



EMFULENI SECTION 63 PROGRESS REPORT NCOP REPORT

12 SEPTEMBER 2023

BACKGROUND

- Ageing Infrastructure, sewage spillages into the Vaal River and demand that exceed the design capacity of the wastewater treatment capacity in the Sedibeng Region has necessitated the implementation of the Sedibeng Regional Sewer Scheme Project (SRSS) for both Midvaal and Emfuleni Local Municipalities (Sedibeng Region).
- The objectives of the projects include; delivery of an effective solution that will eradicate pollution in the Vaal River and its tributaries and eradication of water and sanitation service delivery challenges, inhibiting both social and economic development in the region.

Everything Flows Into The Vaal River

Quality of Water in the Vaal Barrage Reservoir

Date Sampled 6 October 2021



Interpretation of the results obtained from water samples collected at the respective sample points (refer map above)

BACKGROUND, CONT'D

- **The Minister invoked Section 63 of the Water Services Act to takeover water and sanitation services from Emfuleni Local Municipality.** On 5th March 2021, and revised on 6th July 2021, Rand Water was appointed as the implementing agent.
- Rand Water **operates assets owned by Emfuleni, reporting directly to the Minister,** who will in **turn inform cabinet.**
- Rand Water expected to **manage identified Emfuleni assets.**
- This entails a **revenue enhancement strategy,** with the aim of ensuring sustainability of the assets long after Rand Water has completed the handover process after a period of 3 years.
- Rand Water will have to **draw on internal**

resources, largely human resources. It is important that the employer, Rand Water and Rand Water staff are **aware of the expectations and their role to play.**



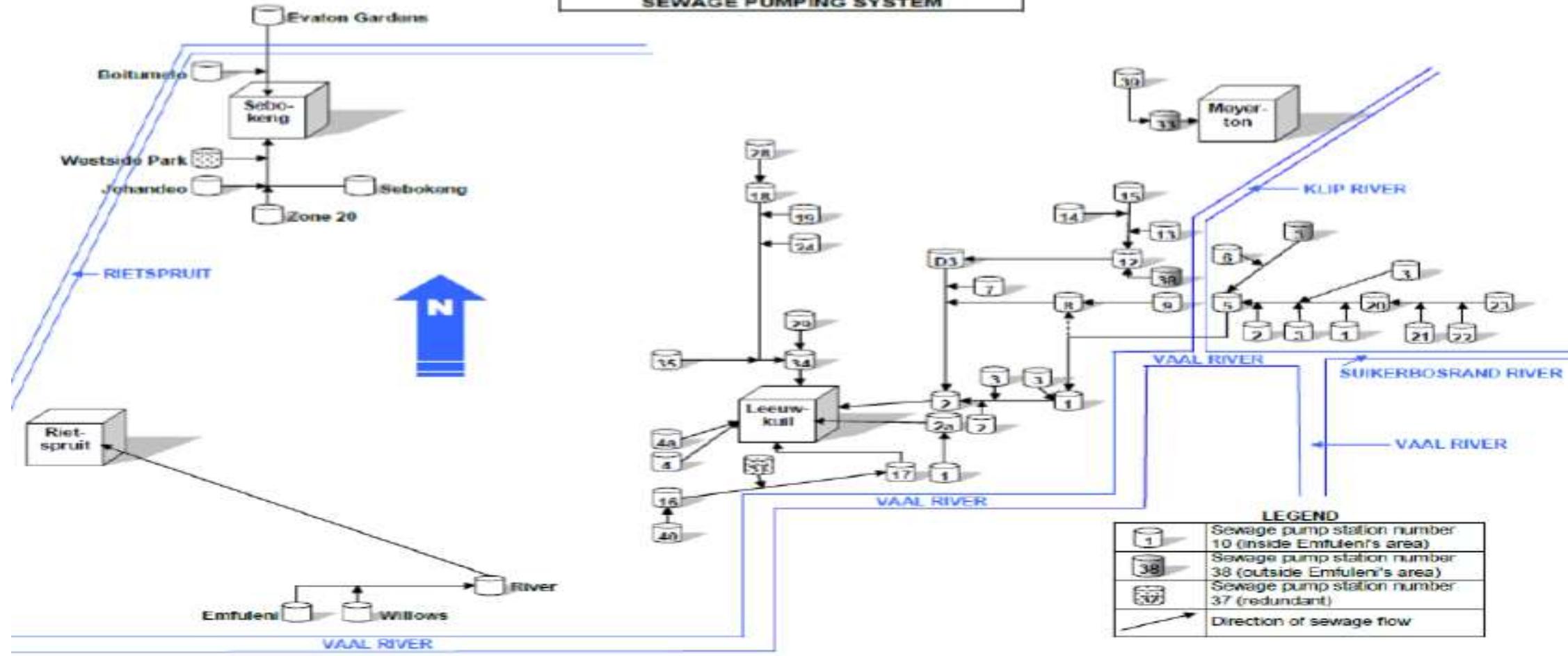
**RESTORE SUSTAINABLE
WATER SERVICES**

**ELIMINATE POLLUTION
TO THE VAAL RIVER SYSTEM**



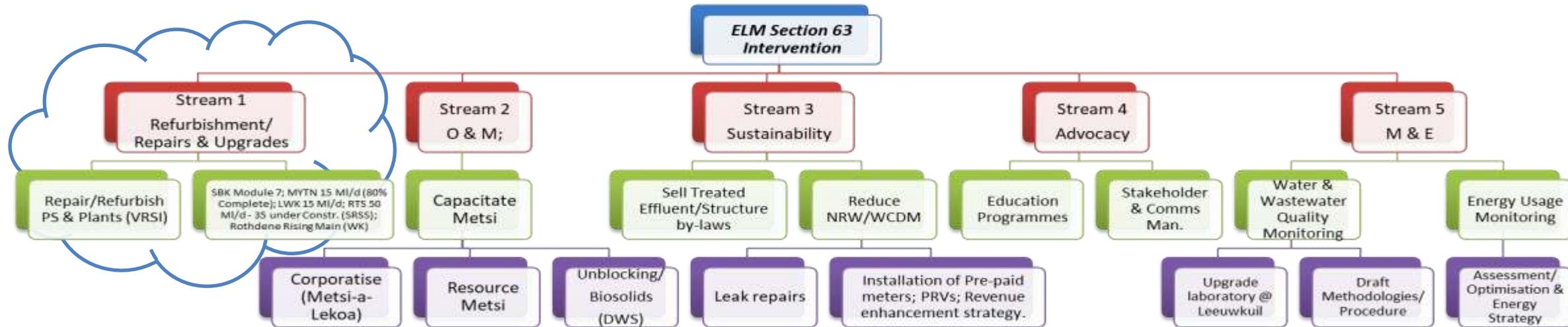
COMPLEXITY OF EMFULENI SEWAGE PUMPING SYSTEM

**EMFULENI LOCAL MUNICIPALITY
SEWAGE PUMPING SYSTEM**



WORK STREAMS

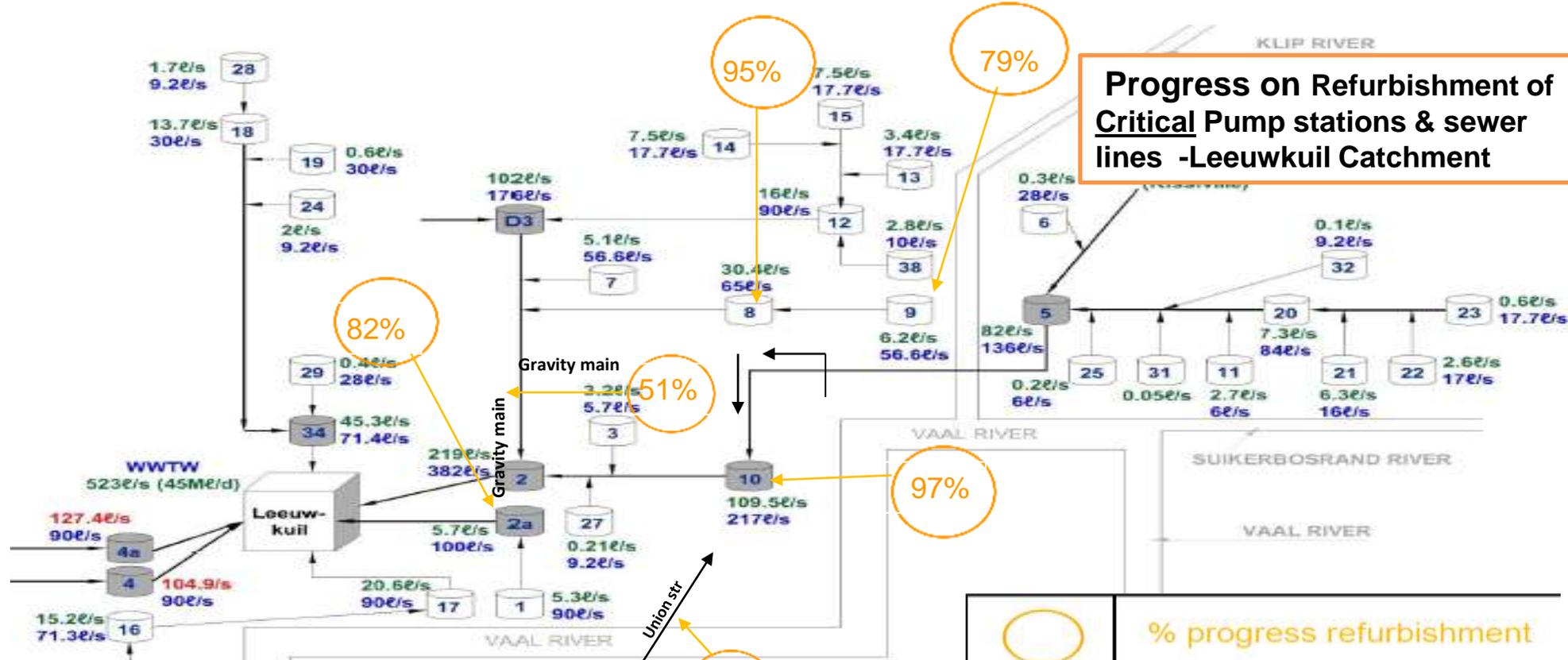
- Based on technical assessment on the ground, **five (5) main work streams** under Emfuleni Section 63 were identified.
- Work Streams guided the development of the Project Execution Plan



PROJECT STREAMS

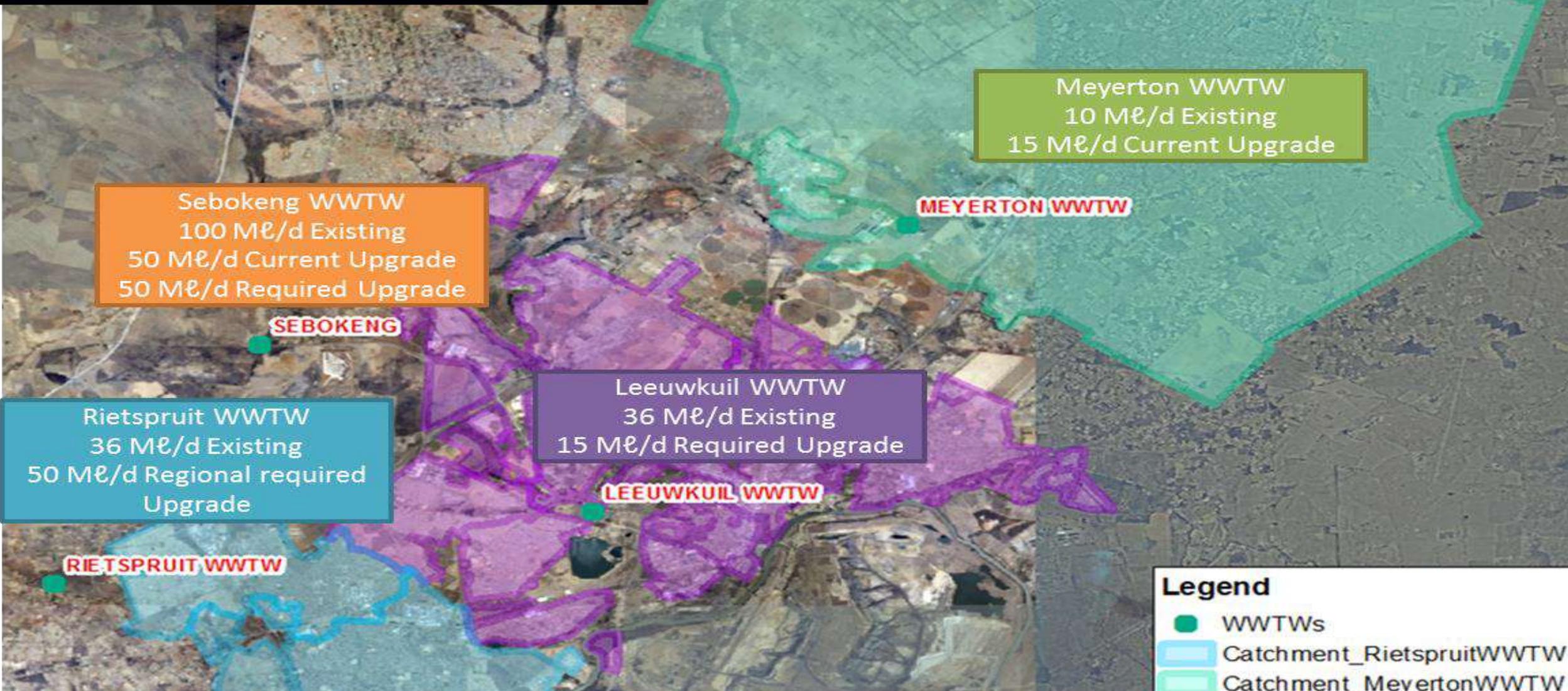


Progress on Refurbishment of Critical Pump stations & sewer lines -Leeuwkuil Catchment



	% progress refurbishment
104.9	ADWF (t/s) above Pump Station Capacity
7.5	ADWF (t/s) below Capacity
17	Pump Station Design Capacity (t/s)

Upgrades and improvement to critical bulk pipelines and pump stations in the regional network



SEBOKENG MODULE 6 UPGRADE

1. The plant Caters for Emfuleni and CoJ – more to come from COJ
2. GP COGTA/HS completed a major sewer line running between Evaton and Small Farms through Boitumelo
3. DWS funded infrastructure upgrade since 2018
4. Plant Design capacity 150 Ml/day
5. In-flow average is 120 Ml/day
6. RW & DWS handed over Module 6 to ELM in December 2020
7. Snag list of module 6 to be done within the coming Module 7

SEBOKENG MODULE 6



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ROTHDENE PUMP STATION

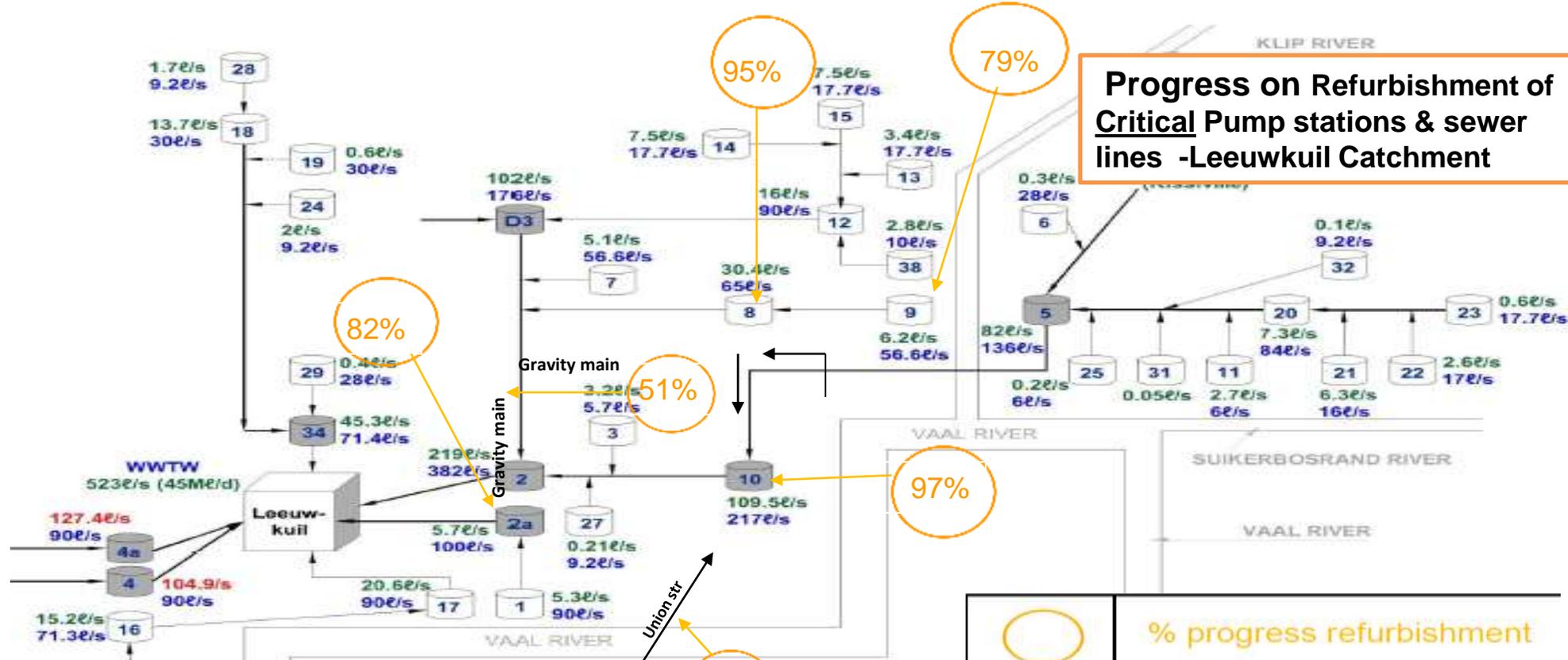
- Rothdene pump station falls within the Midvaal Local Municipality, and it transfers wastewater to Meyerton Wastewater treatment works
- DWS Funded the project from 2017
- Rothdene pump station capacity is 625 l/sec and the rising main is 4.7 km long and diameter of 900mm HDPE pipeline
- Services the following main areas: Meyerton, Henley on Klip & Rothdene Rothdene pump station was handed over by Rand Water and DWS to Midvaal Local Municipality on 3 August 2018
- Rising Main complete in December 2022
- Midvaal Local Municipality responsible for operations



PROJECT STREAMS



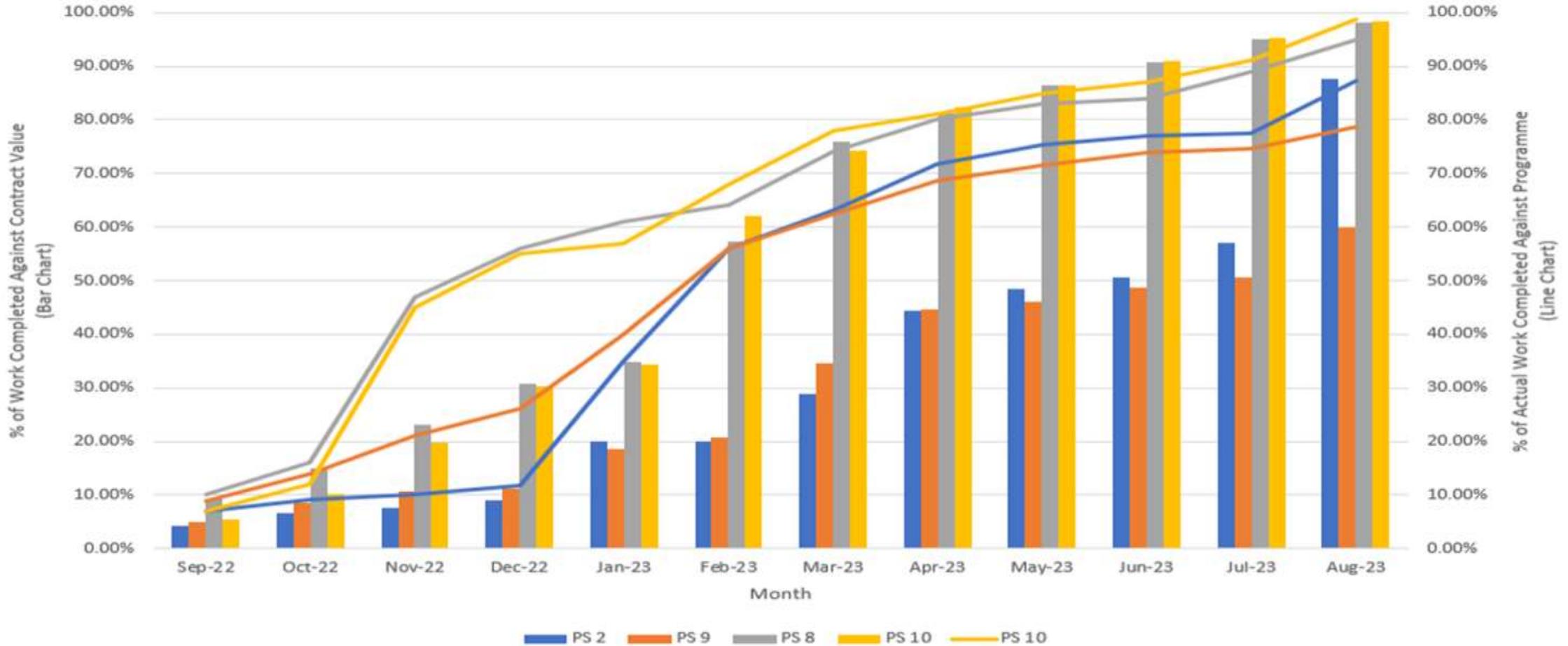
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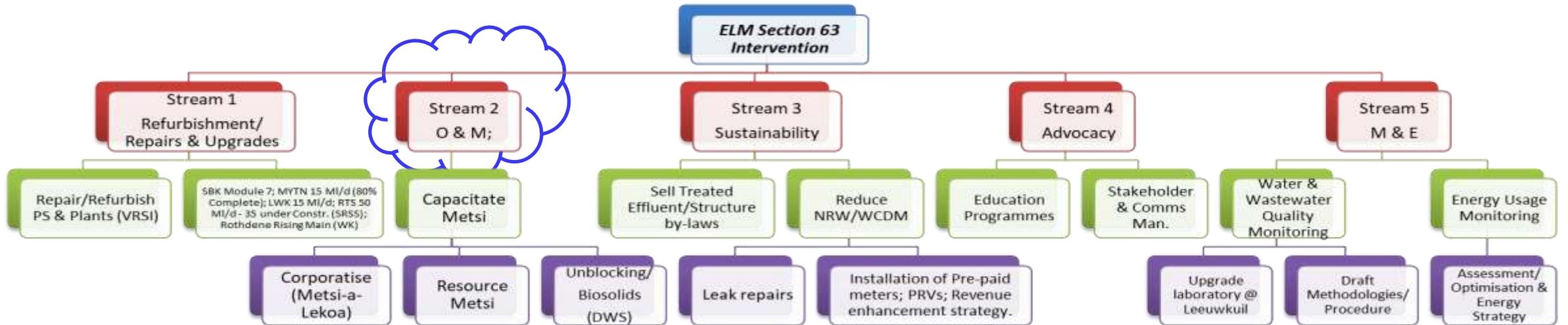
MONTHLY PROJECT PROGRESS FOR PS 9, 8, 10, GRAVITY MAIN AND PS 2

Refurbishment of Pump Stations Percentage Work Completed



WORK STREAMS

- Based on technical assessment on the ground, **five (5) main work streams** under Emfuleni Section 63 were identified.
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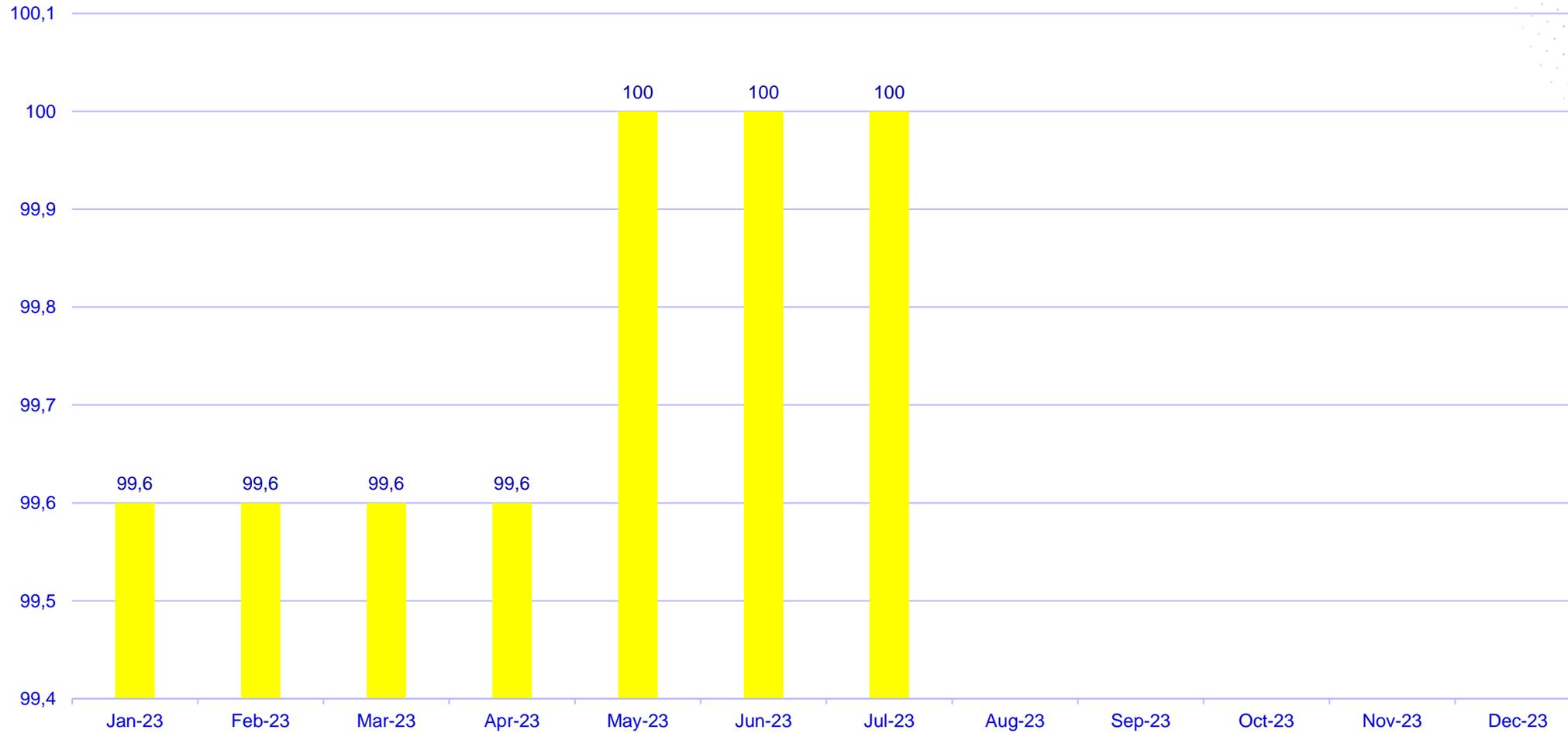


Mechanical & Electrical Repairs for the Plants

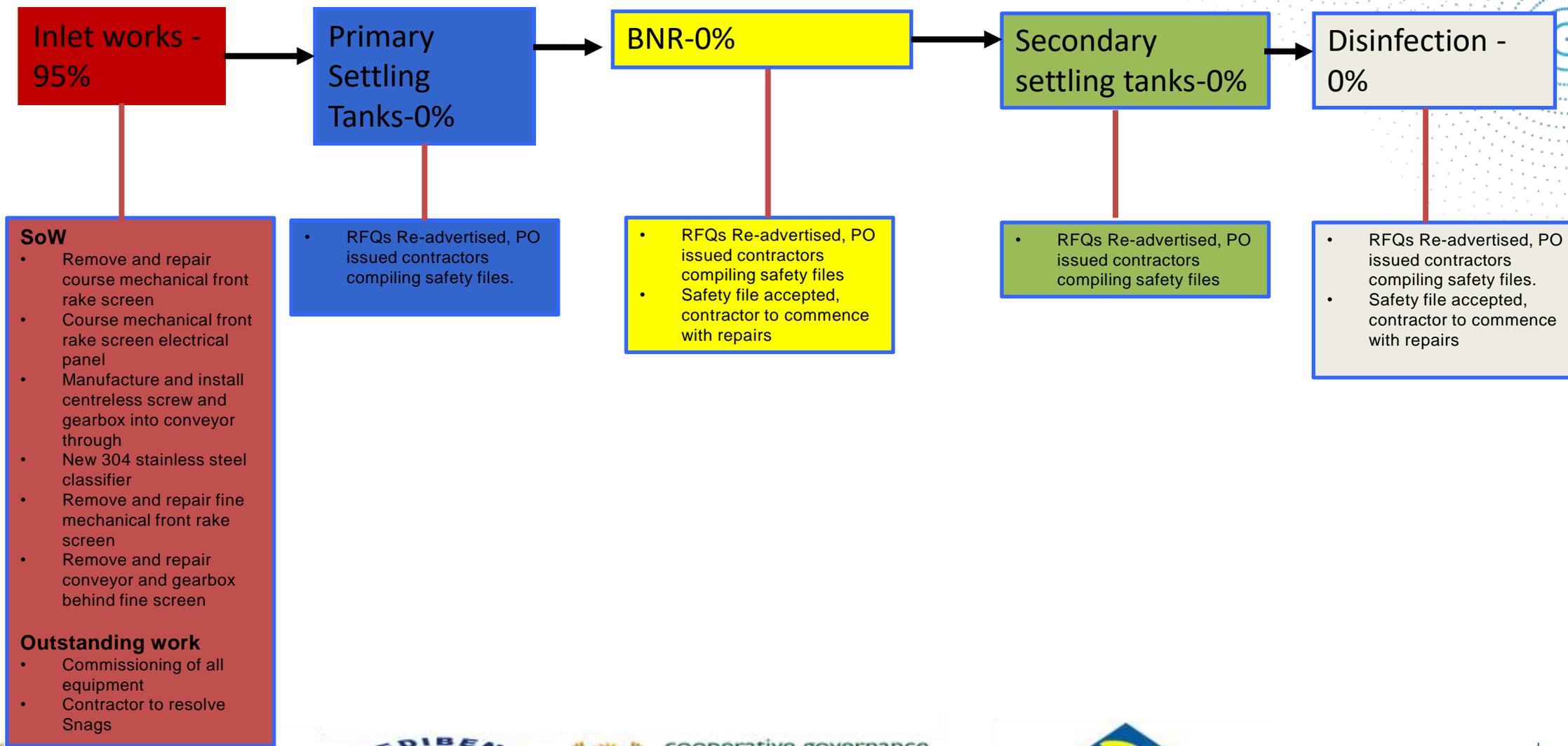


SANS 241 2015 DRINKING WATER QUALITY COMPLIANCE

Vaalwater WTW SANS 241 Compliance %



Leeuwkuil WWTW Mechanical & Electrical Repairs



Leeuwkuil WWTW Inlet works

Before: Removing and repairing Screen # 3 (Non-functional Screen)



After: Removing and repairing Screen # 4 (Functional Screen)



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Leeuwkuil WWTW Inlet works

Before: Blower with electrical motor. (Non-functional Blower)



After: New blowers complete with electrical motor. (Functional Blower)



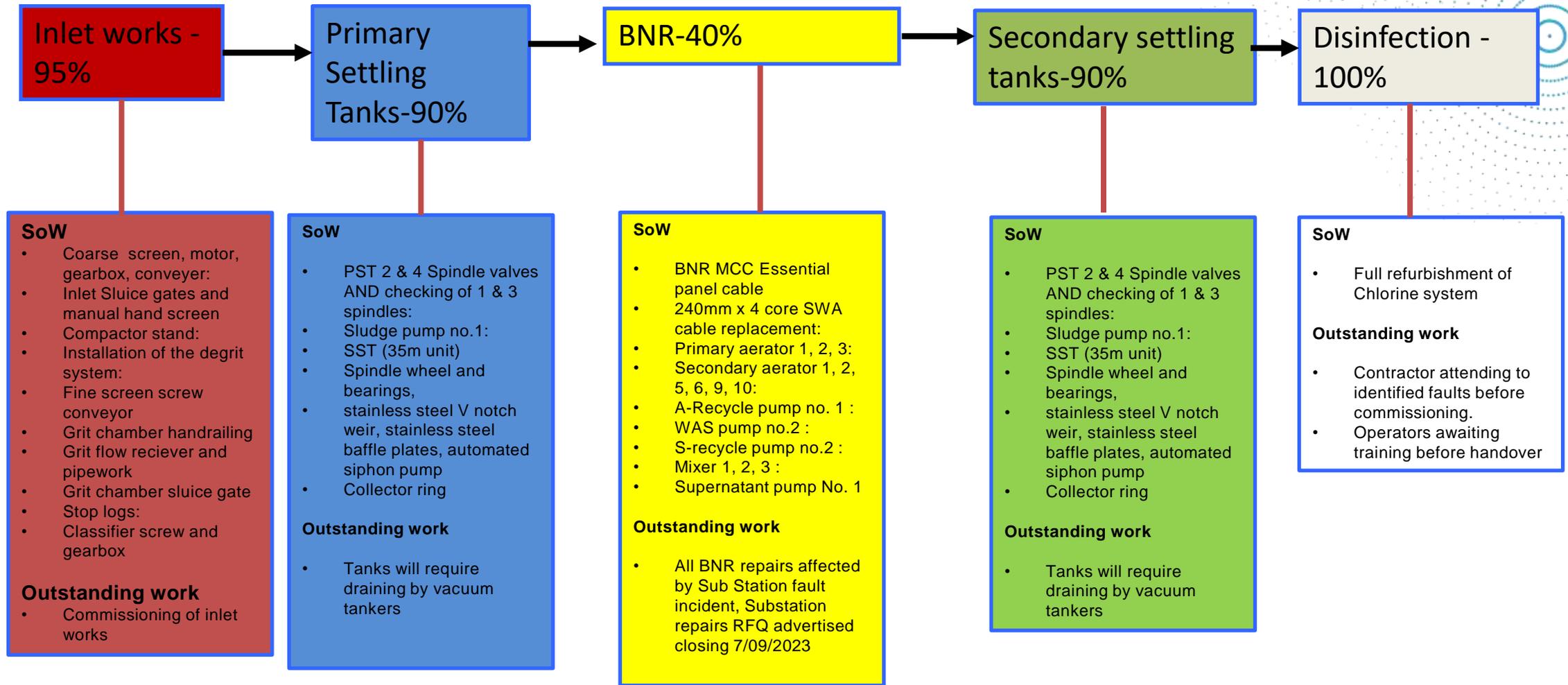
Before: Grit Classifiers complete with discharge pipework. (Non-functional Screen)



After: Grit Classifiers completed with discharge pipework. (Functional Grit Classifier)



Rietspruit Mechanical & Electrical Repairs



Rietspruit WWTW Inlet works



After: New Coarse Mechanical Front Rakes. (Functional)



After: New Grit Continuous Flow Receiver and pipe work installed. (Functional)



Rietspruit WWTW Chlorine system Repairs



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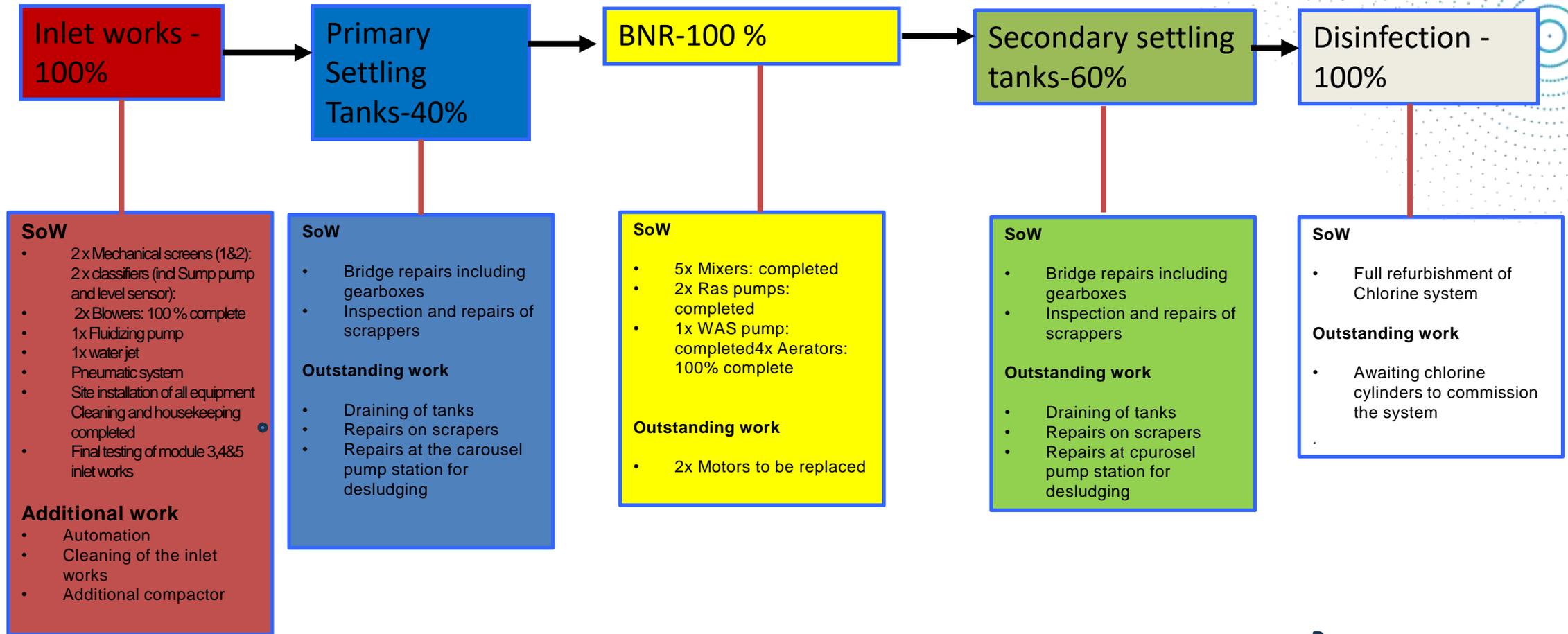


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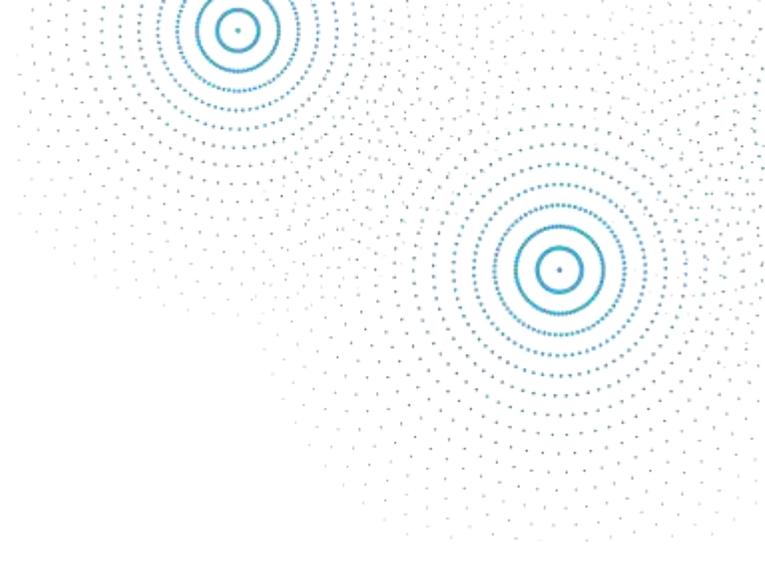


Sebokeng WWTW Module 5 Mechanical & Electrical Repairs



Sebokeng Module 3,4 and 5 inlet works M & E





Mixer before



Work shop after short blasting



Rotating Assemble corrode



Disassemble of Pumps

Sebokeng Module 5 Chlorine system

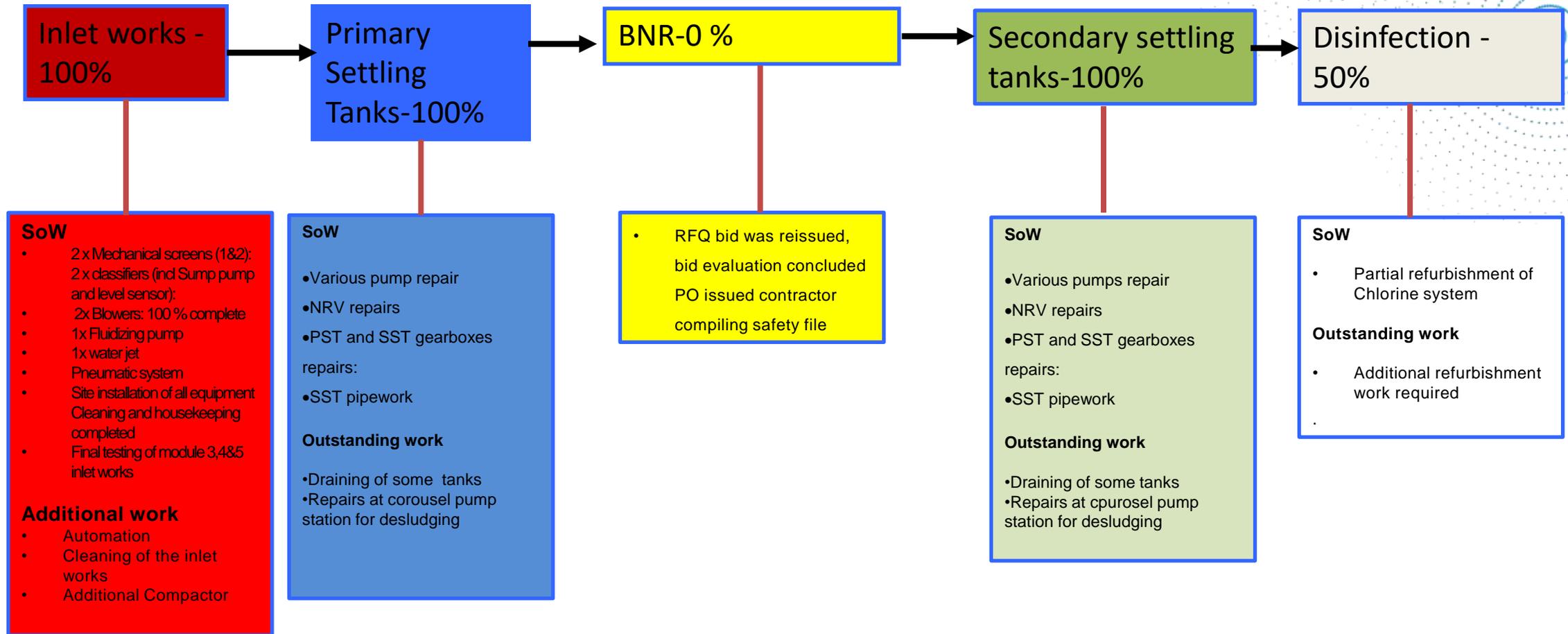
Before Refurbishment



After Refurbishment



Sebokeng WWTW Module 3 &4 repairs diagram



Sebokeng Module 3 & 4 Settling tanks

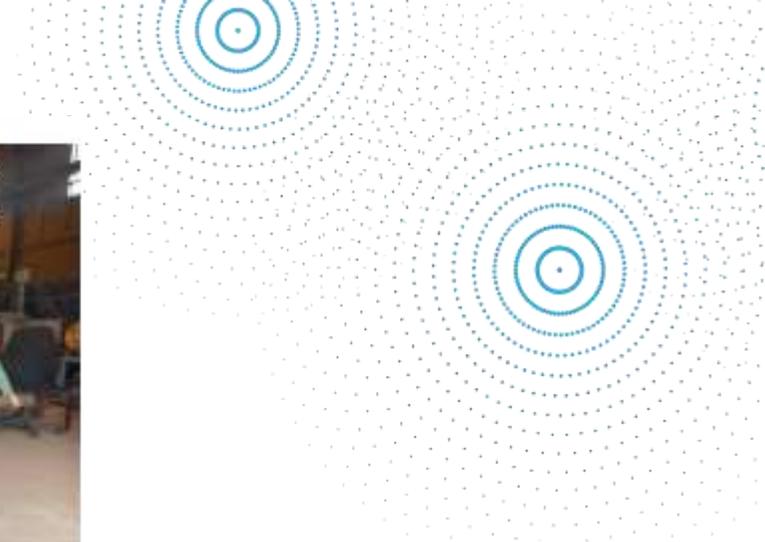
PST bridge before



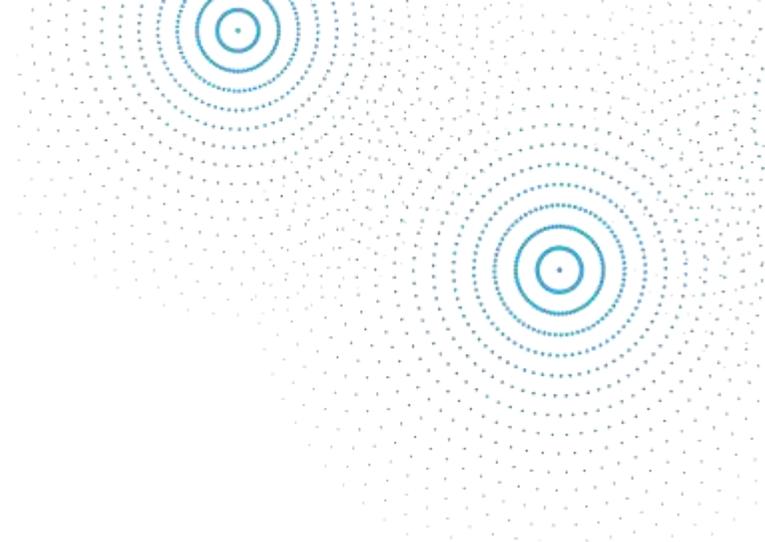
PST bridge after



Aerator Repairs



RAS Pumphouse



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Mixer Repairs



Mixer before



Work shop after short blasting



Rotating Assemble corrode



Disassemble of Pumps



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Progress



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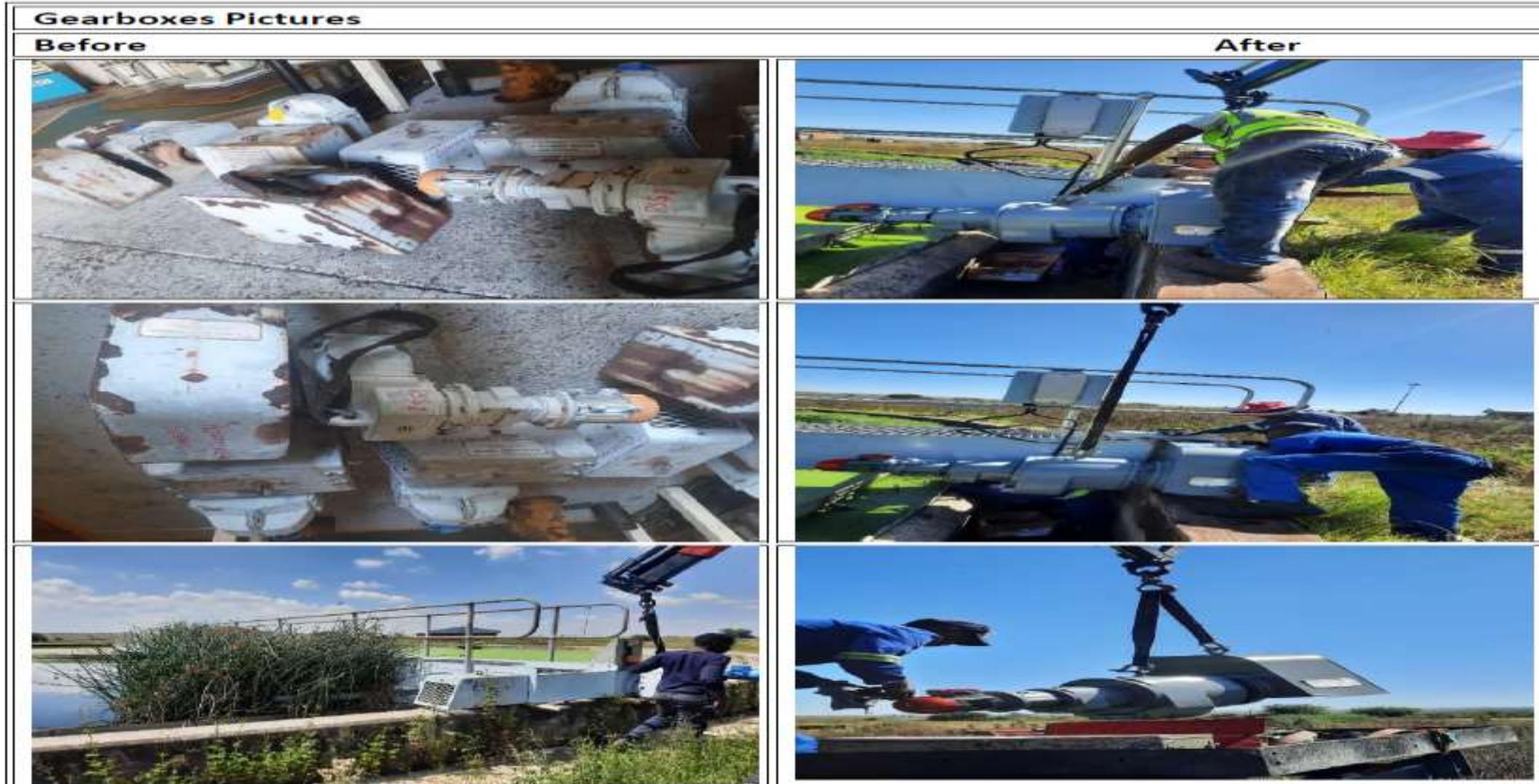


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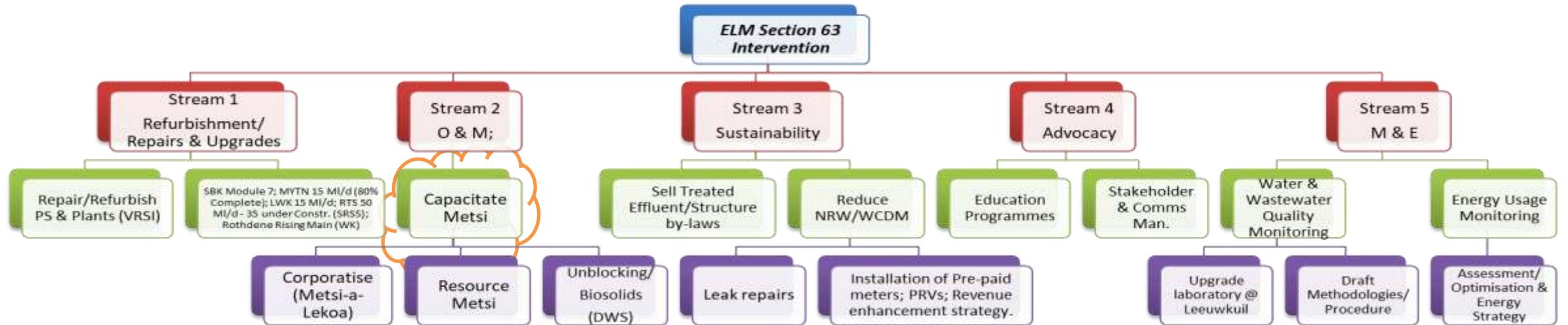


Progress



WORK STREAMS

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CAPACITATION OF METSI-A-LEKOA

Resources: Delivery of 16 hired vehicles **now returned**



CAPACITATION OF METSI-A-LEKOA

Vehicles – 36 Vehicles procured and delivered

- 36 x Peugeot Bakkies, procured for operations and maintenance
- All vehicles are covered with insurance and a tracking system is installed for safety & and security

Equipment

- 1 x Roller Compactor delivered on the 12th of December 2022 - Training- to be rescheduled with Metsi-a-Lekoa
- 1X Tractor Load Backhoe (TLB) – Accredited Competency-based Training for Metsi-a-Lekoa resumed on 30th Jan and is **now completed**.
- 4 x Vacuum Tankers - sourcing through RT 57. **4 Procured and 2 delivered in April 2023**
- 3X Tractor has been **delivered in June 2023** at Sebokeng WWTW
- 5 X Side by Side Polaris (scooters) **delivered in May 2023**
- 1 X Truck Crane delivered procured & **delivered June 2023**
- 3 X Heavy Duty Slashers delivered in **April 2023**



CAPACITATION OF METSI-A-LEKOA

Equipment

- 12 X Skip Bins procured and delivered March 2023
- 3 X Telecon Trailers delivered in April 2023
- 1 x Chery Picker procured and delivered in March 2023



DELIVERY OF PLUMBING TOOLS AND SPARES





REHABILITATION OF COLLAPSED PIPELINES



UNBLOCKING AND BIO-SOLIDS FOREIGN OBJECTS FOUND IN SEWER PIPES



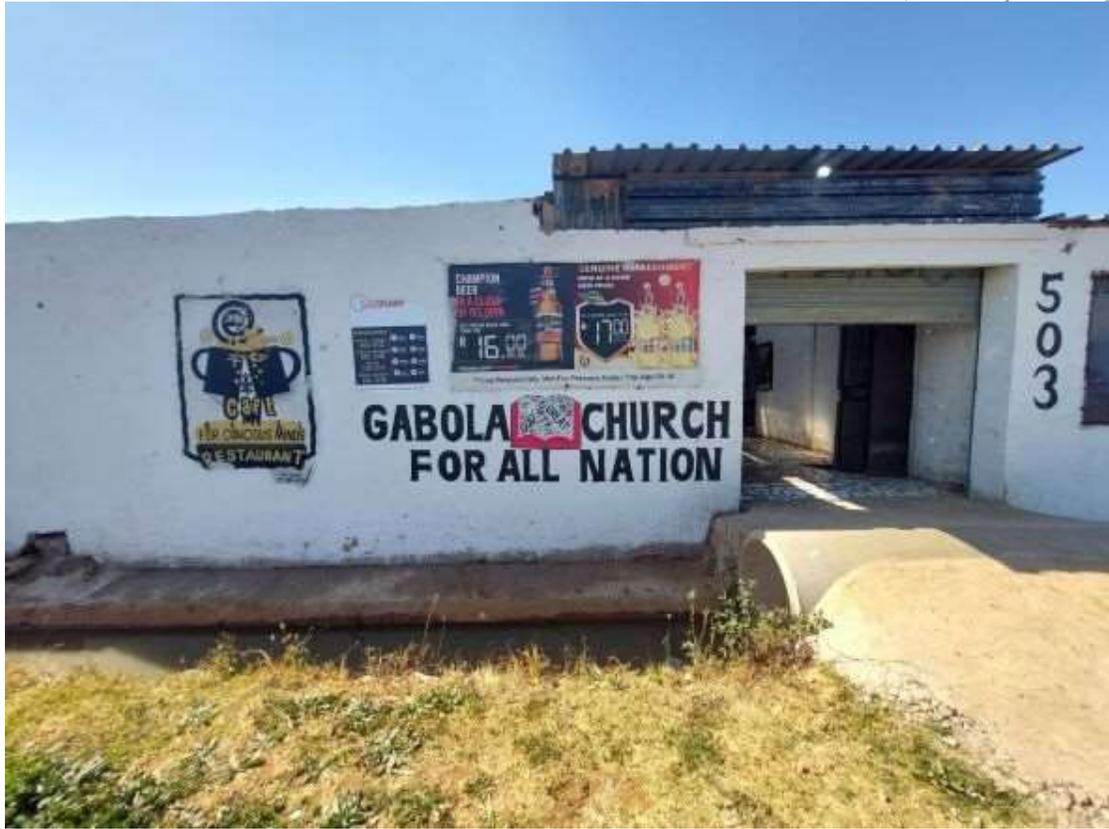
Rehabilitation of Collapsed Pipelines

Progress at site EV18, Lakeside, Evaton

Locating Manhole inside building structure



Owner agreed to demolish structure



Rehabilitation of Collapsed Pipelines

Progress at site EV18, Lakeside, Evaton

Launch pit



underground water



Pumping underground water



Rehabilitation of Collapsed Pipelines

Progress at site VE10, Tshepiso South, Vereeniging

Before (in July 2023)

Progress (as of 24 August 2023)



Pipe Laying



Benching



Manhole Ring



Rehabilitation of Collapsed Pipelines

355mm HDPE pipe for butt welding



Progress at site VB16, Bophelong

Butt welding of 355mm HDPE pipe in progress



Site Clearance



Launch pits



Butt Welding in progress



Stream 3: Sustainability

- This stream addresses matters related to Water Conservation and Water Demand Management as well as effluent reclamation
- Alternative Water Resource- Effluent Reuse- Sebokeng Reclamation Plant
 - Rand Water has conducted a detailed effluent reclamation feasibility study for Sebokeng WWTW
 - A memorandum of understanding between Rand Water and Emfuleni was signed by Emfuleni in June 2023.
 - Potential Off-takers have been identified and
 - The Sebokeng Reclamation Plant is at the design stage
- Non-Revenue Water & Revenue Enhancement Strategy

Terms of reference were compiled for the non-revenue water and revenue enhancement strategy and various meetings took place between Rand Water and Metsi & SAICE consultant assisting Emfuleni with Water Cycle Management. Rand Water is finalizing the scope of work for the appointment of a service provider for non-revenue water and revenue enhancement strategy.



Stream 3: Sustainability

- Emfuleni Local Municipality (Metsi-a-Lekoa) experienced some challenges with proper maintenance on the installed pressure-reducing valves (PRVs) which resulted in excessive and low pressures in distribution infrastructure systems.
- Metsi a lekoa obtains its bulk potable water supply directly from Rand Water's high-pressure system. To mitigate the issue of high pressures, it has installed pressure-reducing valves at strategic positions to control the high pressures.
- PRVs were prioritized in Vereeniging due to low pressure and frequent water outages in the areas that they

Area	Location	PRV Number
Vereeniging	Corner Lewis and Botha Streets	16 , 17A and 17B
Vereeniging	Corner De Villiers and Botha Streets	18, 19 and (install new on by-pass to Leeuhof
Vereeniging	Ring Road	20,21
	Achievements	<p>All identified PRVs were inspected, services, recalibrated and repainted</p> <p>Flow and pressure logging for 7 days</p> <p>Smart locks for manhole covers</p>

Stream 3: Sustainability

PRV's (Before)



Stream 3: Sustainability

PRV's (After)



Stream 3: Sustainability

Lockable manhole covers

(before)



After: Smart lock cover in





ADVOCACY



COMMUNICATION

MEDIA HOUSE	PUBLICATIONS
National Newspapers	Sunday Times/ Online/ Sowetan/ Sowetanlive/ Citizen/ Citizenlive
National Television Stations & TV CHANNELS	SABC TV/ Environmental Groups/ ENCA/ Newzroom Afrika
National and Commercial Radio stations	SABC RADIO (all)/ Talk Radio 702/ Jacaranda and Kaya FM
Vaal Media	Lekoa FM/ Vaal Community Radio/ Thetha FM/ VUT FM/ IFM Radio
Caxton newspapers	Sedibeng Ster/ Vaal Weekblad/ Ster (North and South)/ Parys Gazette/ Carletonville Herald/ Orange Farm News/ Bua Sedibeng





MONITORING & EVALUATION



Stream 5: Monitoring and Evaluation

- The water quality of the plants and tap is being tested as part of the water use license requirements, and the results are being uploaded to the DWS Integrated Regulatory Information System (IRIS).
- Samples are analyzed at the accredited Rand Water Analytical Services Laboratory.
- The assessment for the Leeuwkuil Laboratory was completed by Rand Water Analytical Services and Rand Water is in the process of resuscitating the Leeuwkuil Laboratory
- Two Metsi personnel (Chemist) and Laboratory Assistants are being trained in-house in Rand Water Accredited Analytical Laboratory.





MINISTER'S SITE VISIT 29 August 2023



SNAPSHOT OF WORKS TO DATE



Minister`s Visit: Progress & Site Inspection

Site inspection at Various projects in Midvaal & Emfuleni Local Municipality on 29 August 2023

- Rothdene Pump Station & Rising Main
- Pump Station 9, 8, 10 and 2
- Gravity Main to Pump Station 2
- Leeuwuil Wastewater Treatment Plant
- Sebokeng Wastewater Treatment Plant
- Rehabilitation of Collapsed pipeline in Bophelong, Tshepiso, Lakeside in Evaton.



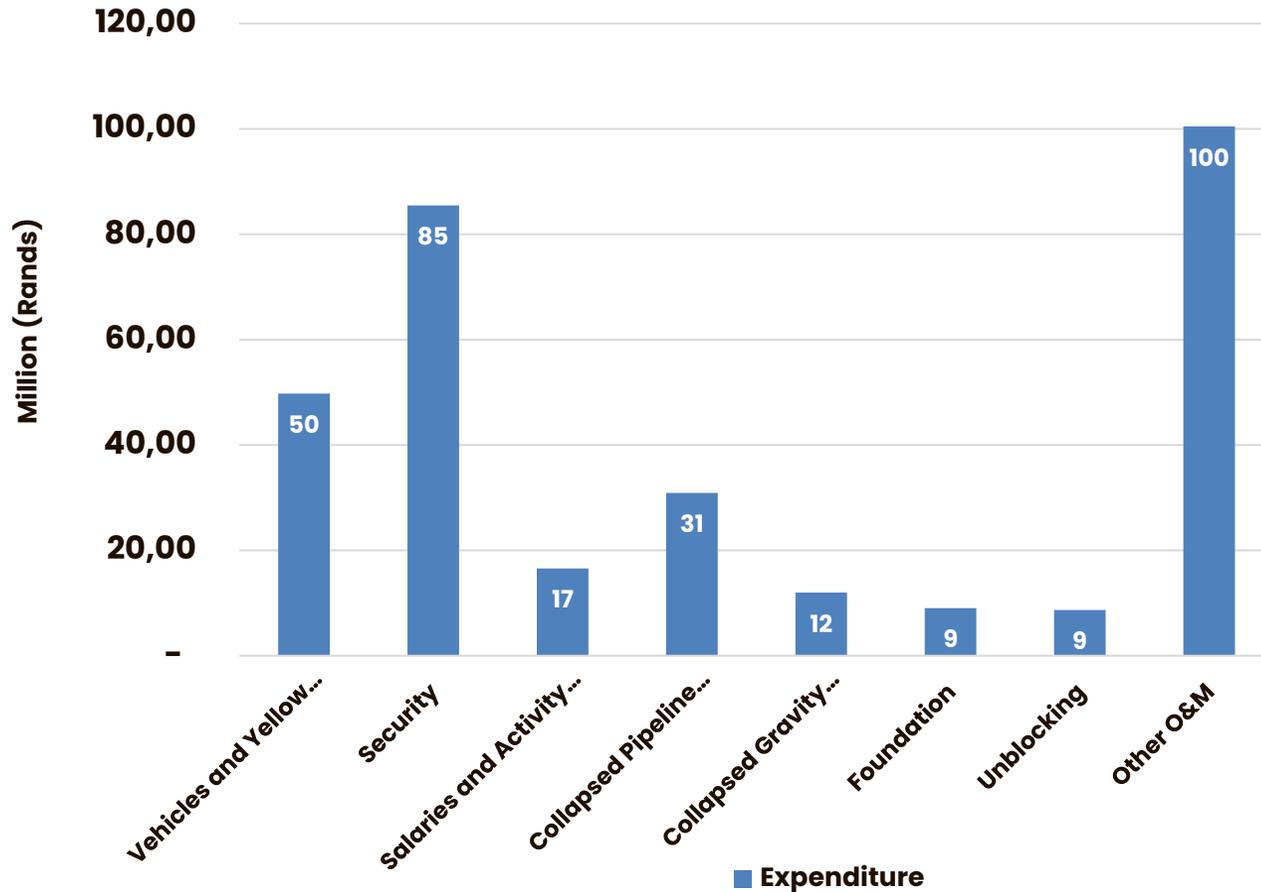


FINANCE



EXPENDITURE TO DATE FOR EMFULENI S63

Total Expenditure July 2023 R313 Million



Description	Total Expenditure Including VAT and IAFEE up to July 2023	Total Commitments/Project ions
1 Vehicles and Yellow Fleet and Insurance	49,724,835.74	20,500,363.22
2 Fuel	1,146,659.96	323,118.44
3 PPE	2,315,486.32	2,105,263.15
4 Supply & delivery of painting tools & other tools	2,240,833.78	
5 Supply & delivery of plumbing spares	2,176,732.91	
6 Cleaning of Reservoirs at Vaaloever	529,954.23	
7 Sample Analysis	2,690,077.58	147,478.42
8 Security	85,452,006.77	5,331,439.73
9 Activity Based Costs	32,765,936.66	1,775,098.21
10 Calcium Hypochloride Gran (HTH)	26,235.56	
11 Consumables	313,792.65	
12 Advocacy	3,831,813.92	2,105,263.15
13 Union Emergency	25,997,124.07	
14 Sebokeng Zone 10	4,898,394.26	
15 Supply & delivery of cables Rietspruit	490,691.07	
16 Supply & delivery of cables Leeuwkuil	564,465.53	
17 Supply & delivery of cables Sebokeng	1,247,757.26	
18 3X Containers + 7x Containers+ Secured Containers	3,646,027.37	
19 20 drums X Gross Weight 250kg, Net Weigh & Chemicals	690,935.21	639,157.89
20 70kg Chlorine Cylinder	48,443.09	9,688.62
21 Service of Generator & Delivery	24,392.11	
22 Salaries for Hired Temporary Staff	16,576,025.30	1,621,327.28
23 Removal of Bees	36,315.79	60,526.32
24 Medical Surveillance	152,100.20	677,064.38
25 Inspection and servicing of 8 PRVs S63	2,431,862.26	
26 Supply & delivery of Consumables	1,916,870.41	
27 Supply & delivery of various pumps & Tools	1,012,507.81	
28 4x4 TRACTOR LOADER BACKHOE (TLB)	1,947,368.42	1,603,676.94
29 Supply,deliver 250KVA Generator	977,500.00	
30 Barcordes & Stationery	681,928.10	30,263.16
31 Leeuwkuil, Rietspruit and Sebokeng WWTWs repairs	11,297,283.70	
32 Supply and delivery of flush toilets	4,382,386.84	2,350,418.42
33 Supply & Delivery of Plastic water meter	1,137,989.76	
34 Section of pipeline under S63 Programme	1,452,026.32	
35 Repair of Vanderbijlpark Water resevoir	179,427.84	
36 Security Guard house x30 for S63 PS	2,052,118.42	
39 Leakage detection water pipeline Union & Vanderbijlpark	920,090.79	2,105,263.15
37 Competency Training for TLB and Truck	143,489.21	77,473.68
41 REFURBISHMENT OF THE PLC AND CONTROL	379,332.95	
38 Supply & delivery of various pumps	3,433,207.28	1,988,210.74
39 Supply & delivery of Skip Bins	604,657.89	
44 Pipe Cracking of a 200m length	1,708,790.21	2,052,991.42
45 SUPPLY & DELIVERY OF 7 SUBMERSIBLE PUMPS	-	1,708,790.21
The Rehabilitation of the collapsed Gravity Sewer Pipelines in		
40 Sebokeng Zone 7 Sebe Street Emergency	-	19,889,170.03
47 APPOINTMENT OF A CONSULTING ENGINEERING	11,989,231.44	10,444,712.62
48 PCA using Magnetic Tomography Method	-	2,105,263.15
49 Unblocking	1,543,421.05	23,719,736.77
50 PUMP STATION 1 REPAIRS FOR EMFULENI S63	2,310,773.68	6,315,789.46
51 SUPPLY AND DELIVERY OF PIPES & COUPLING	-	
52 Katlego Secondary School water Leaks	-	
53 SUPPLY & DELIVERY OF 3SOFT STARTER&SPARE	-	2,002,936.84
54 SUPPLY & DELIVERY OF SEWER MANHOLE LIDS	1,973,157.89	
55 Foundation	9,052,631.58	7,263,157.89
56 Combined Tender	11,749,973.68	320,165,564.49
Total	312,865,064.86	439,119,207.79



Thank you!

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