ERWAT: Fourth Quarter Departmental Performance Reporting Template – Rev_27 July 2021

2020/21 QUARTERLY REPORTING TEMPLATE AGAINST THE APPROVED BUSINESS PLANS

1. Executive Summary by the Department

ERWAT achieved three (3) out of the five (5) reportable key performance indicators. Two (2) of the key performance indicators did not have set targets for quarter 4. The report also includes an update on the four (4) operational key performance indicators set for ERWAT for the purposes of monitoring the critical issues as identified by the Board, although it is not required for reporting to the City of Ekurhuleni. ERWAT was able to exceed its targets on external revenue, percentage capital expenditure on planned projects as well as percentage procurement spend allocated to SMME's. The external revenue target was achieved and exceeded due to project interventions which were undertaken and yielded positive results, while the target for capital expenditure was achieved and exceeded due to the early delivery of goods prior to planned date and the target for procurement spend allocate to SMME's due to current term contract in place that has been awarded to SMME contracts.

The compliance in terms of the wastewater treatment works license conditions and/or exemptions standards was at 78% against the set target of 80% for quarter 4. The target was not achieved due to Community unrest in the Lesedi Local Municipality areas, which resulted in the close off to two WCW preventing access to both staff and service providers. Additional challenges experienced during quarter 4 included industrial pollution incidents, an increase in failure of critical equipment and extended power outages.

To prevent a similar occurrence, a Steering Committee comprising of ERWAT, Lesedi Local Municipality and Community Forum Representatives has been established and will be chaired by the Lesedi Local Municipality Municipal Manager or his elected representative. ERWAT has also updated Business Continuity Management Plans (BCMPs) and Incident Management Protocol (IMP) to include community unrest.

ERWAT is striving and working hard towards addressing all Mega Catalytic projects to accommodate all new developments within the City of Ekurhuleni. The planned capacity upgrade of the Water Care Works need to be upgraded urgently to cater for the current backlog in capacity and to make provision for future housing and industrial developments. ERWAT does not have enough Capex funds to implement the upgrade of the Water Care Works.

Table A: Summary of Service Delivery Performance

Service Delivery Monitoring					
	Total number of targets	**Total number of targets set for the quarter**	**Achieved**	**Not achieved**	**Variance**
City Wide SDBIP	3	2	1	1	1
Department SDBIP	4	3	2	1	1
ERWAT Operational Scorecard	4	4	2	2	2

*City Wide – only 2 of 3 Targets reportable for this Quarter

*Department Wide – only 3 of 4 Targets reportable for this Quarter

2. Service Delivery Monitoring

2.1. CITY-WIDE SDBIP

KPI 1 – City-Wide

Total revenue generated from external business

Method of Measure
The indicator measures Increased external revenue generated from commercial sources

Evidence
Invoices coupled with general ledger with a balance that agree to the amount reported

Q4 Target
R 2 854 137.75

Q4 Actual
R 9 245 888.43

Comment
KPI has been achieved. External revenue was exceeded by R6 391 750.68

Reasons for achieving KPI
The target was achieved due to CoT Intervention project which was undertaken by the entity as an Implementing Agent (IA) which yielded positive results.

KPI 2 – City-Wide

Audit Opinion

Method of Measure
The Audit Opinion is defined by the Auditor General. It is given across a qualitative, ordinal scale including: Unqualified with no findings; Unqualified with findings; Qualified with findings; Adverse with findings; and Disclaimed with findings. For those who have not completed the process 'Outstanding audits' are recorded.

Evidence
Dated and signed Audit report from AGSA

Q4 Target
N/A

Q4 Actual
N/A – Reported in Q3

Comment
N/A – Reported in Q3

Reasons for achieving KPI
N/A – Reported in Q3

KPI 3 – City-Wide

Percentage compliance with wastewater treatment works license conditions and/or exemptions standards

Method of Measure
The indicator measures the compliance of wastewater works effluent to the requirements of biological and chemical indicators as per the water use license granted by the Regulator.

It is calculated by dividing the number of determinants complying to the Water Use Authorization with the total number of determinants.

Evidence
Water quality Data of each Wastewater Treatment Works (from the Lab) Spreadsheet used to calculate over all compliance. Applicable Water use authorization of each Wastewater Treatment Works.

Q4 Target
80%

Q4 Actual
78%

Comment
KPI not achieved.

The entity did not achieve the target. It is important that the reason for not achieving is noted, together with the challenges as outlined. It is also important to note that the target was reduced in Q3 and Q4 having taken into account the infrastructure challenges at the Water Care Works (WCWs). These challenges include but are not limited to lack of hydraulic capacity as depicted in Figure 2 under Section 2.8.

Reasons for non-compliance
Community unrest at the two Lesedi WCWs (Heidelberg and Ratanda)

Closure of Heidelberg and Ratanda Water Care Works:
Heidelberg and Ratanda have been non-operational due to Community Unrest. Community members representing different forums closed off access to the WCWs, preventing staff and Service Providers from entering the WCW to perform work. The group demanded employment opportunities, business opportunities and CSR initiatives. ERWAT, through the responsible Ward Councillor, involved the SAPS to assist with the situation however not much help was received. The only other option was to activate the Riot Response Team from the Security Company, but fearing for the safety and wellbeing of staff, management decided against it. As such, both Water Care Works ceased all operations from the 13th of April 2021 and no water quality could be measured as a result.

Without water quality data for the duration, no compliance could be calculated for the 2 WCWs. This has resulted in the 2 WCWs compliance lowering the overall achievement.

Actions taken

After several meetings between ERWAT, Lesedi Local Municipality (LM) and the representatives of the different forums a consensus was finally reached by all parties and the two WCWs were put back in operation on the 24 June 2021.

To prevent a similar occurrence, a Steering Committee comprising of ERWAT, Lesedi LM and Community Forum Representatives has been established and will be chaired by the Lesedi LM Municipal Manager or his elected representative. ERWAT has also updated Business Continuity Management Plans (BCMPs) and Incident Management Protocol (IMP) to include community unrest.

On-going challenges

Over and above the above the reason for non-compliance mentioned above and the ongoing challenges stated under Section 2.10., the flowing challenges were experienced at the other WCWs:

a) Industrial pollution incidents

The WCWs as indicated in the Table below had a higher frequency of industrial pollution incidents during Quarter 4 when compared with the previous quarter. (Refer to Section 3.4 for details of organic loading per WCW)

WCW	Number of industrial pollution incidents in QUARTER 4 in days	Number of industrial pollution incidents in QUARTER 3 in days
Herbert Bickley	21 of 91	18 of 92
Ancor	23 of 91	17 of 92
Benoni	14 of 92	6 of 92
Hartebeestfontein	24 of 91 days	12 of 90 days
Esther Park	11 of 91 days	3 of 90 days
Olifantsfontein	9 of 91 days	3 of 90 days

Actions taken

WCW	Action Taken	5 Step Budget Model				
		No Cost	Opex 1	Capex1	Opex 2	Capex 2
Ancor, Heidelberg Benoni EstherPark, Hartebeestfontein, Olifantsfontein	1.1. Any incident where industrial pollution incidents occur that impacts negatively on the optimum operation of the WCW is communicated to the CoE Water and Sanitation Department: Water Quality Section as well as Lesedi Local Municipality (LLM). COE will investigate the incident and manage the non-compliant industrial CoE clients according to the Water and Sanitation By-laws	As and when incidents occur.				

WCW	Action Taken	5 Step Budget Model				
		No Cost	Opex 1	Capex1	Opex 2	Capex 2
	and the applicable limits for industrial effluent discharges. Minimising risks at source is the most cost-efficient mitigation control in this regard.					
All WCW	ERWAT and the COE has embarked on a project to develop an improved industrial management model. As the CoE needs to appoint a professional service provider (PSP) for this project, the project has not moved forward due to a lack of funding. ERWAT and the CoE will work very closely with the PSP once the project kicks off.				COE Budget, awaiting funding, therefore no date for execution available.	

b) <u>Failure of critical equipment</u>

The following WCWs experienced increased number of equipment failures during Q4 compared to Q3, thus affecting the compliance of the WCWs..

WCW	Critical equipment failures QUARTER 4	Critical equipment failures QUARTER 3
Ancor	19	19
Herbert Bickley	12	10
Heidelberg	10	8
Dekema	16	2
Vlakplaats	46	39
Waterval	60	48
Hartebeestfontein	12	11
Olifantsfontein	39	12
Rynfield	4	1
Benoni	6	3

Action Taken

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
Olifantsfontein	Module 1 Aerator 1.4, 1.11, and Mixer 1.4, 1.6, 1.7 and 1.8 defective affecting aeration resulting in non-compliance. Procurent process in progress.		To be repaired in July and August 2021			
	Module 3 Aerator 4, 7 and RAS 1.2 and 2.1 affecting plant performance resulting in non-compliance. Procurement process in progress		To be repaired in July and August 2021			
	Unblocking of PST module 1 and 2. Module 1 is completed and 2 is in progress		PST 2 unblocking was completed in June 2021 and PST 1 unblocking in progress and it be completed in July 2021.			
	Emergency dams return pump 3 4 affecting Chlorine contact tack cleaning resulting in non-compliance. Procurement process in progress		To be repaired in July and August 2021			
	FBP worn out belts and scrappers 1-4		To be repaired in July and August 2021			
Hartebeesfontein	PST Module 2 Bridge, repairs completed.		It was repaired in June 2021			
	FST 6 Siphons, affecting FSTs capacities resulting in solids carry over, non-compliance. repairs completed.		It was repaired in June 2021			
	ABS Blower 1 and 2 Module 4 affecting aeration resulting in non-compliance. Capex item					Budgeted for under CAPEX 2 and the budget is not approved.

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
	Valve at Chlorine contact tank, affecting cleaning of the contact tank resulting in non-compliance. Procurement process in progress		To be repaired in July 2021			
	Cable theft at Digestors and module 4 RAS		Repaired in May 2021 and June 2021 respectively			
Rynfield	Aerator 1 defective, affecting aeration resulting in non-compliance. Capex item			December 2021		
	Aerator 2 -4 defective VSDs affecting aeration resulting in non-compliance. Procurement process in progress		July and August 2021			
Ancor	9x ferric dosing equipment failures.		All repaired in Q4. Replaced corroded pipes and valves.			
	4 x Chlorine dosing failures.		All repaired in Q4 within one day each.			
	Humus de-sludge valves broken		Repaired in Q4			
Welgedacht	Closure of module 1 for clearing of sand :Maintenance of mixers and internal recycle pumps		In progress. Expected completion date 30 July 2021.			
Heidelberg	2x aerator failure;		faulty to be repaired in July 2021			
	2x Clarifier Bridge not operational,		Repaired in July and Aug 2021			
	3x Pumps (Inlet)		To be repaired by August 2021			
	2x power feed cable stolen at substation		Replaced in Dec 2020			
	Screen		To be repaired by August 2021			
Herbert Bickley	4x RAS Pumps		faulty to be repaired in July 2021			
	Chlorine Dosing Booster Pump		faulty to be repaired in July 2021			

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
	2x Desludging Pumps		faulty to be repaired in July 2021			
	3x Sludge Recycle Pumps		faulty to be repaired in July 2021			
	2x Sludge to Land Pumps		faulty to be repaired in July 2021			
Dekema	Breakdown of sludge withdrawal pump impacting effluent compliance		Pump partially repaired (June 2021)	Replacement of sludge pumps due 2021/2022		
	Failure of 2 wash water pumps which had an impact on compliance,		Dec. 2021			
	Failure of 2 cascade pumps (final effluent mixing / aeration) Largely contributed to non-compliance at Dekema Largely contributed to non-compliance at Dekema		1 pump was repaired (June 2021) and 1 Pump is awaiting spares			Requested funding to replace 1 pump.
Vlakplaats	Ferric Chloride dosing system, failure of pumps affecting compliance.		Pumps were repaired May 2021			Ferric Chloride dosing system, failure of pumps affecting compliance.
	Disinfection (DBF) dosing system failures, impact on effluent compliance		The newly appointed SP is in the process of installing new DBF dosing equipment			Disinfection (DBF) dosing system failures, impact on effluent compliance
	Failure of the WAS pumps/VSD at mod D			The service Provider is in the process of installing new panels with new VSD		Failure of the WAS pumps/VSD at mod D

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
	Failure of DAF recycle pump at Mod D. Impact on effluent compliance		Pumps were repaired by maintenance June 2021			Failure of DAF recycle pump at Mod D. Impact on effluent compliance
	Failures of raw sludge transfer pumps.		Pumps were repaired by maintenance June 2021			Failures of raw sludge transfer pumps.
Waterval	Insufficient availability of aeration equipment at module 4 resulting into effluent non-compliance.		Module 4 aerators 3 out of 13 aerators were attended, maintenance to prioritize on repairing the remaining			
	Frequent trippages on newly installed blowers due to faulty and overheating cables. Impact on Modules 2/3 effluent compliance			The tender has been closed on the 14/05/2021, pre-evaluation commenced on the 17/05/2021.		
All 19 WCW	Asset management plans in line with the approved maintenance policy was developed.	2020.				
	The asset plans are not fully implemented due to budget cuts by the COE. As the infrastructure is operating above both hydraulic and organic design capacity, it is a **high risk** that planned maintenance cannot be implemented, which will lead to increased critical equipment failures and negative impact on the final effluent water quality				No date for implementation is available due to budget cuts	

Failure of critical equipment remains a serious challenge, even for WCWs that attained the water quality targets.

c) Power outages

Ancor, Welgedacht, Jan Smuts, Tsakane, Herbert Bickley, Dekema and Vlakplaats were affected by extended power outages during Q4, also impacting on the compliance of the final effluent.

WCW	Source of Supply	Unplanned Power Outages	Duration (Hours)	Planned Outages (Load shedding)	Duration (Hours)	Total Outage (Hours)	Cause
Esther Park	CoE	1	7.5	11	26.5	34	Cable theft and load shedding
Benoni	CoE			7	28	28	Load shedding
Hartebeestfontein	CoE			11	26.5	26.5	Load shedding
Rynfield	CoE			10	28	28	Load shedding
Ancor	CoE	0	0	12	34	34	Load Shedding
Jan Smuts	CoE	0	0	11	23	23	Load shedding
Welgedacht	Eskom	2	5	0	0	5	Power outage due to Eskom substation breakdown.
Tsakane	Eskom	6	17	33	22	39	Power outage experienced as a result of load reduction and loadshedding by Eskom.
Herbert Bickley	CoE	1	108	7	27	135	Cable theft, vandalism to electricity infrastructure
Dekema	Eskom	0	0	31	121	121	Load Shedding
Vlakplaats	CoE	0	0	12	24	24	Load shedding

The following WCW, Benoni, Esther Park, Rynfield, Hartebeestfontein, JP Marais, Jan Smuts, Daveyton, Herbert Bickley, were affected by load shedding, stand-by diesel generators were in place to partially mitigate this risk, therefore the WCW final effluent compliance was not adversely affected. It must be noted that generators for critical processes at some WCW have not yet been procured due to budget constraints, awaiting Capex funding.(Capex 2)

WCW	Action taken	ERWAT 5 Step budget model				
		No Cost	Opex1	Capex1	Opex2	Capex2
Benoni	Procurement of Stand-by diesel generator for critical sections of the WCW was added to the 5 year Capex Budget plan.					No budget available, awaiting funding.
Esther Park	Procurement of Stand-by diesel generator for critical sections of the WCW was added to the 5 year Capex Budget plan.					No budget available, awaiting funding.
Rynfield	Procurement of Stand-by diesel generator for critical sections of the WCW was added to the 5 year Capex Budget plan.					No budget available, awaiting funding.
Ancor	Procurement of Stand-by diesel generator for critical sections of the WCW was added to the 5 year Capex Budget plan.					No budget available, awaiting funding.
Herbert Bickley	CoE replaced the stolen cables and damaged infrastructure		25 June 2021			

d) Welgedacht closure of module 1

Welgedacht Module 1 was taken out of operation during Q4 for removal of sand and grit in the reactor and the maintenance and repair of mixers and recycling pumps. This closure affected the available operational capacity and final effluent compliance (E. coli) for 32 days of the quarter, and is still ongoing.

Action taken

All flows are bypassed to Welgedacht module 2 for treatment. Excess flows are stored temporarily in the emergency dam for treatment during off-peak hours. The anticipated completion for this project is 31 July 2021.

2.2 DEPARTMENT SDBIP

KPI – 1 Department SDBIP

% Capital expenditure on planned projects

Method of Measure

The Indicator measures the total budget spent. The indicator target is measured cumulatively across the quarters.

The indicator formula is:

(1) Expenditure year to date / (2) Total approved CAPEX budget for the year

Evidence

Finance year to date expenditure report

Q4 Target

95%

Q4 Actual

100.26%

Comment

KPI has been achieved.

Reasons for achieving KPI

Early delivery of goods prior anticipated/planned date.

KPI – 2 Department SDBIP

Percentage of repairs and maintenance budget spent

Method of Measure

The Indicator measures the total budget spent. The indicator target is measured cumulatively across the quarters.

The indicator formula is:

(1) Expenditure year to date / (2) total approved maintenance budget approved.

Evidence

Finance year to date expenditure report

Q4 Target

90%

Q4 Actual

91%

Comment

KPI achieved.

Achieving KPI

ERWAT has under spent on repairs and maintenance (planned and ad-hoc) for all quarters 1 - 3 of 2021 YTD. However. Quarter 4 target was achieved.

Action taken to address Challenges

1. The department has started scheduling and implementing planned maintenance beginning Q3 going forward.
2. The department is also rolling out condition-based maintenance (CBM) , by applying predictive maintenance techniques to arrest the increasing number of critical equipment failures.
3. To have full maintenance staff compliment in the new financial year to execute preventative maintenance plans
4. Expedite the Renewal of service contracts for the repairs of critical Equipment.

KPI – 3 Department SDBIP

Percentage of procurement spend allocated to SMME's

Method of Measure

The indicator measures the percentage of procurement spend allocated to SMME's through ensuring appropriate application of the preferential procurement practices. This support will be calculated aa a percentage of the total value paid to Small, Medium and Micro Enterprises either directly or via the principal contractor in terms of a Preferential Procurement Regulation 4 or 9 contractual condition.

The indicator formula is:

(1) rand value of procurement spend allocated to SMME's / (2) rand value of total procurement spend *100

Evidence

Dated and signed Letter of appointment or subcontract with support (contract) amount Award AND Listing (Register) of SMME supported with support amount.

Q4 Target

33%

Q4 Actual

84%

Comment

KPI has been achieved.

Reasons for achieving KPI

Due to current term contract in place that has been awarded to SMME contracts.

KPI – 4 Department SDBIP

Number repeat audit findings

Method of Measure
The indicator tracks the number of findings made on the same matter as of the last audit cycle. The “Repeat” findings refer to those findings that have persisted from one year of reporting to the next. These are identified as repeat findings by the Auditor-General on the following administrative areas including but not limited to: i) Annual financial statements and annual report.

The formula for the indicator is the (1) Simple count of the number of "repeat" findings itemized in the Auditor-General's report of each municipality

Evidence
AGSA signed management letter

Q4 Target
N/A

Q4 Actual
N/A- Reported in Q3

Comment
N/A- Reported in Q3

Reasons for achieving KPI
N/A- Reported in Q3

2.3. ERWAT OPERATIONAL SCORECARD

The below ERWAT operational KPI’s will not be for the reporting to the City of Ekurhuleni however, it seeks to focus on the critical issues as identified by the Board and Management of ERWAT in the achievement of organisational priorities.

KPI – 1 ERWAT Operational Scorecard

Stage of completion of RFI and RFP proposal processes (from the starting point of initiating RFI/RFP proposal process and compilation of the PPP proposal to completion by submission of RFP/PPP proposals to council)

Method of Measure
Inspection and validation of the information in the documentation specified as sources of evidence.

Evidence
Council agenda containing the report.

Council resolutions in relation to the PPP and RFP proposal.

Q4 Target
RFP proposal submitted to council

Q4 Actual
RFP proposal submitted to technical cluster

Comment
KPI not achieved.

Reasons for achieving KPI
PPP proposal document was returned from the first technical cluster meeting, needed comments from the real estate and environmental departments from COE.

KPI – 2 ERWAT Operational Scorecard

Quarterly monitoring of risk action plans and ensure timely reporting

Method of Measure
Strategic Risk Register generated after conducting risk assessments. Submission of the approved Strategic Risk Register to the Office of the Auditor General linked to the Internal Audit Plan.

Evidence
Corporate Strategic Risk Profile approved by the Board of Directors.
Quarterly Risk Progress Reports submitted to the Board.

Q4 Target
1 Strategic Risk Progress Report

Q4 Actual
1 Strategic Risk Progress Report

Comment
KPI has been achieved.

Reasons for achieving KPI
Monitor progress on risk action plans on a quarterly basis and ensure that the quarterly reports are available for the Board of Director and the COE risk committee.

KPI – 3 ERWAT Operational Scorecard

80% of performance management evaluations completed for the business.

Method of Measure
Evaluated and electronically signed performance contracts on the system.

Evidence
Evaluated performance contracts

Q4 Target
80%

Q4 Actual
In progress, finalising the performance contracts.

Comment
KPI not achieved.

Reasons for not achieving KPI
Performance contracts to be finalised in July, after close of year end.

KPI – 4 ERWAT Operational Scorecard

1.7 – 1.9 lost time injuries frequency rate experienced in ERWAT

Method of Measure
Monthly report encompassing the lost time injuries frequency rate for the organization.

Evidence
Monthly lost time injuries frequency rate report of the organization.

Q4 Target
1.7 – 1.9 lost time injuries frequency rate

Q4 Actual
1.58 lost time injury frequency rate.

Comment
KPI has been achieved

No lost time injuries were experienced in the last Quarter.

Reasons for achieving KPI

Due to safety awareness and effort of the workers in the field.

2.4. City-Wide/Institutional SDBIP 2020/21

Refer to the City-wide SDBIP 2020/21

Table1: City-Wide Indicators

NB: Please note that reasons for variance must be provided for both overachievement and under achievement

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline	Annual Target	Planned Target Quarter 4	Actual Output Quarter 4	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 4	Actual Expenditure Quarter 4
National Prescribed Indicators															
N/A															
Provincial Indicators															
N/A															
City of Ekurhuleni Indicators															
IDP Strategic Objective 2: To build a clean, capable and modernized local state															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of water (including wastewater)	38	Total revenue generated from external business	Invoices coupled with general ledger with a balance that agree to the amount reported	R50 600 000	R 55 706 522.52	R 2 854 137.75	R 9 245 888.43	R 6 391 750.68	Performance achieved and exceeded by R 6 391 750.68	Achieved .	The target was achieved due to the CoT intervention project that was undertaken by ERWAT as an Implementing Agent.	No remedial action required due to the achievement of the target.	Opex	Opex
	To build a clean, Capable and Modernise	39	Audit Opinion	Dated and signed Audit report from AGSA	Unqualified Audit Opinion	Unqualified Audit Opinion	N/A – Reported in Q3	N/A	N/A	N/A	Not for reporting in the quarter	N/A	N/A	R0.00	

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline	Annual Target	Planned Target Quarter 4	Actual Output Quarter 4	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 4	Actual Expenditure Quarter 4
	d Local State														
IDP Strategic Objective 4: To protect the natural environment and promote resource sustainability															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of water (including wastewater)	62	Percentage compliance with wastewater treatment works license conditions and/or exemptions standards	Water Quality Data of each Wastewater Treatment Works (from the Lab) Spreadsheet used to calculate over all compliance. Applicable Water use authorization of each Wastewater Treatment Works	87%	85%	80%	78%	-2%	Performance not achieved	Not achieved	1 Community Unrest in Lesedi LM	1.Establishment of a Steering Committee comprising of ERWAT. Lesedi LM and Community Forum Representatives. 2. Updated Business Continuity Management Plans and Incident Management Protocol to include community unrest.	R149 165 230.00	R 122 000 974

2.5 Entity's SDBIP Score card with Key Performance Areas and Indicators 2020/21

Table 2: Entity's SDBIP

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline	Annual Target	Planned Target Quarter 4	Actual Output Quarter 4	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 4	Actual Expenditure Quarter 4
IDP Strategic Objective 2: To build a clean, capable and modernized local state															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of Water including Wastewater	1.M	Percentage Capital expenditure on planned projects	Finance year to date expenditure report	95%	95.00%	95.00%	100.26 %	+5.26%	Performance achieved	Achieved	Early delivery of goods prior anticipated/planned date	None	R 51,500,000.00	R55 976 898.09
	Improved Quality of Water including Wastewater	2.M	Percentage of repairs and maintenance budget spent	Finance year to date expenditure report	84%	95.00 %	90.00%	90.52%	1%	Performance achieved	Achieved,	Increase Planned Maintenance activities	None	R 66 889 069.78	R73 543 607.55
	Improved Quality of Water including Wastewater	3.M	Percentage of procurement spend allocated to SMME's	Dated and signed Letter of appointment or subcontract with support (contract) amount Award AND Listing (Register) of SMME supported with support amount	R14 184 369	33.33%	33.33%	84%	50.25% exceeded	Performance achieved	On track	Target exceeded due to current term contracts in place	None	33%/ R16 302 813	R17 517 110

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline	Annual Target	Planned Target Quarter 4	Actual Output Quarter 4	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 4	Actual Expenditure Quarter 4
	Improved Quality of Water including Wastewater	4.M	Number repeat audit findings	AGSA signed management letter	4	0.00	N/A	N/A- Reported In Q3	N/A	Not for reporting in the quarter	N/A	N/A	N/A	R 0.00	N/A

2.6. ERWAT Operational Scorecard

The below ERWAT operational scorecard will not be for the reporting to the City of Ekurhuleni however, it seeks to focus on the critical issues as identified by the Board and Management of ERWAT in the achievement of organisational priorities.

Table 3: ERWAT Operational Scorecard

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline	Annual Target	Planned Target Quarter 4	Actual Output Quarter 4	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 4	Actual Expenditure Quarter 4
IDP Strategic Objective 1: To promote integrated human settlements through massive infrastructure and services rollout															
Ekurhuleni Water Care Company (ERWAT)	To promote integrated human settlements through massive infrastructure and services rollout (GDS 2055: Re-urbanise to Achieve		Stage of completion of RFI and RFP proposal processes (from the starting point of initiating RFI/RFP proposal process and	Council agenda containing the report. Council resolutions in relation to the PPP and RFP proposal.	New	RFP proposal submitted to council	RFP proposal submitted to council	RFP proposal submitted to technical cluster	N/A	Performance not achieved	N/A	PPP proposal document was returned from the first technical cluster meeting, needed	None	N/A	N/A

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline	Annual Target	Planned Target Quarter 4	Actual Output Quarter 4	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 4	Actual Expenditure Quarter 4
	Sustainable Urban Integration)		compilation of the PPP proposal to completion by submission of RFP/PPP proposals to council)									comments from the real estate and environmental departments from COE.			
	To promote good corporate governance (GDS 2055: Re-govern to Achieve Effective Cooperative Governance)		Quarterly monitoring of risk action plans and ensure timely reporting	Corporate Strategic Risk Profile approved by the Board of Directors. Quarterly Risk Progress Reports submitted to the Board.	New	1 Strategic Risk Progress Report	1 Strategic Risk Progress Report	1 Strategic Risk Progress Report	No variance	Performance achieved	Monitor progress on risk action plans on a quarterly basis and ensure that the quarterly reports are available for the Board of Director and the COE risk committee.	The set target of generating 1 strategic risk progress report per quarter has been met	None required	N/A	N/A
	To promote good corporate governance (GDS 2055: Re-govern to		80% of performance management evaluations	Evaluated performance contracts	New	80%	80%	In progress, finalising the performan	N/A	Performance not achieved	Performance contracts to be finalised	Year-end is on 30 June 2021 and therefore	None	N/A	N/A

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline	Annual Target	Planned Target Quarter 4	Actual Output Quarter 4	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 4	Actual Expenditure Quarter 4
	Achieve Effective Cooperative Governance)		completed for the business					ce contracts			in July, after close of year end.	Performance Contracts are finalised in July			
	Health and safety (GDS 2055: Re-govern to achieve effective cooperative governance)		1.7 – 1.9 lost time injuries frequency rate experienced in ERWAT	Monthly lost time injuries frequency rate report of the organization	New	1.7 – 1.9 lost time injuries frequency rate	1.7 – 1.9 lost time injuries frequency rate	1.58 lost time injuries frequency rate	-0.12	Performance achieved	Achieved and exceeded	Due to safety awareness and effort of the workers in the field.	None	N/A	N/A

2.7. Reflection on operations/ day-to-day activities (Analytical Narrative Account)

NB: Reflect on the day-to-day activities that may not be in the Departmental Scorecard but constitute a key mandate of the department. Some of the day-to-day activities may be in the DH: Scorecards. This may also include the **Mayoral Lekgotla Action Plan, State of the City Pronouncements etc.**

A Flows

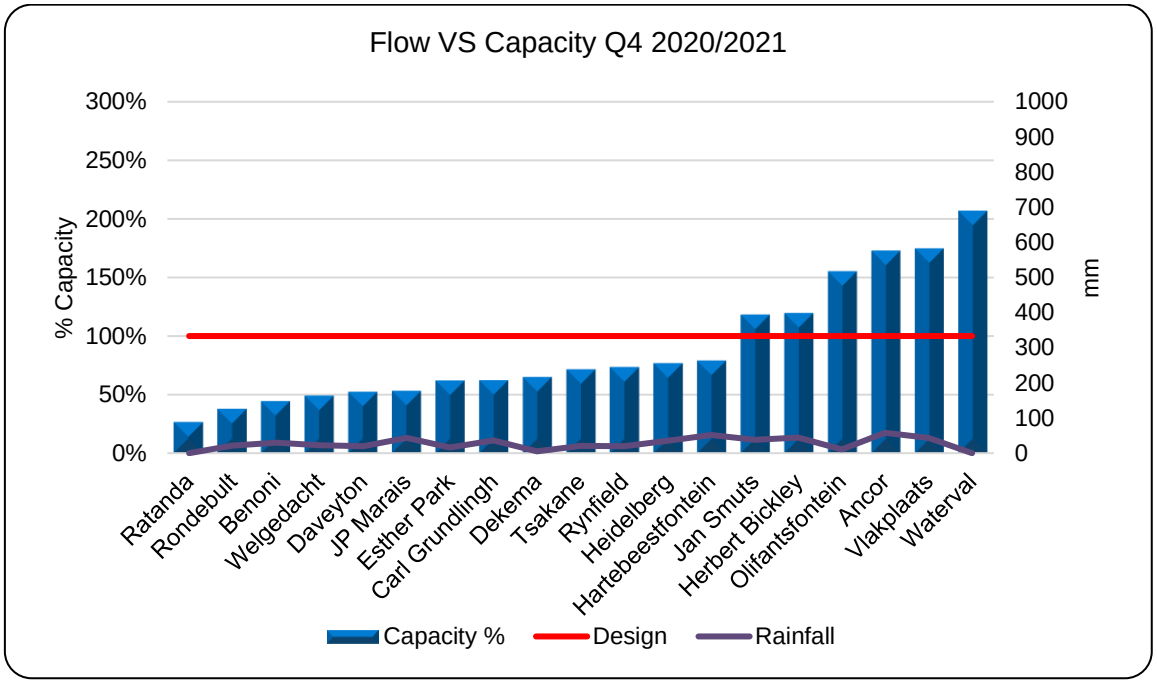


Figure 1

A total of 70386 Ml was treated in Quarter 4, at an average of 774 Ml/day, utilising 124% of the capacity.

2.8. Service Delivery Highlights and Challenges

Flows

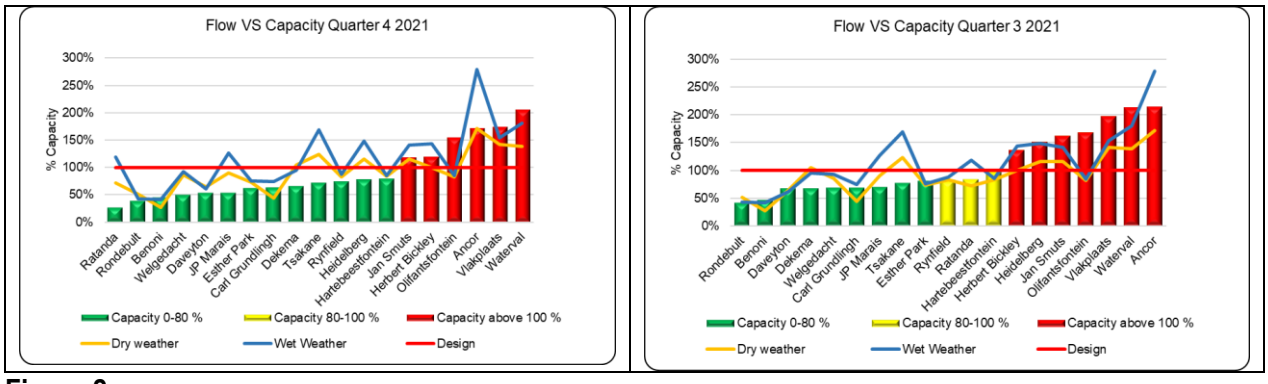


Figure 2

As can be noted in the above graph, during Q4 six (6) out of nineteen WCW were operating above their hydraulic design capacity, and thirteen (13) below their hydraulic design capacity. In Q3 seven (7) out of the

nineteen (19) WCW were operating above their design capacity, three (3) operating between 80% and 100%, and nine (9) operating below the 80% mark.

Ancor operated at 172%, Jan Smuts at 118% and Herbert Bickley at 119% Olifantsfontein operated at 155% % of its capacity, with large regional plants such as Vlakplaats operating at 174% and Waterval operating at 206%. Additional capacity is urgently needed.

Plant	Design Capacity	Flow	Rainfall
Ancor	15.00	25.84	58.00
Benoni	7.50	3.34	30.00
Carl Grundlingh	5.20	3.24	36.00
Daveyton	19.00	9.95	19.50
Dekema	31.00	20.14	5.00
Esther Park	1.40	0.62	16.00
Hartebeestfontein	63.00	49.65	52.00
Heidelberg	5.40	4.14	35.00
Herbert Bickley	15.10	18.02	44.00
Jan Smuts	6.00	7.08	38.00
JP Marais	15.00	8.00	43.50
Olifantsfontein	65.00	100.70	11.00
Ratanda	4.70	1.25	0.00
Rondebult	20.00	7.60	22.00
Rynfield	10.00	7.33	20.00
Tsakane	20.00	14.33	20.70
Vlakplaats	55.00	95.81	43.20
Waterval	170.00	350.82	0.00
Welgedacht	95.00	46.59	23.00

Although Herbert Bickley achieved the water quality targets, they are operating above their hydraulic design capacity with an ever-increasing risk of incidents of non-compliance escalating up to full non-compliance of the plants. (Refer to Section 2.10. for details per plant)

ERWAT does not have Capex funds to extend/upgrade the WCW that require additional capacity, and therefore have serious challenges in supporting the CoE in meeting the Growth Development Strategy (GDS2055) and the development of the Aerotropolis.

Action taken

WCW	**Action taken**	**ERWAT 5 Step budget model**				
		No Cost	**Opex1**	**Capex1**	**Opex2**	**Capex2**
Olifantsfontein	Phase 1 a and b capacity projects are at implementation stage, expected completion is the end of Q3. Phase I c			R 75 662 K R20 M (Phase 1a & b)		

WCW	Action taken	ERWAT 5 Step budget model				
		No Cost	Opex1	Capex1	Opex2	Capex2
	will be advertised at the beginning of Q3.			R55 662 K (Phase 1c)		
Hartebeesfontein	Expression of interest tender for the upgrade/ retrofit of treatment technology and associated infrastructure or new build has been advertised.	Closing date:5 February2021				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Ancor	Expression of interest tender for the upgrade/ retrofit of treatment technology and associated infrastructure or new build has been advertised.	Evaluation of proposals is in progress.				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Jan Smuts	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised.	Evaluation of proposals is in progress.				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Welgedacht	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Evaluation of proposals is in progress.				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Heidelberg	Expression of interest for the upgrade/retrofit of treatment technology and associated	Evaluation of proposals is in progress.				No dates for the upgrade of the

WCW	Action taken	ERWAT 5 Step budget model				
		No Cost	Opex1	Capex1	Opex2	Capex2
	infrastructure or new build has been advertised Extension of the WCW (future Module 3)					various WCW are available as Capex funding is not available.
Herbert Bickley	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Evaluation of proposals is in progress.				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Vlakplaats	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Evaluation of proposals is in progress.				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Waterval	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Evaluation of proposals is in progress.				No dates for the upgrade of the various WCW are available as Capex funding is not available.
All WCWs	1). ERWAT has developed a 5- year CAPEX plan detailing all required CAPEX upgrades and refurbishments	Completed 2020.				
	2).ERWAT's request is that the CoE fairly and proportionally reallocate					

WCW	Action taken	ERWAT 5 Step budget model				
		No Cost	Opex1	Capex1	Opex2	Capex2
	the Bulk infrastructure grants, which will at least enable ERWAT to refurbish and optimise infrastructure. ERWAT has subsequently submitted a report to the Department of Water and Sanitation detailing the risks associated with the lack of capacity at the ERWAT plants in detail, and the associated costs to mitigate the risks					
	3). The report is to be taken through all the required COE processes for comments and eventually to Council	In progress.				

2.9. Organic Loads

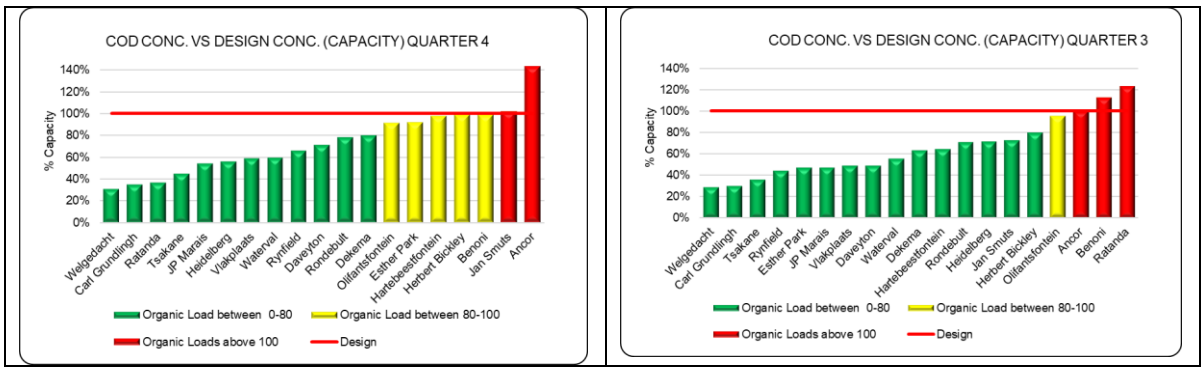


Figure 3

As can be noted, for Quarter 4, 2 WCW's operated above 100% of their organic capacity, 5 WCW's between 80-100% and 12 below their design capacity.

Ageing infrastructure

Several WCWs have challenges with failed civil structures where rehabilitation/repairs are urgently required. Where failed structures had to be closed out, the available capacity at the WCW such as Olifantsfontein, Ancor, and Jan Smuts is further reduced, impacting compliance of WCW.

Actions taken

Deteriorating Civil Structures at the WCW's

Plant	Description	Actions Taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
Olifantsfontein	An intervention project commenced at Olifantsfontein to refurbish infrastructure in order to restore the plant's capacity to its original state.	Phase 1 a and b capacity projects are at implementation stage, expected completion was supposed to be 30 June 2021. Phase I c is at re-prespec stage. PSP tender is at advert stage			Approved CAPEX 1		Requested , not approved yet
Hartebeestfontein	Effluent pipe leak	Expression of interest tender for the upgrade/ retrofit of treatment technology and associated infrastructure or new build has been advertised.	Closed on 5 February2021 and the tender is currently at evaluation stage				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Esther Park	Leaking reactor wall						R 500 000
Ancor	Biofilter distribution towers are severely compromised due to the failing concrete structures leading to ineffective distribution of feed water to the biofilters	Rehabilitate/rebuild the Biofilter distribution towers			30 June 2022.		
	The dosing facility infrastructure has reached the end of their lifespan and are ineffective to disinfect the final effluent to	Chlorine facility to be upgraded and new chlorine contact channel to be constructed..					Date cannot be confirmed as Capex funding is not available.

	the required standards.						
Jan Smuts	1). Refurbishment of civil structure of Digester 1 (currently closed).				30 June 2022		
Ratanda	Drying beds leaking	Escalated the risk to the W2RAP, no funds to execute					Date cannot be confirmed as Capex funding is not available
Heidelberg	The joint sealants of Carousel reactor concrete wall are damaged	Escalated the risk to the W2RAP, no funds to execute					Date cannot be confirmed as Capex funding is not available
Herbert Bickley	1.Cracked digesters and bio-filters	Escalated the risk to the W2RAP, no funds to execute					Date cannot be confirmed as Capex funding is not available
	2. Replacement of Bio-filter arms					30 Sep 2021	
Tsakane	1.Digester structure cracked						Date cannot be confirmed as Capex funding is not available
	2.channel for raw sewage feeding HYBACS concrete structures cracked and leaking						Date cannot be confirmed as Capex funding is not available

2.10. Plant Specific Challenges

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Benoni	Plant did not comply with WUL effluent standards Physical: 99.6% Chemical:97.5% Micro:91.1%, therefore Q4 overall compliance =96.09%	Plant operated at 45 % of re-graded hydraulic capacity	Plant operated at 77 % of re-graded organic capacity	Flow interruptions in Q4 due to burst rising main at Apex pump station and Cable theft	There were 7 of 91 days High strength COD pollution incidents in Q4	There were 6 critical equipment in Q4, Chlorine system regulator was not operational in the month of April and June which affected micro compliance. In the month of May chlorine cylinder chain block damaged. In the month of May PST no 1 scum box and v-belts were damaged. All Bio	There were 7 power failures in Q4 and the duration was 27hr86min	Open digesters walls are cracking, Humus tank weirs plates worn out	None	None	Dried sludge is stockpiled on the plant and applied on instant lawn	Unlined sludge paddies and maturation ponds could cause possible ground water pollution	N/A	N/A	Sludge classification samples taken to ERWAT scientific services, awaiting results. Current sludge classification A2c is suitable for the instant lawn application according to WRC guidelines. Screenings and grits that are generated at the plant are collected by CoE	N/A	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						filter recirculation pumps were not operational.											
Esther Park	Plant complied with WUL effluent standards for Q3 2020/ 2021 Physical: 98% Chemical: 97% Micro: 95%. Q4 overall compliance = 97%	Plant operated at 44 % of hydraulic capacity (Based on regraded capacity of 1.4 Ml/d)	Plant operated at 57 % of organic capacity	No abnormal flows recorded for Quarter 4.	11x Industrial effluent pollution incidents in Quarter 4.	1x critical equipment failure occurred in the quarter that affected ammonia, COD and micro compliance. (RAS pump failure)	12x power failure incidents recorded in Q4 lasting for total downtime of 34 hours. (26hr30min – Load shedding and 07hrs30min – cable theft)	Reactor walls are leaking	Not applicable	None	Not applicable	Not applicable	Not applicable	Not applicable	Screenings and grits is collected by the CoE	Access road is slippery in the rainy season.	Drop in water pressure occasionally that affects chlorine dosing
Hartebeestfontein	Plant failed to comply with WUL effluent standard of 90% but complied with the revised	Plant operated at 79% of hydraulic capacity	Plant operated at 64% of organic capacity	Abnormal fluctuations in inflows in quarter 4 was on the 2nd , 13th and 31st	Plant received industrial high strength effluent on 24 of	12 Critical equipment failures occurred in Quarter 4	There were 11 power outages for 26.5 hours in Q4 due to load	Aging infrastructure.	Digester 1, 4,6 and 9 sludge recirculation nozzles blocked	There were no veld fires experience Quarter 4	835 451 kg of dry sludge was irrigated to the 200	Borehole two has high concentration of	Sinkhole next to the fence towards FST 5 & 6 and	License amendment with relaxation on Electri	Sludge classification is B2c, not suitable for the intended purpose; this requires further	ABS blower Chlorine dosing system	There were multiple portable water leaks around the plant

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	compliance target of 80%. Q4 compliance is archived with 83%			April 2021 and 1st of June 2021 with flows above design capacity of 63 Ml/d.	91 days in Quarter 4		shedding resulting in standby generator diesel consumption of 6000L				hectares farm.	Nitrates.	around the Farm.	cal conductivity, Ammonia, E.coli and COD was granted in July 2019	engagement with the farmer.	Standby generator Online monitoring instruments Inlet blockages and Industrial action	during quarter 2.
Olifantsfontein	Plant did not comply with WUL effluent standard Plant complied with 71.86% compliance in Q4 2020-2021. Physical: 78.15 Chemical: 58.37 and Micro: 79.07.	Plant operated at 155% of hydraulic capacity	Plant operated at 91% within the organic capacity	Abnormal fluctuations in inflows in Q4 2020-2021, were seen when it was raining with maximum flow of 147	Plant received industrial high strength effluent (very high Electrical Conductivity above	39 critical equipment failures occurred in Q4 2020-2021	There were Four Power failures that lasted four hours in total in April and June With diesel consumption of 815l	Module 3, Anaerobic digesters.	Digester 4 of 6 digesters are blocked due to sand accumulation	None	369 758 kg in Q4 2020-2021 due to operating with one FBP unit. Sludge is disposed on different farms around	Unlined emergency dams contaminating borehole no.2&3. Borehole 1 runs dry	2 x Sinkholes behind and in front of the old laboratory which occurred in Dec 2019 still not	Olifantsfontein WUL is stringent on Ammonia of < 2mg/l, SS of 15 mg/l and and	Sludge is classified into three streams: (1). Dewatering unit(B3a), the sludge not suitable for cultivating crops such as fruits trees (2). Drying beds (A3a), No restrictions and	Road to upstream sampling point need to be graded and there is high erosion on the banks. To be	No Challenges

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	The Q4 compliance target of 70% was met.			Ml/d on 03 June 2021	100 mS/m) on 60 of 91 days. COD exceeded 150% of the design capacity 9 days of 91 days in Q4 Plant also experiences fine sand ingress						Bapsfontein area and is used for agricultural purposes	during dry seasons	rehabilitated	EC of < 80 mS/m.	requirements apply 3) Grit and screenings is waste that should be dumped at specialised land fill under strict conditions to ensure ENV compliance	reported to the CoE..	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Rynfield	Plant complied with WUL effluent standards Physical: 99.3% Chemical: 77.2% Micro: 91%, therefore Quarter 4 overall compliance = 89.%.	Plant operated at 73.1 % of hydraulic capacity	Plant operated at 65.8 % of organic capacity	Yes, May 2021 flow dropped because N12 pump station flooding to the river due to pumps breakdown.	None	3 critical equipment failures(i.e. VSD for Aerator 1 Sludge pump and Ferric pump) occurred in Quarter 4 2021 that affected Ammonia , Nox and phosphate compliance	There were 10 power failures in Q4 and the duration was 28hr16min due to load shedding.	Pavement Cracked and Digesters & reactor tank concrete structure is cracked .Bio-feeder structure is cracked.	None	None	Dried sludge is stockpiled on the plant	Unlined sludge paddies, Unlined Maturation ponds and Contact tank. Lagoon	N/A	N/A	Awaiting Sludge classification results, sludge samples taken to ERWAT scientific services. CoE collects screenings and grits from the inlet works.	N/A	N/A
Ancor	Plant compliance for Q4 is 52% Non-compliant parameters: Chemical 50%, Physical 72% and Micro 33%	Plant operated at 172% of its hydraulic capacity	Plant operated at 143% of organic capacity, which is lower than the loads received pre-lockdown , Q3-.	Ancor experienced storm water ingress during heavy rainfall, worsening the overloaded hydraulic capacity;	Plant received high COD industrial effluent on 23of 91 days. In Q4, Increase due to industries that	19 critical equipment failures occurred in Q4, namely: 9 failures on the ferric chloride dosing system in Q4; 4 failures of the	12 outages occurred (34hrs. total) (Generator backup available for whole plant except disinfection section).	Bio filter flow division boxes partially collapsed , humus tanks/ PST's- and digesters structures are	3 digesters blocked with sand and are not in operation. This cause the plant to run out of sludge handling capacity,	No veldfires occurred during Q4.	Stockpile area not lined. Stockpiles on plant is a risk due to veldfires and environmental pollution	Unlined sludge paddies pollute underground water	Area around humus tanks and final effluent channel are dolomitic accord	N/A	CoE removes solid waste (screenings and grit).	Road in very bad condition , however some potholes were repaired	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
				however, the RSA COVID - 19 lockdown reduced flows to the WCW.	started up after we moved to level 3	chlorine system, Humus desludge valve x3 . Biofilter no 1 – 5 centre columns and arms were refurbished. Biofilter no 7-9 distribution arms were replaced. All these were effecting compliance.		crumbling /cracked	which prevent proper desludging and resulting in non-compliances.				ing to Geotech study performed.				
Daveyton	Plant complied; compliance for Q4 is 98.90%.	Plant operated at 52% of its hydraulic capacity.	Sufficient capacity. Plant operated at 71 % of its organic capacity.	Numerous sewer blockages in the CoE network and potable water supply interruption to Etwatwa	N/A. Domestic only.	5 Critical equipment failures occurred in Q4, namely: WAS pump, Clarifier 2 Bridge, Power supply to	26 power outages occurred in Q4 (74 hours total). Power outages was load shedding on network.	Underground water leak next to Clarifier 1 and CCT sometimes leaking. Do not have direct impact on	N/A	Veld fires pose a risk during winter, but no incidents during Q4.	Sludge lagoons are unlined Space for solar drying is in-sufficient	Unlined sludge lagoons pollute the ground water.	N/A	N/A	Did not have challenges in Q4. CoE removes solid waste (screenings and grit)	N/A	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
				lead to inconsistent and irregular flow to the plant.		BNR, DB box at office, Chlorine Change over.		the operation of the plant at the moment									
JP Marais	Plant compliance for Q4 is 97%.	Sufficient capacity. Plant operated at 53% of hydraulic capacity	Sufficient capacity. Plant operated at 54% of organic capacity	Low incoming flows in Q4 due to Modderbee and Benoni outfall sewer lines blockage	No industrial incidents that negatively affected the WCW in Q4	8 critical equipment failures occurred in Q4, namely; WAS pipeline (2 times), Chlorine pump (once)), Chlorine leak sensor (once), Irrigation pump (once), Screen Conveyor (once) and Screen Compactor (once)	10 Power outages (37 hours total) due to loadshedding, Generator backup is available.	2 x mixers beyond repair	N/A	1 x veld fire incident in Q4 (June)	Sludge pumped to Welgedacht, where it is treated. WAS pipe got broken twice in Q4 and repaired.	Some boreholes polluted. Ongoing monitoring of boreholes.	No dolomitic soil	N/A	CoE removes solid waste (screenings and grit) except for PST screenings, due to no screen compactor.	Road in a good condition	None

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Welgedacht	Plant Complied with WUL effluent standards 84% for Q4	Plant operated within design capacity (operated at 49% capacity)	Sufficient capacity Plant operated at 31% organic capacity. Over Achievement.	Low incoming flows in Q4 due to Modderbee and Benoni outfall sewer lines blockage and blockage in Rowhill	None	43 critical equipment failures occurred in Q4, Module MCC electrical panel must be replaced. Unsafe. Blowers at Module 2. Blocked Benoni sewer line, PST recycle screen x 2, Scada system x 2, Dewatering plant x 6, Screens x 4, Chlorine system x 1, Lights x 3, Borehole pump x 2,	Two power outages which lasted for 5 hours due to failure at Eskom main substation	N/A	N/A	No veldfires occurred during Q4.	None	Unlined Dechlorination channels and Emergency dam	N/A	Very strict WUL standard for Micro compliance(E.coli) zero counts /100ml.	CoE removes solid waste (screenings and grit).	Gravel access road in very bad conditions and very slippery when wet.	No potable water supply to the plant. Borehole water used for hygiene. Drinking water is being transported in from other plants.

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						Inlet Screw pumps x 6, Sumps x 6 Power supply x 2, PST waste pumps x 3, Inlet works blowers x 1 , Blocked degritter x 3, Grit classifier x 2, Ferric pipes x 1.											
Jan Smuts	Plant compliance for Q4 is 86%. Non-compliant parameters: Chemical 74%	Plant operated at 118% of its hydraulic capacity	Plant operated at 102% of its organic capacity.	Plant operated at 118% of its hydraulic capacity (High incoming flows in all the days in Q4)	Plant received industrial high strength effluent on 24 of the 91 days in Q4.	1 critical equipment failure occurred in Q4, the irrigation pump's motor.	11 Power outages (23 hours total) due to loadshedding, Generator backup is available.	Humus Tanks scum boards, digester number 2's wall, drying beds' walls and the bio-filters' feed flow division box/tower.	N/A	None	Dried sludge is stockpiled on site.	Unlined sludge stockpile area can cause ground water pollution.	N/A	N/A	Screenings incinerated at the plant and the grit buried at the plant. This practice does not comply with WUL conditions.	N/A	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Heidelberg	Plant Compliance for Q4 is (30.5%). Physical 34.4%,Chemical 25.3% and Micro 32.2%	Plant operated at 77% of its hydraulic capacity	Plant operated at 56% of organic capacity	High incoming flows in April	Plant received high COD industrial effluent on 6 of 91 days and high SS on 5 days of 90. Samples were not taken in May and June because of strike	10 Critical equipment failures for Q4 (2x Clarifier Bridges, 4x Inlet Raw pumps motors ,2x inlet Raw pump and 1x degritter conveyor, 1x screen motor)	Heidelberg had 8 power outage with a duration of 25 hours. All this happened in the month of April only due to other faults from Municipality in Q4. Diesel used was 3115L	The joint sealants of Carousel reactor concrete wall are damaged	None	No veldfires occurred during Q4.	Sludge at the plant stockpiled after dewatering, and is also applied/irrigated to the lands and could potentially contaminate groundwater resources	Unlined sludge paddies/lack of groundwater monitoring in the sludge paddies	None	None	Screenings and grit generated at the plant buried and this practice is not environmental friendly. Potential groundwater pollution	The access road to Heidelberg works is severely damaged and a new-tarred road is required urgently	None
Herbert Bickley	**Herbert Bickley** Plant Complied with WUL effluent standards (90.0%)	Plant operated at 119% of hydraulic capacity	Plant operated at 80% of organic capacity	High incoming were not experienced in Q4.	Plant received industrial high strength effluent on 11 of 91 days	3 Critical Equipment (booster pumps, sludge to land pump, chlorine dosing systems, RAS	Herbert Bickley had 9 power outages which lasted 148 hours Diesel used was 8420L	Anaerobic digesters cracked concrete structures , Biofilter 1 ans 2 have cracked	6 out of 8 digesters not in use due to blockages and leaking digester pipes	No veldfires occurred during Q4.	Sludge used for irrigation at instant lawn	Irrigation of sludge for Instant lawn is a source of pollution	None	None	Collected by CoE to a dedicated landfill site	Access road to the plant damaged and requires an upgrade	None

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						Pumps and raw sludge recycle and desludging pump)		concrete structures,				Activities are carried out as per Guidelines					
Tsakane	Plant compliance for Q4 is 95.%.	Sufficient capacity. Plant operated at 72% of hydraulic capacity	Sufficient capacity. Plant operated at 86% of organic capacity	Minimal incoming flow was experienced at the plant due to equipment breakdowns and spillages at Reticulation pump stations (Rockville, Extension 11 and 22)	None	34 critical equipment failures occurred in Q4, namely; Damaged Sludge to land pump no.2 motor. PST pump no.1 blockages (11 times) and damaged PST pump no.2(2 time), Both Degritter pump no.1(3	34 Power outages as a result of load reduction implemented by Eskom (98 hours total). 1 x Backup generator available.	Digesters and channel for raw sewage feeding HYBACS concrete structures cracked and leaking	N/A	No veldfires occurred during Q4	Sludge pumped to unlined lagoons/ paddies for solar drying. Drying beds have been decommissioned	Unlined sludge lagoons and paddies/lack of ground water monitoring at the sludge lagoons and paddies. Unfenced drying paddies	None (There's a dolomitic report that shows none at Tsakane)	None	Screenings and grit collected by CoE to a dedicated landfill site	None	Potable water leak next to Tsakane hostel. It also create a wetland next to the fence.

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						times) and Degritter pump no2 (1 times), Both Mechanical fine screens (1 time), Blocked RAS pump no.1 (8 times) , Inlet flow meter (3 times), A-recycle pump no.3 (1 time), Chlorine system (2 times) and Generator (1 time)											
Carl Grundlingh	Plant Complied with WUL effluent standards (97.0%)	Plant operated at 63% of its hydraulic capacity	Plant operated at 33% of organic capacity		None	2 Critical equipment failures for Q4 (Recycle pump &Clarifier	power outage (2 hours)	None	N/A	No veldfires occurred during Q4	Land application of sludge is being used	Unlined sludge to land posing ground water	None	None	Collected by CoE to a dedicated landfill site	Access road to the plant is damaged and requires	None

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						#2 rotating wheel)						pollution				an upgrade.	
Ratanda	Plant Complied with WUL effluent standards (24 %)	Plant operated at 35% of its hydraulic capacity	Plant operated at 11% of organic capacity,	Experienced 1 incident, of no inflow to the plant From 08 May2021 to 24 June 2021	None	2 Critical equipment failures for Q4 (1xChlorine booster;1 x Conveyer belt grit classifier(Ongoing from Q3	Ratanda had 1 power outages with a total duration of 5 hours in Q4	Drying beds drainage system and chlorine contact tanks are badly leaking structures	N/A	None	Dried sludge is stockpiled on-site, potential groundwater pollution	Unlined sludge ponds and leaking drying beds, potential ground water pollution	None	None	Screenings and grit generated at the plant are still being buried and this practice is not environmental friendly. Potential groundwater pollution	The access road to Ratanda Works is severely damaged and a new-tarred road is required urgently	No link to the Municipal Potable Water Supply, water transported from Heidelberg Works and borehole water is used for other domestic purposes
Dekema	Plant did not comply with WUL effluent standards. Non-compliant parameters: Physical 76%	Plant operated at 65 % of hydraulic capacity	Sufficient capacity. Plant operated at 83% organic capacity	Plant received high flows on 1 out of 91 days	Plant received high COD industrial effluent	Q4 – 16 Critical equipment failures - 2 x sludge pump , 2 x degritter pumps ,1	32 Outages occur (123 hrs total) Load shedding is a big concern.	Channels feeding sections partially collapsed . Biofilters and digesters	1 out of 12 Anaerobic digesters is blocked	No veld fires occurred during Q4.	Sludge pumped to unlined lagoons for solar drying and	Unlawful disposal of grit (grit is buried on-site	None	N/A	N/A	N/A	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	Chemical 58% Micro 85% Average compliance: 73%				on 3 of 91 days	x broken arms of degritter , 2 x humus tank centre column , 1 x ferric pump , 1 x Generator , 1 x fine screen winch , 1 x biofilter, 1 x cascade pumps , 2 x PST structural failures,2 x humus tanks bridges 2 Critical equipment failures Q3 namely Failure of primary sedimentation tank rotating		wall are cracked.			dried sludge spread to land area to be ploughed into land.	in a trench) .					

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						bridge motor and Failure of biofilter feed pump section 6											
Rondebult	Plant did comply with WUL effluent standard Average compliance: 93.05% Compliant Parameters- Physical – 98.81% Chemical: 95.35% Micro: 84.98%	Plant operated at 41% of hydraulic capacity.	Plant operated at 71% of organic capacity.	High and low, flows due to the sluice gate installed at Klippoortjie. High flows of up to 15.12 Ml/day.	Plant received industrial high COD effluent on 0 of 92 days and 7 ad hoc incidents of industrial pollution were observed and reported. Namely: 2 incidents of oily influent,	3 Critical equipment failures for Q3 as to 5 Critical equipment failures for Q2. Namely 2x primary biofilter feed pump leaking excessively.1 Digester pipe leakage.	12 Outages occur (66 hours in total) due to power interruptions.) Load shedding, cable theft and the lack of Genset for process continuity is a big concern.	Biofilter walls cracked. Brickwork of open channels are unstable, collapsing and cracked. The feed pipe from the primary biofilters to the secondary biofilters has collapsed.	None	No veld fires occurred during Q3.	Dried sludge is spread on to land and plough into land.	Unlawful disposal of grit and screenings (grit is buried on-site in a trench).	The entire area of the plant are dolomitic	N/A	Attempts were made to get CoE to assist and collect the grit and screening at Rondebult and dispose of it at a dedicated landfill site without any success.	The access road are deteriorating fast and will need attention soon.	Underground rusted pipe works needs to be replaced

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
					4 incidents of foam containing influent and 1 incident of black coloured influent												
Vlakolaats	Plant did not comply with WUL effluent standards: Average compliance: 45.19 Compliant Parameters- Physical – 84.274% Chemical: 37.03% Micro: 14.27%	Plant operated at 174% of hydraulic capacity. Needs to be upgraded	Plant operated at 53% of organic capacity	High flows of up to 115 Ml/day occurred from dates due to storm water ingress. Rainfall measured at the plant was 43.2mm.	Plant received industrial high strength effluent on 0 of 91 days	46 Critical equipment failures occurred in Q4 - Namely: 2 failures of the ferric chloride dosing system. 3 failures of the WAS pumps/VSD,2 failures of Transformers,4 Failures	12 Outages occur (24 hours in total) Load shedding is a big concern.	Module A,B and C PSTs Baffle plates ,discuming bridges collapsed .	None	No veld fires occurred during Q4.	Dried sludge is stockpiled on the plant. Demand for instant lawn application is seasonal	Unlined Emergency dams. Unlawful disposal of grit (grit is buried on-site in a trench) .	Area around bio filters at Mod A are dolomitic	N/A	N/A	Access road to final effluent need to be tarred, can't drive on it during rainy season is too muddy and slippery	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						of DAF recycle pump,14 failures of raw sludge transfer pumps. 7 failure Humus tank trippages 3 Failures of composite samplers 1 RAS pump failure. 9 failures of mechanical screens.1 failure of effluent pump												
Waterval	Plant did not comply with WUL effluent standards: Average compliance:	Plant operated above capacity (operated at	Sufficient capacity Plant operated at 43%	Average flow of up to 350.3 Ml/day received due to	Plant received industrial high strength	60 Critical equipment failures occurred in Q 4 Mainly	None	None	None	1 fire veld at sludge lands, meeting was	Dried sludge is stockpiled on the plant. Demand	Unlined Emergency dams. Unlawf	None	N/A	N/A	N/A	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	84% Compliant Parameters-Physical – 84% Chemical: 84% Micro: 84%	206% capacity)	organic capacity.	developments and bypasses for upstream plants.	effluent on 2 of 91 days. Plant is receiving and treating 30 m^3 of leachate daily from EnviroServ	from 5 x DAF Recirculation pumps, 11 x aerators, 7 x RAS pump, 5 x draw off pump and transfer pump failures, 4x wash water failure, chlorine bank, 8 x screen, storm water pump failure, 6 x SST bridges and syphoning failure, 3 x PST failures, pst conveyor, 5 x balancing				held with Rand Water to outline dangers on the area and to put measures to control fire as they work on the site	for agricultural application is seasonal.	ul disposal of grit (grit is buried on-site in a trench).					

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						screw pump failures, 4x blower failures, 2 x planned shut downs											

2.9. Project/Infrastructure Report

2.9.1. Report on the Flagships/Mega Projects

This section includes all major projects that will contribute to the Mega Catalytic projects such as the John Dube Development. ERWAT receives new township applications timeously from CoE and provide responses about the capacity availability at various Water Care Works as and when applications are received. This section focuses on feasibilities studies and major projects at ERWAT Water Care Works (WCW), for projects that contribute either directly or indirectly to the flagship projects.

COE and ERWAT undertook a comprehensive **WASTEWATER CONVEYANCE AND TREATMENT SYSTEMS REGIONALIZATION AND 50 YEAR MASTERPLAN** that will give strategic direction for future wastewater system extensions/consolidation planning, investment and implementation for the next fifty (50) year planning horizon. The intention of this study was to, based on the current COE wastewater master plan, Integrated Development Plan and Spatial Development Framework and future projections, optimize existing systems and associated infrastructure with the option to regionalize treatment works and conveyance systems, where necessary. The proposed solution has recommended the reduction of the current WCWs from 19 to 10. The estimated overall capital cost to upgrade the WCW over a 50-year planning horizon is R14.09 billion.

The urgent required WCW capacity upgrades to accommodate the short to medium term capacity requirements in line with the Regionalization and 50-year Master Plan is summarized below.

No	Water Care Works (WCW)	CAPEX Requirements
1	Jan Smuts	R 58 500 000,00
2	Vlakplaats	R 364 000 000,00
3	Waterval	R 3 250 000 000,00
4	Ancor	R 455 000 000,00
5	Herbert Bickley	R 325 000 000,00
6	Olifantsfontein	R 650 000 000,00
7	Welgedacht	R 780 000 000,00
8	Ratanda	R 130 000 000,00
9	Hartebeestfontein	R 494 000 000,00
10	Rondebult	-
		R6 506 500 000,00

1. Ancor WCW

a) The Ancor works is situated in Springs and falls within the DD5 drainage district. The original design capacity of the plant was 32 Mℓ/d. Conventional biological filtration is employed as the main treatment process. The plant capacity has been downgraded to 15 Mℓ/d. The plant is currently operating above its design capacity, which leads to poor quality of the final effluent. Ancor has older trickling filter technology, which is not suitable to treat high strength sewerage containing industrial pollutants. The new Daggafontein Megacity that is currently under construction directly opposite the plant will require a connection to the Ancor outfall were within this financial year.

b) Plans are currently underway to upgrade the plant to 50 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	35 Mℓ/d Plant Upgrade	R 455 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.

2. Vlakplaats WCW

a) Vlakplaats is situated in Vosloorus and falls within the DD6 drainage district. The original design capacity of the plant was 83 Mℓ/d. The plant capacity has been downgraded to 55 Mℓ/d. The plant is currently operating above its design capacity, which leads to poor quality of the final effluent. Vlakplaats flow distribution project is currently under construction phase to augment and add a peak flow balancing capacity into the plant by converting the old existing ponds into a balancing tank.

b) Plans are currently underway to upgrade and restore its original capacity of 83 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that the plant meet the required standards as stipulated by the department of water and sanitation (DWS).

PLANNED PROJECTS		BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	28 Mℓ/d Plant Upgrade	R 364 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.
3	Flow distribution	R 40 000 000.00	Vlakplaats flow distribution project is currently under construction phase to augment	The commissioning of the project is

PLANNED PROJECTS		BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
			and add a peak flow balancing capacity into the plant.	anticipated to be 2021/2022

3.Welgedacht WCW

a) The Welgedacht works is situated in Springs and falls within the DD5 drainage district. The original design capacity of the plant was 85 Mℓ/d. Module 2 have been commissioned and is currently undergoing defects liability period. The plant capacity has been up-graded to 95 Mℓ/d.
b) Plans are currently underway to upgrade the plant to 155 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	60 Mℓ/d Plant Upgrade	R 780 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.

4. Herbert Bickley WCW

a) The Herbert Bickley works is situated south of Nigel town and falls within the DD5 drainage district. The original design capacity of the plant was18.75 Mℓ/d. The plant capacity has been downgraded to 15.1 Mℓ/d.
b) Plans are currently underway to upgrade the plant to 40.1 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	25 Mℓ/d Plant Upgrade	R 325 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.

5. Waterval WCW

a) The Waterval wastewater care works is the largest works operated by ERWAT and is situated in the DD6 area at the Kliprivier. The original design capacity of the Waterval wastewater care works was155 Mℓ/d. The plant capacity has been up-graded to 170 Mℓ/d.
b) Plans are currently underway to upgrade the plant to 420 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	New 250 Mℓ/d Module 5 - Extension	R3 250 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan	The commissioning of the project is subject to the availability of funds.

Conclusion:

ERWAT is striving and working hard towards addressing all Mega Catalytic projects to accommodate all new developments within the City of Ekurhuleni. As per table above, the mentioned Water Care Works need to be upgraded urgently to cater for the current backlog in capacity and to make provision for future housing and industrial developments. ERWAT does not have enough Capex funds to extend/upgrade the plant.

3 Financial Report

Table 5: Operational expenditure

REVENUE BY SOURCE	BUDGET ANNUAL R	BUDGET FOR 12 MONTHS JUNE 2021 R	ACTUAL YEAR TO DATE JUNE 2021 R	VARIANCE YTD ACTUAL VS YTD BUDGET R	VARIANCE % YTD BUDGET VS YTD ACTUAL %
REVENUE					
User Charges	**927 734 489**	**927 734 489**	**929 638 778**	**1 904 289**	**0%**
Commercial business - Total	**83 227 612**	**83 227 612**	**58 958 911**	**(24 268 701)**	**-29%**
- Government	14 357 082	14 357 082	12 821 966	(1 535 116)	-11%
- Projects	34 350 533	34 350 533	10 004 091	(24 346 442)	-71%
-Beneficiation	7 392 382	7 392 382	8 305 356	912 974	12%
- Pumpstations	27 127 615	27 127 615	23 871 087	(3 256 528)	-12%
- Interventions	-	-	3 956 411	3 956 411	100%
Other Income	**3 722 080**	**3 722 080**	**8 706 691**	**4 984 611**	***134%***
Grants received (Government grants & subsidies)	**50 000 000**	**50 000 000**	**56 696 139**	**6 696 139**	**13%**
OPERATING REVENUE GENERATED	**1 064 684 181**	**1 064 684 181**	**1 054 000 519**	**(10 683 662)**	**-1%**

EXPENDITURE BY SOURCE	BUDGET ANNUAL R	BUDGET FOR 12 MONTHS JUNE 2021 R	ACTUAL YEAR TO DATE JUNE 2021 R	VARIANCE YTD ACTUAL VS YTD BUDGET R	VARIANCE % YTD BUDGET VS YTD ACTUAL %
Employee Related Costs - Salaries & Wages	**392 852 482**	392 852 482	**386 319 504**	**(6 532 978)**	**-2%**
Remuneration of Directors	**4 040 764**	4 040 764	**1 964 041**	**(2 076 723)**	**-51%**
Bad Debts (Provision for Bad Debts)	**1 621 692**	1 621 692	**2 271 084**	**649 392**	**40%**
Depreciation	**105 500 000**	105 500 000	**96 354 123**	**(9 145 877)**	**-9%**
Pumpstations	**27 127 615**	27 127 615	**28 005 359**	**877 744**	**3%**
Repairs and Maintenance	**90 088 230**	90 088 230	**47 357 409**	**(42 730 821)**	**-47%**
Interest Expense	**47 899 484**	47 899 484	**29 508 419**	**(18 391 065)**	**-38%**
Intervention Expenses	**-**	-	**-**	**-**	**0%**
Bulk purchases	**213 826 111**	213 826 111	**243 537 035**	**29 710 924**	**14%**
General Expenses - Other	**131 727 803**	131 727 803	**84 636 014**	**(47 091 789)**	**-36%**
TOTAL OPERATING EXPENDITURE	**1 014 684 181**	**1 014 684 181**	**919 952 988**	**(94 731 193)**	**-9%**
OPERATING SURPLUS/(DEFICIT)	**50 000 000**	**50 000 000**	**134 047 531**	**84 047 531**	**168%**

Key variances

Employee related cost – Salaries and Wages

1. The expenditure for the year to date is 2% below the YTD budget.
2. ERWAT's revised employment structure has been approved and the process of filling vacancies has begun. Although most vacancies have not yet been filled, ERWAT has filled some of the D-band roles and is expecting to fill the other positions as planned before the end of the financial year.

Remuneration of directors

1. Directors' remuneration is 51% below budget.
2. This is due to the fact that the number of directors decreased from 8 to 5 in the current year, which resulted in a significant reduction in the expense.

Bad Debt Provision

1. The expenditure for the year to date is 40% above the YTD budget.
2. ERWAT's provision for bad debts increased due to long outstanding accounts.

Depreciation

1. The expenditure for the year to date is 9% below the YTD budget.
2. The under-expenditure is due to delays in finalising and capitalisation of projects, some of which were halted due to late payment of contractors as ERWAT has been having challenges in collecting USDG funds timeously from the CoE. (EG Vlakplaats – flow distribution project should have been completed)

Repairs and Maintenance

1. The expenditure is 47% below the YTD budget.
2. This under spend is mainly contributable to scheduled maintenance not being performed due to the COVID-19 lockdown regulations, this was done to evade overcrowding of personnel at the wastewater treatment plants.
3. Maintenance personnel were only utilised for Emergency breakdowns and high number of critical equipment failures. Due to this unforeseen circumstances, the department have since experience a rapid increase in maintenance backlog that has long term negative impact.
4. The department has started scheduling and implementing planned maintenance beginning Q3 going forward.

Interest Expense

1. Bulk purchases was 38% lower than the YTD budget.
2. The reduction of interest rates has resulted in a significant reduction in the interest accrued during the 2020/2021 financial period.

Bulk Purchases

1. Bulk purchases was 14% higher than the YTD budget.
2. ERWAT received an R18 million back billing on the electricity from the CoE for the Hartebeestfontein WCW. The bulk of the over-expenditure (About 11%) is an R18 million electricity invoice for Hartebeestfontein WCW, while there was an under-expenditure of about 2% on chemicals and water (savings experienced during the National lockdown).
3. On average ERWAT pays the City of Ekurhuleni R1.2 million on electricity for Hartebeestfontein WCW, which amounts to about R3.6 million per quarter.
4. Although a payment arrangement has been made with the city in order to avoid interest, ERWAT is undergoing a process of investigating the seemingly higher consumption, which resulted in expectantly higher OPEX expenditure.

General Expenses:

1. Bulk purchases was 36% lower than the YTD budget.
2. The under expenditure as a result of savings on amongst others the following line items:
   2.1. Health and Safety – Planned laundry tender was put on hold due to the budget cut that happened.
   2.2. Training – Limited contact training sessions due to adherence to Covid 19 protocols.
   2.3. Printing and Stationery – Due to the vast number of staff being based at home.

Table 6: Capital expenditure

DEPARTMENT NAME	Capital Budget (2020/2021)	Actual spend for 2020/2021 (Finance)	Add: Rention Paid	Less: Retention recognised by Finance but not paid	Unpaid Invoices	Total Spend (IPAP)	Percentage spent of actual budget YTD
		Total YTD					%
Laboratory Services		652 857.00	-	-	-	652 857.00	0.00%
Olifantsfontein	9 732 956.00	23 011 336.41	-	-	-	23 011 336.41	236.43%
Olifantsfontein	6 000 000.00	560 559.84	-	-	-	560 559.84	9.34%
Hartebeestfontein	6 530 000.00	1 462 405.11	-	-	-	1 462 405.11	22.40%
Ancor	185 726.00	3 661 910.68	-	-	-	3 661 910.68	1971.67%
Benoni	385 000.00	-	-	-	-	-	0.00%
Heidelberg	2 865 190.00	-	-	-	-	-	0.00%
JP Marais	110 000.00	-	-	-	-	-	0.00%
Daveyton	806 675.00	-	-	-	-	-	0.00%
Rynfield	1 900 000.00	-	-	-	-	-	0.00%
Ratanda	520 000.00	-	-	-	-	-	0.00%
Tsakane	134 600.00	1 365 179.50	-	-	-	1 365 179.50	1014.25%
Tsakane	2 760 000.00	-	-	-	-	-	0.00%
Welgedacht	2 783 600.00	- 338.50	-	-	-	- 338.50	-0.01%

DEPARTMENT NAME	Capital Budget (2020/2021)	Actual spend for 2020/2021 (Finance)	Add: Rention Paid	Less: Retention recognised by Finance but not paid	Unpaid Invoices	Total Spend (IPAP)	Percentage spent of actual budget YTD
		Total YTD					%
Dekema	2 960 200.00	**34 682.00**	-	-	1 547 977.41	**1 582 659.41**	**53.46%**
Rondebult	1 118 237.00	**2 236 472.59**	-	-	-	**2 236 472.59**	**200.00%**
Vlakplaats	13 901 138.00	**18 437 508.50**	-	130 810.00	-	**18 306 698.50**	**131.69%**
Waterval	3 136 678.00	**3 136 677.45**	-	-	-	**3 136 677.45**	**100.00%**
	55 830 000.00	**54 559 250.58**	**-**	**130 810.00**	**1 547 977.41**	**55 976 417.99**	**100.26%**

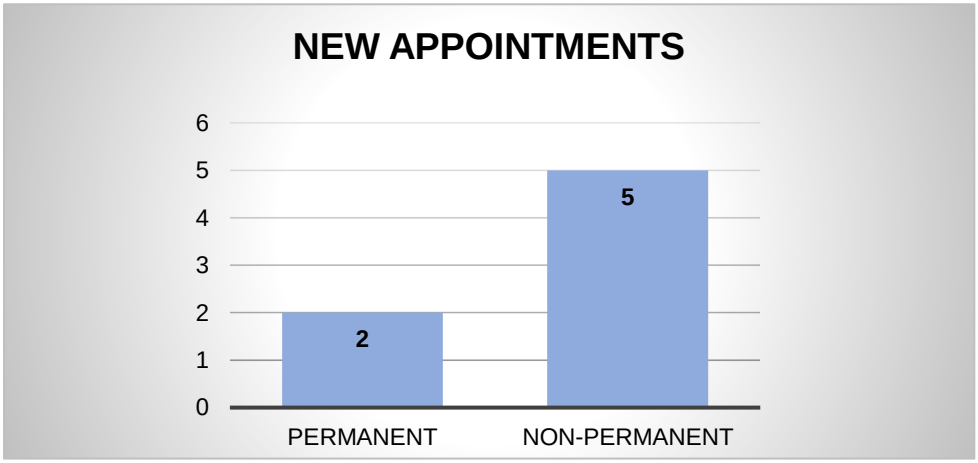
4 Human Resources

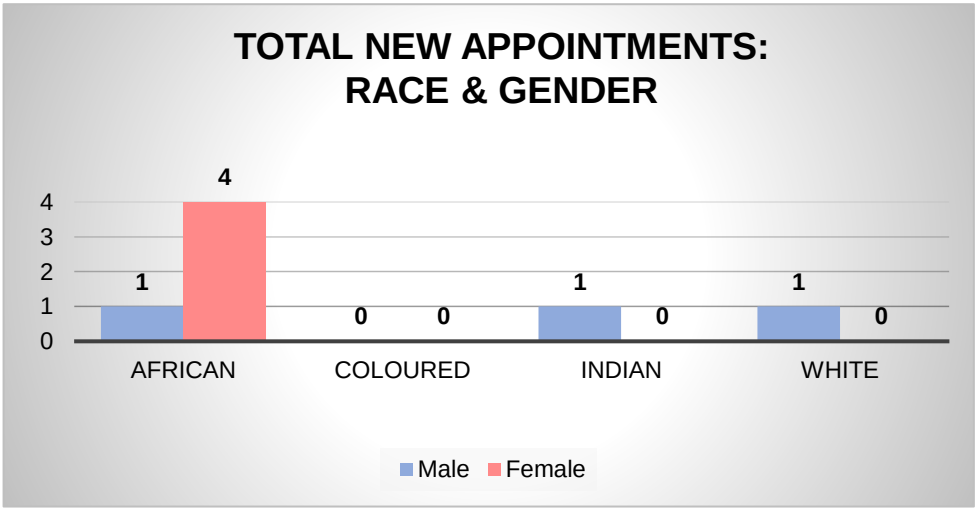
4.1. Staff Movements

Table 7: Staff Movements

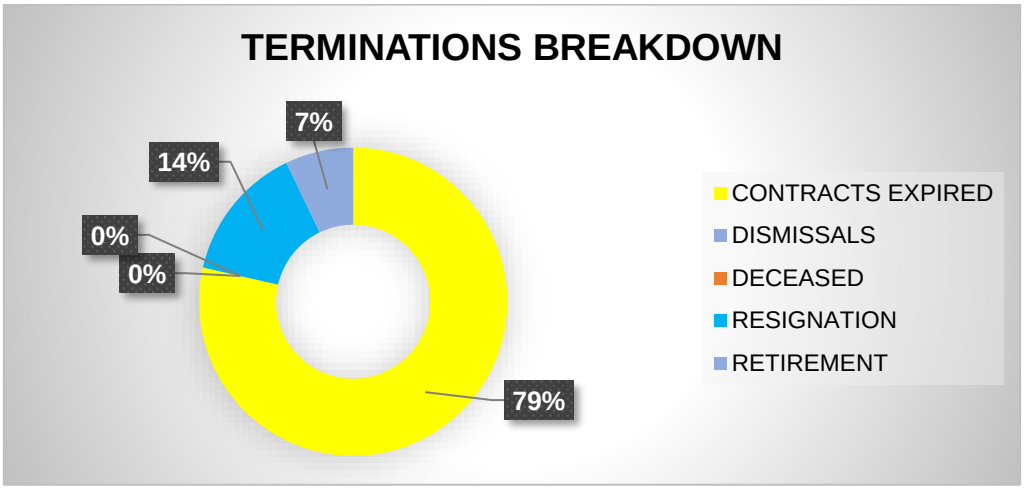
Staff Movements	African		Coloured		Indian		Whites		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
Recruitments	1	4	0	0	1	0	1	0	7
Resignations	1	1	0	0	0	0	0	0	2
Retirements	1	0	0	0	0	0	0	0	1
Contract Expired	8	3	0	0	0	0	0	0	11
Dismissals	0	0	0	0	0	0	0	0	0
Deceased	0	0	0	0	0	0	0	0	0
Promotions	18	6	0	0	0	0	0	0	24

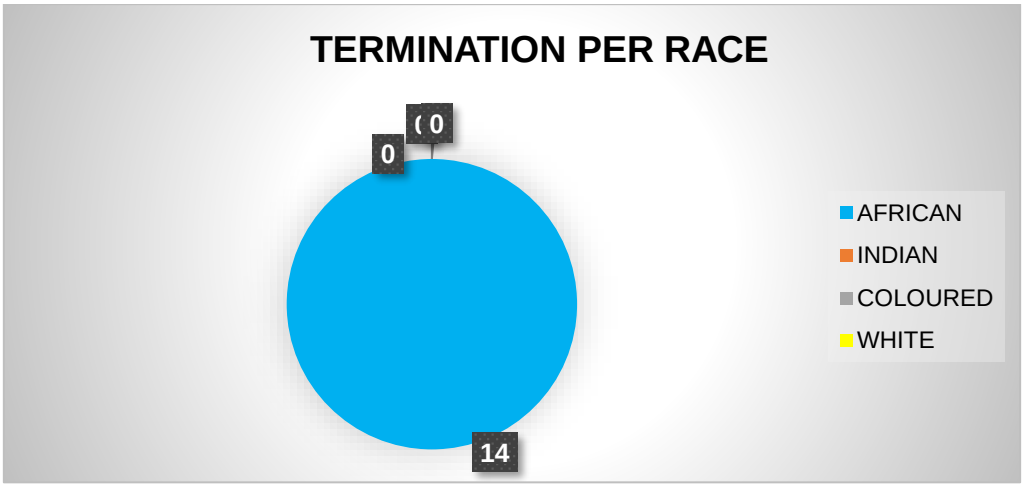
4.1.1 Appointments





4.1.2 Terminations





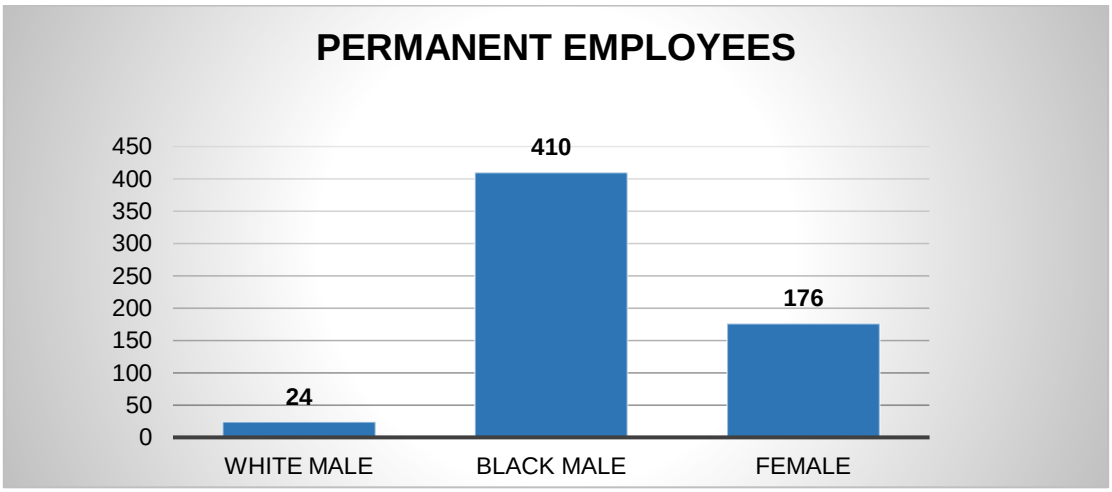
Status Analysis

During the period under review:

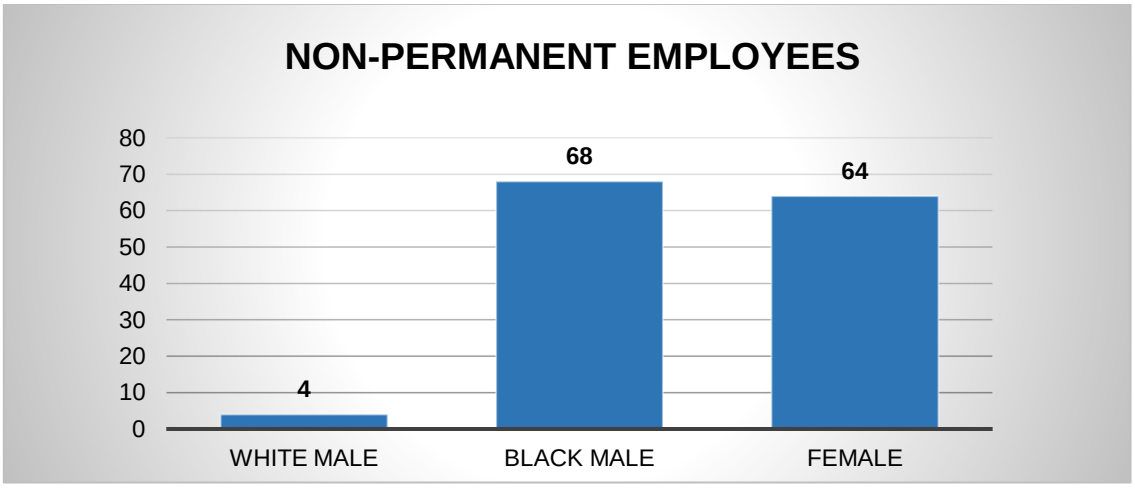
1. 5 employees were appointed and
2. 14 employees exited the organisation for the following reasons:

    2.1. 11 contracts expired;
    2.2. 2 employees resigned for various reasons;
    2.3. 1 employees went on retirement; and we did not have any deaths and dismissals

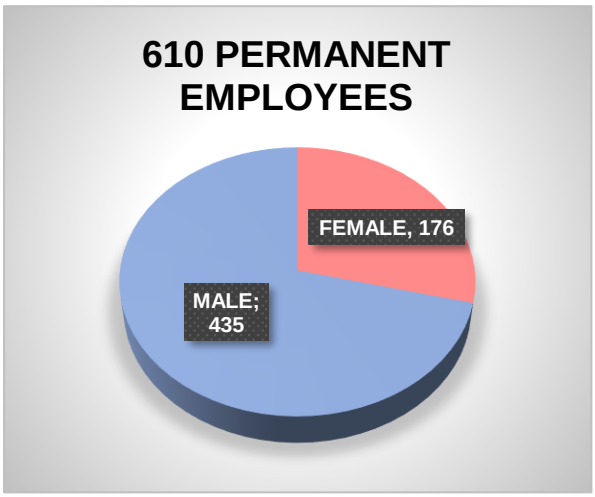
4.2 Employment Equity Demographics

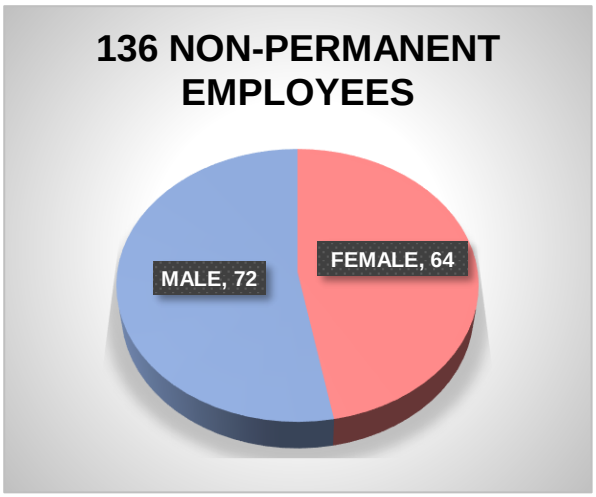


ERWAT has **610** permanent employees.



ERWAT has **136** non-permanent employees.





Status Analysis

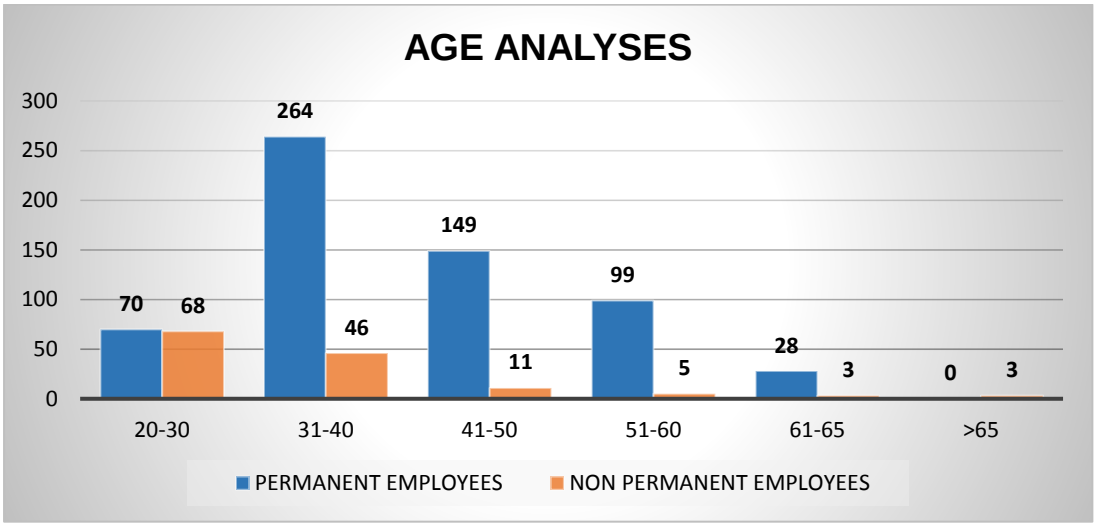
1. The employment demographics of ERWAT as at 30th June 2021 reflects:

    1.1. Females in both permanent and non-permanent positions within ERWAT account for 240 or 32% of total positions filled.
    1.2. Males in both permanent and non-permanent positions within ERWAT account for 514 or 68% of total positions filled.

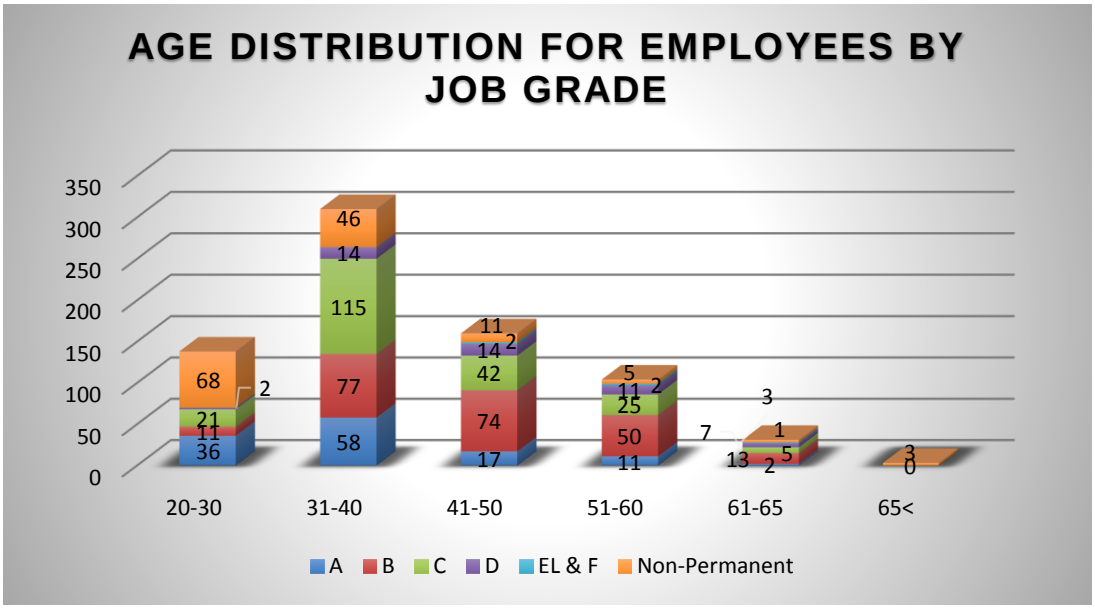
EE Update

1. In support of the approved Employment Equity (EE) Plan, ERWAT conducted a BBBEE workshop for Senior Management and D levels which also included the EE act as a full module in Quarter 3 of the 2020/2021.

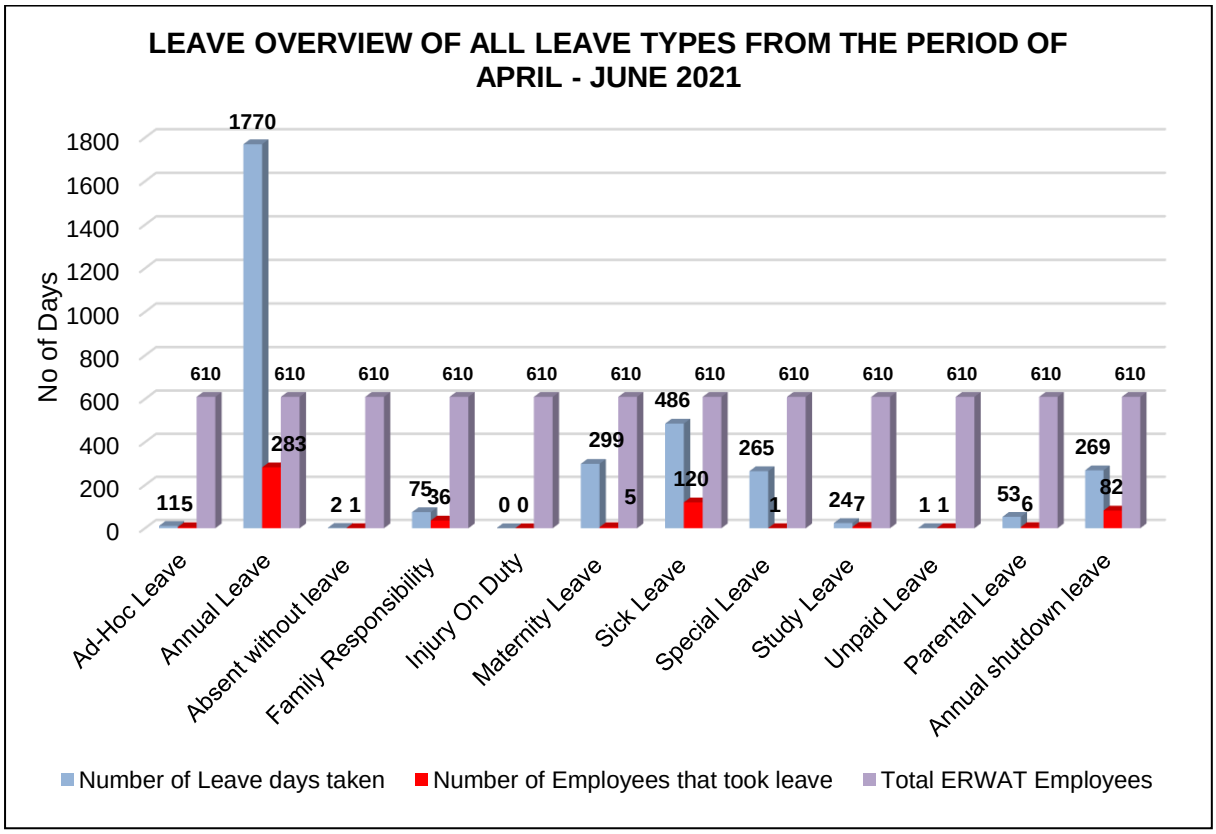
4.3 Age Analysis

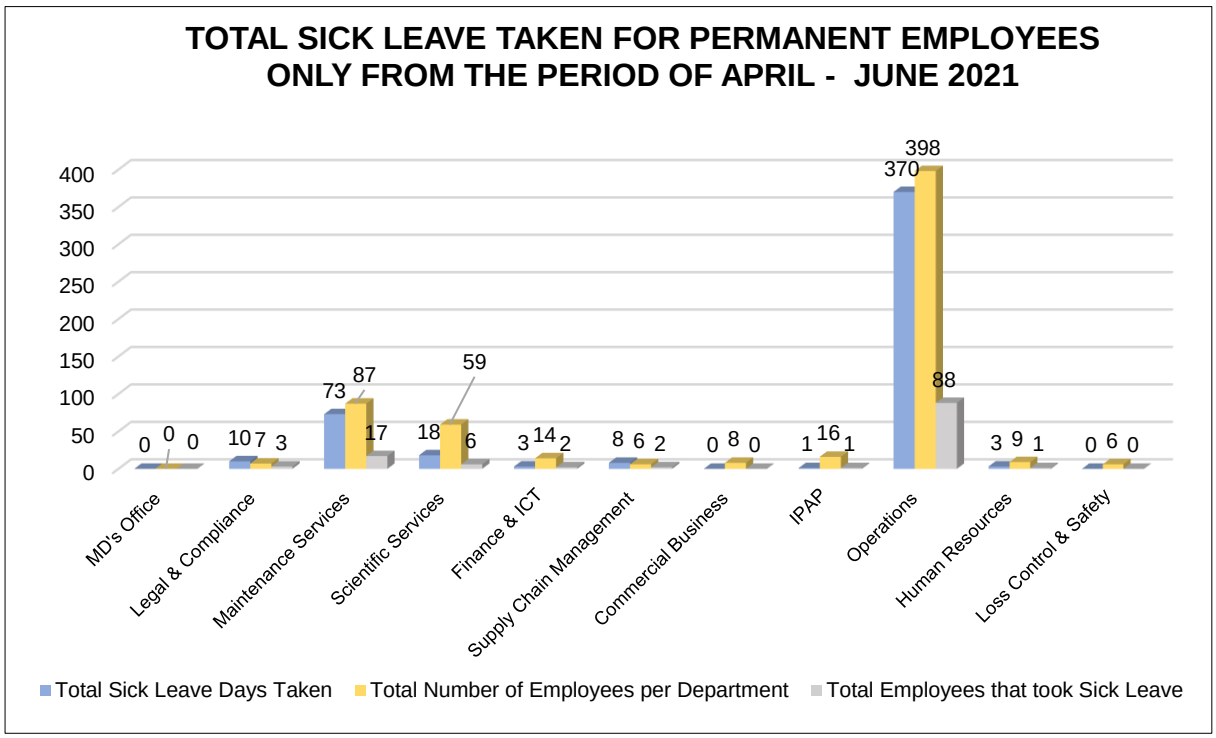


- Average age as at 06/2021 = 39



4.4 Leave Management





Status Analysis

1. Total number of employees who took sick leave during the period under review are 120. The total sick leave taken equates to a minimum of 4.05 days per employees

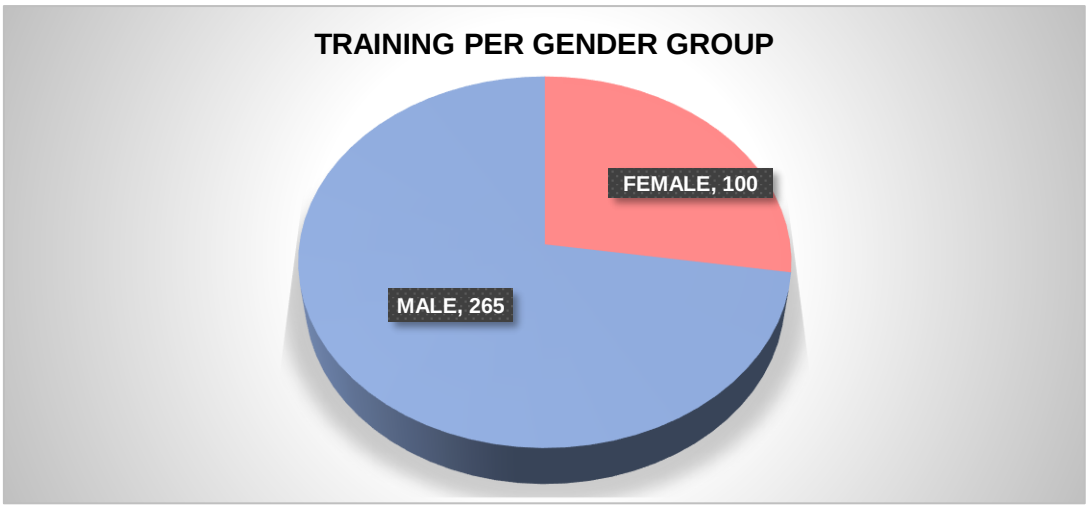
4.5 Overtime Trends

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Total Hours	50 018.50	58 999.50	61 629.75	63 347.00
Total Cost	7 092 942.03	8 659 494.08	9 359 407.59	9 710 385.17

1. Overtime is monitored and approved by management, as per the needs of the various business units.

4.6 Training and Development

The reporting period saw **365 employees** attending various training interventions



1. Confined space with 87 officials on the 19th April to 6th May 2021
2. Occupation Health and Safety with 85 officials 10th to 20th of May 2021
3. Basic First Aid with 89 officials on the 24th May to 3rd June 2021
4. Basic Fire Fighting with 85 officials on the 7th to 18 June
5. Apprenticeship training with 9 officials in trade test theory 31st May to 18th June 2021
6. Minute Taking course with 10 officials on the 17th to 18 June 2021

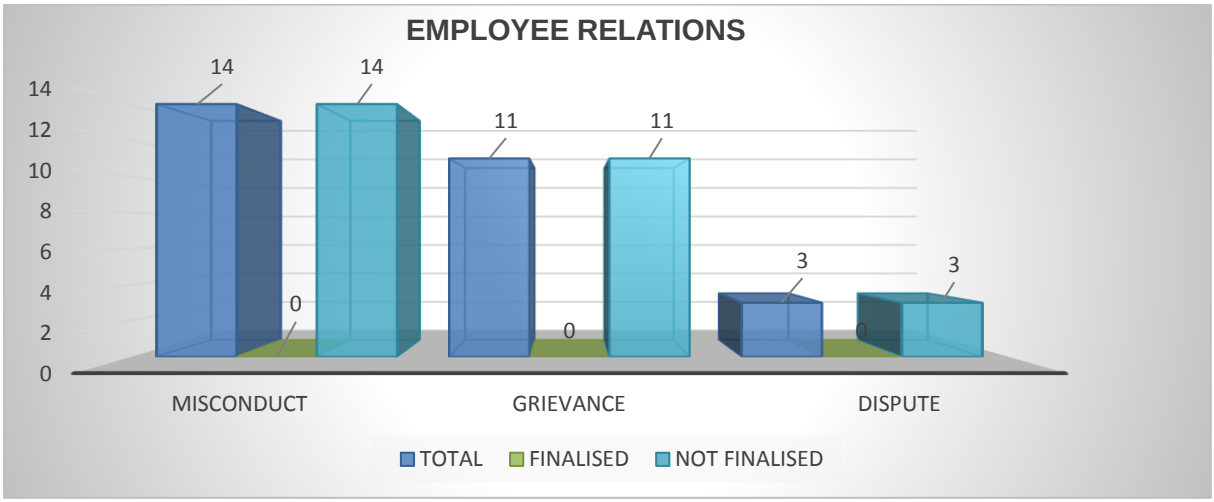
4.7 Performance Management

Status Analysis

1. Quarter 4 (year-end) evaluations will be conducted for all employees (permanent and non-permanent) during July 2021.

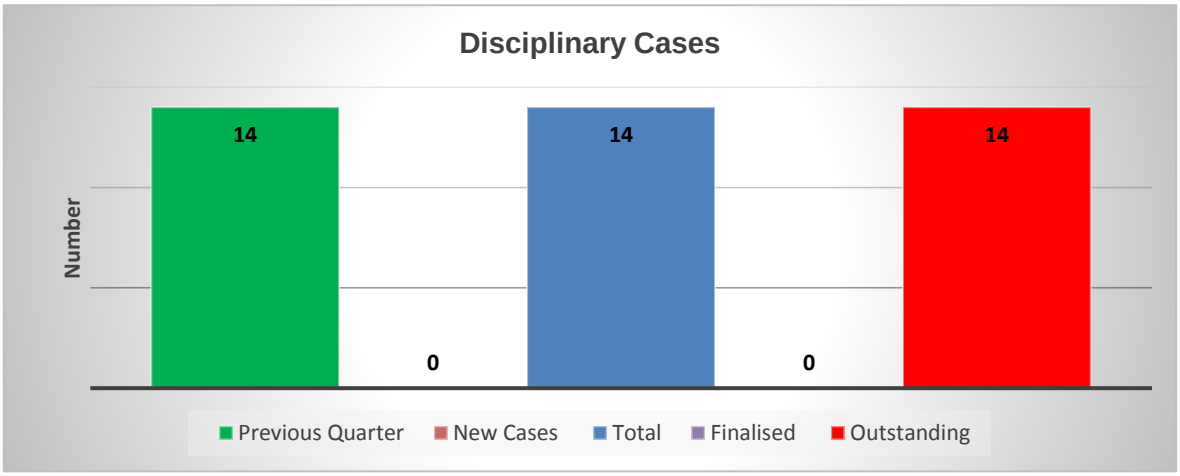
4.8 Employee Relations

The HR department, has received, recorded and administered the following processes for the reporting quarter, below is the statistical data of all cases and the analysis thereof.



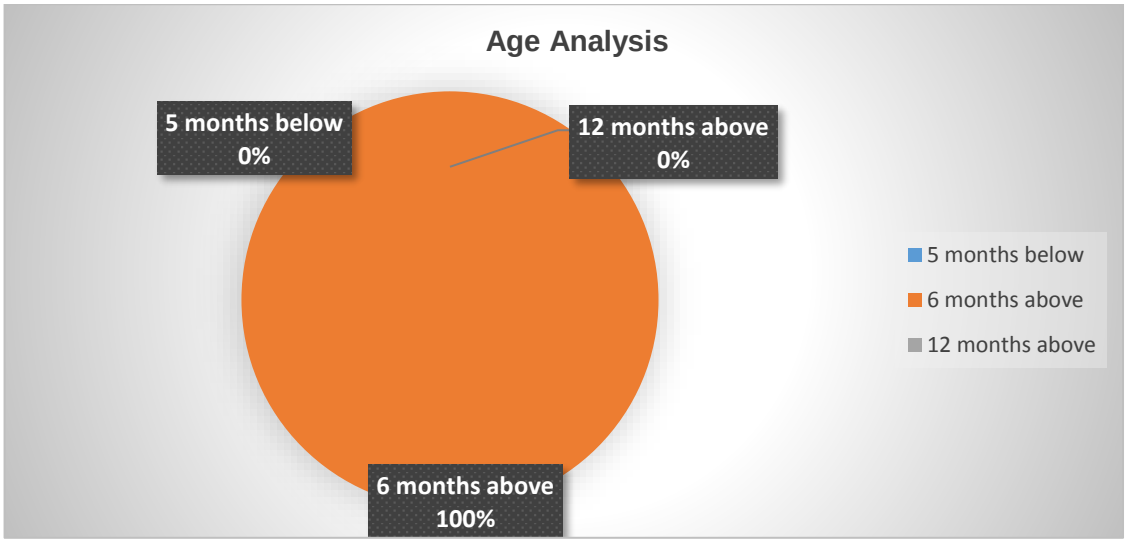
4.8.1. Disciplinary Cases

1. 14 cases were not concluded in the previous quarter hence brought forward.
2. No new cases were received; the total for all disciplinary cases is 14. Total cases finalized is 0 with a remaining balance of 14 cases outstanding.
3. 0 cases was finalised



4.8.2. Age Analysis of Disciplinary cases

1. The age analysis of the 14 cases outstanding, 0% are below 5 months, 100% above 6 months and 0% are above 12 months old.

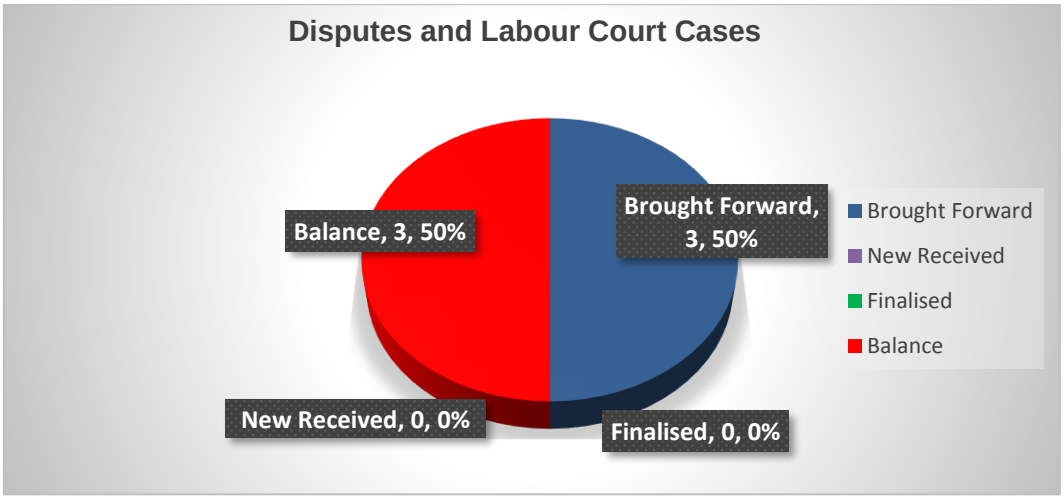


The age analysis of the 14 outstanding cases is as follows:

1. Cases that are 6 months old =14

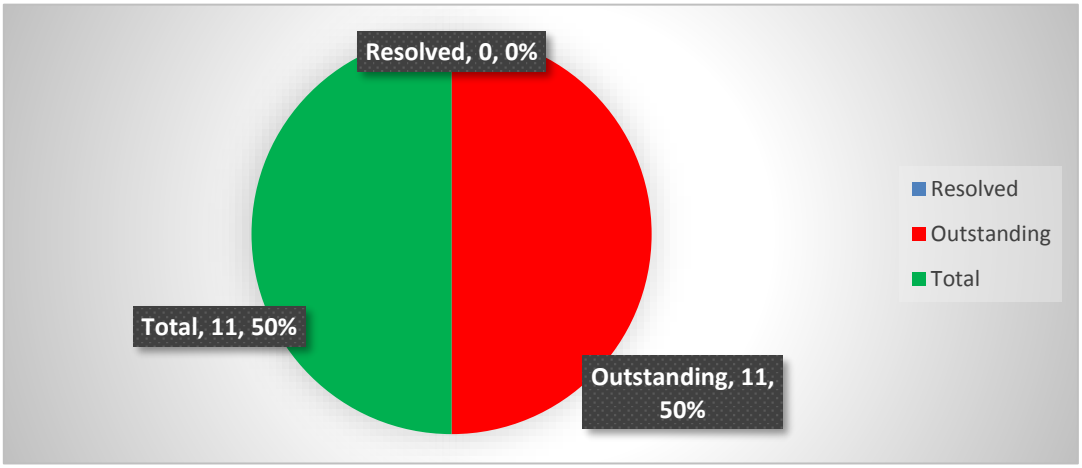
4.8.3. Disputes, Arbitrations & Labour Court Cases

1. Total of 3 cases brought forward as at end of previous quarter.
2. No new cases.
3. In respect of disputes at the bargaining Council and Labour Court cases, ERWAT is sitting at 3 cases.
4. The above cases are pending adjudication at the appropriate forums.



The graph illustrates the statistical data of disputes at the Bargaining Council and Labour Court, as at the end of Q4, with 3 cases that are still pending.

4.8.4. Grievances



Total grievances are 11.

4.8.5. Suspensions

There is only one suspension for the period under review.

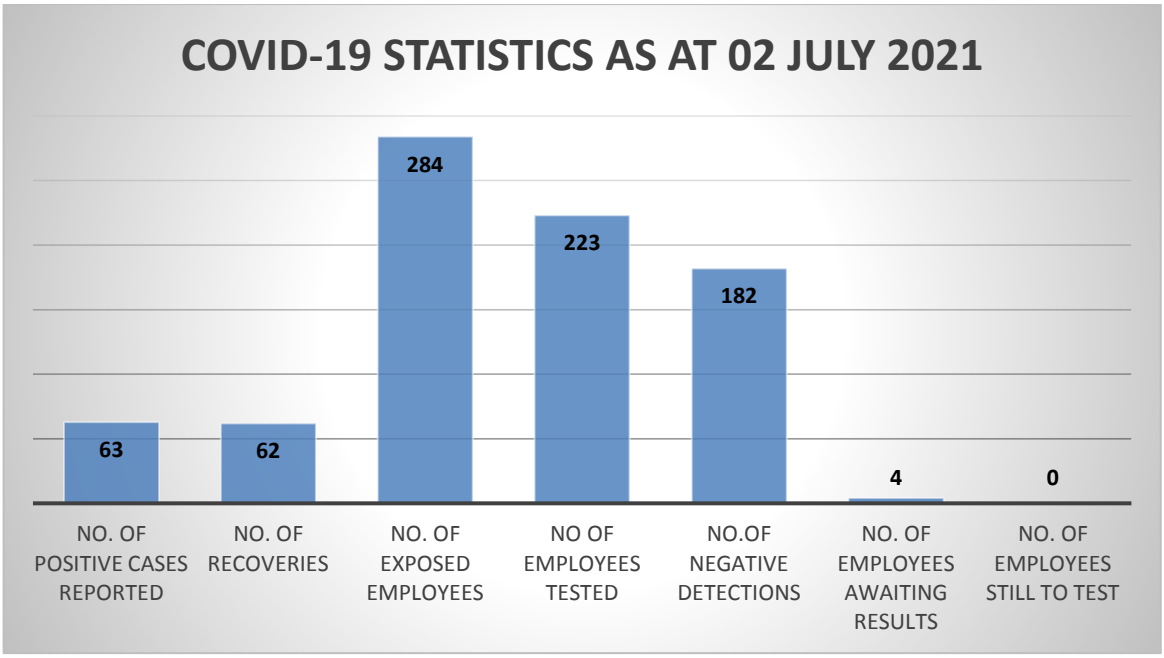
4.9 Employee Wellness Programme & OHS

ERWAT Occupational Health Services offers Wellness Programme as follows:

1. ERWAT has 47 Wellness Champions (WC) that are placed on all 19 Plants including the Laboratory and Head Office, during the period under review, 1 workshop was conducted.
2. The core function of the WC is to assist the Occupational Health Nurse, in identifying any health & wellness concerns amongst employees, monitor absenteeism; they also provide health education in a form of frequently scheduled meetings with employees on site.
3. During the period under review 8 employees received Psychotherapy Counselling.

4.9.1 COVID-19 Statistics

The statistics below are Consolidated COVID -19 stats reported for Quarter 4.



4.10 Percentage of Manpower Cost to Operational Expenditure

Table 8: Percentage of Salary to total Opex

	Quarter 1	Quarter 2	Quarter 3	Quarter 4 (excl. June)	YTD - Actual
Total Manpower Cost	87 744 101,00	91 675 110,59	103 521 269,00	66 935 414,57	349 875 895,16
Total Operational Expenditure	191 921 731,00	243 874 862,22	222 205 317,00	159 734 887,00	817 736 797,22
% of Manpower to OPEX	**45,72%**	**37,59%**	**46,59%**	**41,90%**	**42,79%**

5 Procurement Practices, Job Creation and Mainstreaming

1. BEE spend in respect of supplier and contractor (PDIs)
2. Job creation is encouraged by including a provision for locally situated bidders within the set criteria in the functionality section where it could be broken down further where bidders could be scored for indicating in the supporting documents and tables their intention to employ new staff from the areas they will be operating from in the event that they are awarded a tender. This is however included on a case-by-case basis where it is practically implementable.
3. ERWAT is not in a position to utilise the EPWP program due to being and Entity and cannot apply directly to National Treasury for this grant through the Division of Revenue Act. Going forward, ERWAT will during its budget cycle identify potential projects where the EPWP can be included and utilised. ERWAT will require access and training on the respective EPWP portal for registration of projects and reporting.
4. GEYODI

The following table and charts indicate the respective BEE spend and GEYODI expenditure for Quarter 4 (Period: April 2021 to June 2021):

Figure 1 shows the bids indicating expenditure spent on Historically Disadvantaged Individuals during Quarter 4 of the 2020/2021 FY (period: April 2021 – June 2021):

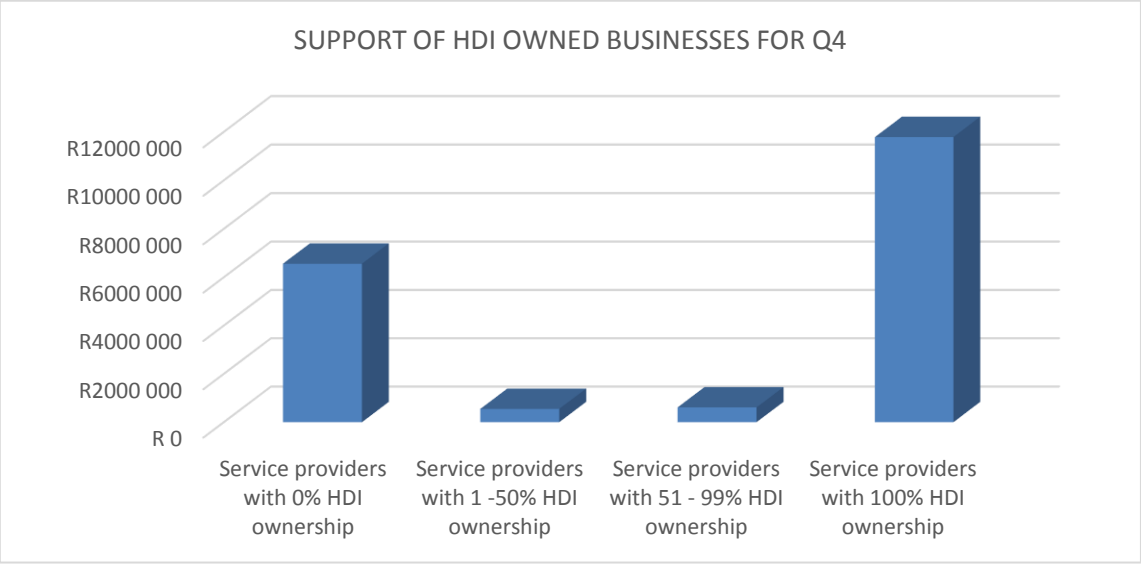


Figure 1

TRANSACTIONS IN SUPPORT OF HDI OWNED BUSINESSES	PAID IN THE RESPECTIVE % CATEGORIES
Service providers with 0% HDI ownership	R6 560 229
Service providers with 1 -50% HDI ownership	R549 590
Service providers with 51 - 99% HDI ownership	R612 441
Service providers with 100% HDI ownership	R11 784 225

Figure 2 shows the bids indicating expenditure spent on companies accredited according to the recognized B-BBEE score cards for Quarter 4 of the 2020/2021 FY (period: April 2021 – June 2021):

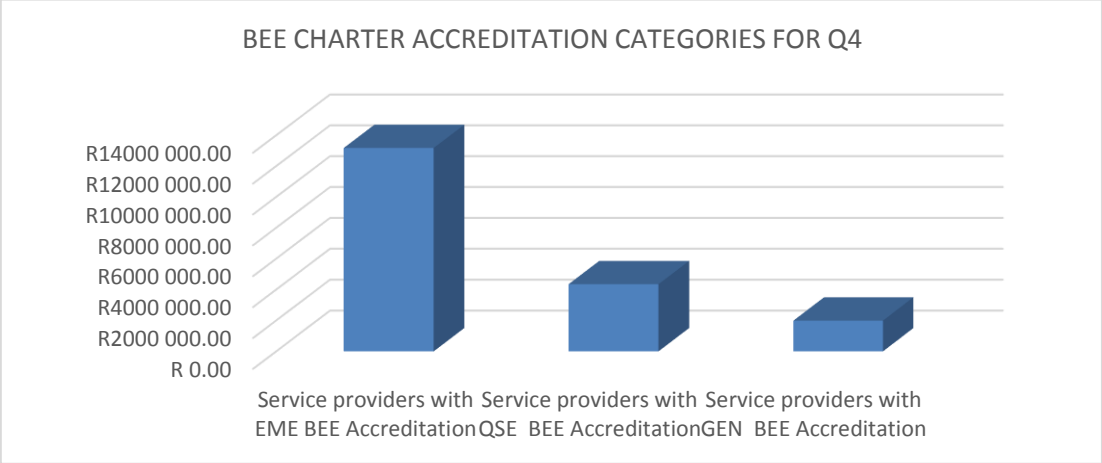


Figure 2

TRANSACTION IN SUPPORT OF THE RESPECTIVE BEE CHARTERS	PAID IN THE RESPECTIVE ACCREDITATION CATEGORIES
Service providers with EME BEE Accreditation	R13 173 276.00
Service providers with QSE BEE Accreditation	R4 343 834.00
Service providers with GEN BEE Accreditation	R1 989 375

Figure 3 shows the bids indicating expenditure spent on companies owned by Persons with Disabilities for Quarter 4 of the 2020/2021 FY (period: April 2021 – June 2021):

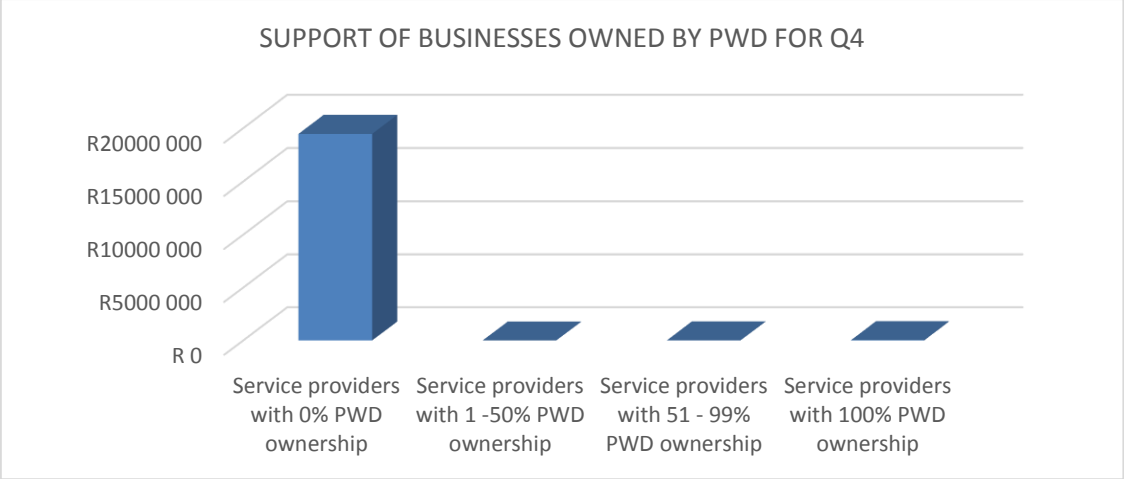


Figure 3

TRANSACTION IN SUPPORT OF BUSINESSES OWNED BY PERSONS WITH DISABILITIES (PWD)	PAID IN RESPECTIVE % CATEGORIES
Service providers with 0% PWD ownership	R19 463 197
Service providers with 1 -50% PWD ownership	R0
Service providers with 51 - 99% PWD ownership	R10 726
Service providers with 100% PWD ownership	R32 561

Figure 4 shows the bids indicating expenditure spent on companies owned by Youth for Quarter4 of the 2020/2021 FY (period: April 2021 – June 2021):

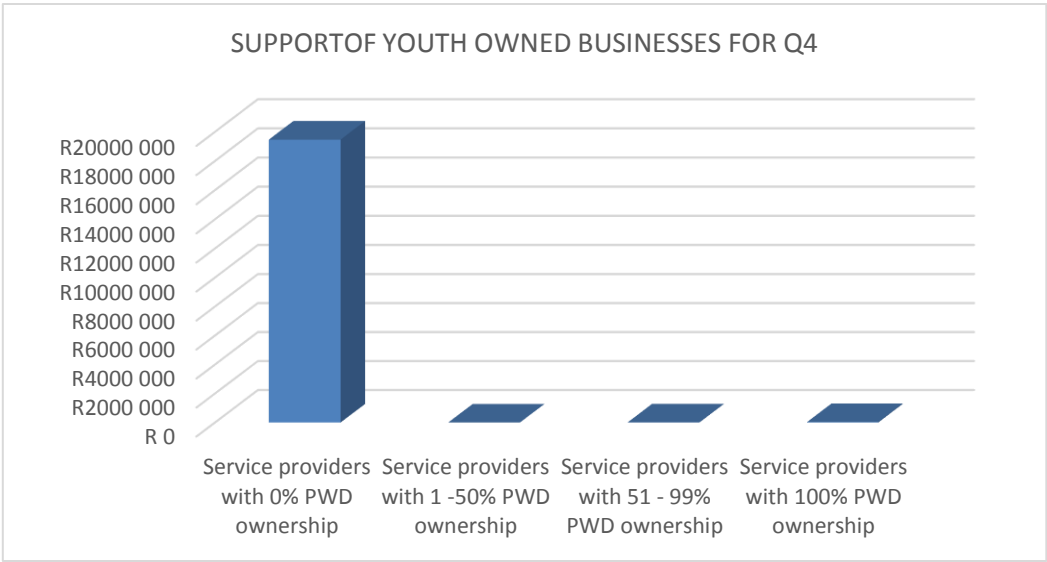


Figure 4

TRANSACTION IN SUPPORT OF YOUTH OWNERSHIP	PAID IN RESPECTIVE % CATEGORIES
Service providers with 0% youth ownership	R15 904 598
Service providers with 1 -50% youth ownership	R536 236
Service providers with 51 - 99% youth ownership	R0
Service providers with 100% youth ownership	R3 065 651

Figure 5 shows the bids indicating expenditure spent on companies owned by Youth for Quarter 4 of the 2020/2021 FY (period: April 2021 – June 2021):

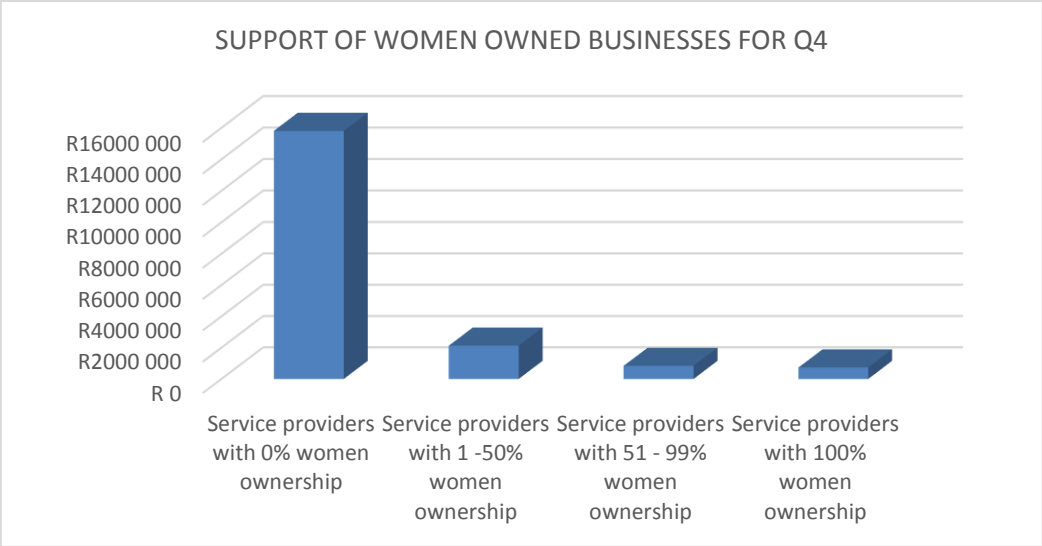


Figure 5

TRANSACTION IN SUPPORT OF WOMEN OWNERSHIP	PAID IN RESPECTIVE % CATEGORIES
Service providers with 0% women ownership	R15 809 091
Service providers with 1 -50% women ownership	R2 127 216
Service providers with 51 - 99% women ownership	R837 104
Service providers with 100% women ownership	R733 074

The table below shows the bids indicating expenditure spent on companies owned by Military Veterans for Quarter 34 of the 2020/2021 FY (period: April 2021 – June 2021):

There were not payments done to business owned by Military Veterans for Quarter 4

TRANSACTION IN SUPPORT OF BUSINESSES OWNED BY MILITARY VETERANS (MV)	PAID IN RESPECTIVE % CATEGORIES
Service providers with 0% MV ownership	R0
Service providers with 10 -50% MV ownership	R0
Service providers with 51 - 99% MV ownership	R0
Service providers with 100% MV ownership	R0

Figure 6 shows the bids indicating expenditure spent on companies based in COE and non-COE for Quarter 4 of the 2020/2021 FY (period: April 2021 – June 2021):

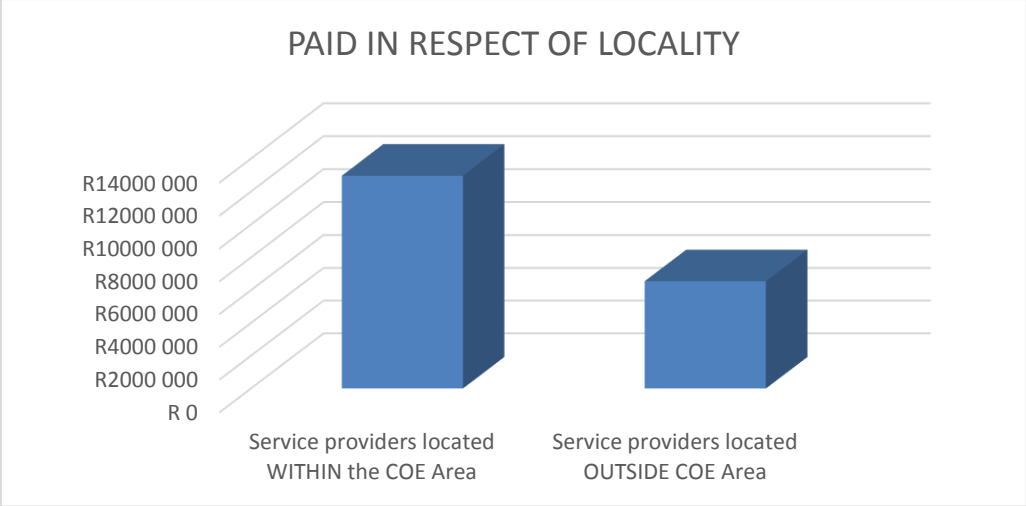


Figure 6

TRANSACTION IN SUPPORT OF BUSINESSES LOCATED WITHIN/OUTSIDE COE AREA	PAID IN RESPECT OF LOCALITY
Service providers located **WITHIN** the COE Area	R12 958 492
Service providers located **OUTSIDE** COE Area	R6 547 992

6 Risk Management

A robust integration of strategic risk management and strategy setting is critical to the achievement of set strategic objectives. Strategic risk management is a priority for both the executive team and the Board of Directors to ensure the success of ERWAT is depended on how well management and the Board of Directors manage risk effectively. Risk assessment provides an assessment of the relevant and critical risks through a classification and rating system and mitigating actions and KPIs and targets that can be incorporated in the Balanced Scorecard. The reporting on the risk management into the quarterly reporting process is to ensure that the key risks that may prevent the achievement of the department's strategy are systematically identified and mitigating strategies and actions developed.

The entity has robust process of integrating of strategic risk management and strategy setting is critical to the achievement of set strategic objectives. Strategic risk management is a priority for both the executive team and the Board of Directors to ensure the success of ERWAT is depended on how well management and the Board of Directors manage risk effectively. Risk assessment provides an assessment of the relevant and critical risks through a classification and rating system and mitigating actions and KPIs and targets that can be incorporated in the Balanced Scorecard. The reporting on the risk management into the quarterly reporting process is to ensure that the key risks that may prevent the achievement of the department's strategy are systematically identified and mitigating strategies and actions developed.

Table 11: ERWAT Top 9 Strategic Risk Assessment

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
ERW1	Potential loss of ISO 17025 Accreditation	Compromised Service Delivery	Capital Plan & Budget (a) Five (5) Year Capital Expenditure Plan for current and future infrastructure expansion requirements. (b) MTREF 2021-2023 – 2021 FY Budget R206 000	Implementation of Projects in line with the Capital Expenditure Plan MTREF 2020/2021 (1). Olifantsfontein Refurbishment	**OLIFANTSFONTEIN INTERVENTION PROJECTS PROGRESS UPDATE** - ERW201902/TNDR-001: Professional service provider (PSP) for the upgrade / refurbishment of biofilter module (3) Olifantsfontein WCW.The project overall physical progress is 65% and 60% has been claimed to date. Phase 1c is in development stage and preliminary designs for phase 2 is ongoing. **ERW201902/TNDR-**003: Refurbishment of trickling filter and replacement of various auxiliaries at Olifantsfontein WCW Phase 1A). The project overall physical progress is 96% and 96% has been claimed to date. Construction of main pipeline to discharge to flow into the biofilter module is currently at 95% completion. **ERW201912/TNDR-002**: The supply and delivery of trickling filter packaging media to Olifantsfontein WCW (Phase 1B). The project overall physical progress is 99% and 97% has been claimed to date. The projects awaits the completion of phase 1a in-order to commence with testing and commissioning of the plastic media. **ERW202104/TNDR-002:** The appointment of Professional service provider (PSP) phase 2: for the upgrade and refurbishment of Olifantsfontein water care works (WCW) The tender is currently at pre-advert stage and planned to be advertise on the 7th July 2021. **ERW202009/TNDR-002:** Upgrade / Refurbishment of biofilter module (3) at Olifantsfontein WCW (Phase 1C). The tender is currently in the Specification development stage and anticipated to be advertised by end of September 2021.

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
				(2) Vlakplaats: Modification to Flow Diversion	**ERW201602/TNDR-001**: Vlakplaats WCW Modification to flow diversion, final effluent collection and Maturation and Retention Ponds. Construction is on-going and to date the project is at 75% physical and 75% has been claimed to date.
				(3) Waterval WCW New Aeration Blowers Upgrade. - Replacement of blowers contracts 1 and 2 (cont) yr.2 (4) Replacement of vertical mixers at various ERWAT wastewater care works.	Action plan completed in quarter 4 - Waterval WCW New Aeration Blowers upgrade project competed, signed off and handed over to Operations department.
				(5) Installation and Commissioning of Biological Filters at Rondebult Water Care Works (6) Ancor WCW: Tertiary Filtration Effluent Pipeline/ Pumpstation	Installation of Bio-Filters Action plan completed. Project completed, signed off and handed over to the Operations department.
				(6) Ancor WCW: Tertiary Filtration Effluent Pipeline/ Pumpstation	The project is at the Pre-Advert stage. Bid Specification Committee approved the specification.
			Wastewater Risk Abatement Planning influence budgeting for all plants.	Submission of risk reports to the CoE, to motivate the approval of additional budget in the MTREF 2021	The Action plan completed in quarter 1
			No current control	Development of Engineering Contribution Policy.	The Action plan completed in quarter 1
			Five 5 Year Capital Budget Plan financed through USDG	Invite through Expression of interest Technology providers to provide funding mechanism and technologies to address the backlog in WCWs	Action plan in progress -Tender of the Invitation of Expression of Interest for various Technology providers The tender closed on the 19 March 2021. A cross functional technical evaluation team formed to do the technical evaluation

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
			Record Business disruptions and Incidents	Tracking of incidents and on a quarterly to assist in planning and decision making	Action plan completed for quarter 4. . A total of 224 critical equipment broke down from 64 previous quarter. Failure of critical equipment poses a challenge even for wastewater care works that attained water quality targets.
			SMT budget tabling to CoE Finance Committee, to support budget request	Investigate other potential sources of funding for. infrastructure (e.g. PPP etc.)	Action plan in progress - ERWAT has submitted the PPP for Beneficiation funding report to the Department of Water and Sanitation (CoE) for them to comment and submit to the Council.
				Request the city for additional Capital funding from other funding sources/grants within the CoE.	Action plan in progress - ERWAT has submitted the PPP for Beneficiation funding report to the Department of Water and Sanitation (CoE) for comment and submission to the Council.
				A cost reflective tariff to be determined using the financial model in order to motivate for additional funding.	Action plan in progress – An interim cost reflective tariff in has been determined, gaps were identified and need to be incorporated into the model
			Scheduled Asset Maintenance Plan as planned by Maintenance limited approved budget	Do Scheduled Asset Maintenance Plan as planned by Maintenance limited approved budget	Action plan completed. Planned target 90% Actual 90%– Expenditure year to date is R66 889 069 / total approved maintenance budget is R73 543 607 to yield overall 90% repairs and maintenance spent in Q4.
			Maintenance Service Master contracts for critical equipment and emergency breakdowns	Review Service Master Contracts for critical equipment and emergencies	Action plan not yet started
			Equipment Condition Assessments	Develop Maintenance Standards and Specifications for critical Equipment's	The project is on hold due to budget constraints
				Integration of CRMS, Projects Management System; contract management; finance and SCM as part of ERP	Action plan in progress - Integration is at the phase of ESB (Enterprise Services Bus) development by CoE and will only be implemented after all individual systems have gone live. CoE is currently busy with the WS02 (Authentication systems), which enable entities to access all individual system.

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
ERW2	Inadequate Cash flow to meet business requirements	Service Delivery	Cash-flow projections are created based on assumptions of a uniform monthly expenditure	Implementation of cash-flow projections taking into account the actual departmental cash-flow requirements	Action plan implemented in quarter 1. Quarterly submission of the cashflow report to the Entity Governance Risk and Compliance and the Board for monitoring.
				Embark on a process to slowly build up cash-flow reserves in order to absorb any unforeseen expenditure which may arise.	Action plan completed in quarter 4. ERWAT has ring-fenced funds received in respect of engineering contributions to ensure that it is utilised for capital expenditure only
			Budget deficiency formal Communicating process to all stakeholders not receiving adequate funds to discharge its mandate	Investigate other sources of funding.(e.g. PPP)	Action plan in progress - A multi-disciplinary committee was established to actively go into the market and seek out funding opportunities, applicable to ERWAT from both private and public sector. This is still in the initiation phase.
				A cost reflective tariff to be determined using the financial model in order to motivate for additional funding.	Action plan in progress – A cost reflective tariff has been determined, however gaps were identified and additional in the process of being incorporated.
			Cost Containment Policy	Develop a plan to implement measures on the Cost Containment Policy by implementing cost savings measures: - Use local venues for Lekgotla and avoid accommodation charges	Action plan completed 4. ERWAT has implemented some aspects of the Cost Containment Policy as planned.
			Cash-flow management by arrangement of partial payment with suppliers in order to stretch available funds.	Ring-fencing of depreciation charges in order to build up cash-reserves to service our debt repayments and development contributions.	Action plan completed in quarter 4. Funds received in respect of depreciation for payment of its loans and to build additional reserves has been ring-fenced and funds received in respect of engineering contributions ring-fenced and to be used for capex only

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
			Service Delivery Agreement	Review of Pump Station SLA and incorporation into the Service Delivery Agreement	Action Plan completed in quarter 2. SLA terminated between ERWAT and the City.
ERW3	Inadequate revenue generation to supplement the approved budget	Service Delivery	Costing in terms of existing pay scales.	Review of the Pricing Model	The financial services department has commerce with the processes of updating the input into the financial model in order to determine a cost reflective tariffs.
			Scientific Service Pricing Schedule/list	Review of sales strategy (consider reducing the profit margin; identify relevant sectors within which to compete)	Action plan in progress – The Sales Strategy developed and will be tabled at the relevant committees for approval.
			Black Broad Based Economic Empowerment	Annual review of BBB EE Compliance.	Action completed in quarter 4. BBB EE Compliance review finalised.
			Credit management policy Debt recovery procedures	Review of credit management policy to cater collection from government institution	Action completed in quarter 2
				Develop a policy with regard to cost of sales	Commercial Business Policy is still under review with inputs from other department.
			No current control	Implementation of integrated systems as part of the ERP	Integration is at the phase of ESB (Enterprise Services Bus) development by CoE and will only be implemented after all individual systems have gone live. CoE is currently busy with the WS02 (Authentication systems), which enable entities to access all individual system.

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
ERW4	Inability to achieve Capital Expenditure set target	Service Delivery		Integration of Contract Management tool Project Management Tool and Document Management systems as part of ERP	I Integration is at the phase of ESB (Enterprise Services Bus) development by CoE and will only be implemented after all individual systems have gone live. CoE is currently busy with the WS02 (Authentication systems), which enable entities to access all individual system.
			Manual Individual Procurement Plans	Compile a Procurement Plan for 2020/2021 financial year.	Action plan completed in quarter 1
			Supply Chain Management Policy	Review of the Supply Chain Management Policy	Action Plan completed in quarter 2
			Annual CAPEX Plan with projected cash flows for each project and monthly CAPEX reconciliation between Finance and Projects	Prepare projected cash flows in budget tool format per vote number (for multi-year projects & new projects starting in the next budget period) prior to submission of draft budgets. (February every year)	The action plan has not yet started. MTREF Budget process undertaken.
			Bid Committees tracking register implemented.	Develop a process to speed up the turn-around time in the tender processing.	Action plan completed in quarter 4. Workshop took place to identify bottlenecks in the SCM process and develop related action plans in order to improve the turn-around time in the SCM process.
			Invoice Tracking Tool	Each department to incorporate Invoice tracking at departmental meetings (No of invoices received, Age and status) - Grant all user departments access to GRN to ensure capturing at the time of receipt of goods	Action plan completed. All outstanding invoices are sent to a central e-mail address. Access to the system not to be granted.
			Central email to fast track invoices received	Implementation of a central invoice receipt mail. invoice@erwat.co.za	Action plan has not yet started. Scheduled for quarter3

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
			Community Liaison Officer Appointed through ward councillors for community projects.	Engage CSR office prior to commencement of construction project. (CSR plan to include Projects)	Action completed. There were no new projects to be rolled-out in the 2020/2021 financial year
			Invoke penalties for poor performance in line with the Supply Chain Management Policy and related Service Level Agreements	Invoke penalties for poor performance in projects (SCM)	Action completed in quarter 4. The were no penalties invoked by ERWAT as a result of poor performance by contractors in quarter 4.
			Insurance and Security Services	Investigate insurance coverage against financial loss for damages during projects by ERWAT	Action completed in quarter 3
ERW5	Inadequate preparedness in the event of an emergency/disaster.	Service Delivery	12 Wastewater Care Works have either a Balancing Dam, Emergency Dam, Water Flow Bypassing System	Flow modification and balancing dam project at Vlakplaats	Action plan in progress - ERW201602/TNDR-001: Vlakplaats WCW Modification to flow diversion, final effluent collection and Maturation and Retention Ponds. Construction is on-going and to date the project is at 75% physical and 75% has been claimed to date.
			Geo tech studies conducted (every three years)	Develop a Geotechnical Studies Standard Operating Procedure	Action plan not started
			Business Continuity Management Policy	Review BCM Strategy	Action plan in progress - The BCM Strategy updated in quarter 4and to be tabled at the Board in the new financial year .
			BCM Risk Assessments for Water Care Works and Support Services	Review of BCM Risk Assessments of all departments	Action completed in quarter 3. All the departments have reviewed their BCM risk assessments for the 2020/2021 financial year
			BCM Business Impact Analysis	Review of Business Impact Analysis	Action completed in quarter 3. All the departments have reviewed their BCM Business Impact Analysis s for the 2020/2021 financial year

<table>
<tr><th>Ref</th><th>Risk Title</th><th>Impact / Consequences</th><th>Current Controls</th><th>Risk Mitigation Plan</th><th>Progress Quarter 4</th></tr>
<tr><td></td><td></td><td></td><td>Critical Supplies Register for core business</td><td>Review the Business Recovery Plan for

Supply Chain Management</td><td>Action Plan completed in quarter 3.</td></tr>
<tr><td></td><td></td><td></td><td>Business Recovery Plans for IPAP, GLC, Operations, Commercial Business</td><td>Review of Business Recovery Plans</td><td>Action Plan completed in quarter 2</td></tr>
<tr><td></td><td></td><td></td><td>BCM Steering Committee</td><td>BCM Communications and Awareness</td><td>Action plan completed in quarter 4. BCM Steering Committee meetings held.</td></tr>
<tr><td></td><td></td><td></td><td>BCM Infrastructure Condition Assessments</td><td>Conduct Infrastructure Condition Assessments for Pump stations</td><td>Action completed in quarter 2.</td></tr>
<tr><td></td><td></td><td></td><td>Record Business disruptions and Incidents</td><td>Tracking of incidents and on a quarterly to assist in planning and decision making</td><td>
<table>
<tr><th>WCW</th><th>Critical equipment failures QUARTER 4</th><th>Critical equipment failures QUARTER 3</th></tr>
<tr><td>Ancor</td><td>19</td><td>19</td></tr>
<tr><td>Herbert Bickley</td><td>12</td><td>10</td></tr>
<tr><td>Heidelberg</td><td>10</td><td>8</td></tr>
<tr><td>Dekema</td><td>16</td><td>2</td></tr>
<tr><td>Vlakplaats</td><td>46</td><td>39</td></tr>
<tr><td>Waterval</td><td>60</td><td>48</td></tr>
<tr><td>Hartebeestfontein</td><td>12</td><td>11</td></tr>
<tr><td>Olifantsfontein</td><td>39</td><td>12</td></tr>
<tr><td>Rynfield</td><td>4</td><td>1</td></tr>
<tr><td>Benoni</td><td>6</td><td>3</td></tr>
<tr><td>Total</td><td>224</td><td>153</td></tr>
</table>
</td></tr>
<tr><td>ERW6</td><td>Potential loss of key skills</td><td></td><td>Recruitment Plan</td><td>Implementation of 2020/21 recruitment plan</td><td>Action plan in progress -The 4 H.o.D vacancies were advertised, the process is not yet finalised
Four D-band position were finalised and appointed. Two D-band positions are pending finalisation.
5 Temporary appointment were also made</td></tr>
</table>

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
			Organisational Structure Re-design	Review of the Competency Based Progression Plan	Action plan completed 3. The Progression plan is reviewed quarterly and updated as and when changes are proposed. The were no changes in quarter 4
			6-year Training and Development Plan	Implementation of 2020/21 annual training plan	Action plan in progress - 72% of the planned interventions on the 2020/2021 Training Plan were achieved, as well as 86% was achieved for Statutory (Safety) Training for 2020/2021 Financial year. The greatest challenge was on contact sessions due to government regulations on Covid-19.
			Employee Benefits Policies	Review of Human Resources Policies	Action completed in quarter 2
ERW7	Potential delay in supply and delivery of goods/services		Contractor Performance evaluation	Develop a Standard Operating Procedure for continuous defaulting bidders/ suppliers for RFQs and web-tenders.	Action plan not yet started.
			Supply Chain Management Policy and General Conditions of Contracts	Develop a standard operating procedure on Non-compliant and poor performing services providers	Action plan not yet started.
ERW8		Service Delivery	CAPEX Plan	Replacement of the FIA(Flow Injection Analyser)	Action plan in progress - The procurement process of the Discreet Analyser has passed the Bid Adjudication Committee stage.
			Scheduled maintenance for Scientific Services equipment	Maintenance to maintain the equipment as per schedule maintenance	The action plan in progress -The BID for building maintenance referred back for re-evaluation.
			Internal Inspections and Assessments	Refurbishment of the HVAC to restore to its operational state (DESIGN)	Action plan completed in quarter 1.
			External Audits	Replacement of the FIA valves & flow cells	Action plan completed in quarter 1.

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
			Inter-laboratory studies	Replacement of pH and conductivity meters	Action completed in quarter 2
			Standard Operating Procedures and Quality Manual	Replacement of objectives lenses for microscope	Action completed in quarter 2
ERW9	Potential Loss of, and Unauthorised Access Critical Information	Information Security	Information, Communication and Technology Policy	Develop Document Management Policy	Action plan in progress - The draft Document Management Policy has been developed in line with the Document Management Systems functionality, a new system has been deployed by the CoE to address previous system shortcomings and a UAT (User acceptance testing) session was planned to be held on the 14th June 2021 however the session was cancelled due to rise in Covid 19 infections until further notice
			ERWAT Public Drive	Implement Document Management System	Action plan in progress - A new system has been deployed by the CoE to address previous system shortcomings and a UAT (User acceptance testing) session was planned to be held on the 14th June 2021 however the session was cancelled due to rise in Covid 19 infections until further notice
			Computer Systems are Password Protected	Develop Protection of Personal Information Policy	Action plan in progress - Draft Policy was tabled at the Board on November 2020 and was back for more information and tabling at the Labour Forum. The was no further progress made in quarter 4
			Mimecast for mail protection against viruses and malware	Raise awareness on the risk of accessing untrusted websites	Action completed. There was no awareness scheduled for quarter 4
			Forti-Gate Firewall (automatically restricts access to untrusted websites) for protection of ERWAT system accessed through local network	Procurement and Implementation of encryption systems on ERWAT laptops, USBs and hard drives	Action plan completed in quarter 3. Antivirus scans is enabled for external devices no usb and laptops will be encrypted.

Ref	Risk Title	Impact / Consequences	Current Controls	Risk Mitigation Plan	Progress Quarter 4
			No control	Raise awareness on the risk of potential loss of sensitive information	Action plan has not yet started. Sensitive information to be classified first
			ICT Policies and Procedures	Include the use of other communication platforms in the information Security Standard Operating Procedure. (RAP5.1.1)	Action completed.in quarter 4.
			New employees awareness through induction.	Awareness through news flash	Action plan complete. No induction of new employees took place in quarter 4
			Information Security policies and procedures.	Review the ICT information security policy and Procedures	Action plan in progress - Policy tabled at the Board GRC Committee in May 2021. To be tabled at the Board in August for approval

7 Legislative

The governance and management of compliance to key legislature is critical to ensuring that the Entity has an effective system of regulatory compliance in place. The Entity has conducted Compliance Risk Management against six key legislature and ensure that there are compliance risk management plans in place

No	Key Legislation	Major Challenges
1	Companies Act 71 of 2008	The challenge in the companies' act is the long turnaround time it takes to finalise the Service Delivery Agreement between the Entity and the City.
2	National Water Act 36 of 1998	Compliance to the water quality is key to ensure that the entity does not contravene the water use licences as issued by the Department of Water and Sanitation. Old infrastructure poses a challenge as critical equipment frequently breaks downs and there is not adequate budget for maintenance.
3	Municipal Finance Management Act 56 of 2003	Budget cuts and late payments by the City poses a challenge in the smooth operation of the entity as it becomes difficult to pay service providers on time. This has a potential to affect the supply of critical supplies such as chlorine and security services.
4	National Environmental Management Act 107 of 1998	Frequent break down of critical equipment has a negative impact on the environment and the ecosystem of the rivers as pollution becomes unavoidable. The unlinking of the sludge drying beds result in seepages of wastewater underground.
5	Occupational Health and Safety Act 85 0f 1993	Covid 19 places a greater responsibility on the entity to keep all employees safe in line with the government regulations. Financial challenges place a greater on ensuring that the supply of goods and services is not interrupted by non-payment

8 Key Audit Matters and Progress

Audit outcomes

ERWAT obtained an unqualified audit opinion from the AGSA for the 2019/2020 financial year.
14 findings were included in the Management Report, of which two (2) were audit report items. Of these 14 findings, 9 have been resolved to date (30 June 2021).

Control no.	Finding	Classification	Comments	Status
ERWAT01	Tenders valued above R10 million were advertised for less than 30 days without an approved deviation and subsequently awarded	Non-compliance with legislation	**31/03/2021** A SOP for document management and safekeeping thereof will be drafted and finalised by Dec 2021. 12/05/2021 SOP has been drafted and will be presented at EXCO for inputs and approval. 15/06/2021 SOP has been drafted and will be presented at EXCO for inputs and approval.	**Okay - manageable issues**
ERWAT02	Difference between auditor's recalculated irregular expenditure amount and the amount disclosed in the financial statements.	Misstatements in financial statements	**31/03/2021** Corrected	**Finalized**
ERWAT03	Inconsistencies between approved business plan (SDBIP) and the annual performance report	Misstatements in annual performance report	**31/03/2021** Corrected	**Finalized**
ERWAT04	The reasons to deviate are not in line with the requirements of Municipal Supply Chain Management Regulation 36	Non-compliance with legislation	**31/03/2021** The deviation has expired and thus the required SCM processes will be applied going forward.	**Finalized**
ERWAT05	Errors on pre-qualification criteria / mandatory requirement specified in the bid documents and on the	Internal control deficiency	**31/03/2021** There is an SOP in place to mitigate from this happening and it is monitored at BEC and BAC level	**Finalized**

Control no.	Finding	Classification	Comments	Status
	approved specification documents			
ERWAT06	Expenditure Management – Payments not made within 30 days	Non-compliance with legislation	**31/03/2021** ERWAT is still experiencing difficulties in receiving the grant funding, which impacts on the payment of CAPEX invoices. The March service charges have also not yet been received on time. Management is, however, doing its best to improve the cash flow situation to ensure that non-compliance does not occur. 12/05/2021 The status quo remains the same as ERWAT has not received the Aprol 2021 service charges and outstading USDG grants from the CoE. 15/06/2021 The status quo remains the same as ERWAT has not received the Aprol 2021 service charges and outstading USDG grants from the CoE.	**Okay - manageable issues**
ERWAT07	Fruitless and wasteful expenditure not prevented	Non-compliance with legislation	**31/03/2021** Interest Incurred: These items are currently under investigation 12/05/2021 The status quo remains. A report has been prepared sequencing the events to the board in order to ensure that the appropriate processes are followed in terms of resolving this. 15/06/2021 The status quo remains. A report has been prepared sequencing the events to the board in order to ensure that the appropriate processes are followed in terms of resolving this.	**Okay - manageable issues**

Control no.	Finding	Classification	Comments	Status
ERWAT08	False declaration by suppliers	Non-compliance with legislation	**31/03/2021** ERWAT to emnark on a process to liaise with the bidders in this respect. Anticipated completion date - 31 Novemeber 2021 12/05/2021 Letters to the bidders have been drafted and will be sent through this week, to give bidders an opportunity to respond. 15/06/2021 SCM investigating responses recevied from various affected bidders. Final letters to bidders will be sent by end June 2021 for responses.	**Okay - manageable issues**
ERWAT10	Completeness of the deviation disclosure in the financial statements	Misstatements in financial statements	**31/03/2021** ERWAT is in disagreement with the finding in that Seciton 22 is not related to Section 36 as the AG had indicated in their findings. Section 22 does not provide that a note on this matter must be disclosed on the AFS or reported on. 12/05/2021 ERWAT to obtain an independent opinion on the disagreement from National treasurty. 15/06/2021 Status quo remains for opinion from NT.	**Okay - manageable issues**
ERWAT11	System intervention project - Calculation errors under Directors' and Managements' Emoluments disclosure note (Note 41)	Misstatements in financial statements	**31/03/2021** Corrected	**Finalized**
ERWAT12	Misstatements in the financial statements relating to service charges	Misstatements in financial statements	**31/03/2021** Corrected	**Finalized**

Control no.	Finding	Classification	Comments	Status
ERWAT13	Employee benefit obligation classification	Misstatements in financial statements	**31/03/2021** Corrected	**Finalized**
ERWAT14	No approved Overtime policy	Internal control deficiency	**31/03/2021** Overtime policy approved by Board after year end.	**Finalized**