



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

APPLICATION FORM FOR AMENDMENT OF AN ENVIRONMENTAL AUTHORISATION – AUGUST 2023

Application submitted for amendment to a valid environmental 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)

PROJECT TITLE (*This must include local municipality and/or district municipality and province*)

Alteration of the approved layout for the Great Karoo Wind Farm (Pty) Ltd and its associated infrastructure, located in the Karoo Hoogland municipality of the Northern Cape Province

Application in terms of	Part 1 ☒
	Part 2 ☐
Indicate if the DRAFT report accompanies the application (select one box)	YES ☒
	NO ☐

PRE-APPLICATION CONSULTATION

Was a pre-application meeting held	YES ☒	NO ☐
Date of the pre-application meeting	02 July 2026	
Reference number of pre-application meeting held	12-12-20-2370-3-MP1 & 12_12_20_2370_3	
Were minutes compiled and submitted to the Department for approval	YES ☐	NO ☒
A copy of the approved pre-application meeting minutes must be appended to this application as APPENDIX 1 .		



Batho pele- putting people first

The processing of personal information by the Department of Forestry, Fisheries and the Environment is done lawfully and not excessive to the purpose of processing in compliance with the POPI Act, any codes of conduct issued by the Information Regulator in terms of the POPI Act and / or relevant legislation providing appropriate security safeguards for the processing of personal information of others.

IMPORTANT INFORMATION BEFORE COMPLETING THIS APPLICATION FORM:

1. General:

- 1.1. This form must be used to apply for the Amendment of an Environmental Authorisation where this Department is the Competent Authority. An amendment includes:
 - 1.1.1. adding, substituting, removing or changing a condition or requirement of an Environmental Authorisation, or
 - 1.1.2. updating or changing any details or correcting a technical error.
- 1.2. The appointed environmental assessment practitioner (EAP) **must be registered with Environmental Assessment Practitioners Association of South Africa (EAPASA)** in terms of Regulation 14 of Section 24H Registration Authority Regulations, 2016, as amended. Proof of such valid registration must be appended to this Application form ([APPENDIX 8B](#)). This will be confirmed by the Competent Authority (CA) on the EAPASA website.
- 1.3. The EAP candidate may only **assist** the registered EAP and work under the supervision of a registered EAP (Regulation 14(6) in the S24H Registration Authority Regulations, 2016, as amended). The registered EAP takes full responsibility for the work conducted.
- 1.4. The required information must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing. A legible font type and size must be used when completing the form. The font size should not be smaller than 10pt (e.g. Arial 10).
- 1.5. Unless protected by law, all information contained in and attached to this application, will become public information on receipt by the Competent Authority. Upon request during any stage of the application process, the Applicant / EAP must provide any registered interested and affected party with the information contained in and attached to this application.
- 1.6. This application 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 accessible at <https://www.dffe.gov.za/documents/forms/legal>.
- 1.7. The onus is on the Applicant/EAP to confirm whether DFFE is the Competent Authority to which this application must be submitted (Section 24C of NEMA).
- 1.8. An application for amendment of Environmental Authorisation lapses if the applicant fails to meet any of the timeframes prescribed in terms of the EIA Regulations, 2014, as amended.

2. Administrative Requirements:

- An application fee is applicable (refer to [2. FEES](#)). Proof of payment **must** accompany this application and be paid **prior** to the submission of this Application form ([APPENDIX 2](#)). The application will not be processed without proof of payment unless one of the exclusions provided for in the Fee Regulations is applicable **AND** such information in the exclusion section of this application form has been confirmed by this Department.
- 2.2. A cover letter on your company letterhead indicating the nature of this application **must** be appended to this form for e.g. new application for Environmental Authorisation, amendment application for Environmental Authorisation etc.
 - 2.3. An electronic copy of the signed application form must be submitted of both the Applicant and EAP and the signature should not be older than 4 months. The relevant form(s) can be found on our website <https://www.dffe.gov.za/documents/forms/legal>.
 - 2.4. This form must be submitted to the CA in the format as prescribed in the process to upload documents form. Note, that this CA does not accept hard copy documents since June 2020. <https://www.dffe.gov.za/documents/forms/legal>
 - 2.5. Where required, select the box required. The empty box, once selected, will replace with a ☒.
 - 2.6. The use of the phrase "not applicable" in the form must be done with circumspection. Where it is used in respect of material information that is required by the Competent Authority for assessing the application, this may result in the application being considered as **incomplete** as provided for in the EIA Regulations.
 - 2.7. Unless protected by law, all information contained in and attached to this application, will become public information on receipt by the Competent Authority. Upon request during any stage of the application process, the Applicant / EAP must provide any registered interested and affected party with the information contained in and attached to this application.

- 2.8. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report and declaration of interest of the specialist must also be submitted. The form can be found on our website <https://www.dffe.gov.za/documents/forms/legal>.
- 2.9. Please note that this form must be copied to the relevant Provincial Environmental Department(s). Ensure that correct details are provided.
- 2.10. Certified copy/ies of the Environmental Authorisation and all subsequent Amendments thereto, if applicable must be attached to this application as **APPENDIX 3**. Should a certified copy/ies of the Environmental Authorisation and subsequent Amendments thereto not be available, an original commissioned Affidavit/Affirmation under oath undertaken by the holder must be appended to this application form, which signature should not be older than 4 months.

Competent Authority Details

Online Submission only:

<https://sfiler.environment.gov.za:8443/>.

Click <https://www.dffe.gov.za/documents/forms/legal> for guidance document which must be complied with in order to upload/submit files to this Competent Authority.

Physical address:

Department of Forestry, Fisheries and the Environment
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

For Submission enquiries: Contact the Directorate: IEA Strategic Support, Coordination and Reporting at:
Email: EIAApplications@dffe.gov.za

For EIA related implementation queries:

Email: EIAAdmin@dffe.gov.za

For EIA Related Interpretation queries in terms of the Listed Activities:

Email: IQ@dffe.gov.za

For SIP confirmation, please contact the SIP coordinator at the below contact details:

- Mr Alvino Wildschutt-Prins
Programme Manager: Infrastructure Pipeline Development & Management
SIP Programme Management Office
Cell: 072 650 2249
Email: alvino@presidency.gov.za
- Mr Avik Singh, Infrastructure Project pipeline (SIP Support)
AvikS@idc.co.za

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1. COMPETENT AUTHORITY

Identified Competent Authority to consider the application:	Department of Forestry Fisheries and the Environment
Reason(s) in terms of S24C of NEMA:	<i>In terms of GNR 779 of 02 July 2016, the National Department of Environmental Affairs (DEA) has been determined as the competent authority for all projects which relate to the IRP 2010 and any updates thereto. Furthermore, the original authorisation was issued by the same department.</i>
Attach proof of Section 24 C (3) agreement, where applicable	Proper motivation must be attached to the application (APPENDIX 4)

2. FEES

Applicants are required to tick the appropriate box below to indicate that either proof of payment is attached or that, in the applicant's view, an exclusion applies. Proof of payment or a motivation for exclusions must be attached as [APPENDIX 2](#) of this application form.

Proof of payment attached	YES ☒	NO ☐
Payment Reference Number	-32.7930556, 20.7431945	
Exclusion in terms of Regulation 2(a) or 2(b) of GNR 141 of 28 February 2014 (Fee Regulations)	YES ☐	NO ☒

An applicant is excluded from paying fees if:

- The activity is a community based project funded by a government grant; or
- The applicant is an organ of state.

TYPE OF EXCLUSION	Tick where applicable. Proper motivation must be attached to the application (APPENDIX 2)	
The activity is a community-based project funded by a government grant		☐
The applicant is an organ of state		☐
FEE AMOUNT	Fee	
Application for amendment of environmental authorisation	R2 000	☒

Department of Forestry, Fisheries and the Environment banking details for the payment of application fees:

Payment/Refund Enquiries: Email: EIAAdmin@dfre.gov.za	
Banking details: Bank ABSA Bank Branch code 632005 Account number 1044 2400 72 Account Type Current account	
Reference number: Reference number to be provided in the specific format indicating centre point coordinates of site in decimal degrees to 5 or 6 decimal places: latitude/longitude e.g. -33.918861/18.423300	
Status: Tax exempted	

3. GENERAL INFORMATION

PROJECT TITLE (This must include local municipality and/or district municipality and Province)

Alteration of the approved layout for the Great Karoo Wind Farm (Pty) Ltd and its associated infrastructure, located in the Karoo Hoogland municipality of the Northern Cape Province

Title	Mr
Name of the Applicant	Manuele
Surname of the Applicant	Battisti
Responsible position, e.g. Director, CEO, etc	Country Manager
Name in which the EA was issued to	Great Karoo Wind Farm (Pty) Ltd
Name of contact person for applicant (if other)	Mr Manuele Battisti
Company/ Trading name (if any)	Great Karoo Wind Farm (Pty) Ltd
Company Registration Number	2017/118197/07
Physical address	102 Rivonia Road Sandton Johannesburg
Postal address	102 Rivonia Road Sandton Johannesburg
Postal code	2196
Telephone	010 344 0388
Cellphone	Click or tap here to enter text.
E-mail	Manuele.battisti@enel.com

Name of the Landowner	Eldri van Zyl Trust
Surname of the Landowner	Van Zyl
Postal address	PO Box 198 Sutherland
Postal code	6920
Telephone	0230040244
Cellphone	0825947308
E-mail	deplaat@roggeveld.co.za

Name of the Person in control of the land	Judith van Zyl
Surname of the Person in control of the land	Van Zyl
Postal address	PO Box 198 Sutherland
Postal code	6920
Telephone	0230040244
Cellphone	0825947308
E-mail	deplaat@roggeveld.co.za

In instances where there is more than one landowner, please attach a list of those landowners with their contact details as [APPENDIX 5](#).

Certified copy/ies of the Environmental Authorisation and subsequent Amendments thereto, if applicable must be attached to this application as [APPENDIX 3](#). Should a certified copy/ies of the Environmental Authorisation and subsequent Amendments thereto not be available, an original commissioned Affidavit/Affirmation under oath undertaken by the applicant, must be appended to this application form, with signatures not being older than 4 months.

Unless the application is in respect of linear activities or Strategic Infrastructure Projects as contemplated in the Infrastructure Development Act (Act No. 23 of 2014) and Regulation 39 of the EIA Regulations, 2014, as amended, written consent of landowner/s must be submitted in [APPENDIX 5](#).

The signed declaration undertaking by the applicant must be submitted as [APPENDIX 6](#) (must not be older than 4 months).

Provincial Environmental Authority:	Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform (DAERDL)
Name of contact person in Environmental Section (name and surname)	Olga Keneilwe koikoi
Postal address	Department of Environment and Nature Conservation Attention: Directorate: Environmental Quality Management Private Bag X6102 KIMBERLEY
Postal code	8300
Telephone	053 807-7430
Cellphone	071 621 9900
E-mail	skeneilweolga@gmail.com

Local Municipality	Karoo Hoogland Local Municipality
Name of contact person in Environmental Section (name and surname)	Mr Johannes Jonkers
Postal address	2 Mulder street, P.O. Box 165, Williston,
Postal code	8920
Telephone	053 285 0998 / 066 056 2811
Cellphone	
E-mail:	info@karoohoogland.gov.za

In instances where there is more than one Local/Provincial Authority involved, please attach a list of those Local/ Provincial Authorities with their contact details as [APPENDIX 7](#). Ensure that the details provided above are verified and valid.

4. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

Company of Environmental Assessment Practitioner (EAP)	Environmental Impact Management Services (Pty) Ltd
EAP name and surname	John von Mayer
EAP Qualifications and Professional affiliations	BSc Hons South African Council Natural and Scientific Professions (SACNASP) (400336/11) Registered EAPASA Environmental Practitioner (2019/1247)
Physical address	8 Dalmeny Road, Pine Park Randburg, JHB
Postal address	P.O. Box 2083, Pinetown 2123
Postal code	2123
Telephone	+27 11 789 7170
Cellphone	+27 83 393 2208
E-mail	john@eims.co.za

In terms of section 24H of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), and the S24H Regulations as amended:

Are you a registered environmental assessment practitioner, registered with EAPASA in terms of Regulation 14 of Section 24H Registration Authority Regulations, 2016, as amended.	YES* ☒	NO** ☐
If "No**" provide proof of appointment letter clearly depicting appointment before the 08 August 2022 as per GNR 1733, Amendment of Section 24H Registration Authority Regulations, 2016, 7 February 2022. If you do not attach this proof, you may not commence further with the application, kindly refer to Regulation 14 (2) of the Section 24H Registration Authority Regulations, 2016, as amended.	Attached as APPENDIX 8A	
If "Yes*" please provide a valid certificate of registration (Please attach under APPENDIX 8B) Note that this will be verified with EAPASA.	Attached as APPENDIX 8B	
Please provide valid EAPASA Registration number.	2019/1247	

Note that this information for Section 4 is only required if an EAP is undertaking the amendment process. The appointed EAP must meet the requirements of Regulation 13 of the EIA Regulations, 2014 as amended and Regulation 14(2) and 15(1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended. The declaration of independence of the EAP and undertaking under oath or affirmation that all the information submitted or to be submitted for the purposes of the application is true and correct must be submitted as [APPENDIX 8C](#).

5. DETAILS OF IMPLEMENTATION OF PREVIOUS ENVIRONMENTAL AUTHORISATION

Reference Number of EA:	Layout 12-12-20-2370-3-MP1 EA 12_12_20_2370_3 (AM1-AM6)	
Date EA issued:	Layout 15 October 2021 EA	
Reference Number of all amendments issued with its respective dates. <i>Include reason for amendment e.g., 14/12/16/3/3/1/1 /AM1- 27 October 2023 – extension of validity period for additional 2 years:</i>	12_12_20_2370_3 (AM1) 2016 12_12_20_2370_3 (AM2) 2017 12_12_20_2370_3 (AM3) 2019 12_12_20_2370_3 (AM4) 2021 12_12_20_2370_3 (AM5) 2021 12_12_20_2370_3 (AM6) 2021	
Date EA expires: N.B. Regulation 28(1)(A) of the EIA Regulations 2014, as amended states that "The competent authority shall not accept or process an application for amendment of an environmental authorisation if such environmental authorisation is not valid on the day of receipt of such amendment application..."	Construction commenced and notices were issued to DFFE within the required timelines.	
Was the activity commenced with during the validity period of the environmental authorisation? If yes, please describe the implementation of the previous environmental authorisation to date:	YES ☒	NO ☐
The development officially commenced on the 20 th of July 2024 and was paused from 26 September 2026 due to uncontrollable delay to Eskom allowed connection dates. The construction completed included clearing of just over 300 square meters, following which all construction was paused and not activities have occurred to date.		

6. AMENDMENTS APPLIED FOR AND RELATED INFORMATION

Please indicate if the amendment being applied for falls within the ambits of a Part 1 of Part 2 amendment, as outlined in Chapter 5 of the EIA Regulations, 2014 as amended, and provide reasons thereof.

Part 1	The amendment being applied for falls within the ambits of a Part 1 amendment as will not change the scope of a valid environmental authorisation, nor increase the level or nature of the Impact.
Part 2	N/A

6.1. NATURE OF AMENDMENT/S:

Please indicate which of the following is relevant:

(a) there is a material change in the circumstances which existed at the time of the granting of the environmental authorisation;	YES ☐	NO ☒
(b) there has been a change of ownership in the property and transfer of rights and obligations must be provided for; or	YES ☐	NO ☒
(c) any detail contained in the environmental authorisation must be amended, added, substituted, corrected, removed or updated.	YES ☒	NO ☐

Please note, that whilst this has been indicated, the Department will when be acknowledging receipt, agree or disagree with the amendment being applied for, and the process to be followed must be that as outlined in the official acknowledgement letter.

Please note in terms of Section 8(a) of the GG42323 of 22 March 2019, Generic Environmental Management Plans. (GEMPR's), Should the EA be transferred, Part B: Section 2 must be completed by the new applicant/proponent and submitted with the application for an amendment of the EA in terms of regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted as part of such an application for an amendment to an EA will be considered to be incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder. This information can be submitted under [APPENDIX 11](#).

6.2. RENEWABLE ENERGY DEVELOPMENT ZONES:

Does the project form part of a Renewable Energy Development Zone (REDZ) as per GN 114 ?	YES* ☒	NO ☐
If "YES"		
• Confirm Technology	Large Scale Wind ☒	Large Scale Solar PV ☐
• Confirm Zone as per GNR 114 and GNR 142 and 144	Komsburg REDZ zone	
• A map showing the proposed development (100% of the proposed footprint) within the boundary of the zone mentioned above must be generated using the screening tool. Use the "Print Map" feature available in the Screening tool to create a map as required.	YES ☒	Attached as APPENDIX 9A

6.3. ELECTRICITY GRID INFRASTRUCTURE (EGI):

Does the project form part of an Electricity Grid Infrastructure (EGI) as per GN 113?	YES* ☒	NO ☐
If "YES"		
• Confirm Strategic Transmission Corridor (STC) as per GNR 113	Central Grid Connection Corridor	
• A map showing the proposed development (greater than 50% of the proposed footprint) within the boundary of the STC mentioned above. Use the "Print Map" feature available in the Screening tool to create a map as required.	YES ☒	Attached as APPENDIX 9B
• Attach a pre-negotiated route with the landowner(s) as per Reg 5 of GNR 113. (See <i>template attached to this Application form</i>)	YES ☒	Attached as APPENDIX 9C

Does the project form part of the Electricity Grid Infrastructure (EGI) in a REDZ as per GN 145?	YES* ☐	NO ☒
If "YES*":		
• Confirm Zone as per GNR 145	Click or tap here to enter text.	
• A map showing the proposed development (greater than 50% of the proposed footprint) within the boundary of the zone mentioned above must be generated using the screening tool. Use the "Print Map" feature available in the Screening tool to create a map as required.	YES ☐	Attached as APPENDIX 9D
• Attach a pre-negotiated route with the landowner(s) as per Reg 5 of GNR 145. (See <i>template attached to this Application form</i>)	YES ☐	Attached as APPENDIX 9E

6.4. GAS TRANSMISSION PIPELINE INFRASTRUCTURE:

Does the project form part of a Gas Transmission Pipeline Infrastructure as per GN 143?	YES* ☐	NO ☒
If "YES*"		
• Confirm Strategic Gas Pipeline Corridor (SGPC) as per GNR 143	Click or tap here to enter text.	
• A map showing the proposed development (greater than 50% of the proposed footprint) within the boundary of the SGPC mentioned above. Use the "Print Map" feature available in the Screening tool to create a map as required.	YES ☐	Attached as APPENDIX 9F
• Attach a pre-negotiated route with the landowner(s) as per Reg 3 of GNR 411. (See <i>template attached to this Application form</i>)	YES ☐	Attached as APPENDIX 9G

6.5. STRATEGIC INFRASTRUCTURE PROJECTS:

Does the project form part of any of the Strategic Infrastructure Projects (SIPs) as described in the National Development Plan, 2011?	YES* ☐	NO ☒
If "YES*" attach the confirmation of SIP obtained from the relevant sector representative (SIP Coordinators) and not a motivation from an EAP as APPENDIX 9H. For a SIP project, kindly indicate which SIPs are applicable and attach the confirmation of SIP applications from the relevant sector representative in APPENDIX 9H. Should no proof be provided, the application will be considered as a normal EIA Application with associated timeframes.		
		Attached as APPENDIX 9H

6.6. DESCRIPTION OF AMENDMENT/S:

6.6. Describe the amendments that are being applied for:

Please be specific in your request for e.g. an additional 3 years is required; the holder requires an update to contact details etc. If possible, quote page numbers of the EA where amendments are requested e.g. page 06 of the EA typed as XXX is requested to be amended to XXX.

Include a map of the proposed amendment/s in [APPENDIX 10](#).

1. Amendment to the approved layout

Changes to the approved layout of the WEF as indicated in Appendix 10.

2. An Amendment to the Contact Details on page 2 of the EA

From:

"with the following contact details -

Mr Richard Gordon

Great Karoo Wind Farm (Pty) Ltd

PO Box 23101 Claremont CAPE TOWN

7735

Telephone Number: (021) 670 1401

Fax Number: (021) 670 1460

Cell phone Number: (082) 900 0550

E-mail Address: James.cumming@aced.co.za"

To:

"with the following contact details -

Mr **Manuele Battisti**

Great Karoo Wind Farm (Pty) Ltd

102 Rivonia Road

Sandton

Johannesburg

Telephone Number: 010 344 0388

Cell phone Number: (082) 900 0550

E-mail Address: Manuele.battisti@enel.com"

6.7. MOTIVATION FOR AMENDMENT/S:

6.7. Please provide the reasons and/or a motivation for the application for amendment:

Please be specific in your reasons for e.g. an additional 3 years is required; the holder requires an update to contact details etc as the current holder is no longer employed with the holding company.

1. Amendment to the approved layout

Please refer too attached specialist motivation letters in Appendix 11.

2. Amendment to the contact details

A change of contact details is required to ensure that contact details are current and accurate.

6.8. Should the amendment being requested result due to **6.1 (b)** above, you are required to furnish the Department with a written undertaking that the new holder of the environmental authorisation is willing and able to assume responsibility of the environmental authorisation issued.

Said undertaking must be on the letterhead of the proposed new holder and signed by both the current and proposed holder. Signatures should not be older than 4 months old.

Provide a short motivation and explanation below

N/A

7. ENVIRONMENTAL IMPACTS

7.1. Describe any negative environmental impacts that may occur if the application for amendment is granted, amongst others, information on any increases in air emissions, waste generation, discharges to water and impacts of the natural or cultural environment must be included.
The proposed amendment is to allow for various alterations to the currently approved Site Layout (specialist motivation letters (Appendix 11) report refers). The amendment application will not have any negative environmental impacts as confirmed by the EAP/ECO, public consultation and specialist compliance letters.
7.2. Describe any negative environmental impacts that may occur if the application for amendment is not granted.
No significant negative environmental impacts will occur if the application for amendment is not granted, however, this will result in lost opportunities to optimise constructability and reduce environmental footprints of the Wind Farm.
7.3. Describe any positive environmental impacts that may occur if the application for amendment is granted, amongst others information on any reduction in the ecological footprint, air emissions, waste generation and discharges to water must be included.
The proposed amendment seeks to improve constructability while further avoiding environmental sensitivities. The removal of unnecessary infrastructure and Turbine locations, as well as re-positioning roads, the site camp and turbine laydown to affords further reduction to the total environmental footprint while promoting sustainable development due to improvement of construction activity and schedules e.g. reduce earth works, soil management, watercourse intrusion etc.

8. AUTHORISATION FROM OTHER GOVERNMENT DEPARTMENTS

Are any permission, licenses or other authorisations required from any other departments before the requested amendments can be effected?		YES ☐	NO ☒
If YES, please indicate the following:			
	Competent Authority and contact person	Project Name and authorisation required e.g., WML, WULA	Authorisation applied for (Yes/ No)
Application Reference Number	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Application Reference Number	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Application Reference Number	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Please provide details of the steps taken to ascertain this information:			
Various specialist compliance statements were provided to inform the final site layout plan is suitable. No additional permissions, licenses or other authorisations were deemed necessary.			
Explain whether the above approval(s) will be in conflict with the proposed amendments applied for.			
N/A			

In your opinion, will this proposed amendment adversely affect the rights and interests of other parties? Please provide a detailed motivation of your opinion.

YES ☐

NO ☒

[The proposed amendment was subjected to a 30 day public participation process per the recommendation of the authority and in line with the requirements of the EA noting public notification of layout changes is necessary]

NOTE: The Department is entitled to request further information if it believes it is necessary for the consideration of the application. If the application is for a substantive amendment or if the rights or interests of other parties are likely to be adversely affected, the Department will instruct the applicant to conduct a public participation process and to conduct any investigations and assessments that it deems necessary.

9. LIST OF APPENDICES

		SUBMITTED	
		YES	NO
APPENDIX 1	PRE-APPLICATION MEETING MINUTES	☐	☒
APPENDIX 2	PROOF OF PAYMENT / MOTIVATION FOR EXCLUSION	☒	☐
APPENDIX 3	CERTIFIED COPIES OF EA AND SUBSEQUENT AMENDMENTS	☒	☐
APPENDIX 4	SECTION 24 C (3) AGREEMENT	☐	☒
APPENDIX 5	LIST OF LANDOWNERS AND WRITTEN CONSENT	☒	☐
APPENDIX 6	DECLARATION OF APPLICANT	☒	☐
APPENDIX 7	LIST OF LOCAL/PROVINCIAL AUTHORITY INVOLVED	☒	☐
APPENDIX 8A	PROOF OF APPOINTMENT OF EAP BEFORE 8 AUGUST 2022	☐	☒
APPENDIX 8B	VALID EAPASA REGISTRATION CERTIFICATE	☒	☐
APPENDIX 8C	DECLARATION OF EAP AND UNDERTAKING UNDER OATH OR AFFIRMATION	☒	☐
APPENDIX 9A	RENEWABLE ENERGY DEVELOPMENT ZONE MAP	☐	☒
APPENDIX 9B	EGI IN STRATEGIC TRANSMISSION CORRIDOR MAP	☐	☒
APPENDIX 9C	PRE-NEGOTIATED ROUTE AGREEMENT FOR EGI		
APPENDIX 9D	EGI IN RENEWABLE ENERGY DEVELOPMENT ZONE MAP	☐	☒
APPENDIX 9E	PRE-NEGOTIATED ROUTE AGREEMENT FOR EGI IN REDZ	☐	☒
APPENDIX 9F	GAS TRANSMISSION PIPELINE INFRASTRUCTURE MAP	☐	☒
APPENDIX 9G	PRE-NEGOTIATED ROUTE AGREEMENT FOR GAS TRANSMISSION PIPELINE	☐	☒
APPENDIX 9H	STRATEGIC INFRASTRUCTURE PROJECTS (SIP)	☐	☒
APPENDIX 10	MAP OF THE PROPOSED AMENDMENT/S	☒	☐
APPENDIX 11	Other Specialist Motivation Letters in Support of Layout Amendment	☒	☐

APPENDIX 1
PRE-APPLICATION MEETING MINUTES

APPENDIX 2
PROOF OF PAYMENT / MOTIVATION FOR EXCLUSION

APPENDIX 3
CERTIFIED COPIES OF EA AND SUBSEQUENT AMENDMENTS



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447· PRETORIA · 0001· Environment House · 473 Steve Biko Road, Arcadia· PRETORIA
Tel (+ 27 12) 399 9372

NEAS Ref: DEA/EIA/0000635/2011

DEA Reference: 12/12/20/2370/3

Enquiries: Ms Mmamohale Kabasa

Telephone: (012) 399 9420 **E-mail:** MKabasa@environment.gov.za

Mr Richard Gordan
Great Karoo Wind Farm (Pty) Ltd
PO Box 23101
Claremont
CAPE TOWN
7735

Telephone number: (021) 670 1401
Fax number: (021) 670 1460

PER FACSIMILE / MAIL

Dear Mr Gordan

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R. 543/544/545/546 FOR THE PROPOSED 140 MW GREAT KAROO WIND ENERGY FACILITY (PHASE 3) ON THE FARM KENTUCKY 206 AND PORTION 1 OF THE FARM WOLVENKOP 207 WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY, NORTHERN CAPE PROVINCE

With reference to the above application, please be advised that the Department has decided to grant authorisation. The environmental authorisation (EA) and reasons for the decision are attached herewith.

In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2010 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 12 (twelve) days of the date of the EA, of the Department's decision in respect of your application as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 7 of the Regulations, which prescribes the appeal procedure to be followed. This procedure is summarised in the attached document. Kindly include a copy of this document with the letter of notification to interested and affected parties.

Should the applicant or any other party wish to appeal any aspect of the decision a notice of intention to appeal must be lodged by all prospective appellants with the Minister, within 20 days of the date of the EA, by means of one of the following methods:

By post: Private Bag X447,
Pretoria, 0001; or
By hand: Environment House
473 Steve Biko,
Arcadia,
Pretoria, 0083

If the applicant wishes to lodge an appeal, it must also serve a copy of the notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where, and for what period, the appeal submission will be available for inspection, should you intend to submit an appeal.

Appeals must be submitted in writing to:

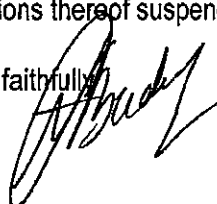
Mr Z Hassam, Director: Appeals and Legal Review, of this Department at the above mentioned addresses or fax number. Mr Hassam can also be contacted at:

Tel: (012) 399 9356

Email: AppealsDirectorate@environment.gov.za

The authorised activities shall not commence within twenty (20) days of the date of signature of the authorisation. Further, please note that the Minister may, on receipt of appeals against the authorisation or conditions thereof suspend the authorisation pending the outcome of the appeals procedure.

Yours faithfully,



Mr Ishaam Abader

Deputy Director-General: Legal, Authorisations, Compliance and Enforcement

Department of Environmental Affairs

Date: 12/08/2014

CC:	K. Jodas	Savannah Environmental (Pty) Ltd.	Fax: (086) 684 0547
	E. Botes	Northern Cape DEA&NC	Fax: (053) 807 7387
	L. Nathanagel	Karoo Hoogland Local Municipality	Fax: (053) 516 2183

APPEALS PROCEDURE IN TERMS OF CHAPTER 7 OF THE NEMA EIA REGULATIONS, 2010 (THE REGULATIONS) AS PER GN R. 543 OF 2010 TO BE FOLLOWED BY THE APPLICANT AND INTERESTED AND AFFECTED PARTIES UPON RECEIPT OF NOTIFICATION OF AN ENVIRONMENTAL AUTHORISATION (EA)

APPLICANT	INTERESTED AND AFFECTED PARTIES (IAPs)
1. Receive EA from the relevant Competent Authority (the Department of Environmental Affairs [DEA]).	1. Receive EA from Applicant/Consultant.
2. Within 12 days of date of the EA notify all IAPs of the EA and draw their attention to their right to appeal against the EA in terms of Chapter 7 of the Regulations.	2. N/A.
3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA with the Minister of Water and Environmental Affairs (the Minister).	3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA. with the Minister of Water and Environmental Affairs (the Minister).
4. After having submitted your notice of intention to appeal to the Minister, provide each registered IAP with a copy of the notice of intention to appeal within 10 days of lodging the notice.	4. After having submitted your notice of intention to appeal to the Minister, provide the applicant with a copy of the notice of intention to appeal within 10 days of lodging the notice.
5. The Applicant must also serve on each IAP: a notice indicating where and for what period the appeal submission will be available for inspection.	5. Appellant must also serve on the Applicant within 10 days of lodging the notice, a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.
6. The appeal must be submitted in writing to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.	6. The appeal must be submitted to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.
7. Any IAP who received a notice of intention to appeal may submit a responding statement to that appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.	7. An Applicant who received notice of intention to may submit a responding statement to the appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.

NOTES:

1. An appeal against a decision must be lodged with:-

- the Minister of Water and Environmental Affairs if the decision was issued by the Director-General of the Department of Environmental Affairs (or another official) acting in his/her capacity as the delegated Competent Authority;
- the Minister of Justice and Constitutional Development if the applicant is the Department of Water Affairs and the decision was issued by the Director-General of the Department of Environmental Affairs (or another official) acting in his/her capacity as the delegated Competent Authority;

2. An appeal lodged with:-

- the Minister of Water and Environmental Affairs must be submitted to the Department of Environmental Affairs;
- the Minister of Justice and Constitutional Development must be submitted to the Department of Environmental Affairs;

3. An appeal must be:-

- submitted in writing;
- accompanied by:
 - a statement setting out the grounds of appeal;
 - supporting documentation which is referred to in the appeal; and
 - a statement that the appellant has complied with regulation 62 (2) or (3) together with copies of the notices referred to in regulation 62.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of Regulation 36 of the Environmental Impact Assessment Regulations, 2010

The proposed 140MW Great Karoo Wind Farm (Phase 3) and its associated infrastructure on the Farm Kentucky 206 and Portion 1 (Welgemoed) of the Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality in the Northern Cape Province

Namakwa District Municipality

<i>Authorisation register number:</i>	<i>12/12/20/2370/3</i>
<i>NEAS reference number:</i>	<i>DEA/EIA/0000635/2011</i>
<i>Last amended:</i>	<i>First issue</i>
<i>Holder of authorisation:</i>	<i>Great Karoo Wind Farm (Pty) Ltd</i>
<i>Location of activity:</i>	<i>Farm Kentucky 206 Portion 1 (Welgemoed) of Farm Wolvenkop 207 Karoo Hoogland Local Municipality Namakwa District Municipality NORTHERN CAPE PROVINCE</i>

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations, 2010 the Department hereby authorises –

GREAT KAROO WIND FARM (PTY) LTD

with the following contact details –

Mr Richard Gordon
Great Karoo Wind Farm (Pty) Ltd
PO Box 23101
Claremont
CAPE TOWN
7735

Telephone Number: (021) 670 1401
Fax Number: (021) 670 1460
Cell phone Number: (082) 900 0550
E-mail Address: James.cumming@aced.co.za

to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notices 1; Listing Notice 2; and, Listing Notice 3 (GN R. 544, 545 & 546):

Listed activities	Activity/Project description
<u>GN R. 544 Item 10:</u> <i>"The construction of facilities or infrastructure for the transmission and distribution of electricity –</i> <i>(i) Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts"</i>	The project will entail construction of substations and power lines up to 400kV (outside an urban area).
<u>GN R. 544 Item 11:</u> <i>-The construction of:</i> <i>(v) weirs;</i> <i>(vi) bulk stormwater outlet structures;</i> <i>(x) buildings exceeding 50 square metres in size; or</i> <i>(xi) infrastructure or structures covering 50 square metres or more</i> <i>Where such construction occurs within a watercourse or within 32 metres of a watercourse, measures from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i>	The wind energy facility will include the construction of infrastructure (including power lines, access roads, storm water structures and buildings) within 32m of a watercourse.
<u>GN R. 544 Item 18:</u> <i>"The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from:</i> <i>(i) watercourse."</i>	Construction will entail excavations and/or backfilling of more than 5m³ from/into watercourses. This is relevant during the construction phase when crossing watercourses with access roads.
<u>GN R. 544 Item 22:</u> <i>"The construction of a road, outside urban areas,</i> <i>(ii) where no reserve exists where the road is</i>	The wind energy facility will require access roads to be constructed (> 8m wide), based on the design of the facility (> 30km of

Listed activities	Activity/Project description
<i>wider than 8 metres."</i>	access road is required for each phase).
<u>GN R. 544 Item 47:</u> <i>"The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre –</i> <i>(ii) where no reserve exists, where the existing road is wider than 8 metres."</i>	Existing roads will be widened > 8m in width and will be longer than 1 km in length (> 30km of access road for each phase).
<u>GN R. 545 Item 1:</u> <i>"The construction of facilities or infrastructure for the generation of electricity where the electricity output is 20 megawatts or more."</i>	The wind energy facility will consist of wind turbines for electricity generation of more than 20MW. The facility will generate up to 140MW at the Point of Connection. Power lines and substation complexes together with workshops, control, administration and security buildings are included as ancillary infrastructure for this energy generation process.
<u>GN R. 545 Item 8:</u> <i>The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.</i>	The project will entail construction of substations and power lines >275kV (outside an urban area).
<u>GN R. 545 Item 15:</u> <i>"Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more..."</i>	The site for the proposed wind energy facility is currently used for livestock farming, and the footprint of the facility will be transformed to special use (wind farm, or "industrial use") on an area greater than 20 hectares.
<u>GN R. 546 Item 4:</u> <i>"The construction of a road wider than 4 metres with a reserve less than 13,5 metres.</i> <i>(a) Northern Cape province</i> <i>(i) Outside urban areas, in</i> <i>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the</i>	The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the construction of

Listed activities	Activity/Project description
competent authority or in bioregional plans."	access roads that will be > 8 metres wide.
<u>GN R. 546 Item 10:</u> <i>"The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres,</i> <i>(a) Northern Cape Province</i> <i>(ii) outside urban areas in:</i> <i>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</i> <i>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined."</i>	The wind energy facility will require facilities for the handling and storage of dangerous good, including fuels / oils >30m³. The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2. In addition, the storage of dangerous goods in containers may occur within 100 metres of a water course.
<u>GN R. 546 Item 12:</u> <i>"The clearance of an areas of 300 square metres or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation"</i> <i>(b) Within critical biodiversity areas identified in bioregional plans;"</i>	The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the clearance of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within the development footprint of the facility.
<u>GN R. 546 Item 13:</u> <i>The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation</i> <i>(a) Critical biodiversity areas and ecological</i>	The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan

Listed activities	Activity/Project description
<i>support areas as identified in systematic biodiversity plans adopted by the competent authority.</i>	(NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the clearance of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within the development footprint of the facility.
<u>GN R. 546 Item 14:</u> <i>The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation</i> (a) In Northern Cape: i. All areas outside urban areas.	The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the clearance of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within the development footprint of the facility.
<u>GN R. 546 Item 16:</u> <i>The construction of</i> <i>(iv) infrastructure covering 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i> (a) Northern Cape Province (ii) outside urban areas in: (ff) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.	The wind energy facility will include the construction of infrastructure (including power lines, access roads, storm water structures and buildings) within 32m of a watercourse. The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2.
<u>GN R. 546 Item 19:</u> <i>The widening of a road by more than 4 metres, or the</i>	The site is located in a rural area within the Northern Cape and within the Hantam-

Listed activities	Activity/Project description
lengthening of a road by more than 1 kilometre. ii. Outside urban areas, in: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.	Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, where existing roads will be widened > 8m in width and will be lengthened by > 1 km (> 30km of access road for each phase).

as described in the Environmental Impact Assessment Report (EIAR) dated May 2014 at:

Site alternative

Alternative S1 (preferred site)	Latitude	Longitude
Centre point of activity	32°49'6.11"S	20°44'28.45"E

Power line corridor

Alternative S1 (preferred route)	Latitude	Longitude
Starting point of activity	32°48'26.24"S	20°42'48.69"E
Middle point of activity	32°52'12.16"S	20°40'24.82"E
End point of the activity	32°55'52.54"S	20°35'44.84"E

- for the proposed 140MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure on the Farm Kentucky 206 and Portion 1 (Welgemoed) of Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality of the Namakwa District Municipality, Northern Cape Province, hereafter referred to as "the properties".

The power line required to connect the Great Karoo Wind Farm to the Eskom Komsberg Substation will traverse the following farm portions: De Hoop 202, Portion 1 of Farm Rheeboeke Fontein 209; Portion 2 of Farm Rheeboeke Fontein 209; Portion 3 of Farm Rheeboeke Fontein 209; and Farm Standvastigheid 210

The infrastructure associated with this facility includes:

- Wind turbines (between 2MW and 3.5MW in capacity and with a 120m rotor diameter and a hub height of up to 120m) and associated foundations;
- Medium voltage cabling between the turbines, to be laid underground where practical;
- Internal access roads to each turbine the substation complex and the ancillary infrastructure;
- One on-site substation complex to facilitate stepping up the voltage from medium to high voltage (up to 132kV) to enable the connection of the wind energy facility and the Eskom grid at Eskom's Komsberg Substation
- A high voltage power line for connection to a double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation;
- Operations and services workshop area / office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant

Technical details for the proposed facility:

Component	Description/Dimensions
Location of the site	~ 50 km south of Sutherland in the Northern Cape
Extent of the proposed development footprint	~ 91.8 km ²
SG Codes	» C07200000000020600000 » C07200000000020700001
Substation complex	One (1) 132 kV substation, workshop, control, administration and security facilities.
Power line (number and voltage)	One (1) high voltage overhead power line for connection of the Great Karoo Wind Farm Substation to a (1) double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation.
Access road and width	8 m wide
Export capacity	140 MW
Number of Turbines	57

Conditions of this Environmental Authorisation

Scope of authorisation

1. The preferred alternative for the construction of the proposed 140MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure as described above is hereby approved.
2. Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
4. The activities authorised may only be carried out at the property as described above.
5. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
6. This activity must commence within a period of three (03) years from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.
8. This authorisation does not negate the holder of the authorisations responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.
9. The holder of an environmental authorisation must notify the competent authority of any alienation, transfer and change of ownership rights in the property on which the activity is to take place.

Notification of authorisation and right to appeal

10. The holder of the authorisation must notify every registered interested and affected party, in writing and within 12 (twelve) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
11. The notification referred to must –
 - 11.1. specify the date on which the authorisation was issued;
 - 11.2. inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Environmental Impact Assessment Regulations, 2010;
 - 11.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and,
 - 11.4. give the reasons of the competent authority for the decision.
12. The holder of the authorisation must publish a notice –
 - 12.1. informing interested and affected parties of the decision;
 - 12.2. informing interested and affected parties where the decision can be accessed; and,
 - 12.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in the newspaper(s) contemplated and used in terms of regulation 54(2)(c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.

Management of the activity

13. A copy of the final development layout map must be made available for comments by registered Interested and Affected Parties and the applicant must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity. All available biodiversity information must be used in the finalisation of the layout map. Existing infrastructure must be used as far as possible e.g. roads. The layout map must indicate the following:
 - 13.1 Cable routes and trench dimensions (where they are not along internal roads);
 - 13.2 A 150 m and 100m buffer respectively between watercourses; ridge edge and the turbines/construction activities;
 - 13.3 Position of wind turbines and associated infrastructure;
 - 13.4 Foundation footprint;
 - 13.5 Internal roads indicating width;

- 13.6 Wetlands, drainage lines, rivers, stream and water crossing of roads and cables;
 - 13.7 All sensitive features e.g. heritage sites, wetlands, pans and drainage channels that will be affected by the facility and associated infrastructure;
 - 13.8 Substation(s) inverters and/or transformer(s) sites including their entire footprint;
 - 13.9 Connection routes (including pylon positions) to the distribution/transmission network;
 - 13.10 All existing infrastructure on the site, especially roads;
 - 13.11 Soil heaps (temporary for topsoil and subsoil and permanently for excess material);
 - 13.12 Temporary construction laydown areas;
 - 13.13 Borrow pits;
 - 13.14 Buildings, including accommodation; and,
 - 13.15 All "no-go" and buffer areas.
14. Furthermore, a shapefile of the approved development layout/footprint must be submitted to this Department within two months from the date of this decision. The shapefile must be created using the Hartebeesthoek 94 Datum and the data should be in Decimal Degree Format using the WGS 84 Spheroid. The shapefile must include at a minimum the following extensions i.e. .shp; .shx; .dbf; .prj; and, .xml (Metadata file). If specific symbology was assigned to the file, then the .avl and/or the .lyr file must also be included. Data must be mapped at a scale of 1:10 000 (please specify if an alternative scale was used). The metadata must include a description of the base data used for digitizing. The shapefile must be submitted in a zip file using the EIA application reference number as the title. The shape file must be submitted to:

Postal Address:

Department of Environmental Affairs
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Environment House
473 Steve Biko,
Arcadia,
Pretoria, 0083

For Attention: Mr Muhammad Essop

Integrated Environmental Authorisations

Strategic Infrastructure Developments

Telephone Number: (012) 399 9406

Email Address: MEssop@environment.gov.za

15. The Environmental Management Programme (EMPr) submitted as part of the EIAr is not approved and must be amended to include measures as dictated by the final site lay-out map and micro-siting; and the provisions of this environmental authorisation. The EMPr must be made available for comments by registered Interested and Affected Parties and the applicant must consider such comments. Once amended, the final EMPr must be submitted to the Department for written approval prior to commencement of the activity. Once approved the EMPr must be implemented and adhered to.
16. The EMPr is amendable and must be implemented and strictly enforced during all phases of the project. It shall be seen as a dynamic document and shall be included in all contract documentation for all phases of the development when approved.
17. Changes to the EMPr, which are environmentally defensible, shall be submitted to this Department for acceptance before such changes could be effected.
18. The Department reserves the right to amend the EMPr should any impacts that were not anticipated or covered in the EIAr be discovered.
19. The provisions of the approved EMPr including recommendations and mitigation measures in the EIAr and specialist studies shall be an extension of the conditions of this EA and therefore noncompliance with them would constitute noncompliance with the EA.
20. The EMPr amendment must include the following:
 - 20.1. The requirements and conditions of this authorisation.
 - 20.2. All mitigation measure arising from compliance with conditions 49 of this EA.
 - 20.3. All recommendations and mitigation measures recorded in the EIAr.
 - 20.4. All mitigation measures as listed in the specialist reports must be included in the EMPr and implemented.
 - 20.5. The final site layout map.
 - 20.6. An alien invasive management plan to be implemented during construction and operation of the facility. The plan must include mitigation measures to reduce the invasion of alien species and ensure that the continuous monitoring and removal of alien species is undertaken.

- 20.7. A plant rescue and protection plan which allows for the maximum transplant of conservation important species from areas to be transformed. This plan must be compiled by a vegetation specialist familiar with the site in consultation with the ECO and be implemented prior to commencement of the construction phase.
- 20.8. A re-vegetation and habitat rehabilitation plan to be implemented during the construction and operation of the facility. Restoration must be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
- 20.9. A traffic management plan for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan must include measures to minimize impacts on local commuters e.g. limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time and avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operations.
- 20.10. A storm water management plan to be implemented during the construction and operation of the facility. The plan must ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion. The plan must include the construction of appropriate design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of storm water run-off.
- 20.11. An erosion management plan for monitoring and rehabilitating erosion events associated with the facility. Appropriate erosion mitigation must form part of this plan to prevent and reduce the risk of any potential erosion.
- 20.12. An effective monitoring system to detect any leakage or spillage of all hazardous substances during their transportation, handling, use and storage. This must include precautionary measures to limit the possibility of oil and other toxic liquids from entering the soil or storm water systems.
- 20.13. Measures to protect hydrological features such as streams, rivers, pans, wetlands, dams and their catchments, and other environmental sensitive areas from construction impacts including the direct or indirect spillage of pollutants.
- 20.14. An environmental sensitivity map indicating environmental sensitive areas and features identified during the EIA process.

20.15. A map combining the final layout map superimposed (overlain) on the environmental sensitivity map. This map must reflect the proposed location of the Wind Energy Facility as stated in the EIA and this authorisation.

Environmental Control Officer (ECO) and duties

21. The holder of this authorisation must appoint an independent Environmental Control Officer (ECO) with experience or expertise in the field for the construction phase of the development. The ECO will have the responsibility to ensure that the conditions referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMP.
22. The ECO must be appointed before commencement of any authorised activity.
23. Once appointed, the name and contact details of the ECO must be submitted to the Director: Compliance Monitoring of this Department.
24. The ECO must meet with the contractors to discuss the conditions of the EA and the contents of the EMP prior to any site clearing occurring.
25. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.
26. The ECO must:
 - 26.1. Keep record of all activities on site, problems identified, transgressions noted and a schedule of tasks undertaken by the ECO.
 - 26.2. Keep and maintain a detailed incident (including spillage of bitumen, fuels, chemicals, or any other material) and complaint register on site indicating how these issues were addressed, what rehabilitation measures were taken and what preventative measures were implemented to avoid re-occurrence of incidents/complaints.
 - 26.3. Keep and maintain a daily site diary.
 - 26.4. Keep copies of all reports submitted to the Department.
 - 26.5. Keep and maintain a schedule of current site activities including the monitoring of such activities.
 - 26.6. Obtain and keep record of all documentation, permits, licences and authorisations such as waste disposal certificates, hazardous waste landfill site licences etc. required by this facility.
 - 26.7. Compile a monthly monitoring report.

Recording and reporting to the Department

27. The holder of this authorisation must keep all records relating to monitoring and auditing on site and make it available for inspection to any relevant and competent authority in respect of this development.
28. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the Director: Compliance Monitoring at this Department.

Environmental audit report

29. The holder of the authorisation must submit an environmental audit report to the Director: Compliance Monitoring of the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities.
30. The environmental audit report must:
 - 30.1. Be compiled by an independent environmental auditor;
 - 30.2. Indicate the date of the audit, the name of the auditor and the outcome of the audit;
 - 30.3. Evaluate compliance with the requirements of the approved EMPr and this environmental authorisation;
 - 30.4. Include measures to be implemented to attend to any non-compliances or degradation noted;
 - 30.5. Include copies of any approvals granted by other authorities relevant to the development for the reporting period;
 - 30.6. Highlight any outstanding environmental issues that must be addressed, along with recommendations for ensuring these issues are appropriately addressed;
 - 30.7. Include a copy of this authorisation and the approved EMPr;
 - 30.8. Include all documentation such as waste disposal certificates, hazardous waste landfill site licences etc. pertaining to this authorisation; and
 - 30.9. Include evidence of adherence to the conditions of this authorisation and the EMPr where relevant such as training records and attendance records.

Commencement of the activity

31. The authorised activity shall not commence within twenty (20) days of the date of signature of the authorisation.
32. An appeal under section 43 of the National Environmental Management Act (NEMA), Act 107 of 1998 (as amended), does not suspend an environmental authorisation or exemption, or any provisions or conditions attached thereto, or any directive, unless the Minister, MEC or delegated organ of state directs otherwise.
33. Should you be notified by the Minister of a suspension of the authorisation pending appeal procedures, you may not commence with the activity until such time that the Minister allows you to commence with such an activity in writing.
34. The holder of this authorisation must obtain a Water Use Licence from the Department of Water Affairs (DWA) prior to the commencement of the project should the holder impact on any wetland or water resource. A copy of the license must be kept by the ECO.

Notification to authorities

35. Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence. This notification period may coincide with the Notice of Intent to Appeal period, within which construction may not commence.

Operation of the activity

36. Fourteen (14) days written notice must be given to the Department that the activity operational phase will commence.
37. The holder of this authorisation must compile an operational EMPr for the operational phase of the activity or alternatively, if the holder has an existing operational environmental management system, it must be amended to include the operation of the authorised activity.
38. The EMPr must form part of the contract with the EPC Contractor appointed to construct the proposed facility, and must be used to ensure compliance with environmental specifications and management measures.

Site closure and decommissioning

39. Should the activity ever cease or become redundant, the applicant shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

Specific conditions

Avifauna and bats

40. A bird and bat monitoring programme must be implemented to document the effect of the operation of the energy facility on avifauna and bats. Active breeding nests in the immediate surroundings must be monitored during the construction phase and further mitigation measures must be discussed with the avifaunal specialist and implemented if necessary.
41. The results of the pre-construction bat monitoring programme dated April 2014 must inform the final layout and the construction schedule of the energy facility.
42. A construction monitoring plan must survey bird communities on the Wind Energy Facility and must be implemented to monitor impacts resulting from the infrastructure installations. This plan must have a minimum duration of at least 1 (one) year.
43. Post-construction avifauna and bat monitoring by an independent monitor should take place for at least two years after operation has commenced. It is recommended that this is done in accordance with BirdLife South Africa/Endangered Wildlife Trust: Best practice guidelines for avian monitoring and impact mitigation at proposed wind energy development sites in Southern Africa.
44. Reports regarding bird monitoring must be submitted to the relevant provincial environmental department, BirdLife South Africa, the Endangered Wildlife Trust (EWT) and this Department on a quarterly basis. The report will assist all stakeholders in identifying potential and additional mitigation measures and to establish protocols for a bird monitoring programme for wind energy development in the country.
45. The facility must be designed to discourage the use of infrastructure components as perching or roosting substrates by birds and bats.
46. During construction the applicant must restrict the construction activities to the footprint area. No access to the remainder of the property is allowed.

47. Anti-collision devices such as bird flappers must be installed where power lines cross avifaunal corridors (e.g. grasslands, rivers, wetlands, and dams). The input of an avifaunal specialist must be obtained for the fitting of the anti-collision devices onto specific sections of the line once the exact positions of the towers have been surveyed and pegged. Additional areas of high sensitivity along the preferred alignment must also be identified by the avifaunal specialist for the fitment of anti-collision devices. These devices must be according to Eskom's Transmission and EWT's Guidelines.
48. A pre-construction walk through on the selected power line alignment by a bat specialist, avifaunal specialist and ecologist, must be conducted to ensure that the micro-siting of the turbines has the least possible impact, there are no nests sites of priority species on or close to the construction corridor, and all protected plant species impacted are identified.

Vegetation, wetlands and water resources

49. A 150 m between watercourses and 100m buffer between the ridge edge and the turbines/construction activities must be implemented.
50. Vegetation clearing must be limited to the authorised footprint.
51. Before the clearing of the site, the appropriate permits must be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF) for the removal of plants listed in the National Forest Act and from the relevant provincial department for the destruction of species protected in terms of the specific provincial legislation. Copies of the permits must be kept by the ECO.
52. Construction activities must be restricted to demarcated areas to restrict the impact on sensitive environmental features.
53. All areas of disturbed soil must be reclaimed using only indigenous grass and shrubs. Reclamation activities shall be undertaken according to the rehabilitation plan to be included in the final EMP.
54. Topsoil from all excavations and construction activities must be salvaged and reapplied during reclamation.
55. No exotic plants may be used for rehabilitation purposes; only indigenous plants of the area may be utilised.
56. No activities will be allowed to encroach into a water resource without a water use license being in place from the Department of Water Affairs.
57. Cleared alien vegetation must not be dumped on adjacent intact vegetation during clearing but must be temporarily stored in a demarcated area.

58. Removal of alien invasive species or other vegetation and follow-up procedures must be in accordance with the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983).
59. The holder of this authorisation must ensure that all the "No-go" and buffer areas are clearly demarcated (using fencing and appropriate signage) before construction commences.
60. Contractors and construction workers must be clearly informed of the no-go areas.
61. Where roads pass right next to major water bodies, provision shall be made for fauna such as toads to pass under the roads by using culverts or similar structures.
62. Bridge design must be such that it minimise impact to riparian areas with minimal alterations to water flow and must allow the movement of fauna and flora.
63. The final development area should be surveyed for species suitable for search and rescue, which should be trans-located prior to the commencement of construction.
64. Electric fencing should not have any strands within 30cm of the ground, which should be sufficient to allow smaller mammals, reptiles and leopard tortoises to pass through, but still remain effective as a security barrier.
65. Disturbed areas must be rehabilitated as soon as possible after construction with locally indigenous plants to enhance the conservation of existing natural vegetation on site.
66. Wetlands, rivers and river riparian areas must be treated as "no-go" areas and appropriately demarcated as such. No vehicles, machinery, personnel, construction material, fuel, oil, bitumen or waste must be allowed into these areas without the express permission of and supervision by the ECO, except for rehabilitation work in these areas.
67. Workers must be made aware of the importance of not destroying or damaging the vegetation along rivers and in wetland areas and this awareness must be promoted throughout the construction phase.
68. Freshwater ecosystems located in close proximity to the construction areas must be inspected on a regular basis by the ECO for signs of disturbance from construction activities. If signs of disturbance are noted, immediate action must be taken to remedy the situation and, if necessary, a freshwater ecologist must be consulted for advice on the most suitable remediation measures.
69. No discharge of effluents or polluted water must be allowed into any rivers or wetland areas.
70. If construction areas are to be pumped of water (e.g. after rains), this water must be pumped into an appropriate settlement area, and not allowed to flow into any rivers or wetland areas.
71. Workers must be made aware of the importance of not polluting rivers or wetlands and of not undertaking activities that could result in such pollution, and this awareness must be promoted throughout the construction phase.

72. Freshwater ecosystems located in close proximity to the site must be inspected on a regular basis (but especially after rainfall) by the ECO for signs of sedimentation and pollution. If signs of sedimentation or pollution are noted, immediate action must be taken to remedy the situation and, if necessary, a freshwater ecologist must be consulted for advice on the most suitable remediation measures.

Roads and transportation

73. Existing road infrastructure must be used as far as possible for providing access to the proposed turbine positions. Where no road infrastructure exists, new roads should be placed within existing disturbed areas or environmental conditions must be taken into account to ensure the minimum amount of damage is caused to natural habitats.
74. Signs must be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuter, consideration should be given to limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time.
75. Internal access roads must be located to minimize stream crossings. All structures crossing streams must be located and constructed so that they do not decrease channel stability or increase water velocity.
76. A designated access to the site must be created and clearly marked to ensure safe entry and exit.
77. Signage must be erected at appropriate points warning of turning traffic and the construction site.
78. Construction vehicles carrying materials to the site should avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operations.
79. Road borders should be regularly maintained to ensure that vegetation remains short and that they therefore serve as an effective firebreak.
80. Roads must be designed so that changes to surface water runoff are avoided and erosion is not initiated.
81. All construction vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises.

Noise

82. The holder of this authorisation must ensure that the National Noise Control Regulations and SANS10103:2008 are adhered to and measures to limit noise from the work site are implemented.
83. The holder of this authorisation must ensure that the construction staff working in areas where the 8-hour ambient noise levels exceed 75dBA must wear ear protection equipment.
84. The holder of this authorisation must ensure that all equipment and machinery are well maintained and equipped with silencers.
85. The holder of this authorisation must provide a prior warning to the community when a noisy activity e.g. blasting is to take place.
86. All wind turbines should be located at a setback distance of 500m from any homestead and a day/night noise criteria level at the nearest residents of 45dB(A) should be used to locate the turbines. The 500m setback distance can be relaxed if local factors; such as high ground between the noise source and the receiver, indicates that a noise disturbance will not occur.
87. Positions of turbines jeopardizing compliance with accepted noise levels should be revised during the micro-siting of the units in question and predicted noise levels re-modelled by the noise specialist, in order to ensure that the predicted noise levels are less than 45dB(A).
88. Construction staff must be trained in actions to minimise noise impacts.

Visual resources

89. The holder of this authorisation must reduce visual impacts during construction by minimising areas of surface disturbance, controlling erosion, using dust suppression techniques and restoring exposed soil as closely as possible to their original contour and vegetation.
90. A lighting engineer must be consulted to assist in the planning and placement of light fixtures in order to reduce visual impacts associated with glare and light trespass.
91. Lighting of main structures (turbines) and ancillary buildings should be designed to minimise light pollution without compromising safety, and turbines must be lit according to Civil Aviation Regulations.
92. Signage on or near wind turbines must be avoided unless they serve to inform the public about wind turbines and their function.
93. Commercial messages and graffiti on turbines must be avoided.

Human health and safety

94. A health and safety programme must be developed to protect both workers and the general public during construction, operation and decommissioning of the energy facility. The programme must establish a safety zone for wind turbines from residences and occupied buildings, roads, right-of-ways and other public access areas that is sufficient to prevent accidents resulting from the operation of the wind turbines.
95. Potentials interference with public safety communication systems (e.g. radio traffic related to emergency activities) must be avoided.
96. The holder of this authorisation must ensure that the operation of the wind facility shall comply with the relevant communication regulations or guidelines relating to electromagnetic interference, e.g. microwave, radio and television transmissions.
97. The holder of this authorisation must obtain approval from the South Africa Civil Aviation Authority that the wind facility will not interfere with the performance of aerodrome radio Communication, Navigation and Surveillance (CNS) equipment, especially the radar, prior to commencement of the activity. A copy of the approval must be kept on site by the ECO.
98. The holder of this authorisation must obtain approval from the South Africa Weather Services (WeatherSA) that the energy facility will not interfere with the performance of their equipment, especially radar, prior to commencement of the activity. A copy of the approval must be kept on site by the ECO.
99. The holder of this authorisation must train safety representatives, managers and workers in workplace safety. The construction process must be compliant with all safety and health measures as prescribed by the relevant act.
100. Liaison with land owners/farm managers must be done prior to construction in order to provide sufficient time for them to plan agricultural activities.
101. No unsupervised open fires for cooking or heating must be allowed on site.

Hazardous materials and waste management

102. The Batching plant must preferably be located within laydown areas outside sensitive ecological, heritage and paleontological areas.
103. Areas around fuel tanks must be bunded or contained in an appropriate manner as per the requirements of SABS 089:1999 Part 1.

104. Leakage of fuel must be avoided at all times and if spillage occurs, it must be remedied immediately.
105. Hazardous waste such as bitumen, oils, oily rags, paint tins etc. must be disposed of at an approved waste landfill site licensed to accept such waste.
106. No dumping or temporary storage of any materials may take place outside designated and demarcated laydown areas, and these must all be located within areas of low environmental sensitivity.
107. Hazardous substances must not be stored where there could be accidental leakage into surface or subterranean water.
108. Hazardous and flammable substances must be stored and used in compliance to the applicable regulations and safety instructions. Furthermore, no chemicals must be stored nor may any vehicle maintenance occur within 350m of the temporal zone of wetlands, a drainage line with or without an extensive floodplain or hillside wetlands.
109. Temporary bunds must be constructed around chemical storage to contain possible spills.
110. Spill kits must be made available on-site for the clean-up of spills.
111. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling and re-use options where appropriate. Where solid waste is disposed of, such disposal shall only occur at a landfill licensed in terms of section 20(b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).
112. The holder of this authorisation must provide sanitation facilities within the construction camps and along the road so that workers do not pollute the surrounding environment. These facilities must be removed from the site when the construction phase is completed as well as associated waste to be disposed of at a registered waste disposal site.
113. The holder of this authorisation must take note that no temporary site camps will be allowed outside the footprint of the development area as the establishment of such structures might trigger a listed activity as defined in the Environmental Impact Assessment Regulations, 2010.

Excavation and blasting activities

114. Underground cables and internal access roads must be aligned as much as possible along existing infrastructure to limit damage to vegetation and watercourses.
115. Cabling routes outside internal access routes must be approved by this Department.
116. Foundations and trenches must be backfilled with originally excavated materials as much as possible. Excess excavation materials must be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.
117. Borrow materials must be obtained only from authorized and permitted sites. Permits must be kept on site by the ECO.
118. Anti-erosion measures such as silt fences must be installed in disturbed areas.

Air emissions

119. Dust abatement techniques must be used before and during surface clearing, excavation, or blasting activities.
120. Appropriate dust suppression techniques must be implemented on all exposed surfaces during periods of high wind. Such measures may include wet suppression, chemical stabilisation, the use of a wind fence, covering surfaces with straw chippings and re-vegetation of open areas.

Historical / cultural / paleontological resources

121. All buffer zones recommended in the specialist environmental reports be respected.
122. The locations identified as sensitive such as grave sites, should also be protected by buffers. A buffer of 30m from heritage features must be implemented throughout the development foot print.
123. If concentrations of archaeological heritage material, fossils and human remains are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) so that a systematic and professional investigation/ excavation can be undertaken.
124. Construction managers/foremen must be informed before construction starts on the possible types of heritage sites and cultural material they may be encountered and the procedures to follow when they find sites.
125. All buffers and no-go areas stipulated in this report must be adhered to for both the facilities and all roads and power lines.

126. Should any human remains be uncovered during development they must be immediately protected in situ and reported to the heritage authorities or to an archaeologist. The remains will need to be exhumed at the cost of the developer.
127. All construction and maintenance crew and vehicles (except small vehicles which may use existing farm tracks) should be kept out of the buffer zones.
128. The final layout should be shown to the appointed archaeologist before implementation to confirm that all significant heritage resources have been adequately protected.

Turbines position

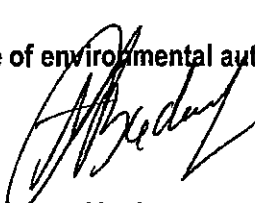
129. Turbines must be positioned in such a way that shadow flicker does not affect any farm buildings.
130. The final placement of turbines must follow a micro-siting procedure involving a walk-through and identification of any sensitive areas by botanical and avifaunal specialists.
131. Exclusion of sensitive ecological, heritage and paleontological areas from construction activities must inform micro-siting of all development activities. Proof thereof may be requested by this Department.

General

132. A copy of this authorisation and the approved EMP must be kept at the property where the activity will be undertaken. The authorisation and approved EMP must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
133. The holder of the authorisation must notify both the *Director: Integrated Environmental Authorisations* and the *Director: Compliance Monitoring* at the Department, in writing and within 48 (forty eight) hours, if any condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.

134. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 12 August 2014


Mr Ishaam Abader

Deputy Director-General: Legal, Authorisations, Compliance and Enforcement

Department of Environmental Affairs

Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The listed activities as applied for in the amended application form dated 14 December 2012;
- b) The information contained in the EIAR;
- c) The comments received from the; Karoo Hoogland Municipality, Department of Agriculture, Forestry and Fisheries, South African Astronomical Observatory (SAAO), Square Kilometre Array (SKA), South African Heritage Resources Agency (SAHRA), and interested and affected parties as included in the EIAR;
- d) Mitigation measures as proposed in the EIAR and the EMPr;
- e) The information contained in the specialist studies contained within Appendix E to Appendix K of the EIAR and as appears below:

Title	Prepared by	Date
Ecological Impact Assessment Report	David Hoare	March 2012
Bat Monitoring Assessment	Animalia	April 2014
Bird Monitoring programme	Endangered Wildlife Trust	February 2012 and April 2014
Noise impact study	M ² Environmental Connections cc	February 2012
Soils and Land Use	Terra Soil Science	February 2012
Social Impact Assessment	Tony Barbour	March 2012
Visual Impact Assessment	MetroGIS (Pty) Ltd.	March 2012
Archaeological Impact Assessment Report	Albany Museum	February 2012
Paleontological specialist study	L Russouw	Not dated

- f) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998).

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) Details provided of the qualifications of the Environmental Assessment Practitioner (EAP).
- b) The findings of all the specialist studies conducted and their recommended mitigation measures.
- c) The need for the proposed project stems from the provision of electricity to the national grid in terms of the Renewable Energy Independent Power Producers Procurement Programme (RRIPPPP) as required by the Department of Energy.
- d) The EIAr identified all legislation and guidelines that have been considered in the preparation of the EIAr.
- e) The description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.
- f) The methodology used in assessing the potential impacts identified in the EIAr and the specialist studies have been adequately indicated.
- g) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2010 for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

- a) The identification and assessment of impacts are detailed in the EIAr and sufficient assessment of the key identified issues and impacts have been completed.
- b) The procedure followed for impact assessment is adequate for the decision-making process.
- c) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.
- d) The information contained in the EIAr is deemed to be accurate and credible.
- e) EMPr measures for the pre-construction, construction and rehabilitation phases of the development were proposed and included in the EIAr and will be implemented to manage the identified environmental impacts during the construction process.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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Tel (+ 27 12) 399 9372

DEA Reference: 12/12/20/2370/3/AM1

Enquiries: Mr Muhammad Essop

Telephone: (012) 399 9406 E-mail: MEssop@environment.gov.za

Mr Richard Gordon
Great Karoo Wind Farm (Pty) Ltd
PO Box 23101
Claremont
CAPE TOWN
7735

Telephone Number: (021) 670 1401
E-mail Address: James.cumming@aced.co.za

PER EMAIL / MAIL

Dear Mr Gordon

AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION ISSUED ON 12 AUGUST 2014 FOR THE 140MW GREAT KAROO WIND FARM (PHASE 3) AND ITS ASSOCIATED INFRASTRUCTURE ON THE FARM KENTUCKY 206 AND PORTION 1 (WELGEMOED) OF THE FARM WOLVENKOP 207 WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Environmental Authorisation (EA) issued for the abovementioned application by this Department on 12 August 2014, your application for amendment of the EA received by this Department on 11 April 2016, the draft report received on 11 April 2016, the comments issued by this Department on 25 April 2016 and the additional information received on 19 May 2016 refer.

Based on a review of the reason for requesting an amendment to the above EA, this Department, in terms of Chapter 5 of the Environmental Impact Assessment Regulations, 2014, has decided to amend the EA dated 12 August 2014 as follows:

Amendment 1: Amendment to the project description of the EA:

Page 08 of the EA:

From:

"The infrastructure associated with this facility includes:

- *Wind turbines (between 2MW and 3.5MW in capacity and with a 120m rotor diameter and a hub height of up to 120m) and associated foundations;*
- *Medium voltage cabling between the turbines, to be laid underground where practical;*
- *Internal access roads to each turbine the substation complex and the ancillary infrastructure;*
- *One on-site substation complex to facilitate stepping up the voltage from medium to high voltage (up to 132kV) to enable the connection of the wind energy facility and the Eskom grid at Eskom's Komsberg Substation*

M.S

- A high voltage power line for connection to a double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation;
- Operations and services workshop area / office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant."

To:

"The infrastructure associated with this facility includes:

- Up to 52 wind turbines (with up to 3.6MW in capacity and with up to 140m rotor diameter and a hub height of up to 120m) and associated foundations;
- Medium voltage cabling between the turbines, to be laid underground where practical;
- Internal access roads to each turbine the substation complex and the ancillary infrastructure;
- One on-site substation complex to facilitate stepping up the voltage from medium to high voltage (up to 132kV) to enable the connection of the wind energy facility and the Eskom grid at Eskom's Komsberg Substation
- A high voltage power line for connection to a double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation;
- Operations and services workshop area / office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant.

The table on page 08 of the EA:

From:

Component	Description/Dimensions
Location of the site	~ 50 km south of Sutherland in the Northern Cape
Extent of the proposed development footprint	~ 91.8 km ²
SG Codes	» C0720000000020600000 » C0720000000020700001
Substation complex	One (1) 132 kV substation, workshop, control, administration and security facilities.
Power line (number and voltage)	One (1) high voltage overhead power line for connection of the Great Karoo Wind Farm Substation to a (1) double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation.
Access road and width	8 m wide
Export capacity	140 MW
Number of Turbines	57

To:

Component	Description/Dimensions
Location of the site	~ 50 km south of Sutherland in the Northern Cape
Extent of the proposed development footprint	~ 91.8 km ²
SG Codes	» C0720000000020600000 » C0720000000020700001
Substation complex	One (1) 132 kV substation, workshop, control, administration and security facilities.
Power line (number and voltage)	One (1) high voltage overhead power line for connection of the Great Karoo Wind Farm

	Substation to a (1) double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation.
Access road and width	8 m wide
Hub Height	Up to 120m
Rotor Diameter	Up to 140m
Export capacity	140 MW
Number of Turbines	52

The applicant applied to amend the turbine specifications as there was developments in technology since the EA was issued based on the wind monitoring results as well as economic considerations. The applicant applied to increase the rotor diameter as well as reduce the number of turbines.

This proposed amendment letter must be read in conjunction with the EA dated 12 August 2014.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the Department's decision in respect of the amendment made as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 2 of Government Notice No. R.993, which prescribes the appeal procedure to be followed. Kindly include a copy of this document with the letter of notification to interested and affected parties.

An appellant must submit an appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the applicant by the competent authority.

By post: Private Bag X447,
Pretoria,
0001; or

By hand: Environment House
473 Steve Biko Road,
Arcadia,
Pretoria.

Appeals must be submitted in writing to:

Mr Z Hassam, Director: Appeals and Legal Review, of this Department at the above mentioned addresses. Mr Hassam can also be contacted at:

Tel: (012) 399 9356

Email: Appealsdirector@environment.gov.za

Please note that in terms of Section 43(7) of the National Environmental Management Act, 1998, an appeal under Section 43 of that Act will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

For guidance on appeals submitted to the Minister in terms of NEMA and the SEMAs, please find a copy of the guideline on the administration of appeals on the Department's website: (https://www.environment.gov.za/documents/forms#legal_authorisations).

Yours faithfully


Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 25/07/2016

cc:	Ms Jo-Anne Thomas	Savannah Environmental (Pty) Ltd	Email: joanne@savannahsa.com
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environmental affairs

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DEA Reference: 12/12/20/2370/3/AM2

Enquiries: Mr Vincent Chauke

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Mr Richard Gordon
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PO Box 23101
Claremont
CAPE TOWN
7735

Telephone Number: (021) 670 1401
E-mail Address: james.cumming@aced.co.za

PER EMAIL / MAIL

Dear Mr Gordon

AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION ISSUED ON 12 AUGUST 2014 FOR THE 140MW GREAT KAROO WIND FARM (PHASE 3) AND ASSOCIATED INFRASTRUCTURE ON THE FARM KENTUCKY 206 WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Environmental Authorisation (EA) issued for the abovementioned application by this Department on 12 August 2014, the amendment to the EA dated 25 August 2016 and your application for amendment of the EA received by the Department on 11 April 2017 refer.

Based on a review of the reason for requesting an amendment to the above EA, this Department, in terms of Chapter 5 of the Environmental Impact Assessment Regulations, 2014 as amended, on 07 April 2017, has decided to amend the EA dated 12 August 2014 as follows:

Amendment 1: Amendment to extend the validity period of the EA:

The activity must commence within a period of two (02) years from the date of expiry of the EA issued on 12 August 2014 (i.e. the EA lapses on 12 August 2019). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.

The applicant applied to extend the validity period of the EA as the development was not awarded preferred bidder status in the DoE REIPPPP. The applicant intends to bid this project in the DoE REIPPPP future rounds.

This amendment letter must be read in conjunction with the EA dated 12 August 2014, as amended.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the EA, of the Department's decision in respect of your application as well as the fact that

M.S

an appeal may be lodged against the decision in terms of the National Appeals Regulations, and the provisions regarding the submission of appeals as contained in the Regulations.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable

Appeals must be submitted in writing in the prescribed form to:

Mr Z Hassam, Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By Email: appealsdirector@environment.gov.za;

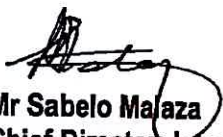
By hand: Environment House
473 Steve Biko,
Arcadia,
Pretoria,
0083; or

By post: Private Bag X447,
Pretoria,
0001

Please note that in terms of section 43(7) of the National Environmental Management Act, 1998, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appealsdirector@environment.gov.za.

Yours faithfully


Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 05/05/2017.

cc:	Ms Jo-Anne Thomas	Savannah Environmental (Pty) Ltd	Email: joanne@savannahsa.com
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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447· PRETORIA · 0001· Environment House · 473 Steve Biko, Arcadia· PRETORIA
Tel (+ 27 12) 399 9372

DEA Reference: 12/12/20/2370/3/AM3

Enquiries: Ms Zesipho Makhosayafana

Telephone: (012) 399 8741 E-mail: zmakhosayafana@environment.gov.za

Mr Richard Gordon
Great Karoo Wind Farm (Pty) Ltd
PO Box 23101
CLAREMONT
7735

Telephone Number: (021) 670 1401
Email Address: Richard.gordon@aiimafrica.com

PER E-MAIL / MAIL

Dear Mr Gordon

AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION ISSUED ON 14 AUGUST 2014 FOR THE PROPOSED 140 MEGAWATTS GREAT KAROO WIND FARM (PHASE 3) AND ITS ASSOCIATED INFRASTRUCTURE ON THE FARM KENTUCKY 206 AND PORTION 1 (WELGEMOED) OF THE FARM WOLVENKOP 207 WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Environmental Authorisation (EA) issued for the above-mentioned application by this Department on 12 August 2014, the first amendment to the EA dated 25 July 2016, the second amendment to the EA dated 05 May 2017, your application for amendment of the EA received by this Department on 25 April 2019, the comments issued by this Department on 13 May 2019 and the final report received on 12 July 2019, refers.

Based on a review of the reason for requesting an amendment to the above EA, this Department, in terms of Chapter 5 of the Environmental Impact Assessment (EIA) Regulations, 2014 as amended, has decided to amend the EA dated 12 August 2014, as follows:

Amendment 1: Extension of the validity period of the EA

Condition of authorization 6 of the EA dated 12 August 2014 is thus amended as follows:

"6. The activity must commence within a period of ten (10) years from the date of issue of the authorisation (i.e. the authorisation lapses on 12 August 2024). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

Amendment 2: Wind turbine specification

The wording in the table on page 8 of the EA is mended:

From:

MS

Up to 52 wind turbines (with up to 3.6MW in capacity and with up to 140m rotor diameter and a hub height of up to 120m) and associated foundations.

To:

Up to 42 wind turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations.

Amendment 3: Decrease in number of wind turbines on page 8 of the EA

From:

52 turbines

To:

42 turbines

Amendment 4: Site Layout Plan update

From:

The Site Layout Plan dated 2016 with 52 wind turbine (with up to 3.6MW in capacity and with up to 140m rotor diameter and a hub height of up to 120m) and associated foundations.

To:

The proposed new Site Layout Plan with 42 turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations.

Amendment 5: Amendment to the conditions of the EA

1. Condition 13.2

A copy of the final development layout must be made available for comments by registered Interested and Affected Parties and the applicant must consider such comments. Once amended, the final development layout map must be submitted to the department for written approval prior to commencement of the activity. All available biodiversity information must be used in the finalisation of the layout map. Existing infrastructure must be used as far as possible e.g. roads. The layout map must include the following:

13.2. A 150m and 100m buffer respectively between watercourses; ridge edge and the turbine/ construction activities.

To:

A copy of the final development layout must be made available for comments by registered interested and affected parties and the applicant must consider such comments. Once amended, the final development layout map must be submitted to the department for written approval prior to commencement of the activity. All available biodiversity information must be used in the finalisation of the layout map. Existing infrastructure must be used as far as possible e.g. roads. The layout map must include the following:

13.2. Turbine and infrastructure positions as approved by an avifaunal specialist.

2. Condition 49

A 150m between watercourse and 100m buffer between the ridge edge and the turbines/ construction activities must be implemented.

To:

The final layout (turbines and infrastructure positions) must be approved by an avifauna specialist before submission to this department for review and approval.

The below additional conditions are included as per the recommendations of the specialist studies submitted as part of the amendment report dated July 2019:

1. A more refined and focussed preconstruction monitoring must be undertaken, findings of the monitoring must be used to update the existing avifaunal baseline for the site and must also be used to inform final micro siting of the WEF where applicable.
2. Nest sites (N1-N3) must be revisited by an avifaunal specialist during eagle breeding season (June – September) to confirm activity and species utilisation. The findings of the aforementioned must be included and inform the final EMPr and layout plan to be submitted to this department for approval.
3. Should active nesting sites be confirmed, then regular monitoring to determine breeding success of eagles must be undertaken during both construction and operational phases of the authorised project in accordance with applicable guidelines in effect at the time.
4. A bat specialist must assess the final layout and provide input and recommendation for placement of turbines.

Reason for amendment:

Following the issuing of the EA for the project, there have been advancements to wind turbine technology with newer turbines becoming larger and more powerful. The turbines authorised in the EA are therefore not considered to be the most suitable in terms of production and economic considerations. These amendments to the project are proposed in order to increase the efficiency of the facility and consequently the economic competitiveness thereof, as well as to avoid environmental sensitivities on the site. The Applicant intends to bid the Great Karoo Wind Farm in the next bidding window of the South African Government's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). To date there have been four bidding windows in the REIPPPP, with the last of these bid windows taking place in 2014. The next REIPPPP bid window is now anticipated in the second half of 2019 or early 2020. Should the wind farm be successfully selected as a Preferred Bidder in the next round of REIPPPP, construction would be expected to commence in late 2020 or 2021 at the absolute earliest.

This amendment letter must be read in conjunction with the EA dated on 12 August 2014, as amended.

In terms of Regulation 4(2) of the National Environmental Management Act: the Environmental Impact Assessment Regulations, 2014, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing within 14 (fourteen) days of the date of this EA, of the Department's decision as well as the provisions regarding the submission of appeals that are contained in the Regulations.

In terms of the Promotion of Administrative Justice Act, 2000 (Act No 3 of 2000), you are entitled to the right to fair, lawful and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further your attention is drawn to the provisions of the Protection of Personal Information Act, 2013 (Act no. 4 of 2013) which stipulate that the Department should conduct itself in a responsible manner when collecting, processing, storing and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuse or compromise your personal information in any way.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appealsdirector@environment.gov.za;

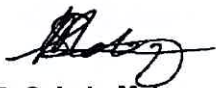
By hand: Environment House
473 Steve Biko Street
Arcadia
Pretoria
0083; or

By post: Private Bag X447
Pretoria
0001

Please note that in terms of Section 43(7) of the NEMA, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with any activity authorised in the EA until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appealsdirector@environment.gov.za.

Yours faithfully



Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 19/09/2019

cc:	Mr G Raath	Savannah Environmental (Pty) Ltd	Email: gideon@savannahsa.com
	Ms D Moleko	Department of Environment and Nature Conservation	Email: dmoleko@ncpg.gov.za
	Mr L Vermeulen	Karoo Hoogland Local Municipality	Email: leov.namakwa-dm.gov.za



forestry, fisheries & the environment

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

Private Bag X 447· PRETORIA 0001· Environment House 473 Steve Biko Road, Arcadia· PRETORIA

DFFE Reference: 12/12/20/2370/3/AM4

Enquiries: Ms Thulisile Nyalunga

Telephone: (012) 399 9405 E-mail: TNyalunga@environment.gov.za

Great Karoo Wind Farm (Pty) Ltd
Mr Richard Gordon
PO Box 23101
CLAREMONT
7735

Telephone Number: (021) 670 1401
Email Address: richard.gordon@aiimafrica.com

PER MAIL / EMAIL

Dear Mr Gordon

AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION ISSUED ON 12 AUGUST 2014 FOR THE PROPOSED 140MW GREAT KAROO WIND FARM (PHASE 3) AND ITS ASSOCIATED INFRASTRUCTURE ON THE FARM KENTUCKY 206, PORTION 1 (WELGEMOED) OF THE FARM WOLVENKOP 207, AND PORTION 2 OF THE FARM ORANGE FONTEIN NO. 203, WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Environmental Authorisation (EA) issued for the abovementioned application by this Department on 12 August 2014, the amendments to the EA dated 25 July 2016, 05 May 2017, and 19 September 2019, your application for amendment of the EA received by the Department on 21 July 2021, the acknowledgement letter dated 02 August 2021, and the additional information received on 10 August 2021, refer.

Based on a review of the reason for requesting an amendment to the above EA, this Department, in terms of Chapter 5 of the Environmental Impact Assessment Regulations, 2014 as amended, has decided to amend the EA dated 12 August 2014 as amended, as follows:

Amendment 1: Amendment to the project title on page 1 of the EA (and on page 1 of the covering letter)

From:

The proposed 140MW Great Karoo Wind Farm (Phase 3) and its associated infrastructure on the Farm Kentucky 206 and Portion 1 (Welgemoed) of the Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality in the Northern Cape Province

To:

The proposed 140MW Great Karoo Wind Farm (Phase 3) and its associated infrastructure on the Farm Kentucky 206, Portion 1 (Welgemoed) of the Farm Wolvenkop 207, and Portion 2 of the Farm Orange Fontein No. 203, within the Karoo Hoogland Local Municipality in the Northern Cape Province

M.S

Amendment 2: Amendment to the property details on page 1 of the EA

From:

Location of activity:	Farm Kentucky 206 Portion 1 (Welgemoed) of Farm Wolvenkop 207 Karoo Hoogland Local Municipality Namakwa District Municipality NORTHERN CAPE PROVINCE
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To:

Location of activity:	Farm Kentucky 206 Portion 1 (Welgemoed) of Farm Wolvenkop 207 <u>Portion 2 of the Farm Orange Fontein No. 203</u> Karoo Hoogland Local Municipality Namakwa District Municipality NORTHERN CAPE PROVINCE
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Amendment 3: Amendment to the property details on page 7 of the EA

From:

- for the proposed 140MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure on the Farm Kentucky 206 and Portion 1 (Welgemoed) of Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality of the Namakwa District Municipality, Northern Cape Province, hereafter referred to as "the properties".

To:

- for the proposed 140MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure on the Farm Kentucky 206, Portion 1 (Welgemoed) of Farm Wolvenkop 207, and Portion 2 of the Farm Orange Fontein No. 203 within the Karoo Hoogland Local Municipality of the Namakwa District Municipality, Northern Cape Province, hereafter referred to as "the properties".

Amendment 4: Amendment to the project description on page 8 of the EA

From:

The infrastructure associated with this facility includes:

- Up to 42 wind turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations;
- Medium voltage cabling between the turbines, to be laid underground where practical;
- Internal access roads to each turbine the substation complex and the ancillary infrastructure;
- One on-site substation complex to facilitate stepping up the voltage from medium to high voltage (up to 132kV) to enable the connection of the wind energy facility and the Eskom grid at Eskom's Komsberg Substation
- A high voltage power line for connection to a double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation;

DFE Reference: 12/12/20/2370/3/AM4

2

Amendment of the Environmental Authorisation Issued on 12 August 2014 for the Proposed 140W Great Karoo Wind Farm (Phase 3) and its Associated Infrastructure on the Farm Kentucky 206, Portion 1 (Welgemoed) of the Farm Wolvenkop 207, and Portion 2 of the Farm Orange Fontein No. 203, within the Karoo Hoogland Local Municipality in the Northern Cape Province

M.S

- Operations and services workshop area / office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant.

To:

The infrastructure associated with this facility includes:

- Up to 42 wind turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations;
- Medium voltage cabling between the turbines, to be laid underground where practical;
- Internal access roads to each turbine the substation complex and the ancillary infrastructure;
- Development of two access roads branching off the public road bisecting the site, on Farm Kentucky 206 and Portion 2 of the Farm Orange Fontein No. 203;
- One on-site substation complex to facilitate stepping up the voltage from medium to high voltage (up to 132kV) to enable the connection of the wind energy facility and the Eskom grid at Eskom's Komsberg Substation;
- A high voltage power line for connection to a double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation;
- Operations and services workshop area / office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant.

The reason for the amendment of the EA is as follows:

The amendment entails the updating of the project description within the EA to include details of the access road to the site, including the property details of the access road. The site layout plan for the Great Karoo Wind Farm, as assessed in the original (2014) EIA, included two access points (up to 8m wide) to the wind farm. Both access points branch off the same public road. The southern (main) access point branches off the public road on the Farm Kentucky 206. The northern access point (secondary access road) traverses for approximately 330m over Portion 2 of Farm Orange Fontein No. 203 to the Great Karoo Wind Energy Facility site. This could be seen in the layout map included within the FEIR.

The Great Karoo Wind Farm is composed of two separate strings (rows) of turbines: a southern row of turbines and a northern row of turbines. The two rows of turbines are separated from each other by a prominent watercourse feature within a valley. The two rows are not connected to each other, since any road connecting the two rows would need to traverse the watercourse feature which is highly undesirable from an ecological perspective and also technically impractical given the topography either side of the watercourse (valley). This is the reason why two separate access points were assessed for the site: the southern string of turbines is accessed by the main southern access to the south of the watercourse, while the northern string of turbines is accessed via the secondary northern access to the north of the watercourse. The secondary access road over Portion 2 of Farm Orange Fontein No. 203 was considered and assessed in the EIA process (which included consideration of the larger Hidden Valley development, including 3 wind farm phases of which Great Karoo is one), and the assessed access roads were authorised in the EA. However, the property itself was not included in the list of properties in the EA. For completeness and the avoidance of doubt, the holder of the EA required the inclusion of Portion 2 of Farm Orange Fontein No. 203 into the EA for legal due diligence purposes.

The amendment does not trigger listed activities and will not result in additional impacts, since the access road was assessed and approved as part of the original EIA process. The amendment to include the name of the property traversed by the secondary access road is administrative in nature. The holder of the EA has further entered into a Road Servitude Agreement with the landowner of Farm 2/203, and this landowner is thus fully appraised of and supportive of the secondary access route.

MS

General

This EA amendment letter must be read in conjunction with the EA dated 12 August 2014 as amended.

In terms of the Promotion of Administrative Justice Act, 2000 (Act No 3 of 2000), you are entitled to the right to fair, lawful and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further your attention is drawn to the provisions of the Protection of Personal Information Act, 2013 (Act no. 4 of 2013) which stipulate that the Department should conduct itself in a responsible manner when collecting, processing, storing and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuse or compromise your personal information in any way.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the decision, of the Department's decision, as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 2 of National Environmental Management Act, 1998 (Act No. 107 of 1998) National Appeal Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeal Regulations, 2014), which prescribes the appeal procedure to be followed. Kindly include a copy of this document (National Appeal Regulations, 2014) with the letter of notification to interested and affected parties in this matter.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

The Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appeals@environment.gov.za;

By hand: Environment House
473 Steve Biko,
Arcadia,
Pretoria,
0083; or

By post: Private Bag X447,
Pretoria,
0001;

Please note that in terms of Section 43(7) of the National Environmental Management Act, Act No. 107 of 1998, as amended, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

MS

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appeals@environment.gov.za.

Yours faithfully


Mr Sabelo Malaza
Chief Director, Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment
Date: *23/08/2014*

cc:	Ms Jo-Anne Thomas	Savannah Environmental (Pty) Ltd	E-mail: joanne@savannahsa.com
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M.S.



forestry, fisheries & the environment

Department:
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DFFE Reference: 12/12/20/2370/3/AM5

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Mr Richard Gordon
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CLAREMONT
7735

Telephone Number: (021) 670 1401
Email Address: richard.gordon@aiimafrica.com

PER MAIL / EMAIL

Dear Mr Gordon

CORRECTION TO THE ENVIRONMENTAL AUTHORISATION ISSUED ON 12 AUGUST 2014 FOR THE PROPOSED 140MW GREAT KAROO WIND FARM (PHASE 3) AND ITS ASSOCIATED INFRASTRUCTURE ON THE FARM KENTUCKY 206, PORTION 1 (WELGEMOED) OF THE FARM WOLVENKOP 207, AND PORTION 2 OF THE FARM ORANGE FONTEIN NO. 203, WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Environmental Authorisation (EA) issued for the abovementioned application by this Department on 12 August 2014 and your request for correction letter received by the Department on 03 September 2021, refer.

In terms of Regulation 27(4) of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended this Department has decided to amend the EA to correct the details of the access roads to the site on Page 8 of the EA dated 12 August 2014 as follows:

From:

The infrastructure associated with this facility includes:

- *Up to 42 wind turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations;*
- *Medium voltage cabling between the turbines, to be laid underground where practical;*
- *Internal access roads to each turbine the substation complex and the ancillary infrastructure;*
- *Development of two access roads branching off the public road bisecting the site, on Farm Kentucky 206 and Portion 2 of the Farm Orange Fontein No. 203;*
- *One on-site substation complex to facilitate stepping up the voltage from medium to high voltage (up to 132kV) to enable the connection of the wind energy facility and the Eskom grid at Eskom's Komsberg Substation;*
- *A high voltage power line for connection to a double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation;*
- *Operations and services workshop area / office building for control, maintenance and storage; and*
- *Temporary infrastructure including a site camp, laydown areas and a batching plant.*

M.S

To:

The infrastructure associated with this facility includes:

- Up to 42 wind turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations;
- Medium voltage cabling between the turbines, to be laid underground where practical;
- Internal access roads to each turbine the substation complex and the ancillary infrastructure;
- **Development of three access roads branching off the public road bisecting the site: One access road on Portion 2 of the Farm Orange Fontein No. 203 (northern access) and two access roads on Farm Kentucky 206 (west and east of the public road) (southern access);**
- One on-site substation complex to facilitate stepping up the voltage from medium to high voltage (up to 132kV) to enable the connection of the wind energy facility and the Eskom grid at Eskom's Komsberg Substation;
- A high voltage power line for connection to a double circuit high voltage power line from the Karusa Wind Farm Substation to the Eskom Komsberg Substation;
- Operations and services workshop area / office building for control, maintenance and storage; and
- Temporary infrastructure including a site camp, laydown areas and a batching plant.

Reason for the correction:

The authorised development includes both a northern and southern access point, however the southern access point in turn consists of two access roads branching off either side of the public road. The main southern access point branches eastwards off the public road on the Farm Kentucky 206, while the second southern access point branches westwards off the same public road on the same farm. This could be seen in the layout map included within the final EA Amendment Report dated July 2019, submitted in terms of the third EA Amendment for the development (DFFE Reference: 12/12/20/2370/3/AM3). For completeness and the avoidance of doubt, the EA is therefore corrected to specifically mention the access roads west and east of the public road for the southern access point, and to thus clarify that three separate access roads are provided for as part of the authorised development.

Please note that this letter must be read in conjunction with the EA dated 12 August 2014, as amended.

Yours faithfully



Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment
Date: 29/09/2021

cc:	Ms Jo-Anne Thomas	Savannah Environmental (Pty) Ltd	E-mail: joanne@savannahsa.com
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M.S



forestry, fisheries & the environment

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

Private Bag X 447· PRETORIA 0001· Environment House 473 Steve Biko Road, Arcadia· PRETORIA

DFFE Reference: 12/12/20/2370/3/AM6

Enquiries: Mmamohale Kabasa

Telephone: (012) 399 9420 E-mail: MKabasa@dffe.gov.za

Mr Richard Gordon
Great Karoo Wind Farm (Pty) Ltd
PO Box 23101
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7735

Telephone Number: (021) 670 1401
Email Address: richard.gordon@aimafrica.com

PER EMAIL

Dear Mr Gordon

AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION ISSUED ON 12 AUGUST 2014 (AS AMENDED) FOR THE CONSTRUCTION OF THE GREAT KAROO WIND FARM (PHASE 3) AND ITS ASSOCIATED INFRASTRUCTURE ON THE FARM KENTUCKY 206, PORTION 1 (WELGEMOED) OF THE FARM WOLVENKOP 207 AND PORTION 2 OF THE FARM ORANGE FONTEIN NO. 203 WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Environmental Authorisation (EA) issued for the abovementioned application by this Department on 12 August 2014, the amendments to the EA dated 25 July 2016, 05 May 2017, 19 September 2019, 23 August 2021, 29 September 2021 and 15 October 2021, your application for an amendment of the EA received by the Department on 09 June 2022 and the acknowledgement letter dated 20 June 2022, refer.

Based on a review of the reason for requesting an amendment to the above EA, this Department, in terms of Chapter 5 of the Environmental Impact Assessment Regulations, 2014 as amended, has decided to amend the EA dated 12 August 2014 as amended, as follows:

Amendment 1: Amendment of individual turbine capacity:

Amendment 2 as listed in 12/12/20/2370/3/AM3:

From:

"Up to 42 turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations."

To:

"Up to 42 turbines (with up to 8MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations."

W.

Reason for amendment:

The applicant applied to increase individual turbine capacity due to advances in technology that have resulted in increases in the capacity of the generator component of wind turbines, allowing for the generation of more electricity from the operation thereof.

Amendment 2: Amendment of individual turbine capacity:

From:

"The proposed new Site Layout Plan with 42 turbines (with up to 6.5MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations."

To:

"The proposed new Site Layout Plan with 42 turbines (with up to 8MW in capacity and with up to 180m rotor diameter and a hub height of up to 150m) and associated foundations."

Reason for amendment:

The applicant applied to increase individual turbine capacity due to advances in technology that have resulted in increases in the capacity of the generator component of wind turbines, allowing for the generation of more electricity from the operation thereof.

Amendment 3: Amendment of the capacity of the Great Karoo Wind Farm:

Amendment of the capacity of the Great Karoo Wind Farm on Page 1 of the original EA dated 12 August 2014:

From:

"The proposed 140MW Great Karoo Wind Farm (Phase 3) and its associated infrastructure on the Farm Kentucky 206 and Portion 1 (Welgemoed) of the Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality in the Northern Cape Province"

To:

"The proposed 150MW Great Karoo Wind Farm (Phase 3) and its associated infrastructure on the Farm Kentucky 206 and Portion 1 (Welgemoed) of the Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality in the Northern Cape Province"

Reason for amendment:

The applicant applied to increase individual turbine capacity due to advances in technology that have resulted in increases in the capacity of the generator component of wind turbines, allowing for the generation of more electricity from the operation thereof.

ms.

Amendment 4: Amendment of the capacity of the Great Karoo Wind Farm:

Amendment of the capacity of the Great Karoo Wind Farm to Page 4 of the original EA dated 12 August 2014:

From:

"The wind energy facility will consist of wind turbines for electricity generation of more than 20MW. The facility will generate up to 140MW at the Point of Connection. Power lines and substation complexes together with workshops, control, administration and security buildings are included as ancillary infrastructure for this energy generation process."

To:

"The wind energy facility will consist of wind turbines for electricity generation of more than 20MW. The facility will generate up to 150MW at the Point of Connection. Power lines and substation complexes together with workshops, control, administration and security buildings are included as ancillary infrastructure for this energy generation process."

Reasons for amendment:

The applicant applied to increase the overall capacity of the Great Karoo Wind Farm due to the implementation of a larger generator component of each wind turbine. The total capacity of the wind farm would be increased from 140MW to 150MW.

Amendment 5: Amendment of the capacity of the Great Karoo Wind Farm:

Amendment of the capacity of the Great Karoo Wind Farm to Page 7 of the original EA dated 12 August 2014:

From:

"for the proposed 140MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure on the on the Farm Kentucky 206 and Portion 1 (Welgemoed) of the Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality in the Northern Cape Province, hereafter referred to as "the properties" "

To:

"for the proposed 150MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure on the on the Farm Kentucky 206 and Portion 1 (Welgemoed) of the Farm Wolvenkop 207 within the Karoo Hoogland Local Municipality in the Northern Cape Province, hereafter referred to as "the properties" "

Reason for amendment:

The applicant applied to increase the overall capacity of the Great Karoo Wind Farm due to the implementation of a larger generator component of each wind turbine. The total capacity of the wind farm would be increased from 140MW to 150MW.

Amendment 6: Amendment of the capacity of the Great Karoo Wind Farm:

Amendment of the capacity of the Great Karoo Wind Farm to Page 8 of the original EA dated 12 August 2014:

From:

Export Capacity	140MW
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To:

Export Capacity	150 MW
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Reason for amendment:

The applicant applied to increase the overall capacity of the Great Karoo Wind Farm due to the implementation of a larger generator component of each wind turbine. The total capacity of the wind farm would be increased from 140MW to 150MW.

Amendment 6: Amendment of the capacity of the Great Karoo Wind Farm:

Amendment of the capacity of the Great Karoo Wind Farm to Page 9 of the original EA dated 12 August 2014:

From:

"1. The preferred alternative for the construction of the 140MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure as described above is hereby approved."

To:

"1. The preferred alternative for the construction of the 150MW Great Karoo (Phase 3) Wind Energy Facility and its associated infrastructure as described above is hereby approved."

Reason for amendment:

The applicant applied to increase the overall capacity of the Great Karoo Wind Farm due to the implementation of a larger generator component of each wind turbine. The total capacity of the wind farm would be increased from 140MW to 150MW.

This proposed amendment letter must be read in conjunction with the EA dated 12 August 2014 as amended.

In terms of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000), you are entitled to the right to fair, lawful and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further your attention is drawn to the provisions of the Protection of Personal Information Act, 2013 (Act No. 4 of 2013) which stipulates that the Department should conduct itself in a responsible manner when collecting, processing, storing and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuses or compromises your personal information in any way.

MS.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing and within fourteen (14) days of the date of the decision, of the Department's decision as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) National Appeal Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeal Regulations, 2014), which prescribe the appeal procedure to be followed. Kindly include a copy of this document (National Appeal Regulations, 2014) with the letter of notification to interested and affected parties in this matter.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 (twenty) days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

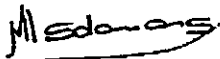
The Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appeals@dffe.gov.za
By hand: Environment House
473 Steve Biko Road
Arcadia
PRETORIA
0083 or
By post: Private Bag X447
PRETORIA
0001

Please note that in terms of Section 43(7) of the National Environmental Management Act, Act No. 107 of 1998, as amended, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.dffe.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appeals@dffe.gov.za.

Yours faithfully



Ms Millicent Solomons
Acting Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment
Date: 21/01/2022.

cc:	Ms Jo-Anne Thomas	Savannah Environmental (Pty) Ltd	E-mail: joanne@savannahsa.com
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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, Arcadia • PRETORIA
Tel: (+27 12) 399 9000

Enquiries: Devinagie Bendeman Telephone: 012 399 9337 E-mail: vbendeman@ddfe.gov.za

Ms. Milcent Solomons
Director: Prioritized Infrastructure Projects

Dear Mrs Solomons

APPOINTMENT AS ACTING CHIEF DIRECTOR: INTEGRATED ENVIRONMENTAL AUTHORIZATIONS FOR THE PERIOD OF 25 APRIL 2022 UNTIL 31 OCTOBER 2022

I hereby inform you that I have decided to appoint you as the Acting Chief Director: Integrated Environmental Authorizations for the period of 25 April to 31 October 2022 whilst Mr Sabelo Malaza is fulfilling his temporary reassignment function at the Forestry Branch.

All the correspondence and other documents that are usually signed by the Chief Director: Integrated Environmental Authorizations must be signed under Acting Chief Director: Integrated Environmental Authorizations during the above-mentioned period.

Your appointment in the above acting position remains subject to the provisions of the Public Service Act, 1994 (Proclamation No. 103 of 1994), as amended, the Government Employees Pension Fund Act, 1996 (Proclamation No. 21 of 1996), the regulations promulgated under these Acts and relevant circulars.

In the execution of your duties and the exercising of the powers delegated to you, you will furthermore be subjected to the provisions of the Public Finance Management Act, compliance with the Promotion of Access to Information Act, Promotion of Administrative Justice Act, the Minimum Information Security Standard, Departmental Policies and other applicable legislations with the Republic of South Africa. You are therefore advised to make yourself familiar with the provisions of these legislations and policies and the amendments thereof. (Copies of Departmental policies can be obtained from the Human Resource Office).

Please accept my heartfelt gratitude for all your assistance on behalf of the department.

Yours sincerely

Ms. Devinagie Bendeman
Deputy Director-General: RCSM (Regulatory Compliance and
Sector Monitoring)

Date 20 April 2022

ACKNOWLEDGEMENT

I ACCEPT / DO NOT ACCEPT
appointment as Acting Chief
Director: Integrated Environmental
Authorizations

Signed:

Date:

20/04/2022



forestry, fisheries & the environment

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

Private Bag X 447 • PRETORIA • 0001 • Environment House • 473 Steva Biko Road, Arcadia, • PRETORIA

DFFE Reference: 12/12/20/2370/3/MP1

Enquiries: Ms Thulisile Nyalunga

Telephone: (012) 399 9405 E-mail: Tnyalunga@environment.gov.za

Great Karoo Wind Farm (Pty) Ltd
Mr Richard Gordan
PO Box 23101
CLAREMONT
7735

Telephone Number: (021) 670 1401
Email Address: richard.gordan@allmafrica.com

PER MAIL / EMAIL

Dear Mr Gordan

APPROVAL OF THE REVISED ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) AND THE UPDATED FINAL LAYOUT PLAN SUBMITTED TO COMPLY WITH CONDITIONS 13, 15 AND 20 OF THE ENVIRONMENTAL AUTHORISATION DATED 12 AUGUST 2014 (AS AMENDED) FOR THE 140MW GREAT KAROO WIND FARM (PHASE 3) AND ITS ASSOCIATED INFRASTRUCTURE ON THE FARM KENTUCKY 206, PORTION 1 (WELGEMOED) OF THE FARM WOLVENKOP 207, AND PORTION 2 OF THE FARM ORANGE FONTEIN NO. 203, WITHIN THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Environmental Authorisation (EA) issued for the above application by this Department on 12 August 2014 and the revised final Environmental Management Programme (EMPr) (Revision 2) and updated final layout plan dated September 2021 and received by the Department on 16 September 2021, refer.

The revised final EMPr and the updated final layout plan were submitted to fulfil the requirements of Conditions 13, 15, and 20 of the EA dated 12 August 2014.

This Department has evaluated the revised final EMPr dated September 2021 for the 140MW Great Karoo Wind Farm (Phase 3) and found that the revised final EMPr (including the updated final development layout plan) comply with the requirements of the conditions of the EA. The revised final EMPr (Revision 2) dated September 2021 and the updated final development layout plan are hereby **approved**. The approved final EMPr must be implemented and adhered to. Changes to the approved EMPr must be submitted in accordance with the EIA Regulations applicable at the time.

Yours sincerely

Mr Sabelo Molaza
Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment
Date: 15/10/2021

cc:	Ms Jo-Anne Thomas	Savannah Environmental (Pty) Ltd	E-mail: joanne@savannahsa.com
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MS

APPENDIX 4
SECTION 24 C (3) AGREEMENT |

APPENDIX 5

LIST OF LANDOWNERS AND WRITTEN CONSENT

(with contact details) and written consent of landowners. If more than 1 landowner consent is attached, use sub-number 5a, 5b, 5c to denote the associated document.

- If more than 1 landowner consent is attached, use sub-number 3a, 3b, 3c to denote the associated document.
- See attached template for landowner consent.
- In addition, the below list of landowners must be completed.

Listed Activity	Project description	Farm Portions	Farm Owner	Landowner consent provided Y/N	Include document name
<i>e.g. Act 11</i>	<i>Alterations to site layout</i>	<i>Kentucky 206</i>	<i>Judith van Zyl</i>	<i>Y</i>	

*If more than 1 activity applies to the same farm portion/property and same landowner, One (1) landowner consent form may be submitted, which clearly outlines all the relevant activities specific to said property and landowner.

APPENDIX 5 (a/b/c etc)

CONSENT FROM THE LANDOWNER / PERSON IN CONTROL OF THE LAND, ON WHICH THE ACTIVITY IS TO BE UNDERTAKEN

Submitted in terms of the requirements of sub-regulation 39(1) of the Environmental Impact Assessment Regulations, 2014 (if the applicant is not the owner or person in control of the land on which the activity is to be undertaken).

KINDLY NOTE THAT:

1. This document should be attached as Appendix 5 to: The application form for amendment Environmental Authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998).
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 released by the Department.
3. One form must be filled in per landowner.

1. DETAILS OF APPLICANT:

Project Applicant	Great Karoo Wind Farm (Pty) Ltd
Trading name (if any)	Click or tap here to enter text.
Contact person	Manuelle Battisti
Physical address	102 Rivonia Road Sandton Johannesburg
Postal address:	102 Rivonia Road Sandton Johannesburg
Postal code	2196
Telephone/ cell:	010 344 0388
E-mail:	Click or tap here to enter text. Manuele.battisti@enel.com

2. DETAILS OF LANDOWNER:

(where the applicant is not the landowner or person in control of the land)

Landowner or person in control of the land:	Judith van Zyl
Contact person	Van Zyl
Physical address	PO Box 198 Sutherland
Postal address:	6920
Postal code	0230040244
Telephone/ cell:	0825947308
E-mail:	deplaat@roggeveld.co.za

3. PROJECT DETAILS AND ACTIVITIES APPLIED FOR:

Project title	Alterations to the approved layout for the Great Karoo Wind Farm (Phase 3) and it's associated infrastructure
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3.1. Activities applied for:

Describe each listed activity in Listing Notices 1, 2 or 3 (GNR 983 -985, 04 December 2014) which is being applied for as per the project description

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates. Ensure to include thresholds/area/footprint applicable.
GN R. 544 Item 10:	"The construction of facilities or infrastructure for the transmission and distribution of electricity – (i) Outside urban areas or industrial complexes with capacity of more than 33 but less than 275 kilovolts"	The project will entail construction of substations and power lines up to 400kV (outside an urban area).
GN R. 544 Item	The construction of: i weirs; ii bulk stormwater outlet structures; x buildings exceeding 50 square metres in size; or xi infrastructure or structures covering 50 square metres or more Where such construction occurs within a watercourse or within 32 metres of a watercourse, measures from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	The wind energy facility will include the construction of infrastructure (including power lines, access roads, storm water structures and buildings) within 32m of a watercourse.
GN R. 544 Item 18:	"The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from: (i) watercourse. "	Construction will entail excavations and/or backfilling of more than 5m ³ from/into watercourses, This is relevant during the construction phase when crossing watercourses with access roads.
GN R. 544 Item 22:	"The construction of a road, outside urban areas, (ii) where no reserve exists where the road is wider than 8 metres. "	The wind energy facility will require access roads to be constructed (> 8m wide), based on the design of the facility (> 30km of access road is required for each phase).
GN R. 544 Item 47:	"The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre ii where no reserve exists, where the existing road is wider than 8 metres. "	Existing roads will be widened > 8m in width and will be longer than 1 km in length (>30km of access road for each phase).
Activity No(s):	Provide the relevant Scoping and EIA Activity(ies) as set out in Listing Notice 2 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates. Ensure to include thresholds/area/footprint applicable.
GN R. 545 <u>Item 1:</u>	"The construction of facilities or infrastructure for the generation of electricity where the electricity output is 20 megawatts or more. "	The wind energy facility will consist of wind turbines for electricity generation of more than 20MW. The facility will generate up to 140MW at the

		Point of Connection. Power lines and substation complexes together with workshops, control, administration and security buildings are included as ancillary infrastructure for this energy generation process.
<u>GN R. 545</u> <u>Item 8:</u>	The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex,	The project will entail construction of substations and power lines >275kV (outside an urban area).
<u>GN R. 545</u> <u>Item 15:</u>	"Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more..."	The site for the proposed wind energy facility is currently used for livestock farming, and the footprint of the facility will be transformed to special use (wind farm, or "industrial use") on an area greater than 20 hectares.
Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates. Ensure to include thresholds/area/footprint applicable.
<u>GN R. 546</u> <u>Item 4:</u>	"The construction of a road wider than 4 metres with a reserve less than 13,5 metres. (a) Northern Cape province (i) Outside urban areas, in (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans."	The site is located in a rural area within the Northern Cape and within the HantamRoggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the construction of access roads that will be > 8 metres wide.
<u>GN R. 546</u> <u>Item 10:</u>	"The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres, (a) Northern Cape Province (ii) outside urban areas in:	The wind energy facility will require facilities for the handling and storage of dangerous good, including fuels / oils >30m ³ . The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2. In

	(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined "	addition, the storage of dangerous goods in containers may occur within 100 metres of a water course.
<u>GN R. 546</u> <u>Item 12:</u>	"The clearance of an areas of 300 square metres or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation" (b) Within critical biodiversity areas identified in bioregional plans;"	The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the clearance of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within the development footprint of the facility.
<u>GN R. 546</u> <u>Item 13:</u>	The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation Critical biodiversity areas and ecological support areas as identified in systematic biodiversity plans adopted by the competent authority.	The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan(NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the clearance of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within the development footprint of the facility.
<u>GN R. 546</u> <u>Item 14:</u>	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation a In Northern Cape: All areas outside urban areas.	The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, and will result in the clearance of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within the

		development footprint of the facility.
<u>GN R. 546</u> <u>Item 16:</u>	The construction of (iv) infrastructure covering 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line. (a) Northern Cape Province (ii) outside urban areas in: (ff) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans,	The wind energy facility will include the construction of infrastructure (including power lines, access roads, storm water structures and buildings) within 32m of a watercourse. The site is located in a rural area within the Northern Cape and within the Hantam-Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA)
<u>GN R. 546</u> <u>Item 19:</u>	The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. ii. Outside urban areas, in: Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.	Roggeveld Centre of Endemism and the Fynbos Biome and which falls within the Namakwa District Biodiversity Sector Plan (NDBSP), Critical Biodiversity Area (CBA) T2, where existing roads will be widened > 8m in width and will be lengthened by > 1 km (> 30km of access road for each phase).

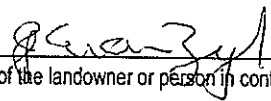
4. PROPERTY DESCRIPTION:

Property Description	Portion 1 of Kentucky 206
Town(s) or district(s):	Sutherland
Physical (street) address of project:	The Farm Kentucky No. 206, Karoo Hoogland Municipality, Sutherland

5. CONSENT FROM LANDOWNER OR PERSON IN CONTROL OF THE LAND TO UNDERTAKE THE ACTIVITY/IES:

I, Judith Elizabeth van Zyl declare that, I:-

1. Am the landowner or person in control of the property described in Section 4 of this document; and
2. That I hereby give consent to the applicant Great Karoo Wind Farm (Pty) Ltd as described in section 1 of this document to undertake the activity/ies as described in section 3 of this document on the property described in section 4.



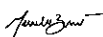
Signature of the landowner or person in control of the land

Date: 16/05/2026

APPENDIX 6 DECLARATION OF APPLICANT

I, Manuelle Battisti declare that –

- a) I am, or represent¹, the applicant in this application;
- b) I have appointed a valid, EAPASA registered Environmental Assessment Practitioner (EAP) to act as the independent EAP for this application / have obtained exemption from the requirement to obtain an EAP²;
- c) I will take all reasonable steps to verify whether the EAP and specialist/s appointed are independent, affiliated with the relevant professional body e.g. EAPASA/SACNASP etc and have expertise in conducting environmental impact assessments or undertaking specialist work as required, including knowledge of the Act, the EIA Regulations and any guidelines that have relevance to the proposed activity;
- d) I will provide the EAP and the Competent Authority with access to all information at my disposal that is relevant to the application;
- e) I will be responsible for the costs incurred in complying with the EIA Regulations, including but not limited to –
 - costs incurred in connection with the appointment of the EAP or any person contracted by the EAP;
 - costs incurred in respect of the undertaking of any process required in terms of the Regulations;
 - costs in respect of any fee prescribed by the Minister or MEC in respect of the Regulations;
 - costs in respect of specialist reviews, if the Competent Authority decides to recover costs; and
 - the provision of security to ensure compliance with conditions attached to an environmental authorisation, should it be required by the Competent Authority;
- f) I will inform all registered interested and affected parties of any suspension of the application as well as of any decisions taken by the Competent Authority in this regard;
- g) I am responsible for complying with the conditions of any environmental authorisation issued by the Competent Authority;
- h) I hereby indemnify the Government of the Republic of South Africa, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action which the applicant or EAP is responsible for in terms of these Regulations;
- i) I will not hold the Competent Authority responsible for any costs that may be incurred by the applicant in proceeding with an activity prior to obtaining an environmental authorisation or prior to an appeal being decided in terms of these EIA Regulations;
- j) I will perform all obligations as expected from an applicant in terms of the EIA Regulations;
- k) All the particulars furnished by me in this form are true and correct;
- l) I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in section 49B of the NEMA Act; and
- m) I am aware that in terms of Section 24F of the National Environmental Management Act, as amended (Act No. 107 of 1998) that no listed activity may commence prior to an environmental authorisation being granted by the Competent Authority.



Signed by
Manuelle Battisti
Date: 16/07/2026
10:54:52 CEST

Signature of the applicant/ Signature on behalf of the applicant

Great Karoo Wind Farm (Pty) Ltd

Name of company (if applicable)

16 Jul 2026

Date

¹ If this is signed on behalf of the applicant, proof of such authority from the applicant must be attached. If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority.

² If exemption is obtained from appointing an EAP, the responsibilities of an EAP will automatically apply to the person conducting the environmental impact assessment in terms of the Regulations.

APPENDIX 7
LIST OF LOCAL/PROVINCIAL AUTHORITY INVOLVED
(WITH CONTACT DETAILS)

(Use this table as a template for information)

Provincial/Local authority:	Click or tap here to enter text.
Contact person:	Click or tap here to enter text.
Postal/Physical address:	Click or tap here to enter text.
Telephone/Cell:	Click or tap here to enter text.
E-mail:	Click or tap here to enter text.

APPENDIX 8A
PROOF OF APPOINTMENT OF EAP BEFORE 8 AUGUST 2022

APPENDIX 8B
VALID EAPASA REGISTRATION CERTIFICATE

**Environmental Assessment
Practitioners Association
of South Africa**



Registration No. 2019/1247

Herewith certifies that

JOHN VON MAYER

is registered as an

Environmental Assessment Practitioner

**Registered in accordance with the prescribed criteria of Regulation 15. (1)
of the Section 24H Registration Authority Regulations
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the
National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).**

Effective: 01 April 2026

Expires: 31 March 2027

Chairperson

Registrar



APPENDIX 6C
DECLARATION OF EAP AND UNDERTAKING UNDER OATH OR AFFIRMATION

I, John von Mayer, declare that –

- a) I act as the independent, registered in terms of EAPASA, environmental assessment practitioner in this application;
- b) I have expertise in conducting environmental impact assessments, including knowledge of the Act, EIA Regulations and any guidelines that have relevance to the proposed activity;
- c) I will comply with the Act, EIA Regulations and all other applicable legislation;
- d) I am aware that I must be registered with Environmental Assessment Practitioners Association of South Africa (EAPASA) in terms of Regulation 14 of Section 24H Registration Authority Regulations, 2016, as amended.
- e) I am aware that a candidate EAP may only assist the registered EAP and work under the supervision of a registered EAP (regulation 14(6) in the S24H Registration Authority Regulations, 2016, as amended) such as myself. I take full responsibility for the work conducted.
- f) 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;
- g) I will take into account, to the extent possible, the matters listed in Regulation 13 of the EIA Regulations and Regulation 14 of S24H of Section 24H Registration Authority Regulations, 2016, as amended, when preparing the application and any report relating to the application;
- h) 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, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
- i) I will perform all obligations as expected from an environmental assessment practitioner in terms of the EIA Regulations and S24H of NEMA ; and
- j) I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act and EIA Regulations and Regulation 18 and 20 of S24H Registration Authority Regulations, 2016, as amended.

Disclosure of Vested Interest

- k) I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the EIA Regulations;



Signature of the registered environmental assessment practitioner

EIMS

Click or tap here to enter text.

Name of company:

Friday, 26 June 2026
Date

UNDERTAKING UNDER OATH/ AFFIRMATION

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



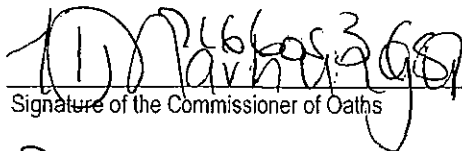
Signature of the registered Environmental Assessment Practitioner

EIMS

Name of Company

26 June 2026

Date



Signature of the Commissioner of Oaths

2026-06-26

Date

SOUTH AFRICAN POLICE SERVICE

COMMUNITY SERVICE CENTRE

2026-06-26

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APPENDIX 9A
RENEWABLE ENERGY DEVELOPMENT ZONE MAP

Renewable Energy Development Zones (REDZs) Map

1776 Enel Great Karoo ECO 2026

Legend

Proposed Infrastructure Footprint

Authorised 132kV Powerline

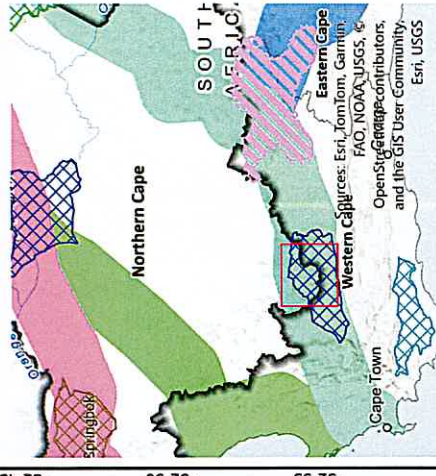
Proposed 33kV Internal Powerline

Transmission Corridor

Central corridor

REDZs Phase 1

Komsberg Wind



Data Sources:

CSG; ESRI; SANBI; CD-NGI; MDB

Coord System: GCS WGS 1984

Datum: WGS 1984

Units: Degree

Ref: 1776_PowerCorridors

Date: 2026/08/03

EIMS Ref: 1776

Compiled: JW

Reviewed: AVR

Approved: LW



APPENDIX 9B
EGI IN STRATEGIC TRANSMISSION CORRIDOR MAP

Renewable Energy Development

Zones (REDZs) Map

1776 Enel Great Karoo ECO 2026

Legend

Proposed Infrastructure Footprint

Authorised 132kV Powerline

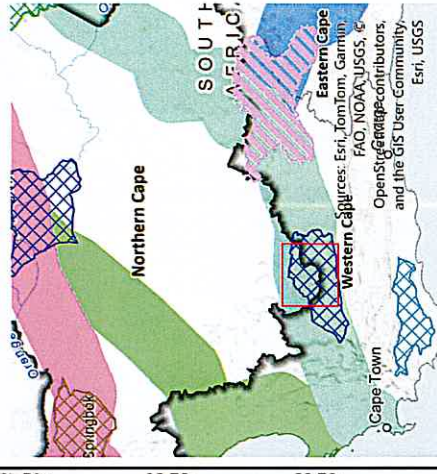
Proposed 33kV Internal Powerline

Transmission Corridor

Central corridor

REDZs Phase 1

Komsberg Wind



Data Sources:

CSG; ESRI; SANBI; CD:NGI; MDB

Coord System: GCS WGS 1984

Datum: WGS 1984

Units: Degree

Ref: 1776_PowerCorridors

Date: 2026/08/03

EIMS Ref: 1776

Compiled: JW

Reviewed: AVR

Approved: LW



APPENDIX 9C
PRE-NEGOTIATED ROUTE AGREEMENT FOR EGI

APPENDIX 9D
EGI IN RENEWABLE ENERGY DEVELOPMENT ZONE MAP

Renewable Energy Development

Zones (REDZs) Map

1776 Enel Great Karoo ECO 2026

Legend

Proposed Infrastructure Footprint

Authorised 132kV Powerline

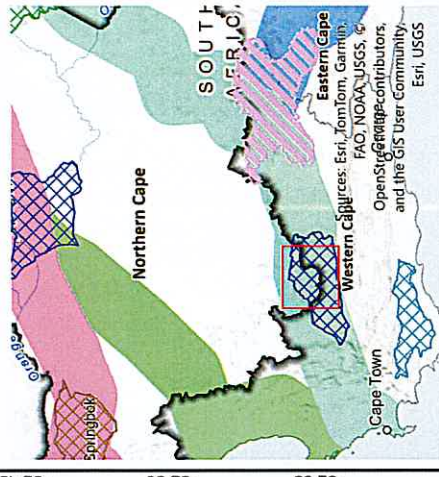
Proposed 33kV Internal Powerline

Transmission Corridor

Central corridor

REDZs Phase 1

Komsberg Wind



Data Sources:

CSG; ESRI; SANBI; CD:NGI; MDB

Coord System: GCS WGS 1984

Datum: WGS 1984

Units: Degree

Ref: 1776_PowerCorridors

Date: 2026/08/03

EIMS Ref: 1776

Compiled: JW

Reviewed: AVR

Approved: LW



APPENDIX 9E
PRE-NEGOTIATED ROUTE AGREEMENT FOR EGI IN REDZ

APPENDIX 9F
GAS TRANSMISSION PIPELINE INFRASTRUCTURE MAP

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PRE-NEGOTIATED ROUTE AGREEMENT FOR GAS TRANSMISSION PIPELINE

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MAP OF THE PROPOSED AMENDMENT/S |

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OTHER

Appendix 11A – Ecology Walkdown Report



Great Karoo Overhead Line – Avifaunal and Terrestrial Ecological Walkdown

**Karoo Hoogland Local Municipality, Karoo Hoogland NU
District Municipality, Northern Cape Province, South
Africa**

28/05/2026

Prepared by:

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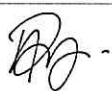
Report Name	Great Karoo Overhead Line – Avifaunal and Terrestrial Ecological Walkdown	
Specialist Theme	Avifauna & Terrestrial Ecological Walkdown	
Project Reference	Great Karoo OHL	
Report Version	Draft 2 / 28/05/2026	
Environmental Assessment Practitioner		
Responsible Specialist	Sarah Newman (Pr. Sci. Nat. 158474)	
Responsible Specialist	Dr Ryno Kemp (Pr. Sci. Nat 117462)	
Technical Support	Neil van Rooyen (SACNASP 173191)	
Reviewer	Dr Candyce Areington (Pr. Sci. Nat. 167868)	
Declaration	The Biodiversity Company and its associates operate as independent consultants under the auspice of the South African Council for Natural Scientific Professions. We declare that we have no affiliation with or vested financial interests in the proponent, other than for work performed under the Environmental Impact Assessment Regulations, 2017. We have no conflicting interests in the undertaking of this activity and have no interests in secondary developments resulting from the authorisation of this project. We have no vested interest in the project, other than to provide a professional service within the constraints of the project (timing, time and budget) based on the principals of science.	

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1 Introduction

1.1 Background

The Biodiversity Company (TBC) was commissioned by Savannah Environmental to undertake an avifauna and terrestrial ecology walkdown of the proposed development of the Great Karoo Overhead Line (OHL). The project is located approximately 43 km south of Sutherland within the Karoo Hoogland Local Municipality and the Karoo Hoogland NU District Municipality in the Northern Cape Province (Figure 1-1).

The walkdown was undertaken from the 23rd to the 28th of February 2026 to inform the layout. The survey constituted a dry season assessment. The provided powerline route is referred to as the Project Area of Influence (PAOI) for reporting purposes.

The purpose of the ecological walkdowns was to locate and identify any sensitive ecological habitats, and protected or and threatened plant species, as well as and/or fauna of conservation concern within the development footprint areas. The walkdown was also necessary to detail relevant special/tower specific mitigation measures and make final assessments within the developmental footprint. The presence of all listed and protected species is detailed herein, where applicable, and this information can be used to supplement the requirements of the necessary permit application that is required from the provincial authority, i.e., the Department of Agriculture, Environmental Affairs, Rural Development and Land Reform, prior to the removal, destruction and/or relocation. Spatial data was also provided for the walkdowns which demarcated sensitivity areas which were also considered for the placement of infrastructure or clearance of vegetation.

Please note that this report only presents the findings from the avifauna and ecological walkdown, which specifically focused on the avifauna and vegetation of the PAOI. These disciplines will collectively provide the demarcation of ecological constraints for the larger area.

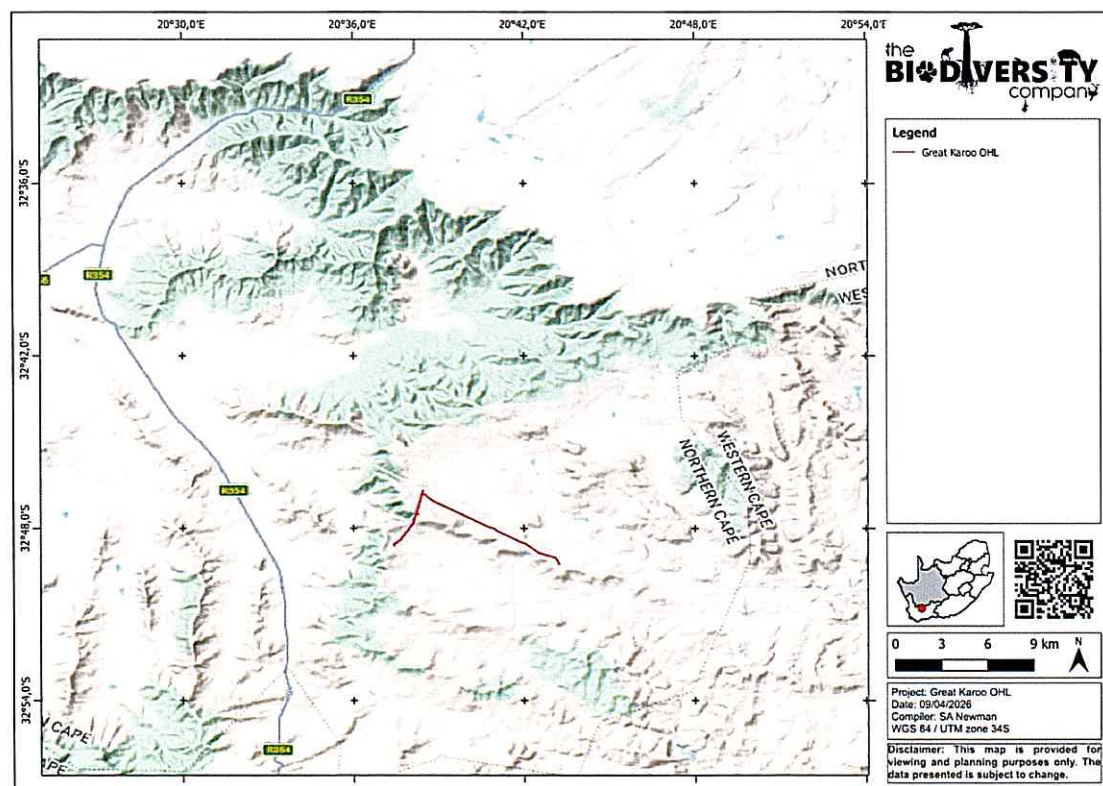


Figure 1-1 The proposed project locality

1.2 Scope of Work

The Scope of Work (SoW) for this assessment include the following:

- Review of existing information related to the development;
- Conduct an ecological walkdown for the current footprint areas;
- Compilation of a report detailing the results of the walkdown;
- Detail and ecological constraints identified for the current infrastructure;
- Provide site/tower-specific mitigation measures to supplement the approved EMPr;
- Present information on the presence of any Species of Conservation Concern (SCC); and
- Provide information to adequately inform any contractors, environmental officers and personnel pertaining to the ecological significance of the area.

1.3 Assumptions and Limitations

The following assumptions and limitations should be noted for the assessment:

- The Global Positioning System (GPS) used for the assessment is accurate to 5 metres and therefore any spatial features may be offset by this distance;
- The assessment area was based on the spatial file provided by the client before commencement of the field assessment and any alterations to the development area subsequently may affect the results;
- The survey was undertaken from the 23rd to the 28th of February 2026, which constitutes a dry season (summer) survey. The optimal survey period for the Fynbos biome is between August and September; therefore, this survey does not meet the seasonal requirements for floral observations within the biome [especially because previous studies have observed SCCs (*viz.* *Eriocephalus grandiflorus* and *Ehrharta eburnean*) within the PAOI, refer to section 2.2];
- Due to seasonal constraints, certain fauna and flora species may not have been observable and/or identifiable at the time of the assessment;
- Proposed Access roads were not provided prior to this walkdown, therefore, this assessment pertains to the proposed pylon locations only and does not address any proposed access roads;
- This assessment considers flora and fauna, including avifauna; and
- All regional and site-specific environmental information that was contained within the original (submitted) documents is not repeated within this document (*viz.* Desai, M. 2020. The Biodiversity Company: Great Karoo Wind Farm Grid Infrastructure Expansion - Biodiversity Basic Assessment). This document focuses only on the very specific mandate and findings of the walkdown and its associated ecosystem evaluations.

1.4 Definitions

1.4.1 Species of Conservation Concern

In accordance with the National Red List of South African Plants website, managed and maintained by the South African National Biodiversity Institute (SANBI), a Species of Conservation Concern (SCC) is a species that has a high conservation importance in terms of preserving South Africa's rich biodiversity. This classification covers a range of red list categories as illustrated in Figure 1-2 below.

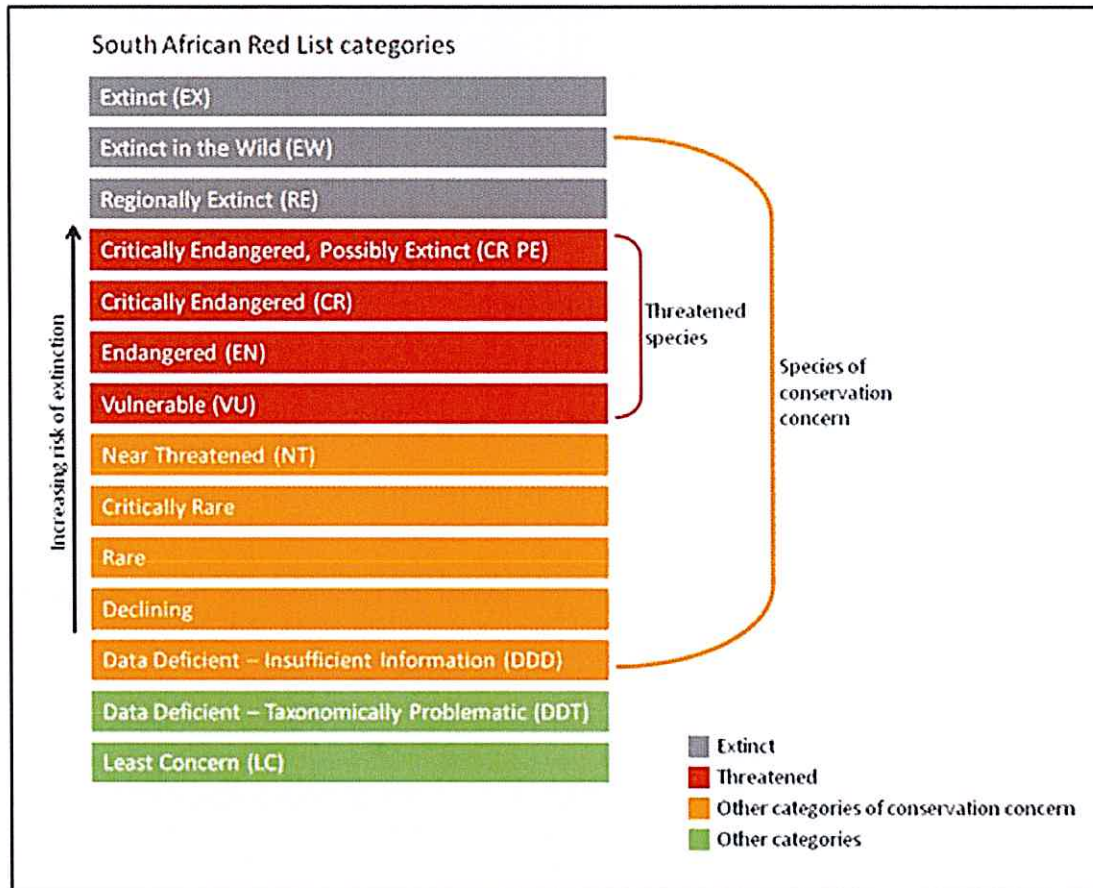


Figure 1-2 Threatened species and Species of Conservation Concern (SANBI, 2023)

South Africa uses the internationally endorsed International Union for Conservation of Nature (IUCN) Red List Categories and Criteria (IUCN, 2023). This scientific system is designed to measure species' risk of extinction, and its purpose is to highlight those species that need critical conservation action. As this system has been adopted from the IUCN, the definition of an SCC as described and categorised above is extended to all red list classifications relevant to fauna as well as the IUCN categories, for the purposes of this report.

1.4.2 Protected Species

Protected species include both flora and fauna species that are protected according to some form of relevant legislation, be it provincial, national, or international. Provincial legislation may include that published in the form of a provincial ordinance, bill, or act (specifically, provincially protected species are listed in Schedule 12 of the Limpopo Environmental Management Act No. 7 of 2003), and national legislation includes that which is published in terms of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004) or the National Forests Act (Act No. 84 of 1998). The updated annual list of all tree species which are protected in terms of the National Forests Act was published by the Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy, in Government Gazette

46094 (Notice No. 1935) on 25 March 2022. Relevant international legislation includes the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 2021).

Permits will be required should any of the protected species be removed, destroyed, or relocated from the relevant governing body. It is advised that they be avoided wherever observed.

2 Approach

2.1 Spatial Data and Project Area of Influence

The development footprint of interest was provided by the client, specifically the powerline route and pylon locations, which constitutes the PAOI (Figure 2-1). The PAOI was traversed on foot during the walkdown and the proposed pylon locations targeted as sampling points. Global positioning system (GPS) accuracy during the field surveys varied from 2 to 5 m. The findings of select sample points are discussed in the subsequent sections.

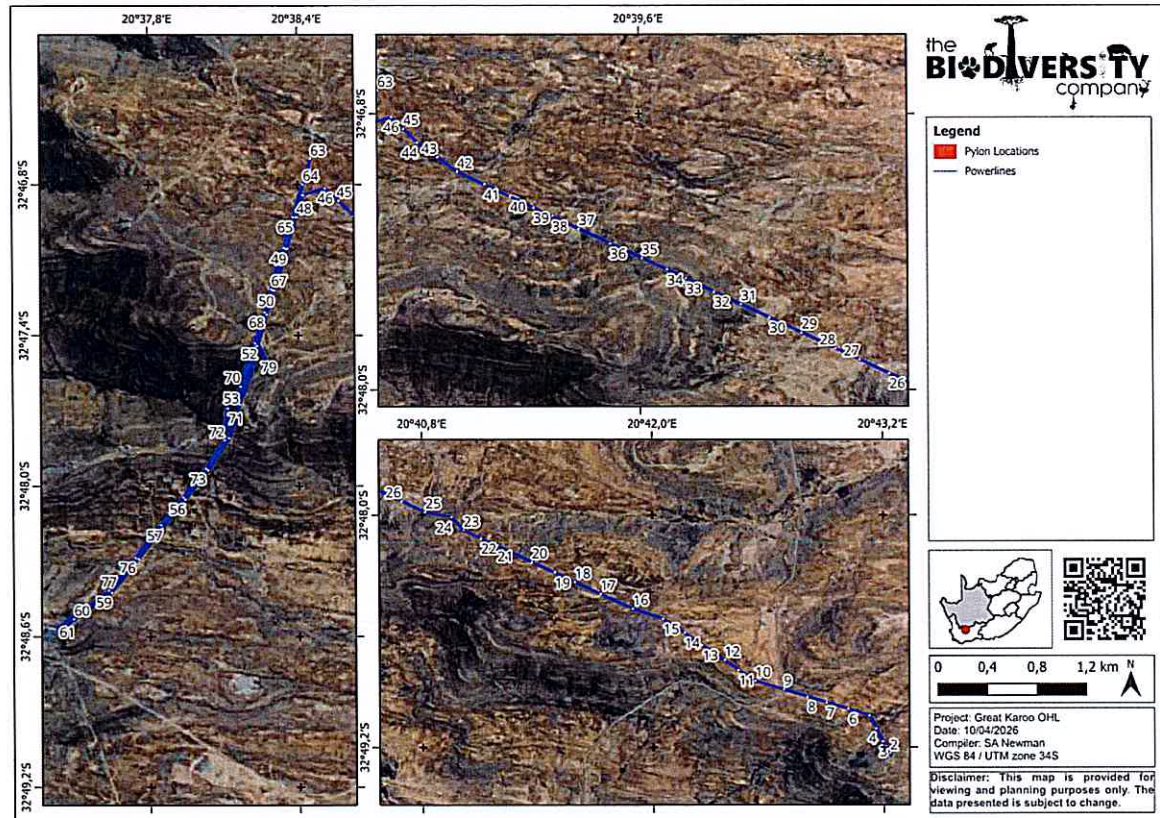


Figure 2-1 Figure presenting the proposed powerline route and pylon locations

2.2 Past Project Ecological and Assessment Findings

One previous assessment for the PAOI was considered for background information, namely:

- Desai, M. 2020. The Biodiversity Company: Great Karoo Wind Farm Grid Infrastructure Expansion - Biodiversity Basic Assessment.

This assessment indicates that two species of flora SCC were recorded from the PAOI: *Eriocephalus grandiflorus* and *Ehrharta eburnean*. In addition, numerous provincially protected flora species were recorded from the PAOI.

No reptile SCC were recorded from the PAOI, but of the seven species recorded, five are protected under the provincial legislation. One (1) mammal SCC was recorded from the PAOI: *Palea capreolus* (Grey Rhebok, NT).

The findings of the abovementioned report listed a total of 160 flora species that are expected from the PAOI, six (6) of which are SCC, 52 mammal species, including five (5) SCC, and six (6) herpetofauna species, three (3) of which are SCC.

Great Karoo OHL

In terms of avifauna, SABAP2 data indicates that a total of 147 bird species are expected for the PAOI and surrounds. Of these, 19 are considered SCC.

Additional assessments from the area were also consulted to supplement the project information and species data:

- Erasmus, M. 2022. The Biodiversity Company: Biodiversity Baseline and Impact Assessment for the Proposed Maralla 132 KV Power Line; and
- Schrenk, M. 2022. The Biodiversity Company: Esizayo Wind Farm – Plant Rescue Plan.

Table 2-1 presents the flora and fauna SCC that are expected from the PAOI and their respective likelihood of occurrence and Table 2-2 lists the avifauna SCC that are expected within the PAOI and their likelihood of occurrence. Figure 2-2 presents the habitats delineated for the original ecological assessment (Desai, 2020).

Table 2-1 List of fauna and flora SCC that are expected to occur within the PAOI. EN = Endangered, LC = Le

Family	Species	Threat Status (SANBI)		Habitat	Likelihood of Occurrence
		SANBI	IUCN		
Flora					
Aizoaceae	<i>Antimima pumila</i>	DD	-	Rocky slopes, possibly favouring south-facing slopes.	High
Amaryllidaceae	<i>Brunsvigia josephinae</i>	VU	-	Rocky slopes and clay flats in renosterveld.	High
Apocynaceae	<i>Duvalia parviflora</i>	VU	-	Flat, stony to loamy ground, under small karroid bushes.	Moderate
Asphodelaceae	<i>Bulbine torta</i>	Rare	-	Shallow pans on sandstone slabs, 230-1000 m.	Moderate
Asteraceae	<i>Eriocephalus grandiflorus</i>	Rare	-	Lower foothills in quartz patches.	Moderate
Crassulaceae	<i>Adromischus mammillaris</i>	EN	-	Lower gravelly slopes.	Low
Fabaceae	<i>Lotononis venosa</i>	EN	-	Open karroid scrub on sandy clay alluvium. Known only from four locations. Extent of occurrence 84 km² and area of occupancy 16 km².	Moderate
Geraniaceae	<i>Pelargonium denticulatum</i>	Rare	-	Sandy soils near mountain streams.	Low
Hyacinthaceae	<i>Lachenalia longituba</i>	VU	-	Stony clay in seasonally wet, boggy sites that bake rock hard in summer. Known from five locations. EOO 350 km², AOO <20 km².	Moderate
Iridaceae	<i>Geissorhiza karooica</i>	NT	-	Coarse shale slopes. Known from six locations. EOO 497 km²	High
Iridaceae	<i>Ixia mollis</i>	VU	-	Among rocks on seasonally moist south-facing sandy or clay slopes. Known from only five locations in the Olifants River Valley between Clanwilliam	Low

Great Karoo OHL

				and Citrusdal and the western Cederberg. EOO 74 km ²	
Iridaceae	<i>Romulea eburnea</i>	VU	-	Shale soils in the Klein Roggeveld. Rare and localised as it known from only two locations.	High
Poaceae	<i>Ehrharta eburnea</i>	NT	-	Rocky places in mountain renosterveld.	High
Reptiles					
Testudinidae	<i>Chersobius boulengeri</i>	EN		Rocky areas, particularly dolerite ridges. Secretive species sheltering under rock slabs.	Moderate
Testudinidae	<i>Psammobates tentorius tentorius</i>	NT		Shrubland habitats with summer- or all-year-rainfall and frequent frost	Low
Testudinidae	<i>Psammobates tentorius verroxii</i>	NT		Inland plateau above 900 m in summer-rainfall areas of open shrubland.	High
Mammals					
Bovidae	<i>Pelea capreolus</i>	NT		Rocky hills, rocky mountainsides, mountain plateaux with good grass cover.	High
Felidae	<i>Felis nigripes</i>	VU		Open habitat in arid areas with some cover in the form of tall stands of grass or scrub.	High
Felidae	<i>Panthera pardus</i>	VU		Diverse. Rocky areas and forest.	Low-Moderate
Leporidae	<i>Bunolagus monticularis</i>	CR		Confined to riparian bush on the narrow alluvial fringe of seasonally dry watercourses in the Central Karoo.	Low
Mustelidae	<i>Aonyx capensis</i>	NT		Permanent water bodies with suitable abundance of prey items.	Low

Table 2-2 *Threatened avifauna species that are expected to occur within the PAOI. CR = Critically Endangered, EN = Endangered, LC = Least Concern, NT = Near Threatened and VU = Vulnerable*

Common Name	Scientific Name	Regional*	Global*	Likelihood of Occurrence
African Rock Pipit	<i>Anthus crenatus</i>	LC	NT	High
Black Harrier	<i>Circus maurus</i>	EN	EN	High
Black Stork	<i>Ciconia nigra</i>	EN	LC	Moderate
Black-winged Kite	<i>Elanus caeruleus</i>	NT	LC	High
Cape Shoveler	<i>Spatula smithii</i>	NT	LC	Low
Ground Woodpecker	<i>Geocolaptes olivaceus</i>	NT	NT	High
Hamerkop	<i>Scopus umbretta</i>	NT	LC	Moderate
Karoo Korhaan	<i>Eupodotis vigorsii</i>	NT	LC	High
Kittlitz's Plover	<i>Charadrius pecuarius</i>	NT	LC	High

Great Karoo OHL

Lanner Falcon	<i>Falco biarmicus</i>	NT	LC	Confirmed
Lesser Kestrel	<i>Falco naumanni</i>	VU	LC	High
Ludwig's Bustard	<i>Neotis ludwigii</i>	EN	EN	Confirmed
Martial Eagle	<i>Polemaetus bellicosus</i>	EN	EN	High
Red-billed Teal	<i>Anas erythrorhyncha</i>	NT	LC	Confirmed
Secretarybird	<i>Sagittarius serpentarius</i>	VU	EN	High
Southern Black Korhaan	<i>Afrotis afra</i>	VU	VU	Confirmed
Southern Pochard	<i>Netta erythrophthalma</i>	NT	LC	Low
Verreaux's Eagle	<i>Aquila verreauxii</i>	VU	LC	Confirmed
Yellow-billed Duck	<i>Anas undulata</i>	NT	LC	High

*Lee et al., 2025; *IUCN 2025

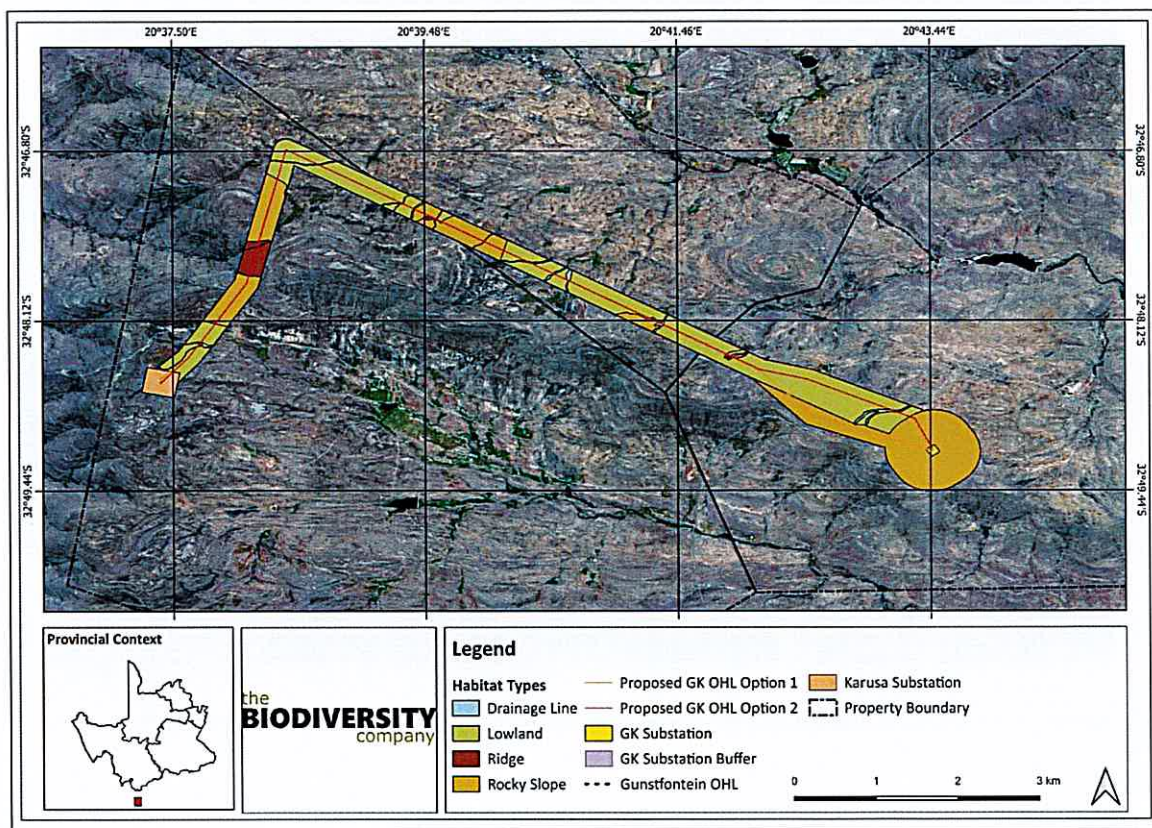


Figure 2-2 Figure presenting the habitats delineated for the original Ecological Assessment

2.3 Methods

The avifauna and terrestrial ecological walkdown was conducted from the 23rd to the 28th of February 2026, which constitutes a dry season (summer) survey.

At each pylon location, records were made for every plant species observed within 15 m of the pylon. These records include some plants which could only be identified to genus or family level. Note that due to the time of year, most perennial plants were not flowering and there were very few annuals. For a comprehensive floral assessment, additional surveys must be conducted in multiple seasons, especially during the optimal survey period for the biome (August-September).

In terms of avifauna, the walkdown included searching for sensitive habitats, nests and any avifauna SCC believed to occur within the area being searched. At each assessment point, standardised point counts (Buckland *et al.*, 1993) were conducted to gather data on the avifauna species composition and relative abundance of species within the broad habitat types identified. The standardised point count technique was utilised as it was demonstrated to outperform line routes (Cumming & Henry, 2019). Each point count was conducted over a 10-minute period. The horizontal detection limit was set at 150 meters. At each point, the observer would document the date, start time, end time, habitat, numbers of each species, detection method (seen or heard), behaviour (perched or flying), and general notes on habitat and nesting suitability for conservation-important species.

The field survey tracks and field survey points can be seen presented in Figure 2-3.

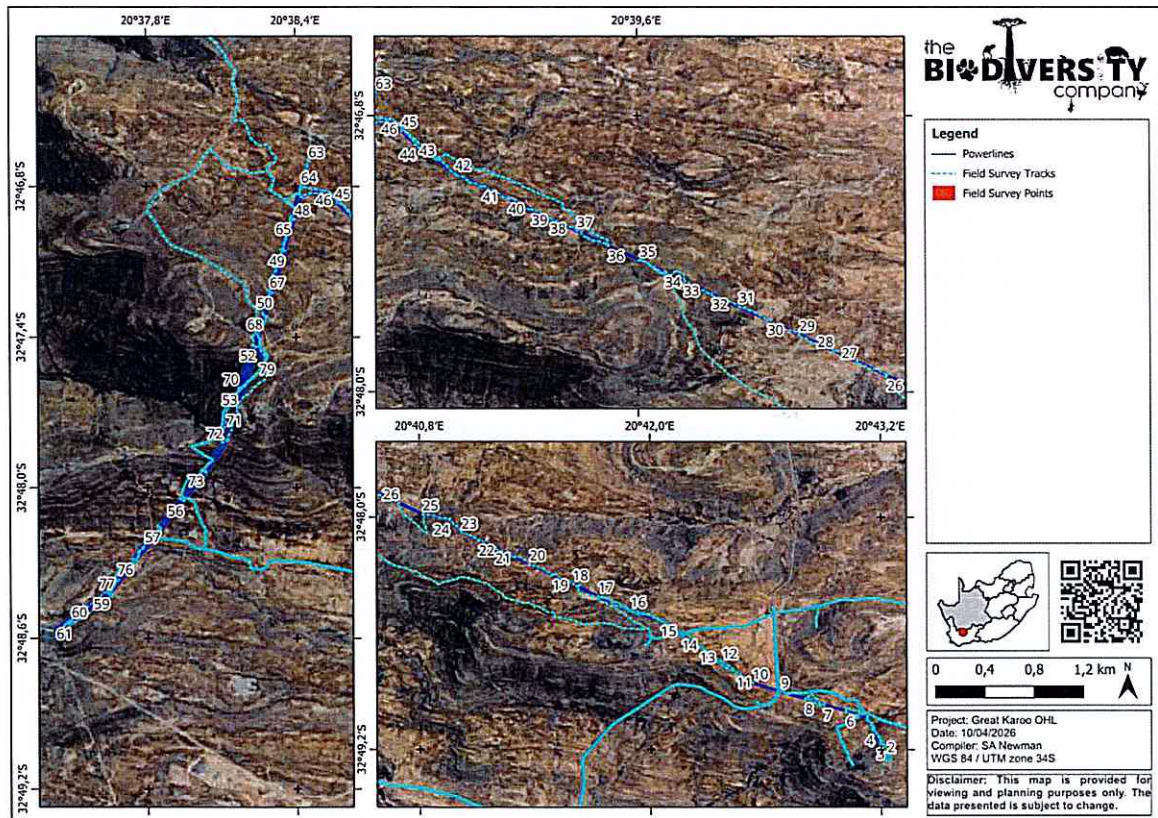


Figure 2-3 Figure presenting the field survey points and the field survey tracks

3 Walkdown

3.1 Flora Species

The specialist ecologist targeted the planned pylon locations searching for ecologically sensitive habitats and any SCC within a 15 m radius of the proposed pylon location, representing the pylon footprint.

Ninety-six (96) indigenous flora species were observed, of which at least 21 are provincially protected under the Northern Cape Nature Conservation act no. 9 of 2009. The observed flora species are listed in Table 3-1 with the provincially protected species presented in Figure 3-1. An estimate of the number of individuals of each species recorded per site is presented in Table 3-2.

Table 3-1 Flora recorded within the PAOI. NE = Not Evaluated and LC = Least Concern.

Family	Scientific Name	Conservation Status (SANBI)	Protection Status
Aizoaceae	<i>Aizoaceae sp.</i>		Provincially Protected
Aizoaceae	<i>Aizoon africanum</i>	LC	Provincially Protected
Aizoaceae	<i>Cheiridopsis namaquensis</i>	LC	Provincially Protected
Aizoaceae	<i>Ruschia sp.</i>		Provincially Protected
Aizoaceae	<i>Stomatium sp.</i>		Provincially Protected
Aizoaceae	<i>Trichodiadema sp.</i>		Provincially Protected
Amaryllidaceae	<i>Brunsvigia sp.</i>		Provincially Protected
Amaryllidaceae	<i>Haemanthus coccineus</i>	LC	Provincially Protected
Anacardiaceae	<i>Searsia burchellii</i>	LC	
Apocynaceae	<i>Gomphocarpus fruticosus</i>	LC	
Asparagaceae	<i>Asparagus capensis</i>	LC	
Asparagaceae	<i>Asparagus retrofractus</i>	LC	
Asparagaceae	<i>Asparagus sp.</i>		
Asphodelaceae	<i>Aloe microstigma</i>	LC	Provincially Protected
Aspleniaceae	<i>Asplenium sp.</i>		
Asteraceae	<i>Amphiglossa tomentosa</i>	LC	
Asteraceae	<i>Arctotheca prostrata</i>	LC	
Asteraceae	<i>Berkheya carlinifolia</i>	LC	
Asteraceae	<i>Berkheya sp.</i>		
Asteraceae	<i>Chrysocoma ciliata</i>	LC	
Asteraceae	<i>Chrysocoma sp.</i>		
Asteraceae	<i>Chrysocoma valida</i>	LC	
Asteraceae	<i>Dicrothamnus rhinocerotis</i>		
Asteraceae	<i>Dimorphotheca cuneata</i>	LC	
Asteraceae	<i>Dimorphotheca sp.</i>		
Asteraceae	<i>Eriocephalus africanus</i>	LC	
Asteraceae	<i>Eriocephalus ericoides</i>	LC	
Asteraceae	<i>Eriocephalus sp.</i>		
Asteraceae	<i>Eriocephalus cf. africanus</i>	LC	

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Asteraceae	<i>Eriocephalus spinescens</i>	LC	
Asteraceae	<i>Euryops lateriflorus</i>	LC	
Asteraceae	<i>Euryops sulcatus</i>	LC	
Asteraceae	<i>Felicia filifolia</i>	LC	
Asteraceae	<i>Gnaphalieae (Helichrysum sp.)</i>		
Asteraceae	<i>Helichrysum hamulosum</i>	LC	
Asteraceae	<i>Helichrysum pumilio</i>		
Asteraceae	<i>Leysera gnaphalodes</i>	LC	
Asteraceae	<i>Nidorella ivifolia</i>	LC	
Asteraceae	<i>Oedera genistifolia</i>	LC	
Asteraceae	<i>Oedera sp.</i>		
Asteraceae	<i>Pentzia incana</i>	LC	
Asteraceae	<i>Pentzia sp.</i>		
Asteraceae	<i>Pentzia cf. spinescens</i>	LC	
Asteraceae	<i>Pteronia empetrifolia</i>	LC	
Asteraceae	<i>Pteronia glauca</i>		
Asteraceae	<i>Pteronia glomerata</i>	LC	
Asteraceae	<i>Pteronia incana</i>	LC	
Colchicaceae	<i>Wurmbea cf. variabilis</i>	LC	Provincially Protected
Convolvulaceae	<i>Convolvulus sp.</i>		
Convolvulaceae	<i>Convolvulus cf. sagittatus or capensis</i>	LC	
Crassulaceae	<i>Crassula barbata</i>		Provincially Protected
Crassulaceae	<i>Crassula columnaris</i>		Provincially Protected
Crassulaceae	<i>Crassula deltoidea</i>	LC	Provincially Protected
Crassulaceae	<i>Crassula muscosa</i>	NE	Provincially Protected
Crassulaceae	<i>Crassula tetragona</i>		Provincially Protected
Crassulaceae	<i>Tylecodon ventricosus</i>	LC	Provincially Protected
Crassulaceae	<i>Tylecodon wallichii</i>		Provincially Protected
Cyperaceae	<i>cf. Afroscirpoides dioeca</i>	LC	
Ebenaceae	<i>Diospyros austro-africana</i>	LC	
Euphorbiaceae	<i>Euphorbia rhombifolia</i>		Provincially Protected
Euphorbiaceae	<i>Euphorbia cf. serpens</i>	NE	Provincially Protected
Fabaceae	<i>Argyrolobium argenteum</i>	LC	
Fabaceae	<i>cf. Wiborgia sericea</i>	LC	
Fabaceae	<i>Melolobium candicans</i>	LC	
Geraniaceae	<i>Geraniaceae sp.</i>		
Geraniaceae	<i>Pelargonium abrotanifolium</i>	LC	
Geraniaceae	<i>Pelargonium karoicum</i>	LC	
Geraniaceae	<i>Pelargonium sp.</i>		
Grimmiaceae	<i>Grimmia sp.</i>		

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Hyacinthaceae	<i>Drimia capensis</i>	LC
Hyacinthaceae	<i>Drimia physodes</i>	LC
Hyacinthaceae	<i>cf. Drimia sp.</i>	
Hypoxidaceae	<i>Empodium cf. plicatum</i>	LC
Hypoxidaceae	<i>Empodium cf. flexile</i>	LC
Iridaceae	<i>Moraea sp.</i>	Provincially Protected
Lamiaceae	<i>Salvia verbenaca</i>	LC
Malvaceae	<i>Anisodontea triloba</i>	LC
Malvaceae	<i>Hermannia sp.</i>	
Melanthaceae	<i>Melianthus comosus</i>	LC
Oxalidaceae	<i>Oxalis sp.</i>	Provincially Protected
Poaceae	<i>Poaceae</i>	
Poaceae	<i>cf. Tribolium purpureum</i>	
Poaceae	<i>Tribolium sp. or Pentameris sp.</i>	
Poaceae	<i>Tenaxia stricta</i>	LC
Poaceae	<i>Tribolium hispidum</i>	LC
Polygalaceae	<i>Muraltia spinosa</i>	LC
Pottiaceae	<i>Pseudocrossidium crinitum</i>	
Rubiaceae	<i>Anthospermum spathulatum</i>	
Rubiaceae	<i>Nenax sp.</i>	
Rubiaceae	<i>Nenax cf. cinerea or namaquensis</i>	LC
Ruscaceae	<i>Eriospermum paradoxum</i>	LC
Ruscaceae	<i>Eriospermum sp.</i>	
Scrophulariaceae	<i>Selago sp.</i>	
Solanaceae	<i>Lycium cinereum</i>	LC
Solanaceae	<i>Lycium sp.</i>	

Table 3-2 Table presenting an estimate of the number of protected plant species predicted for the pylon footprint (15 m radius)

Site	Aizoaceae sp.	Aizoon africanum	Brunsvigia sp.	Cheiridopsis namaquensis	Crassula columnaris	Crassula deltoides	Crassula muscosa	Euphorbia rhombifolia	Haemanthus coccineus	Moraea sp.	Ruschia sp.	Stomatium sp.	Wurmbea cf. variabilis
1	≥25			≥25	≥25	≥25		≥25			≥50	≥50	
2							≥25				≥50		
3								≥25					
4											≥50		
7		≥50											
8											≥25		
9								≥10					

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11	≥25												
14	≥25									≥25			
15		≥25				≥25				≥50			
16										≥50			
19	≥10												
24	≥50												
25										≥25			
28		≥5											
44										≥5			
50	≥25							≥5					
52	≥25											≥5	
53										≥10			
54	≥50												
58	≥10												
59										≥25			
60										≥25			
67	≥25												
68	≥25												
72										≥50			
76	≥10									≥10			
77										≥25			
78										≥25			
Estimated total	~50	~305	~5	~50	~25	~25	~25	~85	~5	~5	~495	~50	~5

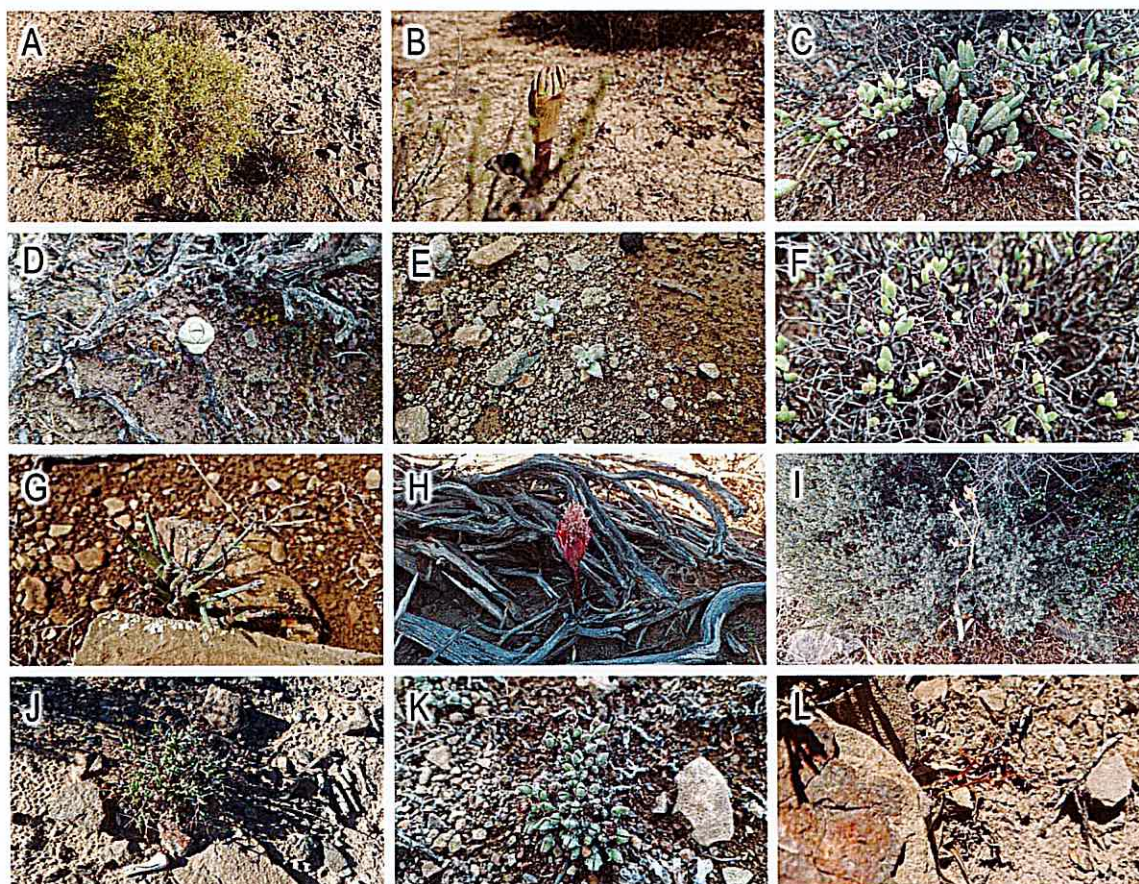


Figure 3-1 The protected species recorded from the PAOI: A) *Aizoon africanum*, B) *Brunsvigia* sp., C) *Cheiridopsis namaquensis*, D) *Crassula columnaris*, E) *Crassula deltoidei*, F) *Crassula muscosa*, G) *Euphorbia rhombifolia*, H) *Haemanthus coccineus*, I) *Moraea* sp., J) *Ruschia* sp., K) *Stomatium* sp. And L) *Wurmbea* cf. *variabilis*

3.2 Avifauna Species

Sixty (60) avifauna species were observed during the walkdown, of which 4 are SCC. An additional SCC (Ludwig's Bustard) was confirmed within the PAOI during the original assessment (TBC, 2020). These five species are listed in Table 3-3.

Table 3-3 The avifauna Species of Conservation Concern recorded during the walkdown and original survey. CR = Critically Endangered, EN = Endangered, LC = Least Concern, NT = Near Threatened and VU = Vulnerable

Common Name	Scientific Name	Family Name	Regional	Global	Endemism
Lanner Falcon	<i>Falco biarmicus</i>	Falconidae	NT	LC	
Ludwig's Bustard	<i>Neotis ludwigii</i>	Otididae	EN	EN	NE
Red-billed Teal	<i>Anas erythrorhyncha</i>	Anatidae	NT	LC	
Southern Black Korhaan	<i>Afrotis afra</i>	Otididae	VU	VU	E
Verreaux's Eagle	<i>Aquila verreauxii</i>	Accipitridae	VU	LC	

In addition to the avifauna SCC recorded, several Priority Species were also observed during the walkdown. Priority species are considered threatened, rare or prone to impacts from electrical infrastructure and energy development projects (Ralston Paton et al, 2017). The Biodiversity Company has defined risk species as those species that are listed in Ralston Paton et al (2017) as priority species,

as well as those listed in the Eskom poster of Birds and Power Lines (Eskom and EWT, no date), which together include all species - common or red-listed - that may be at risk of collision, electrocution or habitat loss as a result of the proposed activity. Twenty-three (23) of the species observed during the walkdown area are regarded as risk species, with one additional risk species (Black-chested Snake Eagle) observed within the PAOI during the original assessment (TBC, 2020). These are species which are specifically prone to electrocution and collision with powerlines, and those that would be impacted by habitat loss (Table 3-4). One notable nests was recorded, belonging to Spotted Eagle Owl (*Bubo africanus*). Appropriate buffers were assigned to this nest site (Figure 3-3).

Table 3-4 Avifauna risk species recorded during the walkdown

Common Name	Scientific Name	Collision - OHL	Electrocution	Habitat Loss
African Black Duck	<i>Anas sparsa</i>		X	X
African Sacred Ibis	<i>Threskiornis aethiopicus</i>		X	
African Spoonbill	<i>Platalea alba</i>	X	X	
Black-chested Snake Eagle	<i>Circaetus pectoralis</i>	X	X	
Cape Spurfowl	<i>Pternistis capensis</i>		X	X
Egyptian Goose	<i>Alopochen aegyptiaca</i>	X	X	
Grey Heron	<i>Ardea cinerea</i>	X	X	
Grey-winged Francolin	<i>Scleroptila afra</i>		X	X
Hadada Ibis	<i>Bostrychia hagedash</i>		X	
Jackal Buzzard	<i>Buteo rufofuscus</i>	X	X	
Lanner Falcon	<i>Falco biarmicus</i>		X	X
Namaqua Sandgrouse	<i>Pterocles namaqua</i>		X	X
Pale Chanting Goshawk	<i>Melierax canorus</i>		X	
Pied Crow	<i>Corvus albus</i>		X	
Red-billed Teal	<i>Anas erythrorhyncha</i>		X	X
Rock Kestrel	<i>Falco rupicolus</i>		X	
South African Shelduck	<i>Tadorna cana</i>	X		
Southern Black Korhaan	<i>Afrotis afra</i>		X	X
Spotted Eagle Owl	<i>Bubo africanus</i>	X	X	
Spotted Thick-knee	<i>Burhinus capensis</i>			X
Verreaux's Eagle	<i>Aquila verreauxii</i>	X	X	X
White-breasted Cormorant	<i>Phalacrocorax lucidus</i>		X	
White-necked Raven	<i>Corvus albicollis</i>		X	

3.3 Site Specific Summary

The findings of sample points at the proposed pylon locations are discussed in Table 3-5 below. The table gives a brief description with accompanying photo of the habitat present at each sample point. Recommendations are given for Terrestrial Biodiversity and Avifauna, respectively. Notable plant species are listed as found within a 15 m radius at each sampling point, whilst the avifauna SCC listed include those that were confirmed within the specific habitat type, as well as those that were not necessarily recorded but have high likelihood of occurring within the described habitat. The survey points have also had sensitivities assigned from an avifauna perspective as a separate avifauna assessment was not performed for the original application. The Terrestrial Biodiversity retains its sensitivity from the original assessment (Desai, 2020).

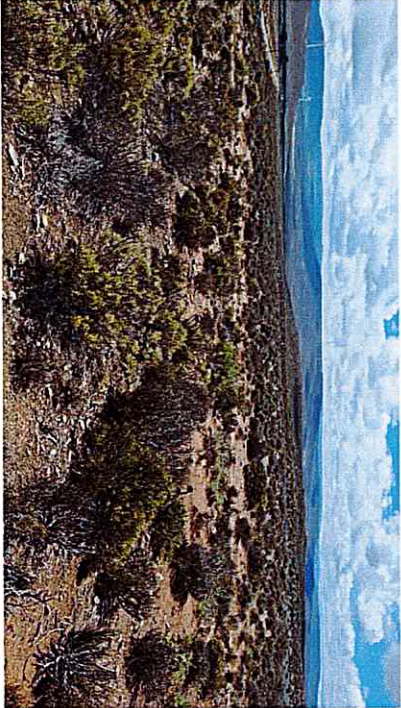
Table 3-5 **Site-specific summary, comments and recommendations on the route associated with the OHL project.**

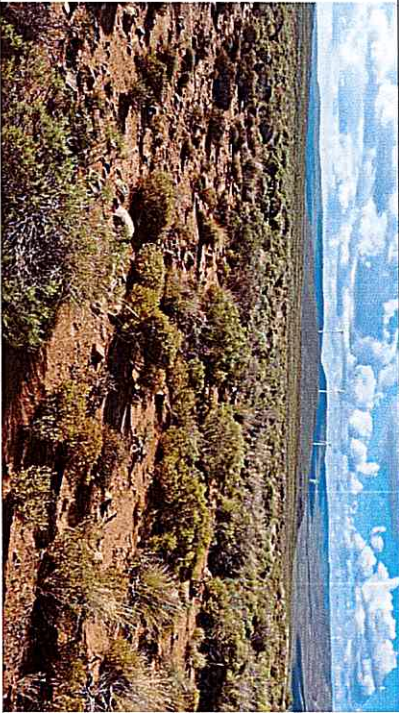
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
20.72062	-32.8208	Succulent stone field with karoo scrub nearby		Avifauna: High	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> Aizoaceae sp., <i>Cheiridopsis namaquensis</i> , <i>Crassula columnaris</i> , <i>Crassula deltoidea</i> , <i>Euphorbia rhombifolia</i> , <i>Ruschia</i> sp., <i>Stomatium</i> sp.
1					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
2	20.72051	-32.8205	Low karoo scrub near succulent stone fields	Avifauna: High	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> <i>Crassula muscosa</i> , <i>Ruschia</i> sp.
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
3	20.71997	-32.8195	Low Karoo scrub on rocky slope.	Avifauna: High	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> <i>Euphorbia rhombifolia</i> <u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
						
4	20.71933	-32.8183	Low Karoo scrub on rocky slope.	Avifauna: High	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> <i>Ruschia</i> sp. <u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
						
5	20.71875	-32.8172	Low Karoo scrub close to a watercourse.	Avifauna: High	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-September).	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
6	20.71695	-32.8167		Avifauna: High	September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
7	20.71503	-32.8161		Avifauna: High	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Terrestrial: Aizoon africanum

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
8	20,7134	-32,8156	Low degraded karoo scrub on rocky slope.	Avifauna: High	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
						<u>Terrestrial:</u> <i>Ruschia</i> sp. <u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
9	20,71132	-32,815	Degraded karoo scrub close to road.	Avifauna: High	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Terrestrial:</u> <i>Euphorbia rhombifolia</i>

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
10	20.70881	-32.8143			Terrestrial: Terrestrial. Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Karoo scrub dominated by <i>renosterbos</i> and <i>Oedera</i> species Avifauna: High Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

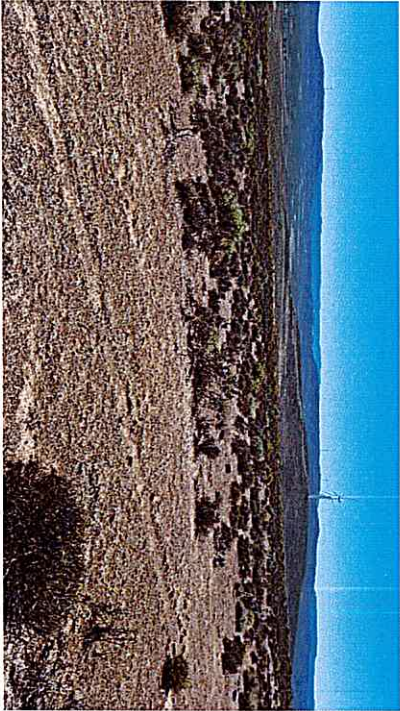
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
11	20,70742	-32,8134		<u>Avifauna</u> : High	<u>Terrestrial</u> : Apply for permits for the relocation and/or destruction of protected plant species.	
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u> : Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Terrestrial</u> : <u>Alzooaceae</u> sp. <u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
12	20,70618	-32,8125		<u>Avifauna</u> : High	<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	
					<u>Avifauna</u> : Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
13	20.70428	-32.8112	Karoo scrub. Lots of bare patches due to surface erosion from overgrazing.	<u>Avifauna</u> : High	<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.</u>	
14	20.70272	-32.8102	Degraded Karoo scrub on gradual slope	<u>Avifauna</u> : High	<u>Terrestrial</u> : Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial</u> : <i>Aizoon africanum</i> , <i>Ruschia</i> sp.
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u> : Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. <u>Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.</u>	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
15	20.70087	-32.8089	Sparse low Karoo scrub dominated by <i>Ruschia</i> sp.	<u>Avifauna</u> : High		

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
20.69823	-32.8081				<u>Terrestrial:</u> Terrestrial. Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> <i>Cheitropsis namaquensis</i> , <i>Euphorbia rhombifolia</i> , <i>Ruschia</i> sp.
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
16					<u>Terrestrial:</u> Terrestrial. Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> <i>Ruschia</i> sp.
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.

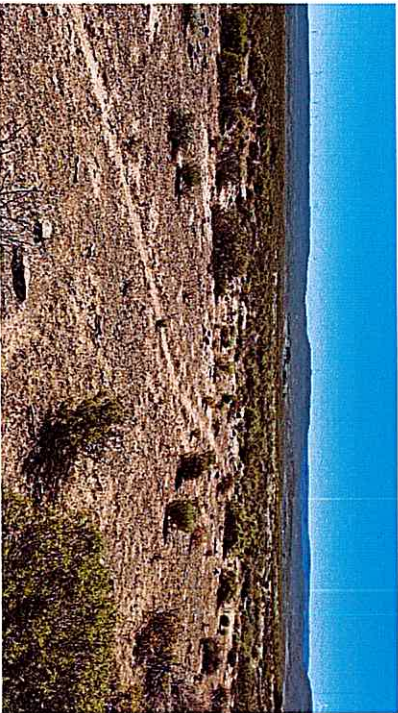
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
17	20.69544	-32.8068		<u>Avifauna</u> : High	<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
18	20.69328	-32.8058		<u>Avifauna</u> : High	<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
19	20.6915	-32.805	Degraded Karoo scrub on slope.	<u>Avifauna</u> : High		<u>Terrestrial</u> : <u>Alzoon africanum</u>

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
					<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
20,68954	-32,804		Karoo scrub dominated by <i>Euryops</i> close to edge of ridge	Avifauna: High	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
20					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

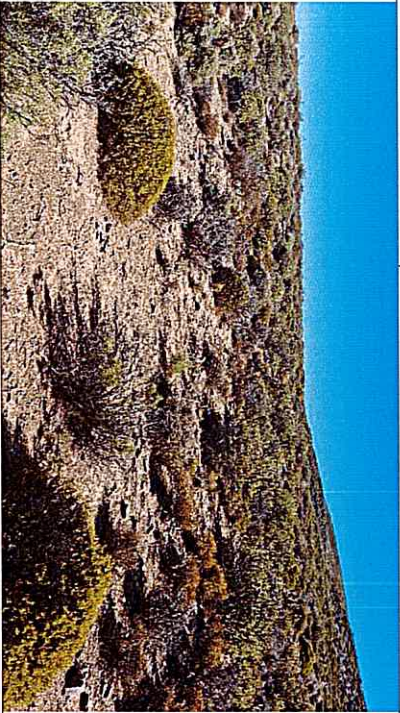
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
21	20,68653	-32,8027	Degraded karoo scrub on rocky slope. Dominated by <i>Oedera</i> species.	<u>Avifauna</u> : Medium	<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
22	20,68512	-32,802	Karoo scrub dominated by <i>Euryops</i> and <i>Oedera</i> species.	<u>Avifauna</u> : Medium	<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
23	20,68363	-32,8013	Karoo scrub on rocky slope close to steep slope	<u>Avifauna</u> : Medium	<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
24	20.68257	-32.8002		Avifauna: Medium	September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths. <u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Terrestrial:</u> <i>Alzoon africanum</i> Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
25	20.68024	-32.7998		Karoo scrub on lower slopes of ridge. Dominated by <i>Eriocephalus</i> and <i>Pteronia</i> species.	Avifauna: Medium	Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths. <u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. <u>Terrestrial:</u> <i>Ruschia</i> sp. Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
26	20,67818	-32,7988			Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths. <u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	
27	20,67599	-32,7978			Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Terrestrial:</u> <i>Ruschia</i> sp.
					<u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
						<u>Terrestrial:</u> <i>Ruschia</i> sp.

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
28	20.67429	-32.797		Avifauna: Medium	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
29	20.67179	-32.7958		Avifauna: Medium	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	Avifauna: Medium
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
30	20.66947	-32.7948		<u>Avifauna</u> : Medium	September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
31	20.6674	-32.7938		<u>Avifauna</u> : Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
31	20.6674	-32.7938	Karoo scrub dominated by reostarbos and grass.	<u>Avifauna</u> : Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
32	20.66543	-32.7929		Medium	September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
33	20.66335	-32.7919		Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, the optimal flowering season for the biome (August-

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
34	20,66199	-32,7913		<u>Avifauna</u>: Medium	<u>September</u>) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	Ludwig's Bustard, Secretarybird, Southern Black Korihaan, Verreaux's Eagle
					<u>Terrestrial</u>: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	<u>Avifauna</u>: Black Harrier, Black-winged Kite, Karoo Korihaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korihaan, Verreaux's Eagle
35	20,66015	-32,7904		Karoo scrub on rocky slope. Dominated by <i>Euryops</i>, <i>Oederia</i> and <i>reposterbos</i>. <u>Avifauna</u>: Medium	<u>Terrestrial</u>: Conduct a plant search and rescue during the optimal flowering season for the biome (August-	<u>Avifauna</u>: African Rock Pipit, Black Harrier, Black-winged Kite, Karoo Korihaan, Lanner Falcon, Lesser

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
36	20.65787	-32.7894		Avifauna: Medium	September) for all protected and threatened plant species that may occur.	Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korihaan, Verreaux's Eagle
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
37	20.65559	-32.7883		Avifauna: Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: African Rock Pipit, Black Harrier, Black-winged Kite, Karoo Korihaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korihaan, Verreaux's Eagle
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths. Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-	Avifauna: Black Harrier, Black-winged Kite, Karoo Korihaan,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
38	20,65361	-32,7874		Avifauna: Medium	September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
39	20,65228	-32,7868		Avifauna: Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
39	20,65228	-32,7868	Degraded Karoo scrub on sandy gradual slopes. Dominated by renosterbos.	Avifauna: Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
40	20.65054	-32.786		Medium	September) for all protected and threatened plant species that may occur.	Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
41	20.64867	-32.7851		Medium	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan, Verreaux's Eagle
					<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August- <u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan,	

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
42	20,64668	-32,7842		<u>Avifauna:</u> Medium	September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
43	20,64521	-32,7831		<u>Avifauna:</u> Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
44	20.64379	-32.7821		<u>Avifauna</u> : Medium	September) for all protected and threatened plant species that may occur.	Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Avifauna</u> : Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
45	20.64277	-32.7811		<u>Avifauna</u> : Medium	<u>Terrestrial</u> : Apply for permits for the relocation and/or destruction of protected plant species.	
					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Terrestrial</u> : <u>Moraea sp.</u> <u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan	
45	20.64277	-32.7811	Karoo scrub dominated by reboosterbos, <i>Euryops</i> and <i>Dimorphotheca</i> .	<u>Avifauna</u> : Medium	Fill bird flight diverters every 5 m on the preceding span due to proximity to farm dam to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to farm dam..	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel,

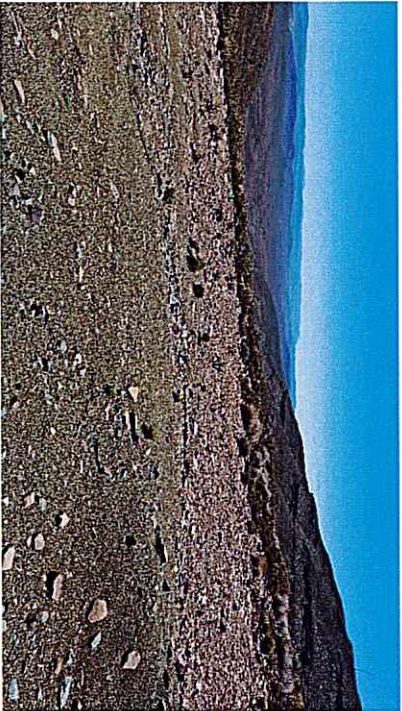
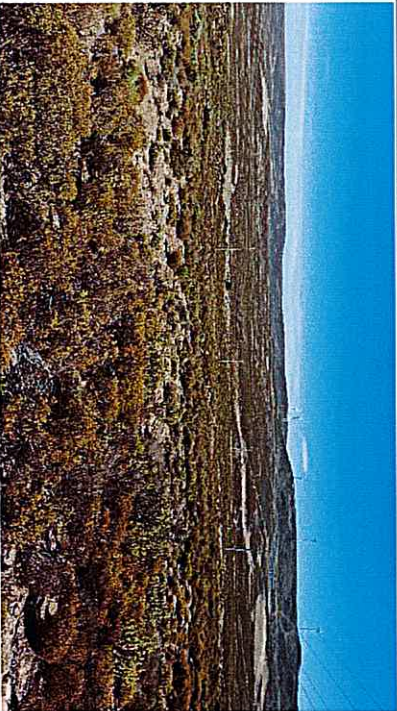
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
46	20.6419	-32.7802		Avifauna: Medium	September) for all protected and threatened plant species that may occur.	Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
47	20.64038	-32.7807		Avifauna: Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
47	20.64038	-32.7807	Rocky landscape with some shrubs	Avifauna: Medium		Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
48	20,63992	-32,7821		Avifauna: Medium	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
49	20,63927	-32,7843		Avifauna: Medium	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters every 5 m on the preceding span due to proximity to farm dam to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to farm dam.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

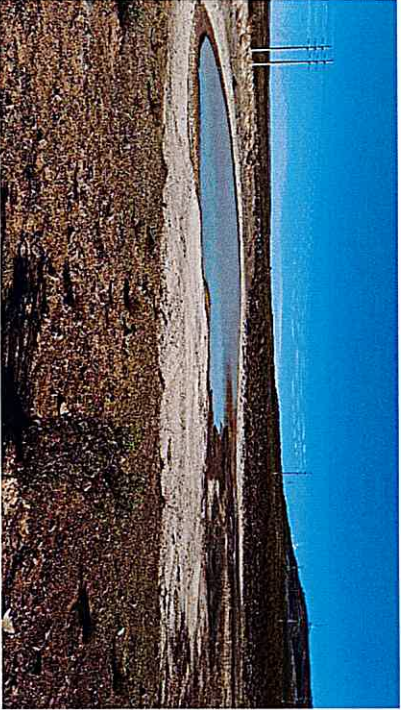
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
50	20.6384	-32.767	Rocky karoo scrub dominated by <i>Euryops</i> . Some damage from nearby roads.	<u>Avifauna</u> . Medium	<u>Terrestrial</u>: Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	Ludwig's Bustard, Secretarybird, Southern Black Korhaan
51	20.63793	-32.7886	Rocky karoo scrub dominated by <i>Euryops</i> . Some damage from nearby roads.	<u>Avifauna</u> . Medium	Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. <u>Terrestrial</u>: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids.	<u>Terrestrial</u>: <i>Alzoon africanum</i>, <i>Haemanthus coccineus</i> <u>Avifauna</u>: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan, Verreaux's Eagle



Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
					September) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
	20.63726	-32.7907	Rocky karoo scrub dominated by <u>Euryops</u> . Some damage from nearby roads.	<u>Avifauna</u> : Medium	<u>Terrestrial</u>: Apply for permits for the relocation and/or destruction of protected plant species.	
52					Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Terrestrial</u>: <u><i>Alzoon africanum</i></u>, <u><i>Wurmbea cf. variabilis</i></u> <u>Avifauna</u>: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
54	20.63536	-32.7968	Existing pylon in karoo scrub dominated by <u>Euryops</u> . Vegetation cleared at site.	<u>Avifauna</u> : Medium	<u>Terrestrial</u>: Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial</u>: <u><i>Alzoon africanum</i></u>

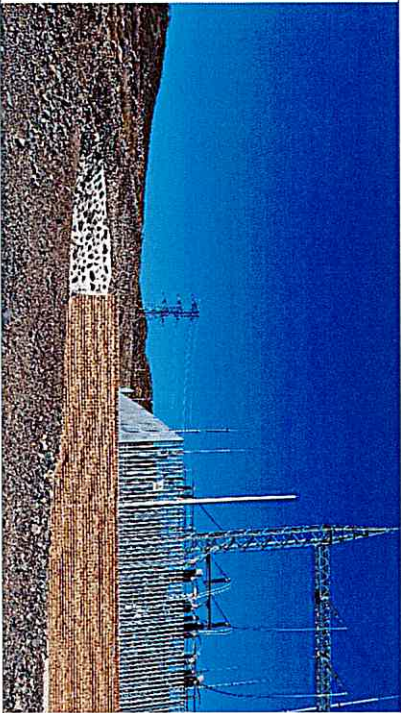
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
55	20.63393	-32.7989		<u>Avifauna:</u> Medium	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths. <u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Karoo scrub dominated by <i>Oederia</i> and with some damage from road nearby	<u>Terrestrial:</u> <i>Alzoon africanum</i> <u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
56	20.63239	-32.8009		<u>Avifauna:</u> Medium	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
57	20.63089	-32.8028		Medium	September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	
58	20.62922	-32.8048		High	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
					<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters every 5 m on the preceding span due to proximity to farm dam to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to farm dam. <u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Kittlitz's Plover, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Red-billed Teal, Secretarybird, Southern Black Korhaan, Yellow-billed Duck
20,62745	-32,8071		Degraded Karoo scrub.	<u>Avifauna:</u> High	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Terrestrial:</u> <i>Ruschia</i> sp. <u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan



Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
60	20.62493	-32.8089		Degraded Karoo scrub between transmission lines. <u>Avifauna:</u> High – in proximity to Spotted Eagle-owl nest site	Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Terrestrial:</u> <i>Ruschia</i> sp. <u>Avifauna:</u> Avoid no-go nest buffer for development Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.
					<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-	
60	20.62393	-32.8096	Cleared land next to substation among Karoo scrub.	<u>Avifauna:</u> High – in proximity to Spotted Eagle-owl nest site	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
62	20.62387	-32.8098	On substation boundary. Transformed land. Karoo scrub 15 m to the east.	Avifauna: Medium	September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Avoid no-go nest buffer for development Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Southern Black Korhaan
					<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	<u>Avifauna:</u> Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
63	20.6409	-32.7783	Existing pylon in Karoo scrub dominated by renosterbos.	Avifauna: Medium	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-	<u>Avifauna:</u> Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
64	20.6404	-32.78		<u>Avifauna</u> : Medium	September) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
65	20.63972	-32.7822		<u>Avifauna</u> : Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u>: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna</u>: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
65	20.63972	-32.7822	Existing pylon in karoo scrub dominated by <i>Euryops</i> and <i>renosterbos</i> .	<u>Avifauna</u> : Medium	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-	<u>Avifauna</u>: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel,

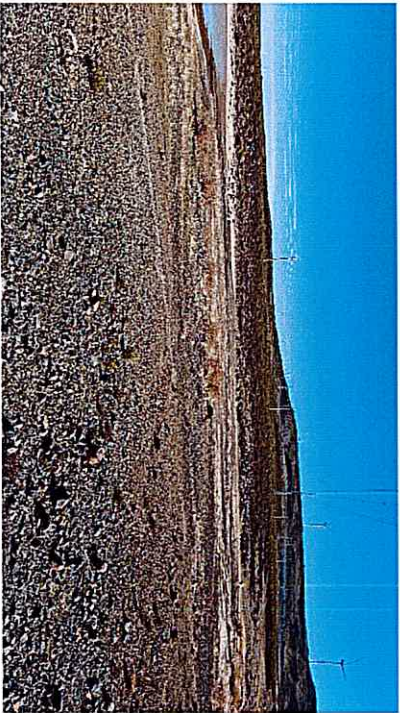
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
66	20.63909	-32.7842		<u>Avifauna</u> : Medium	September) for all protected and threatened plant species that may occur.	Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Avifauna</u> : Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
67	20.63828	-32.7869		<u>Avifauna</u> : Medium	Existing pylon in karoo scrub dominated by renosterbos.	
					<u>Terrestrial</u> : Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna</u> : Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna</u> : Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
67	20.63828	-32.7869	Existing pylon in disturbed karoo scrub due to construction.	<u>Avifauna</u> : Medium	<u>Terrestrial</u> : Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial</u> : <i>Aizoon africanum</i>

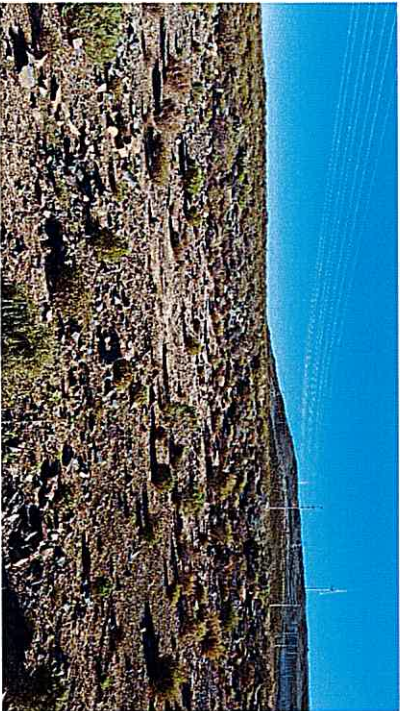
Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
68	20,63777	-32,7885		<u>Avifauna:</u> Medium	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Terrestrial:</u> <i>Arizoon africanum</i> <u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan	
69	20,63712	-32,7906	Existing pylon in disturbed Karoo scrub due to construction.	<u>Avifauna:</u> Medium	Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths. <u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> <i>Arizoon africanum</i>

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
70	20,63605	-32,7946		Avifauna: High	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Southern Black Korhaan
					Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
71	20,63605	-32,7948		Avifauna: High	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Avifauna: African Rock Pipit, Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan, Verreaux's Eagle
					Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	
71	20,63653	-32,7948	Sleep rocky slope above valley and close to road.	Avifauna: High	Terrestrial: Conduct a plant search and rescue during the optimal flowering season for the biome (August-	Avifauna: African Rock Pipit, Black Harrier, Black-winged Kite, Karoo

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
72	20.63504	-32.797		<u>Avifauna:</u> Medium	September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan, Verreaux's Eagle
					<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Terrestrial:</u> <i>Ruschia</i> sp. <u>Avifauna:</u> Black Harrier, Black-winged Kite, Black Harrier, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan
73	20.63376	-32.7989	Existing pylon with area cleared around it and karoo scrub beyond that.	<u>Avifauna:</u> Medium	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species.	<u>Terrestrial:</u> <i>Ruschia</i> sp.

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
74	20.63226	-32.8007		<u>Avifauna:</u> Medium	Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan
					<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan
75	20.63076	-32.8026		<u>Avifauna:</u> Medium	<u>Terrestrial:</u> Conduct a plant search and rescue during the optimal flowering season for the biome (August-	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan,

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
76	20.62903	-32.8048	Cleared land next to farm dam.	Avifauna: High	September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters every 5 m on the preceding span due to proximity to farm dam to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to farm dam. <u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.	Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan
						
77	20.62726	-32.807	Degraded karoo scrub.	Avifauna: High	<u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters every 5 m on the preceding span due to proximity to farm dam to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to farm dam.	<u>Avifauna:</u> Black Harrier, Black-winged Kite, Karoo Korhaan, Kittlitz's Plover, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Red-billed Teal, Secretarybird, Southern Black Korhaan, Yellow-billed Duck <u>Terrestrial:</u> <i>Ruschia</i> sp.
						

Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
					<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.	<u>Avifauna:</u> Black harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan
20.63711	-32.7901		Existing pylon in rocky karoo scrub dominated by <i>Euryops</i>	<u>Avifauna:</u> Medium	<u>Terrestrial:</u> Apply for permits for the relocation and/or destruction of protected plant species. Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur. <u>Avifauna:</u> Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids. Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk. Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.	<u>Terrestrial:</u> <i>Ruschia</i> sp. <u>Avifauna:</u> Black harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Martial Eagle, Secretarybird, Southern Black Korhaan



Sampling Point No.	Longitude	Latitude	Findings	Sensitivity	Recommendations	Notable Species
20.63805	-32.792	Existing pylon in disturbed karoo scrub due to construction.		Avifauna: High	Terrestrial: Apply for permits for the relocation and/or destruction of protected plant species.	

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Conduct a plant search and rescue during the optimal flowering season for the biome (August-September) for all protected and threatened plant species that may occur.

Avifauna: Install anti-perch devices on this pylon to prevent avian nesting or roosting, particularly for large raptors and corvids.

Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.

Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, and/or recorded bird flight paths.

Terrestrial: *Ruschia* sp.

Avifauna: Black Harrier, Black-winged Kite, Karoo Korhaan, Lanner Falcon, Lesser Kestrel, Ludwig's Bustard, Secretarybird, Martial Eagle, Southern Black Korhaan

3.4 Observations

3.4.1 Habitat Types and Sensitivity

Four (4) main habitat types have been identified within the PAOI as defined by Desai (2020) in the original Biodiversity Assessment, namely:

- Drainage Lines;
- Lowland;
- Ridges; and
- Rocky Slopes.

The habitats in relation to the proposed powerline route and pylon locations are depicted in Figure 3-2.

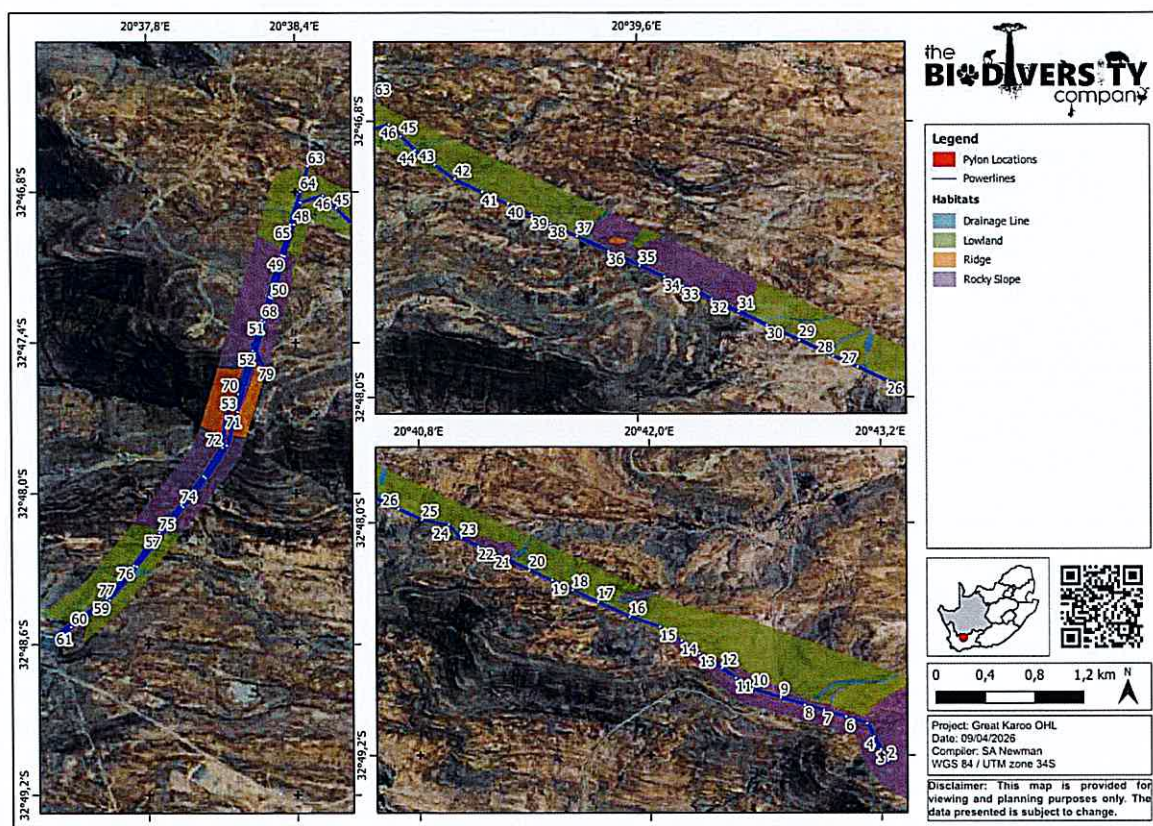


Figure 3-2 Figure presenting the habitats originally delineated for the PAOI (Desai, 2020) in relation to the proposed powerline route and pylon locations

Habitat sensitivities have been assigned from an avifauna perspective and can be seen presented in Figure 3-3 below.

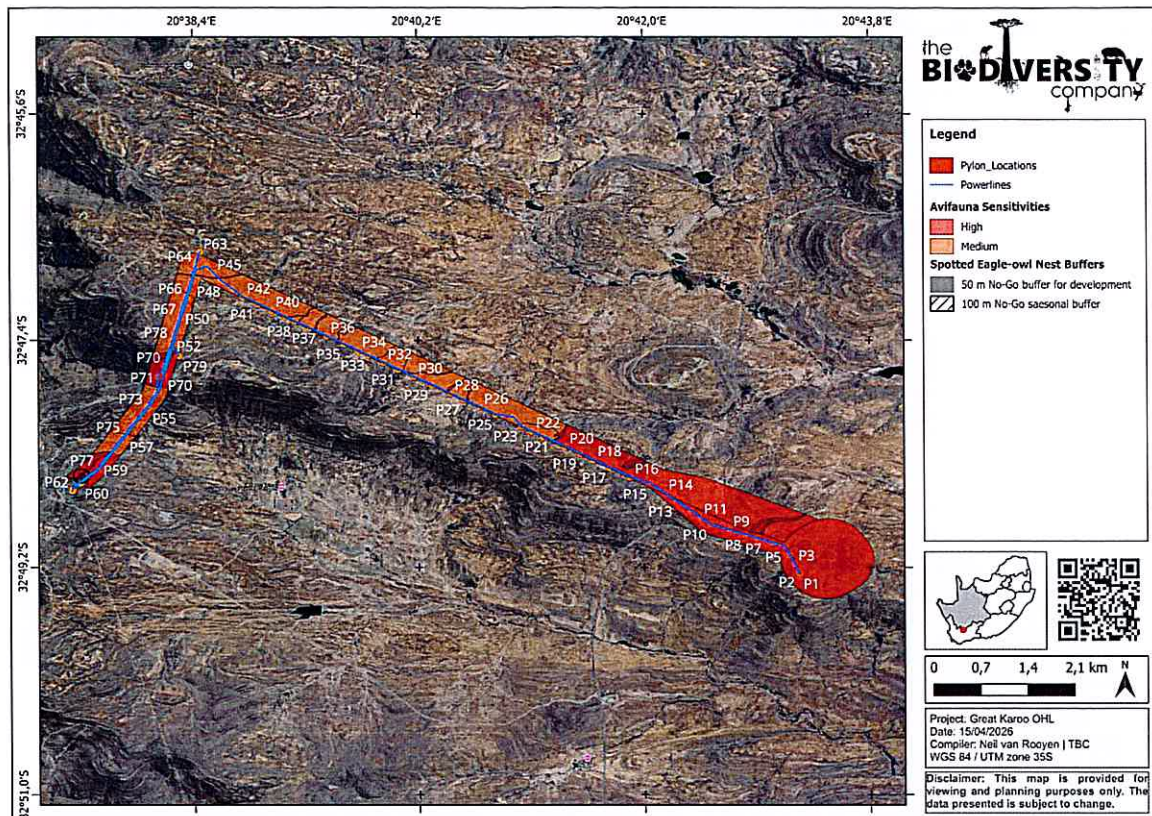


Figure 3-3 The avifauna sensitivities assigned to the respective habitats

3.4.2 Existing Impacts

Due to recent and ongoing anthropogenic disturbance associated with the PAOI, especially those impacts associated with the recent construction activities, the following impacts were noted for the PAOI:

- The edge effects associated with roads;
- Construction of pylons and the associated vegetation clearance;
- Grazing by livestock;
- Areas of bare ground and the associated erosion;
- Historic agriculture; and
- Existing transmission lines.

3.4.3 Species of Conservation Concern and Protected Species

Geophytes and succulents were ubiquitous throughout the assessment area and occurred within all the communities described above. It is important to note that these growth forms, and their non-succulent relatives, are protected under the Northern Cape Legislation and include:

- All species of Amaryllidaceae;
- All species of Asphodelaceae;

- All species of Crassulaceae;
- All Iridaceae;
- All species of Mesembryanthemaceae:
- All *Colchicum* (Colchicaceae);
- All *Euphorbia* (Euphorbiaceae);
- All *Lachenalia* (Hyacinthaceae); and
- All *Oxalis* (Oxalidaceae).

Numerous provincially protected plant species were recorded from the PAOI during the walkdown and can be seen listed in Table 3-1. As this survey was not conducted during the optimal flowering season for the biome, many more are expected. In addition, some species of flora SCC are also expected for the PAOI and can be seen listed in Table 2-1, including the two species which were recorded during the original Biodiversity Assessment (Desai, 2020): *Eriocephalus grandiflorus* and *Ehrharta eburnea*. Therefore, it is recommended that a plant search and rescue be conducted during the optimal flowering season for the biome.

One species of mammal SCC was recorded from the PAOI during the walkdown, namely Grey Rhebok (*Pelea capreolus*). This species is unlikely to be impacted by the project activities, provided that all mitigation measures are implemented correctly.

3.5 Mitigation Measures

The aim of the management outcomes objectives is to present the mitigations in such a way that these site-specific and/or new measures can be incorporated into the existing Environmental Management Programme (EMPr), allowing for more successful implementation and auditing of the mitigations and monitoring guidelines. These mitigations correspond to and add to the mitigations provided in the original Biodiversity Assessment (Desai, 2020). Impact management actions for the terrestrial biodiversity are listed in Table 3-6 while the avifauna-specific mitigations and generic mitigations are listed in Table 3-7.

Table 3-6 Terrestrial biodiversity management objectives for the powerline development

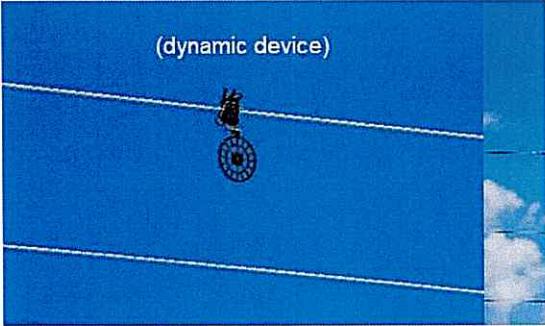
Mitigation	Action/control
• The appropriate permits must be procured prior to the relocation or destruction of any and all protected plants species. • A suitably qualified environmental control officer must be on site when construction begins. In situations where the threatened and protected plants must be removed, the proponent may only do so after the required permission/permits have been obtained in accordance with national and provincial legislation. In the abovementioned situation the development of a search, rescue and recovery program is suggested for the protection of these species. • A plant search and rescue must be conducted during the optimal flowering season for the biome (August-September) for any threatened and protected plant species which may be impacted by the proposed project activities. • Areas of indigenous vegetation, even secondary communities outside of the direct footprint, should under no circumstances be fragmented or disturbed further. Clearing of vegetation should be minimised and avoided where possible (and the necessary permits obtained were applicable). It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon. All structure footprints to be rehabilitated and landscaped after installation is complete. Rehabilitation of the disturbed areas existing in the project area must be made a priority. Topsoil must also be utilised, and any disturbed area must be re-vegetated with plant and grass species which are endemic to this vegetation type. • Restrict all activities to authorised footprint areas only. • Existing access routes, especially roads, must be made use of. The development areas and access roads should be specifically demarcated so that during the construction phase, only the demarcated areas may be impacted upon.	

- Areas that are denuded during construction must be re-vegetated with indigenous vegetation to prevent erosion during flood and wind events. This will also reduce the likelihood of encroachment by alien invasive plant species.
- Address any observed erosion promptly using suitable erosion control structures and revegetation methods.
- Implementation of an alien vegetation management plan.
- The footprint area of the construction should be kept to a minimum. The footprint area must be clearly demarcated to avoid unnecessary disturbances to adjacent areas. Footprint of the roads must be kept to prescribed widths.
- All personnel and contractors to undergo Environmental Awareness Training. A signed register of attendance must be kept for proof. Discussions are required on sensitive environmental receptors within the project area to inform contractors and site staff of the presence of Red List species, and protected species (trees and plants) their identification, conservation status and importance, biology, habitat requirements and management requirements the Environmental Authorisation and within the EMP. The avoidance and protection of the very high sensitivity areas must be included into a site induction. Contractors and employees must all undergo the induction and made aware of the "no-go" to be avoided.

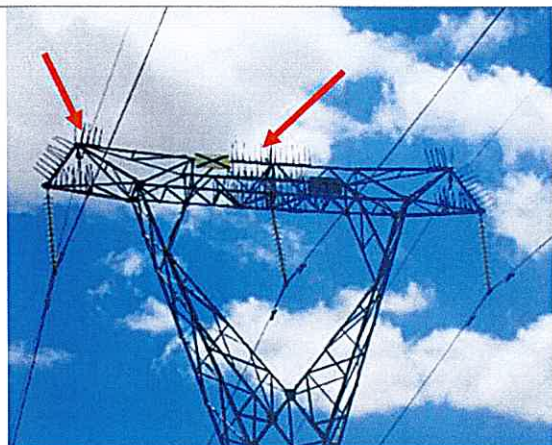
Table 3-7 Specific avifauna management outcomes pertaining to impacts on avifauna and their habitats

Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
All areas to be developed must be walked through by the ECO prior to any activity to ensure no nests or avifauna species are found in the area. Should any Species of Conservation Concern be found and not move out of the area, or their nest be found in the area a suitably qualified specialist must be consulted to advise on the correct actions to be taken.	Construction	Environmental Officer	Presence of avifauna species and nests	During phase
Staff should be educated about the sensitivity of faunal species and measures should be put in place to deal with any species that are encountered during the construction or operational phases. The intentional killing, hunting or poaching of any avifauna and/or eggs should be strictly prohibited.	Life of Operation	Project Manager Environmental Officer	Avifauna mortalities	Ongoing
Appropriate speed reducing measures, such as speed bumps and speed limit signs, should be incorporated into the road design to reduce the chance of road-kills.	Construction	Project Manager Environmental Officer	Avifauna mortalities	During phase
If required, a fire management plan must be in place for the areas surrounding the project area and the road to restrict the impact from fire on the natural flora and fauna communities. A fire expert should be consulted for suitable guidelines for the area and project requirements.	Life of Operation	Project Manager Environmental Officer	Avifauna mortalities	Ongoing
Install anti-perch devices on all pylons to prevent avian nesting or roosting, particularly for large raptors and corvids.	Life of Operation	Project Manager Environmental Officer Design Engineer	Development footprint	Ongoing
Fit bird flight diverters on the preceding span as per industry standards to minimise avifauna collision risk.				
Around all farm dams, fit bird flight diverters on the preceding span every 5 m to minimise avifauna collision risk.				
Mark both earth wires and phase conductors with bird diverters in this span due to proximity to rocky mountain habitat, farm dams and/or recorded bird flight paths.	Operational Phase	Project Manager Environmental Officer	Bird Collisions	Ongoing
Any devices that become damaged or fall during the operational phase must be replaced as per Eskom standards.				

Great Karoo OHL

Ensure that the phase cables are spaced far enough apart to reduce the risk of large birds (eagles and other raptors) touching both simultaneously. If such separation (isolation) cannot be provided, exposed parts must be covered (insulated) to reduce electrocution risk.	Construction/ Operational Phase	Project Manager Environmental Officer Design Engineer	Bird Electrocution s	Ongoing
A maintenance schedule must be followed yearly to ensure that all components are still intact and do not pose an electrocution risk, this must be done for the extent of the lifetime of the powerline.	Life of Operation	Developer	No loose wires, etc. to pose an electrocution risk	Ongoing
All infrastructure must be removed if the facility is decommissioned.	Closure/Reha bilitation	Project Manager Environmental Officer	Infrastructure removal	During Process
The design of the grid lines must be of a type or similar structure as endorsed by the Eskom-EWT Strategic Partnership on Birds and Energy, considering the mitigation guidelines recommended by Birdlife South Africa (Jenkins et al., 2015).	Planning and construction	Environmental Officer & Contractor, Engineer	Presence of electrocuted birds or bird strikes	During Phase
Infrastructure should be consolidated where possible to minimise the amount of ground and air space used.	Planning and construction	Environmental Officer & Contractor, Engineer	Presence of bird collisions	During phase
Due to high number of avifauna SCC, all lines should be fitted with flight diverters as per industry standards, and every 5 m at areas in close proximity to farm dams. Shaw et al (2021) demonstrated that large avifauna species mortality was reduced by 51% (95% CI: 23–68%). Recommended bird diverters such as flapping devices (dynamic device) and thickened wire spirals (static device) must be fitted. The Inotec BFD88 bird diverter is highly recommended due to its visibility under low light conditions when most species move from roosting to feeding sites.				
 (dynamic device)	Planning and construction	Environmental Officer & Contractor, Engineer	Presence of bird collisions	During phase
 Inotec BFD800 (source: https://migrato)				
All the parts of the infrastructure must be nest proofed and anti-perch devices placed on areas that can lead to electrocution	Planning and construction	Environmental Officer & Contractor, Engineer	Presence of electrocuted birds	During phase

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Any exposed parts must be covered (insulated) to reduce electrocution risk	Planning and construction	Environmental Officer Contractor Design Engineer	Presence of electrocuted birds	During phase
ClearVu fencing (or similar) should be used, with markers placed on the fence to enhance visibility and reduce the risk of birds get snagged or snared.	Life of Operation	Project Manager Environmental Officer Contractor Design Engineer	Presence of birds stuck /dead in fences	During phase
Monitoring of the OHL route must be undertaken to detect bird carcasses, to enable the identification of any potential areas of high impact to be marked with bird flappers if not already done so.	Operational Phase	Avifauna specialist	Assess the impact	During phase

Table 3-8 *Generic management outcomes pertaining to impacts to avifauna and their habitats*

Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
Management outcome: Habitats				
Cement must be mixed in a designated area on a liner away from water sources and buffers and that successful rehabilitation of the construction areas can take place.	Planning and Construction	Project Manager Environmental Officer Contractor Engineer	Water pollution and restricted rehabilitation	During phase
Leaking equipment and vehicles must be repaired immediately or be removed from PAOI to facilitate repair.	Life of operation	Environmental Officer Contractor	Leaks and spills	Ongoing
Management outcome: Avifauna				
Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
All construction and maintenance motor vehicle operators should undergo an environmental induction that includes instruction on the need to comply with speed limit (40 km/h), to respect all forms of wildlife. Speed limits must be enforced to ensure that road killings and erosion is limited.	Life of Operation	Health and Safety Officer	Compliance with the training.	Ongoing

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All project activities must be undertaken with appropriate noise mitigation measures to avoid disturbance to avifauna population in the region	Construction/Operational Phase	Project Manager Environmental Officer	Noise	Ongoing
Use environmentally friendly cleaning and dust suppressant products	Construction and Operation	Environmental Officer Contractor Engineer	Chemicals used	During phase

4 Conclusions and Recommendations

The site walkdown was performed for the proposed powerline route and each proposed pylon location assessed, and noteworthy plant and animal species were recorded.

In terms of plants, this assessment was not performed during the optimal flowering season for the biome (between August and September for the Fynbos biome), therefore, these records include some plants which could only be identified to genus or family level. Note that due to the time of year, most perennial plants were not flowering and there were very few annuals. As a result, more protected species are expected to occur within the PAOI, as well as some plant SCC, especially those recorded in the original assessment (Desai, 2020). It is recommended that a plant search and rescue be conducted for any protected and threatened plant species during the optimal flowering season for the biome and the appropriate permits procured prior to their relocation or destruction.

All mitigation measures prescribed by the previous assessment (Desai, 2020) remain applicable for the remainder of the development and must be adhered to.

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6 Appendix Items

6.1 Appendix A – Screening Tool

The following is deduced from the National Web-based Environmental Screening Tool Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended):

- Terrestrial Biodiversity Theme sensitivity is 'Very High' for the project area (Figure 6-1);
- Plant Species Theme sensitivity is 'Medium' for the project area (Figure 6-2); and
- Animal Species Theme sensitivity is 'High' for the project area, with the possibility of Avifauna Species of Conservation Concern (SCC) being present (Figure 6-3).

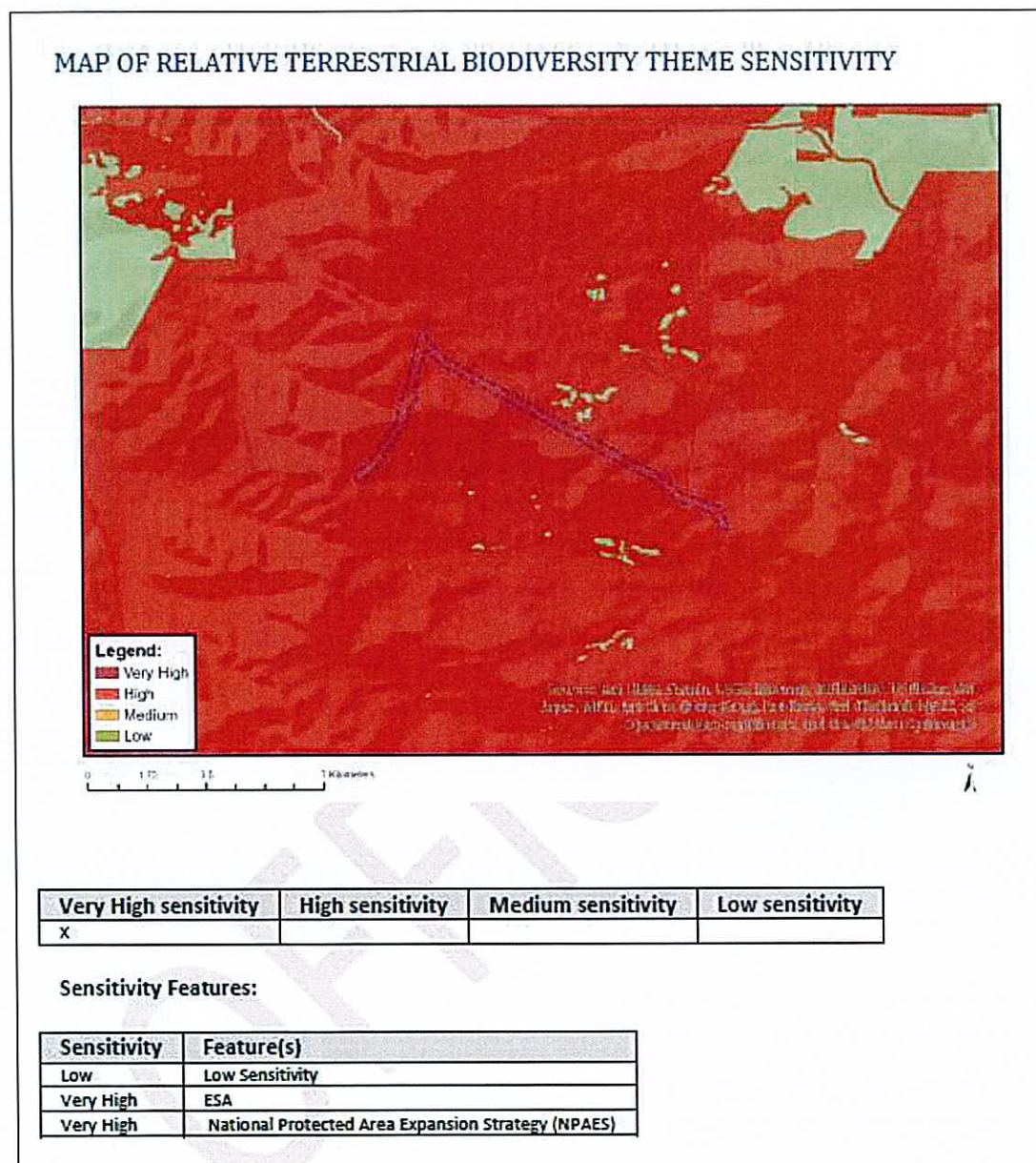
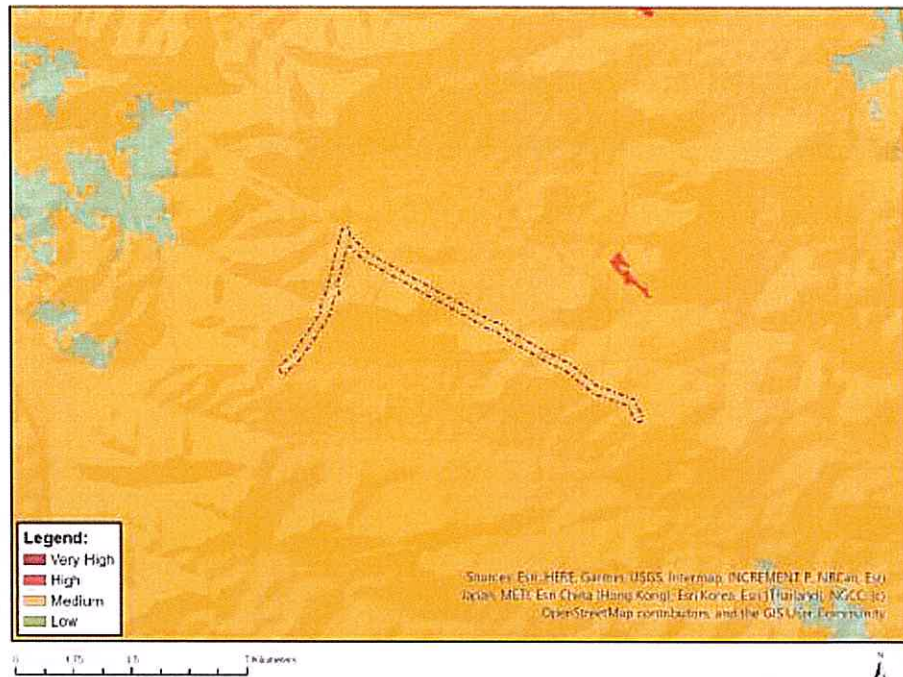


Figure 6-1 Terrestrial Biodiversity Theme Sensitivity of the PAOI

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

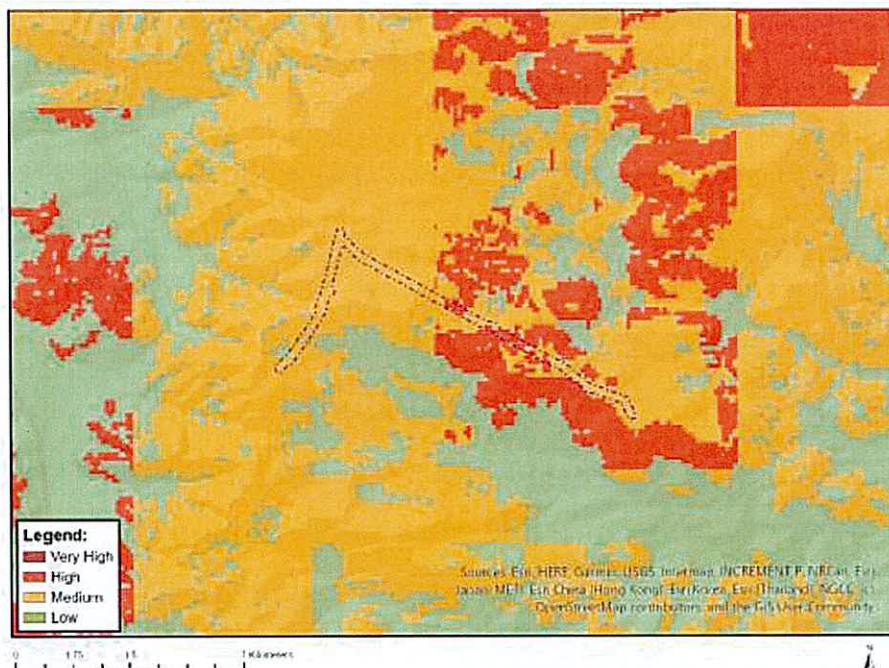
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Asparagus mollis
Medium	Lotononis venosa
Medium	Pauridia breviscapa
Medium	Ixia linearifolia
Medium	Sensitive species 33
Medium	Adromischus phillipsiae

Figure 6-2 Plant Species Theme Sensitivity of the PAOI

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at biadaterequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Afrotis afra
High	Aves-Aquila verreauxii
Low	Subject to confirmation
Medium	Aves-Neotis ludwigii
Medium	Aves-Sagittarius serpentarius
Medium	Aves-Aquila verreauxii
Medium	Mammalia-Bunolagus monticularis

Figure 6-3 Animal Species Theme Sensitivity of the PAOI

6.2 Appendix B – Avifauna Site Ecological Importance

The different habitat types within the study area were delineated and identified, based on observations during the field assessment, and available satellite imagery. These habitat types were assigned Ecological Importance (EI) categories, based on their ecological integrity, conservation value, the presence of SCC and their ecosystem processes.

SEI is a function of the Biodiversity Importance (BI) of the receptor (e.g., SCC, the vegetation/fauna community or habitat type present on the site) and Receptor Resilience (RR) (its resilience to impacts) as follows.

BI is a function of Conservation Importance (CI) and the Functional Integrity (FI) of the receptor as follows. The criteria for the CI and FI ratings are provided Table 6-1 and Table 6-2, respectively.

Table 6-1 Summary of Conservation Importance (CI) criteria

Conservation Importance	Fulfilling Criteria
Very High	Confirmed or highly likely occurrence of CR, EN, VU or Extremely Rare or CR species that have a global extent of occurrence (EOO) of < 10 km ² . Any area of natural habitat of a CR ecosystem type or large area (> 0.1% of the total ecosystem type extent) of natural habitat of an EN ecosystem type. Globally significant populations of congregatory species (> 10% of global population).
High	Confirmed or highly likely occurrence of CR, EN, VU species that have a global EOO of > 10 km ² . IUCN threatened species (CR, EN, VU) must be listed under any criterion other than A. If listed as threatened only under Criterion A, include if there are less than 10 locations or < 10 000 mature individuals remaining. Small area (> 0.01% but < 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type or large area (> 0.1%) of natural habitat of VU ecosystem type. Presence of Rare species. Globally significant populations of congregatory species (> 1% but < 10% of global population).
Medium	Confirmed or highly likely occurrence of populations of Near Threatened (NT) species, threatened species (CR, EN, VU) listed under Criterion A only and which have more than 10 locations or more than 10 000 mature individuals. Any area of natural habitat of threatened ecosystem type with status of VU. Presence of range-restricted species. > 50% of receptor contains natural habitat with potential to support SCC.
Low	No confirmed or highly likely populations of SCC. No confirmed or highly likely populations of range-restricted species. < 50% of receptor contains natural habitat with limited potential to support SCC.
Very Low	No confirmed and highly unlikely populations of SCC. No confirmed and highly unlikely populations of range-restricted species. No natural habitat remaining.

Table 6-2 Summary of Functional Integrity (FI) criteria

Functional Integrity	Fulfilling Criteria
Very High	Very large (> 100 ha) intact area for any conservation status of ecosystem type or > 5 ha for CR ecosystem types. High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches. No or minimal current negative ecological impacts with no signs of major past disturbance.
High	Large (> 20 ha but < 100 ha) intact area for any conservation status of ecosystem type or > 10 ha for EN ecosystem types.

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	Good habitat connectivity with potentially functional ecological corridors and a regularly used road network between intact habitat patches. Only minor current negative ecological impacts with no signs of major past disturbance and good rehabilitation potential.
Medium	Medium (> 5 ha but < 20 ha) semi-intact area for any conservation status of ecosystem type or > 20 ha for VU ecosystem types. Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches. Mostly minor current negative ecological impacts with some major impacts and a few signs of minor past disturbance. Moderate rehabilitation potential.
Low	Small (> 1 ha but < 5 ha) area. Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Low rehabilitation potential. Several minor and major current negative ecological impacts.
Very Low	Very small (< 1 ha) area. No habitat connectivity except for flying species or flora with wind-dispersed seeds. Several major current negative ecological impacts.

BI can be derived from a simple matrix of CI and FI as provided in Table 6-3.

Table 6-3 Matrix used to derive Biodiversity Importance (BI) from Functional Integrity (FI) and Conservation Importance (CI)

Biodiversity Importance (BI)		Conservation Importance (CI)				
		Very high	High	Medium	Low	Very low
Functional Integrity (FI)	Very high	Very high	Very high	High	Medium	Low
	High	Very high	High	Medium	Medium	Low
	Medium	High	Medium	Medium	Low	Very low
	Low	Medium	Medium	Low	Low	Very low
	Very low	Medium	Low	Very low	Very low	Very low

The fulfilling criteria to evaluate RR are based on the estimated recovery time required to restore an appreciable portion of functionality to the receptor as summarised in Table 6-4.

Table 6-4 Summary of Resource Resilience (RR) criteria

Resilience	Fulfilling Criteria
Very High	Habitat that can recover rapidly (~ less than 5 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a very high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a very high likelihood of returning to a site once the disturbance or impact has been removed.
High	Habitat that can recover relatively quickly (~ 5–10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a high likelihood of returning to a site once the disturbance or impact has been removed.
Medium	Will recover slowly (~ more than 10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a moderate likelihood of returning to a site once the disturbance or impact has been removed.
Low	Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.
Very Low	Habitat that is unable to recover from major impacts, or species that are unlikely to remain at a site even when a disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed.

After the determination of the BI and RR, the SEI can be ascertained using the matrix as provided in Table 6-5.

Table 6-5 Matrix used to derive Site Ecological Importance (SEI) from Receptor Resilience (RR) and Biodiversity Importance (BI)

Site Ecological Importance (SEI)		Biodiversity Importance (BI)				
		Very high	High	Medium	Low	Very low
Receptor Resilience (RR)	Very Low	Very high	Very high	High	Medium	Low
	Low	Very high	Very high	High	Medium	Very low
	Medium	Very high	High	Medium	Low	Very low
	High	High	Medium	Low	Very low	Very low
	Very High	Medium	Low	Very low	Very low	Very low

Interpretation of the SEI in the context of the proposed development activities is provided in Table 6-6.

Table 6-6 Guidelines for interpreting Site Ecological Importance (SEI) in the context of the proposed development activities

Site Ecological Importance (SEI)	Interpretation in relation to proposed development activities
Very High	Avoidance mitigation – no destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e., last remaining populations of species, last remaining good condition patches of ecosystems/unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
High	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted, limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Medium	Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities.
Low	Minimisation and restoration mitigation – development activities of medium to high impact acceptable followed by appropriate restoration activities.
Very Low	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.

The SEI evaluated for each taxon can be combined into a single multi-taxon evaluation of SEI for the assessment area. Either a combination of the maximum SEI for each receptor should be applied, or the SEI may be evaluated only once per receptor but for all necessary taxa simultaneously. For the latter, justification of the SEI for each receptor is based on the criteria that conforms to the highest CI and FI, and the lowest RR across all taxa.

6.3 Appendix C – Avifauna Expected Species

SABAP2 data indicates a total of 147 species can be expected to occur within the PAOI. These species are listed in Table 6-7

Table 6-7 Expected avifauna species list for the PAOI

Common Name	Scientific Name	Family Name	Regional	Global	Endemism
Acacia Pied Barbet	<i>Tricholaema leucomelas</i>	Lybiidae			
African Black Duck	<i>Anas sparsa</i>	Anatidae			
African Black Swift	<i>Apus barbatus</i>	Apodidae			
African Harrier-hawk	<i>Polyboroides typus</i>	Accipitridae			
African Hoopoe	<i>Upupa africana</i>	Upupidae			
African Pipit	<i>Anthus cinnamomeus</i>	Motacillidae			
African Rock Pipit	<i>Anthus crenatus</i>	Motacillidae	LC	NT	SLS

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African Sacred Ibis	<i>Threskiornis aethiopicus</i>	Threskiornithidae			
African Spoonbill	<i>Platalea alba</i>	Threskiornithidae			
African Stonechat	<i>Saxicola torquatus</i>	Muscicapidae			
Alpine Swift	<i>Tachymarptis melba</i>	Apodidae			
Ant-eating Chat	<i>Myrmecocichla formicivora</i>	Muscicapidae			
Barn Swallow	<i>Hirundo rustica</i>	Hirundinidae			
Black Harrier	<i>Circus maurus</i>	Accipitridae	EN	EN	NE
Black Stork	<i>Ciconia nigra</i>	Ciconiidae	EN	LC	
Black-chested Snake Eagle	<i>Circaetus pectoralis</i>	Accipitridae			
Black-headed Canary	<i>Serinus alario</i>	Fringillidae			NE
Black-headed Heron	<i>Ardea melanocephala</i>	Ardeidae			
Black-winged Kite	<i>Elanus caeruleus</i>	Accipitridae	NT	LC	
Blacksmith Lapwing	<i>Vanellus armatus</i>	Charadriidae			
Bokmakierie	<i>Telophorus zeylonus</i>	Malaconotidae			
Booted Eagle	<i>Hieraaetus pennatus</i>	Accipitridae			
Brown-throated Martin	<i>Riparia paludicola</i>	Hirundinidae			
Cape Bulbul	<i>Pycnonotus capensis</i>	Pycnonotidae			E
Cape Bunting	<i>Emberiza capensis</i>	Emberizidae			
Cape Canary	<i>Serinus canicollis</i>	Fringillidae			
Cape Clapper Lark	<i>Mirafrapa apiata</i>	Alaudidae			NE
Cape Crow	<i>Corvus capensis</i>	Corvidae			
Cape Penduline Tit	<i>Anthoscopus minutus</i>	Remizidae			
Cape Robin-chat	<i>Cossypha caffra</i>	Muscicapidae			
Cape Shoveler	<i>Spatula smithii</i>	Anatidae	NT	LC	
Cape Sparrow	<i>Passer melanurus</i>	Passeridae			
Cape Spurfowl	<i>Pternistis capensis</i>	Phasianidae			NE
Cape Teal	<i>Anas capensis</i>	Anatidae			
Cape Wagtail	<i>Motacilla capensis</i>	Motacillidae			
Cape Weaver	<i>Ploceus capensis</i>	Ploceidae			NE
Cape White-eye	<i>Zosterops virens</i>	Zosteropidae			NE
Capped Wheatear	<i>Oenanthe pileata</i>	Muscicapidae			
Chestnut-vented Warbler	<i>Curruca subcoerulea</i>	Sylviidae			
Cinnamon-breasted Warbler	<i>Euryptila subcinnamomea</i>	Cisticolidae			NE
Common Buzzard	<i>Buteo buteo</i>	Accipitridae			
Common Greenshank	<i>Tringa nebularia</i>	Pycnonotidae			
Common Moorhen	<i>Gallinula chloropus</i>	Rallidae			
Common Quail	<i>Coturnix coturnix</i>	Phasianidae			
Common Starling	<i>Sturnus vulgaris</i>	Sturnidae			
Common Swift	<i>Apus apus</i>	Apodidae			

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Common Waxbill	<i>Estrilda astrild</i>	Estrildidae			
Crowned Lapwing	<i>Vanellus coronatus</i>	Charadriidae			
Dusky Sunbird	<i>Cinnyris fuscus</i>	Nectariniidae			
Egyptian Goose	<i>Alopochen aegyptiaca</i>	Anatidae			
European Bee-eater	<i>Merops apiaster</i>	Meropidae			
Fairy Flycatcher	<i>Stenostira scita</i>	Muscicapidae			NE
Familiar Chat	<i>Oenanthe familiaris</i>	Muscicapidae			
Fiscal Flycatcher	<i>Melaenornis silens</i>	Muscicapidae			NE
Greater Striped Swallow	<i>Cecropis cucullata</i>	Hirundinidae			
Grey Heron	<i>Ardea cinerea</i>	Ardeidae			
Grey Tit	<i>Melaniparus afer</i>	Paridae			NE
Grey-backed Cisticola	<i>Cisticola subruficapilla</i>	Cisticolidae			
Grey-backed Sparrow-lark	<i>Eremopterix verticalis</i>	Alaudidae			
Grey-winged Francolin	<i>Scleroptila afra</i>	Phasianidae			SLS
Ground Woodpecker	<i>Geocolaptes olivaceus</i>	Picidae	NT	NT	SLS
Hadada Ibis	<i>Bostrychia hagedash</i>	Threskiornithidae			
Hamerkop	<i>Scopus umbretta</i>	Scopidae	NT	LC	
Helmeted Guineafowl	<i>Numida meleagris</i>	Numididae			
House Sparrow	<i>Passer domesticus</i>	Passeridae			
Jackal Buzzard	<i>Buteo rufofuscus</i>	Accipitridae			NE
Karoo Chat	<i>Emarginata schlegelii</i>	Muscicapidae			
Karoo Eremomela	<i>Eremomela gregalis</i>	Cisticolidae			NE
Karoo Korhaan	<i>Eupodotis vigorsii</i>	Otididae	NT	LC	
Karoo Lark	<i>Calendulauda albescens</i>	Alaudidae			NE
Karoo Long-billed Lark	<i>Certhilauda subcoronata</i>	Alaudidae			
Karoo Prinia	<i>Prinia maculosa</i>	Cisticolidae			NE
Karoo Scrub Robin	<i>Cercotrichas coryphoeus</i>	Muscicapidae			
Karoo Thrush	<i>Turdus smithi</i>	Turdidae			NE
Kittlitz's Plover	<i>Charadrius pecuarius</i>	Charadriidae	NT	LC	
Lanner Falcon	<i>Falco biarmicus</i>	Falconidae	NT	LC	
Large Rock Martin	<i>Ptyonoprogne fuligula</i>	Hirundinidae			
Large-billed Lark	<i>Galerida magnirostris</i>	Alaudidae			NE
Lark-like Bunting	<i>Emberiza impetuani</i>	Emberizidae			
Laughing Dove	<i>Spilopelia senegalensis</i>	Columbidae			
Layard's Warbler	<i>Curruca layardi</i>	Sylviidae			NE
Lesser Honeyguide	<i>Indicator minor</i>	Indicatoridae			
Lesser Kestrel	<i>Falco naumanni</i>	Falconidae	VU	LC	
Lesser Swamp Warbler	<i>Acrocephalus gracilirostris</i>	Acrocephalidae			
Little Grebe	<i>Tachybaptus ruficollis</i>	Podicipedidae			

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Little Stint	<i>Calidris minuta</i>	Scolopacidae		
Little Swift	<i>Apus affinis</i>	Apodidae		
Long-billed Crombec	<i>Sylvietta rufescens</i>	Macrosphenidae		
Ludwig's Bustard	<i>Neotis ludwigii</i>	Otididae	EN	EN
Malachite Sunbird	<i>Nectarinia famosa</i>	Nectariniidae		
Martial Eagle	<i>Polemaetus bellicosus</i>	Accipitridae	EN	EN
Mountain Wheatear	<i>Myrmecocichla monticola</i>	Muscicapidae		
Namaqua Dove	<i>Oena capensis</i>	Columbidae		
Namaqua Sandgrouse	<i>Pterocles namaqua</i>	Pteroclididae		
Namaqua Warbler	<i>Phragmacia substriata</i>	Cisticolidae		NE
Neddicky	<i>Cisticola fulvicapilla</i>	Cisticolidae		
Nicholson's Pipit	<i>Anthus nicholsoni</i>	Motacillidae		
Olive Thrush	<i>Turdus olivaceus</i>	Turdidae		
Pale Chanting Goshawk	<i>Melierax canorus</i>	Accipitridae		
Pale-winged Starling	<i>Onychognathus nabouroup</i>	Sturnidae		
Pied Avocet	<i>Recurvirostra avosetta</i>	Recurvirostridae		
Pied Crow	<i>Corvus albus</i>	Corvidae		
Pied Starling	<i>Lamprotornis bicolor</i>	Sturnidae		SLS
Pirit Batis	<i>Batis pirit</i>	Platysteiridae		
Red-billed Teal	<i>Anas erythrorhyncha</i>	Anatidae	NT	LC
Red-capped Lark	<i>Calandrella cinerea</i>	Alaudidae		
Red-eyed Dove	<i>Streptopelia semitorquata</i>	Columbidae		
Red-faced Mousebird	<i>Urocolius indicus</i>	Coliidae		
Red-knobbed Coot	<i>Fulica cristata</i>	Rallidae		
Red-winged Starling	<i>Onychognathus morio</i>	Sturnidae		
Reed Cormorant	<i>Microcarbo africanus</i>	Phalacrocoracidae		
Ring-necked Dove	<i>Streptopelia capicola</i>	Columbidae		
Rock Dove	<i>Columba livia</i>	Columbidae		
Rock Kestrel	<i>Falco rupicolus</i>	Falconidae		
Rufous-breasted Sparrowhawk	<i>Accipiter rufiventris</i>	Accipitridae		
Rufous-cheeked Nightjar	<i>Caprimulgus rufigena</i>	Caprimulgidae		
Rufous-eared Warbler	<i>Malcorus pectoralis</i>	Cisticolidae		
Secretarybird	<i>Sagittarius serpentarius</i>	Sagittariidae	VU	EN
Sickle-winged Chat	<i>Emarginata sinuata</i>	Muscicapidae		NE
South African Shelduck	<i>Tadorna cana</i>	Anatidae		
Southern Black Korhaan	<i>Afrotis afra</i>	Otididae	VU	VU E
Southern Double-collared Sunbird	<i>Cinnyris chalybeus</i>	Nectariniidae		NE
Southern Fiscal	<i>Lanius collaris</i>	Laniidae		
Southern Grey-headed Sparrow	<i>Passer diffusus</i>	Passeridae		

Great Karoo OHL

Southern Masked Weaver	<i>Ploceus velatus</i>	Ploceidae		
Southern Pochard	<i>Netta erythrophthalma</i>	Anatidae	NT	LC
Southern Red Bishop	<i>Euplectes orix</i>	Ploceidae		
Speckled Mousebird	<i>Colius striatus</i>	Coliidae		
Speckled Pigeon	<i>Columba guinea</i>	Columbidae		
Spike-heeled Lark	<i>Chersomanes albofasciata</i>	Alaudidae		
Spotted Eagle Owl	<i>Bubo africanus</i>	Strigidae		
Spotted Thick-knee	<i>Burhinus capensis</i>	Burhinidae		
Spur-winged Goose	<i>Plectropterus gambensis</i>	Anatidae		
Three-banded Plover	<i>Charadrius tricollaris</i>	Charadriidae		
Tractrac Chat	<i>Emarginata tractrac</i>	Muscicapidae		
Verreaux's Eagle	<i>Aquila verreauxii</i>	Accipitridae	VU	LC
Wattled Starling	<i>Creatophora cinerea</i>	Sturnidae		
White-backed Mousebird	<i>Colius colius</i>	Coliidae		
White-breasted Cormorant	<i>Phalacrocorax lucidus</i>	Phalacrocoracidae		
White-necked Raven	<i>Corvus albicollis</i>	Corvidae		
White-rumped Swift	<i>Apus caffer</i>	Apodidae		
White-throated Canary	<i>Crithagra albogularis</i>	Fringillidae		
White-throated Swallow	<i>Hirundo albigularis</i>	Hirundinidae		
Yellow Canary	<i>Crithagra flaviventris</i>	Fringillidae		
Yellow-bellied Eremomela	<i>Eremomela icteropygialis</i>	Cisticolidae		
Yellow-billed Duck	<i>Anas undulata</i>	Anatidae	NT	LC
Zitting Cisticola	<i>Cisticola juncidis</i>	Cisticolidae		

6.4 Appendix D – Avifauna species recorded during the walkdown and original assessment

A combined total of sixty-seven (67) species were recorded within the PAOI between the walkdown assessment and the original Biodiversity Assessment (TBC, 2020). The full combined species list is shown in Table 6-8.

Table 6-8 Avifauna species recorded during the walkdown and original assessment

Common Name	Scientific Name	Family Name	Regional	Global	Endemism
African Black Duck	<i>Anas sparsa</i>	Anatidae			
African Sacred Ibis	<i>Threskiornis aethiopicus</i>	Threskiornithidae			
African Spoonbill	<i>Platalea alba</i>	Threskiornithidae			
Ant-eating Chat	<i>Myrmecocichla formicivora</i>	Muscicapidae			
Barn Swallow	<i>Hirundo rustica</i>	Hirundinidae			
Black-chested Snake Eagle	<i>Circaetus pectoralis</i>	Accipitridae			
Black-headed Canary	<i>Serinus alario</i>	Fringillidae			NE
Blacksmith Lapwing	<i>Vanellus armatus</i>	Charadriidae			
Bokmakierie	<i>Telophorus zeylonus</i>	Malaconotidae			

Great Karoo OHL

Cape Bulbul	<i>Pycnonotus capensis</i>	Pycnonotidae			
Cape Bunting	<i>Emberiza capensis</i>	Emberizidae			E
Cape Clapper Lark	<i>Mirafra apiata</i>	Alaudidae			NE
Cape Penduline Tit	<i>Anthoscopus minutus</i>	Remizidae			
Cape Sparrow	<i>Passer melanurus</i>	Passeridae			
Cape Spurfowl	<i>Pternistis capensis</i>	Phasianidae			NE
Cape Wagtail	<i>Motacilla capensis</i>	Motacillidae			
Cinnamon-breasted Bunting	<i>Emberiza tahapisi</i>	Emberizidae			
Common Quail	<i>Corturnix corturnix</i>	Phasianidae			
Crowned Lapwing	<i>Vanellus coronatus</i>	Charadriidae			
Egyptian Goose	<i>Alopochen aegyptiaca</i>	Anatidae			
Fairy Flycatcher	<i>Stenostira scita</i>	Muscicapidae			NE
Familiar Chat	<i>Oenanthe familiaris</i>	Muscicapidae			
Greater Striped Swallow	<i>Cecropis cucullata</i>	Hirundinidae			
Grey Heron	<i>Ardea cinerea</i>	Ardeidae			
Grey Tit	<i>Melaniparus afer</i>	Paridae			NE
Grey-backed Cisticola	<i>Cisticola subruficapilla</i>	Cisticolidae			
Grey-winged Francolin	<i>Scleroptila afra</i>	Phasianidae			SLS
Hadada Ibis	<i>Bostrychia hagedash</i>	Threskiornithidae			
Jackal Buzzard	<i>Buteo rufofuscus</i>	Accipitridae			NE
Karoo Chat	<i>Emarginata schlegelii</i>	Muscicapidae			
Karoo Lark	<i>Calendulauda albescens</i>	Alaudidae			NE
Karoo Long-billed Lark	<i>Certhilauda subcoronata</i>	Alaudidae			
Karoo Prinia	<i>Prinia maculosa</i>	Cisticolidae			NE
Karoo Scrub Robin	<i>Cercotrichas coryphoeus</i>	Muscicapidae			
Lanner Falcon	<i>Falco biarmicus</i>	Falconidae	NT	LC	
Large-billed Lark	<i>Galerida magnirostris</i>	Alaudidae			NE
Little Swift	<i>Apus affinis</i>	Apodidae			
Ludwig's Bustard	<i>Neotis ludwigii</i>	Otididae	EN	EN	NE
Malachite Sunbird	<i>Nectarinia famosa</i>	Nectariniidae			
Mountain Wheatear	<i>Myrmecocichla monticola</i>	Muscicapidae			
Namaqua Dove	<i>Oena capensis</i>	Columbidae			
Namaqua Sandgrouse	<i>Pterocles namaqua</i>	Pteroclididae			
Pale Chanting Goshawk	<i>Melierax canorus</i>	Accipitridae			
Pale-winged Starling	<i>Onychognathus nabouroup</i>	Sturnidae			
Pied Crow	<i>Corvus albus</i>	Corvidae			
Pied Starling	<i>Lamprotornis bicolor</i>	Sturnidae			SLS
Red-billed Teal	<i>Anas erythrorhyncha</i>	Anatidae	NT	LC	
Red-capped Lark	<i>Calandrella cinerea</i>	Alaudidae			

Great Karoo OHL

Ring-necked Dove	<i>Streptopelia capicola</i>	Columbidae			
Rock Kestrel	<i>Falco rupicolus</i>	Falconidae			
Sickle-winged Chat	<i>Emarginata sinuata</i>	Muscicapidae			NE
South African Shelduck	<i>Tadorna cana</i>	Anatidae			
Southern Black Korhaan	<i>Afrotis afra</i>	Otididae	VU	VU	E
Southern Fiscal	<i>Lanius collaris</i>	Laniidae			
Southern Masked Weaver	<i>Ploceus velatus</i>	Ploceidae			
Speckled Pigeon	<i>Columba guinea</i>	Columbidae			
Spike-heeled Lark	<i>Chersomanes albofasciata</i>	Alaudidae			
Spotted Eagle Owl	<i>Bubo africanus</i>	Strigidae			
Spotted Thick-knee	<i>Burhinus capensis</i>	Burhinidae			
Verreaux's Eagle	<i>Aquila verreauxii</i>	Accipitridae	VU	LC	
Wattled Starling	<i>Creatophora cinerea</i>	Sturnidae			
White-breasted Cormorant	<i>Phalacrocorax lucidus</i>	Phalacrocoracidae			
White-necked Raven	<i>Corvus albicollis</i>	Corvidae			
White-rumped Swift	<i>Apus caffer</i>	Apodidae			
White-throated Canary	<i>Crithagra albogularis</i>	Fringillidae			
White-throated Swallow	<i>Hirundo albigularis</i>	Hirundinidae			
Yellow Canary	<i>Crithagra flaviventris</i>	Fringillidae			

6.5 Appendix E – Specialist Declaration of Independence

DECLARATION

I, Sarah Newman, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting 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 71 and is punishable in terms of Section 24F of the Act.



Sarah Newman

Terrestrial Ecologist

The Biodiversity Company

April 2026

DECLARATION

I, Ryno Kemp, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting 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 71 and is punishable in terms of Section 24F of the Act.



Ryno Kemp

Ecologist

The Biodiversity Company

April 2026

6.6 Appendix F – Specialist CVs

SARAH NEWMAN



Pr Sci Nat 158474
+27 73 391 6933
sarah@thebiodiversitycompany.com

PROFILE SUMMARY

Terrestrial ecologist with over three years of consulting experience, including international assignments. Demonstrated expertise across renewable energy, mining, and private sector development. Skilled in managing national and international multi-disciplinary projects, providing specialist guidance, technical support, and facilitation to ensure compliance with in-country legislative requirements. Registered as a Professional Natural Scientist (Pr Sci Nat) with the South African Council for Natural Scientific Professions.

PERSONAL INFO

Nationality: South African
 Date of birth: 17 December 1993

EXPERIENCE

Terrestrial ecology
 Environmental Management Programmes (EMP)
 Rehabilitation & management plans
 Field work & research

SKILLS

- ✓ Terrestrial Biodiversity Assessments
- ✓ Rehabilitation & management plans
- ✓ GIS spatial analysis & digital cartography
- ✓ Taxonomic classification & curation of insects
 (Formicidae & Coleoptera)

LANGUAGES

English – Proficient
 Afrikaans – Conversational
 Spanish – Conversational



Signed: Sarah Newman

ACADEMIC QUALIFICATIONS

University of Pretoria (2018): Master of Science (MSc) in Entomology (Distinction)
 Title: *Taxonomic and Functional Diversity of Ants Across Environmental Gradients.*

University of Pretoria (2016): Bachelor of Science Honours (BSc (Hons)) in Zoology
 Title: *Rolling versus tunnelling: An evolutionary history of dung relocation and burial behaviour in African dung beetles (Coleoptera: Scarabaeidae: Scarabaeinae)*

University of Pretoria (2015): Bachelor of Science (BSc) in Zoology

PROFESSIONAL EXPERIENCE

Nov 2022 – Present	The Biodiversity Company Terrestrial Ecologist
Feb 2022 – July 2022	University of Pretoria Research Technician (contract)
Feb 2021 – Nov 2021	Ecology Project International Sea Turtle Research Assistant
Jun 2019 – Nov 2020	Cell Path Services (Pty) Ltd Compliance and Regulatory Officer

INTERNATIONAL EXPERIENCE

Angola, Costa Rica, Lesotho, Mauritius,
 South Africa, Zambia

Dr Ryno KEMP

Pr Sci Nat 117462/17

+27 83 273 3488

ryno@thebiodiversitycompany.com



PROFILE SUMMARY

Avifauna and ecological specialist with 5 years' consulting experience, with international working experience. Specialist experience in project exploration, mining, hydropower, renewable energy, and private sector developments. Project management of national and international multi-disciplinary projects. Provides specialist guidance, technical support, and facilitation for compliance with in-country legislative requirements and international lender standards. Registered Pr Sci Nat with the South African Council for Natural Scientific Professions.

PERSONAL INFO

Nationality: South African

Date of birth: 09 October 1991

EXPERIENCE

Lender reporting requirements
Environmental Impact Assessments (EIA)
Environmental Management Programme (EMP)
Project Management
Avifaunal Conservation Surveys
Unit manager

SKILLS

- ✓ Habitat Modelling
- ✓ Flight path modelling
- ✓ Critical Habitat Assessments
- ✓ Avifauna, Faunal and Bat Assessments
- ✓ Long-term Monitoring (Avifauna)
- ✓ Monitoring & Management Plans
- ✓ GIS spatial analysis

LANGUAGES

English – Proficient
Afrikaans – Proficient



ACADEMIC QUALIFICATIONS

University of Pretoria, Pretoria, South Africa (2017 - 2024): PhD in Zoology

Title: Investigates the impacts of climate change on threatened arid-zone Red Lark (*Calendulauda burra*) using a mechanistic model

University of Pretoria, Pretoria, South Africa (2016): BSc Honours in Zoology

Title: Investigated the thermoregulation ability in free-ranging Ground Woodpeckers during cold winter months.

University of Pretoria, Pretoria, South Africa (2011 - 2015): BSc in Zoology

UNISA, South Africa (2020): Certificate in Environmental Law and Liabilities for the Regulated Community (Short course).

PROFESSIONAL EXPERIENCE

Nov 2022 – Present **The Biodiversity Company**
Ecologist / Avifauna Specialist/Unit Manager

Feb 2020 – Nov 2022 **VulPro**
Research Manager

Sept 2021 – Nov 2022 **ZESC**
Avifauna specialist

INTERNATIONAL EXPERIENCE

Angola, Zambia, South Africa

Signed: Ryno Kemp

PUBLICATIONS

- Juan Serratos^a, Steffen Oppel^b, Andrea Santangeli^c, Shay Rotics^d, Stuart H.M. Butchart^{e,f}, Luis S. Cano-Alonso^g, Jose Luis Telleria^h, Ryno Kempⁱ, Aaron Nicholas^j, Aigars Kalvāns^k, Aitor Galarza^k, Aldina M.A. Franco^l, Alessandro Andreotti^m,many more authors.....(2024) Tracking data highlighted the importance of human-induced mortality for migratory birds at a flyway scale. *Biological Conservation*.
- Kemp R, Freeman MT, Colyn R & McKechnie AE (2024) Population status of the range-restricted Red Lark (*Calendulauda burra*) in a conservation area stronghold. *Ostrich*.
- McKechnie AE, Freeman MT, Kemp R, Wolter K & Naidoo V (2024) Effects of lead on avian thermoregulation in the heat: an experimental test with Pied crows (*Corvus albus*). *Journal of Experimental Biology*
- Conradie SR, Kearney MR, Wolf BO, Cunningham SJ, Freeman MT, Kemp R, McKechnie AE. (2023) An evaluation of a biophysical model predicting avian thermoregulation in the heat.
- McClure, C.J., Rolek, B.W., Kemp, R. and Wolter, K. (2023) Combining trends from disparate monitoring programs to inform Red List assessments: The case of the Cape Vulture (*Gyps coprotheres*). *Biological Conservation*, 284, p.110175.
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- Hirschauer MT, Hannweg CG, Kemp R & Wolter K. (2021) VulPro: An overview of Africa's Vulture Conservation Centre. *Vulture News*
- Czenze ZJ, Freeman MT, Kemp R, van Jaarsveld B, Wolf BO & McKechnie AE. (2021) Gular flutter provides the basis for efficient evaporative cooling and pronounced heat tolerance in an eagle-owl, a thick-knee and a sandgrouse from the southern Africa arid zone. *Frontiers in Ecology and Evolution*
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- van Jaarsveld B, Bennett NC, Kemp R, Czenze ZJ & McKechnie AE. (2021). Heat tolerance in desert rodents is correlated with microclimate at inter- and intraspecific levels. *Journal of Experimental Biology*
- van Jaarsveld B, Bennett NC, Kemp R, Czenze ZJ & McKechnie AE. (2021) How hornbills handle the heat: sex-specific thermoregulation in the Southern Yellow-billed Hornbill. *Journal of Experimental Biology*
- Kemp R, Freeman MT, van Jaarsveld B, Czenze ZJ, Conradie SR & McKechnie AE. (2020) Sublethal fitness costs of chronic exposure to hot weather vary between sexes in a threatened desert lark. *EMU*
- Czenze ZJ, Kemp R, van Jaarsveld B, Freeman MT, Smit B, Wolf BO & McKechnie AE. (2020). Regularly-drinking desert birds have a greater capacity for evaporative cooling and higher heat tolerance limits than non-drinking species. *Journal of Functional Ecology*
- Lund J, Bolopo D, Thompson RL, Elliott DL, Arnot LF, Kemp R, Lowney AM & McKechnie AE. (2020) Winter thermoregulation in free-ranging pygmy falcons in the Kalahari Desert. *Journal of Ornithology*
- Kemp R, McKechnie AE (2019) Thermal physiology of a range-restricted desert lark. *Journal of Comparative Physiology B* 189:131-141
- Kemp R, Noakes MJ, McKechnie AE (2017) Thermoregulation in free-ranging ground woodpeckers *Geocolaptes olivaceus*: no evidence of torpor. *J Avian Biol* 48:1287–1294

CURRICULUM VITAE: Ryno Kemp

Appendix 11B – Ecology Motivation Letter

Date: 29 July 2026

Subject: Terrestrial Biodiversity Support for Proposed Layout Changes – Great Karoo Project

To whom it may concern,

I refer to the proposed layout amendments for the Great Karoo Project, as reflected in the layout adjustment documentation provided for review.

I have considered the proposed changes from a terrestrial biodiversity perspective, specifically the removal of several turbine positions, the removal of associated internal overhead line sections, the revision of an internal overhead line alignment, and the associated reduction in the extent of new roads and infrastructure requiring construction through or near sensitive drainage features.

Based on the information provided, the removal of the identified turbines and associated infrastructure is expected to result in a decrease in terrestrial impact, as this reduces the extent of infrastructure and associated disturbance within the site. In addition, the reduction in new roads requiring construction through sensitive drainage features is a positive change from a terrestrial perspective, as it reduces potential disturbance to these environmentally sensitive areas. The revised internal overhead line alignment is described as an optimisation in response to topography and environmental sensitivities, with no additional impact indicated.

Accordingly, from a terrestrial biodiversity perspective, the proposed layout changes are supported, as they are not expected to increase associated impacts relative to the previously assessed layout and may reduce the overall terrestrial biodiversity impact footprint.

Please note that this statement is based on the layout adjustment information provided and should be read together with the original terrestrial biodiversity assessment and any applicable Environmental Authorisation conditions.

Yours faithfully,



Ryno Kemp (SACNASP 117462/17)
The Biodiversity Company



Andrew Husted (SACNASP 400213/11)
The Biodiversity Company

Appendix 11B – Avifauna Motivation Letter

Date: 20 July 2026

To: Janna Bedford-Owen

Subject: Avifaunal Support for Proposed Layout Changes – Great Karoo Project

Dear Janna Bedford-Owen,

I refer to the proposed layout amendments for the Great Karoo Project, as reflected in the layout adjustment documentation provided for review on 15 July 2026.

I have considered the proposed changes relevant to avifauna, specifically the removal of several turbine positions, the removal of associated internal overhead line sections, and the revision of an internal overhead line alignment.

Based on the information provided, the removal of the identified turbines and associated internal overhead line sections is expected to result in a decrease in impact. The revised internal overhead line alignment is described as an optimisation in response to topography and environmental sensitivities, with no additional impact indicated.

Accordingly, from an avifaunal specialist perspective, the proposed layout changes are supported, as they are not expected to increase avifaunal impacts relative to the previously assessed layout. On the information reviewed, certain aspects of the revised layout may reduce the overall impact.

Please note that this statement is based on the layout adjustment information provided and should be read together with the original avifaunal assessment and any applicable Environmental Authorisation conditions.

Yours faithfully,



Ryno Kemp
The Biodiversity Company

Appendix 11C – Herritage Motivation Letter



CTS HERITAGE

27 July 2026

To whom it may concern,

HERITAGE SPECIALIST OPINION LETTER: PART 1 AMENDMENT (LAYOUT CHANGED) FOR THE GREAT KAROO WIND ENERGY FACILITY NEAR SUTHERLAND, NORTHERN CAPE PROVINCE (DFFE REF.: 12/12/20/2370/3).

SAHRA (CASE NO. 857 and 8652)

INTRODUCTION

CTS Heritage completed the final walkdown for final layout and EMPR approval for the authorised Enel Great Karoo Wind Energy Facility (WEF) (DFFE Ref.: 12/12/20/2370/3).

Great Karoo Wind Farm (Pty) Ltd, an Independent Power Producer (IPP) obtained an Environmental Authorisation (EA) from the Department of Forestry, Fisheries and the Environment (DFFE) on 12 August 2014 (DFFE Reference: 12/12/20/2370/3) for the construction of the 140MW Great Karoo Wind Energy Facility (WEF) on The Farm Kentucky 206 and Portion 1 of the Farm Wolvenkop 207, within the Karoo Hoogland Local Municipality of the Northern Cape Province. In addition, the project contains an electrical grid infrastructure (EGI) (DFFE Reference: 14/12/16/3/3/1/2253) including a 132kV overhead powerline and onsite substation which will connect to the Eskom Hidden Valley Substation.

The grid connection infrastructure is located on The Farm De Hoop 202, the Farm Kentucky 206 and the Remainder of Portion 1 of the Farm Orange Fontein 203. The purpose of the facility will be to provide up to 140MW of power to be exported to the national energy grid. Lastly, the project includes the construction and development of a Battery Energy Storage System (BESS) (DFFE Ref: 14/12/16/3/3/1/2237) located near the on-site WEF substation on The Farm Kentucky 206.

ASSESSMENT OF PROPOSED LAYOUT AMENDMENT

The revised layout involves revisions to the roads, site camp, hardstands, turbine assembly laydown, turbine locations and to the internal overhead powerlines (see table appended to this letter). None of these revisions affect any of the identified heritage sensitivities (refer to Figure 1, 2 and Figure 3), as previously assessed. The proposed amendment does not result in encroachment into any identified heritage no-go areas or heritage resources identified during the previous walkdown assessment. As such, the findings of the previous assessments remain unchanged and still

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applicable, and no additional mitigation measures are required beyond those already included in the approved EMPr.

Furthermore, there is no negative change or increase in impacts associated with the cultural landscape given the amendment proposed is for minor shifts in location.

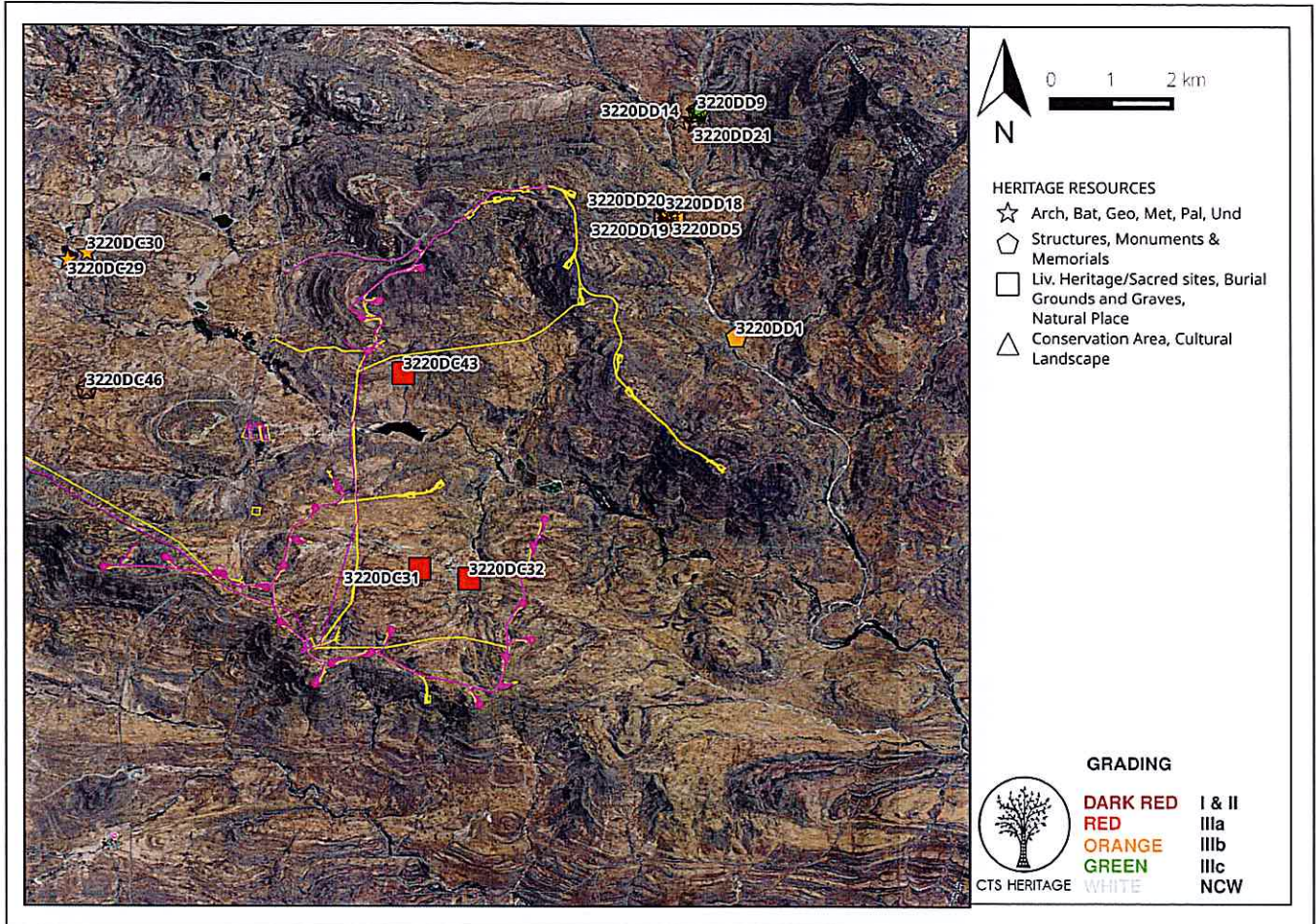


Figure 1: Map indicating the changes made between the approved infrastructure in yellow vs the proposed changes in purple.



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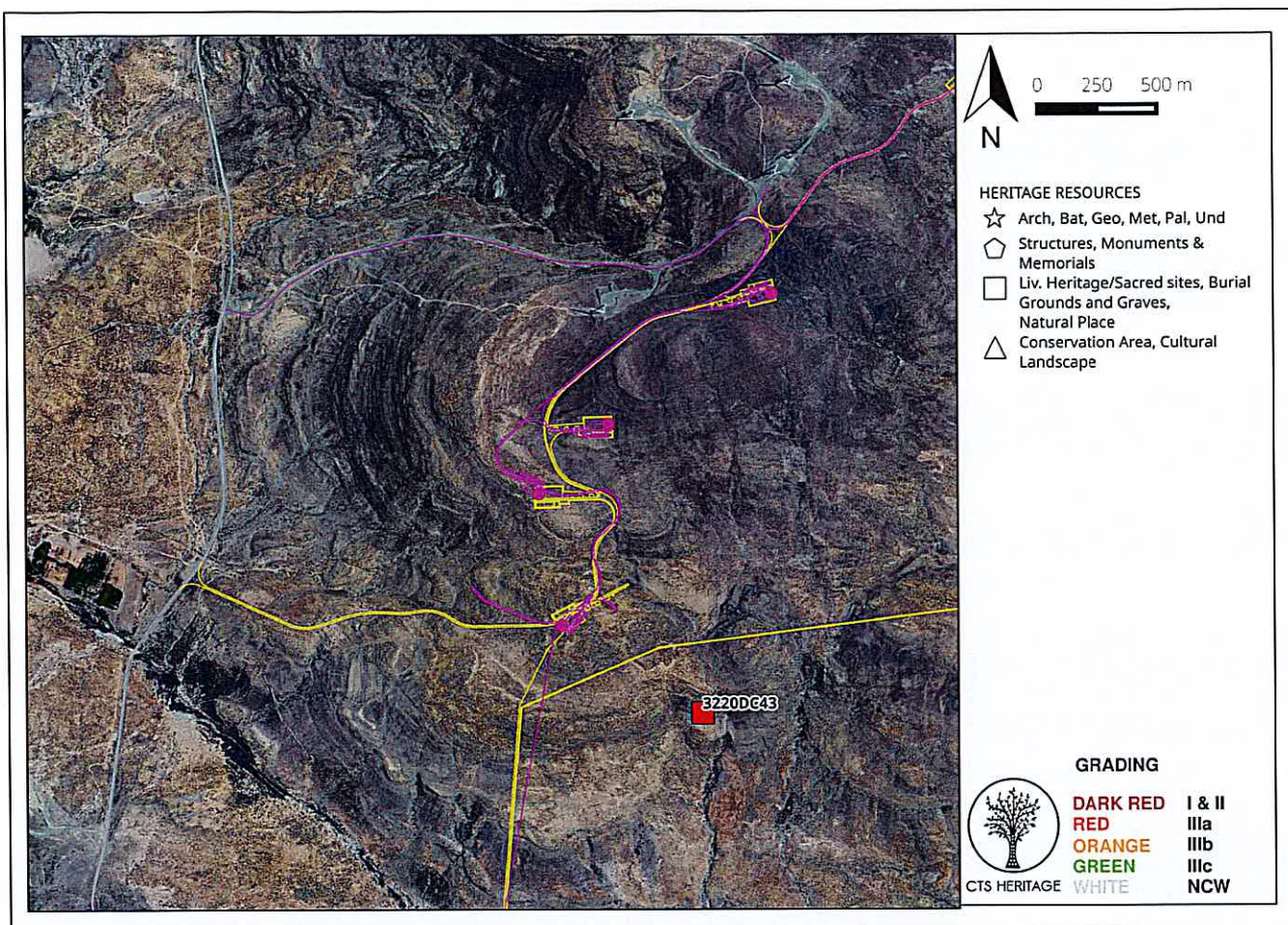


Figure 2: Close up Map indicating the changes made between the approved infrastructure in yellow vs the proposed changes in purple. Note the northern access road on the already constructed WEF access road for the Soetwater WEF.



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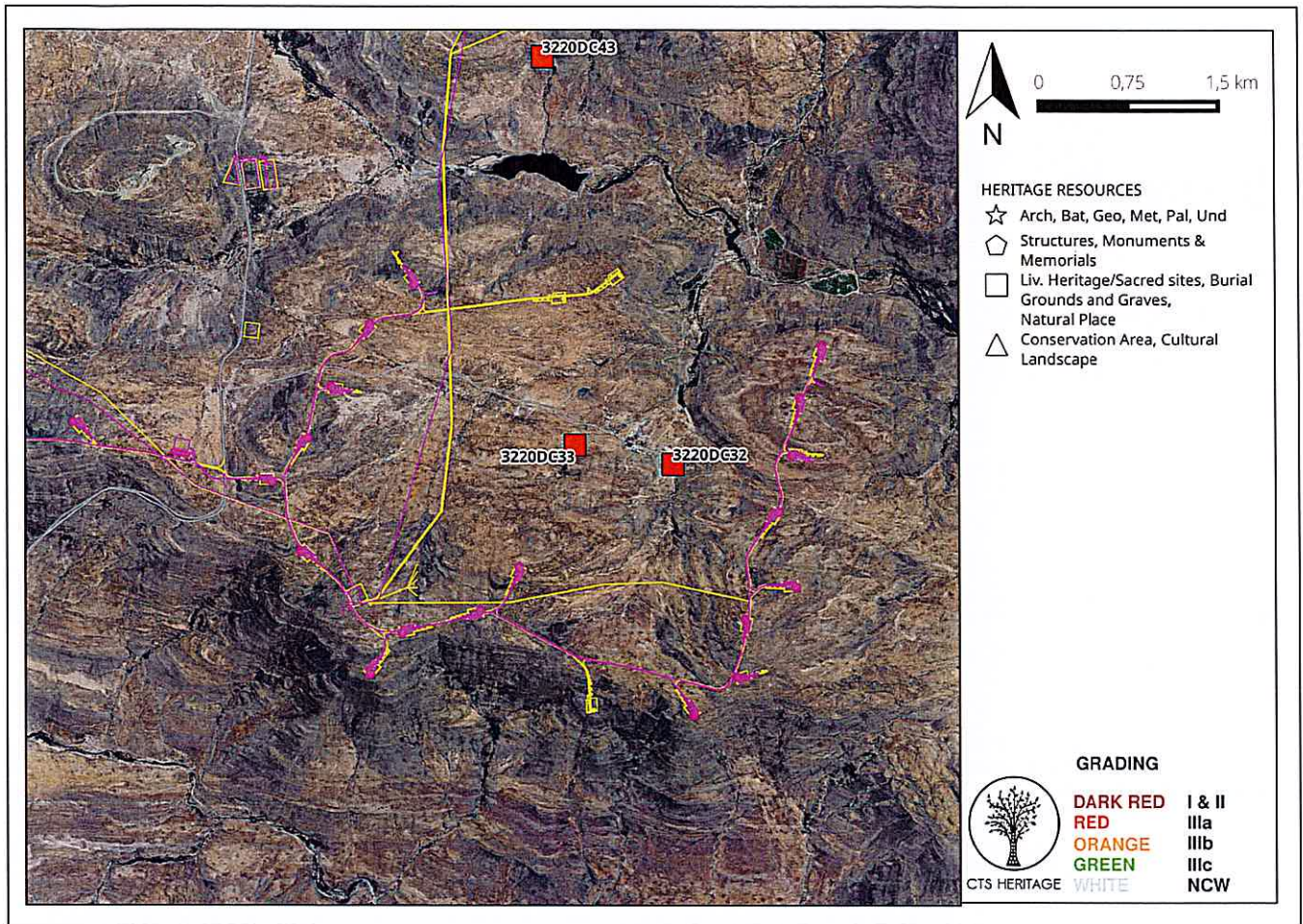


Figure 3: Close up Map indicating the changes made between the approved infrastructure in yellow vs the proposed changes in purple.

CONCLUSION

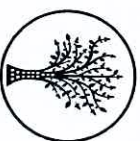
Upon review of all of the proposed changes, CTS Heritage can confirm that there is no change in heritage sensitivity associated with the proposed amended infrastructure, and the impacts presented in the previous assessment reports remain unchanged and no further amendments are required to the approved EMPR.

Please don't hesitate to contact me should you have any queries related to the above.

Yours sincerely

Nicholas Wiltshire, Archaeologist and Principle Heritage Assessment Practitioner

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CTS HERITAGE

Table of Layout Adjustments

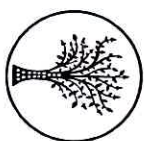
Revision	Location	Motivation	Impact
ROADS			
Road 14A: the road(1,4km) serves only as alternative access if northern access from Soetwater is not approved. If northern access is approved, this access road will be removed. If removed, an additional 300m road MM2 is needed for WTG 33(41)	32°46'58.81"S; 20°42'57.03"E	To optimise the wind farm design for logistical purposes and lessen the environmental impact.	Decrease on Cultural Landscape
Road 14C: the road to be shifted approximately 170 m to the west. Road width and length are the same.	32°46'44.62"S; 20°43'38.65"E	To optimise the wind farm design for logistical and constructability purposes.	Neutral
Road 14H to 14M: approximately 7 km of the road to be removed (removal includes any access roads to removed WTGs i.e., Roads 23-A, 21A,14J, 22A.).	32°46'19.13"S; 20°44'17.21"E	To optimise the wind farm design for logistical and constructability purposes.	Decrease on Cultural Landscape
Road 4A - 4B: approximately 1.2 km of the road to be removed.	32°48'12.26"S; 20°43'34.26"E	To optimise the wind farm design for logistical and constructability purposes.	Decrease on Cultural Landscape
Northern Access: An alternative 60m access on the northern side of the facility is proposed directly from the existing Soetwater WEF. If approved by the transport agency, then the road 14A is not required and will be removed.	32°46'17.59"S; 20°44'13.46"E	To optimise the wind farm design for logistical and constructability purposes.	Neutral
Access 1: The alignment of the bellmouth for the access to Road 1&3.	32°48'50.07"S; 20°42'39.63"E	There was a misalignment on the bellmouth of Access 1 which	Neutral

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		raised road safety concerns.	
Additional turning road MM1 & TA1	32°48'36.07"S; 20°41'38.33"E		Neutral
SITE CAMP			
Site Camp: to be relocated from its current location.	32°48'42.34"S; 20°42'25.23"E	The current location of the site camp is located on a slope which requires significant soil and rock removal as well as material storage space. Further, the road safety concerns have been raised as the access to the site camp will be located near the bend, therefore obstructing the visibility. The area (size) of the site camp will be the same.	Neutral
HARDSTANDS			
Hardstand for WTG 32 (previously 40) orientation change with shift 50m-100m north west (partial footprint print overlap)	32°46'49.23"S; 20°43'44.62"E	To optimise the wind farm design for logistical and constructability purposes. The turbine foundation location will not change. The size of the hardstands will be reduced and reoriented to accommodate optimization.	Neutral
Hardstand for WTG 33 (previously 41) orientation (majority footprint print overlap)	32°47'02.70"S; 20°43'48.88"E	To optimise the wind farm design for logistical and constructability purposes. The turbine foundation location will not change. The size of the hardstands will be reduced and reoriented to accommodate	Neutral



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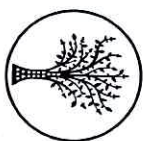
		optimization.	
Hardstand for WTG 18 orientation (majority footprint print overlap)	32°48'44.01"S; 20°45'13.98"E		Neutral
All turbine footprints will be reduced by up to 0.2ha each	Example of footprint reduction using WTG 5-7	The blade and foundation, as well as supporting laydowns areas will be reduced due to optimised design.	Decrease on Cultural Landscape
TURBINE ASSEMBLY LAYDOWN			
The Laydown layout: the area for turbine laydown will be partially used as a laydown camp WTGs, as well as main contractor temporary laydown to optimise northern works. The size and location is the same.	32°47'39.27"S; 20°42'46.46"E	To optimise the wind farm design for logistical and constructability purposes. The area of disturbance is reduced.	Neutral
TURBINE LOCATIONS			
Turbines 12, 21, 24 (rename 22), 25, 26, 27, 28, 29, 45 (rename 35), 46 (rename 36), along with their laydowns, powerline connection, & access roads are to be removed	various locations as highlighted in red text.	To optimise the wind farm design for logistical purposes and lessen the environmental impact.	Neutral
INTERNAL OVERHEAD POWERLINES			
Internal Overheadline 1: The internal line connection WTGs 25-29 (from these WTGs to the planned OHL extending between WTG 33(41) and the substation) is not required since removal of these WTG position, and will be removed.		The OHL will be removed (green/yellow line)	Decrease on the Cultural Landscape

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Internal Overheadline 2: The internal line connection, from WTG 33(41) to the substation, has been optimised to topography and environmental sensitivities at ground level. The length, servitude, dimensions are the same.		Pink line adjusted to topography	Neutral
Internal Overheadline 3: The internal line connection from the substation to WTG 15 is not required and will be removed.		The OHL will be removed (green/purple line)	Decrease on the Cultural Landscape