrastructure Needs				No services		Adequate		No services		
		Waterborne		Waterborne Low flush		Septic Tank/ Conservancy		None Waterborne		Shared Services		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH
1	6	18,351	73%																									
2	1					2,634	10%																					
3	49							4,179	10%																			
4	0																											
5	0																											
6	0																											
7	6																											
8	0																											
9	0																											
10	2																											
Total Household Interventions required		18,351		0		2,634		0		4,179		0		0		0		0		0		0		0		0		0



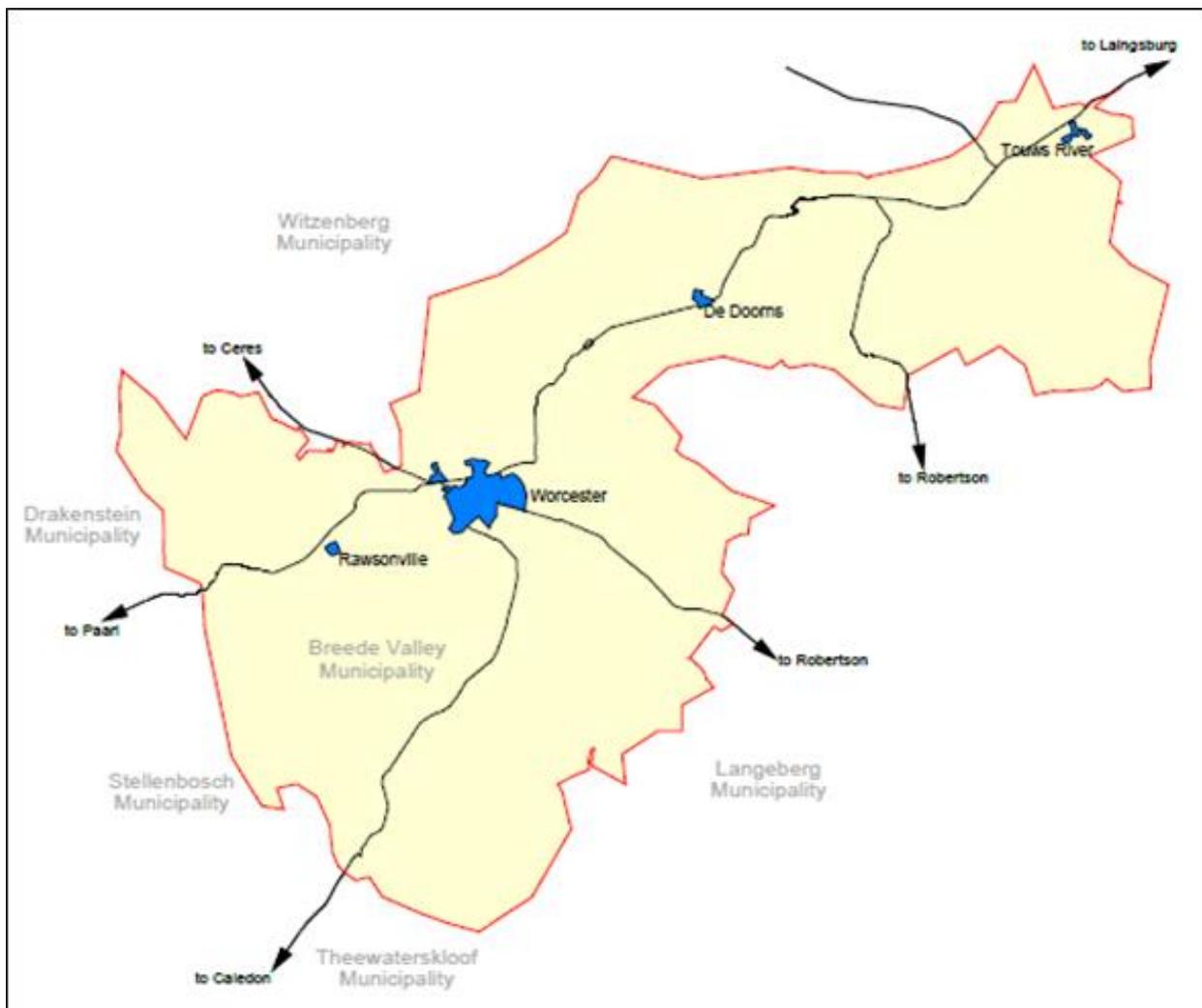
1	Adequate	3	Adequate: Shared services	5	Water Resources Needs <u>Only</u>	7	Infrastructure Needs <u>Only</u>	9	Infrastructure, O&M & Resource Needs
2	Adequate: Informal	4	No Services: Formal	6	O & M Needs <u>Only</u>	8	Infrastructure & O&M needs	10	No Services

Topic 3: Water Services Infrastructure Management (Infrastructure)

The following section provides a summary overview of the Water Infrastructure and supply area for the Breede Valley Municipality. The supply of water in the Breede Valley Municipal Area can be divided into four supply areas, they are:

- Worcester Supply Area
- Rawsonville Supply Area
- De Doorns Supply Area
- Touwsriver Supply Area

The map below indicates the four supply areas within the Breede Valley Municipality



Water Infrastructure Summary

AREA	INFRASTRUCTURE TYPE	EXTENT	CAPACITY
Worcester	Water Treatment Works (Stettynskloof)	1	60MI/d
	Water Treatment Works (Fairy Glen)	1	10MI/d
	Reservoirs (including Towers) Worcester	7	73.24MI
	Pumpstation/s Worcester	6	-
	Pipe Length (Worcester)	345km	-
Rawsonville	Boreholes (Rawsonville – Emergencies only)	4	0.8MI/d
	Reservoirs (including Towers) Rawsonville	3	2.83MI
	Pumpstation/s Rawsonville	1	-
	Pipe Length (Rawsonville)	16.8km	-
De Doorns	Water Treatment Works	1	4.8MI/d
	Reservoirs (including Towers)	7	8.79MI
	Pumpstation/s	2	-
	Pipe Length	57.7km	-
Touws River	Water Treatment Works	1	3.2MI/d
	Reservoirs (including Towers)	3	6.045MI
	Pumpstation/s	0	-
	Pipe Length	89.2km	-

Worcester Supply Area

Worcester is supplied with potable water from two different sources. The main water source is Stettynskloof Dam that is situated approximately 32 km from Worcester in the Du Toitskloof Mountains. The other source, Fairy Glen Dam is much smaller in capacity and is situated closer to Worcester. The water is treated at both sources before released into the potable drinking water system. A total of 32 km of pipelines, ranging from 375 mm to 1 075 mm in diameter transfer the bulk water within the Worcester areas to various storage reservoirs. These reservoirs range from 2 Mℓ up to 11 Mℓ providing a total treated water holding capacity of 73 Mℓ.

The system is operated in 7 zones supplied from 4 sets of reservoirs. The Preload zone is the largest of the zones and supplies 70% of the total water demand (TWD). Three booster pumping zones are present in the high lying areas.

The Preload reservoir supplies the Worcester West Sump with water under gravity. The Worcester West Upper reservoir is in turn supplied from the Worcester West Sump via the Brandwacht pumping station and rising main.

The De Koppen reservoir could be supplied by the Preload reservoir via the Panorama pumping station in an emergency.

The total water reticulation network consists of 345 km of pipework ranging from 45 mm to 1075mm diameter pipes.

Rawsonville Supply Area

The system is operated in one zone, supplied with water from the Rawsonville 2.0 Mℓ reservoir through a 5.7 km 250 mm diameter ductile iron pipeline. Water pressure before the town is relieved through a PRV.

The Rawsonville reservoir is supplied with water from the Stettynskloof pipeline, which also supplies water to Worcester.

There are a total of 16.8km of pipeline that supply the town's reticulation network.

De Doorns Supply Area

The system is operated in 5 separate zones, viz. the De Doorns Upper zone, De Doorns Lower zone, Stofland reservoir zone, Stofland PRV zone and the Orchard zone.

Water is pumped from the N1 pump station, located adjacent to the N1 reservoirs, through the upper zone distribution network into the Upper reservoir, Lower reservoirs and Orchard reservoir and distributed into the zones respectively.

The Stofland reservoir is supplied with water from the N1 reservoirs through the Stofland pump station (also located on the N1 reservoir site) and accompanying 200 mm diameter rising main. The Stofland reservoir supplies the Stofland reservoir and Stofland PRV zones.

Water for De Doorns is provided by Hex Valley Water Users Association Irrigation Board.

There are six reservoirs ranging from 0.4mℓ to 2.3mℓ and two pump stations. Only one pump station is currently operational and delivering 3mℓ/day at an operating head of 80m. The construction of the other pump station is complete and is in the commissioning process.

There are a total of 57.6km of pipeline that supply the town's reticulation network.

Touwsriver Supply Area

The bulk water supply lines from the Bokrivier Water Treatment Plant feed 3 separate reservoirs. These reservoirs feed into 3 separate zones respectively.

Touws River receives water from two diversions in the Donkerkloof and Waterkloof. These water sources are supplemented by boreholes and natural springs. The total of this water can be diverted to be collected and stored in the Bok River balancing dam. The water is then channelled to a water treatment facility from where the treated water is stored in three reservoirs. These reservoirs range from 0.05mℓ to 4.5mℓ with a total storage of 6mℓ.

The pipelines that supply bulk water from the source to the treatment works are 28km long and vary in diameter from 200mm to 300mm. The water reticulation network consists of 61km of pipe work and varies from 45mm to 225 in diameter.

Existing Water Pipeline Infrastructure

PIPES	Length (m)				
	Diam. (mm)	Bulk	Network	Total	%
DE DOORNS					
≤ 45	0	0	0	0	0
> 45 ≤ 75	0	2 040	2 040	2 040	4
> 75 ≤ 125	960	33 930	34 890	34 890	61
> 125 ≤ 175	3 920	9 110	13 030	13 030	23
> 175 ≤ 275	5 245	1 825	7 070	7 070	12
> 275	535	65	600	600	1
De Doorns Total	10 660	46 970	57 630	57 630	100
RAWSONVILLE					
≤ 45	0	0	0	0	0
> 45 ≤ 75	0	5 685	5 685	5 685	34
> 75 ≤ 125	25	4 700	4 725	4 725	28
> 125 ≤ 175	405	125	530	530	3
> 175 ≤ 275	85	5 750	5 835	5 835	35
> 275	0	25	25	25	0
Rawsonville Total	515	16 285	16 800	16 800	100
TOUWS RIVER					
≤ 45	0	0	0	0	0
> 45 ≤ 75	0	8 065	8 065	8 065	9
> 75 ≤ 125	0	7 110	7 110	7 110	8
> 125 ≤ 175	870	17 405	18 275	18 275	21
> 175 ≤ 275	55 735	5	55 740	55 740	62
> 275	0	0	0	0	0
Touws River Total	56 600	32 615	89 215	89 215	100
WORCESTER					
≤ 45	0	950	950	950	0
> 45 ≤ 75	0	25 798	25 798	25 798	7
> 75 ≤ 125	0	150	150	150	43
> 125 ≤ 175	0	140	140	140	0
> 175 ≤ 275	0	80 785	80 785	80 785	0
> 275 ≤ 375	0	30 110	30 131	30 131	9
> 375 ≤ 475	0	14 815	14 815	14 815	4
> 475 ≤ 575	0	10 036	10 035	10 035	3
> 575 ≤ 675	0	1 680	1 680	1 680	0
> 675 ≤ 775	0	1 035	1 735	1 735	1
> 775 ≤ 875	27 825	0	28 893	28 893	8
> 875	0	0	0	0	0
WORCESTER TOTAL	27 879	317 080	344 959	344 959	75
BREDE VALLEY TOTAL	95 654	412 950	508 604	508 604	100

Existing Reservoirs and Water Towers

NAME	TYPE	CAPACITY (k ℓ)	TWL (m a.s.l.)
De Doorns			
De Doorns Lower	Reservoir	2 270	542,5
De Doorns Upper 1	Reservoir	1 000	564,2
De Doorns Upper 2	Reservoir	1 000	564,2
Orchard	Reservoir	500	484,0
N1 Reservoir 1	Reservoir	1 154	490,2
N1 Reservoir 2	Reservoir	364	489,7
Stofland	Reservoir	2 500	615.0
TOTAL		8 788	
Rawsonville			
Rawsonville Old Reservoir	Reservoir	580	225.6
Rawsonville 2.0 ML	Reservoir	2 000	296.8
Rawsonville Tower	Reservoir	250	234.4
TOTAL		2 830	
Touws River			
Crescent Lower	Reservoir	4 500	793,3
Crescent Upper	Reservoir	45	801,0
Steenvliet	Reservoir	1 500	810,9
TOTAL		6 045	
Worcester			
De Koppen	Reservoir	11 370	366,0
Langerug	Reservoir	13 630	291,3
Preloads	Reservoir	45 510	304,8
Worcester West Sump	Reservoir	680	285,0
Worcester West Upper	Reservoir	2 050	318,0
TOTAL		73 240	
BREEDE VALLEY MUNICIPALITY TOTAL		90 933	

Existing Water Pumps

TOWN OR ZONE	NAME	CAPACITY (ℓ / s)	HEAD (m)
DE DOORNS	N1 Pump Station	35	80
	Stofland PS	38	166
RAWSONVILLE	Rawsonville	*20	*30
	De Nova	*10	*30
TOUWS RIVER	None		
WORCESTER	Brandwacht	30	40

Sewer Infrastructure Summary

AREA	INFRASTRUCTURE TYPE	EXTENT	CAPACITY
Worcester	Waste Water Treatment Works	1	30MI/d
	Pumpstation/s	9	-
	Pipe Length	276.4	-
Rawsonville	Waste Water Treatment Works	1	0.25MI/d
	Pumpstation/s	1	-
	Pipe Length	10.1	-
De Doorns	Waste Water Treatment Works	1	2.35MI/d
	Pumpstation/s	1	-
	Pipe Length	51.2km	-
Touws River	Waste Water Treatment Works	1	0.84MI/d
	Pumpstation/s	8	-
	Pipe Length	22.5	-

Sewer Pipeline Infrastructure

BREAKDOWN OF PIPE LENGTHS ACCORDING TO DIAMETER		
Normal Pipe Diameter (mm Ø)	Gravity Pipes (km)	Rising Mains (km)
DE DOORNS		
≤ 125	2.1	2.2
> 125 ≤ 175	39.6	0.0
> 175 ≤ 225	2.0	0.0
> 225 ≤ 275	5.3	0.0
> 275 ≤ 275	0.0	0.0
> 325	0.0	0.0
Sub-total	49.0	2.2
RAWSONVILLE		
≤ 125	0.0	0.0
> 125 ≤ 175	8.7	1.4
> 175 ≤ 225	0.0	0.0
> 225 ≤ 275	0.0	0.0
> 275 ≤ 325	0.0	0.0
> 325	0.0	0.0
Sub-total	8.7	1.4
TOUWS RIVER		
≤ 125	0.0	3.5
> 125 ≤ 175	15.9	1.5
> 175 ≤ 225	1.6	0.0
> 225 ≤ 275	0.1	0.0
> 275 ≤ 325	0.0	0.0
> 325	0.0	0.0
Sub-total	17.7	5.0
WORCESTER		
≤ 125	0.0	0.6

BREAKDOWN OF PIPE LENGTHS ACCORDING TO DIAMETER		
Normal Pipe Diameter (mm Ø)	Gravity Pipes (km)	Rising Mains (km)
> 125 ≤ 175	13.3	1.9
> 175 ≤ 225	14.8	0.0
> 225 ≤ 275	6.5	2.1
> 275 ≤ 325	10.6	0.0
> 325 ≤ 375	7.7	0.0
> 375 ≤ 425	2.1	0.0
> 425 ≤ 475	3.1	0.0
> 475 ≤ 525	0.4	0.0
> 525 ≤ 575	1.1	0.0
> 575 ≤ 675	2.9	0.0
> 675	0.6	0.0
Sub-total	263.0	4.7
TOTAL	338.5	13.3

Waste Water Treatment Plants

DETAILS OF BULK DISCHARGE POINTS AND WASTEWATER TREATMENT PLANTS (WWTP'S)			
Name	Capacity (kℓ/d)	IPDWF (ℓ / s)	Process
De Doorns WWTP	650	±15	Activated sludge
Rawsonville WWTP	250	40	Activated sludge
Touws River WWTP	840		Activated sludge
Worcester WWTP	28 200	±645	Activated sludge

Sewer Pump Stations

EXISTING PUMPING STATION			
Town or Zone	Name	Capacity (ℓ / s)	Diameter of rising main (mm)
DE DOORNS	Orchard	**12	100
RAWSONVILLE	Rawsonville	*12	150
TOUWS RIVER	Dahlia Street	*8	100
	Du Plessis Street	*12	100
	Hopland	*8	100
	Hotel	*2	50
	Loop Street	*4	75
	Noord	*12	100
	Steenvliet	*12	150

EXISTING PUMPING STATION			
Town or Zone	Name	Capacity (ℓ / s)	Diameter of rising main (mm)
	Total	*5	100
WORCESTER	Avian Park ¹	48	250
	Johnson Park	35.3	150
	Noble Park	6.5	100
	Mountain Mill	*12	160
	Santa Weida	**35	150
	Zweletemba	13	100

* Required minimum capacity – to be verified

** to be verified

Table 14: Infrastructure Components

Assets	Boreholes	Abstraction Points	WTW	Water Pump Stations	Sewer Pump Stations	Water Bulk Pipelines	Sewer Bulk Pipelines	Reservoirs	WWTW	Assessment Score
3.1.1 Total number of components / km of pipeline / units	0	4	4	9	19	508.7 km	360.2 km	20	4	

Table 15: Refurbishment Need & O&M Occurrence

	Refurbishment Need			O&M Occurrence			Observation		
	High	Medium	Low	Regular	Periodic	None	Dysfunctional	Operational	Prime Condition
Boreholes	x					x	x		
Reservoirs		x			x			x	
Water Pump Stations		x			x			x	
Bulk Lines	x				x			x	
WTW	X (2)	X (2)			x			x	
WwTW	X (2)	X (2)			x			x	

Topic 4: Water services Infrastructure Management (O&M)

The Breede valley Municipality has a detailed Water and Sewer Master Plan that was completed in June 2014. The planning scenario for the master plans is based on the approved Spatial Development Framework. Detailed computer models for the water and sewer system was done and linking the models to the stand and water meter database of the treasury financial system. All networks were evaluated for the current and future models to determine the infrastructure requirements based on the specific planning scenario. Detail infrastructure requirements and timeframes is the main output of the master plans. The master plans also assist with the evaluation of new development applications to ensure that the required infrastructure for the development will be adequate.

An output of the Master Plans is also detailed infrastructure plans of the current infrastructure. This can be used for asset register verification and/or updating of the asset register. All information is available in an electronic system for easy viewing and planning purposes. All water and sewer information is integrated in one system.

The Transhex development was approved and is in implementation stage. This is a huge development consisting of approximately 8 000 new households. The project will be implemented in phases. The first phase consisting of 1 500 households. This will have a major impact on the current infrastructure in the Worcester area as well as capacity to manage the additional infrastructure required for this scale of development. Currently the bulk infrastructure for this development is being constructed to ensure that sufficient capacity will be available for this development. The infrastructure requirements was identified through the master planning process.

The current master Plan for Water and Sewer is sufficient for the development trends in the Breede Valley Municipality. Should the Spatial development Framework be updated the master Plans will be realigned to ensure integration with the planning scenarios as indicated in the Spatial Development Framework.

Groundwater Infrastructure

There are only three new boreholes that will be used for drinking purposes in De Doorns. These boreholes are still in process of development. The other existing boreholes will be available for emergencies. The water quality will however be tested on a monthly bases. The depth, yield of the borehole and the abstraction will recorded as part of the operating procedures. The abstraction of the boreholes will be registered with the Department of Water Affairs.

Surface Water Infrastructure

The dam safety registration for the Stettynskloof, Fairy Glen and Bokriver dams are in place. This is not needed for the other dams in De Doorns and Rawsonville. Abstraction is recorded for all the surface water sources and is registered with the Department of Water and Sanitation.

The infrastructure is routinely inspected and maintained. There is however no operation and maintenance manual or procedure for these specific tasks in place. Physically the condition of the surface water infrastructure is in a good and sound condition.

Water Treatment Works

Water is treated at the sources before released into the reticulation network. Worcester has two treatment works, one at Stettynskloof dam and the other at De Koppen for the Fairy Glen dam. Rawsonville, De Doorns and Touws River each have one treatment facility. These treatment facilities operate 24 hours per day for Stettynskloof, De Doorns and Touws River and eight hours per day for De Koppen and Rawsonville. The abstraction of all the treatment facilities is monitored, recorded and registered with the Department of Water Affairs. No vandalism problems have been recorded.

The physical condition of all the treatment facilities is good except for Touws River where a very poor rating is being recorded. There is no fixed maintenance programme in place for the treatment facilities. Spare parts are readily available and stored at the facilities or in the municipal general store.

For Rawsonville the pumps need to be refurbished and the Lime and Chlorination dosing facility needs to be replaced. In the case of De Doorns the Chlorine Chamber needs to be refurbished and for Touws River the complete works need to be replaced.

Pump Stations

There are nine pump stations in total that are owned by the BVM. One in De Doorns (N1 Pump Station), two in Rawsonville (Rawsonville and De Nova) and six in Worcester (Brandwacht, Carinus Street, Fairway Heights, Langerug, Main and Panorama). These pump stations and pumps are all in a good condition and have a maintenance programme in place. The pump stations are all situated within a formal building and are electrically operated. The pumps operate 24 hours per day and each have a standby pump set available.

Waste Water Treatment Works

Each town within the Breede Valley Municipality has their own waste water treatment works. These treatment works operate 24 hours per day and discharge the treated effluent into the Breede River, Smalblaar River and Hex River respectively. For Worcester, Touws River and De Doorns a portion of the treated effluent is used by other end users for irrigation. Only Touws River does not discharge any treated effluent back in to the river but all is disposed of for irrigation. Water quality is measured at Worcester on a weekly basis and monthly for the other towns. 95% of the effluent that leaves the treatment works is chlorinated.

Since the rollout of the Green drop Certification to date, Breede Valley Municipality has gradually improved the average scoring performance. The Municipality is responsible for the following systems:

- Worcester WWTW
- Rawsonville WWTW
- De Doorns WWTW
- Touwsrivier WWTW

The physical condition of the treatment works is good/average and the infrastructure is well maintained. Although the treatment works does experience infrequent breakages/failures during operation there are spare parts available on site and problems can be fixed quickly.

By laws affecting water services

The by-laws for the provision of water and sewer is in place for the Breede Valley Municipality.

WATER AND SANITATION RESOURCE AVAILABILITY

BULK AND RETAIL FUNCTIONS OF BVM (THE WSP)	Resources available to perform function			
	Budget	By-laws	Infrastructure	Personnel
Water service providers (retail water)	Yes	Yes	Yes	Yes
Water service providers (sanitation)	Yes	Yes	Yes	Yes
Water service providers (bulk water)	Yes	Yes	Yes	Yes
Water service providers (bulk sanitation)	Yes	Yes	Yes	Yes
Support service agents (water)	No	n.a	n.a	n.a
Sanitation promotion agent	No	n.a	n.a	n.a
Support service contracts	No	n.a	n.a	n.a
Water service institutions	No	n.a	n.a	n.a
WSP staffing levels: water	Yes	n.a	Yes	Yes
WSP staffing levels: sanitation	Yes	n.a	Yes	Yes
WSP training programme	No	n.a	No	No

Table 16: Operation & Maintenance

Compliance i.t.o. staff, external resources, tools, spare parts, budget	Existing Ground water Infrastructure	Existing Surface Water Infrastructure	Existing Water Treatment Works Infrastructure	Existing Waste Water Treatment Works Infrastructure	Existing Pump Station Infrastructure	Existing Bulk Pipeline Infrastructure	Existing Tower & Reservoir Infrastructure	Existing Reticulation Infrastructure
Resources	0%	90%	90%	75%	90%	80%	90%	75%
Information	0%	80%	80%	60%	80%	75%	80%	50%
Activity Control & Management	0%	50%	50%	20%	50%	50%	50%	70%

Topic 5: Water Conservation and Demand Management

Table 14: Reducing Unaccounted Water

Reducing unaccounted water and water inefficiencies			Assessment Score
5.1.1 Night flow metering	Yes	100%	
5.1.2 Day flow metering	Yes	100%	
5.1.3 Reticulation leaks	Yes	70%	
5.1.4 Illegal connections	Yes	90%	
5.1.5 Un-metered connections	Yes	80%	
Topic: 5.2 Leak and meter repair programmes. Consumer units targeted by:			
5.2.1 Leak repair assistance programme	Yes	70%	
5.2.2 Retro-fitting of water inefficient toilets	No	N/A	
5.2.3 Meter repair programme	Yes	70%	
Topic: 5.3 Consumer/end-use demand management: Public Information & Education Programmes			
5.3.1 Schools targeted by education programmes	Yes	70%	
5.3.2 Consumers targeted by public information programmes	Yes	70%	

Overview of water conservation and demand management activities

WSDP Ref. #	Regulations Ref. #	Description	Year 0		Year - 1		Year - 2		Year - 3	
			2017-2018	2017-2018	2016-2017	2016-2017	2015-2016	2015-2016	2014-2015	2014-2015
			Nr	% of total						
7.1.1	10.2.g.iii	REDUCING UNACCOUNTED FOR								
		Number of customers where the following activities have been pursued:	Nr	% of total						
7.1.1.1		Night flow metering	31 992	100%	29 521	100%	26 120	100%	25 245	100%
7.1.1.2		Day flow metering	31 992	100%	29 521	100%	26 120	100%	25 245	100%
7.1.1.3		Reticulation leaks fixed	470	100%	522	100%	344	100%	247	100%
7.1.1.4		Illegal connections formalized	0		0		0		0	
7.1.1.5		Un-metered connections, metered	0		0		0		0	
7.1.2	10.2.g.iii	REDUCING HIGH PRESSURES								
		Number of residential consumers with water supply pressure of:	Nr	% of total						
7.1.2.1		< 300 kPa	310	1%	286	1%	253	1%	256	1%
7.1.2.2		300 kPa - 600 kPa	15 686	49%	14 474	49%	12 807	48%	12 950	49%
7.1.2.3		600 kPa - 900 kPa	15 996	50%	14 761	50%	13 060	49%	13 206	50%
7.1.2.4	10.2.b.iii	> 900 kPa			0		0		0	
7.1.3	10.2.g.iii	LEAK AND METER REPAIR PROGRAMMES								
		Number of consumer units targeted by:	Nr	% of total						
7.1.3.1		Leak repair assistance programme	0		0		0		0	
7.1.3.2	10.2.g.iv	Retro-fitting of water inefficient toilets	0		0		0		0	
7.1.3.3		Meter repair programme					737			
7.1.4	10.2.g.iii	CONSUMER / END-USE DEMAND								
					Nr	% of total	Nr	% of total	Nr	% of total
7.1.4.1		Number of schools targeted by education programmes	3	4%	3	4%	3	4%	4	5%
7.1.4.2		Number of consumers (people) targeted by public information programmes								

Topic 6: Water Resources

Water Resources

Water sources ranges from boreholes to surface water. The BVM is independent from other external water suppliers and operates and maintain their own water systems, management and infrastructure.

De Doorns

The water to de Doorns is provided by Hex Valley Water Users Association Irrigation Board from the Roodeels Dam as well as the Grootkloof River. Water is supplied to the De Doorns Water Treatment Plant before distribution.

Resource capacities (Licensed Abstraction Mℓ/a)

Hex Valley Water Users Association - Grootkloof River	250 Mℓ/a
Hex Valley Water Users Association - Hex Valley	400 Mℓ/a
Hex Valley Water Users Association - Osplaas	200 Mℓ/a
TOTAL	850 Mℓ/a

Sewer water is treated at the De Doorns WWTW to an acceptable standard for irrigation and supplied to Hex Valley Water Users Association Irrigation Board of approximately 1.5MI/d. This volume in turn then provided by the Hex Valley Water Users Association Irrigation Board in potable water to the De Doorns water treatment plant for distribution.

A borehole is also used for drinking water and also pumped to the WTW 13kl/h. There are also 3 new boreholes drilled in De Doorns of 2x8.2 kl/h, 10.5kl/h. This water will also be used as drinking water to the WTW. The boreholes will be managed by BVM.

There are three different operation zones. This is the De Doorns upper zone, the De Doorns lower zone and the Orchards zone. Water is pumped from the N1 pumpstation through the upper zone reticulation network into the upper, lower and Orchards reservoirs respectively. From there the distribution to the respective networks is supplied.

Rawsonville

Water for Rawsonville is supplied from Stettynskloof Dam to the newly constructed Reservoir. The boreholes are no longer operational but is maintained for emergency purposes when required.

Resource capacities (Licensed Abstraction Mℓ/a)

Smalblaar River	67 Mℓ/a
Ground Water	622 Mℓ/a
TOTAL	689 Mℓ/a

There are two different operation zones. This is the Rawsonville town zone and the De Nova zone. Two separate submersible pumps pump potable water from the Rawsonville reservoir into the Rawsonville town zone and De Nova zone respectively. The water for the Rawsonville town zone is also pumped into a water tower that serves as an emergency off peak supply.

Touws River

The main water supply to Touws River is from the Bokrivier storage dam. The Bokrivier dam is situated 30 km west of Touws River and comprises two weir diversions namely the Waterkloof River and Donkerkloof River. Another supply utilised during the drier summer months to supplement the network is the Witklip Borehole. Furthermore there are three springs that feed into canals. All these above sources supply water to the 90Mℓ Bokriver Reservoir.

Resource capacities (Licensed Abstraction Mℓ/a)

Waterkloof / Donkerkloof	412	Mℓ/a
Witklip Borehole	7	Mℓ/a
Matroosberg Spring	207	Mℓ/a
TOTAL	626	Mℓ/a

There are three different operation zones. Water is pumped from the Bokrivier water treatment facility to the different reservoirs and distributed to the reticulation network respectively.

Worcester

Two water sources supply Worcester with potable water with a combined yield of 26 000 Mℓ/year. Stettynskloof dam is situated in the Du Toitskloof Mountains and Fairy Glen dam situated in the Brandwacht Mountains. The main source is from the Stettynskloof Dam with more than 90% contribution to the total water demand. Another source is from a diversion in the Hex River for Irrigation to some parts of the town.

Resource capacities (Licensed Abstraction Mℓ/a)

Stettynskloof	15 000	Mℓ/a
Fairy Glen	216	Mℓ/a
Hex River	2 727	Mℓ/a
TOTAL	17 943	Mℓ/a

There are seven different operation zones. These zones are supplied by four sets of reservoirs with the Preload reservoirs the largest and supplies 70% of the total water demand. For the higher lying areas there are three booster pumping zones to maintain the prescribed operational pressure. The Preload reservoir supplies the Worcester West Sump with water under gravity. The Worcester West Upper Reservoir in turn is supplied by the Worcester West sump via the Brandwacht pumping station and rising main. The De Koppen reservoir could be supplied by the Preload reservoir via the Panorama pumping station in case of an emergency.

Table 15: Water Resources

* Number of sources	* Current abstraction (Mm3/A)	Components abstraction registered	Components abstraction recorded	* Licensed abstraction (Mm3/A)	Community water supply		Assessment Score
					Rural	Urban	
Boreholes	0			0			N/A
Surface Water Abstract	11845			11845		11845	100%
External Sources (Bulk Purchase)							N/A
Water returned to source							N/A
Conjunctive Use							N/A

Table 169: Additional Sources from External Providers

Additional Source Available	* Number of sources	Potential Volume	* Licensed abstraction (Mm3/A)	Assessment Score
Ground Water	0			N/A
Surface Water				N/A
External Sources (Bulk Purchase)	1	2727	2727	100%

Table 20: Monitoring

Topic: 6.2 Monitoring	Assessment Score
6.2.1 % of water abstracted monitored: Surface water	95%
6.2.2 % of water abstracted monitored: Ground water	5%
Topic: 6.2 Monitoring	Assessment Score
6.2.4 Surface water levels (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Weekly 90%
6.2.5 Ground water levels (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Never 0
6.2.6 Water quality for formal schemes? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Monthly 100%
6.2.7 Water quality for rudimentary schemes? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Annually 100%
6.2.8 Borehole abstraction? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	Never 0

Table 21: Water Quality

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

Topic 7: Finance

7.1 Metering, Billing and Free Basic Services

An overview of the Breede Valley Municipality's metering and billing information is presented in Table 7.2 below and highlights that 100 % of the house- and dwelling connections are currently metered and billed. Due to the structuring of the municipal water services tariffs, all consumers receive free basic water services of 6 kl/ month.

Table 22: Tariffs

No	Category	Sector	Unit	Tariff (VAT excluded)					% increase Year 0
				Year 0	Year - 1	Year - 2	Year - 3	Year - 4	
				FY2017	FY2016	FY2015	FY2014	FY2013	
1,1	<u>BASIC CHARGES</u>								
	Residential		R/c/m	0,00	0,00	0,00	0,00	0,00	
	Sport clubs/ Educational/ Institutions and Churches		R/c/m	8,38	7,89	7,46	7,02	6,58	6,10
	Residential/Handel / Business/Commerce		R/c/m	111,68	105,26	100,00	93,86	87,72	6,10
	Connection greater than- 149 mm		R/c/m	130,30	122,81	114,91	107,89	100,88	6,10
2	<u>VOLUME CHARGES</u>								
	0 - 6 Kl	Residential	R/Kl	3.72	3,51	6,53	6,16	5,77	6.10
	7 - 20 Kl	Residential	R/Kl	6.51	3,51	6,53	6,16	5,77	6.10
	21 - 40 Kl	Residential	R/Kl	8.38	6,14	7,18	6,77	6,34	6.10
	41 - 80 Kl	Residential	R/Kl	11.17	10,53	7,89	7,44	6,97	6.10
	81 -120 Kl	Residential	R/Kl	20.48	19,30	9,01	8,50	7,96	6.10
	121 - 160 Kl	Residential	R/Kl	20.48	19,30	9,92	9,36	8,76	6.10
	161 - 200 Kl	Residential	R/Kl	20.48	19,30	10,92	10,30	9,64	6.10
	201 - 300 Kl	Residential	R/Kl	20.48	19,30	11,99	11,31	10,59	6.10
	301 + Kl	Residential	R/Kl	20.48	19,30	13,19	12,44	11,65	6.10
									6.10
	0 - 20 Kl	Commercial	R/Kl	8.73	8,23	7,76	7,32	6,85	6.10
	21 - 40 Kl	Commercial	R/Kl	9.45	8,90	8,4	7,92	7,42	6.10
	41 - 60 Kl	Commercial	R/Kl	10.37	9,77	9,22	8,70	8,15	6.10
	61 - 100 Kl	Commercial	R/Kl	11.62	10,96	10,34	10,07	9,13	6.10
	101 - 150 Kl	Commercial	R/Kl	12.10	11,40	10,76	10,49	9,50	6.10
	151 - 300 Kl	Commercial	R/Kl	11.34	10,68	9,29	9,08	8,20	6.10
	301 - 600 Kl	Commercial	R/Kl	9.74	9,18	7,98	7,79	7,05	6.10
	601 - 1200Kl	Commercial	R/Kl	8.53	8,04	6,99	6,80	6,17	6.10
	1201 + Kl	Commercial	R/Kl	7.85	7,39	6,43	6,28	5,68	6.10
									6.10
		Sport Clubs	R/Kl	3.72	3,51	2,24	2,11	1,98	6.10
	Excluding private schools/colleges	Educational (schools and Colleges)	R/Kl	3.72	3,51	2,12	2,00	1,87	6.10
		Welfare and Old Age Homes	R/Kl	3.72	3,51	1,77	1,67	1,56	6.10
	Excludes rectory if consumption metered separately	Churches	R/Kl	3.72	3,51	1,77	1,67	1,56	6.10
		Municipal	R/Kl	3.72	3,51	7,25	6,84	6,40	6.10
		Fire Fighting	R/Kl	3.72	3,51	8,23	7,76	7,27	6.10

Table 23: Overview of metering, billing and Free Basic Services

Regulations Ref. #	Description	Unit	Year 0	Year -1	Year - 2
			FY2017	FY2016	2015
	UNITS SUPPLIED (as per water services access profile)	-			
10.2 (b) (i)	Household water connections (house and yard connections)	Nr	20 813	20 813	18 992
10.2 (b) (iv)	Household sewerage connections	Nr	18 351	18 351	18 050
	METERING	-		-	-
	Metered Water Connections (aligned with Billing System)				
	Residential	Nr	20 813	18 992	18992
	Commercial / Business	Nr	780	780	769
	Industrial	Nr	24	24	24
	Government / Institutional	Nr			
	etc.	Nr	814	814	1 900
	Sub-Total: Metered Water Connections	Nr	22 431	20 610	21 685
	Proportion of metered connections (residential)	%	100%	100%	100%
	Total number of meters	Nr	22 431	20 610	21 685
10.2 (b) (vi)	Total number of new connections (aligned with Table C.2.1)	Nr	64	110	218
10.2 (e) (i)	Total number of new meters installed	Nr	64	110	218
	Proportion of new connections, metered	%	100%	100%	100%
	Number of meters tested	Nr	0		
10.2 (e) (ii)	Proportion of meters tested to total number of meters	%		0	0
	Number of meters replaced	Nr	0		
10.2 (e) (ii)	Proportion of meters replaced to total number of meters	%		0	0
	BILLING	-		-	-
	Customer billing (water and sewerage)		Nr		
	Residential	Nr	20 813	18 992	18992
	Commercial / Business	Nr	780	780	769
	Industrial	Nr	24	24	24
	Government / Institutional	Nr	0	814	
	etc.	Nr	814	814	1 900
	Sub-Total: Customers billed	Nr	22 431	21 424	21 685
	Proportion of bills to metered connections	%	100,0%	103,9%	100,0%
	Residential	%	100,0%	100,0%	100,0%
	Commercial / Business	%	100,0%	100,0%	100,0%
	Industrial	%	100,0%	100,0%	100,0%
	Government / Institutional	%	0,0%	0,0%	0,0%
	etc.	%	100,0%	100,0%	100,0%
	FREE BASIC SERVICES	-		-	-
	Nr customers receiving:				
	Free Basic Water	Nr	20 813	7 860	6 996
10.2 (b) (v)	Free Basic Sanitation	Nr	0	7 860	6 996
	Proportion of Free Basic Services				
	Water	%	100%	38%	37%
	Sewerage	%	0%	43%	39%

Topic 8: Water Services Institutional Arrangements and Customer Care

8.1 WSA functions and outputs

BVM is the official Water Services Authority (WSA) within this municipality. Its functions and outputs are briefly summarised in the following table.

(Y – Yes, N – No, I – Insufficient/inadequate, NA – Not Applicable)

Table 24: Function and Outputs and Outputs

WSA Functions/ Outputs	In Place?	Resources Available to Perform Function?				If no, when will it be in place?	Support required (Yes/No)
		Budget	By-laws	Infrastructure	Personnel		
Policy Development							
Indigent policy	Yes	Yes	Yes	Yes	Yes	n/a	No
Free basic water policy (including equitable share)							
Procurement policy							
Credit control and debt collection policy							
Regulation and tariffs							
Water services by-laws with conditions as required by the Water Services Act	Yes	Yes	Yes	Yes	Yes	n/a	Yes-legal
Mechanisms to ensure compliance with by-laws	No	No	No		No	Not known	Not known
Tariff structure	Yes	Yes	Yes		Yes	n/a	No
Tariffs promulgated	Yes	Yes	Yes		Yes	n/a	No
Infrastructure development (projects)							
Mechanisms to undertake project feasibility studies	Yes	Yes	Yes	Yes	Yes	n/a	No
Criteria for prioritising projects							
Mechanisms to assess and approve project business							
Mechanisms for selecting, contracting, managing and monitoring implementing agents							
Mechanisms to monitor project implementation							

Functions and Output (Continue)

WSA Functions/ Outputs	In Place?	Resources Available to Perform Function?				If no, when will it be in place?	Support required (Yes/No)
		Budget	By-laws	Infrastructure	Personnel		
Water conservation and demand management strategy							
Water conservation and demand management strategy	No	No	Yes	Yes	No	In Process	Yes
Performance management and monitoring							
Performance management system	Performance contracts are in place at Municipal Manager level. No individual performance reviews are undertaken below that level. The provision of water and sanitation services is monitored against Key Performance Indicators (KPIs)					With entire municipality	No
WSDP							
WSDP information system	Yes	Yes	n.a yet	Yes	Yes	n/a	No
Mechanisms for stakeholder participation							
Mechanisms to monitor and report on WSDP implementation							
WSP institutional arrangements							
Criteria to select appropriate WSP's	Yes	Yes	n.a yet	Yes	Yes	n/a	No
Mechanisms to contract, manage and monitor WSP's							
Mechanisms to approve WSP business plans							
WSA overall capacity							
Sufficient staff and systems to fulfil all WSA functions	No					With entire municipality	Yes

8.2 WSA Capacity Development

Training and awareness development is continuously promoted by the BVM although funding limits the extent of these awareness campaigns. Wherever new or upgrade developments occur the end users are informed of the benefits and management of these services. The installation of these services makes provision for emerging contractors and contractor training.

Table 25: Public Awareness and Skills Development

WSA PRIORITIES FOR CAPACITY DEVELOPMENT	CAPACITY NEEDS ASSESSMENT CONDUCTED	FORMAL SKILLS TRAINING REQUIRED	PROPOSED TIMEFRAME FOR CAPACITY DEVELOPMENT	ESTIMATED COST
Public awareness of basic sanitation and health practises.	Yes	Yes	Ongoing	Annual costs vary and are continuous
Staff Skills Development	Yes	Yes	Ongoing	R15000 per person

8.3 By laws affecting water services

The by-laws for the provision of water and sewer is in place for the Breede Valley Municipality.

Table 26: Water and Sanitation Resource Availability

BULK AND RETAIL FUNCTIONS OF BVM (THE WSP)	Resources available to perform function			
	Budget	By-laws	Infrastructure	Personnel
Water service providers (retail water)	Yes	Yes	Yes	Yes
Water service providers (sanitation)	Yes	Yes	Yes	Yes
Water service providers (bulk water)	Yes	Yes	Yes	Yes
Water service providers (bulk sanitation)	Yes	Yes	Yes	Yes
Support service agents (water)	No	n.a	n.a	n.a
Sanitation promotion agent	No	n.a	n.a	n.a
Support service contracts	No	n.a	n.a	n.a
Water service institutions	No	n.a	n.a	n.a
WSP staffing levels: water	Yes	n.a	Yes	Yes
WSP staffing levels: sanitation	Yes	n.a	Yes	Yes
WSP training programme	No	n.a	No	No

8.4 Water services providers (retail water) – current year

The Breede Valley Municipality is the Water Services Provider for retail water. The Hex Valley Water Users Association Irrigation Board provides bulk water to BVM for the De Doorns area.

The Breede Valley Municipality is the only Water Service Provider for sanitation in all the areas in the Breede Valley Municipality. The following tables represent the information on staffing levels for the provision of water and sanitation services.

Table 27: Personnel Status Quo: Water

CATEGORY	Number of Employees					
	Executive and Senior Management	Middle Management	Clerical	Supervisory And Artisan	Technical worker	Total
Bulk Water	1	1		5	14	21
Civil Works - Water	1	2	1	4	41	56
Civil Works - Sewer	1	3	1	5	14	24
Bulk Sewage	1	2	1	5	36	45

8.5 Municipal Strategic Self-Assessment (MuSSA)

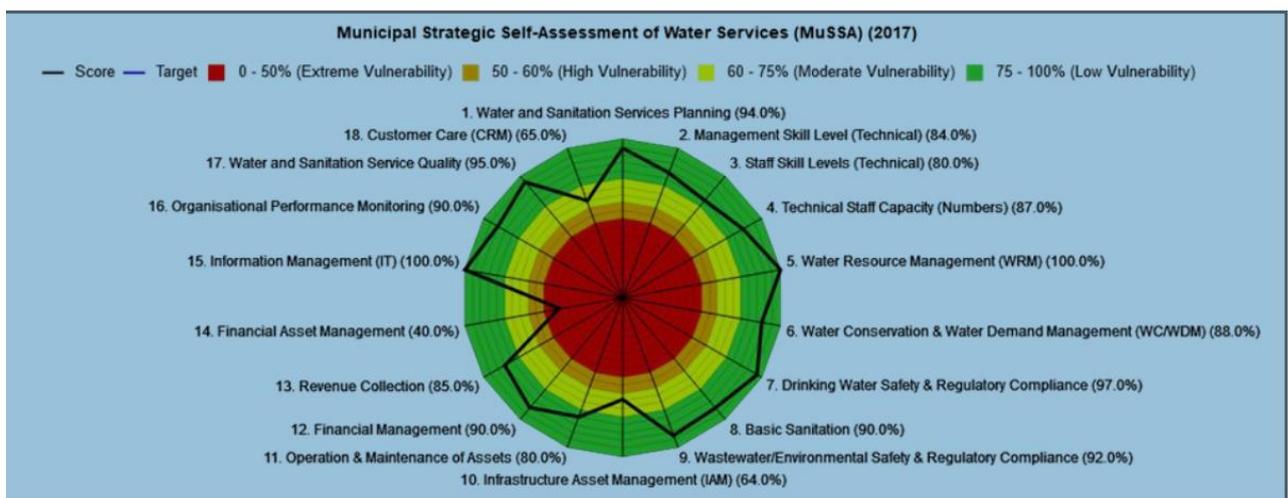
The Department of Water and Sanitation has overseen the annual use of the MuSSA to survey and assess the overall “business health” of a Municipality when fulfilling its water services function. The MuSSA asks senior municipal financial and technical managers 5 clear and relatively simple “essence” questions that cover 18 key business health attributes, and thereby generates key strategic flags (as opposed to deep technical detail, which is captured elsewhere). Responses to the questions are reflected in your MuSSA Spider Diagram below which illustrates the vulnerability levels across key service areas/business attributes.

To address MuSSA vulnerability findings, both the Department of Water and Sanitation (DWS) and the South African Local Government Association (SALGA) recommends the adoption of “a start-to-finish management approach” (i.e. a “Plan-Do-Check-Act” framework), and has developed a structured Municipal Priority Action Planning (MPAP) process to support such. The MPAP comprises the following four parts:

- Step I – Analyse the current situation via the MuSSA, whereby both the WSA and Regional DWS jointly prioritise where the WSA needs to improve and set associated targets.
- Step II – Determine the approaches on how to achieve the desired improvements.
- Step III – Set Actions to achieve these improvements and targets.
- Step IV – Monitor, Evaluate and Communicate progress (including updating the MuSSA), by both the WSA and DWS regional office.

The MuSSA and MPAP are planning tools and form integral components of support for the Water Services Development Plan (WSDP) process at a strategic level. In so doing the MuSSA and MPAP will also guide the DWS Master Planning process and subsequent Feasibility Studies to be undertaken. Inclusion of the MuSSA and MPAP within the WSDP processes ensures that the WSDP (which informs the IDP) will include an appropriate and supported allocation of resources to systematically address the prioritized vulnerabilities. This will in turn lead to an improvement to the overall water services business health of your WSA.

Vulnerability Index: 0.22



8.6: Customer Service Requirements

The Breede Valley Municipality has a central customer care 24 hour reporting centre. All queries are then distributed to the responsible directorate for attention. A Customer Service Charter is in place and adopted by Council. The water and sanitation by-laws are in place. The service standards as indicated in the Customer Charter for water and sanitation is indicated in the table below as an example.

Table 28: Service Standards

Water and Sanitation	
A new connection	Within 20 working days or as agreed, within 1 metre of client's erf
Repair or replacement of a broken water meter	Within 5 working days
Attend to a burst water pipe	Close system within 2 hours after burst. Repair system within 8 hours of burst during daylight hours.
Attend to leaking water pipe or valve or hydrant	Within 4 working days
Fire Hydrant is faulty	Within 20 working days
Attend to water service delivery	Within 24 hours
Testing the water quality after a repair	Within 48 hours
Attend to burst main water pipe	Within 5 working days
Investigate the quality of drinking water - colour or smell or taste	Within 48 hours
Attend to a blockage in leiwater system resulting in reduced or no flow	Within 5 working days
Attend to a serious overflowing sewer manhole	Within 4 hours
A pump station is not working and resulting in sewer spill from manholes	Within 4 hours
A main sewer blocked	Within 24 hours.
A blocked sewer on a private property	A private plumber should preferably be used.

8.7 Attending to complaints

Limited information is available on the response time of all the queries. The system is however being refined to include accurate data capturing for reporting purposes. Generally complaints within the urban and rural areas (farm areas excluded) are attended to within 24hrs. Information from the customer care service relating to pipe burst and sewer blockages are captured on a GIS. The information assists with the planning of proactive management of the water and sewer infrastructure

8.8 Education and pollution awareness

BVM has no formal Education or Pollution awareness programme in place. In the past there has been an initiative to promote these initiatives but there is currently not sufficient funding or personnel to support this system. Add hoc initiatives are currently being done.

8.9 Gap Identification and recommendations

- Streamline the customer care facility and log detail information for each query.
- Initialise a formal education and pollution awareness programme.
- Funding for educational and pollution awareness programmes.

Section B: State of Water Services Planning

The Breede Valley Municipality developed its first Water Services Development Plan in June 2011 for the period to June 2016. A new Water Service Development Plan was developed and adopted in March 2018 for the period to 2023.

Table 29 WSDP- and reporting reference

Nr	WSDP Title and Reference	Status	Date	WSDP Year	Financial Year	Reporting year
1	Breede Valley Municipality Water Services Development Plan (WSDP) 2018 - 2023	Drafted:	March 2018	Year 1	FY2014	Year -4
		Comment submit:		Year 2	FY2015	Year -3
		Finalised:		Year 3	FY2016	Year -2
		Adopted:		Year 4	FY2017	Year -1
		Published:		Year 5	FY2018	Year 0

Section C: Water Services Existing Needs Perspective

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

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

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

Existing Needs Perspective and Problem Statements

Topic 1 - Settlement Demographics & Public Amenities						
Section	Intervention Required	%	Solution description as identified by Master Plan	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
1.1 Settlements Summary	No					100%
1.2 Summary by Settlement Group	No					100%
1.3 Assessment Score by Settlement Type	No					100%
1.4 Amenities Summary	No					100%

Topic 2 - Service Levels Profile						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
Direct Backlog Water	No				Yes	90%
Direct Backlog Sanitation	No				Yes	90%
Water Services Infrastructure Supply Level Profile	No				Yes	90%
Water Reliability Profile	No				Yes	90%
Sanitation Service Infrastructure Supply Level Profile	No				Yes	90%
Sanitation Reliability Profile	No				Yes	90%
Water Services: Education	No				No	90%
Water Services: Health	No				No	90%
Sanitation Services: Education	No				No	90%
Sanitation Services: Health	No				No	90%
Health and Educational Facilities	No				No	90%

Topic 3 - Water Services Asset Management						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
3.1 General Information	No				Yes	90%
3.2 Operation	No				Yes	90%
3.3 Functionality Observation	No				Yes	90%
3.4 Asset Assessment Spectrum	No				Yes	90%
3.5 Water and Sanitation schemes	No				Yes	90%

Topic 4 - Water Services O&M						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
4.1 Operation & Maintenance Plan	No				Yes	80%
4.1.1 Is There an Operation and Maintenance Plan?	Yes				Yes	80%
4.2 Resources	No				Yes	70%
4.3 Information	No				Yes	80%
4.4 Activity Control & Management	No				Yes	80%

Topic 5.1 - Conservation & Demand Management - Water Resource Management						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
5.1 Reducing unaccounted water and water inefficiencies	No				Yes	90%
5.2 Leak and meter repair programmes.	No				Yes	90%
5.3 Consumer/end-use demand management: Public Information & Education Programmes	No				Yes	90%
5.4: Conjunctive use of surface - and groundwater	No				Yes	90%
5.5 Working for Water	No				Yes	90%

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

Topic 6 - Water Resource						
Section	Intervention Required?	%	Solution description as defined by topic situation assessment	%	Is there an Existing project/activity addressing this problem?	Current Demand Overall Scoring %
6.1.2 Additional Sources Available	Yes		Shortage of Funding for the Augmentation of the Stetynskloof dam		Yes	80%
6.2 Monitoring	No				Yes	90%
6.3 Water Quality	No				Yes	90%
6.4 Operation	No				Yes	90%

Section D: Water Services Objectives and Strategies

The water services objectives and strategies presented below were derived from the water services Service delivery Business Implementation Plan (SDBIP) for 2017/18. The link to the National and NDP objectives are also indicated in the table below.

Table D1: Water Services Strategic Objectives

National Outcome	Strategic Objective	National KPA	NDP Objectives	Municipal KPI	Unit of Measurement	Performance Standard	Annual Target
A responsive and accountable, effective and efficient local government system	Assure a sustainable future through sound financial management, continuous revenue growth corporate governance and risk management practices	Municipal Financial Viability and Management	Developing a capable and Development State	Submit monthly reports to the Director by the 15th of each month that include the following: Progress on OH&S, priority risk areas, procurement plan , Collab items, scheduled maintenance programs, OPEX expenditure, security measures and incidents, RPM/BLUE/ GREEN/NO DROP and positions filled	Number of reports submitted	12	12
An effective, competitive and responsive economic infrastructure network	To ensure a safe, healthy, clean and sustainable external environment for all Breede Valley's people	Basic Service Delivery	Economy and Development	Complete 90% of the scheduled maintenance programme as per the maintenance schedule captured on Onkey system	% of scheduled maintenance programme completed	90% of scheduled maintenance completed	90%
An effective, competitive and responsive economic infrastructure network	To ensure a safe, healthy, clean and sustainable external environment for all Breede Valley's people	Basic Service Delivery	Economy and Development	Submit a status report at the end of December of licenses of all the WTW and WWTW	Annual Status report submitted by the end of December	Annual status report in December	1
An effective, competitive and	To ensure a safe, healthy, clean and sustainable external	Basic Service Delivery	Economy and Development	Conduct monthly monitoring of ambient air quality	Monthly report	12 Per annum	12

National Outcome	Strategic Objective	National KPA	NDP Objectives	Municipal KPI	Unit of Measurement	Performance Standard	Annual Target
responsive economic infrastructure network	environment for all Breede Valley's people						
A responsive and accountable, effective and efficient local government system	Provide democratic, accountable government for local communities and encourage involvement of communities and community organizations in the matters of local government	Good Governance and Public Participation	Developing a capable and Development State	Attend to Collaborator inbox items within 30 days of receipt	% of items attended to within 30 days	Within 30 days	100%
A responsive and accountable, effective and efficient local government system	Provide democratic, accountable government for local communities and encourage involvement of communities and community organizations in the matters of local government	Good Governance and Public Participation	Developing a capable and Development State	Hold monthly meetings with staff	Number of meetings held	Monthly meetings held	10
A responsive and accountable, effective and efficient local government system	Provide democratic, accountable government for local communities and encourage involvement of communities and	Good Governance and Public Participation	Developing a capable and Development State	Conduct bi-weekly site inspections of division operations	Number of site inspections	Regular site inspections	24

National Outcome	Strategic Objective	National KPA	NDP Objectives	Municipal KPI	Unit of Measurement	Performance Standard	Annual Target
	community organizations in the matters of local government						
An effective, competitive and responsive economic infrastructure network	To provide and maintain basic services and ensure social upliftment of the Breede Valley community	Basic Service Delivery	Environmental Sustainability and Resilience	Achieve 95% average water quality level as measured per SANS 241 criteria during the 2017/18 financial year	% water quality level	Achieve Top Layer kpi's for 2017/18	95%
An effective, competitive and responsive economic infrastructure network	To provide and maintain basic services and ensure social upliftment of the Breede Valley community	Basic Service Delivery	Environmental Sustainability and Resilience	Compile a new 5 year Water Service Development Plan (WSDP) and submit to MayCo for approval by 31 December 2017	WSDP submitted by 31 December 2017	Achieve Top Layer kpi's for 2017/18	1
An effective, competitive and responsive economic infrastructure network	To provide and maintain basic services and ensure social upliftment of the Breede Valley community	Basic Service Delivery	Environmental Sustainability and Resilience	80% of sewerage samples comply with effluent standard {(Number of sewerage samples that comply with SANS/Number of sewerage samples tested)x100} during the 2017/18 financial year	% of sewerage samples compliant	Achieve Top Layer kpi's for 2017/18	80%

Section E: Water Services MTREF Projects

The following Provisional Water and Sewer projects are provided for the 2017/18, 2018/19 and 2019/20 financial years. The proposed budget is dependant of the approval of the final budget by Council.

	Approved Budget 2017/2018 (Approved May 2016)	Funded veriments/ Additional funding (Draft)	Funded virements / Additional funding (March 2017)	Total Funded Budget 2017/18	Approved Budget 2018/2019	Funded veriments/ Additional funding	Total Budget 2018/19	Draft Budget 2019/2020	Requests 2019/20	Total Budget 2019/20
PROJECT FUNDING: LOAN & RESERVES										
1.0	EXTERNAL LOAN									
1.1	0	0	0	0	0	0	0	0	0	0
1.2	0	0	0	0	0	0	0	0	0	0
1.3	0	0	0	0	0	0	0	0	0	0
1.4	0	5,000,000	0	5,000,000	0	5,000,000	5,000,000	8,000,000	8,000,000	8,000,000
	0	5,000,000	0	5,000,000	0	5,000,000	5,000,000	8,000,000	8,000,000	8,000,000
3	CAPITAL REPLACEMENT RESERVE									
3.0	0	2,350,000	-600,000	1,750,000	0	4,550,000	4,550,000	2,350,000	2,350,000	2,350,000
3.1	0	0	0	0	0	0	0	0	0	0
3.2	4,500,000	-2,500,000	-2,000,000	0	0	11,226,777	11,226,777	8,000,000	8,000,000	8,000,000
3.3	346,100	0	0	346,100	366,900	0	366,900	388,914	388,914	388,914
4.0	0	0	0	0	0	0	0	0	0	0
	4,846,100	-150,000	-2,600,000	2,096,100	366,900	15,776,777	16,143,677	10,738,914	10,738,914	10,738,914
INSURANCE RESERVE										
12.0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	4,846,100	4,850,000	-2,600,000	7,096,100	366,900	20,776,777	21,143,677	18,738,914	18,738,914	18,738,914
CAPITAL: GRANT FUNDING										
5.0	0	0	0	0	0	0	0	0	0	0
6.0	0	0	0	0	0	0	0	0	0	0
6.1	0	0	0	0	0	0	0	0	0	0
6.2	0	0	0	0	0	0	0	0	0	0
6.3	0	0	0	0	0	0	0	0	0	0
6.4	0	0	0	0	0	0	0	0	0	0
8.0	25,990,772	3,105,435	-5,654,564	23,441,643	32,046,561	-4,798,076	27,248,485	32,876,678	32,876,678	32,876,678
8.1	0	0	0	0	0	0	0	0	0	0
8.2	0	0	0	0	0	0	0	0	0	0
8.3	0	0	0	0	0	0	0	0	0	0
8.4	0	0	0	0	0	0	0	0	0	0
8.5	0	0	0	0	0	0	0	0	0	0
10.0	0	0	0	0	0	0	0	0	0	0
11.0	0	0	0	0	0	0	0	0	0	0
20.0	0	0	30,000,000	30,000,000	0	20,200,000	20,200,000	0	0	0
	25,990,772	3,105,435	24,345,436	53,441,643	32,046,561	15,401,924	47,448,485	32,876,678	32,876,678	32,876,678
	30,836,872	7,955,435	21,745,436	60,537,743	32,413,461	36,178,701	68,592,162	51,615,592	51,615,592	51,615,592
99.0	UNFUNDED NEW REQUESTS									
	0	0	0	0	0	27,567,328	27,567,328	25,864,524	25,864,524	25,864,524
	30,836,872	7,955,435	21,745,436	60,537,743	32,413,461	63,746,029	96,159,490	77,480,115	77,480,115	77,480,115

Section F: WSDP Projects

The current needs projects are estimated at R 112 687 000 of which all are funded and as included in the MTEF project list. 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 T

Table F.1 below presents the municipality's water services projects with the focus on the projects which were implemented in the 2017/2018 financial year.

Table F.1: Water Services projects status and performance

No.	Project Title and Description	Inclusion		Total Project Cost R'000	Year 0 Performance - FY2017/18			Funding Source(s)	Project Category / Type	Planned Period		Project Status	Actual Completion Year
		WSDP	IDP		FY Budget R'000	Expended R'000	%			From FY	To FY		
1	Worcester WWTW Beltpressess	√	√	R 43 370	R 6 228	R 5 878	100%	MIG	Bulk Sewer	2015	2018	complete	2018
2	Transhex Sewer Pump Station and Rising Main	√	√	R 35 093	R 10 028	R 8 315	85%	MIG	Bulk Sewer	2016	2018	In progress	2019
3	20ML Langerug Reservoir	√	√	R 24 404	R 24 404	R 24 388	85%	MIG	Bulk Water	2016	2018	In progress	2019
4	Replacement of Water Network	√	√	R 5 253	R 5 253	R 5 208	100%	External Loans	Water	2016	20117	Completed	2017
5	Replacement of Sewer Network	√	√	R 4 567	R 4 567	R 4 233	100%	External Loans	Sewer	2016	2017	Completed	2017
	Total			R 112 687	R 50 480	R 48 022	95%						