

State Capacity to Deliver Services - Provision of Water & Sanitation and Water Reticulation in the Area of Supply NCOP : FREE STATE



Dr L Moorosi Chief Executive

28 March – 01 April 2022

CONTENTS

- **Overview of Bloem Water**
- **Area of Service**
- **Water Supply System**
- **Raw Water Resources - Dam Levels**
- **Infrastructure Projects**
- **Ministerial Directives Implemented**
- **Implementing Agent & RBIG COVID 19**
- **10 Year - Financial Review**
- **Challenges and wayforward**

Overview of Bloem Water

The Water Board was established in 1991, in terms with the Water Services Act (WSA) 108 of 1997

Vision

Assuring sustainable provision of quality water services, for life!

Mission

To create a leading, value-driven, effective and responsive Institution using adaptive best practice methods in anticipating tomorrow's problems today.

➤ **Clause 29:**

- The primary activity of Water Boards is to **provide bulk water** services to other water services Institutions within areas of operations.

Clause 34:

- Striving to be **financially viable**: able to repay and service debts; Recover capital, operational and maintenance costs.

Area of Service

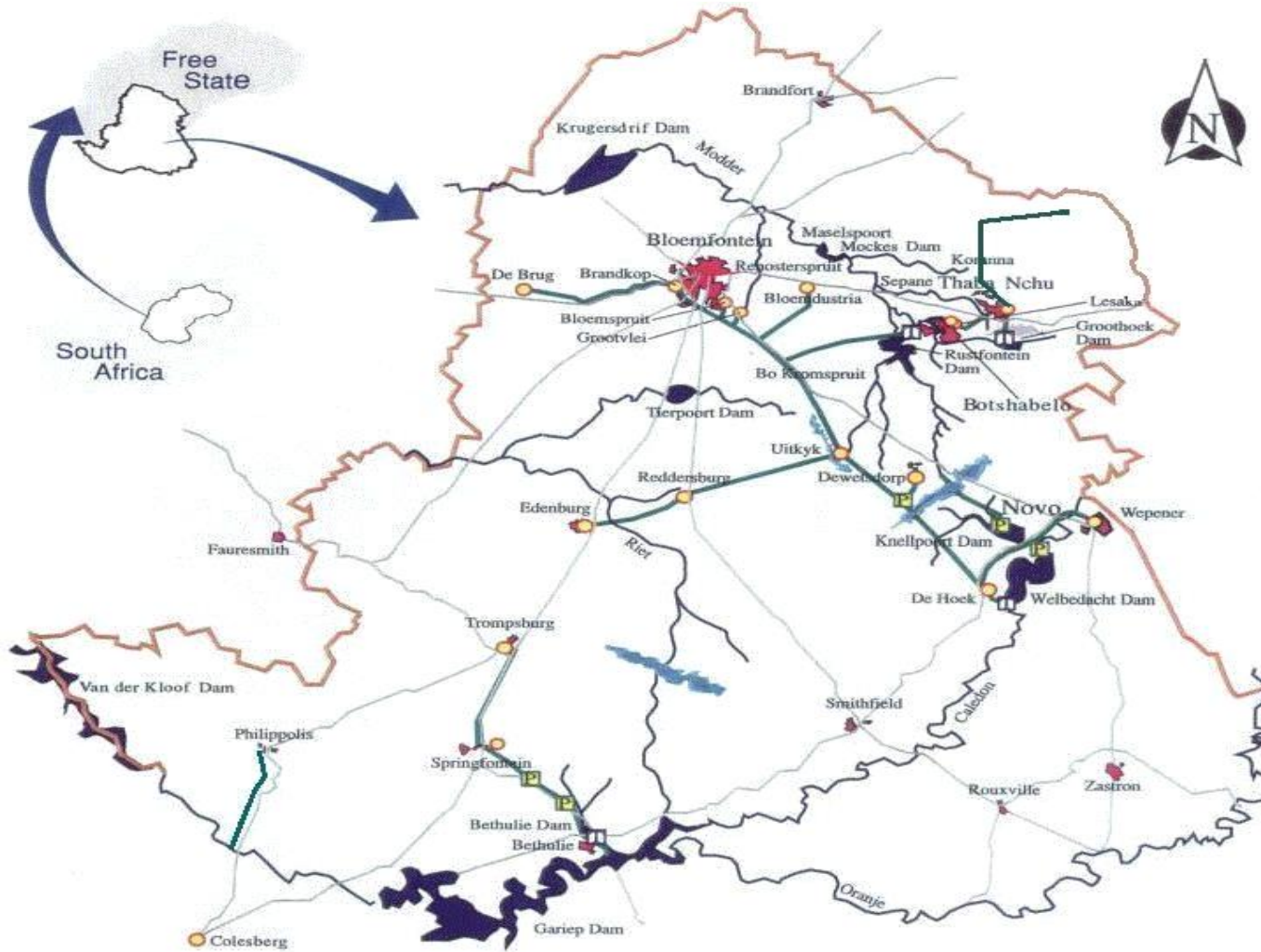
Central and Southern Free State Municipalities

- Mangaung Metropolitan Municipality
- Kopanong Local Municipality
- Mantsopa Local Municipality

Other: Project Implementing Agent (PIA) for
Department of Water & Sanitation.

The Water Board services communities of
approximately 1,2 million population mostly in
rural areas.

Current Supply Area



WSA Serviced

1. Mangaung Metro -
Bloemfontein, Botshabelo,
Thaba Nchu, Dewetsdorp,
Wepener

2. Kopanong LM - Gariep,
Bethulie, Trompsburg,
Phillipolis, Jagersfontein,
Fauriesmith, Springfontein
, Reddersburg & Edenburg

4. Mantsopa LM - Excelsior
Town

**Total population : 1.2
million**

Raw Water Resources: : Supply area

- **Groothoek Dam**
 - The Groothoek dam supplies water to Groothoek WTW and has a design capacity of **$11.9 \times 10^6 \text{ m}^3$** . Besides supplying water to the villages South of Thaba Nchu, the system acts as an augmentation scheme for the Rustfontein water supply system. The current dam level :**101%**
- **Rustfontein Dam**
 - Rustfontein dam supplies water to the Rustfontein WTW and has a design capacity of **$71.210 \times 10^6 \text{ m}^3$** . The Rustfontein Dam receives bulk of its water from the Knellpoort/Novo transfer scheme. The current dam level: **100%**
- **Knellpoort Dam**
 - The dam was constructed to serve as the storage capacity for Welbedacht Dam and has a storage capacity of **$136 \times 10^6 \text{ m}^3$** . The Knellpoort dam is supplied with transferred water from the Caledon River via the Tienfontein Pump Station. The current dam level **100%**.
- **Welbedacht Dam**
 - The dam is located along the Caledon River and supplies water to the Welbedacht WTW. The dam, since its construction in 1973, has lost approximately 95% of its storage capacity due to siltation. Current Dam level **100%**:

Water Supply System Cont....

Region	Source	Pumping System	Treatment Plants	Storage	Area of Service
1. Orange River	<ul style="list-style-type: none"> Orange River Boreholes 	<ul style="list-style-type: none"> Driefontein Volgfontein Tolhuis 	<ul style="list-style-type: none"> Philippolis x 1.2 MI/d 	<ul style="list-style-type: none"> Reservoirs x 2 	<ul style="list-style-type: none"> Philippolis
	<ul style="list-style-type: none"> Gariep Dam 	<ul style="list-style-type: none"> Gariep 	<ul style="list-style-type: none"> Gariep x 2.8 MI/d 	<ul style="list-style-type: none"> Reservoirs x 2 	<ul style="list-style-type: none"> Gariep
	<ul style="list-style-type: none"> Orange River Boreholes 	<ul style="list-style-type: none"> SAR Kleinzuurfontein Hennie Steyn Branaveinskul 	<ul style="list-style-type: none"> Bathulie x 12.0 MI/d 	<ul style="list-style-type: none"> Reservoirs x 5 	<ul style="list-style-type: none"> Trompsburg Springfontein
	<ul style="list-style-type: none"> Jagersfontein Mine Boreholes Kalkfontein 	<ul style="list-style-type: none"> Lemoenkloef 	<ul style="list-style-type: none"> Jaggerfontein x 2MI/d 	<ul style="list-style-type: none"> Reservoir's x 1 	<ul style="list-style-type: none"> Jagersfontein Fauriesmith
2. Caledon River	<ul style="list-style-type: none"> Welbedact Dam Caledon River Knellpoort Dam Boreholes 	<ul style="list-style-type: none"> Tienfontein Novo Reddersburg Edenburg Dewetsdorp Raw and Clear Water 	<ul style="list-style-type: none"> Welbedacth x 145 MI/d 	<ul style="list-style-type: none"> Reservoir's x 7 	<ul style="list-style-type: none"> Bloemfontein Dewetsdorp Wepener Reddersburg Edenburg
3. Modder River	<ul style="list-style-type: none"> Groothoek Dam Rustfontein Dam Knellpoort Dam Boreholes 	<ul style="list-style-type: none"> OK Groothoek Lesaka Raw & Clear Water 	<ul style="list-style-type: none"> Rustfontein x 100 MI/d Groothoek x 18 MI/d 	<ul style="list-style-type: none"> Reservoirs x 6 	<ul style="list-style-type: none"> Thaba Nchu Botshabelo Villages

Water Treatment Works

No.	Name of Water Treatment Works	Classification	Capacity	Average Monthly Flow (m ³ /month)
1.	Welbedacht	B	160 MI/day	4.3 Million
2.	Rustfontein	C	100 MI/day	2.5 Million
3.	Groothoek	C	18 MI/day	0.14 Million
4.	Bethulie	C	12 MI/day	0.07 Million
5.	Jaggersfontein	C	4.7 MI/day	0.08 Million
6.	Gariiep	D	2.7 MI/day	0.05 Million
7.	Philippolis	D	1.2 MI/day	0.023 Million
8.	Total		298 MI/day	7.16 Million

Monitoring : Water Quality

Compliance Monitoring : Water Quality Compliance of 99%

Achieved: as per SANS 241:2015 at the WTWs, Storage Reservoirs before water is distributed to end consumers.

- **Weekly** :bacteriological - internally Lab & External Lab (SANAS Accredited Lab) UFS, IGS
- **Monthly**: Chemical Analysis (Full SANAS parameters)
- **Quarterly** Risk Monitoring- Risk based parameters

Operational Monitoring:

- **Two** hourly monitoring at Plants
- Operational Efficiency – Additional Process (Chlorine Dioxide Plant)

Introduction of the Greater Bloemfontein Reconciliation Study – Long term planning

Reconciliation Strategy Study developed in June 2012 by the then Department of Water Affairs (DWA), with Bloem Water (BW) and Mangaung Metropolitan Municipality (MMM) and other stakeholders.

Bloem Water Key Projects:

No	Project Name	Project Description	Estimated 5-Year Capex Programme (R Mil) 2021/2025	Future Impact/ No. of people to be served	Status/ Progress	Start & Completion
1	Extend Treatment capacity at Rustfontein	Increase WTW capacity from 100 MI/day to 150 MI/day	R 500 Mil (Not secured) for construction	Mangaung Metro , Mantsopa LM , Excelsior Town (886 163)	Phase 1: Planning & Design 100% Completed Phase 2: Funding required for construction(Project Gazetted under SIP 18) and Presidential Infrastructure Investment Office	Phase 1: Designs completed Phase 2: Construction to commence once funding secured
2	Pipeline from Lesaka Reservoir to OK/ Motlatla Reservoirs	Construction of the 10 km pipeline from Lesaka to Thaba Nchu: To augment water supply to Thaba Nchu	R80 Mil (Not Secured) for construction	Mangaung Metro Thaba Nchu(60 696)	Phase 1 : Planning & Designs: 100 % completed Phase 2: Construction not started yet.	Phase 1 : Designs & Documentation Completed Phase2: Construction to commence once funding secured
3	Xhariep to Knellpoort pipeline	Detailed Feasibility Study for Xhariep Pipeline (MWAP) for options analysis up to design , EIA stages	R 30 Mil – Planning phase Studies only Phase 2: Construction :R8 Billion (Not Secured)	Mangaung Metro , Kopanong LM, Mantsopa LM –Excelsior Town Total population of 1.2 million	Phase 1 : Pre-feasibility completed: Phase 2: Directive had been withdrawn in May 2021 by Minister	Phase 1 : Pre Feasibility 100% completed Phase 2 : Detailed Feasibility to commence under DWS & TCTA

Bloem Water Key Projects : Cont....

No	Project Name/ Scheme	Project Description	Estimated 5-Year Capex Programme (R Mil) 2021/2025	Future Impact/ No. of people to be served	Status	Start & Completion
4	Welbedacht WTW to Knellpoort dam	Construction of 17km , Pipe line between Knellpoort Dam and Welbedacht WTW to mitigate siltation in Welbedacht dam	R 400 Mil (Not Secured) for construction	Mangaung Metro , Kopanong LM, Mantsopa LM – Excelsior Town Total population of 1.2 million	Phase 1 : Planning & designs : Completed 100% Feasibility, designs Phase 2: construction not commenced	Phase 1: designs & Documentation
5	Pipeline from Rustfontein WTW to Lesaka Reservoir	Construction of the 15 km 700 mm diameter ductile iron pipeline from Rustfontein – Lesaka Reservoir	R 103 Mil	Mangaung Metro , Mantsopa LM (886 163)	Construction , progress 100%	Testing and commissioning, repairs of snags list is underway to be completed by June 2022.
6	Additional Boreholes in Thana Nchu	Geophysical investigation underway for 13 villages in Thaba Nchu	R 10 Mil	Mangaung Metro :North and South of Thaba Nchu villages(15174)	Phase1: Geophysical investigation & Drilling 63 boreholes completed:100 % Phase 2: Equipping of 26 boreholes 100%	Phase 1: Completed Phase 2: Completed

Bloem Water Key Projects ; Cont...

No	Project Name/ Scheme	Project Description	Estimated 5-Year Capex Programme (R Mil) 2021/2025	Future Impact/ No. of people to be served	Status	Start & Completion
7	Parallel Pipeline to 1.2 m PCP (Welbedacht to Bloemfontein pipeline 98 km length in total)	<p>Phase 1: 33.7 km Steel pipeline of 1000 mm diameter pipeline from Brandkop to Leiukop junction</p> <p>Phase 2: The 71.3 km</p>	R 500 Mil (DWS Funded)	Mangaung Metro 1.2 million population	<p>Phase 1: Construction 93% in Progress</p> <p>Phase 2: 71.3 km feasibility study to be conducted</p>	<p>Start July 2017- Completion: 30 June 2022</p> <p>Phase 2: Planning not yet commenced</p>
8	Booster pump station on the Excelsior pipeline	Houtneck booster pump station	R 6 Mil	Mangaung Metro and Mantsopa Municipality - Excelsior & Rural Villages (15174)	100% completed	Completed

Bloem Water Key Projects 4: Cont..

No	Project Name/ Scheme	Project Description	Estimated 5-Year Capex Programme (R Mil) 2021/2025	Future Impact/ No. of people to be served	Status	Start & Completion
9	Booster pump station on the Wepener pipeline	Construction of the booster Pump station to increase supply pumping capacity in Wepener pipeline	R 15 Mil	Mangaung Metro -Wepener (9553)	Progress 100% completed	Completed
10	Parallel Pipeline to Dewetsdorp	Construction of the 13 km UPVC 250 mm diameter pipeline from Booster Station to new reservoir at Dewetsdorp	R 20 Mil	Mangaung Metro Dewetsdorp (9498)	Phase 1 : Construction Progress 100% Phase 2: Automation of the pumpstation	Phase 1 : Construction of pipeline Phase2: Completion April 2022

Infrastructure

Rustfontein - Botshabelo Pipeline 15 km long-
Completed : To supply Mangaung Metro Areas of
Botshabelo, Thaba Nchu ,Mantsopa LM Excelsior



Wepener Booster Pump station completed :
To supply Mangaung Metro Wepener



Welbedacht 33,7km Steel Pipeline : Under
construction to supply Mangaung Metro :
Bloemfontein



Houtneck Booster Pump station : completed -
To supply water to Mangaung Metro - Thaba
Nchu Villages & Mantsopa - Excelsior



Trompsburg Reservoir - To supply
Kopanong Lm - Trompsburg



Ministerial Directive : Cont..

Construction of Welbedacht to 33.7km long Steel pipeline from Leeukop to Bloemfontein

- **Ageing Infrastructure:** PCP 50 years in operation and has surpassed its life span & the bursts are common and water supply disruptions
- The Welbedacht Water Treatment works supply water to Mangaung Metropolitan Municipality and part of Kopanong Local Municipality through a 116km Prestressed Concrete pipeline(PCP)

Welbedacht Pipeline Cont.:

Phase 1: Construction of steel pipeline for the 33.7km long, 1000mm diameter from Liewkop off take to Brandkop Reservoir BFN



Phase2: Welbedacht Pipeline- The 72km for construction from Leeukop to De Hoek is expected around **R1,5b.**

REGIONAL BULK INFRASTRUCTURE GRANT COVID -19

- **Bloem Water was appointed as the implementing in March 2021.**
- **Connection of 254 Jo-Jo tanks to the reticulation system in Free State 13 Local Municipalities**
- **Progress: 198 Connections completed of 254 Tanks - 78%**



Progress : RBIG COVID -19 in 13 Local Municipalities in Free State

Project Code	Project Name/ Scheme	Number of Connections	Completed	Total revised Allocation (R Mil)	Year to date Actual Spending	Expenditure as percentage of revised allocation
COVID - 19	<i>Matjhabeng</i>	32	32	7035	5221	74,2%
	<i>Masilonyana</i>	19	17	1261	2905	100 %
	<i>Mantsopa</i>	33	30	10920	5471	50%
	<i>Setsoto</i>	21	19	3098	2364	76%
	<i>Mohokare</i>	7	7	4200	3330	79%
	<i>Kopanong</i>	12	8	1575	1575	100%

Progress: RBIG COVID -19 in 13 Local Municipalities in Free State

Project Code	Project Name/ Scheme	Number of Connections	Completed	Total revised Allocation (R Mil)	Year to date Actual Spending	Expenditure as percentage of revised allocation
COVID -19	<i>Mangaung Metro</i>	40	35	3315	4376	66,2
COVID -19	Phumelela	26	10	1470	2300	100
COVID -19	Nketoana	2	1	9870	166	2
COVID -19	Tswelopele	14	9	2470	1260	51
COVID -19	Mafube	19	8	1103	0	0
COVID -19	Ngwathe	17	17	3591	2200	61
COVID -19	Moqhaka	12	0	1050	0	0

RBIG Masilonyana LM: REFURBISHMENT OF BRANDFORT WASTE WATER TREATMENT PLANT

Scope of Works

- Refurbish and upgrade the Buitekant Pump Station
- Upgrade pumps and associated works at the Buitekant Pump Station
- Upgrading the associated Electrical and Mechanical equipment at the Buitekant Pump Station
- Construct new screen at the Buitekant Sewer Pump Station
- Refurbishment of inlet works including installing of flow meter, finer manual screen and cleaning of the grit channels
- De-sludging Anaerobic ponds in phase-in approach and lining of the Anaerobic ponds
- Refurbish existing Biofilter including transfer pump and facilities
- Refurbish existing Humus Tank including de-sludging and associated infrastructure
- Refurbish including the upgrading of the chlorination system
- Unblocking the sewer outfall between the sewer pump station and the Waste Water Treatment Works
- Upgrading the associated Mechanical and Electrical equipment at the Waste Water Treatment Works
- **Project Commencement date :** April 2021
- Allocation : R25 000 000
- Expenditure : R19 328 368.98
- Progress as percentage of Expenditure : 77%
- Completion date : 30 June 2022



Xhariep Pipeline

Water Security : Construction of 180km pipeline

- The pipeline will supply Water to the Mangaung Metropolitan Municipality (Dewetsdorp, Wepener, Bloemfontein) and Xhariep District Municipality serving the population of 1.2 million people.
- **Objective** -alleviate water supply shortages in the Caledon system by augmentation of Raw Water from Xhariep Dam. The project will assist with the increasing the system yield as Welbedacht dam has silted up and lost 95% of storage capacity.

Progress: DWS to conduct – Detailed Feasibility Study up to Design Phase, Bloem Water to participate as the stakeholder & NOT Implementing Agent after the directive was withdrawn,

- Construction Budget: R8bn

Socio- economic - Job Creation :

- estimated three thousand (3000) employment opportunities to be created during the planned seven (7) year construction period.

Financial Performance : 10 (Ten) year

Summary of Statement of Financial Position and Financial Performance											
Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	R'000	R'000	R'000	R'000	R'000	R'000	R'000	R'000	R'000	R'000	R'000
Assets	896,903	962,544	1,069,824	1,244,571	1,364,222	1,330,373	1,342,206	1,421,038	1,559,049	1,360,879	2,000,030
Liabilities	296,232	278,367	322,525	431,637	509,152	503,747	478,589	374,182	312,919	414,704	351,801
Revenue	274,452	325,160	376,954	418,593	462,255	469,885	661,274	708,823	752,104	818,129	792,124
Government grants for pipeline project	0	0	0	0	0	0	0	102,688	98,786	106,637	82,559
Net other Income/Expenditure	-230,649	-241,653	-313,831	-352,958	-420,119	-498,329	-624,283	-671,950	-651,618	-1,213,474	-172,629
Profit/(Loss) *	43,803	83,507	63,123	65,635	42,136	-28,444	36,991	139,561	199,272	-288,708	702,054
* Impairment incl in expenditure due to non-payment					-34,754	-111,660	-246,684	-297,235	-233,298	-739,628	318,465

Financial Performance : 10 (Ten) year

- **Normal water demand during initial years and drought period over last few years**
 - Demand volumes reduced
 - Drought tariffs approved by DWS and implemented by Entity
- **Non-payment by Municipalities**
 - Mediation process by NT on Marga Metro Municipality – Entity to write off amounts
 - Arbitration process by Marga Metro Municipality - Entity to write off amounts
 - Legal challenges by Municipalities and Taxpayers Organisations on water supply
- **Restricted Tariff increases allowed**
 - Not full cost recovery
 - Zero percent increase
 - Partially for CAPEX requirements
- Cash Flow constraints during latter years

Financial Performance : 10 (Ten) year

Audit Outcomes for the Past Years											
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Financial Statements	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified
Performance Information	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified

Financial Statements				Performance Information				Compliance with Legislation/Matters of emphasis
Unqualified Audit Opinion				No Material Findings on usefulness and reliability				Material Misstatement
								Irregular expenditure disclosed in Financial Statements

Municipal Debt

INFORMATION REQUIRED IN TERMS OF SECTION 41 OF THE MUNICIPAL FINANCE MANAGEMENT ACT, 2003

REPORTING MONTH : 28/02/2022

Section 41(2)(b) : Arrears owing and the age profile of outstanding amounts

	Name of Municipality	Current	31 days	61 days	92 days	121 days+	Total
1	Mangaung Metro Municipality	80,956,009.60	86,205,239	74,589,700	94,302,147	410,607,024	746,660,120
2	Kopanong Local Municipality	6,223,629.70	7,053,815	7,286,641	6,627,878	488,898,475.8	516,090,438
3	Mantsopa (Excelsior)	281,471.61	142,988	231,924	196,723	843,853	1,696,959
	TOTAL	87,461,111	93,402,042	82,108,264	101,126,748	900,349,353	1,264,447,517

FINANCIAL PERFORMANCE : 10 (Ten) year

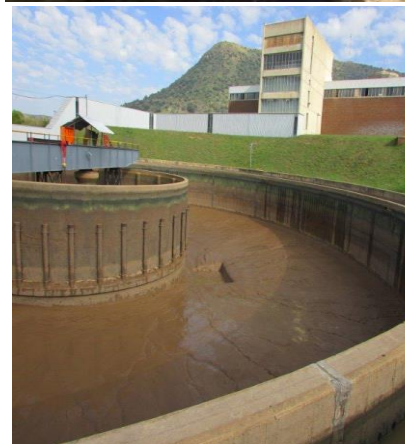
- **Non-Payment by Municipalities**
 - Mangaung Metropolitan Municipality
 - Kopanong Local Municipality
 - Mantsopa Local Municipality
- Affecting the ability to Operate at times
- Affecting the ability to fund and attract finance for CAPEX requirements
- Borrowing Limit approval jeopardised

Current Challenges

- None payment by Municipalities impacting on Implementation of Infrastructure Projects

High risk of security of water supply due to:

- Infrastructure operating close to its design limit
- Provision for future water demand not in line with the developments in infrastructure
- Deteriorating raw water quality as a result of inadequate catchment management
- Siltation of the Caledon River
- Sustainable tariff structure



Way forward

- **Payment of bulk water must be enforced by National Treasury and audited by AG**
- **Current Merging with Sedibeng will improve service delivery and increase footprint to cover most areas**
- **Alternative funding for Water Boards servicing non- viable Municipalities**

Thank You!!