RUSTENBURG LOCAL MUNICIPALITY

3RD QUARTER PERFORMANCE REPORT

FOR THE FINANCIAL YEAR 2016-2017

TABLE OF CONTENTS

1. INTRODUCTION

Section 52(d) of the Municipal Finance Management Act requires the Mayor to, within 30 days of the end of each quarter; submit a report to Council on the implementation of the budget and the financial state of affairs of the municipality.

The content of the 3rd quarter report is based on the original scorecards of the directors. It should be noted that the amended performance agreement and the changes on the top layer SDBIP would be effective from the 1st April 2017, the content of the 4th Quarter would be based on such approved amendments.

Reliability of the performance report submitted was audited internally in terms of section 45 (a) of the municipal systems act and directorates advised about the finding and areas of correction.

MS N.S. SITHOLE
MUNICIPAL MANAGER

2. SERVICE DELIVERY PERFORMANCE REPORT

2.1 BASIC SERVICE DELIVERY

Objective : **Accelerated delivery and maintenance of quality basic and essential Services to all Communities**

KPI 1 (a)	Percentage increase in bulk water augmentation	Annual Target	3rd Quarter Target	Actual	Variance
		15% Design & Procurement	15% Design Report	15% Design Report	-
		Budget R 5 500 000	R853 333.00	R600 000.00	
Comment on the achievement of the KPI and remedial measures					
General Statement: The KPI was removed during mid-year and reassigned to be handled by the Rustenburg Water Services Trust (RWST). **Ref: RWST**					

KPI 1 (b)	Percentage upgrading and extension of Bospoort Water Treatment Plant	Annual Target	3rd Quarter Target	Actual	Variance
		17% Design & Procurement	17% Design	17% Design	-
		Budget R109 649 123	R13 217 636	4 395 395.42	
Comment on the achievement of the KPI and remedial measures					
General Statement : The KPI was removed during mid-year and reassigned to be handled by the Rustenburg Water Services Trust (RWST). **Ref : RWST**					

KPI 2	Percentage completion of water reticulation projects	Annual Target	3rd Quarter Target	Actual	Variance
		100%	75%	10%	(65%)
		Budget R30m	R22 500 000	R2 965 048	-

Comment on the achievement of the KPI and remedial measures

General statement

The KPI was not achieved, the target aims at 100% completion of water projects at Mathopestad, Maumong and Syferbult by June 2017. Amount of R2 965 048 was spent, which is 10% expenditure on the budget.

Three WSIG funded projects to the value R 30 00 000 which includes professional fees; namely,

- Maumong Water Supply Phase 2 – Reticulation of 5300km of internal network and 1 Ml steel storage tanks;
- Upgrading and refurbishment of Mathopestad Rural Water Supply Scheme and
- Lekgalong Water Supply Project Phase 3.

Project	Budget	Expenditure	Shadow cost	Total Expend	Balance	%
MAUMONG - WATER SUPPLY: PHASE2	10 000 000,00	818 694,39	0,00	818 694,39	9 181 305,61	8
MATHOPESTAD - RURAL WATER SUPPLY SCHEME:PHASE 2	10 000 000,00	1 173 073,90	0,00	1 173 073,90	8 826 926,10	12
LEKGALONG - WATER SUPPLY:PHASE 2	10 000 000,00	973 280,12	0,00	973 280,12	9 026 719,88	10
Water	**30 000 000,00**	**2 965 048,41**	**0,00**	**2 965 048,41**	**27 034 951,59**	**10**

Reasons for Non-Achievement

The appointment letters have only been signed earliest 13 February 2017 and latest 27 March 2017 since submission of evaluation reports to the Evaluation Committee during November 2016.

Remedial Measurers

- Revised project programmes are to be submitted by end of April 2017.
- The savings from the current financial year will be rolled over to 2017/18.
- An extension of time will be considered since the project will overlap to the following financial year due to the above delays.

Ref: DTIS 1

KPI 3	Number of high mast lights installed	Annual target	3rd Quarter Target	Actual	Variance
		86 High mast lights installed by June 2017	86 high mast poles	53 high mast lights	23 high mast lights
		R21 800 000	R8 357 542	R9 483 285.26	

Comment on the achievement of the KPI and remedial measures

General statement

Not Achieved

Installation of high mast lights was done at the following areas;

Area	Actual	Budget	Expenditure	%
Robega	10	5 000 000	1 940 754.19	38.82
Rasimone	3	1 600 000	799 603.98	49.98
Thabaneng	10	4 000 000	2 346 534.63	58.66
Mosenthal (Ikageng Phase 2)	10	3 000 000	1 862 971.64	62.10
Kanana	10	5 000 000	204 613.19	4.09
Maumong	10	2 200 000	2 328 807.63	105.85
Total	**53**	20,800,000	9,483,285.26	

Reasons for Non-Achievement

Due to non-performance of the contractor for Kanana and Robega high mast, a recommendation has been made that the contract should be terminated.

Remedial Measurers

The Municipal Manager to resolve the reporting lines of the PMU and roles and responsibilities.

Ref: DTIS 2

KPI 4 Percentage increase in bulk sewer augmentation	Annual Target	3rd Quarter Target	Actual	Variance
	58% Design & Procurement	58% Design & Procurement	Design and Procurement	-
	R86 972 716			

Comment on the achievement of the KPI and remedial measures

General Statement: Not Achieved

The bulk sewer augmentation function is performed by the Rustenburg Water Services trust. The key performance indicator to be reassigned to the RWST scorecard.

Ref: RWST

KPI 5 Percentage increase in the number of billed households with access to basic solid waste removal	Annual Target	3rd Quarter Target	Actual	Variance
	2% of households with access to basic solid waste removal	Not Applicable	Not Applicable	-
	Budget R29 211 639	R14 681 801		

Comment on the achievement of the KPI and remedial measures

General statement

Progress to date

The total number of households that are billed for solid waste removal is 62 521. The information was extracted from the valuation roll. The number may increase due to developments taking place in the municipality.

Ref: DCD1

KPI 6 Percentage increase in households earning less than R3 500 per month with access to free basic services	Annual Target	3rd Quarter Target	Actual	Variance
	20% (10 427hh)	15%	28%	13%

Comment on the achievement of the KPI and remedial measures

General Statement:

Not Achieved

The total number of households is 232 219. The total number of indigent households based on the poverty rate of 28.6% is equivalent to 66 414 households. The base line of registered indigents as at the end of 2015/2016 financial year was 14 279 households which leaves a total of 52135 households without access to free basic services.

The number of registered indigents as at the end of the 2nd Quarter was 4406 which when added to the 3rd quarter registrations gives a total 5650 households, which is 28% increase.

Ref: BTO7

KPI 7	Development of sports facilities by end September 2016	Annual Target	3rd Quarter Target	Actual	Variance
		Development of Boitekong sports facility by end Sep 2016	Guard house and grand stand	Guardhouse and grand stand	-
		Budget R7 858 907	R7 858 907	R6 878 740.74	

Comment on the achievement of the KPI and remedial measures

General Statement:

Not Achieved

During mid-year review the target was revised to June 2017 for completion of the sports facility.

All the buildings on site were completed. The outstanding matter is the snag list (electricity, water connection on the mainline, minor soccer poles, painting of boundary lines on the soccer field, movement on the ground due clay conditions).

Reasons for Non-performance

Due to financial constraints that the contractor has experienced of non- payments, they were not able to complete the project on the extended completion date which was the 14th of December 2016. Outstanding amounts will be paid after approval of additional funding.

Remedial Measures
Payments should be effected within 30 days as per council policy.

Ref: DCD/PMU

KPI 8	Percentage completion of the business plan of the Neighborhood Development Plan	Annual Target	3rd Quarter Target	Actual	Variance
		100%	Not Applicable	0	-
		Budget R7 465 000	-	-	-

Comment on the achievement of the KPI and remedial measures

General Statement:

Not Achieved

The key performance indicator was removed during mid-year review as the Neighborhood Development Plan grant was withdrawn.

Reason for Non-Achievement

The project was submitted for implementation of non-motorised transport for Napoleon Street in Rustenburg North. National Treasury NDP Unit later declined to implement citing issues of co-funding.

Remedial Measures

Resubmission of new plans for the next financial year.

Ref: OMM1

KPI 9 Percentage reduction of water losses	Annual Target	3rd Quarter Target	Actual	Variance
	10% of water losses reduced by June 2017	7% of water losses reduced by March 2016	8%	1%
	Budget : R3 000 000	2 250 000		

Comment on the achievement of the KPI and remedial measures

General Statement:

Achieved

Water losses reduced by 8% according to the 3rd Quarter Section 71 report.

Description of financial indicator	Basis of Calculation	2015/16 Unaudited Outcome	Budget Year 2016/2017		
			Original Target	YTD Actual	Variance
Water Distribution Losses	% volume (units purchased and own source less units sold)/Total units purchased and own source	43.40%	42.00%	1st Quarter 58.8%	16.8% (increase)
				2nd Quarter 54%	4.8% decrease
				3rd Quarter 46%	8% decrease

Ref: DTIS

KPI 10 Percentage completion of projects for RRT road network system	Annual Target	3rd Quarter Target	Actual	Variance
	100%	75%	61%	(14%)
	Budget R345 393 000	259 044 750	R212 098 063	-

Comment on the achievement of the KPI and remedial measures

General Statement:

Not Achieved

Financial Accounting for Grant Funds received and Expended	Rand
PTIG funds – Allocation 2016/17	R 285 093 000
Approved Roll Over 2015/16	R 60 300 000
TOTAL ALLOCATION 2016/17	R345 393 000
Total PTSIG Funds spent from to date	R212 098 063
Percentage funds spent	61%

Reasons for Non-Achievement

- The budget line item for the bus operating company has not spent
- Employee related costs not being utilized due to positions still being vacant which were budgeted for

Remedial Measures

- Stations-Contractor on Notice for underperformance.
- General-Expenditure on other committed contracts was expedited.
- Instruction to proceed to be granted on the CBD construction.
- Process to appoint 2 vacancies submitted to Cooperate Support.

Ref : RRT

KPI 11 Kilometers of roads constructed	Annual Target	3rd Quarter Target	Actual	Variance
	15.6 km	6km	6.73km	0.37 km
	Budget R99 541 219	R46 842 926	R38 778 162	-R8 064 764

Comment on the achievement of the KPI and remedial measures

General Statement

Achieved

No. of KM	Budget	Expenditure	%
6.73km	R99 541 219	R38 778 162	39%

Ref : PMU

KPI 12 Number of hectares of state land acquired for informal settlement upgrading	Annual Target	3rd Quarter Target	Actual	Variance
	100	Progress report on identified land submitted to HDA	0	Progress Report
	Budget HAD			

Comment on the achievement of the KPI and remedial measures

General Statement

There was no budget allocation by the Housing Development Agency.

It was recommended during mid-term review that the KPI to be removed from the scorecard.

Ref: DPHS

2.2 MUNICIPAL INSTITUTIONAL DEVELOPMENT AND TRANSFORMATION

2.2.1 Develop and implement internal capability model (institutional core and critical competencies, scarce skills, maintenance skills) that enhance institutional and external stakeholders' development communities and institutional capability

KPI 13 Number of people from employment equity target groups employed in the three highest levels of management in compliance with a municipality's approved employment equity plan	Annual Target	3rd Quarter Target	Actual	Variance
	3	Not Applicable	1	-
Comment on the achievement of the KPI and remedial measures				

General Statement

Not Achieved

Reasons for non-achievement

It was resolved at the special council meeting held on the 28th February 2017 that:

- Ms. Nqobile Sithole be appointed as the Municipal Manager for a period of five (5) years subject to the following:
- That the appointment of the Municipal Manager be subject to a probation period of six (6) months.
- That at the end of the six (6) months' probation period, an evaluation report be presented to Council for consideration.
- Appointment of section 57 employees as from 1st March 2017 on a month to month basis; for a period not exceeding three (3) months.
- Mr. Faizel Sherrif be appointed as the Acting Director Technical Infrastructure Services.
- Mr. Marks Rapoo be appointed as the Acting Director Roads and Transport.
- Mr. Tshenolo Lefutswe be appointed as the Acting Chief Financial Officer.

Ref: DCS

KPI 14 Percentage of the municipality's budget actually spent on implementing the workplace skills plan	Annual Target	3rd Quarter Target	Actual	Variance
	95%	75%	24.67%	(50.3%)
	Budget R2 538 432	R1 750 m	R 415,038.15	(R1 334 961.85)
Comment on the achievement of the KPI and remedial measures				

General Statement:

Not Achieved

16% from the budget was spent on adverts, accommodation and travelling for course attendants.

Budget	Expenditure	Percentage
R 2,663 432.00	**R657 070.66**	**24.67%**

Reasons for non-achievement

Workplace Skills Plan(WSP) bid RLM/DCS/0044/2014/15 was placed for advert on the 12/08/2015 and closed on the 28/08/2015. The item was evaluated on its route to the bid adjudication committee. It served before the bid adjudication committee on the 01 December 2015. The bid adjudication recommended that the bid be re-advertised because it was approved for 90/10 Preference Point System and all bids received were below a million, and should have been advertised with 80/20 Preferential Point System.

The bid was re-advertised and the advert was placed as bid RLM/DCS/0101/2015/16 on the 22 April 2016 and closed on the 16 May 2016. The item served before the bid adjudication committee on the 08 July 2016. The bid adjudication committee recommended the following:

- It be noted that for the past three years there has not been a training programme for RLM employees due to re-advertisement
- That based on the above mentioned reason an investigation be undertaken to seek alternate
e training avenues and methods to procure training programmes
- That the bid only be re-advertised if other avenues are not found and a report to that effect be submitted.

The Manager: Training and Development, had a meeting with Orbit TVET college and Tshwane Leadership

Remedial measures

Acceleration of procurement process to ensure the budget is spent as planned.

Ref: DCS 9

2.3 LOCAL ECONOMIC DEVELOPMENT

Objective: Revive and expedite development of alternative high value adding economic growth sectors - agriculture, manufacturing, transportation services and products

KPI 15 Number of jobs created through local economic development initiatives including capital projects	Annual Target	3rd Quarter Target	Actual	Variance
	1000	750	772	22

Comment on the achievement of the KPI and remedial measures

General statement : Achieved

Directorate	Project Type	Number of Jobs Created
Local Economic Development	Meter Readers Hawkers Stalls Show Grounds Agricultural Projects	14 178 43 53
Project Management Unit	• Development of Sports Facilities • Construction of roads • Maintenance of parks • Maintenance of visitors information centre • Maintenance of the taxi rank, ablution blocks • Installation of high mast lights	35 293 36 6 60 54
TOTAL	¤	**772**

Ref: PMU 1/LED

KPI 16 Number of milestones achieved towards Industrialization of RLM through SEZ (Special Economic Zone)	Annual Target	3rd Quarter Target	Actual	Variance
	4	3	0	-
	Budget	R0.00		

Comment on the achievement of the KPI and remedial measures

General statement:

The key performance indicator was removed during mid-year review due lack of budget allocation.

Ref: LED 1

KPI 17 Number of Milestones towards implementation of Masterplan	Annual Target	3rd Quarter Target	Actual	Variance
	4	3	0	
Comment on the achievement of the KPI and remedial measures				
General Statement: The key performance indicator was removed during mid-year review due to lack of budget allocation. **Ref: LED 2**				

2.4 MUNICIPAL FINANCIAL VIABILITY

Objective : Develop and implement integrated financial management systems to support municipal programmes and ensure internal financial sustainability

KPI 18 Percentage of the municipality's capital budget spent on capital projects identified for a particular financial year in terms of the municipality'	Annual Target	3rd Quarter Target	Actual	Variance
	100%	75%	53%	(22%)
	Budget 577 252 409	R432 939 306	R303 250 327	(R62 155 500)
Comment on the achievement of the KPI and remedial measures				

General Statement:

Not Achieved

Year to date spending is at R 303 million (53%) of the expected year to date spending of R 432 million (75% pro rata).

Directorate	Original Budget	Expenditure	Percentage
Technical and Infrastructure Services	308 663 953	97 059 072	31
Corporate Support Services	11 000 000	2 619 091	24
Community Development	16 974 667	9 805 196	58
Office of The Municipal Manager	238 031 789	193 458 939	81
Library & Information Services	2 582 000	308 027	12
Total	**577 252 409**	**303 250 327**	**53**

Ref: BTO 2

KPI 19 Percentage expenditure on the approved operational budget not exceeding budget amount	Annual Target	3rd Quarter Target	Actual	Variance
	0% expenditure on the approved operational budget not exceeding budgeted amount	0% expenditure on the approved operational budget not exceeding budgeted amount	0%	-
	Budget R4 134 697 682	R3 101 023	2 710 284 338	-

Comment on the achievement of the KPI and remedial measures

General Statement: Achieved

The total expenditure for as at 31st March 2017 is at 66% when compared to the pro rata of 75%.

Directorate	Original Budget	Expenditure	Percentage
Office of the Executive Mayor	82 437 582	57 807 779	70
Office of the Municipal Manager	55 781 633	40 291 941	72
Corporate Support Services	79 711 590	52 702 812	66
Budget & Treasury Office	143 730 478	62 873 293	43
Public Safety	153 424 057	97 372 574	63
Planning & Human Settlement	47 661 807	22 151 894	46
Local Economic Development	8 945 290	6 193 004	69
Community Development	388 291 388	153 322 347	40
Technical and Infrastructure	3 155 853 377	2 168 571 797	68
TOTAL	**4 134 697 682**	**2 710 284 338**	**66**

KPI 20 Percentage achievement of financial ratios and targets	Annual Target	3rd Quarter Target	Actual	Variance
	100%	100%	100%	-

Comment on the achievement of the KPI and remedial measures

General Statement

Achieved

Financial Indicator	Annual Target	3rd Quarter Target	Actual	Variance
Current Ratio	1.1	1.1	1.17	.17
Debt Coverage	43%	43%	57%	14%
Monthly Collection Rate	R3 480 000 000	R2 000 000 000	R246 288 000	R46 288 000
Cost Coverage	1 month	1 month	-1month	-1 month

Ref: BTO4

2.5 GOOD GOVERNANCE AND PUBLIC PARTICIPATION

Objective: Drive good governance and legislative compliance in all municipal processes

KPI 21: 5-year Integrated Development Plan (IDP) approved by Council by May 2017	Annual Target	3rd Quarter Target	Actual	Variance
	5-year Integrated Development Plan (IDP) approved by Council by May 2017	Not Applicable	Not Applicable	-
Comment on the achievement of the KPI and remedial measures				
General Statement KPI is not applicable for the quarter under review. **Progress to Date** Directorates and stakeholders' inputs were received during March and April 2017 for compilation of the IDP document and it will be tabled for approval at the end of May 2017. **Ref: IDP1**				

KPI 22 Top Layer Service Delivery and Budget Implementation Plan (SDBIP) 2017/2018 approved by June 2017	Annual Target	3rd Quarter Target	Actual	Variance
	Approved Top SDBIP approved by June 2017	Not Applicable	Not Applicable	-
Comment on the achievement of the KPI and remedial measures				
General Statement The KPI is not applicable for the quarter under review **Progress to Date** Directorates will submit their technical SDBIPs on the 06 June 2017. The Top Layer SDBIP will be compiled for approval by the Executive Mayor within 28 days after approval of the budget. **Ref: PMS 1**				

KPI 23 Reviewed Performance Management Systems Framework approved by June 2017	Annual Target	3rd Quarter Target	Actual	Variance
	Reviewed PMS Framework approved by June 2017	Not Applicable	Not Applicable	-

Comment on the achievement of the KPI and remedial measures

General Statement

The KPI is not applicable for the quarter under review.

Progress to Date

The framework will be reviewed in May 2017 for tabling at the end of June 2017. A workshop was conducted for Senior Managers and labour on the 04 and 05 May 2017.

Ref: PMS 2

KPI 24 Tabling of Annual Report 2015/2016 to Council by January 2017	Annual Target	3rd Quarter Target	Actual	Variance
	Annual Report 2015/2016 to Council by January 2017	January 2017	07 March 2017	-

Comment on the achievement of the KPI and remedial measures

General Statement:

Achieved.

The annual report was tabled on 31 January 2017 per item 7. The report of the Auditor General was not available and it was recommended that it serves at a special council meeting.

The annual report was tabled at a special council meeting of the 7 March 2017. The annual report was publicized for community comments.

Ref: PMS 3

KPI 25 Tabling of Budget Adjustment 2016/2017 to Council by February 2017	Annual Target	3rd Quarter Target	Actual	Variance
	Budget Adjustment 2016/2017 tabled to Council by February 2017	February 2017	February 2017	-
Comment on the achievement of the KPI and remedial measures				

General Statement

Achieved

The budget adjustment was tabled on the 28 February 2017 per item 37.
Ref: BTO

KPI 26 Tabling of Mid Term Report 2016/2017 to Council by January 2017	Annual Target	3rd Quarter Target	Actual	Variance
	January 2017	Not Applicable	March 2017	-
Comment on the achievement of the KPI and remedial measures				

General Statement

Not Achieved

The report served before the Council on the 28 February 2017 per item 39 and referred back. The report was approved per item 67 on 31 March 2017.

Ref: PMS 4

KPI 27 Signing of Senior Manager's draft performance agreements 2017/2018 by June 2017	Annual Target	3rd Quarter Target	Actual	Variance
	Signing of Senior Manager's draft performance agreement 2017/2018 by June 2017	Not Applicable	Not Applicable	-
Comment on the achievement of the KPI and remedial measures				

General Statement

The KPI is not applicable for the quarter under review.

Progress to Date

The agreements will be signed after the IDP and Budget have been approved by Council at the end of May 2017. Draft agreements will be sent to the Executive Mayor within 14 days after approval of the budget.

Ref: PMS 5

KPI 28 Community Satisfaction Survey Report tabled to Council by May 2017	Annual Target	3rd Quarter Target	Actual	Variance
	Community Satisfaction Survey Report tabled to Council by May 2017	Not Applicable	Not Applicable	-
Comment on the achievement of the KPI and remedial measures				

General Statement

The target was revised to be the end of June 2017 due to non-allocation of funds. The survey will be conducted using the IDP activities budget through a virement.

Ref: IDP2

KPI 29 Tabling of the approved budget 2017/2018 to Council by May 2017	Annual Target	3rd Quarter Target	Actual	Variance
	Budget 2017/2018 tabled to Council by May 2017	Not Applicable	Not Applicable	-
Comment on the achievement of the KPI and remedial measures				

General Statement

The KPI is not applicable for the quarter under review.

Progress to date

The draft budget was tabled on the 04th April 2017 per item 99. The draft was subjected to discussion with National Treasury Benchmarking Session on the 10th May 2017. BTO considered the National Treasury comments and the item will serve at the Council meeting of the 30th May 2017.

Ref: BTO2

KPI 30 Number of Individual performance assessments for Senior Managers conducted	Annual Target	3rd Quarter Target	Actual	Variance
	4 Individual performance assessment for Senior Management	3 Individual performance assessment for Senior Management	2 individual performance assessment sessions	-
Comment on the achievement of the KPI and remedial measures				

General Statement

Achieved

1. Performance assessment sessions for the 1st Quarter were conducted from the 25 – 27 October 2016.

3.	3rd quarter assessments were not completed but the portfolio of evidence submitted by directorates was audited internally.

Ref: AMM1

KPI 31 Improved overall organizational risk rating from level 5 to 3	Annual Target	3rd Quarter Target	Actual	Variance
	Level 3 rating	Quarterly Risk Assessment by March 2017	0	
Comment on the achievement of the KPI and remedial measures				

General Statement

For the third quarter the unit has been overseeing the completion of the risk register on the implementation of mitigations risk assessment.

Reasons for Non-Achievement

- None commitment of senior managers in implementation of mitigations.
- Not responding to request for progress made on mitigations and keeping to time lines
- None attendance of risk assessments, the risk management unit have to keep on postponing.

Remedial Measures

For the completion of the mitigations the unit embarked on one- on- one sessions with directorates in order to get progress on implementation of mitigation plans.

Ref: CRO 1

KPI 32 Percentage implementation of the audit action plan	Annual Target	3rd Quarter Target	Actual	Variance
	100%	75%	98%	23%
Comment on the achievement of the KPI and remedial measures				

General Statement

Achieved

Number of queries received = 269
Number of queries responded to = 265
Percentage response = 98%

Ref : BTO

3. SUMMARY

MUNICIPAL MANAGER'S SCORE CARD: 2016/17 FY

KEY PERFOMANCE AREA	TOTAL NO OF INDICATORS	3RD QUARTER INDICATORS	INDICATORS NOT APPLICABLE	ACHIEVED	%
Basic Service Delivery	12	10	1	4	40%
Institutional Development and Transformation	2	2	0	0	0%
Local Economic Development	3	3	0	1	33%
Financial Management & Viability	3	3	0	2	66%
Good Governance, Public Part & Ward Committee System	12	4	4	4	100%
Overall Performance	**32**	**22**	**6**	**11**	**50%**

COMPARISON

2ND QUARTER	3RD QUARTER	VARIANCE
48%	50%	2%

RUSTENBURG WATER SERVICES TRUST

PERFORMANCE EVALUATION

1 JANUARY 2017 TO 31 MARCH 2017

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LIST OF CONTENTS

PERFORMANCE REPORT FOR RUSTENBURG LOCAL MUNICIPALITY ON THE RUSTENBURG WATER SERVICES TRUST FOR THE PERIOD 1 JANUARY 2017 TO 31 MARCH 2017.

INTRODUCTION

1. TERMS OF REFERENCE

The following report is the result of a performance assessment of the Rustenburg Water Services Trust, for the 3 month period from 1 January 2017 to 31 March 2017. The report takes account of the Treasury Guidelines entitled "Framework for Managing Programme Performance Information" dated May 2007 (ISBN:- 978-0-621-37152-9), and the Trust is committed to giving effect to these.

2. INTRODUCTION

The Rustenburg Water Services Trust (RWST) is a Municipal Services Entity belonging to the Rustenburg Local Municipality (RLM). It is responsible for all Municipal sewage purification and also for the supply of up to 14 Mℓ/d potable water to Rustenburg Local Municipality from the Bospoort Water Purification Works (design capacity 12 Mℓ/d) as well as the Kloof Water Purification Works (design capacity 2 Mℓ/d).

The Rustenburg Water Services Trust manages the following facilities on behalf of RLM: (the plant capacity is indicated and will form part of the measurable performance objectives for the two water purification plants)

- Rustenburg Sewage Purification Works (42 Mℓ/d design capacity)
- Boitekong Sewage Purification Works (8 Mℓ/d design capacity)
- Monakato Sewage Purification Works (1,0 Mℓ/d design capacity)
- Lethabong Sewage Purification Works (2 Mℓ/d design capacity)
- Kloof Water Purification Works (2 Mℓ/d design capacity)
- Bospoort Water Purification Works (12 Mℓ/d design capacity)

Of the above facilities, the Kloof Water Purification Works and the Bospoort Water Purification Works can theoretically operate continuously at their maximum design capacity and only the following aspects can have a negative impact on the production of potable water:

- If insufficient raw water is available. This is uncontrollable.
- Power outages. Uncontrollable.
- Incorrect operation of terminal reservoirs (if they are full, the plants must stop). The reservoirs are not under control of the Trust
- Reduced shifts (not operating the plant for 24 hours)
- The quality of the raw water has an effect on the treatment processes which in turn may affect the production.
- Natural disasters.

The design of these two plants is such that they can theoretically not exceed their design capacity, and any change in production will normally be a reduction.

In the case of the sewage purification plants it is important to understand that the operator cannot influence the incoming flow volumes. The flows vary not only on a daily basis but also seasonally and it will also grow over the years. At this stage the capacity of both the Rustenburg and the Boitekong Sewage Purification Plants are insufficient during high inflow conditions. In the case of Boitekong the inflow exceeds the capacity all the time, but that is a situation which is currently being addressed.

3. PLANT OPERATOR

Water and Sanitation Services South Africa (Pty) Ltd, trading as Water Solutions Southern Africa (WSSA) is the current operator, following an open competitive tender process which culminated in a contract that commenced on 1 September 2014. WSSA was the Operator for the Trust since 1 March 2011 following their appointment in February 2011. The current contract is a three-year contract which will transpire on 30 August 2017.

In addition to the plant operator the Trust has also contracted with an operator for the safe handling, processing and disposal of the waste water sludge produced at the Rustenburg WWTW. The contractor is Agriman (Pty) Ltd.

4. BUSINESS PLAN

As part of the bidding process the Operational Business Plan, in the form of a description of the works and of the management, operation and maintenance of the plants, was updated and incorporated in the bid documents. Based on the experience gained with the previous contract, the specifications were updated, describing a complete protocol of requirements for the Operator, with the degree of input required, and which included a full regime of all the operating and maintenance activities as well as tests to be performed on a daily, weekly, monthly and annual basis. All these specifications were issued in terms of South African Standards. Following from above, the Operator updated his Asset Management Plans for each plant. The operator's performance is monitored against an updated set of KPI's.

5. PERFORMANCE INFORMATION AND MANAGEMENT SYSTEM

An electronic, computer based, performance information and management system is in place. Called the Pivotal System, it was developed and patented by the Operator, WSSA, specifically for Water and Waste Water treatment plants. The system is populated with all the information from the business plan as contemplated in the bid document and the different asset management plans. From all this information works orders are generated and issued for daily weekly, monthly and annual tasks which are to be undertaken on specific dates. On completion of the work, the work is inspected by an independent agent and signed off, after which it is entered into the system for record keeping. The system is linked to the asset register and detailed information on each asset can be obtained from the system. Monthly reports and any other feedback required can also be generated by the system.

6. PERFORMANCE MANAGEMENT

The custodian of water in South Africa is the Department of Water and Sanitation (DWS), who has introduced a robust Water Services Regulation Strategy for the water sector. It clarifies the requirements and obligations placed on Water Services Institutions, thereby protecting consumers from potentially unsustainable and unsafe services. A regulation programme was conceived within the Department of Water and Sanitation as a means to identify, reward, ensure and encourage excellence in waste water management. The concept was defined by two programmes: the Blue Drop Certification Programme for Drinking Water Quality Management Regulation; and the Green Drop Certification Programme for Wastewater Quality Management Regulation. These Certification incentive-based regulations seek to identify and develop the core competencies required for the sector that, if strengthened, will gradually and sustainably improve the level of water- and wastewater management in South Africa

Being a Management tool specifically developed for the water sector, and used to improve performance in that sector, it was used as a guide in drawing up the KPA's for the contract. The KPA's were therefore fashioned around these regulations.

The above initiative was extended by a further initiative, the No Drop programme, which aims to address water losses in the water supply system of municipalities. This programme will follow a phased roll-out during the period 2014 to 2020. At this stage the RWST is not involved in Water Conservation and Water Demand Management, and the Trust may merely take note of this initiative.

The Trust has introduced a Variation Order on the Operator contract aimed at putting systems and plans into place to foster the chances of obtaining Blue Drop and Green Drop Certification.

7. PERFORMANCE MEASUREMENT

The quality performance on a treatment plant is measured against chemical and biochemical parameters, and the interpretation thereof. In the case of the Rustenburg Plants sampling is done at various points on all the plants on a daily, weekly and monthly basis, and these are tested for various determinands. The results of these analyses are contained in monthly reports submitted by the operator, and evaluated by specialists to determine whether the plants are operated to acceptable standards. In addition the daily tests are used by the operator to do adjustments to the process in order to sustain the quality of the final product. These reports have to be submitted in accordance with specific timelines and these are incorporated in the KPA's

Operational meetings are held every month between officials from the Plant Operator, the Sludge Handling Operator, the Trust and the Rustenburg Local Municipality. At these meetings these monthly reports are discussed amongst others, and various adjustments are considered to improve performance. Other reports which are submitted on a monthly basis contain record of the repairs, refurbishments and reinstatements carried out on all the plants during the previous month.

Some performance indicators are generic, and applies to all plants in general, whilst some indicators are plant related. The performance measurement of those indicators which are plant related will be

reported on at the section dealing with the specific plants, while the generic indicators are reported on in table 1 below

Table 1: Performance measurement against generic performance indicators

Determinand	Performance standard	Performance achieved	Previous Compliancy 31 Dec 2016	Current Compliancy 31 March 2017
Meter readings	Daily meter readings at the same time every day at all plants	100%	Compliant	Compliant
Plant condition	Conduct annual condition survey of assets in all the treatment plants	The annual survey will be carried out early in 2017	Compliant	Compliant
Date	Monthly reports to be submitted by the 7th business day of the following month	7 February 2017 8 March 2017 7 April 2017	100% Compliant	100% Compliant

8 PERFORMANCE VERIFICATION

All meter readings, on-site tests, and other on-site determinands are checked and verified by agents of the Trust. Sampling carried out at the four plants are analysed by the Operator in their own laboratories, and the same tests are performed by independent external laboratories for verification. Records are kept of all invoices payment advices etc. relevant to repairs and refurbishment, and these are checked on a regular basis. Progress on work carried out in terms of the license requirements are monitored continuously.

9. RUSTENBURG SEWAGE TREATMENT PLANT

The Rustenburg Sewage Treatment Plant has a design capacity of 42 Mℓ/d consisting of a 30 Mℓ/d of biological nutrient removing activated sludge plant (2x15Mℓ/d modules) plus a 12Mℓ/d biological filter module. The biological filter plant, being older technology, cannot achieve the modern standards set for nitrate and phosphate (collectively known as nutrient) removal by biological means. If this situation is correctly managed this is not necessarily a problem. The bio-filter effluent can still undergo chemical phosphate precipitation. The plant is designed for this tertiary chemical treatment step. If effluent is predominantly used for irrigation, the fact that it is high in nutrients will be a benefit rather than a problem.

In terms of an agreement with the platinum mines operating in the area, 25 Mℓ of purified effluent is made available to the mines on a daily basis, (being 15 Mℓ/d to Anglo Platinum, and 10 Mℓ/d to Impala Platinum) to be used as process water.

Flow Volumes

The average flow to the plant during the 3 month period since 1 January 2017 was 39.2 Mℓ per day, which is about 11% more than the preceding 3 months, which is to be expected during the rainy season. The lowest recorded flow was 24 Mℓ on 1 January 2017. There was a high in excess of 84 Mℓ (double the design capacity) on 21 February 2017 following heavy rainfall of nearly 300mm in the catchment area.

Effluent Quality

The effluent standards that must be achieved are the stricter of the standards agreed with the mines, or the license conditions on this plant as follows:

- pH to be between 6.5 - 8.5
- Elec. Conductivity not to exceed 150mS/m
- COD not to exceed 75 mg/ℓ
- Ammonia not to exceed 1.0 mg/ℓ
- Nitrate not to exceed 6 mg/ℓ
- Suspended Solids not to exceed 10 mg/ℓ
- E-coli not to exceed 0/100mℓ
- Free Chlorine not to exceed 0.2 mg/ℓ

Table 2 below gives an indication of the performance of the plant during the period under review, 1 January 2017 to 31 March 2017, and includes the performance of the previous period.

Table 2 Quality Measurement at Rustenburg Sewage Treatment Plant

Determinand	Performance standard	Current Performance 31 March 2017		Previous Performance 31 December 2016	
		Performance achieved	Compliancy	Performance achieved	Compliancy
• pH	• 6.8 – 8.2	• 7.7 – 8.9	• 67% Compliant	• 7.9 – 8.1	• Compliant
• Elec. Conductivity	• <150mS/m	• < 83.2 mS/m	• Compliant	• < 99.7 mS/m	• Compliant
• COD	• < 75 mg/ℓ	• < 20 mg/ℓ	• Compliant	• < 44 mg/ℓ	• Compliant
• Ammonia	• <1 mg/ℓ	• < 0.06 mg/ℓ	• Compliant	• < 0.11 mg/ℓ	• Compliant
• Nitrate	• < 6 mg/ℓ	• < 5.9 mg/ℓ	• Compliant	• 4.8 – 6.3 mg/ℓ	• 67% Compliant
• Suspended Solids	• < 10 mg/ℓ	• 5 mg/ℓ	• Compliant	• 5 mg/ℓ	• Compliant
• E-coli	• < 0/100mℓ	• 0 – 79/100 m	• 67% Compliant	• 0 - 18/100mℓ	• 67% Compliant
• Free Chlorine	• < 0.2 mg/ℓ	• < 0.24 mg/ℓ ℓ	• 67% Compliant	• < 0.2 mg/ℓ	• Compliant

Notes:

1. **License Conditions:**
   - The samples to be analysed by accredited laboratory;
   - Only one sample per month is required, meaning three samples for the three-month period under consideration;
   - If a single sample is outside the limit, the compliancy is 67%, and in the case of two samples the compliancy is 33%
2. **Daily process control Sampling (Average for January, February & March 2017)**
   - pH:
   -
3. **Comments per determinand**
   - pH: One sample was outside the license limit, but only marginally so
   - Elec. Conductivity: Compliant
   - COD Compliant
   - Ammonia Compliant
   - Nitrate Compliant
   - Suspended Solids Compliant
   - E-coli One sample was outside the limit; on resampling the limit was achieved. It is suspected that a contaminated sample bottle was used
   - Free Chlorine One sample was outside the license limit, but only marginally so

The dissolved air flotation plant will be commissioned shortly, and will make a substantial contribution in the removal of fat, oil and grease (FOG). It is however more cost-effective to deal with the problem at source, which, up to now, was not possible as the by-laws did not deal with this issue. The new by-laws were approved during a previous review period, and this will allow the RLM to address the problems of FOG at source. The bylaws have however not been promulgated yet, leaving the Trust with its hands tied.

Performance Review

As far as compliancy is concerned, the results are about the same as the previous review period.

The consistent failure to keep chlorine and e-coli values within limits was addressed through improved method of sampling and sampling equipment. This change in sampling is proving effective, but on occasion it still happens that higher values than expected are experienced in one of the two determinands. It no longer happens that both values exceed the allowable limits.

The indiscriminate disposal of illegal sewage both by industries and tankers remains a problem, but will be better enforced once the bylaws are in place.

Restitution Measures

1. Continuous effort to interact with industries on behalf of RLM to enforce bylaws by billing the industries for their effluent contribution as well as non-compliant effluent. (especially with Rainbow Chicken, the main source of fat that has a major impact on the process)
2. Work is carried out to put plans in place to curb the illegal disposal of FOG into the sewer system.
3. During the past year the continuous efforts to improve the performance of the Plant (increased quality control, control in dumping of the tankers, frequent interaction with Rainbow Chicken, implementation of the industrial billing process, improved process control procedures, etc.) have impacted positively on the effluent quality.

Challenges Outside Operator Control

The daily inflow into the plant exceeded the design capacity fifteen times during the review period, which represents nearly 20% of the time. Funding for the augmentation of the plant needs to be considered.
It is crucial that the bylaws be promulgated, and the Trust's assistance in expediting it is necessary.

10. BOITEKONG SEWAGE TREATMENT PLANT

The Boitekong Sewage Treatment Plant is an activated sludge plant with a design capacity of 8 Mℓ/d, currently being extended to 24Mℓ/d . As a result of blockages the flow received into the plant was substantially lower for an extended period. This problem was addressed by an extensive cleaning drive, which started on the outfall sewer from Meriting and Freedom Park, but has since increased to include the whole catchment area of the Boitekong Plant.

The efforts to remove blockages from the outfall sewers serving the Plant, has paid off, and the average flow into the plant over the current review period, at 15.7 Mℓ/d, is almost double the design capacity. A graph of the flow since the beginning of the year is indicated below. The highest flow of 28.3 Mℓ/d (More than 3 times design capacity) occurred on 21 February, following heavy rain of more than 150mm in the catchment area.

Effluent Quality

Construction work on the plant extensions required some of the processes at the plant to be decommissioned until work is completed, and this understandably has a marked effect on effluent quality. The plant operator has however managed to produce an effluent of acceptable quality by good process control and monitoring.

Table 3 Quality Measurement at Boitekong Sewage Treatment Plant

Determinand	Performance standard	Current Performance 31 March 2017		Previous Performance 31 December 2016	
		Performance achieved	Compliancy	Performance achieved	Compliancy
• pH	• 6.5 – 8.5	• 7.6 – 8.9	• 67% Compliant	• 7.7 – 7.9	• Compliant
• Elec. Conductivity	• <150mS/m	• < 109mS/m	• Compliant	• <118 mS/m	• Compliant
• COD	• < 75 mg/ℓ	• < 31.5 mg/ℓ	• Compliant	• 39 - 77 mg/ℓ	• 67% Compliant
• Ammonia	• <1 mg/ℓ	• 0.05 – 16.3 mg/ℓ	• 33% Compliant	• 22,9 –30.1 mg/ℓ	• Non-compliant
• Nitrate	• < 15 mg/ℓ	• 0.1 – 3.3 mg/ℓ	• Compliant	• < 0.5 mg/ℓ	• Compliant
• Suspended Solids	• < 25 mg/ℓ	• 5 mg/ℓ	• Compliant	• < 13 mg/ℓ	• Compliant
• Faecal Coliform	• < 0/100mℓ	• 0 – 220/100 mℓ	• 67% Compliant	• 0 /100mℓ	• Compliant
• Free Chlorine	• < 0.25 mg/ℓ	• < 0.25 mg/ℓ	• Compliant	• 0.25 mg/ℓ	• Compliant
• Ortho-Phosphate	• < 1.0 mg/ℓ	• 0.5 – 2.5 mg/ℓ	• 67% Compliant	• 1.1 – 1.4 mg/l	• Non-Compliant

Notes:

1. **License Conditions:**
   - The samples to be analysed by accredited laboratory;
   - Only one sample per month is required, meaning three samples for the three-month period under consideration;
   - If a single sample is outside the limit, the compliancy is 67%, and in the case of two samples the compliancy is 33%
2. **Plant Design:**
   The plant is designed for 8 Mℓ/d , and is currently receiving more than double of the design load. It is practically impossible to achieve the standard for every determinand
3. **Comments per determinand**
   - pH: The non-compliancy is very marginal.
   - Elec. Conductivity: Compliant
   - COD Compliant
   - Ammonia It is actually quite surprising that there was one compliant sample
   - Nitrate Compliant;
   - Suspended Solids Compliant
   - E-coli 67% Compliant; A resampling was not possible by the time the result was known
   - Free Chlorine Compliant;
   - Ortho-Phosphate The non-compliancy is very marginal.

Performance Review

Generally the plant's performance was about as good as in the previous assessment period. The non-compliant determinands were all fairly marginal, considering the reduction from the raw inflow. The performance is actually very good considering the circumstances, so much so that we verified the values by having them tested by an independent laboratory, which came up with results in the same order.

Restitution Measures

The quality is still under pressure as result of lack of capacity.

Construction has already commenced to extend the plant by 16 Mℓ/d to 24 Mℓ/d. This is a 30 month project but unrest in the area has already affected the completion time of the project.

Challenges Outside Operator Control

The only reliable way to ensure a consistent inflow into the plant is to get a Sewer Cleaning Management Plan in place and to fund and appoint contractors to implement the plan and ensure that blockages are attended to on a sustained basis. The Trust is currently in the process of compiling bid documents for a contract for this work.

11. LETHABONG SEWAGE TREATMENT PLANT

The Lethabong Sewage Purification Works serve the township of Lethabong. It is designed for 2 Mℓ/d and is an activated sludge plant capable of biological nutrient removal. The average flow into the plant during the review period was 721 kℓ/d, which is more than double the flow during the previous review period. This is however a fairly insignificant figure considering the lowest flow of 218 kl/day, compared to the highest of 1978 kl/day, a factor of nearly 10.

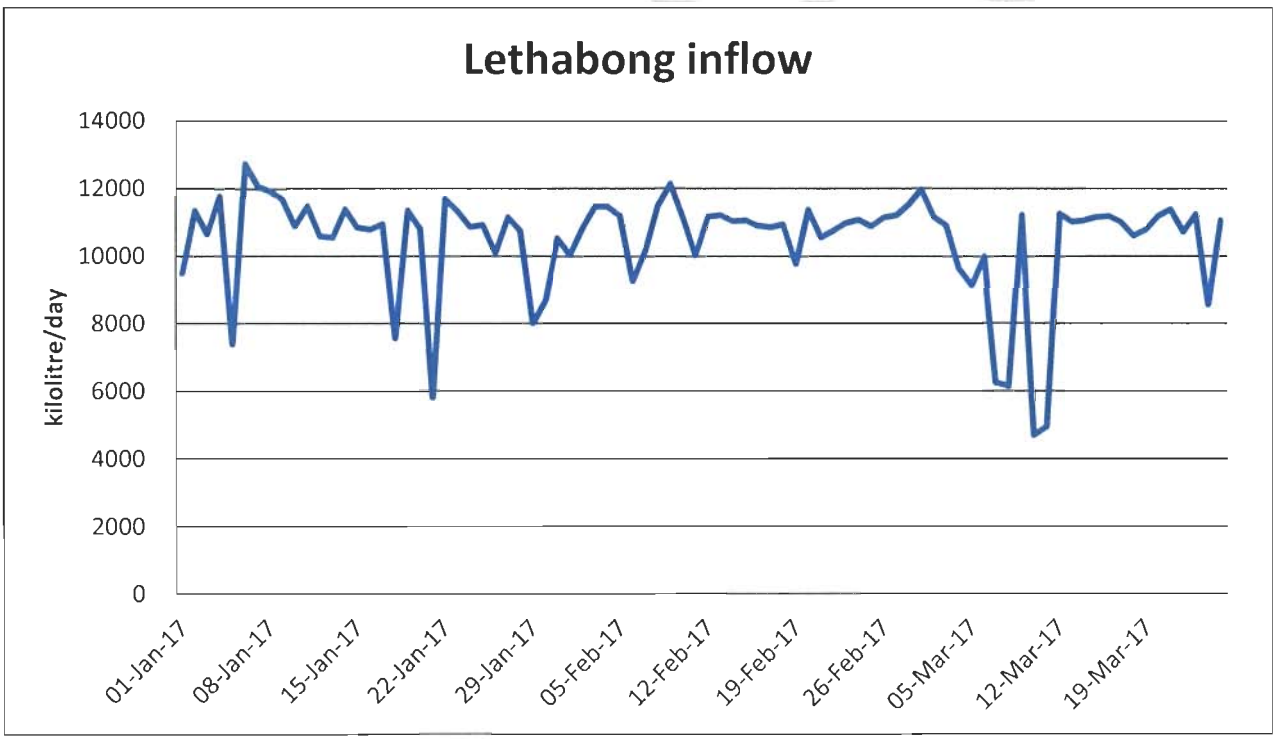


Table 4 Quality Measurement at Lethabong Sewage Treatment Plant

Determinand	Performance standard	Current Performance 31 March 2017		Previous Performance 31 December 2016	
		Performance achieved	Compliancy	Performance achieved	Compliancy
• pH	• 6.5 – 8.5	• 7.9 – 8.8	• 67% Compliant	• 7.9 – 8.4	• Compliant
• Elec. Conductivity	• <150mS/m	• <133mS/m	• Compliant	• < 110 mS/m	• Compliant
• COD	• < 75 mg/ℓ	• <25 mg/ℓ	• Compliant	• < 22 mg/ℓ	• Compliant
• Ammonia	• <1 mg/ℓ	• 0.05 mg/ℓ	• Compliant	• 0.05 mg/ℓ	• Compliant
• Nitrate	• < 15 mg/ℓ	• 13.2 – 20 mg/ℓ	• 33% Compliant	• 14.4 – 15.1 mg/ℓ	• 67% Compliant
• Suspended Solids	• < 25 mg/ℓ	• 5 mg/ℓ	• Compliant	• 5 mg/ℓ	• Compliant
• Faecal Coliform	• < 0/100mℓ	• 0/100 mℓ	• Compliant	• 0 /100mℓ	• Compliant
• Free Chlorine	• < 0.25 mg/ℓ	• < 0.25 mg/ℓ	• Compliant	• 0.25 mg/ℓ	• Compliant
• Ortho-Phosphate	• < 1.0 mg/ℓ	• 0.7 – 2.4 mg/ℓ	• 67%Compliant	• 1.3 – 3.6 mg/l	• Non-Compliant

Notes:

1. **License Conditions:**
   - The samples to be analysed by accredited laboratory;
   - Only one sample per month is required, meaning three samples for the three-month period under consideration;
   - If a single sample is outside the limit, the compliancy is 67%, and in the case of two samples the compliancy is 33%

2. **Comments per determinand**
   - pH: 67% Compliant; the non-compliancy is marginal
   - Elec. Conductivity: Compliant
   - COD Compliant
   - Ammonia Compliant
   - Nitrate The two non-compliant samples were only marginally so.
   - Suspended Solids Compliant
   - E-coli Compliant
   - Free Chlorine Compliant
   - Ortho-Phosphate As long as the water and sewer reticulation in the catchment of the plant remains in a poor condition, the plant will never be able to remove phosphates to the required level.

Performance Review

The good performance of the plant is most probably due that a large percentage of the inflow is clear water emanating for the water leaks in the area.

Restitution Measures

The water and sewer reticulation systems at Lethabong need to be rehabilitated and refurbished where required. It is believed that there are sections in the sewerage reticulation where some sections of the line do not have a sufficient gradient. It is further believed that large numbers of houses have not been connected to the reticulation. In order to address the situation the following will have to be done;

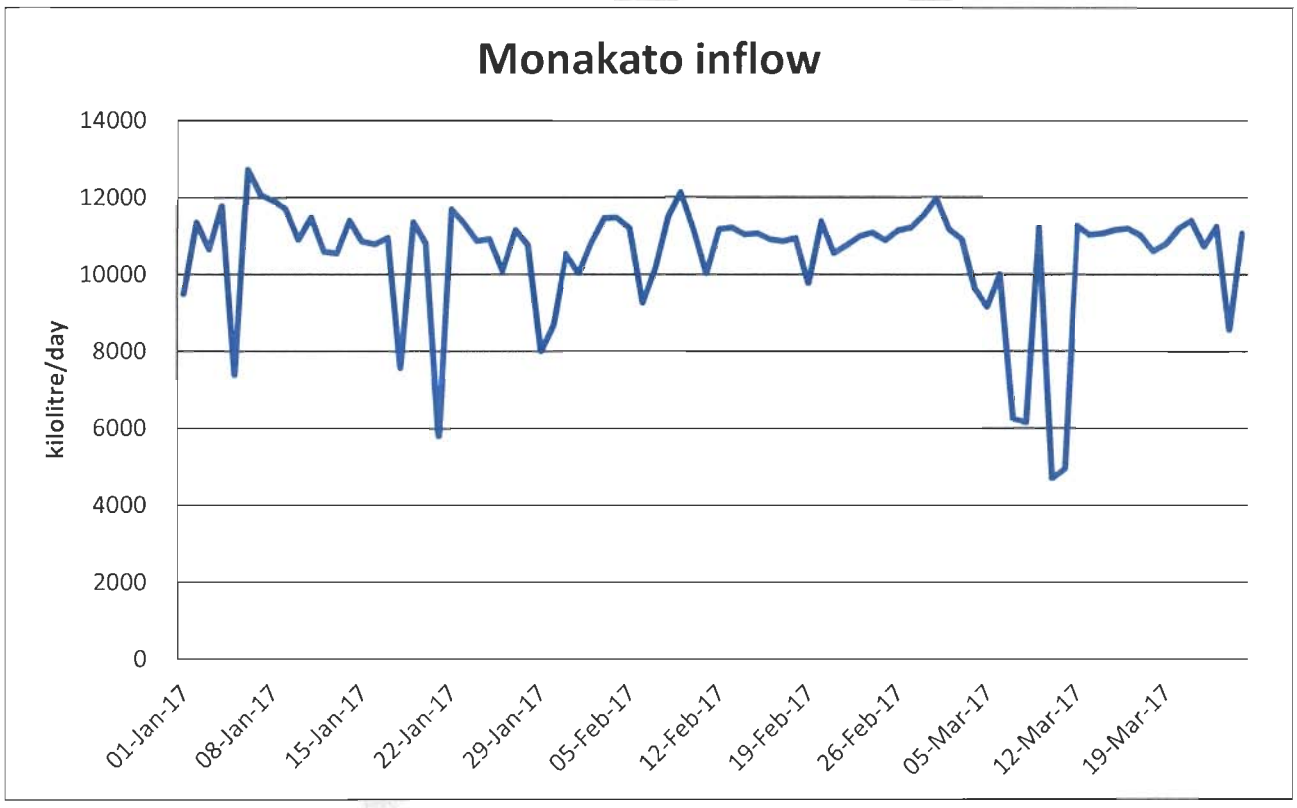
1. A CCTV inspection of the sewer lines to identify and pin-point problem areas;
2. A level survey and compilation of actual as-built layouts and cross sections;
3. A survey of the number of stands connected to the system;
4. An investigation regarding the ingress of rainwater into the sewer system;
5. Planning and design of reinstatement plans for the water, sewer and stormwater systems;
6. Implementation.

Challenges Outside Operator Control

The above restitution proposals fall outside the mandate of the Trust. This is something which needs to be given serious consideration by the RLM.

12. MONAKATO SEWAGE TREATMENT PLANT

The Monakato Sewage Purification Works is a basic oxidation dam system, designed to treat 1000 kℓ/day. On average the inflow for the period under consideration was 343 kℓ/day, but the flow was inconsistent again with lows in the order of 150 kℓ/day, and highs of nearly 20 times as much, as indicated in the graph below.



With reference to the performance of the Monakato Sewage Purification Works, during the period under question, this is indicated in Table 5 below.

Table 5 Quality Measurement at Monakato Sewage Treatment Plant

Determinand	Performance standard	Current Performance 31 March 2017		Previous Performance 31 December 2016	
		Performance achieved	Compliancy	Performance achieved	Compliancy
• pH	• 6.5 – 8.5	• 8.3 – 8.9	• 67% Compliant	• 7.5 – 8.5	• Compliant
• Elec. Conductivity	• <150mS/m	• <109mS/m	• Compliant	• <126mS/m	• Compliant
• COD*	• < 75 mg/ℓ	• 86 – 152 mg/ℓ	• Non-Compliant	• 118 - 186 mg/ℓ	• Non-Compliant
• Ammonia	• <1 mg/ℓ	• 2.6 – 7.2 mg/ℓ	• Non-Compliant	• 14.7 – 24.7 mg/ℓ	• Non-Compliant
• Nitrate	• < 15 mg/ℓ	• < 1 mg/ℓ	• Compliant	• 0.25 - 1.8 mg/ℓ	• Compliant
• Suspended Solids	• < 25 mg/ℓ	• 17.6 – 41.6 mg/ℓ	• 67% Compliant	• 8 – 31 mg/ℓ	• 67% Compliant
• Faecal Coliform	• < 0/100mℓ	• 0/100 mℓ	• Compliant	• 0 /100mℓ	• Compliant
• Free Chlorine	• < 0.25 mg/ℓ	• 0.26 – 0.3 mg/ℓ	• Non-Compliant	• < 0.28 mg/ℓ	• Non-Compliant
• Ortho-Phosphate	• < 1.0 mg/ℓ	• 2 – 3.4	• Non-Compliant	• 2.0 – 5.9 mg/l	• Non-Compliant

Notes:

1. **License Conditions:**
   - The samples to be analysed by accredited laboratory;
   - Only one sample per month is required, meaning three samples for the three-month period under consideration;
   - If a single sample is outside the limit, the compliancy is 67%, and in the case of two samples the compliancy is 33%

2. **Plant Design:**

The plant is of a very basic design which does not provide for removal of certain determinands, as indicated below.

3. **Comments per determinand**

- pH: The non-compliancy is marginal
- Elec. Conductivity: Compliant
- COD The COD is influenced by the presence of algae in the sample. The plant is not designed to remove COD to the required level
- Ammonia The plant is not designed to remove Ammonia to the required level
- Nitrate Compliant.
- Suspended Solids The plant is not designed to remove Suspended Solids to the required level
- E-coli Compliant.
- Free Chlorine The excess is only marginal and will be diluted in the receiving waters
- Ortho-phosphates The plant is not designed to remove Ortho-phosphates to the required level.
-

Performance Review

In general the performance of the plant was much the same as the previous three months. The plant was not designed to perform in accordance with the license conditions, but it did perform remarkably well in this respect. During those days when the higher flows are recorded, the inlet structure overflows, causing problems at the plant.

Restitution Measures

The Trust and the Rustenburg Local Municipality are currently engaged in preparing plans to increase the size of the inlet structure.

A new distribution pipeline to increase the flow distribution effectiveness and retention time through the oxidation ponds was installed. Upgrading of the plant was included in the Council's IDP in the amount of R32 million spread over three years, and MIG funding has since been approved. To apply the MIG funding, however, will depend on its position on the priority list.

Challenges Outside Operator Control

The Monakato upgrade project needs to be given a high priority on the priority list for MIG projects.

13. CONCLUSION – WASTE WATER TREATMENT PLANTS

The plants have performed reasonably during the 3-month period up to 31 March 2017, and although all the standards were not consistently achieved, deviations from standards were not significant. Although there is room for improvement, very significant successes have been achieved.

Based on the performance results discussed above, it is clear that there are a number of common factors which negatively affect the performance of all the plants. These are indicated below.

Incoming Flow: Most of the time the incoming flow varies little from the average flow, during which times the plants operate satisfactorily. At times, however, the inflow can increase up to 20 times the design flow, particularly during rainy seasons, and at times it can reduce to about 50% of the norm as a result of blockages. Large fluctuations in flow have a bad impact on the operation of any treatment plant. The operator has no control over the volume of flow coming in, and no corrective measures can be put into place to address the situation.

Power Failures: Fortunately there was a substantial reduction in power failures, both in frequency and duration, and this has quite a beneficial effect on both the performance and economy of the plants.

WATER PURIFICATION PLANTS

14. BOSPOORT WATER PURIFICATION PLANT

The Bospoort Water Purification Plant is a 12 Mℓ/d sophisticated water purification plant. It incorporates processes such as granular activated carbon and dissolved air flotation to enable to cope with the highly eutrophic water from Bospoort Dam. The primary objective of Bospoort Water Purification Works is to produce potable water fully compliant with SANS 241.

The following Table 6 shows the ability of the plant to produce compliant water:

Table 6: Performance Measurement at Bospoort Treatment Plant

Key performance indicator	Target	Current Performance 31 March 2017	Previous Performance 31 December 2016
Production from the plant must be equal to design capacity of 12 Mℓ/d	Production to be 90% or more of the design capacity	The average daily production over the relevant 3 months was 10.5 Mℓ, which is about 88% of design capacity.	The average daily production over the relevant 3 months was 10.7 Mℓ, which is more than 89,2% of design capacity..
Water Quality to comply with SANS 241	100% Compliance	Full compliancy during January and February; Less than 100% compliancy in March.	Less than 100% compliancy was achieved.

Notes:

1. **Production:** During the first three months of 2017 the production target would have been achieved but for a few planned and unplanned shut-downs
2. **Quality:** The reduced compliancy during March is the result of Magnesium and Calcium, which, in both instances, were marginally higher than the limit. This has no health implications and only the taste may be affected.

Performance Review

For the past year the plant has been producing much less than its target. This was not due to any failure on the part of the operator or the plant itself, but due to various circumstances which hindered the plant to achieve its target production.

These circumstances were identified and addressed and since August there has been a gradual increase in production, so much so that the production in November 2016 and December 2016 was in excess of 92%. Poor quality of the source water however remains an obstacle in achieving full production. The poor quality of the source water is a direct result of main line sewer blockages which allows raw sewage to find its way into the Hex River.

As far as quality of the treated water is concerned, both the magnesium and calcium values were outside the limits. It is not clear what the source of the increased calcium and magnesium levels are Both calcium and magnesium are essential to human health. Inadequate intake of either nutrient can impair health. Recommended daily intakes of each element have been set at national and international levels. Upper limits should take in consideration supplementary intakes from food and liquids. Suffice it to say that users will have to drink several litres of Bospoort water to reach an intolerant level

Restitution Measures

To improve the production of the plant, a pressure sustaining valve was installed on the Bospoort pipeline at the Bospoort plant. This will have the effect that the valve will automatically assist in redirecting the flow, allowing the plant to pump more continuously.

The operator has no control over the quality of the source water. The efforts to remove blockages from the outfall sewers serving the Boitekong WWTW, has however drastically reduced the inflow of raw sewage into the Bospoort dam. The resultant improvement in the quality of source water will unfortunately be slow, as it is a gradual process.

As mentioned above it is not clear how the calcium and magnesium levels have increased during the production process, and the issue is currently being investigated

Challenges Outside Operator Control

The only reliable way to improve the quality of the source water is to get a Sewer Cleaning Management Plan in place and to fund and appoint contractors to implement the plan and ensure that blockages are attended to on a sustained basis. Bid documents are currently being prepared to get such a contractor in place.

15. KLOOF WATER PURIFICATION PLANT

The Kloof Water Purification Works is a small, very old facility that used to be one of the first sources of potable water to Rustenburg. It is fed from the Dorpspruit which originates in the Magalies mountain range from springs, and the water quality is normally of a very high standard.

There has been a steady decline in production figures over the previous year due to insufficient source water, and since 29 October 2015 the dam has been empty. The production has however improved since October 2016, and during December it passed the 20% mark, some days reaching 40%.

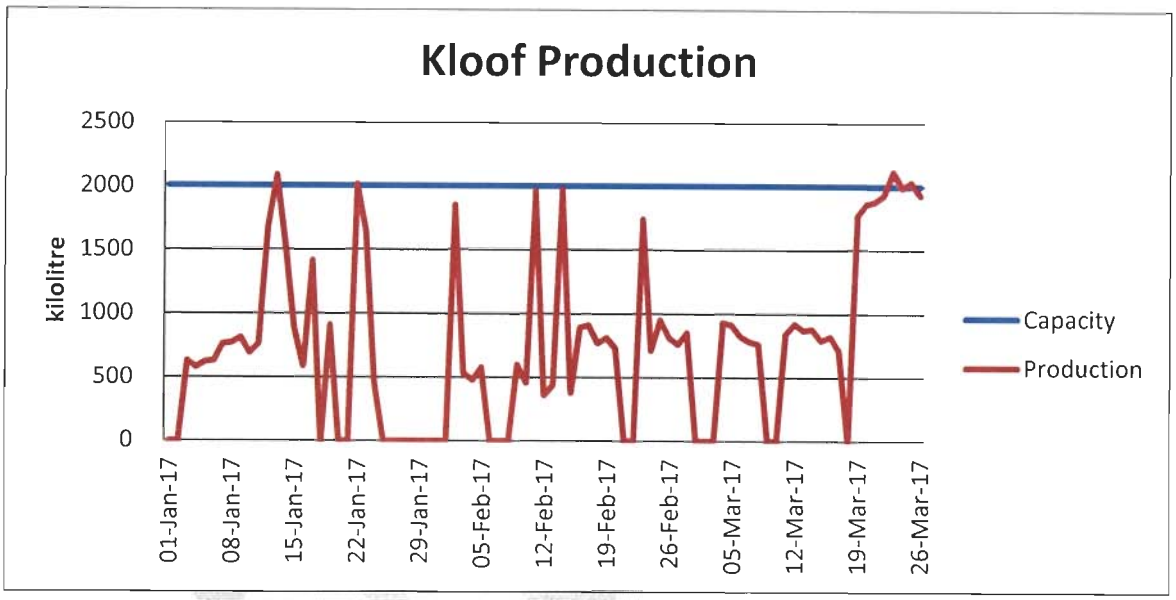
Performance Review

An investigation to improve the yield of the dam has resulted in certain recommendations which were successfully implemented. Since January of this year the production has improved markedly. In the first three months of 2017 the total production was about 66 Ml, which is more than double the total production in 2016. The interrupted production has an effect on the quality of the water, and for

this reason the frequency of quality tests were increased. These have indicated that the water produced did not always meet the Class 1 standards, but all excesses were marginal and did not pose any health risks.

Restitution Measures

The efforts to improve the yield of the dam paid off, and it is expected that the plant will be in full production in the months following. The following graph of the Kloof Plant production clearly shows that both the frequency and the duration of non production period have been reduced.



16. FINANCIAL PERFORMANCE

In terms of the loan agreement entered with the financiers, the financial health of the RWST is enforced through a KPI called a "debt service cover ratio" covenant.

This is a criteria that is well defined in the agreement and is easily measurable and measures the profitability and the ability to repay all outstanding long term debt.

The ratio is defined in terms of the loan agreement as "earnings before interest, tax and depreciation + cash reserves, expressed as a percentage of annual debt repayment".

The ratio is set at 1,5 times and we achieved 5,94 times including cash and excluding cash we achieved 1,76 times in March 2017. What this means is the trust is in a healthy financial position and earnings is 1,76 times higher than the annual commitments.

This is measured before taking into account the possible bad debts which need to be written off.

At this point no bad debts have been provided for and legal proceedings will commence if no attempt is made by RLM to get the account back into the current state.

Attached is the 9 month financial management accounts for the period ending 31 March 2017.