ERWAT: Fourth Quarter Departmental Performance Reporting

2021/22 QUARTERLY REPORTING TEMPLATE AGAINST THE APPROVED BUSINESS PLANS

1. Executive Summary by the Department

ERWAT achieved five (5) out of the six (6) reportable key performance indicators. ERWAT met its targets on external revenue due to the revised SDBIP targets and the current projects were maintained. Percentage procurement spend allocated to SMME's was also exceeded due to measures put in place at specification stage to prioritise SMME's on certain contracts. Percentage capital expenditure on planned projects was also met however percentage of repairs and maintenance budget spend was not met.

The compliance in terms of the wastewater treatment works license conditions and/or exemptions standards was 85% against the set target of 80% for quarter 4. The target was achieved.

It is important to take note that although the target was achieved, serious ongoing challenges remain. These challenges are discussed in detail on the report which includes critical equipment failures, power outages and chemical shortages still remains

ERWAT is striving and working hard towards addressing all Mega Catalytic projects to accommodate new developments within the City of Ekurhuleni. The planned capacity upgrade of the Water Care Works needs 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	2	0	0
Department SDBIP	5	4	3	1	1

2. Service Delivery Monitoring

2.1 CITY-WIDE SDBIP

KPI 1 – City-Wide
Total revenue generated from external business

Method of Measure
Increased Commercial Business revenue generated from commercial sources (Absolute Rand Value per quarter). The indicator target is measured cumulatively across the Quarters Revenue generated from: External Income (none NDA)

Evidence
Invoices - (The invoices to be coupled with general ledger with a balance that agree to the amount reported for SDBIP purposes)

Q4 Target
R 1 000 000

Q4 Actual
R 12 700 001

Comment:
The target of R 1 000 000 in external revenue was exceeded.

Target Exceeded

Targets for Revenue generated were achieved due to the revised SDBIP targets and the current projects were maintained

Corrective Measure

Maintain the current client base and prevent attrition.

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
Not reportable in this Quarter

Q4 Actual
Not reportable in this Quarter

Comment
Not reportable in this Quarter

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

86%

Comment

KPI achieved. - The entity achieved the target. It is important to take note that although the target was achieved, serious ongoing challenges remain. These challenges are discussed below as well as under Section 3.3 (hydraulic capacity).

Challenges

a) Critical equipment failures
b) Power outages
c) Chemical shortages

Critical equipment failures and power outages:

The following WCWs experienced a number of critical equipment failures and power outages during Quarter 4 affecting the compliance of the WCWs even though the target was met.

	Critical equipment failures (number) QUARTER 4 21/22	Power Failure (hours) QUARTER 4 21/22
Benoni	4	19
Carl Grundlingh	28	2
Esther park	0	110
Hartebeestfontein	9	90
Olifantsfontein	25	62
Rynfield	13	81
Ancor	6	132
JP Marais	24	153
Jan Smuts	0	81
Welgedacht	61	15
Daveyton	10	149

	Critical equipment failures (number) QUARTER 4 21/22	Power Failure (hours) QUARTER 4 21/22
Heidelberg	13	155
Herbert Bickley	13	77
Tsakane	18	136
Ratanda	8	17
Dekema	12	155
Rondebult	1	52
Vlakplaats	38	162
Waterval	61	0

Power outages/Loadshedding

Ancor WCW**:** Over and above the 13 load shedding incidents in Q4 impacting on the compliance of the final effluent, there was a major electricity power outage in the Springs area, including Ancor WCW, due to a substation burning down, causing a power outage from 21 May – 24 May 2022. CoE cables were also damaged/stolen on 28 May and 17 June 2022 causing further outages. The WCW is currently receiving power via a temporary substation/connection from the CoE until the substation is rebuild.

All WCW: Standby diesel generators were installed at some of the most critical process units of the various WCW, however, some WCW are still awaiting CAPEX funding to procure and install. It must however be noted that standby diesel generators cannot operate for extended outage periods due to the very high consumption rate of diesel

Critical equipment failures

Asset Care plans for critical equipment were developed for all WCW and partially implemented due to a lack of OPEX budget to implement the plans in full.

Chemical shortages that had a direct impact on Water quality Compliance

WCW	Ferric chloride Number of days	Chlorine gas Number of days shortages
Ancor	28	0
Jan Smuts	22	0
Dekema	33	0
Vlakplaats	39	0
Benoni	52	0
Hartebeestfontein	30	0

Due to ongoing challenges at the manufacturing plants of the sole supplier, a National shortage of ferric chloride and chlorine gas is experienced, impacting directly on the quality of the final effluent of several WCW. Ferric chloride is used in the treatment process to remove ortho-phosphate from the final effluent and chlorine gas is used to disinfect the final effluent before discharge to the receiving water bodies.

ERWAT is in daily contact with the supplier to secure product and prioritise deliveries according to the stock levels of the various WCW. The service provider intends to shut down the manufacturing plants in July 2022 for a period of 4 weeks to perform essential refurbishment and re-commission the two plants in August 2022.

Sewer line blockages:
Welgedacht WCW: As reported in Q1-Q3, ERWAT is continuing the work on clearing the blockages and repair the damaged pipeline and manholes of the old McComb outfall sewer. Most of the work was completed in Q4, the remaining connection line involves a third party and a possible solution and costs to finalise the project will be continuing in Q1 of 2022/2023.

Ratanda WCW: There was an incident in Q4 whereby the main sewer line collapsed restricting flow to the WCW, ultimately on 08 May 2022 the sewer line totally collapsed and blocked all the flow to the WCW. Incident reported to Lesedi Local Municipality as per IMP to undertake repairs as the custodian of the sewer conveyance infrastructure. The sewer line was eventually repaired and commissioned by Lesedi on 16 May 2022.

Olifantsfontein project
A portion of the biofilter project (2 of 6 biofilters) which included the resuscitation of the old PSTs was commissioned on 08 June 2022. The bid document for the pipelines installation to feed the other 4 of 6 biofilters is ready and awaiting capex funds

2.2. DEPARTMENT SDBIP

KPI – 1 Departmental SDBIP
% Capital expenditure on planned projects

Method of Measure:

Increase ERWAT Wastewater Treatment Plants (WWTP) treatment capacity and improve process efficiency through infrastructure development projects (CAPEX). The total capital expenditure on major capital projects associated with increasing capacity and improving process efficiency in ERWAT Wastewater Treatment Plant according to green drop requirements and ERWAT Facility Development Plan (FDP 2032).

Evidence
a) Finance year to date expenditure report
b) Invoices

Q4 Target
95%

Q4 Actual
99.56%

Reasons for Variance
ERWAT has currently spent R 154 978 489.18 (99.56%) of its capital budget at the end of the fourth quarter. The planned SDBIP target for the quarter has been achieved with a 4.56% positive variance.

Remedial Actions:
None

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
95%

Q4 Actual
89%

Comment
KPI not achieved.

Reasons for Variance
The reasons are attributed the delay in the appointment of spares supply contracts. The other factor is due to non-payments of invoices in the previous quarter that has resulted into significant high committed funds.

Remedial Action
If the amount of committed funds outstanding are all paid in full during this financial year end, then the target will be achieved

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
45%

Q4 Actual
89%

Reasons for non-compliance
Contracts in place with bidders with EME/QSE BEE accreditation.

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
Not reportable in this Quarter

Q4 Actual
Not reportable in this Quarter

Comment
Not reportable in this Quarter

KPI – 5 Department SDBIP
Total rand value of surplus realised from revenue generated from external business

Method of Measure
This indicator measures Total Rand Value of Surplus Realised from Revenue generated from External Business. The Annual Target for the Revenue to be Generated from External Business R32.2m. This will be calculated by subtracting the total expenditure from the revenue generated.

Evidence
General ledger with a balance that agree to the amount reported Invoices Listing

Q4 Target
R1 500 000

Q4 Actual
R8 544 005.33

Comment
The target of R 1 500 000 in total rand value of surplus was exceeded.

Reasons for achieving KPI
Target for Total Rand value of surplus was achieved due to the revised SDBIP targets for revenue generated from external business and the current projects were maintained.

Refer to the City-wide SDBIP 2021/22.

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 (2020/21)	Annual Target (2021/22)	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)	29	Total revenue generated from external business	Invoices coupled with general ledger with a balance that agree to the amount reported	R24 889 792	R32 200 000	R1 000 000	R12 700 001.00	R11 700 001	Performance Achieved	Target achieved	Targets for Revenue generated were achieved due to the revised SDBIP targets and the current projects were maintained	Maintain current projects	OPEX	OPEX
	To build a clean, Capable and Modernised Local State	30	Audit Opinion	Dated and signed Audit report from AGSA	Unqualified Audit Opinion	Unqualified Audit Opinion	-N/A	N/A	N/A	N/A	N/A	N/A	N/A	OPEX	N/A
IDP Strategic Objective 4: To protect the natural environment and promote resource sustainability															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of water (including wastewater)	52	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 Waste	89%	82.5%	80%	85%	5%	Performance achieved	Target achieved	Dilution of inflow due to stormwater ingress. Target was reduced from 85% in Q1 & Q2 to 80% in Q3 & Q4. Biggest WCW in ERWAT, Waterval		R149 165 230	R118 381 760.33

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	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
				Water Treatment Works								WCW, average effluent compliance % increased from 86% in Q3 to 94% in Q4. (Replacement of busbars and cables at blower house was successfully completed.			

3.2 Entity's SDBIP Score card with Key Performance Areas and Indicators 2021/22

Table 2: Entity's SDBIP

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	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	100.26%	95.00 %	95.00%	99.56	4.56	Q4 target achieved	Target achieved	Projects completed as per the plan	N/A	R 14 193 218 (CAPEX budget was adjusted to R155, 656,019) therefore Q4 budget had to be adjusted accordingly, See for the Annexures for further reference)	R 87,486, 710.32
	Improved Quality of Water including Wastewater	2.M	Percentage expenditure on repairs and maintenance budget	Expenditure report from Finance AND Listing of R&M vote numbers and expenditure	84%	95.00 %	95.00%	89%	6%	Performance not achieved	Not achieved	The reasons are attributed the delay in the appointment of spares supply contracts. The other factor is due to non-payments of invoices in	If the amount of committed funds outstanding are all paid in full during this financial year	R 11,409,508	R106 132 790.00

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	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
												the previous quarter that has resulted into significant high committed funds.	end, then the target will be achieved		
	Improved Quality of Water including Wastewater	3.M	Number of Repeat Audit Findings	AGSA signed management letter	4	-N/A	N/A	N/A	N/A	N/A	N/A	N/A	OPEX	N/A	-N/A
	Improved Quality of Water including Wastewater	4.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	R105 810 543	45%	R35 991 427	97%	52%	Target achieved	Contracts in place with bidders with EME/QSE BEE accreditation	None	OPEX	OPEX	OPEX
	Improved quality of water including waste water	5.M	Total rand value of surplus realised from revenue generated from external business	General Ledger with a balance amounts that agrees with the amount reported AND Listing of invoices	New KPI	R6 500 000	R 1 500 000	R8 544 005.33	R7 044 005.33	Target achieved	Target achieved	Targets for Revenue generated and rand value of surplus were achieved due to the revised SDBIP targets and the current projects were maintained	No action required.	OPEX	OPEX

3.3. 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

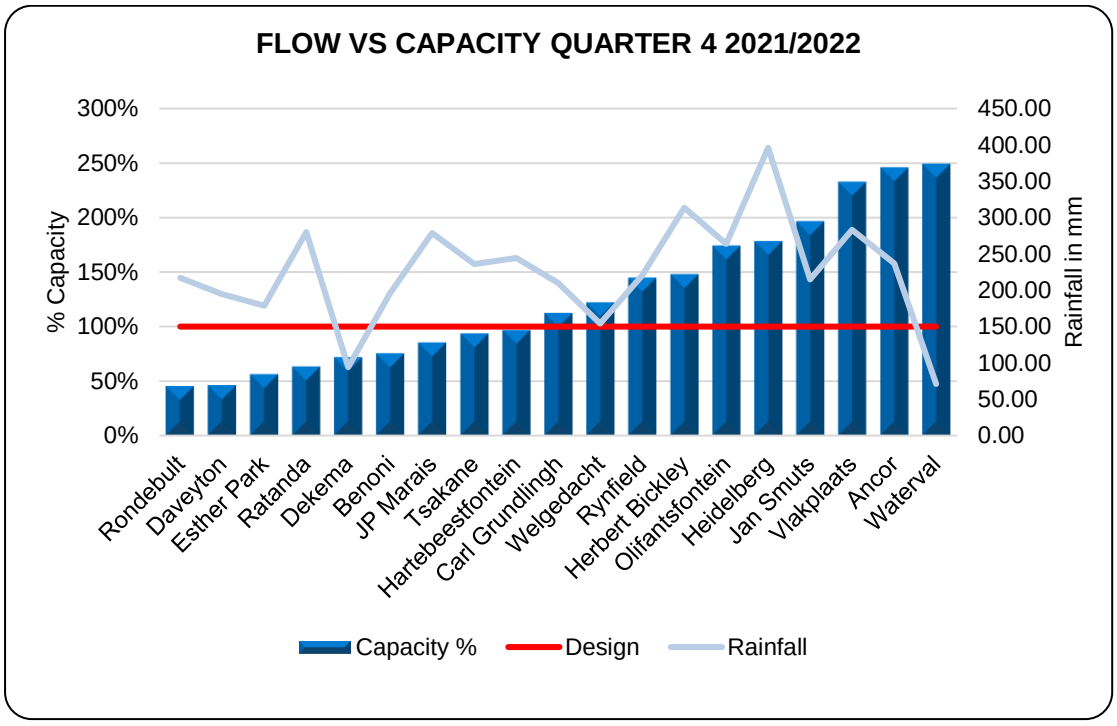


Figure 1

A total of 92 955 Ml was treated in Quarter 4, at an average of 1 022 Ml/day, utilising 164 % of the capacity as compared to Q3 where a total of 88 433 Ml was treated at an average of 983 Ml/day, utilising 158 % of the hydraulic capacity. The slight decrease in flow can be contributed to the slightly less rainfall received with storm water ingress into the sewer network during Q4, although abnormal rainfall continued well into the dry winter season.

3.4. Service Delivery Highlights and Challenges

Flows

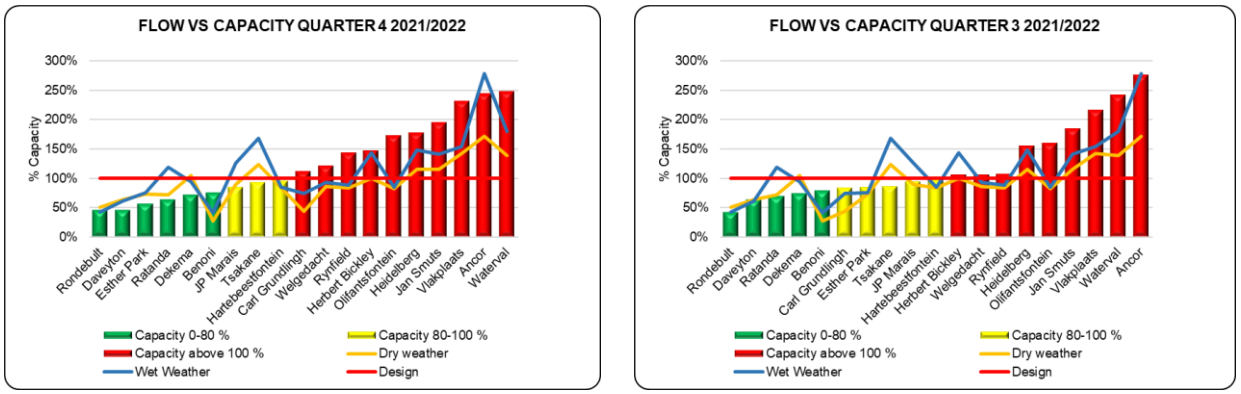


Figure 2

As can be noted in the above graph, during Q4, ten (10) out of nineteen (19) WCW were operating above their hydraulic design capacity, three (3) operating between 80% and 100% and six (6) below their hydraulic design capacity. In Q3 nine (9) out of nineteen WCW were operating above their hydraulic design capacity, five (5) operating between 80% and 100% and five (5) below their hydraulic design capacity. The % hydraulic capacity during Q4 are similar to Q3 and can be contributed to the wet season continuing into June of Q4 with stormwater ingress to the sewer network

Ancor operated at 246%, Jan Smuts at 196%, Heidelberg at 178%, Herbert Bickley at 148% Olifantsfontein operated at 174%, Welgedacht at 122%, Rynfield at 144% of its capacity, with large regional plants such as Vlakplaats operating at 232% and Waterval operating at 249%.

Additional capacity is urgently needed at several WCW, and for Olifantsfontein WCW, the bid document for the pipelines installation to feed the other 4 of 6 biofilters is ready and awaiting Capex funds. The project needs to be fast tracked especially the pipelines to feed all six biofilters.

Plant	Design Capacity	Actual Q4	Rainfall Q4
Ancor	15.00	36.83	237.00
Benoni	7.50	5.63	196.00
Carl Grundlingh	5.20	5.84	210.00
Daveyton	19.00	8.76	194.50
Dekema	31.00	22.21	94.00
Esther Park	1.40	0.79	179.00
Hartebeestfontein	63.00	60.83	244.50
Heidelberg	5.40	9.61	396.20
Herbert Bickley	15.10	22.31	313.80
Jan Smuts	6.00	11.77	215.00
JP Marais	15.00	12.75	279.00
Olifantsfontein	65.00	112.94	264.00
Ratanda	4.70	2.97	280.00
Rondebult	20.00	9.02	217.00
Rynfield	9.80	14.16	220.00
Tsakane	20.00	18.70	236.00
Vlakplaats	55.00	127.67	283.30
Waterval	170.00	423.01	71.00
Welgedacht	95.00	115.84	154.00

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. However, the CoE has provided budget in 2021/2022 to commence with the upgrade of six (6) of the most overloaded WCW. Professional Service providers were appointed by CoE and the project is still the inception phase.

.3 Organic Loads

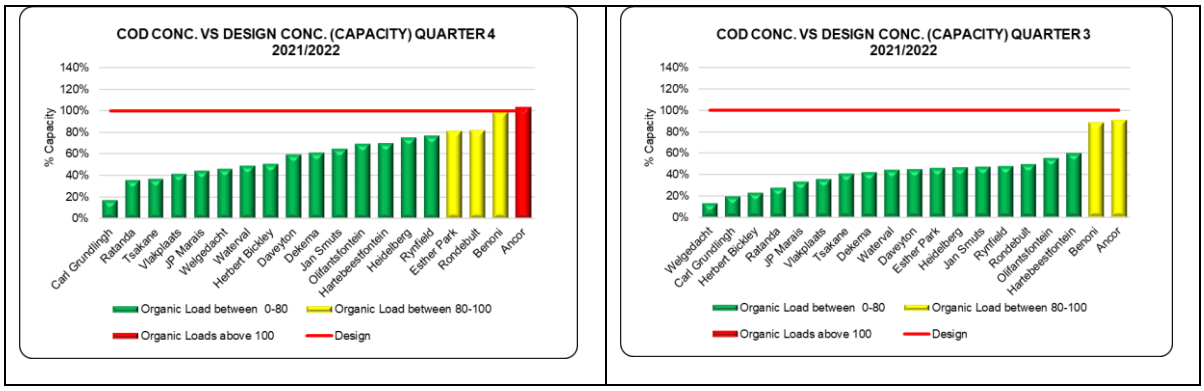


Figure 3

As can be noted, for Quarter 4, 1 (one) WCW operated above 100% organic capacity, 3 (three) WCW's operated between 80-100% of the organic design capacity and 15 (fifteen) below their design capacity, as opposed to Quarter 3 where 2 (two) WCW's operated between 80-100% and 17 (seventeen) below their design capacity. Wet weather was experienced in both Q3, and Q4 with storm water dilution resulted in a lower % organic capacity in both Q3 and Q4..

3.4 Service Delivery Highlights and Challenges

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	The Plant complied with overall WUL effluent standards with Overall compliance of Chemical= 98% Physical= 99% Micro= 89% And the overall compliance is 96% in Q4	Plant operated at 75 % of re-graded hydraulic capacity in Q4	Plant operated at 99% of re-graded organic capacity in Q4	There were abnormal flow fluctuations in Q4 due to pump stations shutdown for the installation of mechanical screen.	There were 7 high strength of COD from industrial pollution in Q4	There were 4 critical equipment' failures in Q4	There were 3 power outages in Q4 and duration was 19 hrs	Open digesters walls are cracking, Humus tank weirs plates worn out	None	None	Dried sludge is stockpiled on the plant	Unlined sludge paddies and maturation ponds could cause possible ground water pollution in Q4	None	None	Sludge classification A1c Screenings and grits that are generated at the plant and are collected by CoE.	None	None
Esther Park	Plant complied with both the target of 90% and the WUL/ GA standard best practice of 90% Q4 2021/ 2022 Physical: 100% Chemical: 93% Micro: 91%. Q4 overall compliance = 95%	Plant operated at 56 % of hydraulic capacity (Based on regraded capacity of 1.4 Ml/d)	Plant operated at 81 % of organic capacity for Q4.	4x abnormal flows recorded for Quarter 4 above regraded design capacity of 1.4 Ml/d	13x Industrial effluent pollution incidents in Q4.	0x critical equipment failure occurred in the quarter.	29x power failure incidents recorded in Q4 lasting for total downtime of 110 hours – Load shedding	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
Hartebeestfo	Plant did not comply with WUL effluent standards target of 90%	Plant operated at 97% of	Plant operated at 70% of	Abnormal fluctuations in inflows in Q4 was in April with	Plant received industrial high strength	09 Critical equipment failures	There were 32 power outages in Q4 for duration of	Ferric plant, chlorine, thickeners, clarifier 1-4	Digester 1, 4,6 and 9 sludge recircul	There were no veld fires	1316700 kg of dry sludge was irrigated to	Borehole two has high concentration of	Sinkhole next to the fence towards	License amendment with relaxati	Sludge classification is B2c, not suitable	All roads are accessible, however grading	There was 1 porta

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
	with the actual of 86% and did not comply with best practice target of 90%. Q4 2021/2022 Physical: 99% Chemical: 82% Micro: 77% Overall compliance: 86%.	hydraulic capacity.	organic capacity	average flows of 75 Ml/d.	effluent on 82 of 91 days in Quarter 4.	occurred in Quarter 4.	90 hours due to load shedding.	bridge and siphons.	ation nozzles blocked	experience Quarter 4	the 200 hectares farm.	Nitrates and borehole 4 has oily substance.	FST 5 & 6 and around the Farm.	on on Electrical conductivity, Ammonia, E.coli and COD	for the intended purpose; this requires further engagement with the farmer.	was done in June 2022.	ble leak of main line feeding farm houses
Olifantsfontein	The Plant complied with overall WUL effluent standards with compliance of Chemical= 57% Physical= 51% Micro= 74% The average compliance target of 55% was achieved in Q4 2021/22 with the overall compliance of 61%.	Plant operated at a hydraulic capacity of 174% in Q4 with	Plant operated within design capacity at 69% in Q4 2022	There were abnormal fluctuations of inflows in Q4 2022 due to rainfall. 264 mm rain for the quarter.	Plant received industrial high strength effluent (very high Electrical Conductivity above 100 mS/m) with	25 critical equipment failures occurred in Q4 2021/2022	There were five Power failures with total of 62 hours with the fuel consumption of 2600 litter	Module 3 Anaerobic digesters.	Digester 4 of 6 digesters are blocked due to sand accumulation	There was one veld fires in Q4 2021 - 22	Total sludge of 522 272 kg was produced in Q4 with the monthly production of 169970. Sludge is disposed on different farms around Bapsfontei	Unlined emergency dams contaminating borehole no.2&3. Borehole 1 runs dry during dry seasons	2 x Sinkholes behind and in front of the old laboratory which occurred in Dec 2019 still not rehabilitated	Olifantsfontein WUL is stringent on Ammonia of < 2mg/l, SS of 15 mg/l and EC of < 80 mS/m.	Sludge is classified into three streams: (1). Dewatering unit(B3a), the sludge not suitable for cultivating crops such as fruits trees (2). Drying beds	Road to upstream sampling point need to be graded and there is high erosion on the banks. To be reported to the CoE..	YES, there is a water leak that is reoccurring and resulting in water loss

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
					29 days in Q4 2021-22 with the month exceedance of Plant also experiences fine sand ingress.						n area and is used for agricultural purposes				(A3a), No restrictions and requirements apply 3) Grit and screenings is waste that should be dumped at specialised land fill under strict conditions to ensure ENV compliance, waste management by the city has been affected by lack of collection from site, leading to stockpiling.		
Rynfield	Plant didn't comply with WUL effluent standard in Q4.	Plant operated at 144% of re-graded	Plant operated at 77% of re-graded	There was Abnormal flows received	None	There were 13 critical equipment' failure in Q4.	There were 23 power outages in Q4 with total	. Pavement Cracked and Digesters &	None	None	Dried sludge is stockpiled	Unlined sludge paddies and	None	None	CoE collects screenings and grits	None	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
	Plant met target of 86% with 87% in Q4. Compliance in Q4 2021-2022. Physical: 99% Chemical: 81% and Micro: 80%.	hydraulic capacity in Q4, which was above the design capacity.	organic capacity in Q4	during April May June 2022 due to N12 pump station which is sending more flows to the plant			hours of 81hrs.	reactor tank concrete structure is cracked .Bio- feeder structure is cracked			on the plant	maturation ponds could cause possible ground water pollution			from the inlet works. Dried sludge is stockpiled on the plant		
Ancor	Plant compliance for Q4 is 64% Non-compliant parameters: Chemical 63%, Physical 83% and Micro 45 %	Plant operated at 246% of its hydraulic capacity	Plant operated at 104% 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; however, the RSA COVID -19 lockdown reduced flows to the WCW.	Plant received high COD industrial effluent on 12 of 91 days. In Q4, decrease due to storm water ingress	6 critical equipment failures occurred in Q4,	22 outages occurred (131 hrs. 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 crumbling /cracked	3 digesters blocked with sand and are not in operation. This cause the plant to run out of sludge handling capacity, which prevent proper de-	No veld fires occurred during Q3.	Stockpile area not lined. Stockpiles on plant is a risk due to veld fires and environmental pollution	Unlined sludge paddies pollute underground water	Area around humus tanks and final effluent channel are dolomitic according to Geotech study performed.	N/A	CoE removes solid waste (screenings and grit).	Access road in bad condition with lots of potholes	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
									sludging and resulting in non-compliances.								
Daveyton	Plant complied; compliance for Q4 is 96.3%.	Plant operated at 46.1 % of its hydraulic capacity.	Sufficient capacity. Plant operated at 60 % of its organic capacity.	Numerous sewer blockages in the CoE network, Power supply interruption at Etwatwa ext.10 pump station and potable water supply interruption to Etwatwa lead to inconsistent and irregular flow to the plant.	N/A. Domestic only.	10 Critical equipment failures occurred in Q4, namely: RAS pumps, compressor, BNR MCC panel, Generator, Geyser pipes, chlorine change over unti,Aerators.	63 power outages occurred in Q4 lasting 149 hours in total. Power outages was due to load shedding on the network.	CCT sometimes leaking. Do not have direct impact on the operation of the plant at the moment	N/A	Veld fires pose a risk during winter, but no incidents during Q4. Fire breaks were created around the plant and sludge lagoo	Sludge lagoons are unlined Space for solar drying is in-sufficient	Unlined sludge lagoons pollute the ground water.	N/A	N/A	Screenings is collected by COE for proper disposal.	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
										n fence.							
JP Marais	Plant compliance for Q4 is 96%.	Sufficient capacity. Plant operated at 85% of hydraulic capacity	Sufficient capacity. Plant operated at 44% of organic capacity	None in Q4	None in Q4	24 critical equipment failures occurred in Q4, namely; 3 x WAS pumps, 1 x Raw sampler, 2 x PST pumps, 1 x PST blockage, 1 x clarifier bridge, 13 x RAS pump, 2 x Chlorine monitoring scales and 1 x Chlorine rotameter	50 load shedding (106 hours) and 4 power failures (47 hours)	None	N/A	No veld fire incident experienced in Q4	Sludge pumped to Welgedacht, where it is treated.	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.	N/A	N/A
Welgedacht	Plant compliance for Q4 is 93%.	WCW operated above design capacity of 122%	Sufficient capacity WCW operated at 46% organic capacity.	None	10 x Coloured influent and 5 x High incomi	80 critical equipment failures occurred in Q4, Module 1 MCC	4 x power outages which lasted for 15 hours due to failures at	N/A	N/A	No veld fires occurred during Q4.	None	Unlined De-chlorination channels and Emerg	N/A	N/A	CoE removes solid waste (screenings and grit).and	Gravel access road in very bad conditions and very slippery when wet.	No potable water supply to the

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 its capacity			ng COD Load	electrical panel must be replaced. Aerators x 13; Recycle pumps x 8, Chlorine system x 9, V-belts x 2;Screens x 8;RAS x 3, Bet press x x; Chemical sludge pumps x 5; Compactor x 3; Fluidization pumps x 4; Fence; Generator change over, Clarifiers x 7; Screw conveyor; Screw pumps x 5; Meters x 3; Poly make system x 2; PST pumps x 2; Bore hole pump; mixer and	Eskom substation supplying Welgedacht substation					ency dam			dispose at licensed solid waste site.		plant. Bore hole 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
						PST waste lines											
Jan Smuts	Plant compliance for Q4 is 86%.	Plant operated at 196% of its hydraulic capacity	Plant operated at 125% of its organic capacity.	Eight (8) days of High incoming flows in Q4	Plant received industrial high strength effluent on 0 of the 91 days in Q4.	Q4 we had to lower the chlorine pumps in the sump to be able to still dose chlorine when water levels are low	29 Power outages (81 hours total) due to loadshedding, Generator backup is not operational	Humus Tanks scum boards, digester number 2's wall, drying beds' walls and the bio-filters' feed flow division box/tower.	None	No veldfires during Q4	Dried sludge is stockpiled on site.	Unlined sludge stockpile area can cause groundwater pollution.	No	No	Screenings incinerated at the plant and the grit buried on site. This practice does not comply with WUL conditions.	Fair	Rand Water
Heidelberg	Plant Compliance for Q4 is **(91%).** Physical 99%,Chemical 77% and Micro 96%	Plant operated at 178% of its hydraulic capacity	Plant operated at 75% of organic capacity	High incoming flows	Plant received high COD industrial effluent on 20 of 91 days and high SS on	13 Critical equipment failures for Q4 1x Aerators (2x Clarifier Bridges, 4x Inlet Raw pumps ,2x Sludge pumps, 1x Ferric	Heidelberg had 39 power outage with a duration of 155 hours. Diesel used was 9716 L	The joint sealants of Carousel reactor concrete wall are damaged	None	No veldfires occurred during Q2.	Sludge at the plant stockpiled after dewatering, and is also applied/irrigated to the lands and could	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. Potentia	The access road to Heidelberg works is severely damaged and a new-tarred road is required urgently	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
					5 days of 91.	Pump 1x Belt press ,1x Generator and 1xHigh Mast light					potentially contaminate groundwater resources				l ground water pollution		
Herbert Bickley	Plant Complied with WUL effluent standards (**91%**)	Plant operated at 148% of hydraulic capacity	Plant operated at 51% of organic capacity	High incoming were experienced in Q4.	Plant received industrial high strength effluent on 12 of 91 days	13 Critical Equipment (booster pumps, sludge to land pump, chlorine dosing systems.	Herbert Bickley had 35 power outages which lasted 77 hours Diesel used was 6413L	Anaerobic digesters cracked concrete structures, Biofilter 1 ans 2 have cracked concrete structures,	6 out of 8 digesters not in use due to blockages and leaking digester pipes	No veldfires occurred during Q3.	Sludge used for irrigation at instant lawn	Irrigation of sludge for Instant lawn is a source of pollution Activities are carried out as per Guidelines	None	None	Collected by CoE to a dedicated landfill site	Access road to the plant damaged and requires an upgrade	None
Tsakane	Plant compliance for Q4 is **89.%.**	Sufficient capacity. Plant operated at 93%	Sufficient capacity. Plant operated at 37%	Minimal incoming flow was experienced at the plant due	Plant received high COD industr	18 critical equipment failures occurred in Q4, namely;	Tsakane had 60 power outages which	Digesters and channel for raw sewage feeding	N/A	No veldfires occurred	Sludge pumped to unlined lagoons/ paddies	Unlined sludge lagoons and paddie	None (There's a dolomitic report	None	Screenings and grit collected by CoE to a	None	Potable water leak

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 hydraulic capacity.	of organic capacity.	to equipment breakdowns and spillages at Reticulation pump stations (Rockville, Extension 11 and 22)	ial effluent on 0 of 91 days.	RAS pump no.1 blockages (2 times). Chlorine system(2 times), Tsakane Generator (1 time), Newly installed mechanical fine screen (2 times), A-recycle pump no.2 (1 time), A-recycle pump no.3 (1 time), A-recycle pump no.1 (1 time), leaking sludge to land pipeline (1 time), Fridge for samples (1 time), Raw composite	lasted 136 hours Diesel used was 12230L. 1 x Backup generator available.	HYBACS concrete structures cracked and leaking		during Q2	for solar drying. Drying beds have been decommissioned	s/lack of groundwater monitoring at the sludge lagoons and paddies. Unfenced drying paddies	that shows none at Tsakane)		dedicated landfill site		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
						sampler (2 times), Circuit aerator no.8 (1 time), Aerator no.8 (1 time) Compactor no.1 (1 time), Floating aerator no.10 (1 time)												
Carl Grundlingh	Plant Complied with WUL effluent standards (**92%**)	Plant operated at 114.2% of its hydraulic capacity	Plant operated at 17% organic capacity	None	No Pollution	3 x Critical equipment failures for Q4 (Brush Aerator & Floating Aerator)	None	None	N/A	No veldfires occurred during Q2	Land application of sludge is being used	Unlined sludge to land posing groundwater pollution	None	None	Collected by CoE to a dedicated landfill site	Access road to the plant is damaged and requires an upgrade.	None
Ratanda	Plant Complied with WUL effluent standards (95%)	Plant operated at 63% of its hydraulic capacity	Plant operated at 36% of organic capacity,	Experienced low inflow due to collapsed outfall sewer	None	1 Critical equipment failures for Q4 Borehole pump, new borehole	Ratanda had 9 power outages with a total duration	Drying beds drainage system and chlorine contact	N/A	None	Dried sludge is stockpiled on-site, potential	Unlined sludge ponds and leaking	None	None	Screenings and grit generated at the plant are still	The access road to Ratanda Works is severely damage	No link to the Municipal

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
				line.WCW experienced no flow on 10 to 16 May 2022.		drilled and pump installed in June 2022	of 17 hours in Q4	tanks are badly leaking structures			groundwater pollution	drying beds, potential ground water pollution			being buried and this practice is not environmental friendly. Potential ground water pollution	d and a new-tarred road is required urgently	Potable Water Supply, water transported from Heidelberg Works and borehole water is used for other domestic

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
																	purposes
Dekema	Plant did not comply with WUL effluent standard Average compliance: 81% Compliant Parameters- Physical – 81% Chemical: 70% Micro: 93%	Plant operated at 72% of hydraulic capacity	Sufficient capacity. Plant operated at 61% organic capacity	Plant received high flows on 0 out of 91 days	Plant received high COD industrial effluent on 4 of 91 days	12 Critical equipment failures occurred in Q4 – Namely : 2 X PST motors,1 x HT 11 rotating bridge,3 x submersible pump,1xscrew conveyor cover, 1xwash water pump, 2Xsludge pumps, 1X filter pump, 1 X Substation 1 circuit breaker and busbar	52 Outages occur (155hrs total) Load shedding is a big concern.	Channels feeding sections partially collapsed. Biofilters and digesters wall are cracked.	1 out of 12 Anaerobic digesters is blocked	No veld fires occurred during Q4	Sludge pumped to unlined paddies for solar drying and dried sludge spread to land area to be ploughed into land.	Unlawful disposal of grit and screenings (grit and screenings are buried on-site in a trench).	None	N/A	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 Dekema WCW needs to be tarred as it gets muddy and slippery during rainy season.	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
Rondebult	Plant did comply with WUL effluent standard Average compliance: 97% Compliant Parameters-Physical – 98% Chemical: 95% Micro: 97%	Plant operated at 45% of hydraulic capacity.	Plant operated at 82% of organic capacity.	High flows of up to 23.90 Ml/day occurred from dates due to storm water ingress. Total rainfall measured at the plant was 217 mm for Q4	Plant received industrial high COD effluent on 7 of 91 days	1x Critical equipment failures for Q4. No Critical equipment failure reported for the month of April and June 2022. May 2022 1 x pump station (Submerged Humus and sludge pumps due to the flooding of the pump station)	18 Outages occur (52 hours in total) due to load shedding) Genset installation project for process continuity during power failures commenced on the 16th of March 2022 and commissioned on the 2nd June 2022.	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	The works experienced 1 incidents of veld fire that occurred on the 22nd of June during Q4	Dried sludge is stockpiled on the plant. Demand for instant lawn application is seasonal	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.	The entire area of the plant are dolomitic	N/A	Screenings and grit generated at the plant are still being buried and this practice is not environmental friendly. Potential groundwater pollution	The access road are deteriorating fast and will need attention soon.	Underground rusted pipeworks needs to be replaced
Vlakplaats	Plant did not comply with WUL effluent standards: Average compliance:	Plant operated at 232% of hydraulic capacity.	Plant operated at 42% of organic capacity	High flows of up to 185 Ml/day occurred from dates due to	Plant received industrial high strengt	38 Critical equipment failures occurred in Q4 - Namely: 2x	28 Outages occur (162 hours in total) Loadshadi	Office building have some cracks.	None	No veld fires occurred	Dried sludge is stockpiled on the plant. Demand	Unlined Emergency dams. Unlawful	Area around bio filters at Mod A are	N/A	N/A	Access road to final effluent need to be tarred,	

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
	36% Compliant Parameters- Physical – 76 % Chemical: 31% Micro: 1.11%	Needs to be upgraded		storm water ingress. Rainfall measured at the plant was 283 mm.	h effluent on 0 of 92 days	failures of the ferric chloride dosing system ,1x Failures of DAF sludge transfer pump,15x failures of raw sludge transfer pumps. , 2x failure of mechanical screens, 1x failure of DAF air supply valve. 1x Failure of PST rotating bridge, 2x failure of anoxic mixers, 10x Failure of Humus pumps, 2x failure of Generator, 1x failure of Effluent recycle pump, 1x	ng is a major concern.			durin g Q3.	for instant lawn applicatio n is seasonal	disposa l of grit (grit is buried on-site in a trench).	dolomit ic			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
						failure of clarifier bridge.											
Waterval	Plant t complied~~y~~ with WUL effluent standards: Average compliance: 94% Compliant Parameters- Physical – 96% Chemical: 90% Micro: 96%	Plant operated above capacity (operated at 249% capacity)	Sufficient capacity Plant operated at 49% organic capacity.	Average flow of up to 422 Ml/day received due to developments and bypasses for upstream plants.	Plant received industrial high strength effluent on 0 of 91 days. Plant is receiving and treating 30 m^3 of leachate daily from Enviro Serv	61 Critical equipment failures occurred in Q4 2022 Mainly from 4 x DAF Recirculation pumps, 3 x PST and transfer pump failures, 3 x power dip cut, 4 x SSTs failures, 5 x inlet screen failures, 16 x blower failures , 1 x planned blower shut down, 1 x RAS pump, 6 x aerator failures, 2 x chlorine wash water failure,3 x cornel pump failures, 1 x draw off pump failure, 2 x Digested pump failures, 2x Compactor	0 Hours planned blower outage	None	None	11 veld fires at sludge land occurred during Q4	Dried sludge is stockpiled on the plant. Demand for agricultural application is seasonal.	Unlined Emergency dams. Unlawful disposal of grit (grit is buried on-site in a trench).	None	N/A	Screenings and grit generated at the plant are still being buried and this practice is not environmental friendly. Potential groundwater pollution	N/A	

3.5. Project/Infrastructure Report

This section includes all major projects that will contribute to the Mega Catalytic projects. 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. Below is the summary of these planned and running projects that have been identified to address planned Mega Catalytic Projects within City of Ekurhuleni (CoE).

3.5.1 Ongoing/Running/completed Projects

3.5.1.1 Designs and Constructions for the upgrade and refurbishment of the Olifantsfontein water care works (WCW).

The contract is mainly for designs and focus on the upgrade and rehabilitation of all the infrastructure within the Olifantsfontein WCW (module 1, 2 and 3) and other activities that have been omitted under the first stage as a result of budget constraints. The project is on-going. City of Ekurhuleni (CoE) Pumpstation designs has being completed.

The construction is being implemented in Five (5) phases, which focuses on refurbishment and upgrade of the Olifantsfontein WCW and CoE pump station to restore the works to its original design capacity. The implementation of the final 2 phases are currently on hold due to unavailability of funds(as per the approved MTREF).

Phase 1a Reinstatement of 16 ML Bio-filters process train of module 3 and **Phase1b** Supply, delivery, and assembly of Biofilter Plastic Media. The commissioning of two phase has been completed.

Phase 1c and Phase 1d Projects
The scope of work for Phase 1c and 1d are ready to commence with procurement process. However, due to budget limitation that ERWAT is currently experiencing, the project will be placed on hold pending budget availability.

3.5.1.2 Design and Upgrade of HVAC system

The Contract include the installation of Heating, Ventilation, Air Conditioning (HVAC) system at the ERWAT laboratory

The progress on site is as follows:

a) The contractor has established site (Storage Container, Office and Ablutions are on site)
b) All equipment selections and drawings have been submitted and approved.
c) Major Equipment such as Air Handling Units, Piping and ducting has been supplied, only chillers and fume hood cupboards outstanding
d) Decommissioning of existing HVAC and Fume hoods will commence mid-July 2022.
e) Installation will commence mid-July 2022.
f) Estimated Date of completion is End August 2022.

3.5.2 Planned 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 Regionalisation and 50-year Master Plan*" that will give strategic direction for future wastewater system extensions/consolidation planning, investment and implementation for the next fifty (50) year planning horizon. The plan cover all the Water Care Works operated by ERWAT and conveyance systems within the CoE operational area with the intention to optimize existing WCW systems and wastewater conveyance systems. The proposed "*Wastewater Conveyance and Treatment* Systems *Regionalisation and 50-year Master Plan*", is to reduce the number of WCWs operated by ERWAT from 19 to 10. 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

3.5.2.1 Ancor WCW

a) The Ancor water care 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.

3.5.2.2 Vlakplaats WCW

a) Vlakplaats water care works 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 and add a peak flow balancing capacity into the plant.	Project om hold pending availability of funds

3.5.2.3 Welgedacht WCW

a) The Welgedacht water care 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 upgraded 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.

3.5.2.4 Herbert Bickley WCW

a) The Herbert Bickley water care 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.

3.5.2.5 Waterval WCW

a) The Waterval water 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 upgraded 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.

ERWAT is exploring opportunities to determine appropriate technology solutions for the plant capacity upgrade or retrofit projects through Expression of Interest (EOI) for the water care works that are operating above the design capacity. As funding becomes available the upgrading or retrofitting all the water care works that are operating above the design capacity shall be implemented

3. Financial Report

Table 5: Operational expenditure

Line item	Total Original Budget	Total Revised Budget (Applicable only after Adjustment)	Budget for Quarter	Actual for Quarter	Variance	Actual for FY (Yr to date)	Variance for year (Yr to date)
Employee Related Costs - Salaries & Wages	448 637 209		112 159 302	93 520 378	18 638 924	397 669 245	89%
Remuneration of Directors	3 960 262		990 066	305 022	685 044	991 278	25.0%
Bad Debts (Provision for Bad Debts)	1 742 850		435 713	913 336	(477 624)	2 177 382	125%
Depreciation	100 968 000		25 242 000	25 048 923	193 077	100 700 197	99.7%
Pumpstations	-		-	-	-	-	
Repairs and Maintenance	119 901 125		29 975 281	60 673 124	(30 697 843)	106 132 795	89%
Interest Expense	41 252 448		10 313 112	6 172 109	4 141 003	24 610 096	60%
Intervention Expenses	-		-	-	-	-	
Bulk purchases	321 893 750		80 473 438	45 584 241	34 889 197	230 185 058	72%
General Expenses - Other	164 640 377		41 160 094	34 612 234	6 547 860	119 636 748	73%
TOTAL OPERATING EXPENDITURE	1 202 996 021		300 749 005	266 829 367	33 919 639	982 102 799	82%

Expenditure:

ERWAT has a 18% under-expenditure on its total OPEX due to the following reasons:

1. A 11% under-expenditure on employee costs due to delayed recruitment plan as per the new structure. The delay was predominantly caused by a moratorium placed on recruitment by the Board of directors, as well as the lack of a board to appoint the advertised HoD positions;
2. A 75% under-expenditure in directors' remuneration due to the fact that the term of the board ended during the second quarter and ERWAT has been without a board. The number of directors also decreased from 8 to 5 in prior years;
3. A 11% under-expenditure in Repairs and Maintenance due to the fact that the delay in the appointment of spares supply contracts. The other factor is due to non-payments of invoices in the previous quarter that has resulted into significant high committed funds. If the amount of committed funds outstanding are all paid in full during this financial year end, then the target will be achieved.
4. A 40% saving in interest expense due to lower interest rates;
5. A 28% under-expenditure in bulk purchases due to the fact that the capturing occurs one month in arrears. The expenditure should normalise in accordance with the budget by July 2022.
6. A 27% under-expenditure in general expenditure mainly as a result of budget for the PPP program with the DBSA that has been delayed pending council approval. Further COVID-related savings were experienced as employees were predominantly working from home.

Savings arose from expenditure such as training, consulting fees, travel and accommodation, printing, consumables, consulting fees etc.

Table 6: Capital expenditure

Project Detail	Total Original Budget	Total Revised Budget (applicable only after Adjustment)	Budget for Quarter	Actual for Quarter	Variance	Total Budget for the year	Actual for FY (Yr to date)	Variance for year (Yr to date)	% Completion
Capital Projects	R167, 100, 000.00	R 155,656,019 .	R 23,348,403	R 87,625, 459	R 64,277,0 56	R 155,656,0 19	R154, 978 489	R 677,530	99.56

ERWAT has currently spent R154 978 489 (99.56%) of its capital budget at the end of the second quarter. The planned SDBIP target for the quarter has been achieved with a 4.56% positive variance.

mSCOA Vote Number	Project Name	Final Adjusted Budget	Actual Expenditure Year to Date	% Spent (Actual vs Adjusted Budget)
73826456020TCXBCZZER	PPE COST MACH & EQP IU COST ACQUISITION	4,889,632	4,889,632	100.00%
73836449420TCXBHZZER	VLAKPLAATS WWTW	46,639,447	46,639,447	100.00%
73846449420TCXBHZZER	WATERVAL WWTW	8,529,325	8,529,325	100.00%
73846473520TCXBKZZER	PPE COST COMMUNITY COST ACQUISITION	190,000	190,000	100.00%
73106460020TCXBAZZER	PPE COST SANIT INFRASTR COST ACQUISITION	810,000	810,000	100.00%
73436456020TCXBCZZER	PPE COST MACH & EQP IU COST ACQUISITION	15,953,849	15,953,849	100.00%
73526449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	260,373	260,373	100.00%
73536449420TCXBHZZER	OLIFANTSFONTEIN WWTW	26,000,000	25,322,470	97.39%
73546449420TCXBHZZER	HARTEBEESTFONTEIN WWTW	6,119,826	6,119,826	100.00%
73616449420TCXBHZZER	ANCOR WWTW UPGRADE PROJECT	4,531,690	4,531,690	100.00%
73616456020TCXBCZZER	ANCOR WCW LAB EQUIPMENT	225,000	225,000	100.00%
73626449420TCXBHZZER	BENONI	814,174	814,174	100.00%
73636449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	3,123,357	3,123,357	100.00%
73646449420TCXBHZZER	HEIDELBERG WWTW UPGRADE PROJECT	3,517,938	3,517,938	100.00%
73646460020TCXBAZZER	PPE COST FURN & OFF IU COST ACQUISITION	12,336	12,336	100.00%
73656449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	4,777,786	4,777,786	100.00%

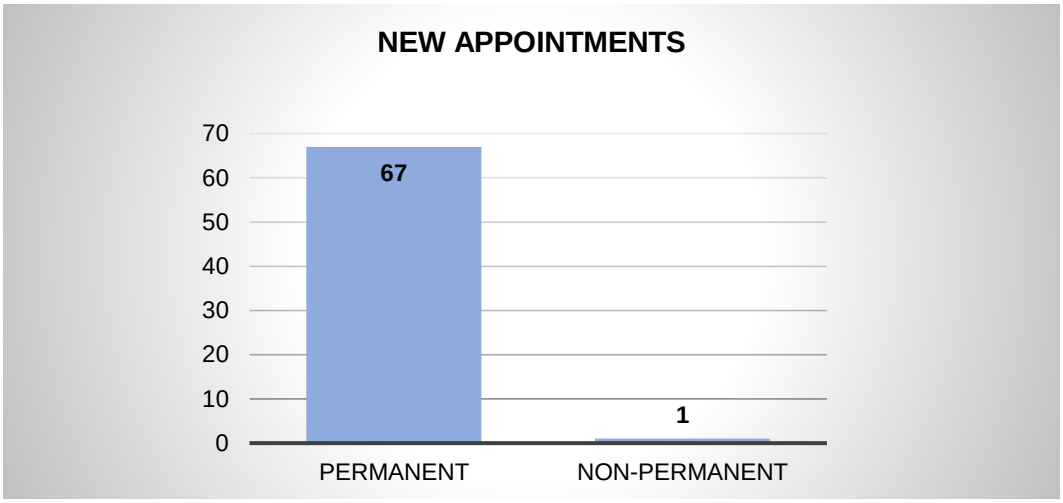
73666449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	3,072,521	3,072,521	100.00%
73666456020TCXBCZZER	JAN SMUTS WCW LAB EFQUIPMENT	500,000	500,000	100.00%
73676449420TCXBHZZER	JP MARAIS WCW	1,557,147	1,557,147	100.00%
73676460020TCXBAZZER	PPE COST FURN & OFF IU COST ACQUISITION	6,763	6,763	100.00%
73686449420TCXBHZZER	DAVEYTON	2,409,996	2,409,996	100.00%
73696449420TCXBHZZER	RYNFIELD	5,077,490	5,077,490	100.00%
73706449420TCXBHZZER	RATANDA WWTW UPGRADE PROJECT	1,644,624	1,644,624	100.00%
73706456020TCXBCZZER	PPE COST MACH & EQP IU COST ACQUISITION	1,152,174	1,152,174	100.00%
73706460020TCXBAZZER	PPE COST FURN & OFF IU COST ACQUISITION	2,014	2,014	100.00%
73716449421TCXBHZZER	TSAKANE WCW LAB EQUIPMENT	229,553	229,553	100.00%
73726449420TCXBHZZER	WELGEDACHT	7,822,196	7,822,196	100.00%
73726456020TCXBCZZER	WELGEDACHT WCW	225,000	225,000	100.00%
73726460020TCXBAZZER	PPE COST FURN & OFF IU COST ACQUISITION	19,223	19,223	100.00%
73716449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	2,004,898	2,004,898	100.00%
73816449420TCXBHZZER	DEKEMA WCW	3,296,317	3,296,317	100.00%
73826449420TCXBHZZER	RONDEBULT WWTW	241,370	241,370	100.00%
		155,656,019	**154,978,489**	99.56%

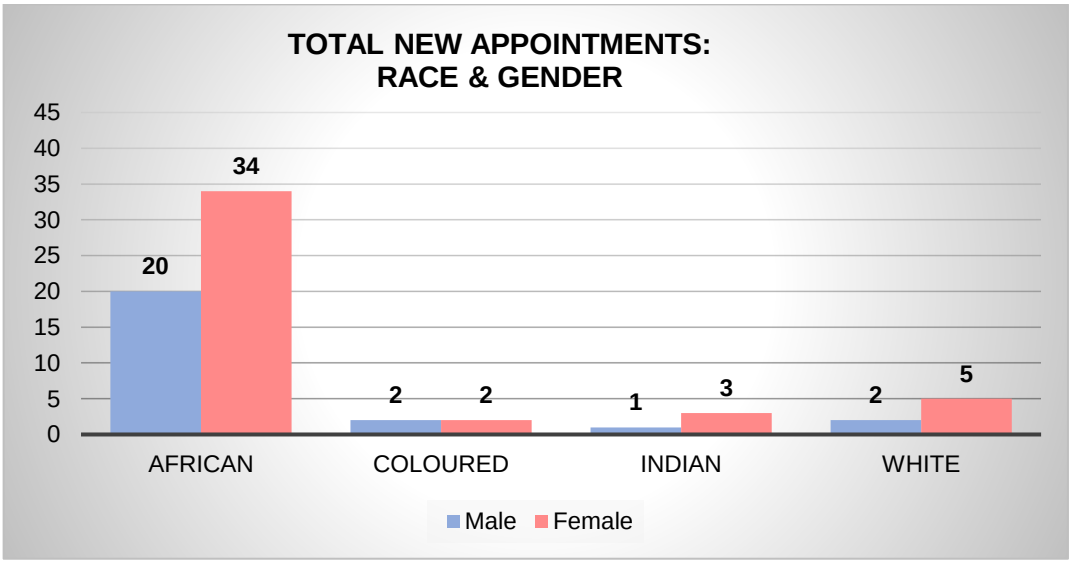
4. Human Resources

4.1 Staff Movements

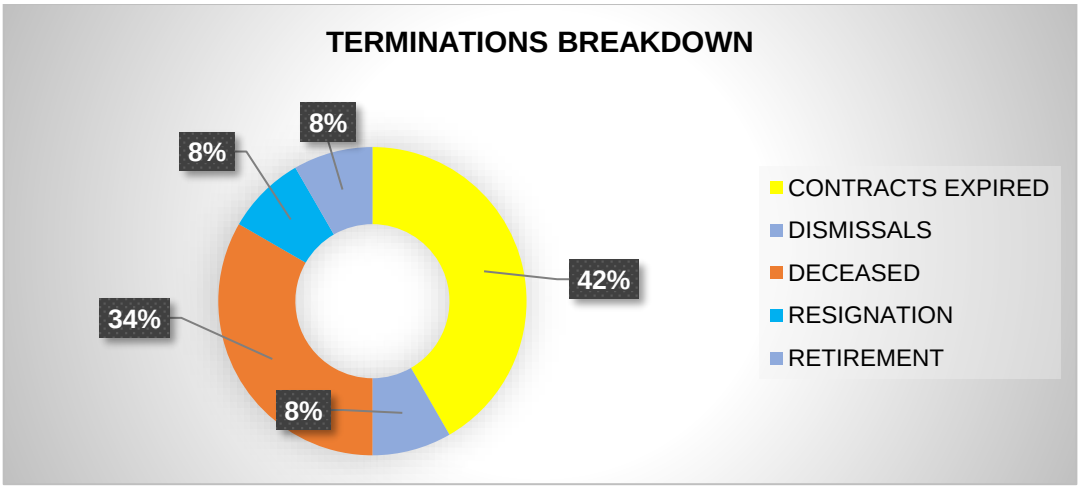
Staff Movements	African		Coloured		Indian		Whites		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
Recruitments	20	33	2	2	1	3	2	5	68
Resignations	1	0	0	0	0	0	0	0	1
Retirements	0	1	0	0	0	0	0	0	1
Contract Expired	3	2	0	0	0	0	0	0	5
Dismissals	1	0	0	0	0	0	0	0	1
Deceased	4	0	0	0	0	0	0	0	4
Promotions	0	0	0	0	0	0	0	0	0

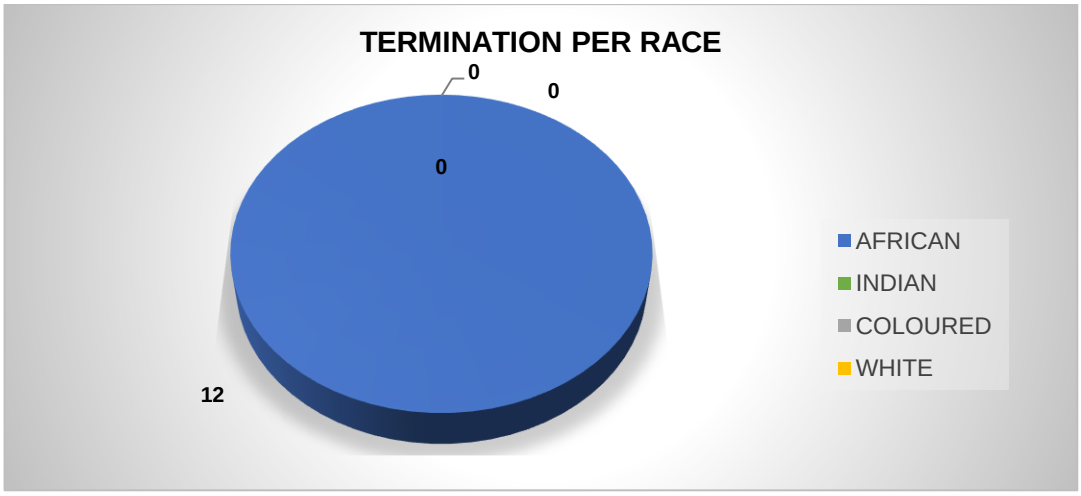
4.1.1 Appointments





4.1.2 Terminations





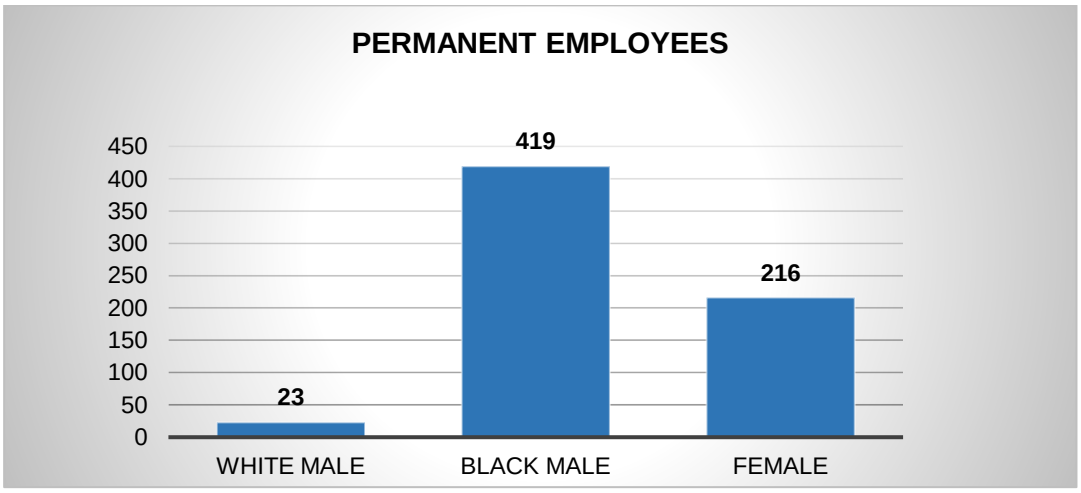
Status Analysis

1. During the period under review, 68 employees were appointed.

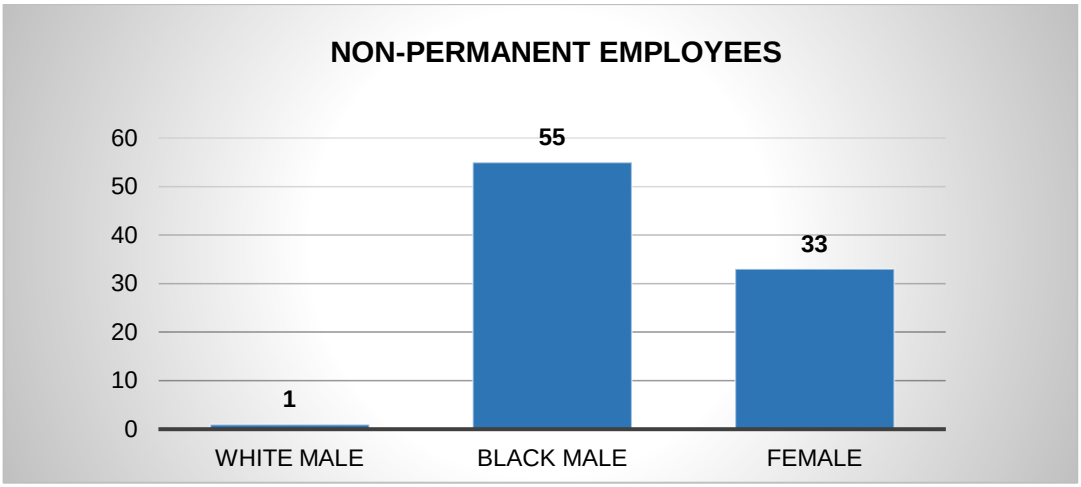
2. During the period under review, 12 employees exited the organisation for the following reasons:

   a. Five (5) contracts expired;
   b. Four (4) employees passed away;
   c. One (1) employee was dismissed;
   d. One (1) employee resigned`; and
   e. One (1) employee went on retirement during the period under review

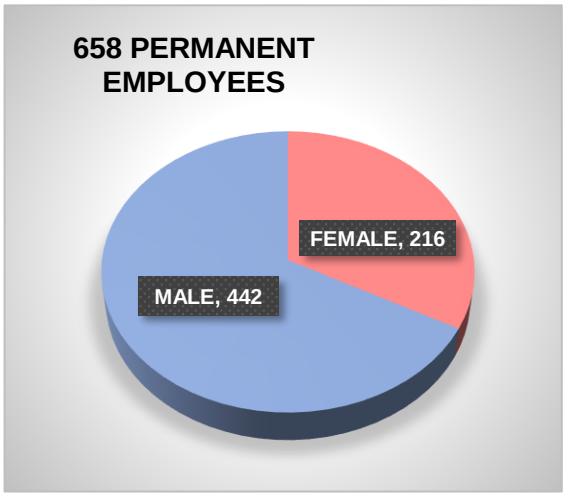
4.2 Employment Equity Demographics

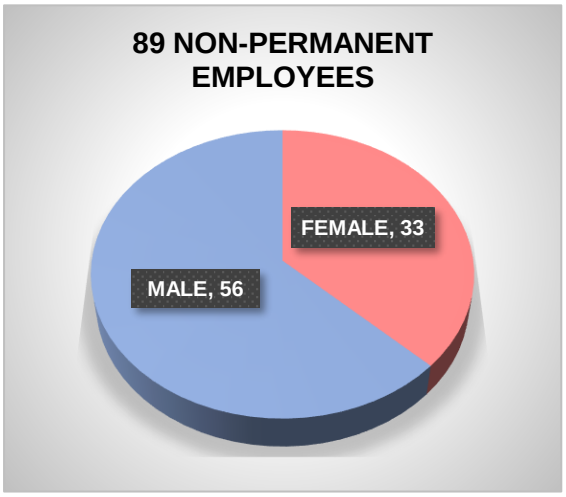


ERWAT has **658** permanent employees.



ERWAT has **89** non-permanent employees.





Status Analysis

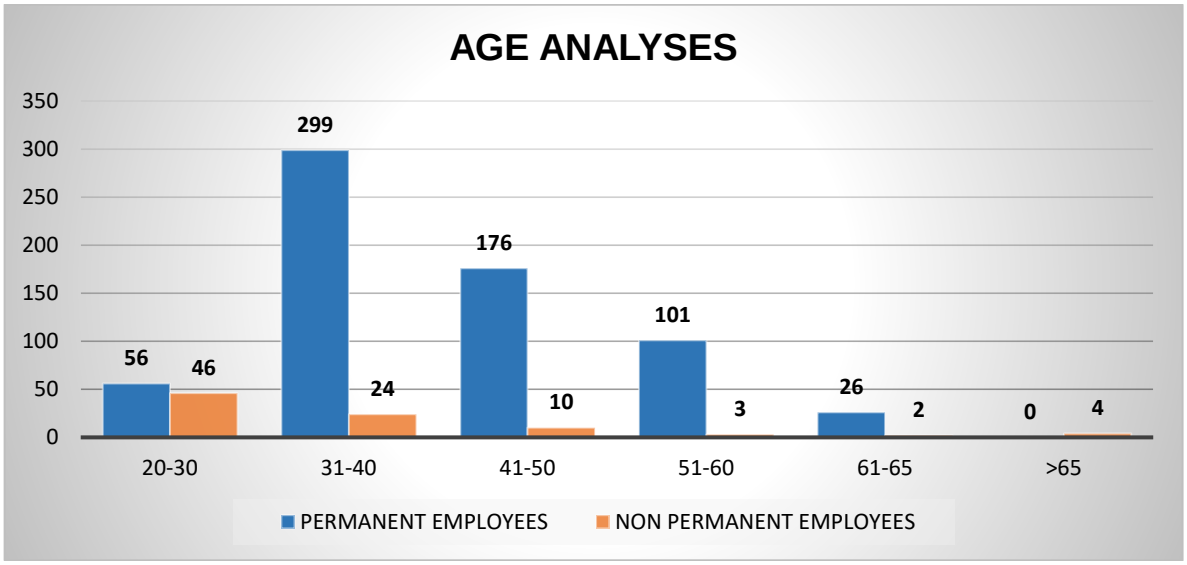
1. The employment demographics of ERWAT as at 30th June 2022 reflects:

    a) Females in both permanent and non-permanent positions within ERWAT account for 249 or 33% of total positions filled.
    b) Males in both permanent and non-permanent positions within ERWAT account for 498 or 67% of total positions filled.

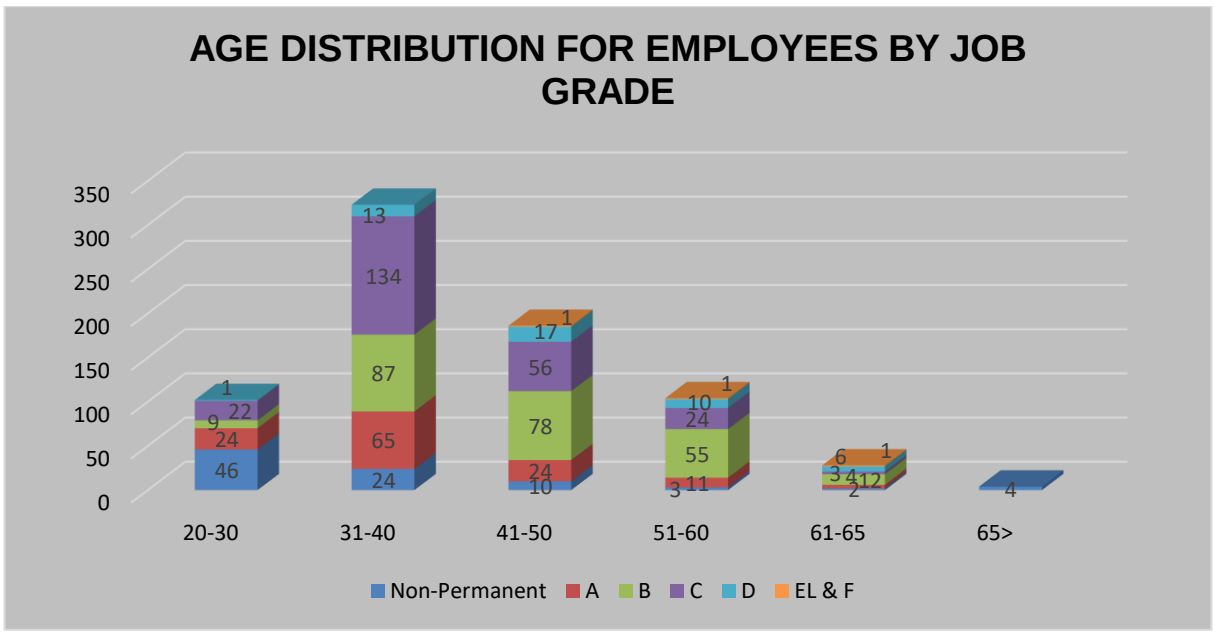
Employment Equipment Update

1. ERWAT's Employment Equity (EE) Committee updated ERWAT's EE plan on 20 September 2021 according to the Department of Labour's Inspector recommendation in order to align the plan with the changes that took place during the period of the pandemic.

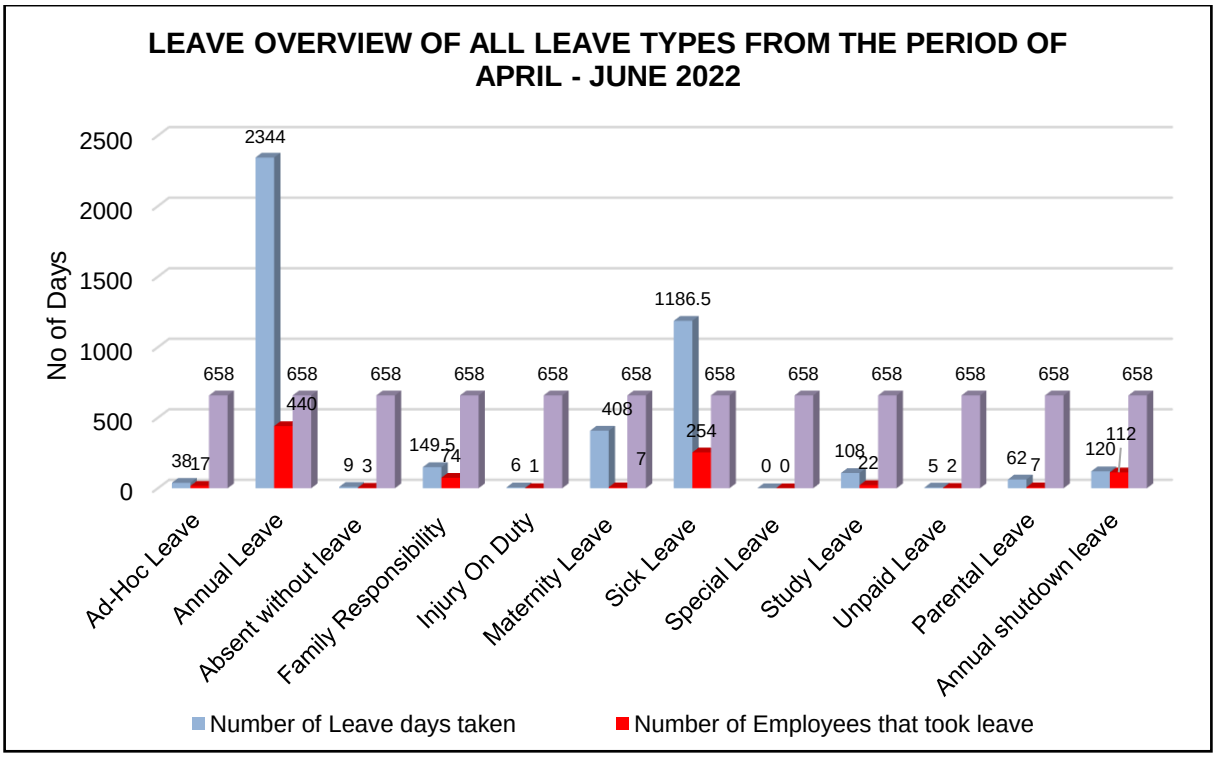
4.3 Age Analysis

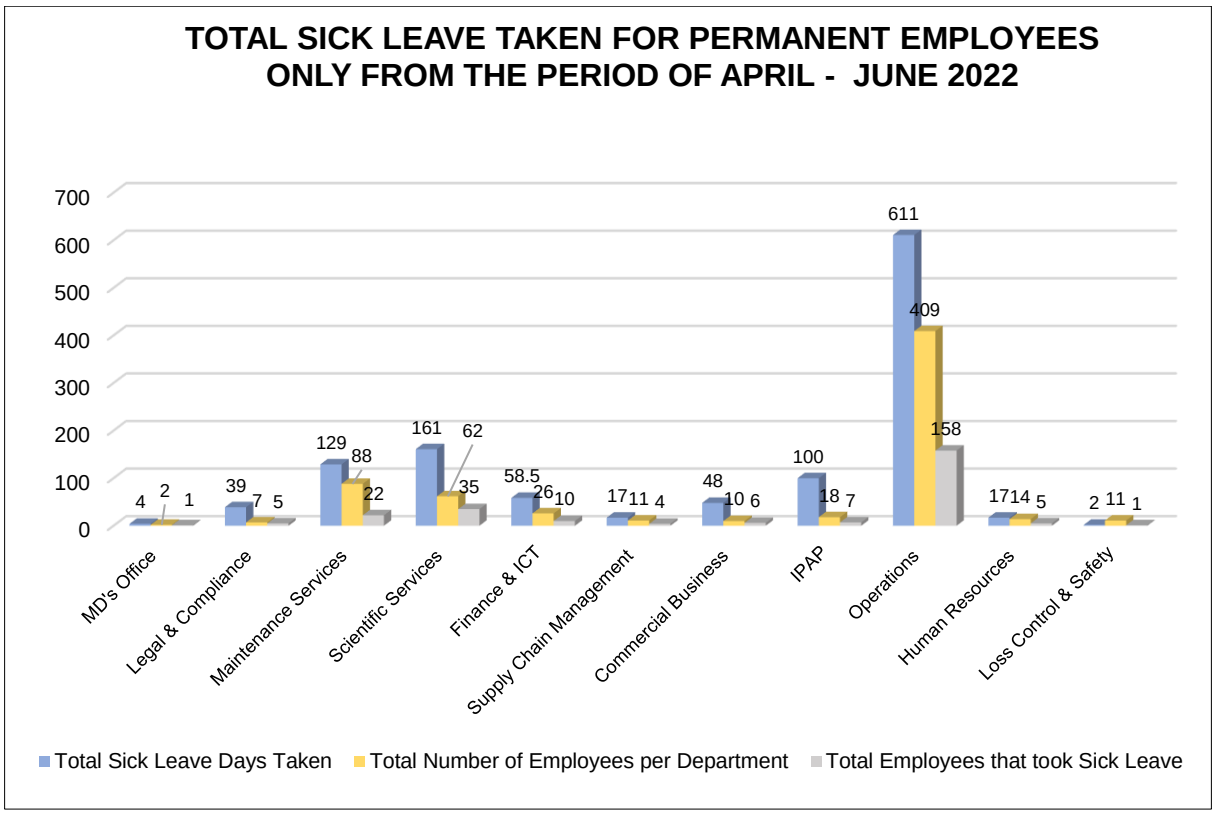


- Average age as at 06/2022 = 35



4.4 Leave Management





Status Analysis

1. Total number of employees who took sick leave during the period under review are 254. The total sick leave taken equates to an approximate minimum of 4.7 days per employees.

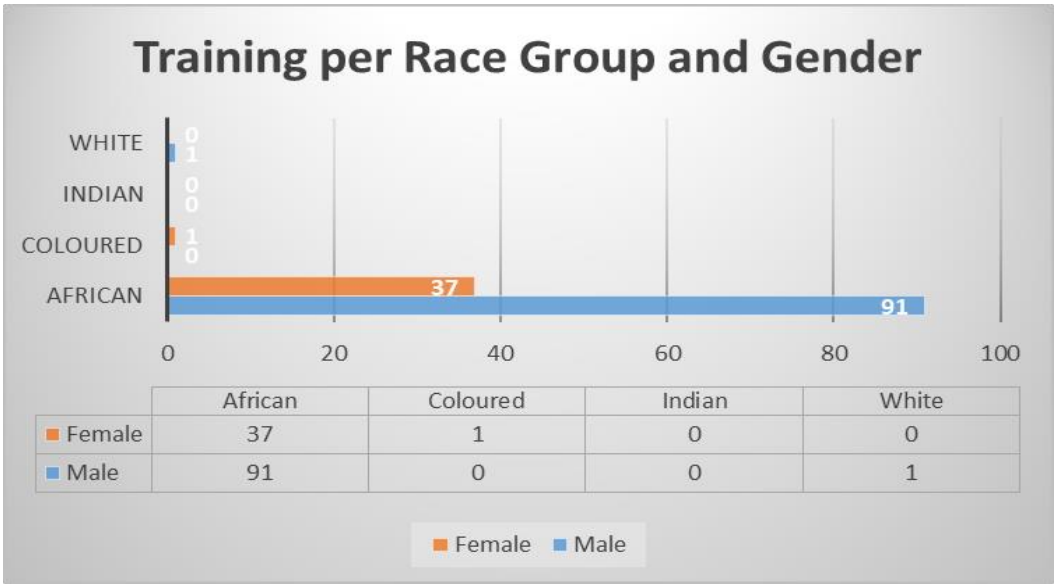
4.5 Overtime Trends

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Total Hours	60 053.50	55 827.65	56 719.25	57 113
Total Cost	9 108 626.19	8 390 374.77	8 418 898.24	8 589 204.37
Budget	9 165 858.75	9 165 858.75	9 165 858.75	9 165 858.75

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 **130 employees** attending various training interventions



1. Basic Computer Training, on-going, started on 06 June 2022. 61 employees have been trained thus far.
2. Bid Committee Training, conducted by the National School of government (NSG). Completed by 11 Employees on 24 June 2022.
3. Project Management, Conducted by the NSG. Completed by 13 Employees on 01 July 2022.
4. Three (3) External Bursary Candidates were recruited and started at Universities on 01 March 2022 in the fields of Electrical Engineering, Analytical Chemistry and Water Care.
5. 35 delegates enrolled for Learnership SAQA ID 58951: National Certificate in Water and Wastewater Treatment Process Operations: 136 Credits on Level 2, start date on the 28th of March 2022.
6. 10 unemployed learners enrolled for Learnership SAQA ID 61709: FET Training Certificate in Water and Wastewater Treatment Process Control Supervision: 166 Credits on Level 4, start date on 28 March 2022.

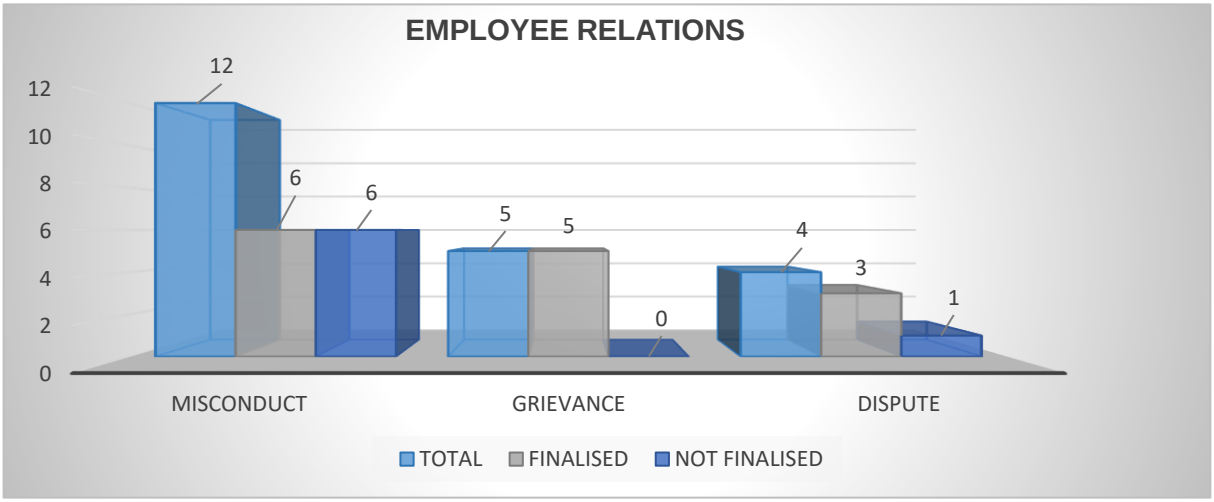
4.7 Performance Management

Status Analysis

1. Quarter 4 (year-end) evaluations will be conducted for all employees (permanent and non-permanent) during Quarter 3 of the 2022/2023 financial year.

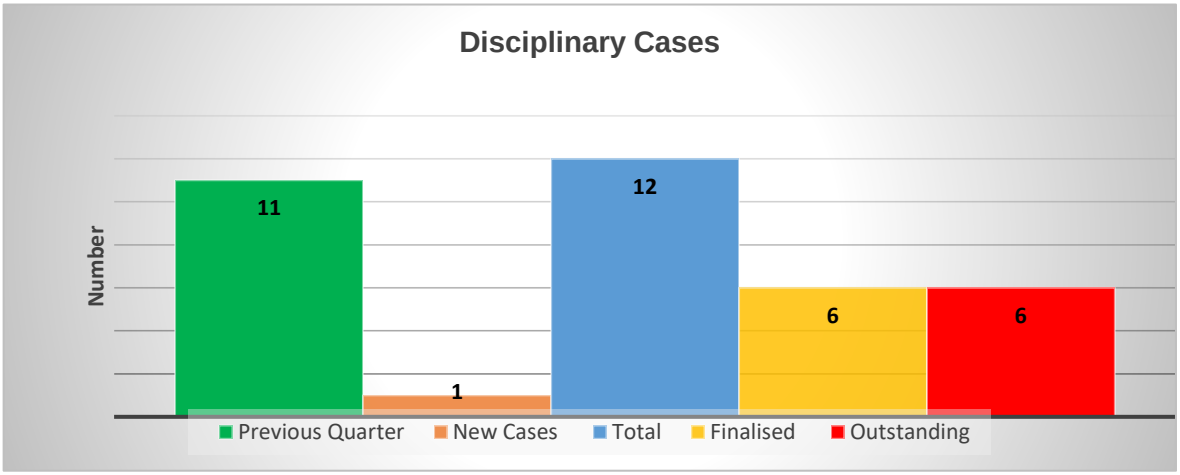
4.8 Employee Relations

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.



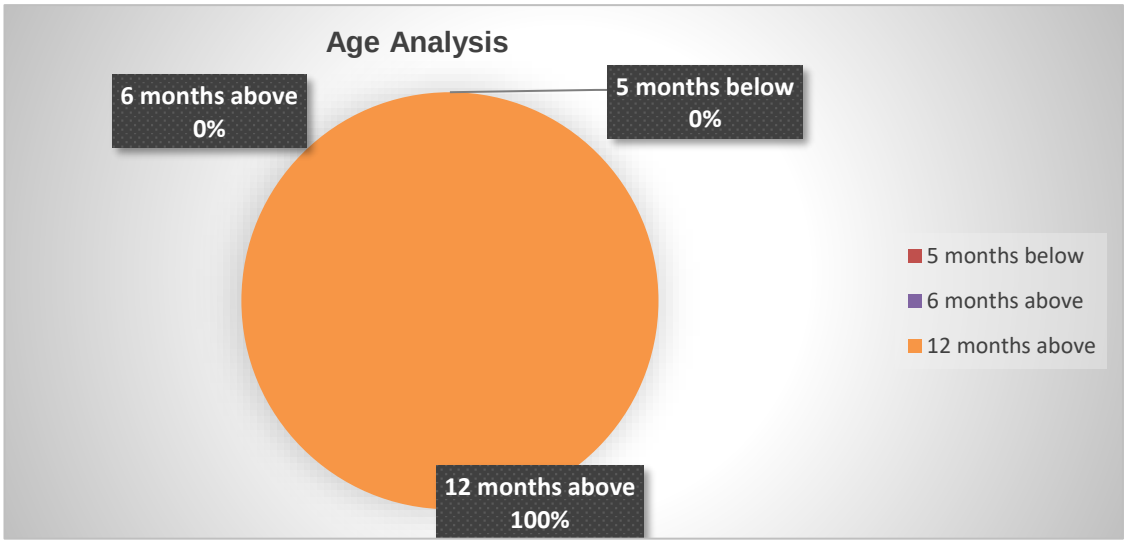
4.8.1. Disciplinary Cases

a) 11 cases were not concluded in the previous quarter hence brought forward.
b) One (1) new case was received; the total for all disciplinary cases were 12.
c) Total cases finalized are six (6) with a remaining balance of six (6) cases outstanding.



4.8.2. Age Analysis of Disciplinary cases

a) The age analysis of the six (6) cases outstanding, 0% are below five (5) months, 0% above six (6) months and 100% are above 12 months old.

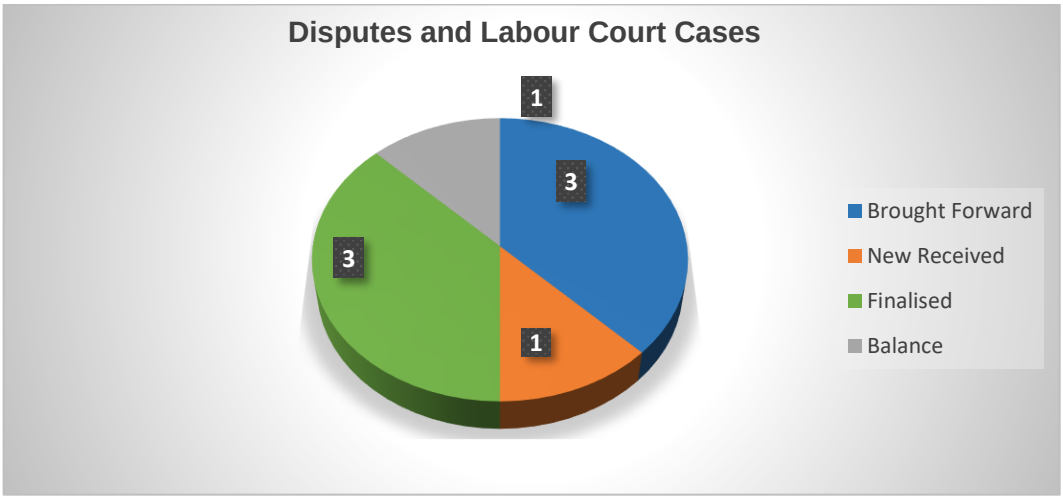


The age analysis of the six (6) outstanding cases is as follows:

a) Cases that are three (3) months old =0
b) Cases that are more than 12 months old=6

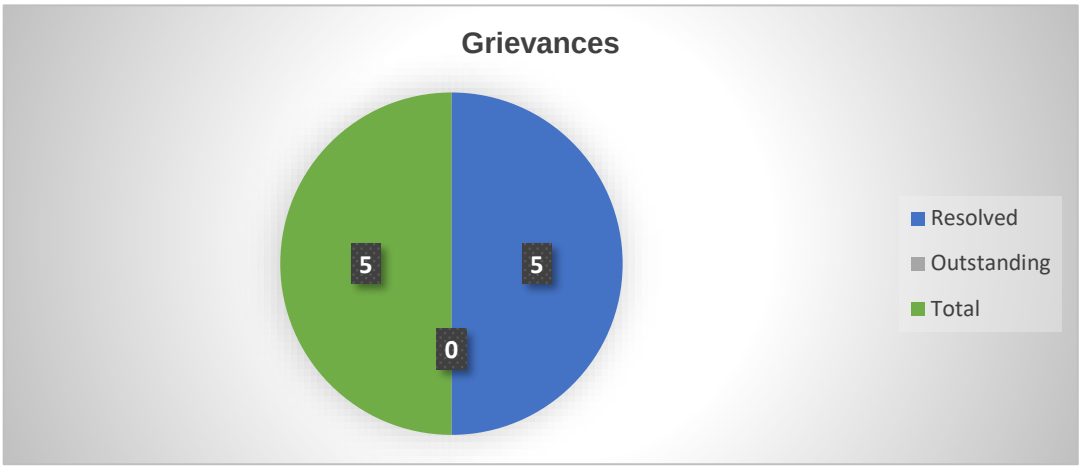
4.8.3. Disputes, Arbitrations and Labour Court Cases

a) Total cases brought forward three (3) as at end of previous quarter.
b) One (1) new case was received
c) Three (3) cases has been finalised
d) In respect of disputes at the bargaining Council and Labour Court cases, ERWAT is sitting at one (1) case
e) 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 one (1) case still pending

4.8.4. Grievances



Total grievances outstanding are zero (0).

4.8.5. Suspensions

There were no employees under suspensions for the period under review.

4.9 Employee Wellness Programme & OHS

ERWAT Occupational Health Services offers Wellness Programme as follows:

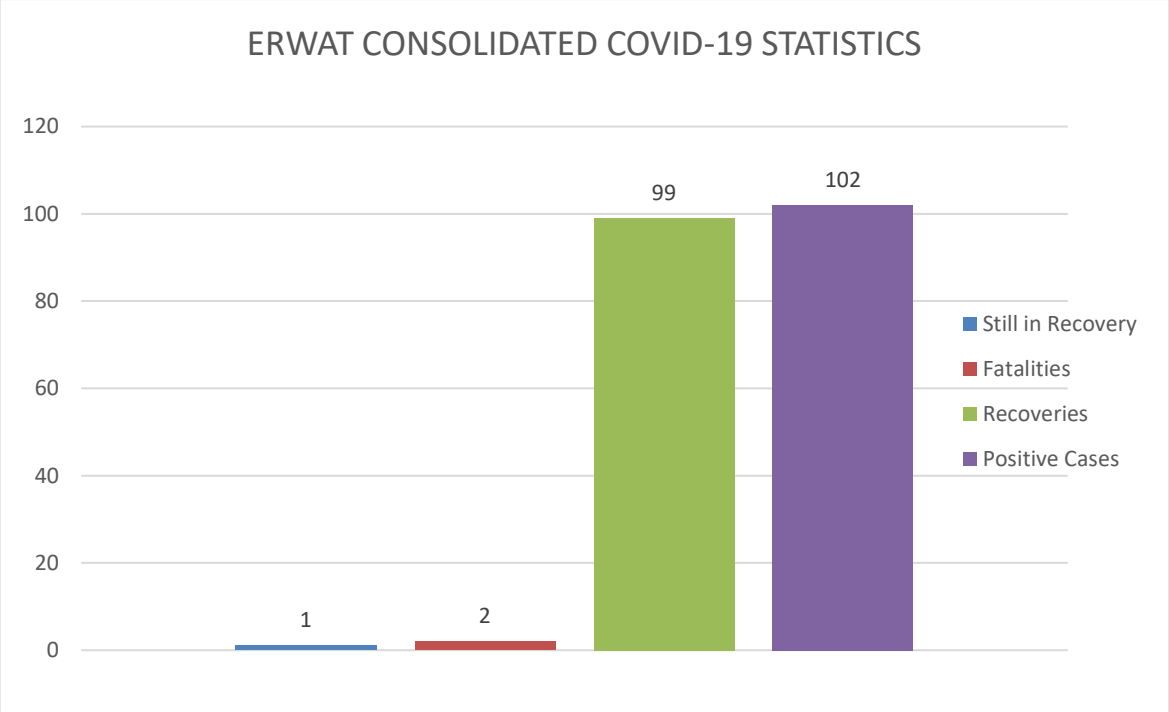
a) ERWAT has 47 Wellness Champions (WC) that are placed on all 19 Plants including the Laboratory and Head Office. During the period under review, no workshops were conducted, due to the COVID-19 pandemic.

b) The core function of the WC is to assist the Occupational Health Nurse, in identifying any health and wellness concerns amongst employees, monitor absenteeism; they also provide health education in a form of frequently scheduled meetings with employees on site.

c) During the period under review 8 employees received Psychotherapy counselling sessions offered by ERWAT Occupational Health Services

4.9.1 COVID-19 Statistics

The statistics below are Consolidated COVID -19 stats reported for the period ending the 30/06/2022



4.10 Percentage of Salary to OPEX.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	YTD - Actual
Total Manpower Cost	94 480 974	99 603 219.00	111 711 701.00	92 864 629.00	398 660 523.00
Total Operational Expenditure	219 392 910	249 613 687.00	247 853 586.04	265 242 615.86	982 102 798.90
% of Salary to OPEX	**43%**	**40%**	**45%**	**35%**	**41%**

5. Procurement Practices, Job Creation and Mainstreaming

A narrative is on how the Department has created to Job Creation. The narrative should also reflect contribution: The following should be included in this section of the report:

- BEE and GEYODI spend in respect of supplier and contractor (PDIs)

CATEGORY	TOTAL FOR 4th QUARTER	Q4 TOTAL	% OF Q4 TOTAL
0% HDI / JURISTIC PERSON	15 000 000.00	15 000 000.00	13%
1-50% HDI	-	-	0%
51-99% HDI	-	-	0%
100% HDI	104 000 000.00	104 000 000.00	87%
TOTAL	**119 000 000.00**	**119 000 000.00**	**100%**
OF COMPANY SIZE			**% OF Q4 TOTAL**
LARGE	15 000 000.00	15 000 000.00	13%
MEDIUM	48 000 000.00	48 000 000.00	40%
SMALL	56 000 000.00	56 000 000.00	47%
MICRO	-	-	0%
TOTAL	**119 000 000.00**	**119 000 000.00**	**100%**
AWARDS MADE TO:			**% OF Q4 TOTAL**
FEMALES	-	-	0%
BLACK FEMALE 30-100%	20 000 000.00	20 000 000.00	67%
HDI 50-100%	-	-	0%
100% HDI	-	-	0%
MILITYARY VETERANS	-	-	0%
PWD	-	-	0%
YOUTH	10 000 000.00	10 000 000.00	8%
	30 000 000.00	**30 000 000.00**	**75%**
BBEEE SCORE CARD			**% OF Q4 TOTAL**
EME	56 000 000.00	56 000 000.00	47%
QSE	48 000 000.00	48 000 000.00	40%
GENERIC	15 000 000.00	15 000 000.00	13%
TOTAL	**119 000 000.00**	**119 000 000.00**	**100%**
AWARD MADE TO			**% OF Q4 TOTAL**
COE BASED COMPANIES	119 000 000.00	119 000 000.00	100%
NON COE BASED	-	-	0%
	119 000 000.00	**119 000 000.00**	**100%**

6. Risk Management

9.1 SUMMARY OF RISKS

The Board of Directors has committed to the process of risk management in the Board Charter which states that the board appreciates that strategy, risk, performance and sustainability are inseparable and give effect to this by satisfying itself that all material risks in the strategy and business plans have been duly considered and addressed by management. Risk Management has become an integral part of strategy setting. Risk Management forma part of senior management's Key Performance Areas

ERW1. Lack of integrated planning between the City and the Entity

Integrated planning is crucial to the success of any mega-project. ERWAT plays a critical role in the growth of the City and the Aerotropolis plans. The integrated planning for the advancement of the City need to be done by the City and the Entity working together

ERW2. Inadequate Capacity to treat wastewater

Ekurhuleni is fast becoming a city that is growing at a rapid pace, placing a high burden on infrastructure capacity. The current status quo: The Infrastructure is old and operating above their design capacity, resulting in frequent breakdown of critical equipment

ERW3. Inadequate Cash flow to meet business requirements

ERWAT derive a substantial portion of its revenue from CoE (user charges, grants funding etc.), the potential delays in the payment from COE to ERWAT has a detrimental impact in the entity's ability to settle its short term obligations as they become due.

ERW4. Inadequate/limited revenue generation to supplement the approved budget

ERWAT receives its operational and capital budget from the City of Ekurhuleni. The entity strives to augment its total budget by generating additional income through the commercial business department. There is a growing number of private companies offering the same services as ERWAT thus making the water sector highly competitive

ERW5. Inability to achieve Capital Expenditure set target

There is a growing trend within the country of project disruptions by communities and business demanding a stake in the project. These can include other factors such as unavailability of material and unfavourable weather conditions at construction sites.

ERW6. Inadequate preparedness in the event of an emergency/disaster.

The waster care works are both hydraulically and organically overloaded threatening the growth of the City and the environment. Wastewater care works that operate above their design capacity pose a huge risk to the City of Ekurhuleni and has a potential to slow down growth and development of the City. Some of the Wastewater care works were built many years ago without considering the need for water flow diversion system. Some wastewater care works does not have emergency dams.

ERW7. Potential loss of key skills

ERWAT recognises there is a growing demand of skilled personnel in the water sector (Ref: Scarce Skills 2019, Vol 6). The loss of key skills within the organisation remains a threat that can impact negatively on the organisational objectives. Some of the employees may succumb to the pandemic

ERW8. Potential delay in supply and delivery of critical goods/services

The entity import some of the equipment and consumables that is critical in testing water for the City, the entity and customers. There are long lead time in the global supply chain due to the pandemic and restrictions by various countries.

ERW9. Potential loss of the ISO 17025 Accreditation

Aging laboratory equipment is a threat to losing the ISO certification gives the general public and customers an assurance that ERWAT applies best practice in while testing the water, it is a requirement for both the Blue drop and Green drop standards. The

ERW10. Potential Loss of, and Unauthorised Access Critical Information

The Protection of Personal Information Act places a burden on the entity to safeguard more responsibility to personal information of employees, customers and other stakeholders.

ERW11. Potential injuries to personnel, visitors and contractors

The Entity takes pride in its Safety programme. Efforts are made to ensure that the employees, contractors and visitors are safe at all times. Accidents however do happen while it is least expected

Strategic Risk Mitigations

Management and the Board ensures that there are adequate risk mitigation plans in place to strengthen the current control environment. Some of the risk mitigations as identified require a huge budget such as the upgrading of infrastructure.

ERWAT Strategic Risks

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
ERW1	Inadequate integrated planning/coordination between ERWAT and City departments. Business Plan may not be aligned with its corporate strategy, resulting in the entity failing to meet of the entity its Key Performance Indicators	CF1	Inadequate communication and coordination between ERWAT and City departments (city planning water waste storm cluster	Service Delivery	CC1.1	1.Service delivery Agreement	RAP1.1	1. Addendum to the Service Delivery Agreement	**Action plan in progress** The SDA reviewed by management, to be tabled at the Board GRC Committee on the 21st of July 2022
						2. MMC Senior Management Quarterly Meetings 3.		2. Develop the Terms of Reference for the SDA Coordination Steering Team between ERWAT and the City	Action plan not to continue. The entity will not be developing the Terms of Reference for the SDA Coordinating Committee as this committee is led by C.o.E. The entity will give inputs if one is developed by the city.
						3. Participation of Technical Cluster Meetings		3. Review the E Corporate Governance Framework	Action plan completed

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
ERW2	Inadequate Infrastructure to treat wastewater	CF 2.1	Outdated, aging and inadequate infrastructure and technology to treat high strength industrial effluent.	Service Delivery And growth of the City	CC 2.1	Development & Engineering Contribution Policy	RAP2.1	Ring-fence Engineering Contributions for plant upgrades	Action plan completed
								Review the ERWAT Development & Engineering Contribution Policy to align with City Development & Contribution Policy once it's approved	Action plan closed
					CC 2.2	50-Year Master Plan	RAP2.1.4	Implementation the MTREF 2021-2022 CAPEX plan in line with the 50 year Master Plan Project 1 Olifantsfontein	Action plan in progress **Phase 1a and 1b** The commissioning of two phase has been completed and handover to Operation Department on the 8th June 2022. **Phase 1c and 1d**

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
								Intervention Upgrades	The project are still in procurement stage awaiting the budget availability. **Phase 2 (Designs)** The project is on-going. CoE Pumpstation design will be completed by the end of June 2022.
					CC 2.3	Wastewater Risk Abatement Plans	RAP2.1.6	Implementation the MTREF 2021-2022 CAPEX plan in line with the 50 year Master Plan	Action plan completed Unaudited Capex Plan Performance Total Expenditure on CAPEX Planned R147 873 200 Actual expenditure R154 811 193,24 Achieved - **99,46% (**unaudited)
					CC 2.4	Wastewater Research and Development Program	RAP2.1.9	Organic testing of industrial effluent	Action plan completed. Additional profiling of identified elevated contributors is on track, as well as regular monitoring of potentially problematic industrial sources (207

<table>
<tr><th>REF</th><th>Risk Title</th><th colspan="2">Contributing Factors</th><th>Impact / Consequences on the ERWAT</th><th colspan="2">Current Mitigation Controls</th><th>RAP</th><th>Risk Action Plan</th><th>Action Plan Progress Quarter 4</th></tr>
<tr><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td><td></td><td></td><td>scans completed for NE region, 168 scans completed for SW region).</td></tr>
<tr><td></td><td></td><td colspan="2"></td><td></td><td>CC 2.5</td><td>C.o.E Schedule A Bylaws Analysis of samples by ERWAT</td><td>RAP2.1.10</td><td>Participation in the Bylaw Committee</td><td>Action completed.</td></tr>
<tr><td></td><td></td><td colspan="2"></td><td></td><td>CC 2.6</td><td>Incident management protocol (IMP) .</td><td>RAP2.1.12</td><td>Tracking of incidents and on a quarterly to assist in planning and decision making</td><td>Action plan completed.

Incidents are recorded in the register; recurring incidents are escalated to the Wastewater Risk Abatement Plans and action plans are developed with the required budget.
<table>
<tr><th>WCW</th><th>Critical equipment failures (number) QUARTER 4 21/22</th><th>Power Failure (hours) QUARTER 4 21/22</th></tr>
<tr><td>Benoni</td><td>4</td><td>19</td></tr>
<tr><td>Carl Grundlingh</td><td>28</td><td>2</td></tr>
<tr><td>Esther park</td><td>0</td><td>110</td></tr>
</table></td></tr>
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REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4		
									Hartebeestfontein	9	90
									Olifantsfontein	25	62
									Rynfield	13	81
									Ancor	6	132
									JP Marais	24	153
									Jan Smuts	0	81
									Welgedacht	61	15
									Daveyton	10	149
									Heidelberg	13	155
									Herbert Bickley	13	77
									Tsakane	18	136
									Ratanda	8	17
									Dekema	12	155
									Rondebult	1	52
									Vlakplaats	38	162
									Waterval	61	0

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			Inadequate budget upgrade infrastructure			MTREF Budget	RAP2.1.13	Invite Expression of Interest from the various Technology providers	The tender was a non-award in quarter1. There is no progress reported in quarter 4
		CF2.2	Inadequate implementation of maintenance plans leading unavailability of equipment		CC2.1.22	Asset Management Policy	RAP2.1.13	No further mitigation was identified	No action to be implemented for the financial year under review.
					CC2.1.23	Asset Management Care Plans, limited available budget	RAP2.1.14	Implementation of 2021-2022 Maintenance Plan Preventative Plan Predictive Maintenance Re-active Maintenance	Action plan completed The expenditure year to date is **R106 132 790,00** against the approved maintenance budget of **R119 901 125,00.** Target **95%** and actual is **89%.** Reasons are due to the delay in the appointment of spares supply contracts and non-payments of invoices in the previous quarter that has resulted into significant high committed funds.
					CC2.1.24	Equipment Operating Manuals	RAP2.	No further mitigation was identified	No action to be implemented for the financial year under review.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
							1.15		
		CF 2.3	Inadequate budget allocation to maintain infrastructure		CC 2.1.25	Maintenance budget	RAP2.1.16	Implement the 2021-2022 Maintenance Budget	Action plan completed The expenditure year to date is **R106 132 790,00** against the approved maintenance budget of **R119 901 125,00.** Target **95%** and actual is **89%.** Reasons are due to the delay in the appointment of spares supply contracts and non-payments of invoices in the previous quarter that has resulted into significant high committed funds.
		CF 2.4	Lack of service contract for critical spares		CC 2.1.26	Service Master Contracts	RAP2.1.17	Establish Service Contracts for critical equipment	**Action plan in progress** Spares Master contracts that cover all maintenance requirements have been awarded. It is however, on hold at the moment due to litigation from the bidders.
		CF 2.5	Delays in bringing back equipment and services			No current control	RAP2.1.18	Investigate the local market for the sourcing of critical equipment	

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			due to ling lead time for spares that are sourced overseas						
		CF 2.6	Storm water ingress (be incorporated into the C.o.E register)		CC 2.1.27	No current control	RAP2.1.21	No further action plan identified	No action plan can be implemented by the entity. The remedial action needed can only be implemented by the City
					CC 2.1.28	Asset Management Strategy	RAP2.1.22	No further action plan was identified	No action plan to be implemented by the entity for the financial year under review.
		CF 2.7	Rapid population and industrial growth within C.o.E		CC 2.1.29	50 Year Master Plan 2. Township Development Application	RAP2.1.23	No further action plan was identified	No action plan to be implemented by the entity for the financial year under review.
ERW3	**Inadequate Cash flows to meet business requirements**	CF 3.1	Lack of a consolidated cash-flow forecast based on actual department	Compromised service delivery.	CC 3.1	Cash-flow projections are created based on assumptions of monthly expenditure	RAP3.1	Implementation of cash-flow projections taking into account the actual departmental	Action plan completed. Projection are done on a regular basis based on the estimated expenditure and reported to the Board. The new Board convened during Q4.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			al requirements					cash-flow requirements	
		CF 3.2	Unforeseen increases to labour costs such as overtime and other elements of payroll costs.	Attrition of skilled work force. Low staff morale.	CC 3.2	Overtime Policy Remuneration Policy Monitoring of actual expenditure against approved budget and taking conservative approach to cash flows management	RAP3.2	Embark on a process to slowly build up cash-flow reserves in order to absorb any unforeseen expenditure which may arise.	Action plan completed.
		CF 3.3	Inadequate budgetary increases granted by the C.o.E and budget cuts due to economic pressures		CC 3.3	Budget deficiency Formal Communicating to C.o.E regarding shortfall in the budget allocation	RAP3.3.1	Investigate other sources of funding.(e.g PPP)	**Action plan in progress** PPP report has served at Technical Cluster, awaiting the updated letter from DBSA regarding funding thereafter the report will serve at City Manager's SMT before submission to the Mayoral Committee

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			(Historic and Current)						
		CF 3.4	Available funds not prioritised in order of its most effective use.		CC 3.4.1	Cost Containment Policy	RAP3.4.1	Development and Implementation of a cost containment strategy	**Action plan in progress** The tender was advertised and the closing date is 22 July 2022
		CF 3.5	Lack of ring-fencing of income streams to service the corresponding expenditure		CC 3.5	Ring-fenced service charges, development contributions, USDG	RAP3.5	Ring-fence income streams	Action plan completed
		CF 3.6	Delayed settlement of invoices raised by ERWAT for payment by the C.o.E in relation to service		CC 3.6.1	Formal Communication to CoE requesting timeous payment of invoices	RAP3.6.2	Charge interest on long outstanding invoices	Action plan completed There was no interest charged to the City for the late payment of service charges invoices. All outstanding service charges invoices were paid timeously.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			charges and CAPEX grants						
ERW4	**Inadequate revenue generation to supplement the approved budget**	CF 4.1	Inability to secure new business due to manpower costs that higher than that of competitors	Compromised service delivery.	CC 4.1	In-service trainee rates in line with the Rates Schedule	RAP3.1	Review of the Pricing Model. Develop a model to determine manpower costs per project	Action plan completed A manual pricing list has been developed and is being used which considers manpower costs per project
		CF 4.2	Inability to obtain new business due to operational costs of laboratory services that is higher than that of competitors.	Compromised service delivery.	CC 4.2	Reporting Turnaround Time, Lab Accreditation.	RAP3.2	Develop of Sales Strategy	**Action plan in progress** The tender was advertised and the closing date is 22 July 2022

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
		CF 4.3	Overall cost of pursuing business (Marketing, overheads, travel etc.)	Compromised service delivery.	CC 4.3	Manually costing per project basis.	RAP3.3	Develop a tool for tracking cost of sales per project or business lead. (Part of RAP 3.2)	Action plan completed Commercial Business is using an Excel Spreadsheet for the tracking of projects. There will be no further action plan to be implemented under the financial year under review.
		CF 4.4	Loss of existing business due to competition in the water sector	Compromised service delivery.	CC 4.4	Quarterly Business reviews	RAP3.4	Implement the recommendations from the Customer Survey outcome	**Action plan in progress** The Customer Survey had six (6) recommendations and five are implemented. All documentation from various departments were collected and filed. The next step will be the appointment of the verification agency through National Treasury.
		CF 4.6	Loss of existing business through insourcing and companies closing down or	Low staff morale.	CC 4.5	Customer Satisfaction Survey	RAP3.6	Review of existing clients contract to incorporate a clause that prohibits the clients from employing ERWAT	Action plan will no longer be implemented The entity to explore the restraint of trade as recommended by the Risk Committee

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			reducing costs					employees (with the purpose of continuing with the same serious that was previously rendered to the client) who were based at the clients.	
		CF 4.7	Legislative Limitations/ MFMA Section 164 Forbidden Activities.	Unskilled workforce and skills transfer	CC 4.6	No current control	RAP3.7	No further action plan was identified	No action plan to be implemented by the entity for the financial year under review
		CF 4.8	Business requirements limiting of entry to new market (Level of BBB-EEE Compliance /Inadequate and/or no		CC 4.7	Broad Based Black Empowerment Compliance Reviews	RAP3.8	Annual review of BBB EE Compliance.	Action plan completed.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			BBEE certificate)						
		CF 4.9	Inadequate measures for granting credit and revenue collection		CC 4.8	Credit Collection and Debt Management policy	RAP3.9	Develop Standard Operating Procedure for granting of credit.	Action plan in progress ERWAT is currently exploring credit verification mechanisms for incorporation into the Standard Operating Procedure
ERW5	**Possible failure to achieve Capital Expenditure set target**	CF 5.1	Planning, SCM processes and systems not fully integrated online	Service Delivery	CC 5.1	Manual Individual Procurement Plans has been developed and implemented	RAP5.1	No further action plan identified	No action plan to be implemented by the entity for the period under review
		CF 5.2	Continuation of project (roll-over) not provided in the next financial year (vote		CC 5.3	Annual CAPEX Plan with projected cash flows for each project	RAP5.2.1	Prepare projected cashflows in budget tool format per vote number (for multi-year projects & new projects starting in the next	Action plan in progress. The budget tool is yet to be implemented, however Cash flows are monitored on excel spreadsheet for all running projects

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			not created).					budget period) prior to submission of draft budgets. (February every year)	
		CF 5.4	Delays in Supply Chain Management/bidding processes. (Including the effect of the Pandemic)		CC 5.5 .1	Bid Committees appointed with weekly meetings to speed up SCM	RAP5. 4.1	Schedule Training on Supply Chain Management	Action plan completed Bid Committee Training for 11 Employees SCM Solar System (Contract Management Module) training was done with IPAP and SCM staff in May 2022. SCM workshop with the Maintenance Department was done in June 2022.
					CC 5.5 .2	Bid Committees tracking register implemented.	RAP5. 4.2	Develop a Turn Around Policy and procedure/process flow chart	. Action plan completed.
		CF 5.5	Late payment of invoices		CC 5.6 .1	Creditors Policy	RAP5. 5.1	.1. Implementation of finance system a part of ERP, to allow for invoice tracking at	Invoices are sent to a dedicated staff within finance to speed up payment process. The ERP system has not yet been rolled out and the manual processes are still in place.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
								departmental level	
					CC 5.6 .3	Capital Expenditure Spending Tracking Tool generated weekly for monitoring and evaluation.	RAP 5. 5.3	No further action plan identified	No action plan to be implemented by the entity for the period under review
		CF 5. 6	Members of the community and the local business forums demanding to be sub-contracted in the project.		CC 5.7 .1	Community Liaison Officer Appointed through ward councillors to assist with community engagement.	RAP 5. 6.1	Engage CSR office prior to commencement of construction project. (CSR plan to include Projects)	Action plan completed There were no new capex projects that require CSR intervention in quarter 4
					CC 5.7 .2	Sub-contracting to local business on projects that requires non-	RAP 5. 6.2	1. CSR to conduct an analysis on the communities around the ERWAT plants	**Action plan in progress** The CSR Community Impact Analysis is at Bid Adjudication Stage.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
						technical skills.		to determine their needs	
		CF 5.7	Potential disruptions such as Contractor employees going on strike and/or any other disruption caused by contractor		CC 5.8	No control	RAP5.7	No further action plan identified	No action plan to be implemented by the entity for the period under review
		CF 5.8	Denial of contractor's access to ERWAT sites due to labour unrest		CC 5.9	Disciplinary Procedure	RAP5.8	Disciplinary processes to be taken for illegal strikes as and when they arise	Action plan completed. No illegal strike in quarter 4
		CF 5.9	Denial of contractor's access to ERWAT sites due to		CC 5.10	Business Continuity Management Policy	RAP5.9	CSR to conduct an analysis on the communities around the ERWAT plants	**Action plan in progress** The CSR Community Impact Analysis is at Bid Adjudication Stage.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			community unrest					to determine their needs	
		CF 5.10	Denial of ERWAT employees access to ERWAT sites by the community members			No control		CSR to conduct an analysis on the communities around the ERWAT plants to determine their needs	
		CF 5.11	Unexpected withdrawal from projects by the contractor.		CC 5.11	Service Level Agreements for the contractors appointed	RAP5.10	No further action plan identified	No action plan to be implemented by the entity for the period under review
ERW6	**Inadequate preparedness in the event of an emergency/ disaster**	CF 6.1	Some plants of the 19 Wastewater Care Works do not have wastewater bypassing systems and	Service Delivery	CC 6.1	Water Bypass System for some Wastewater Care Works and emergency dams	RAP6.1.1	No further mitigation identified	No action plan to be implemented by the entity for the period under review

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			emergency dams						
		CF 6.2	Some of the Infrastructure built on dolomitic areas		CC 6.1.2	Geo tech studies conducted (every three years)	RAP6.1.2	Develop a Standard Operating Procedure for Geo-Technical Studies	The Geo-Technical Studies Standard Operating Procedure draft circulated for comments on the 03/05/2022.
		CF 6.3	Inadequate Business Continuity Management Program -cont-		CC 6.1.3	Business Continuity Management Policy	RAP6.1.3	Review Business Continuity Management Strategy	Action plan completed
					CC 6.1.4	Incident Management Protocol (Emergency Response Plan)	RAP6.1.4	Develop a Disaster Recovery Plan for ICT	Action plan completed
		CF 6.4			CC 6.2.1	Business Continuity Management Risk Assessments for Water Care Works	RAP6.1.6	Review of BCM Risk Assessments for all departments	Action plan completed

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
						and Support Services			
					CC 6.2 .2	BCM Business Impact Analysis	RAP 6. 1.7	Review of Business Impact Analysis	Action plan completed
					CC 6.2 .3	Critical Supplies Register	RAP 6. 1.8	Update the Critical Supplies Register	Action plan completed
					CC 6.2 .4	Business Recovery Plans	RAP 6. 1.9	Review of Business Recovery Plan	Action plan completed
					CC 6.2 .5	BCM Steering Committee	RAP 6. 1.1 0	BCM Communications and Awareness	Action plan completed
					C6 5.2 .6	BCM Infrastructure Condition Assessments	RAP 6. 1.1 1	No further action plan identified	No action plan to be implemented by the entity for the period under review
ERW7	**Potential loss of key skills**	CF 7. 1	Unexpected loss of lives due to the ravaging impact of		CC 7.1 .1	Succession Plan Framework for critical departments	RAP 7. 1.1	No further action plan	No action plan to be implemented by the entity for the period under review

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			the pandemic.		CC 7.1 .2	Covid - 19 Policy and Procedures	RAP7. 1.2	Review the Covid 19 Standard Operating Procedure and align it to the HR Climate Survey	Action plan completed
					CC 7.1 .3	Conduct Covid -19 Risk Assessment	RAP7. 1.3	Review the Covid-19 Risk Assessment	Covid-19 risk action completed. The assessment of vaccinated and unvaccinated personnel is in progress.
		CF 7. 2	Dissatisfaction in the Working Environment (e.g. not fitting in with the organisation's culture and inadequate working resources – PPE etc)		CC 7.2 .1	Employee Benefits Policies	RAP7. 2.1	Medical Aid and Funeral Claim Policy to be merged into a single Employee Benefits Policy	Housing Policy still to be included in the Employee Benefits Policy. Employee Benefits Policy developed and being merged with Medical Aid benefits. To be tabled at EXCO for recommendation to the Board for approval.
								Develop a Pension Fund Policy to be included in the Employee Benefits Policy	

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
					CC 7.2 .3	Psychosocial support	RAP7. 2.3	Appoint service provider for 36 months for the psychosocial and related services	Action plan completed in quarter 3
				Service Delivery	CC 7.2 .3	Management Development Program	RAP7. 2.3	Appointment of the National School of Government for 36 months	Action plan completed in quarter 3
					CC 7.2 .4	Exit Interview	RAP7. 2.4	Conduct Exit interviews as and when there is a need	Four exit interviews were conducted for the period under review.
					CC 7.2 .5	HR Policies	RAP7. 2.5	Review HR Policies as and when the need arises	Action plan completed.
			Individuals not coping with the workload pressure, expectation		CC 7.2 .6	Recruitment Plan	RAP7. 2.6	Implementation of 2021/22 recruitment plan	**Internal** / **Contractors** / **Permanent** / **Bursars** / **L/Ships** / **In-Service Trainee** / **Total**

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			s on individuals not met and career advancement nt						65 0 67 0 0 1 68
					CC 7.2 .7	Personal Development Plans	RAP7. 2.8	Implementation of the Training Plan	Report on performance in respect of the Skills development plans (narrative). 1.Basic Computer Training - 61 employees 2. Bid Committee Training - 11 Employees 3. Project Management - 13 Employees
ERW8	**Potential delivery in the supply and delivery of critical goods and services**	CF 8. 1	Turnaround time taken for the additional spec, which is not legislated.	Compromised service delivery.	CC 8.1 .1	No current control	RAP8. 1.1	1. Develop a Standard Operating Procedure govern the turnaround time BID processes	Action plan completed

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
		CF 8.2	Early commencement of bid processes result in submission of unrealistic prices that was not necessarily budgeted for in the procurement plan, which lead to non-award or cancellation of tender.		CC 8.1.2	ERWAT Procurement Plan	RAP 8.1.2	Review the Procurement Plan	Action plan completed
		CF 8.3	Inadequate tracking of, and delays in signing-		CC 8.1.3	SCM Document Movement Control Tracking	RAP 8.1.3	3.2. Development and implementation of an integrated tracking tool (for	Action plan completed.

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			off of documents.			Register implemented		monitoring). Tracking tool	
		CF 8.4	Inadequate monitoring of contract term.		CC 8.1.4	Contract Management Register	RAP 8.1.4	Review the contract Management Register	Action plan completed
		CF 8.5	Shortage of skills within SCM(limiting continuity and turnaround time for replacement of staff)		CC 8.1.5	ERWAT Recruitment Plan	RAP 8.1.5	Appointment of SCM staff in line with recruitment plan	Action plan completed
		CF 8.6	Inadequate Processes flow and monitoring of procurement processes		CC 8.1.6	Supply Chain Management Policy and the Delegation of authority	RAP 8.1.6	No further action plan identified	No action plan to be implemented by the entity for the period under review

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
		CF 8.7	Limitations set under the delegation of authority		CC 8.1.7	Delegation of authority	RAP 8.1.7	Review of the Delegations of Authority	Action plan completed
		CF 8.8	Lack of a multi-disciplinary SCM working committee		CC 8.1.8	No control	RAP 8.1.8	Establishment of a multi-disciplinary SCM working committee	Action plan completed
		CF 8.9	Shortage of supplies and consumables (Scientific services, Maintenance, IPAP, Operations) from external providers for the due		CC 8.1.9	Critical Suppliers of Goods and Services Register	RAP 8.1.9	Review the Critical Supplies Register	Action plan completed

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
			to pandemic (Covid-19)						
ERW9	**Potential loss of the ISO 17025 Accreditation**	CF 9.1	Aging technology (Equipment replacement)	Service Delivery	CC 9.1.1	Scheduled maintenance in accordance with ERWAT Annual Maintenance Plan	RAP9.1.1	Repairs as per maintenance schedule for Instrumentation	Action plan completed Internal Maintenance 97 equipment were maintained internally. External Maintenance 7 equipment/instruments serviced and 20 instruments calibrated.
		CF 9.2	Lack of budget for infrastructure repairs. (building maintenance; HVAC)		CC 9.1.2	Environmental Monitoring (daily)	RAP9.1.2	Procurement of the HVAC System for Scientific Services	Storage site established and equipment selections and drawings have been submitted and approved. Major Equipment such as Air Handling Units, supplied, only chillers and fume hood cupboards outstanding The decommissioning of the existing HVAC and Fume hoods will commence mid-July 2022. Installation will commence mid-July 2022. Estimated Date of completion is End August 2022.
		CF 9.3	Aging instrumentation and scarcity of spares		CC 9.1.3	Internal Inspections and Assessments	RAP9.1.3	Repairs as per maintenance schedule	Action plan completed Internal Maintenance 97 equipment were maintained internally. External Maintenance

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
									7 equipment/instruments serviced and 20 instruments calibrated.
		CF 9.4	Loss of some of the approved testing methods		CC 9.1.4	External Audits	RAP9.1.4	Conduct 17025 external audits	Action plan completed
					CC 9.1.6	Standard Operating Procedures and Quality Manual	RAP9.1.6	No further mitigation was identified	No action plan to be implemented by the entity for the financial year under review.
					CC 9.1.7	Process audit conducted as part of the Business Continuity Assessment	RAP9.1.7	No further action plan identified	No action plan to be implemented by the entity for the financial year under review.
ERW10	**Potential Loss of and Unauthorised Access Critical Information**	CF 10.1	Lack of document and records management Policies and procedures	Service Delivery	CC 10.1.1	Information, Communication and Technology Policy	RAP10.1.1	Develop Document Management Policy	**Action plan in progress** A draft Document Management Policy, is pending finalisation. The finalisation of the policy is dependent on the implementation of the Document Management System in the ERP. The roll-out is part of the City's ERP System
		CF 1	Lack of Documents and		CC 10.1.2	ERWAT Public Drive	RAP1	Implement Document Management	**Action plan in progress**

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
		0.2	Records management Systems			Communications Policy	0.1.2	System	The initial Document Management System did not pass the User Acceptance Testing level as it did not System meet the Business Requirement. An alternative Document Management System being rolled-out.
		CF10.3	Inadequate Information Security Measures and Record Measures		CC10.1.3	Computer Systems are Password Protected	RAP10.1.3	Develop a Protection of Personal Information Policy	Action plan completed quarter.
		CF10.4	Non-Compliance and Inadequate Business Process on Information and Records Management		CC10.1.4	Security Services Policies	RAP10.1.4	Develop an SOP on Document and Records Management	**Action plan in progress** The finalisation of the Standard Operating Procedure is pending finalisation of the Document Management Policy. The policy cannot be finalised prior to the implementation of a Document Management System as part of the an ERP.
		CF1	The use of social media applications		CC10.1.5	Guarding Procedure	RAP10.1.5	Review/Update the Business Process on Document and	**Action plan in progress**

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
		0.5	which are not linked to company security measures and back-up systems.					Records Management	The finalisation of the policy is dependent on the implementation of the Document Management System in the ERP.
					CC 10.1.6	Net Trace to wipe off information in lost or stolen computer systems	RAP10.1.6	No further action plan identified	No action plan to be implemented by the entity for the financial year under review.
ERW111	**Potential injuries to personnel, visitors and contractors**	CF11.1	Non-Compliance to the OHS policies and Standard operating procedures.		CC 11.1.1	Occupational Health & Safety Policy	RAP10.1.1	Update COVID-19 Standard Operating Procedure	Action plan completed
		CF11.2	Vandalism theft, and armed robberies	Delay the availability of analysis results	CC 11.1.2		RAP10.1.2	Review the Safety BCM Plan	Action plan completed
		CF11.3	General condition of workplace (slippery conditions)		CC 11.1.3	Occupational Health & Safety Procedures (SOPs)	RAP10.1.3	Pre-employment medicals as and when the need arises	There were no pre-employment medicals done

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
					CC 11.1.5	Security Services Policy	RAP10.1.4	No further action plan to be implemented	No action plan to be implemented for the financial year under review
					CC 11.1.6	Security Awareness Program	RAP10.1.4	Conduct Security Awareness	There was no Security Awareness was scheduled for quarter 3. Further Awareness is scheduled for quarter 4.
					CC 11.1.7	Safety Awareness through Toolbox Talks Central Safety and District Safety Committee	RAP10.1.4	No further action plan identified was identified	No action plan to be implemented for the financial year under review
					CC 11.1.8	Safety Standard Operating Procedure	RAP10.1.4	Review of the Safe Work Standard Operating Procedure	Action plan completed.
					CC 11.1.9	Safety Risk Assessments	RAP10.1.4	Conduct Safety Risk Assessment review	Action plan completed Security awareness for Q4 were conducted for all WCW's

REF	Risk Title	Contributing Factors		Impact / Consequences on the ERWAT	Current Mitigation Controls		RAP	Risk Action Plan	Action Plan Progress Quarter 4
					CC 11.1.10	Training Plan	RAP10.1.4	Implementation of 2021-2022 OHS Training, in line with the ERWAT wide training plan Skills Training Safety Awareness Training	Action plan completed. There was no OHS Training scheduled for quarter
					CC 11.1.11	Safety awareness through Tool box talks /Induction (company-wide and site induction)	RAP10.1.7	No further mitigations was identified	No action plan to be implemented for the financial year under review.

Insurance Risks

Inadequate maintenance of assets remain critical as the entity may loose the insurance cover

Uncontrolled Fruitless and Wasteful expenditure to result in the entity not covered for Directors and Officers Liability and Commercial Crime

7. Legislative (only if applicable to your department)

The entity acknowledges that legislation is crucial to it's existence and operations. Management and the board has identified and prioritised seven (7) key legislation for monitoring. Compliance risk management plans are developed to ensure that all the risks are mitigated. Any changes to legislation is aligned with internal policies and processes The Regulatory Landscape consist of the following

1. National Water Act 36 of 1998
2. National Environmental Management Act
3. Companies Act 71 of 2008
4. Municipal Finance Management 56 of 2003
5. Labour Relations Act 66 of 1995
6. Occupational Health and Safety Act 85 of 1993
7. Disaster Management Act 57 of 2005

8. Key Audit Matters and Progress

As of 30 September 2021, there has not been significant movement on the Internal Audit or External Audit processes for the 2021/2022 financial period, which is primarily due to the revision of timelines due to the state of disaster currently in effect in South Africa.

The Internal Audit Program commenced in the 2nd quarter of the 2021/2022 financial period, while the 2021/2022 Regularity audit conducted by the Auditor General South Africa, was concluded in the 3rd Quarter. This is due to the revision in timeframes it is expected that the 2021/2022 audit will be finalised during the 3rd quarter of the 2021/2022 financial period.

Audit outcomes `

ERWAT obtained a qualified audit opinion from the AGSA for the 2020/2021 financial year.

Eleven (11) findings were included in the Management Report, of which six (6) were audit report items. Of these eleven (11) findings, seven (7) have been resolved to date (30 June 2022).

Finding No.	Finding Heading	Classification	Progress to date	Status
1	Fruitless and wasteful expenditure not prevented	Non-compliance with legislation	a) Improved cash flow Management procedures. SOPs have been developed and implemented in this regard, these are currently being audited by internal audit in their follow-up audits. b) Re-configuration of the system to ensure it involved little manual intervention. This project is being implemented with BCX and tracked on a weekly basis. c) Continuous awareness on cyber-attacks being communicated via company news flashed. d) Improved procedures implemented when performing changes to the employee details, including a signed form by employee, stamped bank confirmation letter with employee's ID and details, as well as approval from HR and CFO	**Finalized**

2	Irregular expenditure not prevented	Non-compliance with legislation	a) UIFW expenditure reduction plan has been presented to MPAC in May 2022 for adoption and implementation in August 2022.	**Okay - manageable issues**
3	Assets not adequately tagged	Internal control deficiency	a) The result for the Bid for the printing machine was a non-award. As an alternative of obtaining permanent tags, management have successfully concluded an award for a service provider to supply and deliver permanent tags that have been marked with the asset numbers. The supplier has delivered the tags and assets team will begin the process of affixing them to the assets in the coming weeks.	**Okay - manageable issues**
4	Consistency of reporting of % target on Maintenance KPI	Misstatements in annual performance report	a) Continuous review of the approved business plan against reported targets.	**Finalized**
5	ICT control deficiencies	Internal control deficiency	a) Obtained appropriate approval for policies (Approved by the board).	**Finalized**
6	Appropriation statement differences – Resolved	Misstatements in financial statements	a) Implementation of Adequate segregation of duties to ensure proper reviews are performed on the AFS before being submitted to the AGSA for audit purposes. b) Filling of vacancies in order to allow for appropriate reviews. This process has commenced.	**Finalized**
7	Deviations not in line with regulation 36	Non-compliance with legislation	a) The updated SCM policy was approved in April 2022 that governs the processes of regulation 36 and was circulated to all ERWAT employees. The new Solar Contract management module will be implemented in August/September.	**Okay - manageable issues**

8	CAPEX expenditure differences on reporting	Misstatements in annual performance report	a) Continuous review of the approved business plan against reported targets.	**Finalized**
9	Maintenance expenditure differences on reporting	Misstatements in annual performance report	a) Continuous review of the approved business plan against reported targets.	**Finalized**
10	Irregular expenditure Disclosure	Misstatements in financial statements	a) N/A	**Finalized**
11	Consequence management	Non-compliance with legislation	a) For the 2018/2019 FY, there was a formal investigation done by CoE (Forensic) audit to determine if any employees were involved and ERWAT is still awaiting the outcome of the audit.	**Okay - manageable issues**