Appendix I: Other information

Appendix I.1: Specialist CV and Declarations Appendix I.2: DFFE Screening Tool Report Appendix I.3: Site Sensitivity Verification Report Appendix I.4: Pre-Application Meeting minutes Appendix I.5: Detailed Project Description Appendix I.6: Project Alternatives Appendix I.7: Baseline Environment Appendix I.1: Specialist CV and Declarations

HAWKHEAD CONSULTING

Andrew Zinn – Terrestrial Ecologist B.Sc. (Hons.), M.Sc., Pr.Sci.Nat.



Details

Email: andrew@hawkhead.com Mobile: +27 83 361 0373 Address: 58 Central Rd, Linden Ext., Johannesburg, 2195 South Africa

Date of birth: 14 July 1982 Nationality: South African



Education & Qualifications

University of the Witwatersrand

M.Sc. Resource Conservation Biology (2013).

University of KwaZulu-Natal

BSc. Hons. Ecology and Conservation Biology (2005).

Published thesis: *Inducible defences in Acacia sieberiana in response to giraffe browsing*.

University of KwaZulu-Natal

BSc. Zoology and Grassland Science (2004).

Bryanston High School, Johannesburg Matric Exemption (2000).

Profile

I am an ecologist with an M.Sc. Degree in Resource Conservation Biology and 15 years of experience working in biodiversity consulting and ecological research. I am registered with the South African Council of Natural Scientific Professions as a Professional Natural Scientist. I currently work as an independent consulting ecologist, with Hawkhead Consulting. During my career I have worked on projects in remote areas in several African countries including South Africa, Botswana, Democratic Republic of the Congo, Ethiopia, Ghana, Mozambique, Tanzania and Zambia. I have also previously worked in the United Kingdom and the United Arab Emirates.

🕒 Work Experience

Independent Ecologist Hawkhead Consulting, South Africa September 2020 – Present

Consulting ecologist focusing on terrestrial ecology. I specialise in conducting baseline flora and fauna surveys, ecological impact assessments, and developing mitigation and management programmes for projects and operations in various industry sectors. Core services and responsibilities include, amongst others:

- Biodiversity study design and implementation;
- Biodiversity baseline and impact assessment reporting;
- Mitigation measure design and application;
- □ Vegetation surveys and vegetation community mapping;
- □ Fauna surveys for mammals, birds, reptiles and amphibians;
- Development of biodiversity management plans;
- Development of rehabilitation and revegetation plans; and
- □ Alien invasive species control and eradication plans.

Ecologist

Golder Associates Africa, South Africa June 2011 – September 2020

Ecologist responsible for the management and implementation of baseline biodiversity studies and ecological impact assessments for development projects in the mining, power generation, transport, land development and industrial development sectors throughout sub-Saharan Africa. Role responsibilities included project management, technical review, biodiversity study design and implementation, flora and fauna surveys, biodiversity baseline and impact assessment reporting, development of biodiversity management plans, rehabilitation plans and alien invasive species control and eradication plans. These studies were conducted to satisfy national environmental regulations and/or international financing requirements, including the International Finance Corporation's Performance Standard 6.



Work Experience (continued)



Member of the South African Wildlife Management Association

Member of the South African Council of Natural Scientific Professions – Professional Natural Scientist (400687/15).

Independent Ecologist Subcontracted to KPMG, United Arab Emirates March – April 2011

Subcontracted to KPMG as a subject matter expert (ecology) on the internal audit of Sir Bani Yas Island's Conservation Department (United Arab Emirates). The audit focused on evaluating the efficacy of the island's various conservation practices, including game management, feed provisioning, carnivore breeding and monitoring, veterinary care and vegetation maintenance.

Environmental Consultant WSP Environment and Energy, South Africa August 2008 – March 2011

Environmental consultant, responsible for a range of environmental projects and services including managing environmental authorisation processes (BAs and EIAs), facilitating stakeholder engagement processes, conducting compliance audits, developing environmental management programmes and conducting specialist ecological studies.

Research Technician Yale University, Kruger National Park, South Africa October 2007 – May 2008

Research technician on the Savanna Convergence Experiment (SCE). The SCE project was a long-term cross-continental study that investigated the role of mega-herbivores in fire-grazing interactions and their influence on vegetation dynamics. Responsible for collecting and analysing vegetation composition and productivity data, as well as herbivore distribution data.



Publications

- Zinn, A.D., D.E., Burkepile and D.I. Thompson (In prep). Impacts of fire and herbivores on tree seedling establishment in a South African savanna.
- Burkepile, D.E., C.E. Burns, E. Amendola, G.M. Buis, N. Govender, V. Nelson, C.J. Tambling, D.I. Thompson, A.D. Zinn and M.D. Smith (2013). Habitat selection by large herbivores in a southern African savanna: the relative roles of bottom-up and top-down forces. Ecosphere, 4(11):139.
- Knapp, A.K., D.L. Hoover, J.M. Blair, G. Buis, D.E. Burkepile, A. Chamberlain, S.L. Collins, R.W.S Fynn, K.P. Kirkman, M.D. Smith, D. Blake, N. Govender, P. O'Neal, T. Schreck and A. Zinn (2012). A test of two mechanisms proposed to optimize grassland aboveground primary productivity in response to grazing. Journal of Plant Ecology, 5, 357-365.
- Zinn, A.D., D. Ward and K. Kirkman (2007). Inducible defences in Acacia sieberiana in response to giraffe browsing. African Journal of Range and Forage Science, 24, 123-129.

Publications (continued)

- □ Zinn, A.D. (2007). Exploitation vs. Conservation: A Burgeoning Fifth Column. African Wildlife, 61, 9-11.
- Andrew Zinn (2006). Conflict Resolution. Africa Birds and Birding. Vol. 11, No. 5, 12-13.



forestry, fisheries & the environment

Department: Forestry, Fisheries and the Environment **REPUBLIC OF SOUTH AFRICA**

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

Plant Species Specialist Assessment for the Proposed Igolide Wind Energy Facility Electrical Grid Infrastructure Project

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
- This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Terrestrial Biodiversity Specialist Assessment
Specialist Company Name	Hawkhead Consulting
Specialist Name	Andrew Zinn
Specialist Identity Number	8207145279082
Specialist Qualifications:	MSc. Resource Conservation Biology
Professional affiliation/registration:	SACNASP
Physical address:	43 Waterbuck Cresent, River Club Estate, Jhb
Postal address:	43 Waterbuck Cresent, River Club Estate, Jhb
Postal address	Click of hip here it epter text.
Telephone	0833610373
Cell phone	0833610373
E-mail	andrew@hawkhead.co.za
	en e

2. DECLARATION BY THE SPECIALIST

I, Andrew Zinn declare that -

- Lact as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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 –
 - o 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Signature of the Specialist

Hawkhead Consulting

Name of Company:

26 Jun 2024

Date

SPECIALIST DECLARATION FORM – AUGUST 2023

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ Andrew Zinn_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

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8.8

Signature of the Specialist	
Hawkhead Consulting	
Name of Company	
24 October 2024	
Date	244 (0/2024
Click or tap here to enter text.	Tracy Skinner Commissioner of OathS Commissioner of OathS Ex-Officio Professional GISC Practitioner (PGP 1356) Ex-Officio Professional Waterfall City Magwa Crescent West, Waterfall City Midrand
Signature of the Commissioner of Oaths	Tracy Skinner of Oani Gise fall City Tracy Missioner of Oani Waterfall City Commission Professional Waterfall
Click or tap to enter a date.	Ex-Officeres-Cert Magwa Crescert Midrand Midrand

Date

1.16



Curriculum Vitae

Jayson David John Orton

ARCHAEOLOGIST AND HERITAGE CONSULTANT

Contact Details and personal information:

Address: Telephone: Cell Phone: Email:	40 Brassie Street, Lakeside, 7945 (021) 788 1025 083 272 3225 jayson@asha-consulting.co.za
Birth date and place:	22 June 1976, Cape Town, South Africa
Citizenship:	South African
ID no:	760622 522 4085
Driver's License:	Code EB
Marital Status:	Married to Carol Orton
Languages spoken:	English, Afrikaans, basic French

Education:

SA College High School University of Cape Town	Matric B.A. (Archaeology, Environmental & Geographical Science)	1994 1997
University of Cape Town	B.A. (Honours) (Archaeology) [First Class]	1998
University of Cape Town	M.A. (Archaeology)	2004
University of Oxford	D.Phil. (Archaeology)	2013

Employment History:

Spatial Archaeology Research Unit, UCT	Research assistant	Jan 1996 – Dec 1998
Department of Archaeology, UCT	Field archaeologist	Jan 1998 – Dec 1998
UCT Archaeology Contracts Office	Field archaeologist	Jan 1999 – May 2004
UCT Archaeology Contracts Office	Heritage & archaeological consultant	Jun 2004 – May 2012
School of Archaeology, University of Oxford	Undergraduate Tutor	Oct 2008 – Dec 2008
ACO Associates cc	Associate, Heritage & archaeological consultant	Jan 2011 – Dec 2013
ASHA Consulting (Pty) Ltd	Director, Heritage & archaeological consultant	Jan 2014 –

Professional Accreditation:

- > Association of Southern African Professional Archaeologists (ASAPA) membership number: 233
- > ASAPA CRM Section member with the following accreditation:

0	Principal Investigator:	Coastal shell middens (awarded 2007)
		Stone Age archaeology (awarded 2007)
		Grave relocation (awarded 2014)
0	Field Director:	Rock art (awarded 2007)
		Colonial period archaeology (awarded 2007)

- > Association of Professional Heritage Practitioners (APHP) membership number: 43
 - o Accredited Professional Heritage Practitioner

South African Archaeological Society Council member 2004 – 2016
Assoc. Southern African Professional Archaeologists (ASAPA) member 2006 –
UCT Department of Archaeology Research Associate 2013 – 2017
Heritage Western Cape APM Committee member 2013 – 2023
UNISA Department of Archaeology and Anthropology Research Fellow 2014 –
Fish Hoek Valley Historical Association 2014 –
Kalk Bay Historical Association
Association of Professional Heritage Practitioners member (CRM Section) 2016 –
Southern African Field Archaeology section editor

Fieldwork and project experience:

I have extensive experience as Field Director and Principal Investigator throughout Western and Northern Cape, and the western Free State and Eastern Cape. I also work in the eastern part of South Africa through partnership with an Iron Age accredited colleague.

Feasibility studies:

Heritage feasibility studies examining all aspects of heritage from the desktop

Phase 1 surveys and impact assessments:

- Project types
- o Notification of Intent to Develop applications
- Heritage Impact Assessments
 - Self-standing assessments under Section 38(1) of the NHRA
 - Assessments under NEMA and Section 38(8) of the NHRA
- o Archaeological specialist studies
- Strategic assessments
- Phase 1 archaeological test excavations in historical and prehistoric sites
 - Archaeological research projects

- Development types
- Mining and borrow pits
- Roads (new and upgrades)
- Residential, commercial and industrial development
- o Agricultural developments
- Dams and pipe lines
- Power lines and substations
- Renewable energy facilities (wind, solar and hydro-electric)

Phase 2 mitigation and research excavations: ESA open sites • Duinefontein, Gouda, Namaqualand MSA rock shelters • Fish Hoek, Yzerfontein, Cederberg, Namaqualand MSA open sites Swartland, Bushmanland, Namaqualand 0 LSA rock shelters • Cederberg, Namagualand, Knersvlakte, Bushmanland LSA open sites (inland) Swartland, Franschhoek, Namaqualand, Bushmanland, De Aar 0 LSA coastal shell middens Melkbosstrand, Yzerfontein, Saldanha Bay, Paternoster, Dwarskersbos, 0 Infanta, Knysna, Namagualand coast, Knersvlakte LSA burials Melkbosstrand, Saldanha Bay, Namagualand coast, Knysna 0 Historical sites Waterfront (fort, dump and well), Noordhoek (cottage), variety of small excavations in central Cape Town and surrounding suburbs Historic burial grounds Green Point (Prestwich Street), V&A Waterfront (Marina Residential), Paarl, Beaufort West, Franschhoek (farmstead and well), Paarl, De Aar

> Awards:

1998: Frank Schweitzer memorial book prize for an outstanding student.

2015/2016: Western Cape Government Cultural Affairs Awards: Best Heritage Project.



UNIVERSITY OF CAPE TOWN

we certify that

Jayson David John Orton

was admitted to the degree of

Master of Arts in Archaeology

on 10 December 2004

Tolebel.

Vice-Chancellor



Hugh oore

Registrar

UNIVERSITY OF OXFORD



This is to certify that

Jayson David John Orton

St Hugh's College

having submitted a thesis entitled:

Late Holocene Archaeology in Namaqualand, South Africa: Hunter-Gatherers and Herders in a Semi-Arid Environment

and having satisfied all the conditions prescribed by the Statutes of the University on 9 January 2013, was on 8 June 2013 admitted to the Degree of

DOCTOR OF PHILOSOPHY

University Offices, Oxford. 8 June 2013



From G. McKendick

Registrar

409837/1





forestry, fisheries & the environment

Department: Forestry, Fisheries and the Environment **REPUBLIC OF SOUTH AFRICA**

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Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

132kV Grid Connection and Associated Infrastructure for the Igolide Wind Energy Facility, northeast of Fochville, within the Merafong City Local Municipality in the Gauteng Province.

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
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- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Heritage Assessment
Specialist Company Name	ASHA Consulting (Pty) Ltd
Specialist Name	Dr Jayson Orton
Specialist Identity Number	7606225224085
Specialist Qualifications:	MA (Archaeology, UCT) D.Phil. (Archaeology, Oxford, UK)
Professional affiliation/registration:	ASAPA CRM section (Member #233) APHP (Member #43)
Physical address:	40 Brassie Street, Lakeside, 7945
Postal address:	40 Brassie Street
Postal address	Lakeside, 7945
Telephone	021 788 1025
Cell phone	083 272 3225
E-mail	jayson@asha-consulting.co.za

2. DECLARATION BY THE SPECIALIST

I, Jayson Orton declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

A Signature of the Specialis

ASHA Consulting (Pty) Ltd Name of Company:

19 Oct 2024

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ $\underline{JHJDN} \underline{ORTDN}$, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

CONSMLTING ASHA JN

Name of Company

19-D 2021 Date

Signature of the Commissioner of Oaths

1014.10.19



Batho pele- putting people first

ANNEXURE C: CV

Tony Barbour ENVIRONMENTAL CONSULTING

10 Firs Avenue, Claremont, 7708, South Africa (Cell) 082 600 8266 (E-Mail) tony@tonybarbour.co.za

Tony Barbour's has 30 years' experience in the field of environmental consulting and management. His experience includes working for ten years as a consultant in the private sector followed by four years at the University of Cape Town's Environmental Evaluation Unit. He has worked as an independent consultant since 2004, with a key focus on Social Impact Assessment. His other areas of interest include Strategic Environmental Assessment and review work.

EDUCATION

- BSc (Geology and Economics) Rhodes (1984).
- B Economics (Honours) Rhodes (1985).
- MSc (Environmental Science), University of Cape Town (1992).

EMPLOYMENT RECORD

- Independent Consultant: November 2004 current;
- University of Cape Town: August 1996-October 2004: Environmental Evaluation Unit (EEU), University of Cape Town. Senior Environmental Consultant and Researcher;
- Private sector: 1991-August 2000: 1991-1996: Ninham Shand Consulting (Now Aurecon, Cape Town). Senior Environmental Scientist; 1996-August 2000: Steffen, Robertson and Kirsten (SRK Consulting) – Associate Director, Manager Environmental Section, SRK Cape Town.

LECTURING

- University of Cape Town: Resource Economics; SEA and EIA (1991-2004);
- University of Cape Town: Social Impact Assessment (2004-current);
- Cape Technikon: Resource Economics and Waste Management (1994-1998);
- Peninsula Technikon: Resource Economics and Waste Management (1996-1998).

RELEVANT EXPERIENCE AND EXPERTISE

Tony Barbour has undertaken in the region of 350 SIAs, including SIAs for infrastructure projects, dams, pipelines, and roads. In addition, he is the author of the Guidelines for undertaking SIAs as part of the EIA process commissioned by the Western Cape Provincial Environmental Authorities in 2007. These guidelines have been used throughout South Africa.

Countries with work experience include South Africa, Namibia, Angola, Botswana, Zambia, Lesotho, Swaziland, Ghana, Senegal, Nigeria, Mozambique, Mauritius, Kenya, Ethiopia, Oman, South Sudan, Sudan, Rwanda and Armenia.



forestry, fisheries & the environment

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SPECIALIST DECLARATION FORM - AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

Igolide Grid Connection

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
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- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Social Impact Assessment (SIA)
Specialist Company Name	Tony Barbour Environmental Consulting
Specialist Name	Tony Barbour
Specialist Identity Number	6106085018082
Specialist Qualifications:	BSc, BEconomics (Hons), MSc (Environmental Science)
Professional affiliation/registration:	IAIA
Physical address:	10 Firs Avenue, Claremont, 7708
Postal address:	10 Firs Avenue, Claremont, 7708
Telephone	021-7613118
Cell phone	0826008266
E-mail	tony@tonybarbour.co.za

2. DECLARATION BY THE SPECIALIST

I, Tony Barbour, declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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 –
 - o 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

abar

Signature of the Specialist

Tony Barbour Consulting

Name of Company:

10 October 2024

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Tony Barbour, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

bou

Signature of the Specialist

Tony Barbour Environmental Consulting

Name of Company

10 October 2024

Date

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Signature of the Commissioner of Oaths

10 October 2024

Date	
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OUTH AFRICAN POLICE SERV	ICF

Heather Davis

Mine Waste, Geotechnical & Material Services, Senior Geotechnical Engineer

CAREER SUMMARY

Forty years of experience within the fields of geotechnical engineering and engineering geology. Most of the work has been gained in Sub Saharan Africa including South Africa, Swaziland, Botswana, Malawi, and Angola. A wide range of projects have been handled ranging from investigations for large projects such as coal fired power stations, hydroelectric power schemes, mine processing plants, major freeways and major pipelines to smaller scale projects for commercial developments and residential buildings. Forensic investigations have, also, been completed for failed tailings facilities, structures and slopes.



Responsibility has been taken for all facets of the geotechnical investigation including the site investigation planning, procurement, drilling supervision,

fieldwork, in situ testing, analysis, reporting and supervision during construction. Contract documentation and administration for geotechnical investigations has, also, been handled.

Extensive experience in dolomitic terrain and was involved in the re-drafting of SANS 1936 Parts 1 and 2 and subsequent revisions to the standard. Also, involved in the ECSA feasibility study to have a specified category of registration for D4 level dolomite geo-professionals. Dolomite assessments for large facilities such as the Telkom site in Centurion, the Mispah tailings facility as well as for residential complexes and individual units have been carried out. Linear dolomitic assessments for roads and pipelines have been completed.

Heather is a registered professional engineer, a fellow of the South African Institution of Civil Engineers and served as Treasurer of the Geotechnical Division from 2006 to 2020.

4 months with WSP

Area of expertise

Site Investigations. Forensic Assessments. Dolomitic Terrain Assessments. Problem Soil Assessments

40 years of experience

Language

English - Fluent

EDUCATION

Graduate Diploma in Civil Engineering in the field of Geotechnical Engineering, University of the Witwatersrand SA	1993
BSc (Honours) Engineering Geology and Geotechnics, Portsmouth University, England	1982

PROFESSIONAL MEMBERSHIPS

Professionally registered Engineer with the Engineering Council of South Africa (PrEng 960229)	1996
Fellow of the South African Institution of Civil Engineering.	1998

Heather Davis

Mine Waste, Geotechnical & Material Services, Senior Geotechnical Engineer

PROFESSIONAL HISTORY

WSP Group Africa (Pty) Ltd	April 2022 – present
Jones & Wagener (Pty) Ltd (following the merger with Verdi Consulting)	January 2018 – March 2022
Verdi Consulting Engineers (Pty) Ltd	March 2014 – December 2017
AECOM SA (Pty) Ltd (formerly BKS (Pty) Ltd.	February 2007 – February 2014
ARQ (Pty) Ltd	January 2003 – January 2007
Knight Hall Hendry (Pty) Ltd	January 2001 – December 2003
VKE Engineers (Pty) Ltd	November 1987 – December 2000
National Building Research Institute of the CSIR	November 1985 – October 1987
Geological Survey of South Africa	November 1982 – October 1985

PROFESSIONAL EXPERIENCE

SANRAL, N1 Sections 20 and 21 Geotechnical Investigation, Brakfontein, South Africa 2008 to 2012

Lead Geotechnical Engineer

Upgrade, extensions and additions to the N1 Ben Schoeman Freeway, Sections 20 and 21, between the Brakfontein and Allandale Interchanges as part of the Gauteng Freeway Improvement Project (GFIP) carried out for South African National Roads Agency SOC Ltd (SANRAL). Contract documentation for the subsurface investigation was drafted and all components of the project management of the SANRAL contract were handled. The site investigation included extensive rotary core drilling, percussion drilling and test pitting. Work included the analysis, assessment and provision of founding recommendations for the 22km of dual carriageway. Design components included culverts, retaining walls, cut slopes, embankments and bridges founded on ancient granite, sedimentary rocks of the Pretoria Group along with dolomite and dolomitic residuum. Both conventional and piled foundations were used for the various bridge structures and elements.

SANRAL, N11 Section 9, Hendrina, South Africa 2015 to 2016

Lead Geotechnical Engineer

Upgrade of National route N11 Section 9 between Hendrina and Hendrina Power Station. Planning and supervision of the linear investigation, by means of rotary drilling and test pitting, of 18.56km of roadway including two river bridges, cuts, fills and culverts. Full report complied including recommendations for all facets of the project. All work carried out as per the current SANRAL requirements and all contract administration for the drilling investigation handled.

SANRAL, National Route N5, between Harrismith and Kestell, Harrismith and Kestell, Orange Free State, South Africa

2011 to 2013

Lead Geotechnical Engineer

Carried out for SANRAL, which included drafting the contract documentation for the subsurface investigation which included extensive rotary core drilling and test pitting. The project includes the rehabilitation of the National Route 5 involving extending existing bridges, design and construction of new bridges and design of significant culvert structures. The bridge structures included river bridges, road over rail and road over road structures. Work carried out included supervision of the site investigation, analysis and provision of founding recommendations for all structures, contract administration and arbitration of claims.

Heather Davis

Mine Waste, Geotechnical & Material Services, Senior Geotechnical Engineer

Anglo Platinum. Mogalakwena Platinum Mine, New Northern Concentrator, Limpopo, South Africa. 2020 to 2021

Lead Geotechnical Engineer

Pre-feasibility and feasibility level investigations for the New Northern Concentrator. Supervision of all field work and provision of recommendations for all the structural elements. Additional design level investigation carried out for the M3C BOS Low Grade Stockpile.

NMPP/ Transnet, Multi Products Pipeline, Geotechnical Investigation, Johannesburg. South Africa 2008 to 2009

Section Lead Geotechnical Engineer

Geotechnical input for pipeline section running from Kendal to Waltloo and Jameson Park to Langlaagte in Johannesburg. Investigations have included test pitting; in situ testing and borehole have included test pitting, in situ testing and borehole drilling. The assessment of the route underlain by dolomite and dolomitic residuum was, also undertaken.

TCTA, Vaal River Eastern Sub-System Augmentation (VRESAP), Vaal, South Africa 2006 to 2008

Lead Geotechnical Investigation

Geotechnical investigation for TCTA for a pipeline to carry water from the Vaal Dam to Secunda for use by SASOL and ESKOM. Planning and preparation of contract documentation for drilling, trenching programmes, laboratory and in situ testing. Extensive field work was completed, and recommendations provided for trench sidewall stability, excavatability, construction through problem areas and recommendations for design and construction of the surge tanks, pipe bridges, abstraction works, de-silting works and access roads.

Aquarius Mining. Marikana, Mine Processing Plant, Rustenburg, South Africa 2001 to 2002

Geotechnical Engineer – Plant side

Several candidate sites and the detailed Geotechnical investigation of the final site for the processing plant for new platinum mine. Foundation recommendations for all plant elements were provided including those for silos, mills, crushers and conveyor trestles. Foundation design for large vibratory plant elements. Ongoing foundation inspections and providing geotechnical advice and recommendations to the client throughout construction.

Eskom, Medupi and Kusile Power Stations, Investigations and Foundation Assessments, Limpopo, South Africa

2008 to 2014

Lead Geotechnical engineer for AECOM

Assessment carried out for Hitachi/Eskom of existing information regarding the founding conditions. Provision of structure specific foundation recommendations which included settlement analysis, assessment of bearing capacity and determination of parameters for dynamic design. Site inspections and assessment of ground conditions during construction for both Kusile and Medupi. Also, project manager for an additional geotechnical investigation carried out at Medupi Power Station due to unforeseen ground conditions. Investigation included percussion drilling with the Jean Lutz computerised system along with triple tube rotary drilling. Analysis of data allowing optimisation of the power station design.

Harmony Goldfields. Mispah, Tailings Storage Facility, Far West Rand 2017 to 2018

Geotechnical Team Lead

Failure of a section of the Mispah Tailings Storage Facility (TSF) which is underlain by dolomite, dolomitic residuum and rocks of the Karoo Supergroup. The initial assessment lead to the entire facility being reassessed and candidate sites for new facilities being investigated. Of specific note was the liaison with several other geotechnical/engineering geological consulting firms regarding the failure.

Heather Davis

Mine Waste, Geotechnical & Material Services, Senior Geotechnical Engineer

Eskom. Medupi, Flue Gas De-sulphurisation Project, Limpopo 2017 to 2018 Lead Geotechnical Engineer

Construction of Units 1 to 6. The investigation comprises test pitting, geophysical surveys and drilling. Foundation recommendations for all facets of the project were provided.

Irene Village, Mall Extensions, Centurion, South Africa 2015 to 2018

Dolomite Specialist.

In depth assessment of existing information applicable to the Irene Village Mall retail development in Irene. Dolomite stability assessments for extensions to the existing shopping mall including the addition of a multilevel parkade and additional retail space. Provision of founding recommendations for all facets of the development including earthworks, roadways and foundations.

Gautrans. Gautrain Project, Centurion, South Africa 2007 to 2014

Geotechnical Engineer

Input and comment on aspects of the route underlain by dolomite including the Centurion Gautrain Station were provided. Assessment of the efficacy of the remedial measures utilised at the station including an extensive programme of grouting. Also, investigation of dolomite related subsidence and a sinkhole adjacent to the Gautrain route and below a raised section of the train line in the Centurion area. Subsequent design of the remedial measures for the sinkhole, drainage measures and long-term monitoring of the area.

Africa Kingdom Holdings. Serengeti Golf and Wildlife Estate, Estate Developments, Kempton Park, South Africa

2016 to 2022

Dolomite Specialist

Dolomite stability assessments, coupled with near surface investigations, of parcels of land throughout the Serengeti Golf and Wildlife Estate. Developments have included single, double and triple storey residential units, Hotel, Club House and artificial lake. All reports have been submitted to the Council for Geoscience (CGS) and have included IHC to IHC7 conditions with Dolomite Area Designations of D2 to D4 being represented. NHBRC applications have been made for all the residential developments.

Aerosud, Manufacturing Facility, Pierre van Ryneveld Park, Centurion . South Africa 2016 to 2018

Dolomite Specialist

Various dolomite stability investigations and reviews have been undertaken for warehouses, ablution blocks, workshops, parking areas and other infrastructure elements across the Aerosud manufacturing facility. All work has, and is, being carried out according to SANS 1936 Parts 1 to 4 of 2012. A Dolomite Risk Management Plan was drafted for the Aerosud Facility and is updated on a regular basis. The site manly classifies as IHC4 to IHC7 with Dolomite Area Designation D2 and D3 being applicable to most of the site.

Atterbury Properties. Erasmuspark/ Castlegate, Multi Use Development, Erasmuspark, South Africa 2016 to 2020

Geotechnical Engineer and Dolomite Specialist

Existing information in line with SANS 1936 on a site underlain by dolomite and dolomitic residuum and nondolomitic formations. Programme of drilling and near surface investigation, to feasibility level, to de-lineate those areas underlain by dolomite and provision of recommendations for a mixed-use development which will include retail and residential components. Subsequent design level investigations have been completed for various large structures across the site and further de-lineation of developable and non-developable areas.



forestry, fisheries & the environment

Department: Forestry, Fisheries and the Environment **REPUBLIC OF SOUTH AFRICA**

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

132kV Grid Connection and Associated Infrastructure for the Igolide Wind Energy Facility, northeast of Fochville, within the Merafong City Local Municipality in the Gauteng Province.

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
- This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Geotechnical Assessment
Specialist Company Name	WSP Africa (Pty) Ltd
Specialist Name	Heather Davis
Specialist Identity Number	6108310203182
Specialist Qualifications:	BSc Honours. GDE Geotechnical Engineering
Professional affiliation/registration:	ECSA PrEng 960229
Physical address:	Building 1 Maxwell Office Park, Magwa Crescent. Waterfall City. Midrand. 1685
Postal address:	PO Box 6001. Halfway House. 1685
Postal address	
Telephone	011 361 1300
Cell phone	083650 6391
E-mail	Heather.davis@wsp.com

2. DECLARATION BY THE SPECIALIST

I, Heather Davis declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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 –
 - o 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

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Signature of the Specialist

WSP Africa (Pty) Ltd

Name of Company:

16 Oct 2024

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

A.

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1 nos 1

Signature of the Specialist

WSP Africa (Pty) Ltd

Name of Company

16 October 2024

Date

Signature of the Commissioner of Oaths

10/16 2024 Date

-10- 2024

Commissioner of Oaths Ex Officio Professional Accountant (SA)

Magwa Crescent West, Maxwell Office Park, Midrand

Johann Lanz **Curriculum Vitae**

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pr.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting Self employed

2002 - present

Within the past 5 years of running my soil and agricultural consulting business, I have completed more than 170 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, electrical grid infrastructure, urban, and agricultural developments. I was the appointed agricultural specialist for the nation-wide SEAs for wind and solar PV developments, electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; Arcus; SRK; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Recent agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives.

In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant Agricultural Consultors International (Tinie du Preez) 1998 - 2001

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist

De Beers Namaqualand Mines

July 1997 - Jan 1998

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). Sustainable Stellenbosch: opening dialogues. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. South African Fruit Journal, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. South African Fruit Journal, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. AgriProbe, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. Wineland Magazine.

I am a reviewing scientist for the South African Journal of Plant and Soil.



we certify that

Johan Lanz

was admitted to the degree of

Master of Science

in Environmental Geochemistry

on 12 December 1997

N Hugh Amoore Vice Chancellor Registrar



herewith certifies that

Johan Lanz

Registration Number: 400268/12

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003) in the following fields(s) of practice (Schedule 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective 15 August 2012

Expires 31 March 2024



Chairperson

Chief Executive Officer



To verify this certificate scan this code



Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

SPECIALIST DECLARATION FORM AUGUST 2023

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- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
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- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

Title of Specialist Assessment	Agricultural Assessment
Specialist Company Name	SoilZA (sole proprietor)
Specialist Name	Johann Lanz
Specialist Identity Number	6607045174089
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)
Professional affiliation/registration:	Registered Professional Natural Scientist (Pr.Sci.Nat.) Reg. no. 400268/12 Member of the Soil Science Society of South Africa
Physical address:	1a Wolfe Street, Wynberg, Cape Town, 7800
Postal address:	1a Wolfe Street, Wynberg, Cape Town, 7800
Telephone	Not applicable
Cell phone	+27 82 927 9018
E-mail	johann@soilza.co.za

1. SPECIALIST INFORMATION

2. DECLARATION BY THE SPECIALIST

I, Johann Lanz declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Signature of the Specialist

SoilZA (sole proprietor)

Name of Company:

18 September 2024

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Johann Lanz, swear under oath that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

SoilZA - sole proprietor

Name of Company

eplem Date 4061-9

Signature of the Commissioner of Oaths

2024-09-18

Date

SUID-AFRIKAANSE POLISIEDIENS GEMEENSKAP9DIENSSENTRUM 1 8 SEP 2024 . COMMUNITY SERVICE CENTRE MELKBOSSTRAND SOUTH AFRICAN POLICE SERVICE

ALBERT FRONEMAN CURRICULUM VITAE		
August 2023		
NAME SURNAME	Albert Froneman	
CONTACT DETAILS	P. O. Box 2676	
	Fourways, 2055, South Africa	
	+27 (0)82 901 4016	
	albert.froneman@gmail.com	
I D NUMBER	730814 5080 08 1	
NATIONALITY	South African	
LANGUAGE PROFICIENCY	English & Afrikaans	

EDUCATION & QUALIFICATIONS:

1991:	Matriculated - Hoërskool Linden, Johannesburg
1994:	B.Sc. with distinction (Rand Afrikaans University)
	Majors: Zoology; Chemistry; Botany
1995:	B.Sc. Honours (Zoology) (Rand Afrikaans University)
1995:	Geographic Information Systems (GIS) and data management –
	Short Course (Rand Afrikaans University)
1996:	M.Sc. Conservation Biology (UCT)
	Mini Thesis – The role of Farm dams in conserving waterbird and
	wetland diversity in the Western Cape, South Africa

PROFESSIONAL REGISTRATIONS, ASSOCIATIONS & MEMBERSHIPS

Senior Vice Chairman: International Bird Strike Committee 2005 - 2011

Professional Natural Scientist (*Pr.Sci.Nat*) registered with The South African Council for Natural Scientific Professions (2009 – current) Zoological Science Registration number 400177/09

Member of Birdlife South Africa (BLSA)

Member of Botanical Society of South Africa

Life Member Wildlife and Environment Society of South Africa (WESSA)

Member of the Zoological Society of South Africa (ZSSA)

Member of the South African Wildlife Management Association (SWMA)

EMPLOYMENT/EXPERIENCE

1997 - 1998:Council for Scientific and Industrial Research (CSIR)Geographic Information Systems Specialist

1999 – 2008: Endangered Wildlife Trust (EWT)

Airports Company South Africa (ACSA) - EWT Strategic Partnership Coordinator

Bird hazard control programs at all ACSA airports.

Conducted wildlife hazard management assessments with recommendations at:

- Pietermaritzburg Airport KwaZulu Natal South Africa (2002)
- Polokwane International Airport Limpopo, South Africa (2004)
- Manzini International Airport Swaziland (2006)

Airport wildlife hazard assessment studies - Kenya Airports Authority (2005).

Implemented of first Border Collie ~ Airport Bird Hazard Management programs in the Southern Hemisphere at both Durban and Johannesburg International Airports (2003/4).

Extensive exposure to ACSA airport safety management systems (SMS) in terms of ICAO regulations through interaction with ACSA corporate office and all the airports managed by ACSA.

Involvement in the specification and design of the ACSA occurrence reporting system to facilitate online capturing of bird strike incident reports (2001).

Conducted an Aviation Bird Hazard Assessment Study for the Madiba Bay Leisure Park planned adjacent to Port Elizabeth Airport (2005).

Airport Bird / Wildlife Hazard Management familiarization training at Durban International Airport to delegations from Namibian and Nigerian airport authorities (2005).

Extension of Runway and Provision of Parallel Taxiway at Sir Seretse Khama Airport, Botswana Bird / Wildlife Hazard Management Specialist Study (2006)

Maun Airport Improvements Bird / Wildlife Hazard Management Specialist Study (2006)

Bird Impact Assessment Study - Bird Helicopter Interaction – The Bitou River, Western Cape Province South Africa (2006)

Proposed La Mercy Airport – Bird Aircraft interaction specialists study using bird detection radar to assess swallow flocking behaviour (2007)

Develop airport wildlife hazard management plan for Jomo Kenyatta International Airport in Nairobi Kenya (2007)

KwaZulu Natal Power Line Vulture Mitigation Project – GIS analysis (2004)

Perseus-Zeus Powerline EIA – GIS Analysis (2006)

Southern Region Pro-active GIS Blue Crane Collision Project. J. Smallie, C. v Rooyen & A. Froneman (2004)

2008 - CURRENT Albert Froneman Consulting / AfriAvian Environmental Director

SPECIALIST ORNITHOLOGICAL CONSULTING

AVIFAUNAL SPECIALIST – AIRPORT BIRD HAZARD MANAGEMENT:

- King Shaka International Airport: Specialist advisor ~ Implementation of a bird detection radar system and development of an airport wildlife hazard management and operational environmental management plan for the King Shaka International Airport (2008 – 2011)
- Airlink Swaziland: Matsapha International Airport bird hazard assessment study with management recommendations (2008)
- Evaluation of aviation bird strike risk at candidate solid waste disposal sites in the Ekurhuleni Metropolitan Municipality (2008)
- Gateway Airport Authority Limited Gateway International Airport, Polokwane: Bird hazard assessment; Compile a bird hazard management plan for the airport (2009)
- Bird Specialist Study Evaluation of aviation bird strike risk at the Mwakirunge Landfill site near Mombasa Kenya May 2010
- Airport bird and wildlife hazard management plan and training to Swaziland Civil Aviation Authority (SWACAA) for Matsapha and Sikhupe International Airports (May – Jul 2012)
- Swaziland Civil Aviation Authority Sikhuphe International Airport Bird hazard management assessment (2014)
- Avifaunal Specialist Study to Assess Aviation Bird Strike Hazards at the Mangaung Airport Development Node. YB Mashalaba & Associates Consultants (2015)
- Specialist presentation on Aerodrome Wildlife Hazard Management in Africa at the 25th ACI Africa Annual General Assembly, Regional Conference and Exhibition in Maputo (2016)
- Airports Company South Africa Avifaunal Specialist Consultant Airport Bird and Wildlife Hazard Mitigation (2015 – 2017)
- Swaziland Civil Aviation Authority Sikhuphe International Airport Bird hazard management training of 14 staff members (2018)
- O R Tambo International Airport / ENS Africa Avifaunal Specialist expert opinion with regard to legal appeal against the proposed Viewpoint Farming compost facility on the farm Driefontein 83 I.R Boksburg that could attract birds into the flight path in the vicinity of the airport. (2018)
- Birdlife South Africa (BLSA) Independent contractor to assist with operational support as per the BLSA – ACSA sponsorship agreement. Avifaunal Specialist review and findings regarding existing bird control programmes at ACSA airports. Assistance with implementation and training in respect of DNA sampling for the South African National Biodiversity Institute (SANBI) - National Zoological Garden / BLSA project to identify bird remains / evidence by means of DNA sequencing. (2018 – 2019)

AVIFAUNAL SPECIALIST STUDIES – OTHER DEVELOPMENTS:

• Avian biodiversity assessment for the Mafube Colliery Coal mine near Middelburg Mpumalanga (2011)
- Avifaunal Specialist Study SRVM Volspruit Mining project Mokopane Limpopo Province (2011)
- Avifaunal Impact Assessment Study (with specific reference to African Grass Owls and other Red List species) Stone Rivers Arch (2012)
- Bird Impact Assessment Study Proposed Weltevreden Open Cast Coal Mine Belfast, Mpumalanga (2010)
- Bird Impact Assessment Study Proposed 60-year Ash Disposal Facility near to the Kusile Power Station (2013)
- Avifaunal pre-feasibility assessment for the proposed Montrose dam, Mpumalanga (2013)
- Bird Impact Assessment Study Proposed ESKOM Phantom Substation near Knysna, Western Cape (2013)
- Habitat sensitivity map for Denham's Bustard, Blue Crane and White-bellied Korhaan in the Kouga Municipal area of the Eastern Cape Province (2014)
- Avifaunal monitoring extension of Specialist Study SRVM Volspruit Mining project – Mokopane Limpopo Province (2014)
- Avifaunal Specialist Study Rooikat Hydro Electric Dam Hope Town, Northern Cape (2014)
- The Stewards Pan Reclamation Project Bird Impact Assessment study (2015)
- Bird Impact Assessment Study Proposed Meerkat Hydro Electric Power Facility, Orange River, Northern Cape. Enviroworks (2015)
- Perth Kuruman & Hotazel Solar PV avifaunal specialist report GIBB (2016)
- Avifaunal impact statements proposed Firlands & Woodlands monopole masts Sir Lowry's Pass, Western Cape Province. Enviroworks (2016)
- Avifaunal disturbance assessment specialist study N2 wild coast toll highway: haul road blasting vulture monitoring. SLR Consulting (2017)
- Avifaunal Specialist Assessment Proposed 25m high monopole telecommunications mast - Roodekrans, Roodepoort, Gauteng. Enviroworks (2017)

AVIFAUNAL SPECIALIST STUDIES: WIND ENERGY FACILITIES - PRE-CONSTRUCTION MONITORING & ENVIRONMENTAL IMPACT ASSESSMENT PROCESS:

- Jeffrey's Bay Wind Farm 12-month preconstruction avifaunal monitoring project (2011)
- Oysterbay Wind Energy Project 12-month preconstruction avifaunal monitoring project (2012)
- Ubuntu Wind Energy Project near Jeffrey's Bay 12-month preconstruction avifaunal monitoring project (2012)
- Bana-ba-Pifu Wind Energy Project near Humansdorp 12-month preconstruction avifaunal monitoring project (2012)
- Excelsior Wind Energy Project near Caledon 12-month preconstruction avifaunal monitoring project (2012)
- Laingsburg Spitskopvlakte Wind Energy Project 12-month preconstruction avifaunal monitoring project (2012)
- Loeriesfontein Wind Energy Project Phase 1, 2 & 3 12-month preconstruction avifaunal monitoring project (underway)
- Noupoort Wind Energy Project 12-month preconstruction avifaunal monitoring project (2012)

- Vleesbaai Wind Energy Project 12-month preconstruction avifaunal monitoring project (2012)
- Port Nolloth Wind Energy Project 12-month preconstruction avifaunal monitoring project (2012)
- Langhoogte Caledon Wind Energy Project 12-month preconstruction avifaunal monitoring project (2012)
- Lunsklip Stilbaai Wind Energy Project 12-month preconstruction avifaunal monitoring project (2013)
- Indwe Wind Energy Project 12-month preconstruction avifaunal monitoring project (2013)
- Zeeland St Helena bay Wind Energy Project 12-month preconstruction avifaunal monitoring project (2013)
- Wolseley Wind Energy Project 12-month preconstruction avifaunal monitoring project (2013)
- Renosterberg Wind Energy Project 12-month preconstruction avifaunal monitoring project (2014)
- De Aar North (Mulilo) Wind Energy Project 12-month preconstruction avifaunal monitoring project (2014)
- De Aar South (Mulilo) Wind Energy Project 12-month bird monitoring (2014)
- Namies Aggenys Wind Energy Project 12-month bird monitoring (2014)
- Pofadder Wind Energy Project 12-month bird monitoring (2014)
- Dwarsrug Loeriesfontein Wind Energy Project 12-month bird monitoring (2105)
- Waaihoek Utrecht Wind Energy Project 12-month bird monitoring (2105)
- Amathole Butterworth Wind Energy Project 12-month bird monitoring & EIA specialist study (2015)
- Beaufort West Trakaskuilen (Mainstream Renewable Power) Proposed Wind Energy Facility 12-month bird monitoring (2015)
- Copperton Aletta & Eureka (Biotherm Energy) Proposed Wind Energy Facilities
 12-month bird monitoring (2015 / 2016)
- Kuruman (Mulilo) Proposed Wind Energy Facility 12-month bird monitoring (2015 / 2016)
- Loeriesfontein Leeuwberg (Mainstream Renewable Power) Proposed Wind Energy Facility 12-month bird monitoring (2015 / 2016)
- Loeriesfontein Kokerboom (Aurecon) Proposed Wind Energy Facility 12month bird monitoring (2015 / 2016)
- Tanzania Makambako (Windlab Aurecon) Proposed Wind Energy Facility 12-month bird monitoring (2016 / 2017)
- Mamre Groenekloof (Mulilo) Proposed Wind Energy Facility 24-month bird monitoring (2016-2018)
- Noupoort East & West (Innowind) Proposed Wind Energy Facilities 12-month bird monitoring (2015 / 2016)
- Humansdorp (Cennergi) Proposed Wind Energy Facility 12-month bird monitoring (2016)
- Richmond (Philco) Proposed Wind Energy Facility 12-month bird monitoring (2016)

- Sutherland Maralla & Esizayo (Biotherm Energy) Proposed Wind Energy Facility 12-month bird monitoring (2016)
- Sutherland (Mainstream Renewable Power) Proposed Wind Energy Facility 12-month bird monitoring (2015 / 2016)
- Tanzania Makambako (Aurecon / Windlab) Proposed Wind Energy Facility 12-month bird monitoring (2016)
- eThekwini Wind Repowering Project 12-month bird monitoring (2016)
- Banna-ba-phifu Wind Energy Facility (Windcurrent) 6 months additional preconstruction bird monitoring (2018 - 2019)
- Boesmansberg Wind Energy Facility (Juwi) 12-months pre-construction bird monitoring (2017 – 2019)
- Kwagga Wind Energy Facility (ABO) 12-months pre-construction bird monitoring (2018-2020)
- Piernaarspoort Wind Energy Facility (ABO) 12-months pre-construction bird monitoring (2019-2020)
- Kokerboom 3 Wind Energy Facility (ACED) 12-months pre-construction bird monitoring (2019-2020)
- Koup 1 & 2 Wind Energy Facilities (Genesis-eco-energy) 12-months preconstruction bird monitoring (2019-2020)
- Duiker Wind Energy Facility, Vredendal, Western Cape 12-months preconstruction monitoring (ABO)
- Swellendam Wind Energy Facility, Western Cape, 12-month pre-construction monitoring (Veld Renewables)
- Lombardskraal Wind Energy Facility, Western Cape, 12-month preconstruction monitoring (Enertrag SA)
- Mainstream Kolkies & Heuweltjies Wind Energy Facilities, Western Cape, 12month pre- construction monitoring (Mainstream)
- Great Karoo Wind Energy Facility, Northern Cape, 12-month pre-construction monitoring (African Green Ventures).
- Mpumalanga & Gauteng Wind and Hybrid Energy Facilities (6x), preconstruction monitoring (Enertrag SA) In Progress
- Dordrecht Wind Energy Facilities, Eastern Cape, Screening Report (Enertrag SA) In Progress
- Nanibees North & South Wind Energy Facilities, Northern Cape, Screening Report (juwi)
- Sutherland Wind Energy Facilities, Northern Cape, Screening Report (WKN Windcurrent)
- Pofadder Wind Energy Facility, Northren Cape, Screening Report (Atlantic Energy)
- Haga Haga Wind Energy Facility, Eastern Cape, Amendment Report (WKN Windcurrent)
- Banken Wind Energy Facility, Northern Cape, Screening Report (Atlantic Energy)
- Hartebeest Wind Energy Facility, Western Cape, 12-month pre-construction monitoring (juwi). In Progress
- Iphiko Wind Energy facilities, Laingsburg, Western Cape, screening and preconstruction monitoring (G7 Energies) 2021
- Aberdeen 1, 2 & Aberdeen Kudu (3&4) Wind Energy Facilities, Eastern Cape, 12-month pre-construction monitoring (Energy Team) In Progress

- Loxton / Beaufort West Wind Energy Facilities, Northern Cape, 12-month preconstruction monitoring (Genesis Eco-Energy Developments) In Progress
- Ermelo & Volksrust Wind Energy Facilities, Northern Cape, Screening Report (WKN Windcurrent) 2021
- Gunstfontein Wind Energy Facilities, Sutherland, Northern Cape, additional pre-construction monitoring (ACED) 2021
- Pofadder Wind Energy Facility, Pofadder, Northern Cape, pre-construction monitoring (Atlantic Renewable Energy Partners) 2021
- Aberdeen Solar Energy Facility, Aberdeen, Eastern Cape, pre-construction monitoring (Atlantic Renewable Energy Partners) In Progress
- Prieska Power Reserve Wind Energy Facility, Prieska, Northern Cape. (Preconstruction Monitoring & EIA) (Cenec/Green Box) 2023
- Amsterdam Wind Energy Facility, Ermelo, Mpumalanga (Pre-construction Monitoring & EIA) (Mulilo) In progress
- Aria 1 Wind Energy Facility, Three Sisters, Northern Cape (Pre-construction Monitoring & EIA) (G7) In progress
- Biesiesvlei Wind Energy Facility, Smithfield, Free State (Pre-construction Monitoring & EIA) (Mainstream Renewable Power) In progress
- Brakdam Wind Energy Facility, Springbok, Northern Cape (Pre-construction Monitoring & EIA) (Enertrag South Africa) In progress
- Hartebeest Skeur Wind Energy Facility, Springbok, Northern Cape (Preconstruction Monitoring & EIA) (Enertrag South Africa) In progress
- Brakputs Wind Energy Facility, Springbok, Northern Cape (Pre-construction Monitoring & EIA) (Enertrag South Africa) In progress
- Varsputs Wind Energy Facility, Springbok, Northern Cape (Pre-construction Monitoring & EIA) (Enertrag South Africa) In progress
- Bultfontein Solar Energy Facility, Bultfontein, North-West, (Pre-construction monitoring & EIA) (Mainstream Renewable Power) 2023
- Beaufort West Renewable Energy Facility cluster (Pre-construction monitoring & EIA) (Genesis Eco Energy) In progress
- Camden I & II Renewable Energy Facility cluster, Ermelo, Mpumalanga. (Preconstruction monitoring & EIA) (Enertrag South Africa) In progress
- Kalkoenkrans Wind Energy Facility, Ermelo, Mpumalanga. (Pre-construction monitoring & EIA) (Mainstream Renewable Power) In Progress
- Canopus Wind Energy Facility, Southerland, Northern Cape. (Pre-construction monitoring & EIA) (WKN Windcurrent) In Progress
- Scafell Solar Energy Facility, Parys, Free State. (Pre-construction monitoring & EIA) (Mainstream Renewable Power) In Progress
- Danielskuil Wind Energy Facility, Danielskuil, Northern Cape. (Preconstruction monitoring & EIA) (AGV) In Progress
- Doornrivier Solar Energy Facility, Virginia, Free State. (Pre-construction monitoring & EIA) (Keren Renewable Energy) 2022
- Dordrecht / Indwe Wind Energy Facilities, Eastern Cape. (Pre-construction monitoring & EIA) (ACED) In Progress
- Doringbaai Wind Energy Facility, Doringbaai, Western Cape. (Pre-construction monitoring & EIA) (WKN Windcurrent) In Progress
- Doringbaai South Wind Energy Facility, Doringbaai, Western Cape. (Preconstruction monitoring & EIA) (WKN Windcurrent) In Progress

- Ezelsjacht Renewable Energy Facility, De Doorns, Western Cape. (Preconstruction monitoring & EIA) (Mainstream Renewable Power) In Progress
- Gamoep, Wind Energy Facility, Springbok, Northern Cape. (Sensitivity Screening) (WKN Windcurrent) 2022
- Hanover Wind Energy Facility cluster, Hanover, Northern Cape. (Preconstruction monitoring & EIA) (Mainstream Renewable Power) In progress
- Haverfontein Wind Energy Facility, Carolina, Mpumalanga. (Pre-construction monitoring & EIA) (Earth & Wire) In progress
- Impilo Wind Energy Facility, Secunda, Mpumalanga. (Pre-construction monitoring & EIA) (WKN Windcurrent) In Progress
- Sinethemba Wind Energy Facility, Secunda, Mpumalanga. (Pre-construction monitoring & EIA) (WKN Windcurrent) In Progress
- Klipkraal Wind Energy Facility cluster, Fraserburg, Northern Cape. (Preconstruction monitoring & EIA) (Aura / Sivest) In Progress
- Leghoya Wind Energy Facility cluster, Ermelo, Mpumalanga. (Pre-construction monitoring & EIA) (REDCAP) In Progress
- Renoster Wind Energy Facility cluster, Edenville, Free State. (Pre-construction monitoring & EIA) (REDCAP) In Progress
- Namaacha Wind Energy Facility, Namaacha, Mozambique. (Pre-construction monitoring & EIA) (Globeleq/WSP) In Progress
- Phefumula Wind Energy Facility, Ermelo, Mpumalanga. (Pre-construction monitoring & EIA) (Seriti Green) In Progress
- Angora Wind Energy Facility, Richmond, Northern Cape. (Pre-construction monitoring & EIA) (Great Karoo Renewable Energy) In Progress
- Springbok Wind Energy Facility cluster, Springbok, Northern Cape. (Sensitivity Screening) (Mainstream Renewable Power) In progress
- Taaibosch Wind Energy Facility cluster, Limeacres, Northern Cape. (Preconstruction monitoring & EIA) (Enertrag South Africa) In Progress
- Ujekamanzi Wind Energy Facility, Amerfoort, Mpumalanga. (Pre-construction monitoring & EIA) (ABO) In Progress
- uKhanda Wind Energy Facility, Utrecht, Kwa-Zulu Natal. (Pre-construction monitoring & EIA) (WKN Windcurrent) In Progress

AVIFAUNAL SPECIALIST STUDIES: SOLAR ENERGY FACILITIES – PRE-CONSTRUCTION MONITORING & ENVIRONMENTAL IMPACT ASSESSMENT PROCESS:

- De Aar and Droogfontein Solar PV Pre- and Post-construction avifaunal monitoring (2015)
- Letsoai CSP & Enamandla PV Solar (Biotherm) Proposed Solar Energy Facilities 12-month bird monitoring (2016)
- Sand Draai Concentrated Solar Power (CSP) and PV Proposed Solar Energy Facilities 6-month bird monitoring (2016)
- Sendawo (Vryburg) Solar PV Power Solar Energy Facilities 6-month bird monitoring (2015 / 2016)
- Tlisitseng (Lichtenburg) Solar PV Power Solar Energy Facilities 6-month bird monitoring (2015 / 2016)
- Kappa Solar PV facility, Touwsrivier, Western Cape, pre-construction monitoring (Veroniva)
- Aardvark Solar PV facility, Copperton, Northern Cape, 12-month preconstruction monitoring (ABO)

- Bestwood Solar PV facility, Kathu, Northern Cape, pre-construction monitoring (AMDA)
- Boundary Solar PV facility, Kimberley, Northern Cape, Site sensitivity verification (Atlantic Renewable Energy Partners)
- De Aar cluster Solar PV facilities, De Aar, Western Cape, Site sensitivity verification (Atlantic Renewable Energy Partners)
- Rinkhals Solar PV facilities, Kimberley, Northern Cape, Pre-construction monitoring (ABO)
- Kolkies Sadawa Solar PV facilities, Touwsrivier, Western Cape, preconstruction monitoring (Mainstream)
- Leeudoringstad Solar PV facilities, Leeudoringstad, North West, Preconstruction monitoring (Upgrade Energy)
- Noupoort Umsobomvu Solar PV facilities, Noupoort, Northern Cape, Preconstruction monitoring (EDF Renewables)
- Oya Solar PV facilities, Matjiesfontein, Western Cape, pre-construction monitoring (G7 Energies)
- Vrede & Rondawel Solar PV facilities, Kroonstad, Free state, pre-construction monitoring (Mainstream)
- Aberdeen Solar Energy Facility, Aberdeen, Eastern Cape, pre-construction monitoring (Atlantic Renewable Energy Partners) 2023
- Bultfontein Solar Energy Facility, Bultfontein, North West, (Pre-construction monitoring & EIA) (Mainstream Renewable Power) 2023
- Beaufort West Renewable Energy Facility cluster (Pre-construction monitoring & EIA) (Genesis Eco Energy) in progress
- Camden I & II Renewable Energy Facility cluster, Ermelo, Mpumalanga. (Preconstruction monitoring & EIA) (Enertrag South Africa) In progress
- Scafell Solar Energy Facility, Parys, Free State. (Pre-construction monitoring & EIA) (Mainstream Renewable Power) In Progress
- Doornrivier Solar Energy Facility, Virginia, Free State. (Pre-construction monitoring & EIA) (Keren Renewable Energy) 2022
- Ezelsjacht Renewable Energy Facility, De Doorns, Western Cape. (Preconstruction monitoring & EIA) (Mainstream Renewable Power) In Progress
- Hanover Renewable Energy Facility cluster, Hanover, Northern Cape. (Preconstruction monitoring & EIA) (Mainstream Renewable Power) In progress
- iNyanga Emoyeni Solar Energy Facility, Murraysburg, Western Cape. (Preconstruction monitoring & EIA) (Seriti Green) In Progress
- Majuba Solar Energy Facility cluster, Volksrust, Mpumalanga. (Preconstruction monitoring & EIA) (Mainstream Renewable Power) In progress
- Tutuka Solar Energy Facility cluster, Standerton, Mpumalanga. (Preconstruction monitoring & EIA) (Mainstream Renewable Power) In progress
- Mukondeleli Solar Energy Facility Secunda, Mpumalanga. (Pre-construction monitoring & EIA) (Enertrag South Africa) In Progress
- Quantum Solar Energy Facility, Tarlton, Gauteng. (Pre-construction monitoring & EIA) (Mainstream Renewable Power) In progress
- Springbok Solar Energy Facility cluster, Springbok, Northern Cape. (Sensitivity Screening) (Mainstream Renewable Power) In progress
- Taaibosch Solar Energy Facility cluster, Limeacres, Northern Cape. (Preconstruction monitoring & EIA) (Enertrag South Africa) In Progress

• Thanda Tau Solar Energy Facility cluster, Warden, Free State. (Preconstruction monitoring & EIA) (Enertrag South Africa) In Progress

WIND ENERGY FACILITIES – CONSTRUCTION AND OPERATIONAL PHASE AVIFAUNAL SPECIALIST STUDIES & IMPLEMENTATION OF MITIGATION MEASURES:

- Tsitsikamma (Cennergi) Wind Energy Facility Operational phase bird monitoring (2016 current)
- Mainstream Renewable Power Noupoort Windfarm 24-month operational phase bird and bat monitoring in association with Stephanie Dippenaar Consulting (2016 2018)
- De Aar 1 Windfarm operational phase bird and bat monitoring (2017 current)
- De Aar 2 North Windfarm operational phase bird and bat monitoring (2017 - current)
- Biotherm Energy Klipheuwel Dassiefontein Windfarm Year 5 operational phase bird monitoring (2017 2019)
- Mainstream Renewable Power Loeriesfontein Windfarms x2 24-month operational phase bird and bat monitoring in association with Stephanie Dippenaar Consulting (2018-2020)
- Mainstream Renewable Power Kangnas Windfarm construction phase bird and bat monitoring in association with Stephanie Dippenaar Consulting (2019-2020)
- BTE Excelsior WEF construction phase avifaunal monitoring Year 1 & Year 2, Biodiversity monitoring staff avifaunal training. Critical Habitat Assessment: Biodiversity Action Plan, Implementation of Shut Down on Demand (SDOD) pro-active mitigation strategy (in progress)
- Mainstream Renewable Power Kangnas Windfarm 36-month operational phase bird and bat monitoring in association with Stephanie Dippenaar Consulting – In Progress
- Perdekraal East Wind Energy Facility, Touws River, Western Cape, 18 months construction phase monitoring (Mainstream) 2021
- Mainstream Renewable Power Perdekraal East Windfarm 24-month operational phase bird and bat monitoring in association with Stephanie Dippenaar Consulting (2021-2023)
- Grassridge Wind Energy Facility, Uitenhage, Gqeberha Biodiversity Monitoring Plan. EDF In progress.
- Waainek Wind Energy Facility, Makhanda, Eastern Cape Biodiversity Monitoring Plan. EDF In progress.

GEOGRAPHIC INFORMATION SYSTEM ANALYSIS & MAPS:

- ESKOM Power line Makgalakwena EIA GIS specialist & map production
- ESKOM Power line Benficosa EIA GIS specialist & map production
- ESKOM Power line Riversong EIA GIS specialist & map production
- ESKOM Power line Waterberg NDP EIA GIS specialist & map production
- ESKOM Power line Bulge Toulon EIA GIS specialist & map production
- ESKOM Power line Bulge DORSET EIA GIS specialist & map production
- ESKOM Power lines Marblehall EIA GIS specialist & map production
- ESKOM Power line Grootpan Lesedi EIA GIS specialist & map production
- ESKOM Power line Tanga EIA GIS specialist & map production

- ESKOM Power line Bokmakierie EIA GIS specialist & map production
- ESKOM Power line Rietfontein EIA GIS specialist & map production
- Power line Anglo Coal EIA GIS specialist & map production
- ESKOM Power line Camcoll Jericho EIA GIS specialist & map production
- Hartbeespoort Residential Development GIS specialist & map production
- ESKOM Power line Mantsole EIA GIS specialist & map production
- ESKOM Power line Nokeng Flourspar EIA GIS specialist & map production
- ESKOM Power line Greenview EIA GIS specialist & map production
- Derdepoort Residential Development GIS specialist & map production
- ESKOM Power line Boynton EIA GIS specialist & map production
- ESKOM Power line United EIA GIS specialist & map production
- ESKOM Power line Gutshwa & Malelane EIA GIS specialist & map production
- ESKOM Power line Origstad EIA GIS specialist & map production
- Zilkaatsnek Development Public Participation map production
- Belfast Paarde Power line GIS specialist & map production
- Solar Park Solar Park Integration Project Bird Impact Assessment Study avifaunal GIS analysis. Apr 2013
- Kappa-Omega-Aurora 765kV Bird Impact Assessment Report Avifaunal GIS analysis. Apr 2013
- Gamma Kappa 2nd 765kV Bird Impact Assessment Report Avifaunal GIS analysis. Apr 2013
- ESKOM Power line Kudu-Dorstfontein Amendment EIA GIS specialist & map production. Feb 2013
- Proposed Heilbron filling station EIA GIS specialist & map production. May 2013
- ESKOM Lebatlhane EIA GIS specialist & map production. Aug 2013
- ESKOM Pienaars River CNC EIA GIS specialist & map production. Sept 2013
- ESKOM Lemara Phiring Ohrigstad EIA GIS specialist & map production. Aug 2013
- ESKOM Pelly-Warmbad EIA GIS specialist & map production. Sept 2013
- ESKOM Rosco-Bracken EIA GIS specialist & map production. Jun 2013
- ESKOM Ermelo-Uitkoms EIA GIS specialist & map production. Aug 2013
- ESKOM Wisani bridge EIA GIS specialist & map production. Aug 2013
- City of Tswane New bulkfeeder pipeline projects x3 Map production. 2013
- ESKOM Lebohang Substation and 132kV Distribution Power Line Project Amendment GIS specialist & map production. 2013
- ESKOM Geluk Rural Powerline GIS & Mapping. 2014
- Eskom Kimberley Strengthening Phase 4 Project GIS & Mapping. 2014
- ESKOM Kwaggafontein Amandla Amendment Project GIS & Mapping. 2014
- ESKOM Lephalale CNC GIS Specialist & Mapping. 2014
- ESKOM Marken CNC GIS Specialist & Mapping. 2014
- ESKOM Lethabong substation and powerlines GIS Specialist & Mapping. 2014

- ESKOM Magopela- Pitsong 132kV line and new substation GIS Specialist & Mapping. 2014
- Landscape Dynamics Honingklip filling station EIA GIS Specialist & Mapping. 2015
- Landscape Dynamics Bapsfontein filling station EIA GIS Specialist & Mapping. 2015
- Landscape Dynamics COT Pipeline Project EIA GIS Specialist & Mapping. 2015
- ESKOM Western Cape Operating Unit Environmental Sensitivity Maps (2015/2016)
- Waterberg JV Resources GIS Specialist & Mapping. 2016
- MBT Depot HQ GIS Specialist & Mapping for Landscape Dynamics 2016
- Doornplaats Public Garage GIS Specialist & Mapping for Landscape Dynamics 2016
- Donkerhoek_Truckstop_- GIS Specialist & Mapping for Landscape Dynamics 2016
- Syferkuil-Rampheri GIS Specialist & Mapping for Landscape Dynamics 2016
- Beaufort West Filling Station GIS Specialist & Mapping for Landscape Dynamics 2016
- Orchards X Township GIS Specialist & Mapping for Landscape Dynamics 2016
- N17 Filling stations GIS Specialist & Mapping for Landscape Dynamics 2016
- Rietgat filling station GIS Specialist & Mapping for Landscape Dynamics 2016
- Jakalsdrift Filling Station GIS Specialist & Mapping for Landscape Dynamics 2016
- Delareyville filling Station GIS Specialist & Mapping for Landscape Dynamics 2016
- Carnival junction filling station GIS Specialist & Mapping for Landscape Dynamics 2016
- Abel Erasmus Road GIS Specialist & Mapping for Landscape Dynamics 2016
- ESKOM KUDU PS-ORANJEMUND PROJECT GIS Specialist & Mapping for Landscape Dynamics 2016
- ESKOM Sekgame-Bulkop-Sishen GIS Specialist & Mapping for Landscape Dynamics 2016
- ESKOM Chemie substation and associated powerline infrastructure GIS Specialist & Mapping for Landscape Dynamics 2016/2017
- Hartebeespoort Cable Way GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Donkerhoek development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- MBT petroleum depots GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Carnival junction development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Meerhof x7 development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018

- Hartbeesfontein Gateway development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Cradock Filling Station GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Little Jabu camp development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Bambisana development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- NW Gateway development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Homestead WULA GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- Putfontein development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018
- ESKOM transnet freight rail project GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2019
- Mogale city development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2019
- Mokopane development GIS Specialist & environmental sensitivity mapping for Landscape Dynamics 2018

AVIFAUNAL STRATEGIC ENVIRONMENTAL ASSESSMENTS (SEA):

- National Electricity Grid Infrastructure SEA Avifaunal Specialist Study in association with Chris van Rooyen Consulting (2015)
- Gas pipeline & additional National Electricity Grid Infrastructure SEA Avifaunal Specialist Study in association with Chris van Rooyen Consulting (2018)

Awards:

<u>Birdlife South Africa Owl Award</u> – in recognition of an outstanding contribution to Birdlife South Africa and dedication to the conservation of birds and their habitats. (2014)

PUBLICATIONS & GUIDELINE DOCUMENTS:

- **Froneman, A.**, Mangnall, M.J., Little, R.M., Crowe, T.M. (2001) Waterbird assemblages and associated habitat characteristics of farm ponds in the Western Cape, South Africa. Biodiversity and Conservation 10: 251–270.
- Dalton, Desire; De Bruyn, Marli; Mwale, Monica; Labuschagne, Kim; Hofmann, Melissa; Froneman, Albert; Smit-Robinson, Hanneline A.; and Kotze, Antoinette (2019) "First Record of White Stork in a Birdstrike in South Africa Above 3,300 m AGL," Human–Wildlife Interactions: 13: 18.
- Harebottle, D.M., Smit-Robinson, H. and **Froneman, A**. 2019. National guidelines for interventions that relate to colonial breeding waterbirds causing human-wildlife conflict in South Africa. BirdLife South Africa, Johannesburg.

CONFERENCES AND WORKSHOPS

- 2000 25th International Bird Strike Committee (IBSC) Amsterdam, Netherlands. (Oral presentation)
- 2001 USA / Canada Bird Strike Committee Meeting. Calgary, Canada. (Oral presentation)
- 2001 International Seminar on Bird Migration, Research, Education and Flight Safety in collaboration with the International Centre for the Study of Bird Migration for delegates from 25 Africa Countries (co-organiser). Israel (Oral presentations)
- 2002 3rd ESAF ICAO Bird Hazard Reduction Workshop. Kampala, Uganda. (Oral presentation)
- 2003 26th International Bird Strike Committee. Warsaw, Poland. (Oral presentation)
- 2004 USA / Canada Bird Strike Committee Meeting. Baltimore, USA. (Oral presentation)
- 2005 27th International Bird Strike Committee. Athens, Greece. (Oral presentation)
- 2007 USA / Canada Bird Strike Committee Meeting. Ontario, Canada. (Oral presentation)
- 2009 Aviation Week's Bird Strike Prevention Forum. Chicago, USA. (Invited speaker)
- 2009 USA / Canada Bird Strike Committee Meeting. Victoria, Canada. (Oral presentation)
- 2014 5th Annual Diamond Route Conference. Johannesburg, RSA. (Attendance)
- 2015 6th Annual Diamond Route Conference, Johannesburg, RSA. (Attendance)
- 2016 Learn About Birds conference, Birdlife South Africa, Skukuza, South Africa. (Attendance)
- 2016 7th Annual Oppenheimer DeBeers Group Research Conference, Johannesburg, RSA. (Attendance)
- 2017 Zoological Society of Southern Africa (ZSSA), Pretoria, South Africa. (Attendance)
- 2017 8th Annual Oppenheimer DeBeers Group Research Conference, Johannesburg, RSA. (Attendance)
- 2018 Learn About Birds conference, Birdlife South Africa, Langebaan, South Africa. (Attendance)
- 2018 9th Annual Oppenheimer DeBeers Group Research Conference, Johannesburg, RSA. (Attendance)
- 2019 BLSA Birds and Renewable Energy Forum. Johannesburg, RSA. (Attendance)
- 2021 Learn About Birds conference, Birdlife South Africa. (online)
- 2022 11th Oppenheimer Research Conference, Johannesburg, RSA. (Attendance)
- 2023 Learn About Birds conference, Birdlife South Africa, Wildernis, South Africa. (Attendance)



Die Raad en Senaat van die Randse Afrikaanse Universiteit verklaar hiermee dat die graad

BACCALAUREUS SCIENTIAE (B.Sc.)

met studierigting

BIOLOGIESE WETENSKAPPE

met al die regte en voorregte daaraan verbonde op 'n kongregasie van die Universiteit **cum laude** toegeken is aan

ALBERT FRONEMAN

Kragtens die wet en statute van die Universiteit

C.F. Crouse

Rektor

20-MAART-1995 Johannesburg

Registrateur



Die Raad en Senaat van die RANDSE AFRIKAANSE UNIVERSITEIT verklaar hiermee dat die graad

BACCALAUREUS SCIENTIAE CUM HONORIBUS

met studierigting

Dierkunde

met al die regte en voorregte daaraan verbonde op 'n kongregasie van die Universiteit toegeken is aan

ALBERT FRONEMAN

kragtens die Wet en statute van die Universiteit.

A. von der Mart

Rektor

22-MAART-1996 Johannesburg ID 7308145080081

For Edin

Registrateur (Akademie)





UNIVERSITY OF CAPE TOWN

we certify that

Albert Froneman

was admitted to the degree of

Master of Science

in Zoology (Conservation Biology) on 27 June 1997

A REAL PLOTE

Hugh Amoore Registrar

Vice Chancellor



forestry, fisheries & the environment

Department: Forestry, Fisheries and the Environment REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

Environmental Authorisation application for the Igolide Wind Energy Facility (up to 100 MW) northeast of Fochville, within the Merafong City Local Municipality in the Gauteng Province.

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
- This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Avifaunal Assessment
Specialist Company Name	AfriAvian Environmental
Specialist Name	Albert Froneman
Specialist Identity Number	730815 5080 081
Specialist Qualifications:	M.Sc. Conservation Biology
Professional affiliation/registration:	SACNASP – Zoological Science 400177/09
Physical address:	.28 San Henrique 2 Rosewood Rd Broadacres 2055
Postal address:	Box 2676 Fourways 2055
Postal address	Box 2676 Fourways 2055
Telephone	082 901 4016
Cell phone	082 901 4016
E-mail	albert.froneman@gmail.com

SPECIALIST DECLARATION FORM – AUGUST 2023

2. DECLARATION BY THE SPECIALIST

I, Albert Froneman declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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 –
 - o 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Signature of the Specialist

AfriAvian Environmental	Λ	
Name of Company:		
27 Jun 2024	M	
Date		 9
	4	

SPECIALIST DECLARATION FORM – AUGUST 2023

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ Albert Froneman_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

M

Signature of the Specialist

AfriAvian Environmental
Name of Company
27 Jun 2024
Date
Signature of the Commissioner of Oaths
THAVE 2024
Date

BRUCE MORRISON C. A. (S. A.) COMMISSIONER OF OATHS 1995-12-05 REF: 9/1/8/2 SPRINGS (A3) 79 FIFTH STREET, SPRINGS Kerry is a highly focused and dedicated Spatial Professional with strong technical skills and some 27 years' experience in the application and use of geographic analysis and geospatial technologies in support of a range of environmental and development planning projects.

While Kerry's expertise is largely centred on the management and presentation of geospatial data for environmental impact assessments, her GIS skills are frequently utilised in support of a range of other projects, including:

- Strategic environmental assessments and management plans;
- Visual and landscape assessments;
- Wetland / surface water assessments;
- Catchment delineation for floodline analysis;
- Urban and Rural Development Planning;
- Transport Assessments; and
- Infrastructure Development Planning.

Kerry has extended her skills base to include the undertaking of specialist Visual Impact Assessments (VIAs) for a range of projects, including renewable energy, power line and residential / mixed-use developments.

Education

• BA (Geography), Leeds Trinity University, UK (1982)

Project Experience

Built Infrastrucure

Kerry has been responsible for GIS analysis and mapping in support of multiple built infrastructure projects over the years, key projects include:

- EIA and EMP for 5x 440kV Transmission Lines between Thyspunt (proposed nuclear power station site) and several substations in the Port Elizabeth area Eskom (Eastern Cape Province).
- Initial Scoping for the proposed 750km multi petroleum products pipeline from Durban to Gauteng/Mpumalanga Transnet Pipelines.
- Detailed EIA for multi petroleum products pipeline from Kendall Waltloo, and from Jameson Park to Langlaagte Tanks farms –Transnet Pipelines.
- Environmental Management Plan for copper and cobalt mine (Democratic Republic of Congo).
- EIA and Agricultural Feasibility study for Miwani Sugar Mill (Kenya).
- EIAs for Concentrated Solar and Photovoltaic power plants and associated infrastructure (Northern Cape, Free State, Limpopo and North West Province).
- EIAs for Wind Farms and associated infrastructure (Northern Cape and Western Cape).
- Basic Assessments for 132kV Distribution Lines (Free State, KwaZulu-Natal, Mpumalanga and North West Province).
- Environmental Assessment for the proposed Moloto Development Corridor (Limpopo).

- Environmental Advisory Services for the Gauteng Rapid Rail Extensions Feasibility Project.
- Environmental Screening for the Strategic Logistics and Industrial Corridor Plan for Strategic Infrastructure Project 2, Durban-Free State-Gauteng Development Region.

Renewable Energy Development

Kerry has been responsible for GIS analysis, mapping and spatial data management in support of multiple Environmental Impact Assessments for renewable energy projects, the most recent of these being:

- Hoogland Wind Farms, Northern and Southern Clusters, Redcap 2022.
- Jessa 1, 2 & 3 WEFs, ENERTRAG South Africa, 2022.
- Ceres WEF Suite (Karee and Patatskloof), South Africa Mainstream Renewable Power Developments, 2021.
- Beaufort West WEF Suite (Heuweltjies and Kraaltjies), South Africa Mainstream Renewable Power Developments, 2021.
- Koup 1 and Koup 2 WEFs, Genesis Energy, 2021.
- Oya Energy Facility, G7 Renewable Energies, 2020.
- Mooi Plaats, Wonderheuvel and Paarde Valley Solar PV Plants, EDF Renewable Energy, 2019.
- Rondekop WEF, G7 Renewable Energies, 2019.
- Tooverberg WEF, ENERTRAG South Africa, 2019.

State of the Environment Reporting

Kerry was responsible for GIS analysis, mapping and spatial data management in support of State of the Environment Reports for the City of Johannesburg.

- 2008 State of the Environment Report for City of Johannesburg.
- Biodiversity Assessment (2008) for City of Johannesburg.

Strategic Environmental Assessments and Environmental Management Frameworks

Kerry was responsible for GIS analysis, mapping and spatial data management in support of several Strategic Environmental Assessment (SEA) and Environmental Management Framework (EMF) projects, including:

- SEA for Greater Clarens Maloti-Drakensberg Transfrontier Park (Free State).
- SEA for the Marula Region of the Kruger National Park, SANParks.
- SEA for Thanda Private Game Reserve (KwaZulu-Natal).
- SEA for KwaDukuza Local Municipality (KwaZulu-Natal).
- EMF for proposed Renishaw Estate (KwaZulu-Natal).
- EMF for Mogale City Local Municipality, Mogale City Local Municipality (Gauteng).

- SEA for Molemole Local Municipality, Capricorn District Municipality (Limpopo).
- SEA for Blouberg Local Municipality, Capricorn District Municipality (Limpopo).
- SEA for the Bishopstowe study area in the Msunduzi Local Municipality (KwaZulu-Natal).

Visual Impact Assessments

Kerry has been responsible for undertaking specialist visual impact assessments for various infrastructure development projects in South Africa, Namibia and Zimbabwe. Recent projects include:

- VIA (EIA) for the HDF Energy Renewstable[®] Swakopmund Project, in Swakopmund, Namibia.
- VIA (EIA) for the Vhuvhili SEF, near Secunda, Mpumalanga Province.
- VIA (EIA) for the Mkondeleli WEF, near Secunda, Mpumalanga Province.
- VIA (EIA) for the Impumelelo WEF, near Secunda, Mpumalanga Province.
- VIAs (EIAs) for the Camden Renewable Energy Complex (REF), including wind, solar and green hydrogen facilities, and grid connection infrastructure, near Camden, Mpumalanga Province.
- VIAs (EIAs) for the Hendrina Renewable Energy Complex (REF), including wind, solar and green hydrogen facilities, and grid connection infrastructure, near Hendrina, Mpumalanga Province.
- VIAs (BAs) for the Ceres WEF Suite, near Touws River, Western Cape Province.
- VIAs (EIAs) for the Beaufort West WEF Suite, near Beaufort West, Western Cape Province.
- VIAs (EIAs) for the proposed Koup 1 and Koup 2 WEFs and associated Grid Connection Infrastructure, near Beaufort West, Western Cape Province.
- VIA (EIA) for the proposed Oya Energy Facility near Matjiesfontein, Western Cape Province.
- VIA (BA) for the proposed construction of 132kV power lines to serve the authorised Loeriesfontein 3 PV Solar Energy Facility near Loeriesfontein, Northern Cape Province.
- VIA (BA) for the proposed construction of the Oya 132kV power line near Matjiesfontein, Northern and Western Cape Provinces.
- VIAs (BA) for the proposed Gromis and Komas WEFs and associated Grid Connection Infrastructure, near Komaggas, Northern Cape Province.
- VIAs (Scoping and Impact Phase) for the proposed Mooi Plaats, Wonderheuvel and Paarde Valley Solar PV Plants near Noupoort in the Northern and Eastern Cape Provinces.
- VIA (EIA) for the proposed Paulputs WEF near Pofadder in the Northern Cape Province.
- VIA (EIA) for the proposed development of the Rondekop WEF near Sutherland in the Northern Cape Province.
- VIA (BA) for the proposed development of the Tooverberg WEF near Touws Rivier in the Western Cape Province.



• VIA (BA) for the proposed development of the Kudusberg WEF near Sutherland, Northern and Western Cape Provinces.

Memberships and Associations

- Geo-Information Society of South Africa (GISSA)
- South African Geomatics Council (SAGC) GTc GISc 1187



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Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

Basic Assessment for the proposed development of the 132kV Igolide Electrical Grid Infrastructure, near Fochville in Gauteng Province)

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
- 2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Visual Assessment	
Specialist Company Name	SLR Consulting (South Africa) (Pty) Ltd	
Specialist Name	Kerry Schwartz	
Specialist Identity Number	6010210231083	
Specialist Qualifications:	BA	
Professional affiliation/registration:	SAGC (GISc Technician)	
Physical address:	Suite1 Building D, Monte Circle, 178 Montecasino	
	Boulevard, Fourways	
Postal address:	PO Box 1596, Cramerview	
Postal address	2060	
Telephone	011 469 0945	
Cell phone	0824695850	
E-mail	klschwartz@slrconsulting.com	

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ Kerry Schwartz_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

KSUNWUL

Signature of the Specialist

SLR Consulting (South Africa) (Pty) Ltd

Name of Company

27 JUNE 2024

Date

Signature of the Commissioner of Oaths

202 Date

COMMISSIONER OF OATHS Oren Jan Van Vrede Ex Officio – Professional Accountant (S.A.) Member No.: 33335 Building D Monte Circle, 178 Montecasino Boulevard, Fourways, Johannesburg, 2191 (011) 467-0945 I certify that the DEPONENT has acknowledged that he/she knows and understands the contents of this affidavit, that he/she does not have any objection to taking the oath, and that he/she considers it to be binding on his/her conscience, and which was swom to and signed before me

at touceway S on this the 27 day of June 20 My and that the administering oath complied with the regulations contained in Government Gazette No. R1258 of 21 July 1972, as amended.

2. DECLARATION BY THE SPECIALIST

I, Kerry Schwartz declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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 –
 - o 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

16Schwall

Signature of the Specialist

SLR Consulting (South Africa) (Pty) Ltd

Name of Company:

27 JUNE 2024

COMMISSIONER OF OATHS Oren Jan Van Vrede Ex Officio – Professional Accountant (S.A.) Member No.: 33335 Building D Monte Circle, 178 Montecasino Boulevard, Fourways, Johannesburg, 2191 (011) 467-0945

vsp

Lufuno Nemakhavhani

Earth & Environment – Planning & Advisory, Wetland Ecologist

CAREER SUMMARY

Lufuno Nemakhavhani is a Wetland Ecologist with nine (9) years of working experience in the Environmental Sciences field. She holds a Masters degree in Environmental Management focusing on Wetland health and rehabilitation.

Lufuno is in the biodiversity division at WSP Group, where her roles include conducting wetland assessment studies such as, wetland delineations, wetland impact assessment, wetland baseline assessment, wetland rehabilitation assessment and monitoring. She is also responsible for conducting biodiversity assessments such as biodiversity baseline assessments, biodiversity management plans, biodiversity impact assessment, ecosystem services assessment. She has conducted biodiversity studies in many parts of the South Africa and in Ghana.



Lufuno has also been involved in a number of environmental permitting projects such as basic assessments and environmental and social impact assessments. She also has experience with conducting environmental compliance audits against environmental authorisations during the construction and/or operation phases of a project.

Countries of work experience gained include South Africa and Ghana.

1 year with WSP

Area of expertise

Wetland Assessment Biodiversity Assessments Environmental Impact Assessments Environmental Compliance Audits Aquatic Biomonitoring Assessments

9 years of experience

Language

Tshivenda – Fluent English – Fluent Zulu – Fluent

EDUCATION

Master of Environmental Management Environmental Management, University of the Free State	2020
BSc (Hons) Environmental Management, University of South Africa, Johannesburg	2016
BSc Life & Environmental Science Geography & Environmental, University of Johannesburg	2012

ADDITIONAL TRAINING

Introduction to Tools for Wetland Assessment	2021
Introduction to Wetland Delineation and Assessment	2017
Standard ARC GIS Mapping	2015

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Lufuno Nemakhavhani

Earth & Environment - Planning & Advisory, Wetland Ecologist

PROFESSIONAL MEMBERSHIPS

SAWS – South African Wetland Society – Member No. 394374	2019
SACNSP – South African Council of Natural Scientist Professional – Member No. 116461	2016

PROFESSIONAL HISTORY

WSP Group Africa (Pty) Ltd	July 2021 – present
Golder Associates Africa (Pty) Ltd	2017 – June 2021
Sazi Environmental Consulting	2015 - 2017
Earth Life Africa	2014 - 2014
Sebata Group of Companies	2013 – 2014

PROFESSIONAL EXPERIENCE

Biodiversity

Pelelani, Calcining plant and tailings facility Development, Northwest, South Africa 2022 Wetland Ecologist Aquatic Biodiversity (wetland systems) Specialist Assessment - Baseline Report Enertrag, Dalmanutha Wind Energy Facility, Mpumalanga, South Africa 2022 Wetland Ecologist Dalmanutha Wind Energy Facility - Aquatic Biodiversity (wetland systems) Specialist Assessment Eskom, Solar Energy development at Komati Power Station, Mpumalanga, South Africa 2022 Wetland Ecologist Aquatic Biodiversity (riparian and wetland systems) Specialist Assessment Genser Ghana, Phase II Biodiversity Impact Assessment and Action Plan, Ghana 2021 **Biodiversity specialist** Biodiversity Baseline, Impact Assessment and Action Plan Glencore iMpunzi, Mpumalanga, South Africa 2018 Wetland Ecologist Ecological screening study for the proposed haul road at iMpunzi complex mine Nooitgedacht 406KQ, portion 2 and 10, Limpopo, South Africa 2018 Wetland Ecologist Conducting a wetland delineation and assessment of Portion 2 and 10 of the Nooitgedacht 406 KQ Property associated with the Nooitgedacht Mine as part of a Water Use License Application. Mafube, LifeX Project, Mpumalanga, South Africa 2018

Wetland Ecologist

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Lufuno Nemakhavhani

Earth & Environment - Planning & Advisory, Wetland Ecologist

Conducting a wetland audit of the wetland crossings within the Mafube LifeX site against the approved WUL conditions.

Exxaro Belfast Implementation Project, Mpumalanga, South Africa 2018-current

Wetland Ecologist

Conducting a wet season wetland assessment to monitor changes within each identified Belfast wetland HGM unit against the baseline results obtained prior to the Belfast Implementation Project.

Environmental Impact Assessment

Glencore iMpunzi, Paddocks and Venture Dump Facilities, Mpumalanga, South Africa 2018

EAP

Conducting environmental Impact Assessment and compiling the scoping report for the integrated regulatory process associated with the proposed expansion of the iMpunzi paddocks and venture dump facilities

Bushveld Vametco, Basic Impact Assessment, Brits, Northwest, South Africa 2019

EAP

Conducting Basic Impact Assessment for the Development of solar panels and a Vanadium Redox Flow Battery storage within a mining right area at Vametco Mine in Brits, Northwest.

Transnet, Vanderbijlpark service road along Houtheuwel and Potchefstroom railway line Gauteng, South Africa

2015

EAP

Environmental Assessment Practitioner for a basic assessment and Water Use Licence of the reconstruction of the Transnet Collapsed bridge in Vanderbijlpark service road along Houtheuwel and Potchefstroom railway line.

Environmental Audit

GoodRock Chemworks, Installation of a Ball Mill: EA and EMP Compliance Assessment, Northern Cape, South Africa

2021

ECO

External Environmental Control Officer for the installation of a Ball Mill. Undertaking qurterly environmental compliance audits in accordance with the approved EA and EMP at Goodrock Chemworks.

Universal Coal, North Block Complex, Paardeplaats Mine Mpumalanga, South Africa 2019

ECO

External Environmental Control Officer for NBC Paardeplaats Mine. Undertaking weekly environmental compliance audits in accordance with the approved EMP and authorised WUL at the Paardeplaats Mine.

Vopak South Africa Developments, Lesedi, Gauteng, Heidelberg, South Africa 2019-2021

EAP

Environmental Control Officer for the VSAD Lesedi Project. Conducting environmental compliance audits for the construction phase of the VSAD Lesedi which entails the construction of hydrocarbon storage tanks.

Eskom, Ariadne-Eros Powerline, Kwazulu-Natal, South Africa

2016 EO

Environmental Control Officer for the Eskom Ariadne-Eros Powerline Conducting environmental compliance and enforcement audits on a full-time basis during the construction of the Eskom Powerline.



herewith certifies that

Lufuno Nemakhavhani

Registration Number: 116461

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003) in the following fields(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective 9 December 2021

Expires 31 March 2024



Chairperson

Chief Executive Officer



To verify this certificate scan this code



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Department: Forestry, Fisheries and the Environment REPUBLIC OF SOUTH AFRICA

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SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

132kV Grid Connection and Associated Infrastructure for the Igolide Wind Energy Facility, northeast of Fochville, within the Merafong City Local Municipality in the Gauteng Province.

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
- This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Wetland Ecologist	
Specialist Company Name	WSP Group Africa (Pty) Ltd	
Specialist Name	Lufuno Nemakhavhani	
Specialist Identity Number	9106180596088	
Specialist Qualifications:	Master Environmental Management	
Professional affiliation/registration:	SACNASP	
Physical address:	Building 1, Maxwell Office Park, Magwa Cres, Midrand, 1685	
Postal address:	Same as above	
Postal address	Clicken up have to colta by h	
Telephone	011 361 1300	
Cell phone	0727189952	
E-mail	Lnemakhavhani@WSP.com	

2. DECLARATION BY THE SPECIALIST

I, Lufuno Nemakhavhani declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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 –
 - o 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Nemakh.l

Signature of the Specialist

WSP Group Africa (Pty) Ltd

Name of Company:

17 Oct 2024

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ Lufuno Nemakhavhani____ _____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Nemakh.l

Signature of the Specialist

WSP Group Africa (Pty)Ltd

Name of Company

17 October 2024

Date

Click or tap here to enter text.

Signature of the Commissioner of Oaths

17/10/2024 A

Tracy Skinner Commissioner of Oaths Ex-Officio Professional GISc Practitioner (PGP 1356) Magwa Crescent West, Waterfell City Midrand

Click or tap to enter a date.

9. Appendix B – Details of specialist

Curriculum vitae (short) - Marion Bamford PhD July 2023

I) Personal details

Surname	:	Bamford
First names	:	Marion Kathleen
Present employme	ent:	Professor; Director of the Evolutionary Studies Institute.
		Member Management Committee of the NRF/DST Centre of
		Excellence Palaeosciences, University of the Witwatersrand,
		Johannesburg, South Africa
Telephone	:	+27 11 717 6690
Fax	:	+27 11 717 6694
Cell	:	082 555 6937
E-mail	:	<u>marion.bamford@wits.ac.za ;</u>
		marionbamford12@gmail.com

ii) Academic qualifications

Tertiary Education: All at the University of the Witwatersrand: 1980-1982: BSc, majors in Botany and Microbiology. Graduated April 1983. 1983: BSc Honours, Botany and Palaeobotany. Graduated April 1984. 1984-1986: MSc in Palaeobotany. Graduated with Distinction, November 1986. 1986-1989: PhD in Palaeobotany. Graduated in June 1990. NRF Rating: C-2 (1999-2004); B-3 (2005-2015); B-2 (2016-2020); B-1 (2021-2026)

iii) Professional qualifications

Wood Anatomy Training (overseas as nothing was available in South Africa): 1994 - Service d'Anatomie des Bois, Musée Royal de l'Afrique Centrale, Tervuren, Belgium, by Roger Dechamps 1997 - Université Pierre et Marie Curie, Paris, France, by Dr Jean-Claude Koeniguer

1997 - Université Claude Bernard, Lyon, France by Prof Georges Barale, Dr Jean-Pierre Gros, and Dr Marc Philippe

iv) Membership of professional bodies/associations

Palaeontological Society of Southern Africa Royal Society of Southern Africa - Fellow: 2006 onwards Academy of Sciences of South Africa - Member: Oct 2014 onwards International Association of Wood Anatomists - First enrolled: January 1991 International Organization of Palaeobotany – 1993+ Botanical Society of South Africa South African Committee on Stratigraphy – Biostratigraphy - 1997 - 2016 SASQUA (South African Society for Quaternary Research) – 1997+ PAGES - 2008 –onwards: South African representative ROCEEH / WAVE – 2008+ INQUA – PALCOMM – 2011+onwards

vii) Supervision of Higher Degrees

All at Wits University		
Degree	Graduated/completed	Current
Honours	13	0
Masters	13	3
PhD	13	6
Postdoctoral fellows	15	4

viii) Undergraduate teaching

Geology II – Palaeobotany GEOL2008 – average 65 students per year Biology III – Palaeobotany APES3029 – average 45 students per year Honours – Evolution of Terrestrial Ecosystems; African Plio-Pleistocene Palaeoecology; Micropalaeontology – average 12-20 students per year.

ix) Editing and reviewing

Editor: Palaeontologia africana: 2003 to 2013; 2014 – Assistant editor Guest Editor: Quaternary International: 2005 volume Member of Board of Review: Review of Palaeobotany and Palynology: 2010 – Associate Editor Open Science UK: 2021 -

Review of manuscripts for ISI-listed journals: 30 local and international journals Reviewing of funding applications for NRF, PAST, NWO, SIDA, National Geographic, Leakey Foundation

x) Palaeontological Impact Assessments

Selected from the past five years only – list not complete:

- Skeerpoort Farm Mast 2020 for HCAC
- Vulindlela Eco village 2020 for 1World
- KwaZamakhule Township 2020 for Kudzala
- Sunset Copper 2020 for Digby Wells
- McCarthy-Salene 2020 for Prescali
- VLNR Lodge 2020 for HCAC
- Madadeni mixed use 2020 for EnviroPro
- Frankfort-Windfield Eskom Powerline 2020 for 1World
- Beaufort West PV Facility 2021 for ACO Associates
- Copper Sunset MR 2021 for Digby Wells
- Sannaspos PV facility 2021 for CTS Heritage
- Smithfield-Rouxville-Zastron PL 2021 for TheroServe
- Glosam Mine 2022 for AHSA
- Wolf-Skilpad-Grassridge OHPL 2022 for Zutari
- Iziduli and Msenge WEFs 2022 for CTS Heritage
- Hendrina North and South WEFs & SEFs 2022 for Cabanga
- Dealesville-Springhaas SEFs 2022 for GIBB Environmental
- Vhuvhili and Mukondeleli SEFs 2022 for CSIR

- Chemwes & Stilfontein SEFs 2022 for CTS Heritage
- Equestria Exts housing 2022 for Beyond Heritage
- Zeerust Salene boreholes 2022 for Prescali
- Tsakane Sewer upgrade 2022 for Tsimba
- Transnet MPP inland and coastal 2022 for ENVASS
- Ruighoek PRA 2022 for SLR Consulting (Africa)
- Namli MRA Steinkopf 2022 for Beyond Heritage

xi) Research Output

Publications by M K Bamford up to July 2023 peer-reviewed journals or scholarly books: over 170 articles published; 5 submitted/in press; 10 book chapters. Scopus h-index = 31; Google scholar h-index = 39; -i10-index = 116 Conferences: numerous presentations at local and international conferences.

2. DECLARATION BY THE SPECIALIST

I, Lufuno Nemakhavhani declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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
 - o 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Nemakh.l

Signature of the Specialist

WSP Group Africa (Pty) Ltd

Name of Company:

17 Oct 2024

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ Lufuno Nemakhavhani_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Nemakh.l

Signature of the Specialist

WSP Group Africa (Pty)Ltd

Name of Company

17 October 2024

Date

Click or tap here to enter text.

Signature of the Commissioner of Oaths

Click or tap to enter a date.



forestry, fisheries & the environment

Department: Forestry, Fisheries and the Environment REPUBLIC OF SOUTH AFRICA

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SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

Proposed Igolide Electrical Grid Connection, Gauteng Province

Kindly note the following:

- 1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
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- 3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
- 4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation GN 320/2020)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Palaeontological Assessment
Specialist Company Name	Marion Bamford Consulting
Specialist Name	Marion Bamford
Specialist Identity Number	Click or tap here to enter text.
Specialist Qualifications:	PhD Palaeontology (Wits, 1990)
Professional affiliation/registration:	PSSA, FRSSAf, mASSAf, SASQUA, INQUA, IOP
Physical address:	24A 8th Avenue, Parktown North
Postal address:	P O Box 652
Postal address	2050
Telephone	082 555 6937
Cell phone	082 555 6937
E-mail	Marionbamford12@gmail.com

2. DECLARATION BY THE SPECIALIST

I, Marion Bamford declare that -

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified 0 environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that 0 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 the specialist report relevant to this application, including knowledge of the Act, 0 Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act. Regulations and all other applicable legislation: ۵
- I have no, and will not engage in, conflicting interests in the undertaking of the activity; 0
- 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; о
 - the objectivity of any report, plan or document to be prepared by myself for submission to the competent 0 authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

MLBamfne Signature of the Specialist

Marion Bamford Consulting

Name of Company:

26 Jun 2024

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ Marion Bamford_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

MEBergfred

Signature of the Specialist

Marion Bamford Consulting Name of Company

26 June 2024

Date

Signature of the Commissioner of Oaths

Click or tap to enter a date.

understands ti	e DEPONENT has acknowledgod that he/she knows and the contexts or this alfidavit, that he/she does not have any king the outh, and thet he/she consider if to he hinding on
	ance and shows a second to and sugad before me
ar si tral tric a	dministering upth compliad with the regulations contained in
ចិត្តភូមារគាត់ព្ន ថ្មី	status No. 12 1250 of 21 July 1972, as amended.
Signature:	
Name: Farha	art Hassan
Commissione	r of Oaths, District of Johannesburg
	e: Seniar Applications Developer
Faculty/Office	
	the Witwallersrahd, Johannosburg,
	Avenue, Graamianen 2008; Johannosburg