Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT, ENVIRONMENTAL AFFAIRS & TOURISM

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 4 May 2026.

PROJECT TITLE

THE PROPOSED 10MWAC GROOTFONTEIN AGROVOLTAIC SOLAR ENERGY FACILITY AND 22KV OVERHEAD POWERLINE NEAR CALA WITHIN THE SAKHISIZWE LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.

SPECIALIST [1]	*Aquatic Biodiversity Impact Assessment*		
	Mandilakhe Msutu		
Postal address:	*41 Avon Place, Overbaakens, Gqeberha*		
Postal code:	*6070*	*Cell:*	*0838726745*
Telephone:		*Fax:*	
E-mail:	*mandilakhemsutu1@gmail.com*		
Professional affiliation(s) (if any)	*SACNASP: Pr.Sci.Nat Registration No. 116842*		

Project Consultant:	*ILinge Energy Automation (Pty) Ltd*		
Contact person:	*Lingelethu Dyasana*		
Postal address:	*2059 NU 9, Mdantsane*		
	5219	*Cell:*	*079 267 8142*
Postal code:			
Telephone:		*Fax:*	
E-mail:	*lingelethudyasana@ilingeenergyautomation.co.za*		

4.2 The SPECIALIST

I, **Mandilakhe Msutu** *, declare that –*

General declaration:

- *I act as the independent Specialist in this application*
- *I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant*
- *I declare that there are no circumstances that may compromise my objectivity in performing such work;*
- *I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;*
- *I will comply with the Act, regulations and all other applicable legislation;*
- *I will take into account, to the extent possible, the matters listed in regulation* **8** *of the regulations when preparing the application and any report relating to the application;*
- *I have no, and will not engage in, conflicting interests in the undertaking of the activity;*
- *I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;*
- *I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;*
- *I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by*

interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;

interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;

- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

_____

_____

Signature of the environmental assessment practitioner:

Abantu Environmental Services (Pty) Ltd

Name of company:

28/10/2026

Date:

Signature of the Commissioner of Oaths:

2026-10-28

Date:

Accountant

Designation:

[1] Curriculum Vitae (CV) attached

Official stamp (below).

Ex Officio Commissioner of Oaths (RSA)
ROMEO OFORI DANSO
General Tax Practitioner (Reg nr: 19491831)
City Centre Financial Accountants
23 Chapel Street, Central
PORT ELIZABETH 6001
Date: 2026-10-28

Annexure 1

CV

CV
K-R SELECTED GROUP (PTY) LTD

Mr. Msutu Mandilakhe (Pr.Sci.Nat)
Aquatic Environmental Specialist

PERSONAL DETAILS

Name:	Mandilakhe
Surname:	Msutu
Date of birth:	5/08/1992
Nationality:	South African
Languages:	English, IsiXhosa and IsiZulu
Years of Experience	10 years

EDUCATION

Institution	University of Western Cape
Qualification:	**BSc Honours Environmental and Water Science**
Year Obtained:	2014
Modules:	Environmental Assessment & Management, Surface Water Hydrology, Hydrogeology, Advanced Geographic Information System (GIS), Fluvial Geomophology & Research Project.

Institution:	University of Western Cape
Qualification:	**BSc Environmental and Water Sciences**
Year Obtained:	2013
Modules:	Environmental & Waste Management, Groundwater Hydraulics, Surface Water Processes, Hydogeology, Soil Science, Geomorphology, Remote Sensing & GIS, Mathematics, Statistics for Natural Science, Environmental Law and Regulations (NEMA, NWA etc), Life Sciences, Biodiversity and Conversational Biology & Introduction to Geology of south Africa & Earth dynamics.

Institution:	St Matthews High School
Qualification:	**Matric** (Mathematics, Physical Science, Life Sciences, Geography, Life Orientation, English and IsiXhosa)
Year Obtained:	2009

PROFESSIONAL REGISTRATION AND TRAINING

Professional Registration	Professional Natural Scientist (Pri.Sci.Nat). Reg No. 116842

EXPERTISE

- Environmental Compliance Auditing and Monitoring
-Aquatic Biodiversity Assessments
-Water and Air Quality Monitoring
-Environmental Impact Assessments
-Scientific research and reporting

SKILLS

Technical skills:

- Scientific report writing
- Data analysis and management
- Project management
- Research
- Toxicity testing
- SASS 5
- Bio-monitoring
- Biogas monitoring
- Air quality management
- Waste management

Soft skills:

- Teamwork
- Leadership
- Excellent communication skills
- Innovative
- Responsible
- Problem Solving
- Decisive
- Time Management
- Flexible

Computer Skills

Envista ARM, AirMOD, ArcGIS/ArcMap Suite, LIMS, SAP, Microsoft Office (Word, Excel, Power-Point etc.), SPSS

EMPLOYMENT HISTORY

Employer:	K-r Selected Group Pty (Ltd)
Occupation:	**Technical Director** **Freelance Aquatic Specialist/Environmental Officer**
Duration:	January 2019- present
Functions:	
- Fulltime Environmental Officer services - Aquatic Assessments - Environmental Compliance Auditing and Monitoring for; o Construction o Mines o Industrial and o All organisation with an environmental footprint - Development and Implementation of Environmental Management Systems (EMS) - Environmental Monitoring; o Water quality monitoring o Biomonitoring on rivers (including SASS) - Project Management	

Employer:	City of Cape Town
Occupation:	**Assistant Professional Officer: Biological Sciences**
Duration:	May 2015 – November 2018
Functions:	**Water Quality Monitoring** Sample receiving and preparation •Undertaking analytical quality control (AQC) checks to maintain traceability and accreditation •Maintenance of quality management system, ISO/IEC 17025 •Performing sample analysis using the Chlorophyll-a and ELISA methods. •Performing microscopy for algal identification and enumeration •Participate in the Proficiency Testing Scheme (PTS) for the chlorophyll-a method and algal identification and enumeration technique •Undertaking bio-monitoring on rivers (including SASS) •Perform toxicity testing using different methods •Method validation •General housekeeping of the lab **Air and gas quality monitoring** •Monitoring air quality in and around Cape Town at various sites (Criteria pollutants: NOx, SO2, O3, CO, PM10, H2S, VOCs etc.) •Data validation and analysis •Compilation of monthly monitoring reports •Liaise with clients and environmental authorities •General administrative tasks •General project management •Diagnosing and troubleshooting instrument faults •Site maintenance and performing calibrations •Landfill biogas monitoring

HYDRO-BIOLOGICAL WATER QUALITY MONITORING

Project:	**Effects of various Wastewater Effluent Discharge on Environmental and Biological Conditions of the Vygekraal and Kuils Rivers downstream of Athlone and Zandvliet WWTWs respectively**
Position:	Research and Sampling Assistant
Duration:	Jan 2017 - Jun 2017
Functions:	•I assisted in performing on-site pH, dissolved oxygen, temperature and conductivity rapid bioassessments to understand river water quality. •I assisted in conducting the biomonitoring survey, SASS5 (South African scoring system method for rivers) on all the studied sites at Kuils and Vygekral rivers to determine the state of Microinvertebrates which serves as indicators of river health. •I assisted in assessing the habitats of sampled aquatic macroinvertebrates using the Invertebrate Habitat Assessment System method (IHAS). •I assisted in analysing and interpreting biomonitoring and physico- chemical data
Findings:	Benthic macroinvertebrates showed that monitored sites from both rivers have poor water quality. However, it was unclear how much contribution was associated with each of the possible contamination source (i.e. WWTWs and other surrounding activities). The WWTWs treated effluent was found to be complying with the license conditions despite macroinvertebrates being severely affected. Therefore, there is a serious need to reconsider

	the purpose of WWTW effluent limits with the aim of river conservation as more rivers will be severely compromised.

Project:	**The amazing Cape Town Aquifers: Groundwater quality assessment**
Position:	Environmentalist
Duration:	Sep 2017- Dec 2017
Functions:	• I conducted literature review on the groundwater quality of Cape Town aquifers. • I identified detaminands of concern • I conducted a risk assessment on the detaminands of concern. • I assisted during sampling.
Method:	• Groundwater quality was assessed using permanent boreholes data ranging from 2010 to 2017. • There were 249 groundwater monitoring boreholes selected across the City of Cape Town, covering both the TMG and Cape Flats aquifers. • Historical data was used to determine spatial and temporal trends of groundwater quality. • Water quality (WQ) in various suburb areas (area groups), geological groups and land use activities (i.e. cemeteries, landfill sites and residential) were compared. • The WQ data was compared to the SANS241:2015 drinking water standards to determine compliance level. • Arc-GIS was used to create Geological map for the distribution of boreholes and underlying geology. • WQ chemical and microbial determinands that exceeded the SANS241:2015 drinking water standard limits were further explored.
Findings:	The chemical composition of the groundwater varied from one borehole to another despite their close proximity, making it difficult to generalize the WQ findings at Aquifer scale. There was no correlation between the area location of the boreholes and the associated WQ. However, there was significant difference between the water chemistry of the less vulnerable TMG and highly vulnerable Cape Flats Aquifers. The more problematic determinands from TMG were iron, manganese, chloride and lead whereas Cape Flats had excessive iron, nitrate+nitrite as nitrogen, lead and sulfate. Groundwater under sewage ponds was highly contaminated, followed by cemeteries and landfill sites and then residential areas. Both aquifers have the potential for augmenting the current available drinking water resources although no direct human consumption was recommended without effective pre-treatment technology. Generally, Cape Flats aquifer had excessive iron and nitrate + nitrite as nitrogen. However, groundwater quality associated with Cape Flats aquifer was generally good with isolated cases of exceedances. On the other hand, the groundwater quality associated with TMG can also augment existing potable water resources following dedicated treatment of iron and manganese to an acceptable level.

Project:	**The effects of anthropogenic activities on the river health of Disa River**
Position:	Project leader and Researcher
Duration:	Feb 2018- April 2018
Functions:	•I conducted literature review on the history and background of the Disa river. •I conducted literature review on the effects of untreated effluents and storm waters on river health. •I arranged fieldtrips and drew up drew up bio-monitoring survey schedules. •I was responsible for site selection and data collection.
Method:	• I performed on-site pH, dissolved oxygen, temperature and conductivity rapid bio-assessments to understand river water quality.

	• I conducted the biomonitoring survey, SASS5 (South African scoring system method for rivers) on four selected sites at Disa river (two upstream and two downstream) to determine the state of microinvertebrates which serves as indicators of river health. • I assessed the habitats of sampled aquatic macroinvertebrates using the Invertebrate Habitat Assessment System method (IHAS). • I entered biomonitoring data on the laboratory information management system (LIMS). • I extracted historical physico-chemical data of the studied sites from LIMS • I analyzed and interpreted biomonitoring and physico- chemical data. • I used the Statistica package to analyze aquatic macroinvertebrate, physico-chemical and IHAS data.
Findings:	The river health status of the Disa river varies drastically from the source to the mouth. Untreated sewage, farming activities, storm waters and informal settlements are the major contributors to the poor water quality. There is a serious need to establish a wastewater treatment plant in that area, if the current water pollution problems are to be minimized. Historical data suggests that water quality problems of the Disa river have been aggravated by the drought.

Project:	**Algal biomass monitoring in Cape Town's dams, lakes, vleis, and water treatment plants**
Position:	Laboratory analyst
Duration:	April 2018- August 2018
Functions:	•I conducted literature review on the monitoring of algal biomass in drinking and recreational water. •I planned the sampling trips for sampling the selected monitored water bodies. •I ensured that the samples received from dams, rivers Water Treatment Plants are received in the lab and are labelled correctly as in the chain of custody form, following ISO17025 protocols. •I logged the collected samples into LIMS upon receipt from the sample receiving area at the Laboratory. •I performed the chlorophyll-a analysis test on the water samples from dams, lakes, vleis and Water Treatment Plants in order to determine the algal biomass in raw and treated water samples.
Method:	The suction pump, vortex mixer, centrifuge and a spectrophotometer were used to determine algal biomass following the standard operating procedure (SOP). • I used a suction pump with a 0.4 µm filter paper to filter a specific volume of sample, to concentrate the algae. • I placed the filter paper in a test tube and I added a known volume of ethanol to extract the chlorophyll-a from the concentrated algae. • I placed the test tubes in a dark cupboard for 24 hours allowing the extraction process to be completed. After 24 hours, I homogeneously mixed the test tubes for 10 seconds with a vortex mixer. • I removed and clarified the filter papers by centrifugation for 15 minutes to reduce turbidity, which may cause calculation errors. • After centrifugation, pipetted the extract into cuvettes, and I measured the absorbance of the samples at different wavelengths with a spectrophotometer. • I captured the results into LIMS, analyzed the data then produced a report.
Findings:	•The dams contained the lowest algal biomass, this is because most of Cape Town's dams are situated in the mountains whereby interference by anthropogenic activities is limited. Water Treatment Plants contained low or no algal biomass which may be due to the effectiveness of the Water Treatment Plant in reducing pollutants that would promote algal

	growth. However, lakes and vleis produced higher algal biomass, this could be due to the inflow of nutrient rich water from streams and storm water runoff.

AIR QUALITY MONITORING

Project:	**Landfill biogas monitoring at Coastal Park, Bellville, and Vissershok landfill sites**
Position:	Project leader and Researcher
Duration:	May 2015- Dec 2015
Functions:	• I conducted literature review on health and environmental impacts of landfill biogas • I conducted literature review on the factors that influence landfill biogas production and migration • I was responsible for the selection of landfill sites • I liaised with the solid waste department for communication and information • I arranged the site visits. • I collected and processed data.
Method:	•Monthly, I performed on-site measurements of methane, ammonia, hydrogen sulphide, volatile organic compounds and oxygen at all three landfill sites using portable gas analysers. •I collected particulate matter (PM10) data from several air quality stations near the landfill sites to understand the impact the landfill operations were having on human health and the environment. •I used historic landfill biogas data from the three landfills between 2011 and 2014 to explore trends •I compared biogas levels for Coastal Park, Bellville, and Vissershok landfill sites. •I used MS excel to process and analyze data
Findings:	The Coastal Park, Bellville, and Vissershok landfill sites conform to the required standards and site permit conditions. The leachate produced by the landfills was treated at the on-site leachate plant and the product water is used for dust control to minimize particulate pollution. Vissershok landfill site has high biogas levels when compared to Bellville and Coastal Park landfill sites. This is due to the fact that Vissershok is the largest landfill and is used to dump toxic waste. To minimize methane levels, the gas must be extracted and converted electricity.

Project:	**Using a polar coordinate system to identify emission sources.**
Position:	Project leader and Researcher
Duration:	Jan 2016 – June 2016
Functions:	•I conducted literature review on the history of air pollution worldwide and specifically Cape Town. •I conducted literature review on polar coordinate system. •I was responsible for site selection. •I liaised with external sources for sharing of air quality related information •I consulted and interrogated historical Sulphur Dioxide data from ARM
Method:	•I selected four air quality monitoring stations (Atlantis, Bothasig, Tableview and Goodwood) which had air quality data and meteorological data.

	•I used historical air quality data and meteorological data from January 2012 to December 2015. •I collected wind data for Cape Town from external sources for comparison. •I used the Envista Air Resources Manager (ARM) software to model wind speed, wind direction and pollutant concentration to indicate the direction of emissions. •I examined the data seasonally to observe air pollution patterns.
Findings:	There was a strong relationship between wind and pollutant concentration. High wind speed results in low pollutant concentration in the atmosphere due to dilution by wind. Low wind speed result in high pollutant concentration in the atmosphere due to limited or no dispersion by wind. The polar coordinates showed that most pollution originates from industries and major highways. Wind speed and direction vary seasonally in Cape Town. The Brown Haze is present in winter due to limited wind dispersion. This tool was recommended to be used by the City of Cape Town's Specialized Environmental Health Department to better enforce compliance.

ACTIVITY	FREQUENCY	SPECIFIC DUTIES PERFORMED
AIR QUALITY MONITORING LABORATORY		
DAILY CHECKS	Daily	• I examined air quality and meteorological data from several City of Cape Town's air quality monitoring stations. • I reported on all irregularities discovered, such as power failures, vandalism, and outliers in order to ensure high data coverage and accuracy.
SITE VISITS	Weekly, or when necessary	• As the site coordinator, I conducted regular site visits to several air quality stations. • I conducted interior and exterior site inspections to inspect analysers, air conditioners, inlets and other equipment and made notes on the site logbook. • I ran frequent diagnostics on the analysers to minimize the margin of error (instrument drift).
CALIBRATION AND MAINTENANCE SCHEDULES	Monthly, or when necessary	• I drew-up calibration schedules for air quality monitoring equipment at several air quality stations. • I performed calibrations on regular intervals after I was deemed competent. • I Managed field data work books and provided calibration reports and certificates.
LANDFILL BIOGAS MONITORING	Monthly	• In conjunction with Solid Waste Department, I drew-up monthly monitoring schedules for several City of Cape Town's landfill sites. • I arranged and conducted sampling at several City of Cape Town's landfill sites

COMPILATION OF MONTHLY REPORTS	Monthly	•Trained (Internship) students and new junior staff on the entering of raw data onto ARM software and Polar Coordinates. • Validated data on ARM • Exported air quality data and meteorological data from ARM. • Compiled monthly technical reports for several air quality stations and landfill sites.
HYROBIOLOGICAL SCIENCES LABORATORY		
SITE VISITS AND SAMPLING	Weekly, or when necessary	• Conducted site visits/field surveys and perform water sampling when required • Established new biomonitoring sampling points and verification. • Assist with general sampling and conducting field measurements and observations. • Managed field data work books and equipment and provided site inspection reports.
LABORATORY ANALYSIS (WATER QUALITY) ON DRINKING WATER, ENVIRONMENTAL WATERS, INCLUDING, DAMS, RIVERS, RESERVIORS, SEWAGE EFFLUENTS AND WATER TREATMENT PLANTS.	Daily	• Conducted laboratory tests on water samples according to standard operating procedure supporting ISO 17025 accreditation. • Conducted laboratory tests on ad hoc water samples as well as test on customers taste complaints. • Read test results after the incubation time has elapsed and recorded results in laboratory work books. • Reported anomalies to Senior staff
TOXICITY TESTING	Weekly	• I performed toxicity tests on water samples from desalination plants, rivers, dams, wastewater treatment plants and industrial effluents. • Validated toxicity testing methods.
WATER QUALITY DATA CAPTURING	Daily	• Populated the Laboratory Information Management System (LIMS) with sample analysis raw data. • Checked mistakes and validity of raw data before it is entered onto the LIMS database. • Recorded results of ad hoc and taste complaints samples onto LIMS.

		• Recorded results of the Inter-laboratory Proficiency Testing.
DATA CAPTURE OF SPATIAL INFORMATION	Weekly	• Entered raw data onto LIMS to generate preliminary laboratory reports for review by Senior Laboratory personnel. • Carried out calculations on test results to give accurate final test results. • Exported results to Laboratory Information Management System (LIMS) and verified that all results have been exported. • Evaluated routine and adhoc data and produce analysis report for inclusion on Technical Report.
MAINTAIN ISO 17025 ACCREDITATION	Daily	• Assisted with implementation of the ISO 17025 quality management system by executing all the technical aspects of the accreditation system; and/or providing assistance in other aspects • Conducted test methods and quality assurance activities as required by ISO 17025 Standard Operating Procedures • Participated in the inter and intra- laboratory comparison as well as in the management review meetings and prepare reports on technical findings and technical systems • Initiated and implemented corrective actions for non-compliances to ISO 17025 standards at the Laboratory
HOUSEKEEPING AND HEALTH AND SAFETY	Daily	• Ensured that good laboratory practices are followed and implemented by maintaining good safety and housekeeping practices • Implemented Risk and Safety procedures and compliance to the Occupational Health and Safety Act

SELECTED PROJECT EXPERIENCE LIST

- Dust monitoring in Saldanah: 2021-2022
- Landfill biogas monitoring at Coastal Park, Bellville, and Vissershok landfill sites:2016
- Using a polar coordinate system to identify emission sources:2015
- Effects of various Wastewater Effluent Discharge on Environmental and Biological Conditions of the Vygekraal and Kuils Rivers downstream of Athlone and Zandvliet WWTWs respectively:2017

- The amazing Cape Town Aquifers: Groundwater quality assessment:2018
- The effects of anthropogenic activities on the river health of Disa River: 2018

REFERENCE

Mr Sive Mlamla
Company: Abantu Environmental Consultants
Department: Environmental Management
Position: Director
Tel: 078 207 8278

Brandon Mark Wynne
Company: City of Cape Town
Section: Biological Sciences Laboratory
Position: Professional Officer
Tel: 021 444 9163