

**REQUEST FOR QUOTATION: EFFLUENT QUALITY MONITORING FOR EMALAHLENI LOCAL MUNICIPALITY
FOR THE PERIOD OF MARCH 2023**

**SCOPE OF WORK FOR EFFLUENT QUALITY MONITORING FOR EMALAHLENI LOCAL
MUNICIPALITY**

Requirements:

- A SANAS Accredited Laboratory (physical, chemical and microbiological);
 - SACNASP Registered Technicians
 - Trained samplers
 - Safety file
- ❖ During sample collection the following should be adhered to:
- Record date of sample collection;
 - Record weather condition;
 - Record chlorine level dosage;
 - Record free chlorine level;
 - Record the name of the duty Process Controller;
 - Record availability of water;
 - Record any other critical observations around the sample site.
- ❖ The critical information that must be reflected on the certificate of analysis is the following:
- Laboratory name;
 - Date of sample;
 - Type of water sample e.g. potable, sewage, surface, borehole, etc
 - Physical condition of the sample on receipt;
 - Date of sample receipt;
 - Form of custody must be completed by both the sampler and the Laboratory
 - Completion date of analysis completion;
 - Lab sample reference number;
 - Lab certificate number;
 - Name of sampler, etc;
 - SANAS Logo;
 - PTS Membership number for NLA and SABS.

REPORTING OF CERTIFIED ANALYTICAL RESULTS

- In the event that a microbial non-compliance is detected, the SANAS Laboratory shall call for a repeat sample within 14 days;
- If the microbial non-compliance is detected, it shall be recorded as such and an investigation shall be initiated in order to determine the root cause for the failure. Re-sampling shall take place within 14 days and ONLY after corrective action has been confirmed;
- The turnaround time for microbial results is 5 days unless otherwise agreed to;
- The turnaround time for chemical results is 21 days unless otherwise agreed to.
- The submission of preliminary results is acceptable where investigation into non-compliance results exceeds the prescribed turnaround times.

INCIDENTAL SERVICES/SPECIAL SAMPLE

Provision for repeat sampling due to water quality failures.

Provision for special sampling due to unforeseeable incidents within the water supply chain and/or the sewage collection system and/or the catchment. E.g. Industrial spillages, illegal waste-water discharges, etc

WASTE-WATER COLLECTION SYSTEMS

Emalahleni Local Municipality has eight (8) Waste-Water Collection systems and two (2) privately owned, namely:

- Riverview Waste-Water Collection System;
- Klipspruit Waste-Water Collection System;
- Ferrobank Waste-Water Collection System;
- Ga-Nala Waste-Water Collection System
- Naauwpoort Waste-Water Collection System;
- Phola/Ogies Waste-Water Collection System;
- Rietspruit Waste-Water Collection System.
- Thubelihle Waste-Water Collection System.
- Bankenveld Waste-Water Collection System.
- Clearwater Waste-Water Collection System.

RIVER WATER STREAMS TO MONITOR

- Upper Olifants River;
- Klipspruit tributary to Loskop Dam;
- Brugspruit tributary to Loskop Dam;
- Steenkoolspruit downstream Witbank Dam;
- Noupoortspruit tributary of Witbank Dam
- Rietspruit Dam
- Tributary of Wilge upstream of Loskop Dam

The wastewater collection systems and up and down streams cover a kilometre radius of 300km

Waste-Water Collection Systems and sampling points:

Plant Name	Sample Points			Monitoring frequency
	Raw Influent	Final Effluent	Up- and Downstream	
Riverview	1	1	Upper Olifants River (downstream Witbank Dam)	Monthly
Klipspruit	1	1	Klipspruit (Klipspruit tributary to Loskop Dam)	Monthly
Ferrobank	1	1	(Brugspruit tributary to Loskop Dam)	Monthly
Kriel/Ga-Nala	1	1	Steenkoolspruit (Upstream of Witbank Dam)	Monthly
Naauwpoort	1	1	Noupoortspruit tributary of Witbank Dam	Monthly
Rietspruit	1	1	Rietspruit Dam	Monthly
Phola/Ogies	1	1	Tributary of Wilge River	Monthly
Bankenveld	1	3	N/A	Monthly
Total number of Sample points	9	10	14	N/A

Parameters for analysis:

	Monthly compliance monitoring program for raw sewage:	Monthly compliance monitoring program for sewage effluent:	Monthly compliance monitoring program for Up and Down streams
Item	Description	Description	Description
1	pH	pH	pH
2	Conductivity	Electrical Conductivity	Electrical Conductivity
3	Suspended solids	Suspended solids	Suspended solids
4	COD	COD (Filtered or Unfiltered)	COD (Filtered or Unfiltered)
5	OA	OA	OA
6	Ammonia	Ammonia	Ammonia
7	TKN	Nitrate	Nitrate
8	Nitrate	Orthophosphate	Orthophosphate
9	Total Phosphate	Soap, Oil and grease	Soap, Oil and grease
10	Orthophosphate	Chloride	Chloride
11	Fats, Oil & Grease	Fluoride	Fluoride
12	Chloride	Potassium	Potassium
13	Fluoride	Sulphate	Sulphate
14	Potassium	Manganese	Manganese
15	Sulphate	Total Alkalinity	Total Alkalinity
16	Manganese	Faecal Coliform	Faecal Coliform
17	Total Alkalinity	Free Chlorine	Free Chlorine