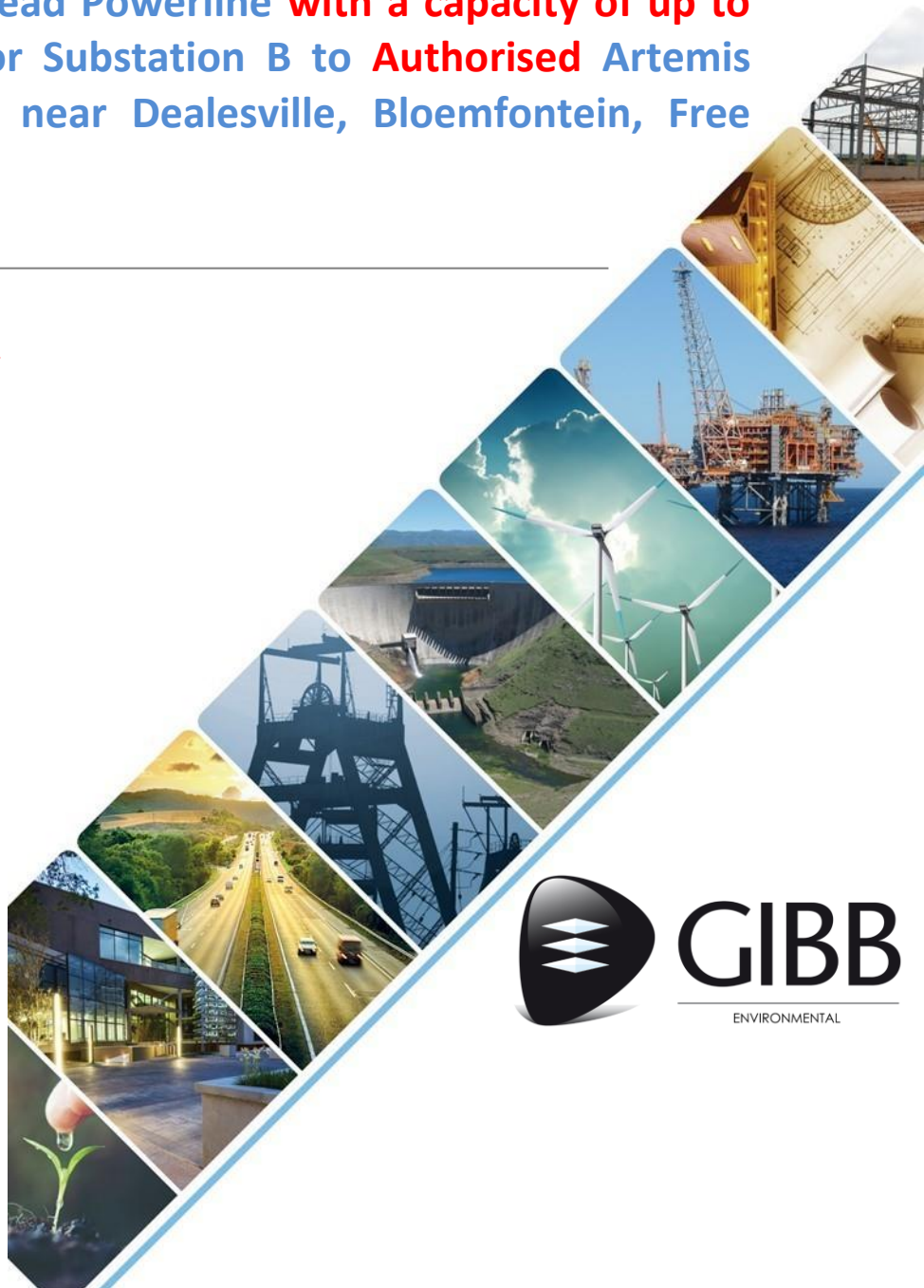

FINAL ARTEMIS GRID CONNECTION ENVIRONMENTAL SENSITIVITY REPORT

The proposed Overhead Powerline **with a capacity of up to 132kV** from Collector Substation B to **Authorised** Artemis Substation (Line 2), near Dealesville, Bloemfontein, Free State

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GIBB
ENVIRONMENTAL

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Preliminary

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Abbreviations / Acronyms / Definitions

List of Abbreviations and Acronyms	
BID	Background Information Document
CA	Competent Authority
CAA	Civil Aviation Authority
CBA	Critical Biodiversity Area
CR	Critically Endangered
CRR	Comments and Responses Report
DESTEA	Department of Economic, Small Business Development, Tourism and Environmental Affairs
DFFE	Department of Forestry, Fisheries and the Environment
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ESR	Environmental Sensitivity Report
ESA	Ecological Support Areas
GA	General Authorisation
GIBB	GIBB Environmental
Ha	Hectare
HIA	Heritage Impact Assessment
HRA	Heritage Resources Authority
I&APs	Interested and Affected Parties
kV	Kilovolt
m	Metres
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
OHL	Overhead Lines
PPP	Public Participation Process
PV	Photo Voltaic
SACAA	South African Civil Aviation Authority
SACNASP	South African Council for Natural Scientific Professions
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SSV	Site Sensitivity Verification
WML	Water Management Licence
WUA	Water Use Authorisation
WUL	Water Use Licence
WULA	Water Use License Application

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1 Introduction

1.1 Background

GIBB Environmental (Pty) Ltd (GIBB) has been appointed as the independent Environmental Assessment Practitioner (EAP) by the proponent (ABO Wind renewable energies (Pty) Ltd) to undertake the required registration of the proposed overhead powerline, up to **132kV** in capacity from Springhaas Collector Substation B to the proposed authorised Artemis Substation, near Dealesville, Bloemfontein, Free State Province (Line 2). The registration process for Line 2 is being undertaken in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) the *Standard for the Development and Expansion of Power Lines and Substation within Identified Geographical Areas Revision 2* (the Standard).

ABO Wind renewable energies (Pty) Ltd, the proponent, intends to register the proposed Grid Connection Corridor and associated powerline/es therein from the Springhaas Solar photo voltaic (PV) Cluster to the proposed Artemis Substation, near Dealesville, Bloemfontein, Free State Province. The Corridor is wholly located in the Kimberley renewable energy development zone (REDZ) and the Central Strategic Transmission Corridor. Therefore, the registration process for the Corridor is being undertaken in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) the *Standard for the Development and Expansion of Power Lines and Substation within Identified Geographical Areas Revision 2* (the Standard). In order for the Springhaas Solar PV facilities to evacuate the generated solar power to the national grid, a connection must be established between the solar PV facilities and the authorised Artemis substation.

Two powerlines are being registered within the identified corridor:

- Line 1: An overhead powerline **with a capacity of up to 132kV** from Springhaas Collector Substation A to the proposed Artemis Substation (Line 1)
- **Line 2: An overhead powerline with a capacity of up to 132kV from Springhaas Collector Substation B to the proposed Artemis Substation (Line 2)**

This **Final** Environmental Sensitivity Report (ESR) is relevant to **Line 2**. Line 1 is covered by a separate Draft ESR.

For ease of reference, all changes made to the ESR are shown in red text.

1.2 Project Description

The project is known as the Springhaas to Artemis Grid Connection and would involve the development of a grid connection corridor. The corridor is up to approximately 25.5km in length and up **has a width of 250m** at its widest point. It is within this corridor, that up to two overhead powerlines are proposed (and assessed) for registration in terms of the Standard connecting the Springhaas Solar PV Facilities to the Artemis substation, via single/double-

circuit up to 132kV, mono pole lines, complete with structures, foundations, conductor, fibre layout, insulation, and assemblies.

The two powerlines under assessment include:

- **Line 1:** An overhead powerline up to approximately 21.5 km in length and up to 250m in width at the widest point containing an OHL of up to 132 kV.
- **Line 2:** An overhead powerline up to approximately 16.0 km in length and up to 250m in width at the widest point containing an OHL of up to 132 kV.

Each of the powerlines is subject to a separate registration process. This report covers Line 2, noting that the entire corridor has been assessed.

Table 1-1: Line 2 details

Name	Proposed overhead powerlines up to 132kV in capacity from Springhaas Collector Substation B to the authorised Artemis Substation (Line 2)
Line 2 and Springhaas to Artemis Grid Connection Corridor Location	<i>Farm Teneriffe No. 755*</i> <i>The remainder of Farm Corneliasdal No. 45*</i> <i>Portion 1 (Olimpia) of the Farm Corneliasdal No. 45*</i> <i>Remaining Extent of Farm De Hoop No. 171*</i> <i>The Farm Oertel's Rest 1184*</i> <i>Farm Welgeluk 1622*</i> The Farm Alsace No. 1181 The Farm Lorraine No. 1182 Portion 1 of the Farm Braambosch No. 198 Remaining Extent of the Farm Braambosch No. 198 Remainder of the Farm Braklaagte No. 149 Remainder of Farm Doornrandjes No. 546 Portion 1 of the Farm Walvischkuil No. 749 The Farm Leliehoek No. 748 Remainder of the Farm Klipfontein No. 305
Connection	Will connect Springhaas Solar PV Facility/ies via Collector Substation B to the Artemis Substation on Portion 0 (Remaining Extent) the Farm Klipfontein No. 305
Capacity	Up to 132Kv
Length	Up to approximately 16km
Corridor	Within the corridor which is up to 250m in width at its widest point, noting that the final corridor would be kept to the limits of the Standard
Height	Up to approximately 40m
Servitude	Up to 60m wide
Access	Service road - There would be a jeep track (up to 4m wide) within the development footprint/ servitude of the line (underneath the line), where possible/ required.

**Line 2 and its associated servitude does not cross these properties but the assessed corridor for the Springhaas to Artemis grid connection corridor does*

1.2.1 Project Location

Line 2 would be located south-west of Dealesville, Free State, within the jurisdiction of the Tokologo Local Municipality, within the Lejweleputswa District Municipality. Line 2 is located in Ward 1 and is also wholly located in the Kimberley renewable energy development zone (REDZ) and the Central Strategic Transmission Corridor. Line 2 would be located within the broader corridor assessed as part of this registration process.

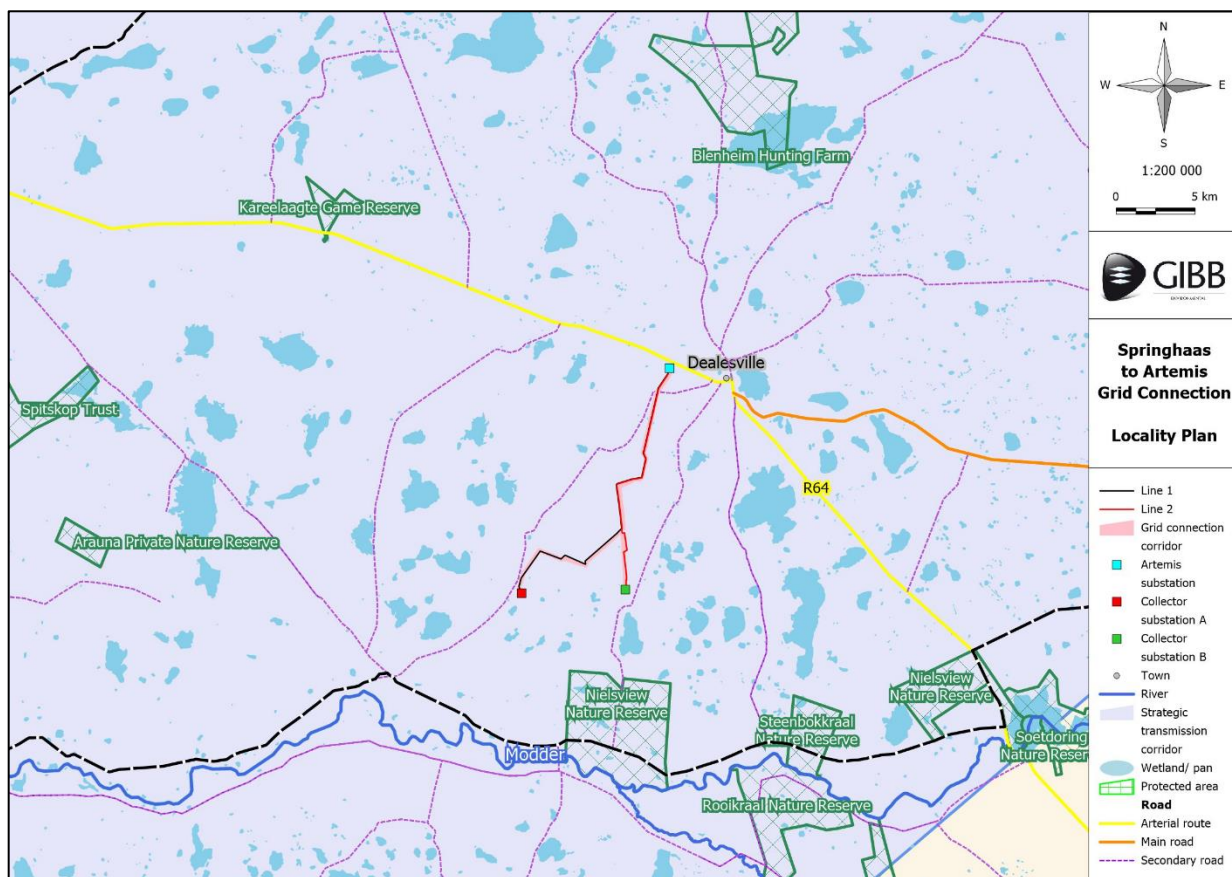


Figure 1-1: Locality plan

Line 2 crosses 9 farms/ farm portions. The Springhaas to Artemis grid connection corridor crosses 14 properties. The tables below (Table 1-2 and Table 1-3) present further farm details and location information.

Table 1-2: Property details

Farm name	SG 21 digits code
Properties traversed by Line 2	
The Farm Alsace No. 1181	F00400000000118100000
The Farm Lorraine No. 1182	F00400000000118200000
Remaining Extent of the Farm Braambosch No. 198	F00400000000019800000
Remainder of the Farm Braaklaagte No. 149	F00400000000014900000
Remainder of the Farm Doornrandjes No. 546	F00400000000054600000
Portion 1 of the Farm "Walvischkuil" No. 749	F00400000000074900001
The Farm Leliehoek No. 748	F00400000000074800000
Remainder of the Farm Klipfontein No. 305	F00400000000030500000
Portion 1 of the Farm Braambosch No. 198	F00400000000019800001
Properties where the assessed corridor is located (but not the line)	
The Farm Oertel's Rest 1184	F00400000000118400000
Farm Teneriffe No. 755	F00400000000075500000
The remainder of the Farm Corneliasdal No. 45	F00400000000004500000
Portion 1 (Olimpia) of the Farm Corneliasdal No. 45	F00400000000004500001
Farm Welgeluk 1622	F00400000000162200000
Remaining Extent of the Farm De Hoop No. 171	F00400000000017100000

Table 1-3: Line 2 approximate GPS location

Point	Latitude	Longitude
Line 2		
Start	28°47'32.55"S	25°41'57.10"E
Mid-point	28°43'51.63"S	25°42'6.78"E
End	28°40'7.20"S	25°43'31.43"E
Corridor		
Start A (Western Leg)	28°47'47.02"S	25°37'50.69"E
Start B (Eastern Leg)	28°47'37.55"S	25°41'54.42"E
End	28°40'4.11"S	25°43'35.60"E

1.2.2 Legislative Background

Line 2 and the corridor that it falls within will be located in the Central Strategic Transmission Corridor, as shown in Figure 1-2 as gazetted in Government Notice No. 113. The Strategic Transmission Corridors have already been subject to a Strategic Environmental Assessment which identified areas suitable for the development of grid connection infrastructure.

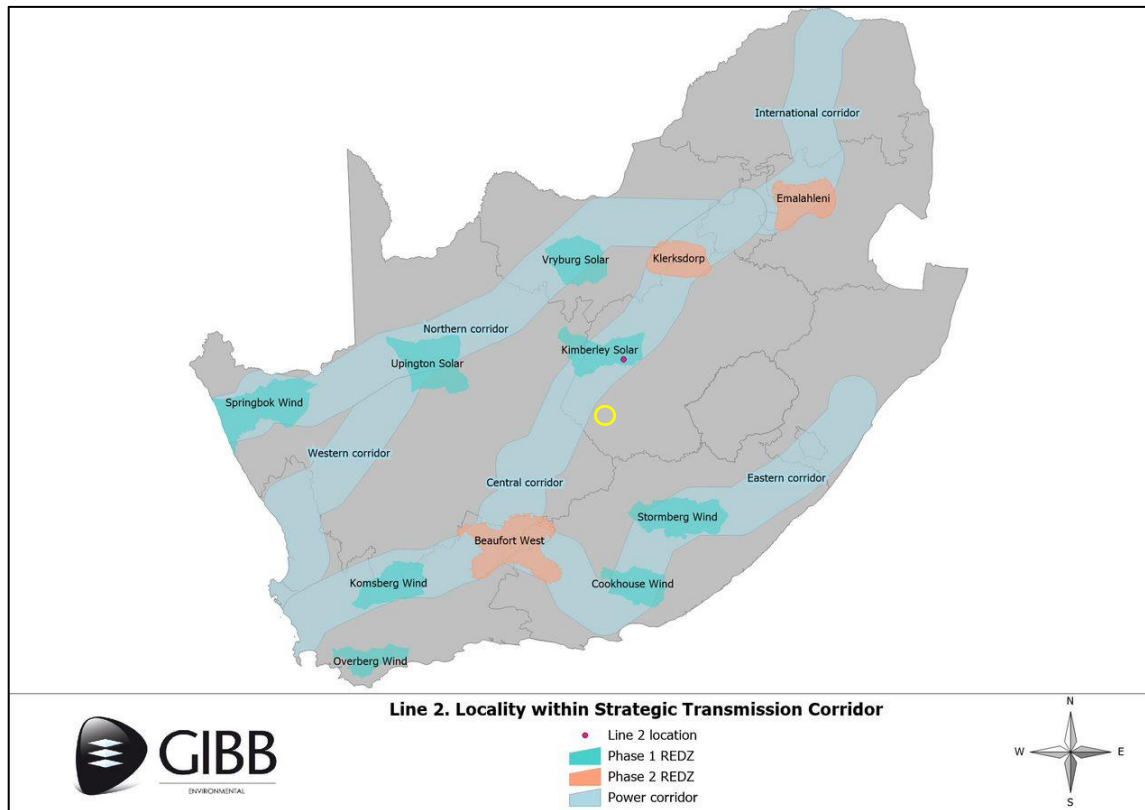


Figure 1-2: Gazetted electrical generation infrastructure corridors. The location of line 2 is indicated by the pink dot (data source DFFE, downloaded from DFFE website on 11 May 2023)

(a) Relevance of the Standard

Prior to the gazetting of the *Standard for the Development and Expansion of Power Lines and Substation within Identified Geographical Areas* the development of Line 2 (within the corridor) would have triggered the need to undertake an application for environmental authorisation in the format of a basic assessment report. With the publishing of the new

“standard” in July 2022, an application for environmental authorisation is no longer required. The project details of Line 2 were reviewed (see Table 1-4-4) to ensure it is eligible for a registration process in terms of the Standard.

Table 1-4: Criteria for a registration process

No.	Requirement	Applicability of the Proposed Development
1	The site must be located in areas identified by the national web based environmental screening tool as being of medium or low environmental sensitivity and confirmed to be such for identified environmental themes.	Within the corridor all of the environmental sensitivity themes are rated as low to medium sensitivity by the environmental screening tool with the exception of palaeontology (high), agricultural theme (high) and terrestrial biodiversity (very high). Specialist site sensitivity verifications have been undertaken for all identified environmental themes and all themes were confirmed to be of low or medium sensitivity in the identified grid corridor. Details will be provided in the Environmental Sensitivity Report.
2	The site must be located within a strategic transmission corridor, for the development or expansion of electricity transmission and distribution power line infrastructure and substations	The Corridor and Line 2 are fully located in the Central Strategic Transmission Corridor and constitutes electricity transmission and distribution infrastructure.
3	The development triggers Listing Notice 1 activity 11, activity 47 or Listing Notice 2, activity 9.	Line 2 will have a capacity of up to 132kV and is located outside of urban areas. Listing Notice 1, activity 11 is therefore applicable. Listing Notice 1, Activity 11 (i) The development of facilities or infrastructure for the transmission and distribution of electricity—outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or

The proposed development is, therefore, in alignment with the criteria for registration.

The registration process allows the Proponent to undertake the following listed activities as well as associated activities necessary for the realisation of the infrastructure without undertaking an application for Environmental Authorisation and the associated process.

Table 1-5: Applicability of listed activities identified in the Standard

Activity No.	Activity description	Project relevance
LN1, activity 11	The development of facilities or infrastructure for the transmission and distribution of electricity—outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts;	Line 2 will have a capacity in excess of 33kV, of up to 132kV and is located outside of urban areas. This listed activity is applicable.

1.3 Process Requirements

Chapter 2 of the Standard details 21 procedural requirements for the registration process. These are listed in Table 1-6 below, as well as an explanation of how the process followed for this project complies.

Table 1-6: Procedural requirements for the registration process, as defined in Chapter 2 of the Standard.

No.	Requirement	Comment
1	<p>The proponent must identify a <i>preliminary corridor</i> and/or the proposed substation sites using the screening tool and additional relevant spatial datasets where available. The provincial department responsible for the environment and local municipality in the area should be contacted in relation to possible additional fine scale data.</p>	<p>Specialist site sensitivity verifications were completed for the corridor and proposed overhead powerlines of up to 132kV in capacity from Collector Substation B to Artemis Substation (Line 2). Sensitivity mapping was undertaken to avoid features such as pans.</p> <p>The Proponent has identified a corridor and proposed routing of Line 2, which is confirmed to be of Medium to Low environmental sensitivity. The 2015 Free State Biodiversity Plan data was reviewed to check the location of critical biodiversity areas (CBAs) and ecological support areas (ESAs)</p> <p>The Tokologo Local Municipality and the Free State Department of Economic, Small Business Development, Tourism and Environmental Affairs were contacted via email on 15 August 2022 to request relevant spatial data sets and follow up phone calls were made on 22, 24 and 26 August. DESTEA provided a revised data set for the Free State Biodiversity Plan (2019) on 05 September 2022. This information was not received in a suitable format. Data in a useable format has been requested from DESTEA and follow ups have been made. The lack of this data is not considered as an issue as groundtruthing was undertaken by relevant biophysical the specialist and more fine scaling GIS mapping has been undertaken. The BGIS website was also checked for local and provincial datasets.</p> <p>A specialist team carried out site assessment and groundtruthing of the site, this is considered as fine scale data and most appropriate for the site limits.</p>
2	<p>The proponent must appoint an independent Environmental Assessment Practitioner (EAP) and must ensure that the EAP fulfils the requirements to register the proposed development in accordance with this Standard.</p>	<p>The Proponent (ABO Wind renewable energies (Pty) Ltd) has appointed GIBB Environmental as the EAP.</p>
3	<p>The proponent must ensure that the EAP, as a minimum, follows the public participation process required in Chapter 6 of the EIA Regulations for a linear development during the route determination process, excluding the following requirements which would not be relevant to the Standard:</p> <ul style="list-style-type: none"> • Obtaining written consent from the owner or person in control of the land on which the proposed development is to be undertaken for the powerline development; • Timeframes pertaining to comment periods for basic assessment reports, EMPr, scoping reports, EIA reports, and closure plans; • Notification along alternative routes in the form of notice boards; and • Giving notice of the process being applied (basic assessment or scoping and 	<p>The following public participation process has been undertaken, with all the necessary steps in terms of the EIA Regulations, 2014 (as amended) with the exception of specific requirements as per the Standard which were excluded from the PPP requirements of the Standard having been undertaken and therefore legally compliant:</p> <ul style="list-style-type: none"> • Notification of stakeholders/ potential I&APs of the project • Placing a newspaper advert in two local newspapers • Placement of notice boards along the powerline corridor/route at locations accessible to the public • Placement of the BID and I&AP registration forms on a publicly accessible website https://gibbenvironmental.co.za/category/projects/.

No.	Requirement	Comment
	environmental impact report).	<ul style="list-style-type: none"> • Placement of site notices along the route of the grid connection corridor and posters in the closest town, Dealesville on the 6th and 7th February 2023 • Maintaining a register of registered I&APs • Availing the Draft Environmental Sensitivity Report to stakeholders for a 30-day comment period (underway). The report is available electronically on GIBB Environmental’s website and as a hardcopy. • Placing a hardcopy of the draft ESR at Tokologo Local Municipality Offices, (Dealesville), 33 Brand street, Dealesville, 9348 • Notifying registered I&APs of the availability of the final ESR (pending) • Informing I&APs within 14 days of a registration number being received and informing them of the opportunity to appeal (pending).
4	<p>As part of the interested and affected parties (I&APs) the EAP must ensure that relevant Non-Governmental Organisations (NGOs) and Community-Based Organisations (CBOs) are effectively consulted during the public participation process.</p> <p>Based on the information provided by the screening tool, additional spatial data and the EAP’s professional knowledge, the proponent assisted by the EAP must appoint a specialist team who will assist with the route planning. The proponent must ensure that the EAP prepares a preliminary database of possible stakeholders and interested and affected parties (I&APs) along the <i>preliminary corridor</i> and in the vicinity of the substation site, including relevant government departments and relevant non-governmental stakeholders. The proponent assisted by the EAP must then announce the proposed development by making available a Background Information Document (BID) on a publicly accessible website and distributing the BID to stakeholders and I&APs identified on the database.</p>	<p>The EAP has compiled an I&AP database. This database incorporates parties who requested to be registered on the solar PV facilities and Grid connection projects which were subject to basic assessment and registration processes respectively.</p> <p>A specialist team has been appointed to assess the proposed grid connection corridor.</p> <p>A BID was published on GIBB Environmental’s website on 19 January 2023. The project was advertised through newspaper adverts in the Bloem Nuus and Noordkaap Bulletin on 19 January 2023.</p> <p>Site notice boards and posters announcing the project were placed along the grid connection corridor and in Dealesville on 06 and 07 February 2023.</p>
5	<p>The proponent assisted by the EAP must appoint a specialist team to undertake the site verification of the relevant environmental themes where relevant as well as a walkthrough of areas that need verification in the opinion of the EAP and specialist. Should a particular specialist not be required, the EAP must motivate their exclusion from the team and include this motivation in the BID. It is anticipated that the following specialist expertise will be required:</p> <p>(a) Terrestrial biodiversity and ecology; (b) Aquatic biodiversity and ecology; (c) Avifauna; (d) Heritage; (e) Agriculture/soil scientist; and (f) Visual (not required for a substation). (g) Palaeontological</p>	<p>A specialist team has been appointed and site investigations are complete. The specialists undertook site sensitivity verification exercises prior to the grid corridor being finalised. Specialist site sensitivity verifications were undertaken for all of the required six specialist themes. A site sensitivity verification including a walkdown was also undertaken for the plant species theme. No site visit was deemed necessary for palaeontology because the sites were not “very highly sensitive” according to the coding by SAHRA. Therefore, no site visits were required.</p> <p>Specialist studies undertaken:</p> <p>a) Agriculture and soils; b) Aquatic biodiversity and species assessment c) Terrestrial biodiversity and animal species; d) Avifauna; e) Heritage;</p>

No.	Requirement	Comment
		f) Landscape and visual; g) Palaeontological; and h) Plant species theme
6	The BID must include as a minimum the following information: (a) Purpose of the BID; (b) Legal context; (c) Background and project description; (d) Process and timeline; (e) The screening report generated from the screening tool for the <i>Preliminary Corridor</i> and/or proposed substation site; (f) Location of the <i>Preliminary Corridor</i> and/or proposed substation site, including a map generated at an appropriate scale that displays the extent of the <i>Preliminary Corridor</i> and/or proposed substation as detailed as possible. Where an electronic copy of the BID is distributed, the spatial data of the <i>Preliminary Corridor</i> and/or proposed substation site must be made available; (g) Contact details of the EAP; and (h) I&AP registration forms.	A BID was published on GIBB Environmental's website on 19 January 2023. The BID complies with the minimum information requirements as specified in the Standard (refer to Appendix 12 for the BID).
7	The proponent must ensure that the EAP and specialists identify through their specialist knowledge and site verifications/walkthrough as necessary, a <i>proposed route</i> and/or the substation location/s (where a substation or substations are relevant) within the <i>preliminary corridor</i> based on: a) consideration and implementation of the mitigation hierarchy, b) environmental sensitivity identified using the methodologies or processes as stipulated in Chapter 3 of this Standard, and c) engineering constraints.	The specialists have considered the location of the site through site verifications and walkthroughs. a) The mitigation hierarchy has been considered: <ul style="list-style-type: none"> • Avoid: The route of Line 2 avoids sensitive habitats. Avoidance of high sensitivity areas has been achieved . • Minimise: The specialists have provided recommendations to minimise the impact of the development on the environment at all stages of the development. These measures have been incorporated into the generic EMP. • Rehabilitate: The specialists have provided mitigation measures to rehabilitate areas disturbed by construction and operational activities. • Offset: No offsets are required as no high sensitivity habitats and resources are impacted by Line 2. b) Sensitivities were identified using methodologies as stipulated in Chapter 3, General Environmental Processes. This is demonstrated in Table 1-8. c) Engineering constraints were considered. The overall project is considered appropriate from the perspective of all specialists, and the location of the project therein is also acceptable.
8	As the route is being identified, the initial	The landowners have approved the routing of

No.	Requirement	Comment
	servitude negotiations are to be undertaken to ensure that the route and/or substation location is not fatally flawed in relation to servitude access.	Line 2 and the associated corridor. Confirmation of pre-negotiation of the servitude has been concluded is provided in Appendix D13). A copy of landowner consent letters has been submitted to DFFE with the registration form.
9	The process to identify the <i>proposed route</i> and/or substation location and the outcome of the initial servitude negotiations must be documented in an environmental sensitivity report, which must be subjected to a minimum public comment period of 30 days as part of the public participation process identified in paragraph 3 above.	The draft ESR was made available on GIBB Environmental's website and a hardcopy was also made available for review at Tokologo Local Municipality Offices, (Dealesville), 33 Brand street, Dealesville, 9348 for a period of 30 days . All the registered I&APs were notified of the venue and commenting period .
10	The environmental sensitivity report must include, as a minimum, the following information: (a) The details and relevant expertise of the EAP and specialists preparing the report; (b) The outcome of the screening exercise undertaken using the screening tool, the expert knowledge of the specialists where necessary, results of the site verification, the adoption of the mitigation hierarchy principles and the principles contained in Chapter 3 of this Standard; (c) Location map of the <i>proposed route</i> and/or proposed location of the substation at a scale not more than 1:15000 to identify environmental features; (d) Details of the public participation process undertaken; (e) A discussion by the specialists and/or EAP of the process used to confirm that the <i>proposed route</i> and/or substation location has applied the principles stipulated in Chapter 3, and the process used to confirm that the site sensitivity of the proposed route and/or substation location is of low or medium environmental sensitivity; (f) If applicable, a site specific EMPr as per Part C of the Generic EMPr for overhead power lines and/or substations gazetted in Government Notice 43519 published in Government <i>Gazette</i> No. 42323 of 22 March 2019; (g) The completed generic EMPr pre-approved template which is Part B – Section 1 of the Generic EMPr for overhead power lines and/or substations, and where applicable Part C, gazetted in Government Notice 435 published in Government <i>Gazette</i> No. 42323 of 22 March 2019, for display on the websites of the proponent and the EAP; and (h) The confirming statement by the various specialists in the format as identified in Appendix B.	The ESR meets these requirements. Refer to (a) Section 1.7, Table 1-10 for EAP and specialist details (b) Section 3.14 Table 3-19 (c) Section 2; Figure 2-1 (d) Section 4 (e) Section 3 (f) Appendix 13 of the registration form (g) Appendix 13 of the registration form (h) Appendix 13 of the registration form
11	The <i>proposed route</i> must be finalised to become the final <i>pre-negotiated route</i> and where relevant the final location/s of the substation/s, by taking into consideration comments received during the public participation process and refining the route as relevant.	The route of the line has been finalised. No changes were required to the route of the line as assessed in the draft ESR. No comments were received during the 30-day public commenting period that necessitated changes the route alignment. The current route is considered appropriate (i.e. no need for revisions) from a specialist assessment perspective. The route has been pre-negotiated with landowners, refer to Appendix D13.

No.	Requirement	Comment
12	A final environmental sensitivity report must be prepared by the EAP supported by the specialists, which locates the final pre-negotiated route and/or the substation location on a map which includes the location of any mitigation devices such as bird flight diverters, a record of comments and responses and, where applicable, Part C of the Generic EMPr and the final confirming statements by the various specialists in the format as identified in Appendix B.	Final confirming statements from specialists (Appendix A) have been included in the FESR along with a comments and responses report (Appendix B) and generic EMPr (Appendix C).
13	All registered I&APs must be notified of the availability of the final environmental sensitivity report for information	The final ESR will be uploaded to the GIBB Environmental website. All registered I&APs will be notified in writing of the availability of the final ESR (this report).
14	The proponent must submit the relevant registration form contained in Appendix F of this Standard.	A registration form, which was obtained from the DFFE website, has been completed and submitted as part of the FESR submission (Appendix D).
15	The registration form must be accompanied by: (a) The final pre-negotiated route and the signed declaration by the proponent of commitment to implement the Standard (included as Appendix 9 to the registration form); (b) A signed statement from the proponent that initial servitude negotiations have been concluded; (c) The signed declaration that the proponent will comply with the pre-approved Generic EMPr templates and site specific EMPr if relevant; and (d) All supporting documents stipulated in the registration form.	All required appendices as defined in the Standard have been included in the registration form. The final ESR has been included in the Registration Form.
16	On receiving the relevant information identified in paragraph 15 above, the competent authority must issue a registration number within 30 days of receipt of the information submitted or if the information is incomplete, indicate to the proponent that the submission is incomplete and identify the outstanding information. A register of all registrations must be kept by the competent authority.	Noted. This is an activity to be carried out by the Competent Authority.
17	Upon receipt of a registration number, the proponent must inform all registered I&APs within 14 days of the registration and the opportunity to appeal.	Pending. GIBB Environmental will notify registered I&APs of the registration number and opportunity to appeal within 14 days of the registration being received.
18	Registration contemplated in paragraph 16 will be valid for a period of 10 years from receipt of the registration number in order for commencement to take place (validity period). If commencement does not take place within the validity period, the process contemplated in Chapter 2 will apply afresh in such instances	Noted.
19	The proponent must provide written notice to the compliance monitoring unit within the competent authority 14 days prior to the date on which the first of the activities contemplated in the scope of this Standard, including site preparation, will commence in order to facilitate compliance inspections.	Noted; this is the responsibility of the proponent.
20	Proof of registration must be: (a) lodged by the proponent with the relevant Local Municipality, as well as the relevant provincial department responsible for the	Noted.

No.	Requirement	Comment
	environment, if the national department responsible for the environment is the CA, prior to commencement; (b) made available by the proponent on request by any member of the public or Authority; and (c) made available, where the proponent or owner has a website, on such publicly accessible website.	
21	Where change of ownership of a development registered in terms of paragraph 16 occurs during the pre-construction or construction phases of the infrastructure, the registration number is retained by the new owner, however the new owner must submit to the competent authority for re-registration, the declaration by the proponent of commitment to implement the Standard (included as Appendix 9) and the declaration to implement Part B – Section 1 of the Generic EMPr for overhead power lines and/or substations, and where applicable Part C (Appendix 10), within 30 days upon finalisation of such change. There is no requirement for re-registration once the infrastructure has been constructed as the operation of a power line or substation is not an identified activity in terms of the Act.	Noted.

The process being undertaken (including activities to-date) is aligned with the requirements for registration.

1.4 Environmental Sensitivity Report Content Requirements

The new standard (Chapter 2, point 10) lists the minimum information that the Environmental Sensitivity Report (this report) should contain. The table below (Table 1-7) lists these requirements and indicates how they have been met in this report.

Table 1-7: Minimum content requirements for an Environmental Sensitivity Report

No.	Requirement	Comment
a)	The details and relevant expertise of the EAP and specialists preparing the report;	Section 1.7.2
b)	The outcome of the screening exercise undertaken using the screening tool, the expert knowledge of the specialists where necessary, results of the site verification, the adoption of the mitigation hierarchy principles and the principles contained in Chapter 3 of this Standard;	Refer to Section 3, and Appendix D1 of the registration form .
c)	Location map of the proposed route and/or proposed location of the substation at a scale not more than 1:15000 to identify environmental features;	Section 2
d)	Details of the public participation process undertaken;	Section 4 and Appendix B
e)	A discussion by the specialists and/or EAP of the process used to confirm that the proposed route and/or substation location has applied the principles stipulated in Chapter 3, and the process used to confirm that the site sensitivity of the proposed route and/or substation location is of low or medium environmental sensitivity;	Section 3
f)	If applicable, a site specific EMPr as per Part C of the Generic EMPr for overhead power lines and/or substations gazetted in Government Notice 435 published in Government Gazette No. 42323 of 22 March 2019;	Appendix C of the Final ESR
g)	The completed generic EMPr pre-approved template which is Part B – Section 1 of the Generic EMPr for overhead power lines and/or substations, and	Appendix C of the Final ESR

No.	Requirement	Comment
	where applicable Part C, gazetted in Government Notice 435 published in Government gazette No. 42323 of 22 March 2019, for display on the websites of the proponent and the EAP; and	
h)	The confirming statement by the various specialists in the format as identified in Appendix B.	Appendix A

1.5 General Environmental Principles

The new standard (Chapter 3) presents general principles that must be adhered to when planning a powerline route or locating a substation position. The table below (Table 1-8) lists these requirements and indicates how they have been met in this report.

Table 1-8: General Environmental Principles that must be adhered to when planning a powerline

No.	Requirement	Comment
22	There must be no removal of threatened plant species.	No threatened plant species were found by the botanist, who undertook a route walk-down as part of their assessment for this registration application.
23	There must be no impact on Tier 1 plant species identified through the screening process and site verification process	It was brought to the EAP's attention that a rare species, <i>Pentzia oppositifolia</i> is known to occur in the study area. However, this species is known from semi-disturbed habitat on the edges of seasonal and perennial pans. The powerline route avoids such habitats and although it is also said to occur at other disturbed sites, this species was not found when the botanist undertook the walk-down that informed this registration application. A botanist undertook a walkdown of the route of Line 2 and did not identify any species of conservation concern. The requirement for a botanical walkthrough and search and rescue has been added to Section C of the Generic EMPr (Appendix C) to verify whether any species of conservation concern establish in the footprint of infrastructure in the time which has passed between the initial site inspection and construction commencing.
24	Clear-cutting during construction must be kept to a maximum of 8 m.	There would be no need for clear-cutting except at the actual base of the monopole pylons. The reason is that the vegetation is low. Where taller plants such as <i>Vachellia karoo</i> (trees) are found, they can be removed where necessary since this species is commonly found and not sensitive.
25	Wetlands must be avoided or, where wetland crossing is unavoidable, the power line should be routed over the narrowest part of the wetland. For the most part, wetlands and rivers can be traversed by the power line with little to no impact by placing the pylons outside of the wetland	Wetlands, mainly in the form of seasonal or perennial pans would be avoided by the placing of towers away from such habitats where they occur. However, it is not anticipated that any wetland habitats would be affected at all. No wetlands or pans occur within the route of Line 2. See the Aquatic Report (Appendix A3).
26	Avoid all known Blue Swallow breeding habitat by a 2.5 km buffer. Should the full extent of the buffering not be practically possible, a thorough investigation must be conducted by a suitably experienced avifaunal specialist with experience of Blue Swallows to identify any potential nesting holes, which must then be appropriately buffered, in consultation with Ezemvelo KwaZulu-Natal Wildlife and BirdLife South Africa to prevent destruction of the nest holes.	The site is not located within the distribution of Blue Swallows.

No.	Requirement	Comment
27	Avoid Cape Vulture and White-backed Vulture breeding colonies by a 5 km buffer. In addition, it would require management of the potential impacts on the breeding birds once construction commences, which would necessitate the involvement of the avifaunal specialist and the environmental control officer (ECO).	No Cape Vulture and White-backed Vulture breeding colonies occur within 5 km of the site.
28	Avoid Lappet-faced Vulture and Bearded Vulture restaurants by a 5 km buffer. Should the full extent of the buffering at vulture restaurants not be practically possible, the vulture restaurant should be relocated in consultation with the owner of the restaurant	No Lappet-faced Vulture or Bearded Vulture restaurants occur within 5 km of the site.
29	The power line alignment or substation footing shall not be located within 500m of the edge of waterbodies found to be suitable for Greater Flamingo, Black Stork, Blue Crane, Great White Pelican, Lesser Flamingo and African Marsh-harrier	The site is located within 500m of several small water bodies but these were deemed to be too small to be suitable for these species.
30.	The power line alignment or substation shall not be located within 1 km of major piggeries and poultry farms.	No piggeries of poultry farms were identified within 1km of the site.

1.6 Project Team

GIBB Environmental was appointed as the EAP to manage the Springhaas to Artemis Grid Connection registration process. A team of specialists was also appointed to assess the required environmental themes.

1.7 Details of Role Players

1.7.1 Details of the Proponent

The details of the Proponent are presented in Table 1-9 below.

Table 1-9: Proponent contact details

Proponent:	ABO Wind renewable energies (Pty) Ltd		
Contact	Marielle Penwarden		
Position	Team Leader		
BBEEE Status	N/A, not registered		
Company Registration Number:	2018/062901/07		
Physical Address	Unit B1 Mayfair Square, Century Way, Century City, Western Cape, 7441		
Postal Address	Unit B1 Mayfair Square, Century Way, Century City, Western Cape, 7441		
Postal code	7441	Fax:	--
Telephone	021 276 3620	Cell:	079 862 0033
E-mail	marielle.penwarden@abo-wind.com / capetown@abo-wind.com		

1.7.2 Details of Independent EAP

GIBB Environmental is an integrated group of scientists and project managers providing cost-effective solutions and specialist services in a wide range of environmental disciplines. The

multi-disciplinary consulting, management and design approach allows for the execution of projects in a holistic way.

GIBB Environmental has a formidable track record and comprises highly qualified and experienced technical staff *viz*, Environmental Scientists and Specialists, which work together collectively as a national team. The team members have broad experience in terms of working on a range of environmental projects within the public and private sector across South Africa. Refer to Table 1-10 for the contact details of the Environmental Assessment Practitioner (EAP).

Table 1-10: Details of the Independent Environmental Assessment Practitioner (EAP)

Project EAP:	GIBB Environmental (Pty) Ltd		
Contact Person:	Ms. Kate Flood		
Role in Project:	Project Manager Environmental Assessment Practitioner (EAP) Process management Specialist team management Client liaison Public participation		
Physical Address:	Port Elizabeth, 1st Floor, St. George's Corner, 116 Park Drive, Central, Port Elizabeth, 6001		
Postal Address:	PO Box 63703, Greenacres, 6057		
Postal code:	6057	Fax:	-
Telephone:	041 007 0040	Cell:	084 631 1456
Email:	kflood@gibbenvironmental.co.za		
Professional registration	Pr Sci Nat: 120474 EAPASA: 2021/4172		
Expertise:	<p>Ms Kate Flood is an environmental scientist (Pr Sci Nat, EAPASA) and a registered EAP with over eleven years of experience, Kate Flood specialises in various environmental disciplines including environmental impact assessments, environmental management plans, environmental monitoring and waste planning.</p> <p>Kate is a project manager at GIBB Environmental and has successfully completed a wide range of environmental licensing projects.</p> <p>Her key experience includes:</p> <ul style="list-style-type: none"> - Environmental impact assessments and environmental management plans – preparation of environmental impact reports and environmental management plans, in accordance with published guidelines, for construction projects - Public Participation Process in compliance with NEMA 2014 EIA regulations. Public perception survey for waste management plans - Waste Management including waste stream surveys and waste characterisation, integrated waste management plans, waste infrastructure masterplans and waste feasibility studies - Environmental auditing including environmental control officer audits, ISO 14000 audits, audits of waste facilities and landfill sites - Environmental Monitoring, surface water sampling - Project management 		

1.7.3 Details of Competent Authority

The Department of Environment, Forestry and Fisheries is the Competent Authority (CA) of the registration.

Government Notice No. 779 of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) identifies the Minister as the Competent Authority in instances where the activities related to the Integrated Resource Plan (IRP) 2010-2030 as the IRP 2010-2030 is a plan, among others, through which commitments to the United Nations Framework Convention on Climate Change regarding CO₂ mitigation action are being implemented. The IRP for electricity 2010 – 2030 identifies the energy mix balance between renewable and non-renewable energy sources for the generation of electricity. DFFE is therefore the CA for this registration process.

1.7.4 Details of Specialists

In order to comprehensively investigate the impact of the proposed project on the receiving environment, a number of specialist studies were undertaken by independent specialists during the impact assessment phase of the project. The specialist team responsible for the various studies are presented in the Table 1-11 below. Further details of the specialists are provided in the specialist reports in **Appendix A**. The specialist team was appointed prior to the gazetting of the Standard. The specialist studies were undertaken in accordance with the relevant protocols or Appendix 6 of the EIA Regulations. Preface letters have been compiled by all specialists to demonstrate compliance with the requirements of the Standard.

Table 1-11: Specialist Studies

Discipline	Specialist	Qualification/ Expertise
Studies undertaken as required in terms of Chapter 2, point 5 of the Standard		
Agricultural	Mariné Pienaar -Terra Africa Consult cc	SACNASP registered in the fields of Agricultural Science and Soil Science (Reg No. 400274/10) BSc Degree in Agricultural Science with a specialisation in Plant Production MSc Degree in Environmental Science
Aquatic Biodiversity and Species	Dr Brian Colloty - EnviroSci (Pty) Ltd	SACNASP registered in the field of Environmental Science and Ecological Science (Reg No. 400268/07) B Sc Degree (Botany & Zoology) B Sc Hon (Zoology) M Sc (Botany) Ph D (Botany)
Avifauna	Jon Smallie - Wildskies Ecological Services (Pty) Ltd	SACNASP registered in the field of ecological science (Reg No. 400020/06) BSc (Hons) Agriculture MSc Environmental Science
Archaeological and Heritage	Dr Jayson Orton - ASHA Consulting (Pty) Ltd	Association of Southern African Professional Archaeologists (ASAPA) (Reg No. 233) Association of Professional Heritage Practitioners (APHP) (Reg No. 043) BA Archaeology, Environmental & Geographical Science BA (Hons) Archaeology MA Archaeology D. Phil Archaeology
Landscape and Visual	Jon Marshall - Afzelia Environmental Consultants (Pty) Ltd	Registered Professional Landscape Architect (SACLAP) Diploma Landscape Architecture CMLI Dip LA
Palaeontology (desktop)	Prof. Marion Bamford – The Palaeontologist Consultant	FRSSAf ASSAf BSc, majors in Botany and Microbiology BSc (Hons) Botany and Palaeobotany MSc in Palaeobotany PhD in Palaeobotany

Discipline	Specialist	Qualification/ Expertise
Terrestrial Biodiversity and Animal Species	Robyn Phillips – Cossypha Ecological	SACNASP registered in the fields of Zoological and Ecological (Reg No. 400401/12) MSc Zoology
Plant Species Assessment (botanical walkdown)	Dave MacDonald - Bergwind Botanical Surveys and Tours cc	SACNASP 400094/06 BSc (Botany) MSc (Botany) PhD (Botany)

2 Identification of the Location of Line 2

The location of Line 2 was determined based on the following:

- **Environmental sensitivity verifications** -the Proponent in consultation with the EAP and specialist team undertook environmental sensitivity mapping and designed the grid corridor to avoid areas of high sensitivity such as pans and wetlands. The specialist team groundtruthed the corridor during fieldwork. The routing of Line 2 is located in areas of low to medium sensitivity.
- **Landowner approval** – the route of Line 2 has been approved by the landowners
- **Technical considerations** – Line 2 will connect Springhaas Collector Substation B to the authorised Artemis Substation. The location of both substations have been approved in terms of NEMA and the route of Line 2 is designed to connect the two substations while avoiding high sensitivity areas.



Figure 2-1: Line 2 Layout Plan

*Note the points A and B represent the start and end point of Line 2.

A: 28°47'32.55"S / 25°41'57.10"E

B: 28°40'7.20"S/ 25°43'31.43"E

3 Site Sensitivity Verification

3.1 Baseline Sensitivity Assessment

A development area has been identified for the proposed development. Within this identified development area, a development footprint has been defined in a manner which has considered the environmental sensitivities present on the affected property and intentionally remains outside of highly sensitive areas. All affected properties have been considered in the specialist site sensitivity verification exercises.

3.2 Environmental Screening Tool Report

A Screening Report for the proposed corridor and overhead powerline from Springhaas Collector Substation B to the authorised Artemis Substation (Line 2) was generated using the online DFFE Screening Tool in December 2022. A copy of the Screening Report is available in **Appendix 1 of the Registration Form.**

Table 3-1 lists the sensitivities of the proposed development area as per the Screening Tool and a description of how the themes have been addressed in the registration process.

Table 3-1: Environmental sensitivity as per DFFE screening report

Theme	Screening Tool Sensitivity Rating	Registration process approach	Specialist report attached
Agricultural	High	An agricultural specialist has completed the site sensitivity verification.	Yes, Appendix A1.
Animal species	Medium	An ecologist has completed the site sensitivity verification.	Yes, Appendix A2.
Aquatic biodiversity	Low	An aquatic ecologist has completed the site sensitivity verification.	Yes, Appendix A3.
Archaeological and cultural heritage theme	Low	An archaeologist has completed the site sensitivity verification.	Yes, Appendix A4.
Avian	N/A	An avifaunal specialist has completed the site sensitivity verification.	Yes, Appendix A5.
Bats	N/A	No bat assessment was undertaken. The line corridor was surveyed for areas potentially suitable as bat roosts by the EAP and none were found	Yes, Appendix A6
Civil Aviation	Low	N/A, no specialist study necessary	No
Defence theme	Low	N/A, no specialist study necessary	No
Palaeontology	High	A palaeontologist has completed the site sensitivity verification. A Phase 1 Palaeontological Impact Assessment was undertaken.,	Yes, Appendix A7
Plant species	Low	A botanist has completed a walkdown of the powerline. This fulfils the recommendation received from the terrestrial biodiversity assessment. The botanist has undertaken a site sensitivity verification.	Yes, Appendix A8
Terrestrial biodiversity	Very High	An ecologist has completed the site sensitivity verification.	Yes, Appendix A2

The appointed specialists undertook a Site Sensitivity Verification (SSV) exercise to confirm the sensitivity ratings listed in the Screening Report. The results are presented in the following sections.

3.3 Agricultural Site Sensitivity

An Agricultural Site Sensitivity Verification was undertaken by TerraAfrica. A full version of the report is available in **Appendix A1**.

The main site visit for the project was done for two days, 28 and 31 October 2022. In addition to the site visit that focussed specifically on the Springhaas to Artemis corridors, the data of previous site visits conducted for the Springhaas PV and Grid Connection projects, were also considered. These site visits were conducted on 27 to 29 September 2021 as well as 5 to 7 October 2021 and 4 and 5 May 2022.

The screening tool report indicates that the site sensitivity for the agricultural theme is **High**. Following the on-site sensitivity verification, the route of the corridor and Line 2 is classified as having **Low to Medium agricultural sensitivity** in terms of the proposed development.

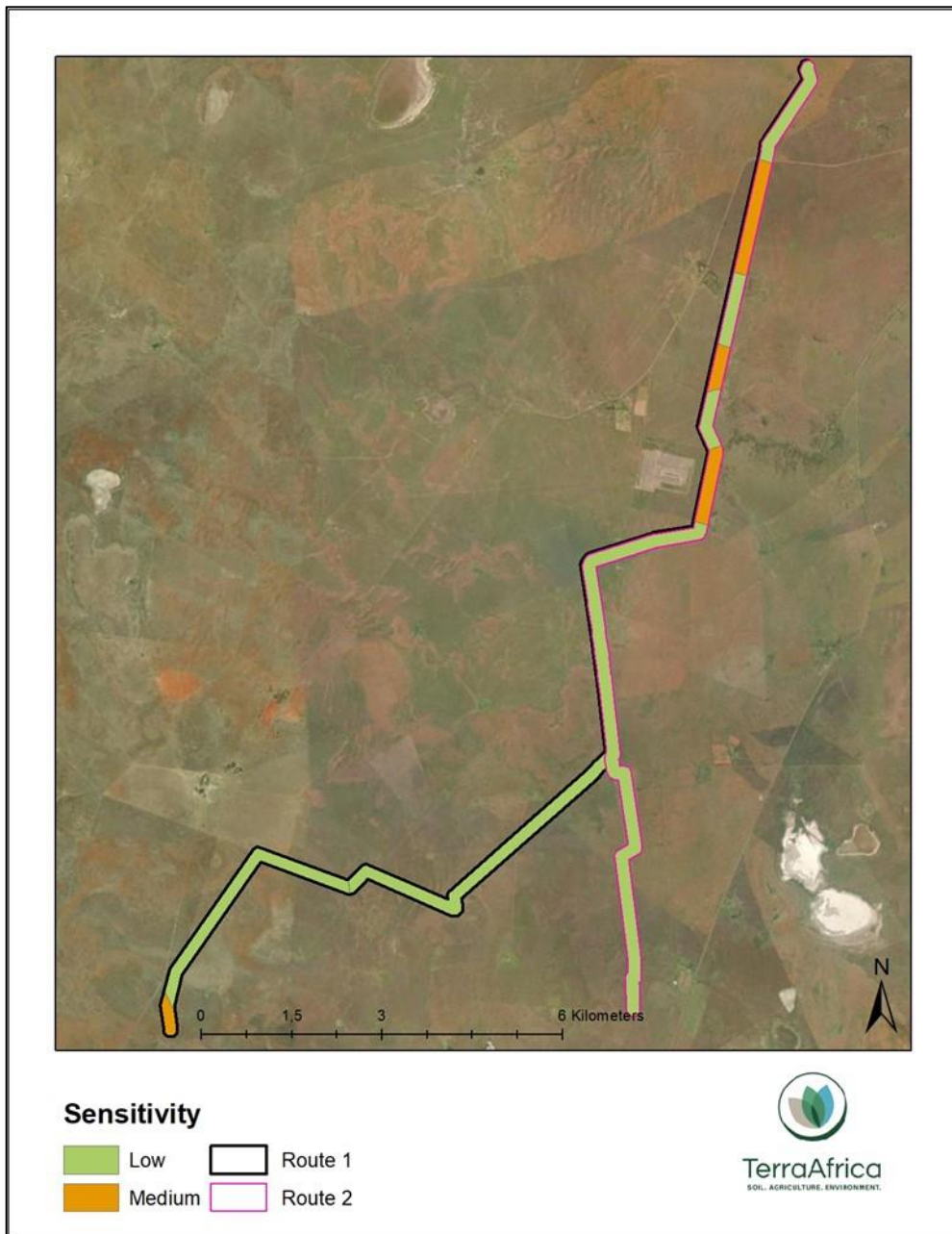


Figure 3-1: Agricultural site sensitivity for the corridor (source TerraAfrica, 2023)

3.3.1 Agricultural Environmental Specifications

The following environmental specifications apply to the agricultural theme:

Table 3-2: Agricultural theme specifications

Standard No.	Specification	Comment
10	The placement of pylons must be avoided in the following areas: a) Land capability evaluation values 11 – 15 b) Demarcated high value agricultural areas with a priority rating of A and/or B	There are no areas with land capability values between 11 and 15 within the Springhaas to Artemis Corridor or Line 2. The proposed grid corridor and Line 2 do not traverse through any high value agricultural areas.
11	Where pylons are located in the following areas, the placement must be undertaken in a manner	None of the proposed infrastructure of the grid connection corridor or within the route of Line 2

Standard No.	Specification	Comment
	in which the impact on these areas is minimised: a) Land capability and evaluation values 8 - 10 b) Irrigated land c) Horticulture and viticulture d) Demarcated high value agricultural areas with a priority rating of C and/or D	will affect land with land capability values between 8 and 10. The proposed grid corridor and routing of Line 2 does not affect irrigated land, or horticulture and viticulture. The proposed grid corridor and Line 2 are outside any demarcated high value agricultural areas.
12	Where avoidance of the areas specified in subparagraph 10 of Paragraph A.6 is not possible, the areas disturbed during construction must be returned to the pre-disturbance land capability within two years of the construction.	Not applicable as all areas that must be avoided, are avoided by the proposed grid corridor.
13	All reasonable measures must be taken through micro-siting of the proposed development to minimize fragmentation and disturbance of agricultural activities.	The grid corridor and Line 2 will only affect grazing land where livestock is farmed. No crop fields will be fragmented by the proposed development.
14	Self-supporting lattice or monopole structures are to be used in crop fields, orchards and vineyards.	Not applicable as no crop fields, orchards or vineyards will be affected.

3.3.2 Adoption of the Mitigation Hierarchy

The Generic Environmental Management Programme (EMPr) for the Development and Expansion for Overhead Electricity Transmission and Distribution Infrastructure, compiled by DFFE (generic EMPr) needs to be complied with by the Proponent.

Table 3-3: Consideration of the mitigation hierarchy

Avoid	Yes, no high sensitivity areas are impacted by the corridor or routing of Line 2.
Minimise	The mitigation measures contained in the generic EMPr are sufficient to minimise impacts on soils and agricultural resources. No additional mitigation measures are required.
Rehabilitate	The mitigation measures related to rehabilitation contained in the generic EMPr are sufficient to minimise impacts on soils and agricultural resources. No additional mitigation measures for rehabilitation are required.
Offset	No offsets are required as the corridor and Line 2 both avoid high sensitivity areas.

3.4 Animal Species Theme and Terrestrial Biodiversity

Cossypha Ecological was appointed to undertake the Terrestrial Biodiversity and Animal Species assessment. A full version of the report is available in **Appendix A2**.

Field surveys were undertaken from 27 – 28 October 2021, 06 to 07 December 2021 and 25 – 26 October 2022.

The screening tool report rated the animal species theme as **medium sensitivity** and the terrestrial biodiversity theme as **very high sensitivity** for the corridor and Line 2. The specialist site sensitivity verification confirmed that both themes are **medium sensitivity** for the site.

The different habitats on site were mapped out.

The following habitats were identified in the broader study area:

- Wetlands - high sensitivity (avoided by the corridor and line 2's routing)
- Natural grassland – medium sensitivity

- Past cultivation, cattle use, excavations – low sensitivity
- Roads – very low sensitivity

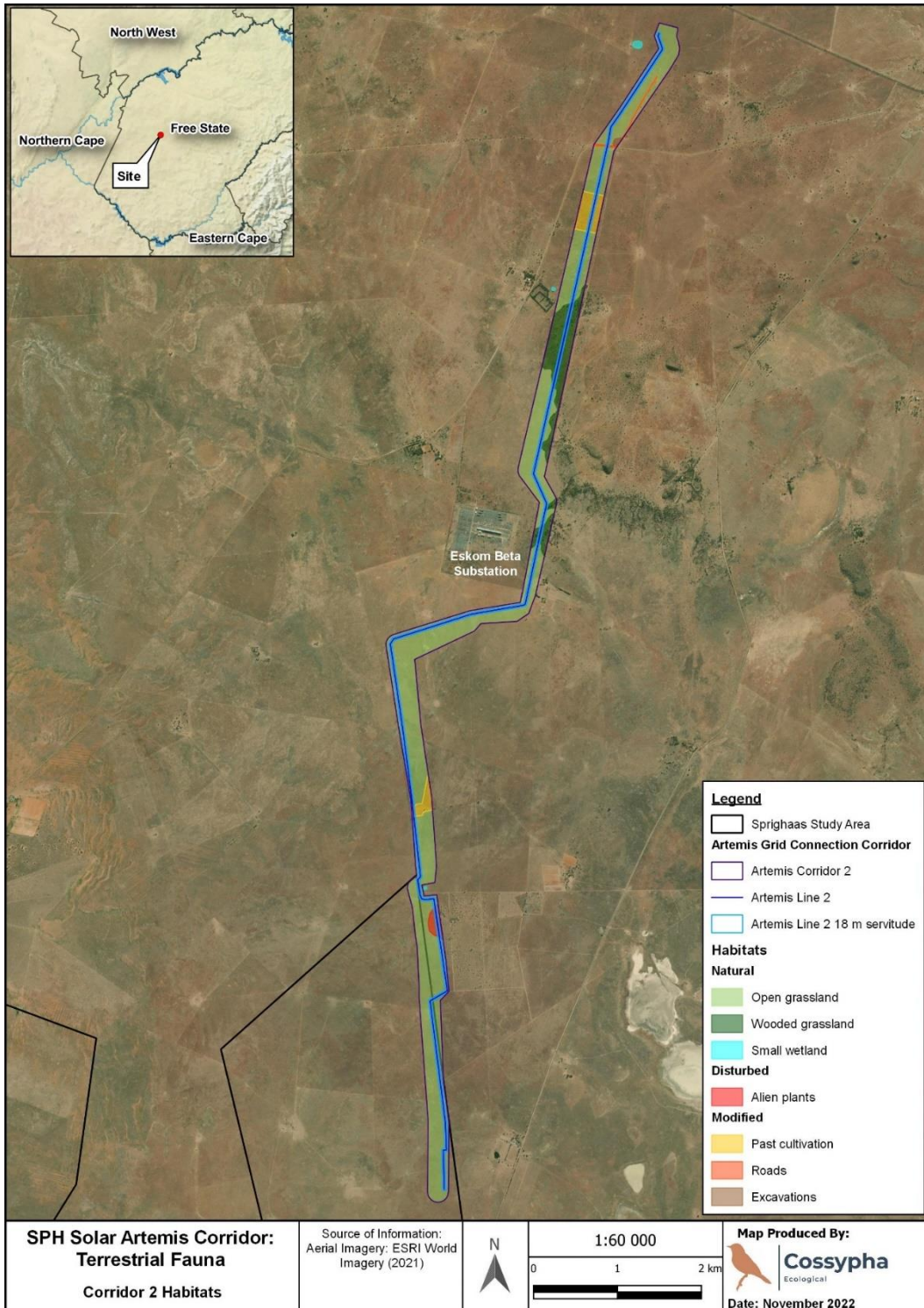


Figure 3-2: Animals species and terrestrial biodiversity site habitats (source Cossypha, 2022)

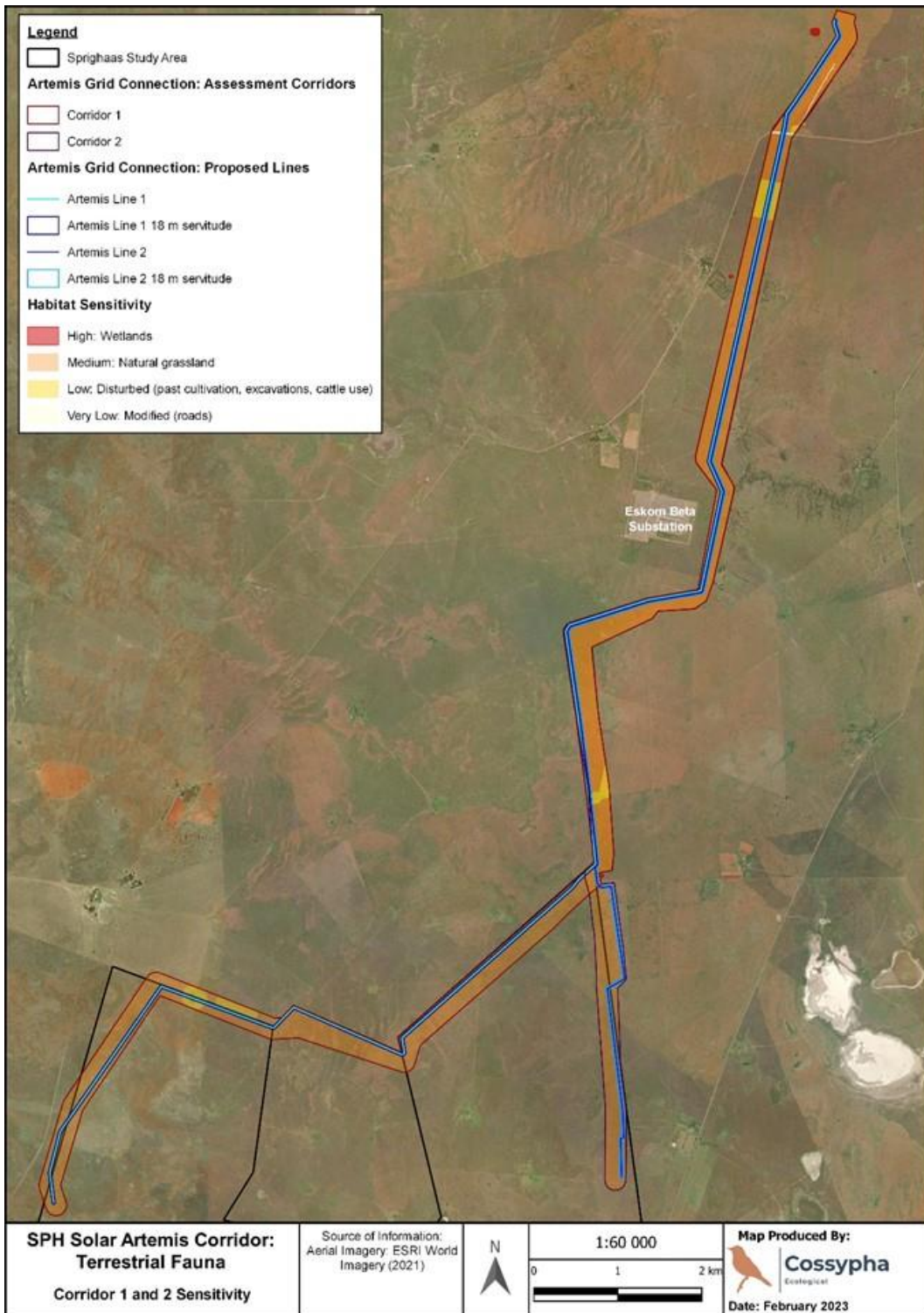


Figure 3-3: Animals species and terrestrial biodiversity site sensitivity (source Cossypha, 2022)

3.4.1 Animal Species and Terrestrial Biodiversity Environmental Specifications

The following environmental specifications apply to the animal species and terrestrial biodiversity theme:

Table 3-4: Animal species and terrestrial biodiversity theme specifications

Standard No.	Specification	Comment
	The Terrestrial Ecology Specialist must:	

Standard No.	Specification	Comment
1a)	Use the most recently obtainable and available information (spatial and otherwise) to verify on a desktop level, the environmental sensitivity of the power line routing and/or substation location. This includes, <i>inter alia</i> , most recent version of the provincial or municipal conservation plans.	The majority of the corridor for Line 2 (71.25%) falls within Western Free State Clay Grassland (least concern) with the northern section (28.75%) within the Vaal-Vet Sandy Grassland (endangered). The majority of the corridor for Line 2 (62.5%) falls within areas classified as Other according to the Free State Biodiversity Plan (FSBP) with a section towards the north of the route (21.5%) in critical biodiversity area 1 (CBA1). A few degraded areas occur along the route, including the northern-most section (16%). The botanist confirmed that the classification of the CBA is accurate, however the powerline will have a very low impact on the ecosystem. The specialist classified the site to be of low sensitivity in terms of the plant species theme.
1b)	Identify ecosystem types and faunal species that are prone to the impacts resulting from power line and/ or substations within the proposed route.	Faunal species prone to the impacts of power lines include large-bodied terrestrial birds such as cranes, bustards, and korhaan, which are found in grassland ecosystems.
1c)	Verify with a walkthrough, the presence and status of ecosystem type and species.	The areas in the north of the corridor situated within CBA1 and the endangered grassland ecosystem were confirmed to be relatively disturbed by farming and grazing activities and were rated as medium sensitivity from a terrestrial perspective. While animal species prone to the impacts of power lines were generally present in the study area, the corridor is relatively narrow, and many other lines already exist in the landscape. In addition, these species are wide ranging and nomadic, and it is likely that these birds only utilise the study area for foraging. No breeding activity was observed on site.
1d)	Avoid threatened ecosystem types (CR, EN and VU) or threatened or rare/range restricted species in the final routing and/or substation location if relevant.	While the northern section (~4.6 km) of the route falls within the Vaal-Vet Sandy Grassland endangered ecosystem, the habitat was confirmed on site to be disturbed and of medium sensitivity. The route cannot avoid this section as the power line must feed into the approved Artemis Substation, which also occurs in this ecosystem. In addition, there are other power lines already approved for connection to the Artemis Substation, and the lines must be kept together to minimise impacts. A botanist has completed a walkdown of the route to confirm the vegetation type and sensitivity in support of micro-siting considerations. The botanist confirmed that no threatened plant species or species of special concern would be negatively impacted.

3.4.2 Adoption of the Mitigation Hierarchy

The Terrestrial Biodiversity and Animals Species specialist study provides mitigation measures to reduce the negative impacts of all project phases. These mitigation measures have been incorporated into Part C of the generic EMPr.

Table 3-5: Consideration of the mitigation hierarchy

Avoid	All highly sensitive areas such as wetlands and rocky ridges have been avoided.
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Minimise	Mitigation measures in the generic EMPr are sufficient to minimise the impacts, however due to natural grassland being present in the northern section that occurs within the Vaal-Vet Sandy Grassland endangered ecosystem, it is recommended that a botanical walkthrough be undertaken in this section just prior to vegetation clearing for construction to ensure no plant SCC have established within the proposed footprints of the pylons. See section 3.2 in Appendix A2.
Rehabilitate	Mitigation measures in the generic EMPr are sufficient to guide rehabilitation.
Offset	No offsets are required.

3.5 Aquatic Ecology Site Sensitivity

An Aquatic Biodiversity and Species assessment was undertaken by EnviroSci (Pty) Ltd. A full version of the report is available in **Appendix A3**.

Site visits were undertaken in February & September 2022. During the field visit, the delineation, characterisation and integrity assessments of the freshwater features in and adjacent to the study area were undertaken.

The following aquatic features were identified in the broader study area:

- Pans and wetlands – very high sensitivity
- Watercourses – medium sensitivity

A 57m buffer was prescribed to the pans and wetlands. The buffer areas were rated as medium sensitivity. The proposed route for the corridor and Line 2 avoided all aquatic features and their 57m buffers except for one section of the line approximately 140m in length located within the 57m buffer of a pan. This is acceptable as long as no towers or access tracks are located in this area. The aquatic biodiversity sensitivity was confirmed to be of **low sensitivity** in-line with the rating given on the screening tool report.

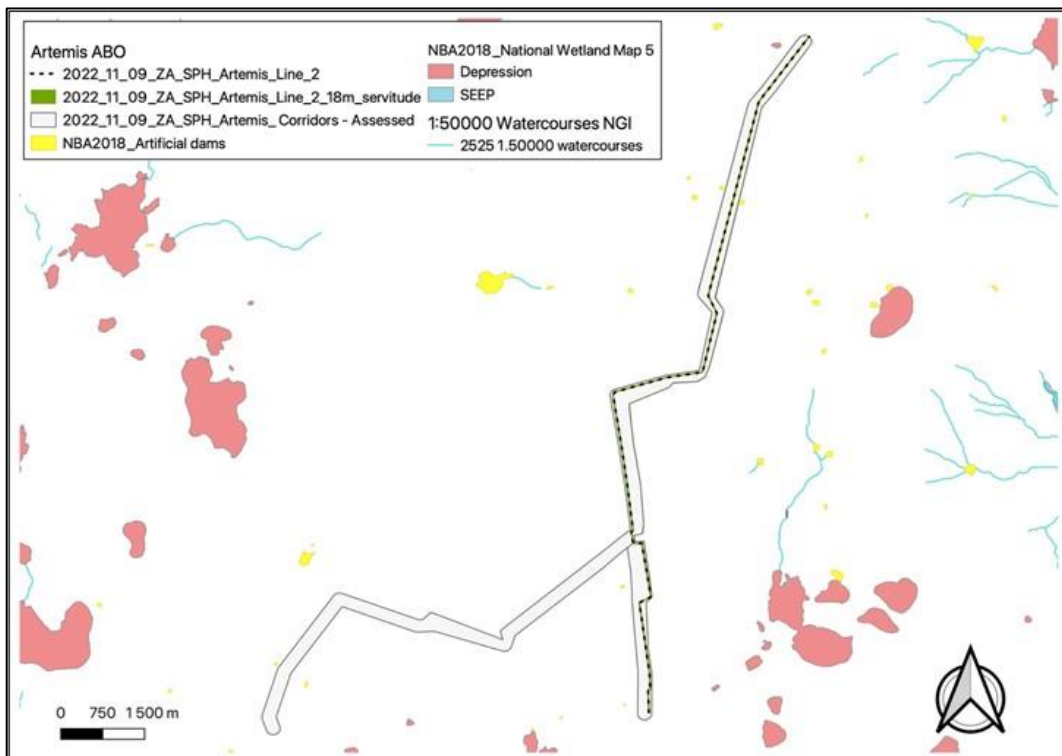


Figure 3-4: Aquatic site sensitivity (source EnviroSci, 2022)



Figure 3-5: Aquatic site sensitivity showing pans within the corridor and the respective 57m buffer (Data source: EnviroSci, 2022)

3.5.1 Aquatic Ecology Specifications

The following environmental specifications apply to the aquatic ecology theme:

Table 3-6: Aquatic ecology theme specifications

Standard No.	Specification	Comment
3	Engage with the department responsible for water affairs to discuss the requirements of a General Authorisation or Water Use Licence.	Several structures will be located within the 500m Water Use Authorisation (WUA) regulated zone, i.e. 500m from a wetland boundary and will this require Section 21 c & i water use license / General Authorisation. DWS are included as a stakeholder in the I&AP database and will be contacted for comment during the public participation process (PPP). As all potential impacts could be of low significance, a General Authorisation process could be followed.
4	The outcomes of the engagement process contemplated in subparagraph 3 of Paragraph A.3, where required, must be documented in the final environmental sensitivity report, including any restrictions or design requirements.	Comments and inputs received from DWS will be documented in the final Environmental Sensitivity Report.
5	Identify freshwater features that are prone to impacts resulting from the construction of power lines within the proposed route.	These are shown as No-Go areas in Section 2 Figure 3-4 of this report, and where wetlands are in close proximity to alignment it is then recommended that no towers / pylons and access tracks are placed within the wetlands inclusive of the 57m buffer. It has however been assumed that no works or no new access track will occur within the buffer area
6	Avoid the freshwater features in the final routing.	These are shown as No-Go areas in Section 2 Figure 3-4 of this report. Based on the current layout, only one section of line is located within the 57m buffer of a wetland. Where wetlands are in close proximity to alignment it is then recommended that no towers / pylons and access tracks are placed within the wetlands inclusive of the 57m buffer. Towers should be micro sited to avoid the buffer region.

3.5.2 Adoption of the Mitigation Hierarchy

The generic EMPr must be complied with to reduce the negative impacts of all project phases.

Table 3-7: Consideration of the mitigation hierarchy

Avoid	The alignment of Line 2 avoids any new works within all high sensitivity areas and the 57m buffer of wetlands.
Minimise	The mitigation measures proposed in the generic EMPr are sufficient to minimise negative impacts associated with the construction, operation and decommissioning of Line 2.
Rehabilitate	The mitigation measures in the generic EMPr are sufficient to guide rehabilitation of areas affected by the construction, operation and decommissioning of Line 2.
Offset	As Line 2 avoids all sensitive areas and the respective buffers no offsets were required.

3.6 Archaeological and Cultural Heritage Site Sensitivity

A Heritage Impact Assessment in-line with the requirement of the National Heritage Resources Act (No. 25 of 1999) was undertaken by ASHA Consulting. A full version of the report is available in **Appendix A4**.

A field survey was undertaken from 07 – 09 October 2022. The survey was undertaken in spring when visibility was slightly better than summer when the grass is denser.

No heritage resources were found in the footprint of Line 2. The site is therefore rated as **Low sensitivity**, which is in-line with the findings of the screening tool report.

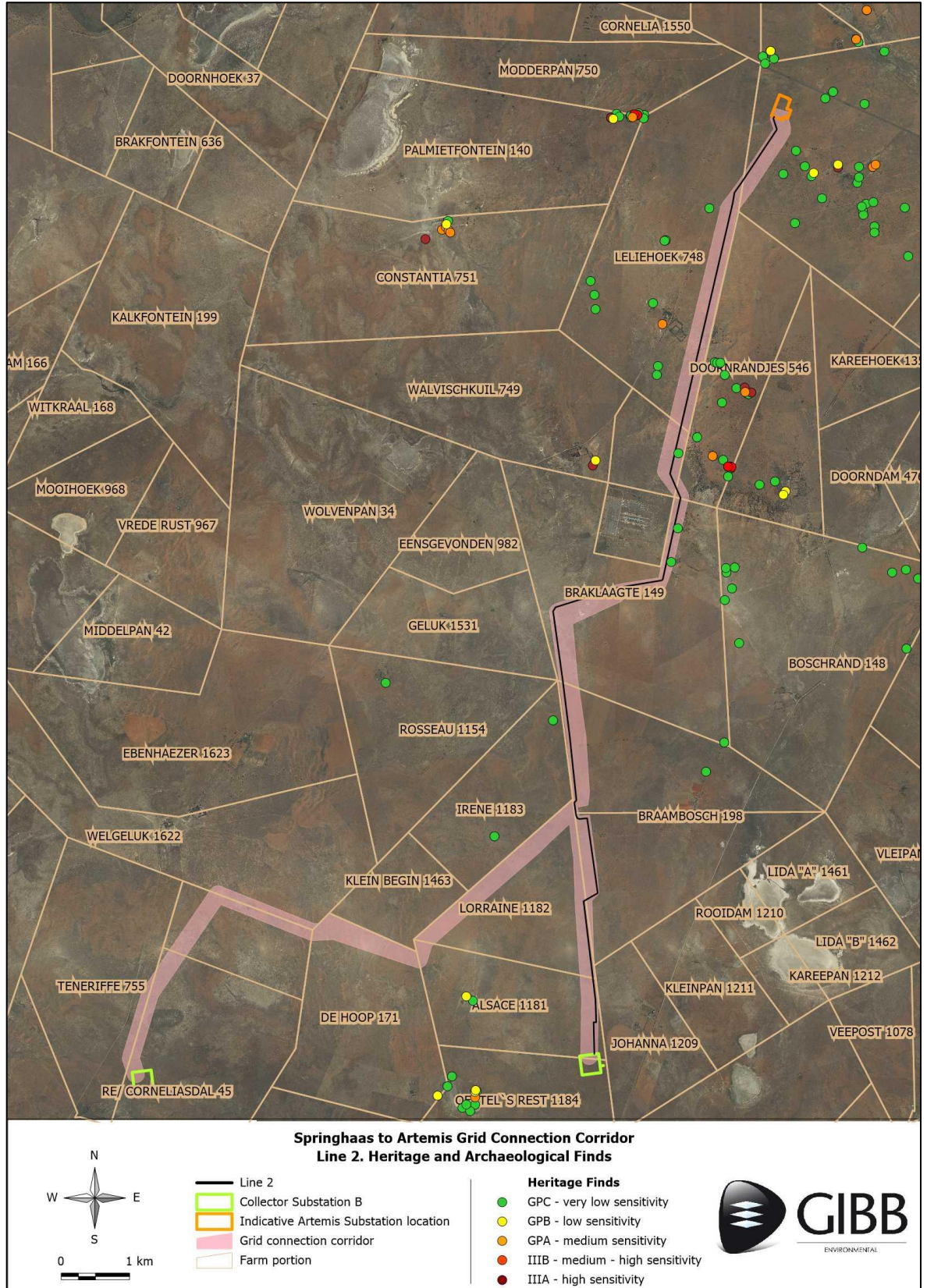


Figure 3-6: Archaeological and heritage resources within the corridor and broader study area, (data source ASHA).

3.6.1 Heritage Specifications

The following environmental specifications apply to the heritage theme:

Table 3-8: Heritage resources specifications

Standard No.	Specification	Comment
18	Where required, a heritage impact assessment (HIA) will be undertaken in compliance with Section 38(1) to 38(4) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) as well as any Minimum Standards or Guidelines published in relation to Section 38(3)	A HIA has been undertaken by the specialist.
19	The HIA must be submitted to the South African Heritage Resources Agency (SAHRA) and applicable Provincial Heritage Authorities for decision making procedures.	The HIA report was submitted to the South African Heritage Resources Agency and applicable Provincial Heritage Authorities for decision making. Comment was received from SAHRA on 13 March 2023. No objections to the development were raised by SAHRA. SAHRA included recommendations and requirements for the development in the letter received. All the recommendations and requirements that have been prescribed by SAHRA have been incorporated in the final EMPr. The final ESR (this report) will be submitted to SAHRA and they will also be notified of the registration of the line.
20	The applicable recommendations or requirements from the South African Heritage Resources Agency and applicable Provincial Heritage Authorities must be documented in the final environmental sensitivity report.	The HIA report was submitted to the South African Heritage Resources Agency and applicable Provincial Heritage Authorities for decision making. Comment was received from SAHRA on 13 March 2023. No objections to the development were raised by SAHRA. SAHRA included recommendations and requirements for the development in the letter received. All the recommendations and requirements that have been prescribed by SAHRA have been incorporated in the final EMPr.

3.6.2 Adoption of the Mitigation Hierarchy

The Heritage impact assessment report provides mitigation measures to reduce the negative impacts of all project phases. These mitigation measures have been incorporated into Part C of the generic EMPr.

Table 3-9: Consideration of the mitigation hierarchy

Avoid	No heritage resources were identified in the footprint of Line 2 during fieldwork. The route of Line 2 avoids all known heritage resources. Avoidance of high sensitivity areas has been achieved.
Minimise	The specialist has provided recommendations to minimise the impact of the development on the visible landscape.
Rehabilitate	The specialist mitigation measures address rehabilitation of areas not needed during operation.
Offset	No offsets are required.

3.7 Avifauna Species Site Sensitivity

An Avifaunal assessment was undertaken by WildSkies. A full version of the report is available in **Appendix A5**.

No site visits were conducted specifically for the proposed project due to the area being extensively investigated previously for the PV facilities. A site assessment (28 to 30 September 2021) and two pre-construction bird monitoring site visits over two different seasons (spring (November 2021) and summer (January 2022)) were conducted on site previously for the PV facilities.

No site sensitivity rating for the avian theme was provided for the corridor and Line 2 by the DFFE Online Screening Tool. The tool identifies the grid corridor as **high sensitivity** for the Animal Species Theme due the presence of Ludwig's Bustard (*Aves-Neotis ludwigii*) and **very high** for the Terrestrial Biodiversity. The avifaunal specialist assessment confirmed that the site is of **low – medium sensitivity**.

The avifauna specialist provided further clarification on the confirmed sensitivity rating: Ludwig's Bustard is a nomadic species, which ranges over wide areas in response to local conditions. It is also a partial migrant, moving into the winter rainfall western parts of SA in winter and spring. The presence of the species in the study area cannot alone be considered to constitute the site sensitivity as High. The screening tool has mapped the entire distribution of the species (based on Southern African Bird Atlas Project 2), not hotspots or breeding locations. We do not agree that the entire species range can be considered High sensitivity. We have not recorded the species on the Springhaas site in any remarkable numbers or with any consistent frequency, nor has any evidence of breeding behaviour been recorded.

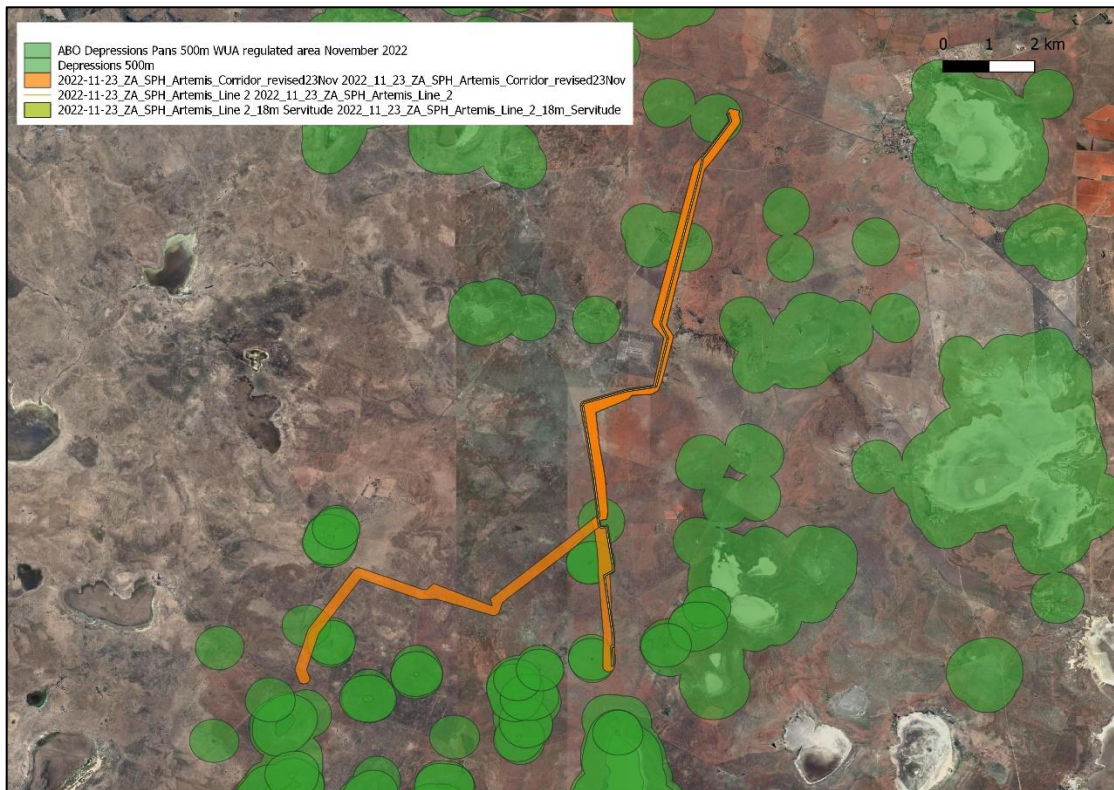


Figure 3-7: Avifaunal site sensitivity (source Wildskies, 2022).

3.7.1 Avian Specifications

The following environmental specifications apply to the avifauna theme:

Table 3-10: Avian theme specifications

No.	Standard	Specification	Comment
During planning			
a)		A 2 km buffer either side of the centre line of the proposed route of the power line alignment falling within the <i>preliminary corridor</i> must be drawn for verification of avifaunal sensitivity.	This was done – see Figure 3-7
b) The avifauna specialist must			
i)		Use the most recently obtainable and available information (spatial and otherwise) as well as the screening tool, professional knowledge of the EAP and the avifauna specialist to determine, on a desktop level, the habitat sensitivity for avifaunal species along the power line route and/or substation location. BirdLife South Africa, WWF, the Endangered Wildlife Trust and VULPRO, must be contacted for their input.	<p>BirdLife SA/EWT and VULPRO was contacted on 05 December 2022 and provided with a project description. A background information document was submitted to BirdLife SA on 15 December 2022. A background information document was submitted to BirdLife SA on 15 December 2022 and confirmed they will not be providing comments. EWT confirmed they will not be providing any comments.</p> <p>Inputs received from these organisations have been captured in the comments and response report (Appendix B).</p> <p>The most recently available and obtainable desktop level information was used for this assessment.</p>

Standard No.	Specification	Comment
ii)	The power line bird mortality incident database of the Endangered Wildlife Trust must be consulted to determine which of the species occurring in the broader study area are typically impacted upon by power lines (EWT unpublished data).	The EWT was contacted and asked for these data as described above. No data was received in time for the compilation of this report. due to the authors 20 odd years experience working on birds and power lines (including managing the Eskom-EWT Partnership from, 2007 to 2011) it was possible to identify the species typically impacted on by power lines without the database.
iii)	Establish habitat and migratory routes and likely flight paths based on the most recently obtainable and available desktop data and site verification.	This has been done in Section 2.1 of the avifaunal report in Appendix A5
iv)	The conservation status of all avifaunal species recorded by the most recent iteration of the SABAP in the broader study area must be determined as per the most recent iteration of the list of threatened species and the IUCN Red Data List of Birds.	This has been done in Section 2.1 of the avifaunal report in Appendix A5.
v)	Based on the information collected on birds typically impacted upon by power lines, identify the presence of threatened species which include, as a minimum, Cranes, Flamingos, Vultures, Kori Bustards, and Pelicans.	This has been done in Section 2.1 of the avifaunal report in Appendix A5.
vi)	Where high risk areas are identified these areas must be confirmed with EWT by using their risk assessment tool	No High risk areas were identified at this site by the EWT risk assessment tool
vii)	Where the risk assessment tool identifies that mitigation measures can be applied, apply these mitigation measures in consultation with EWT, BirdLife South Africa and the local conservation agency.	This has been done, refer to Section 6.1 of the avifaunal report in Appendix A5.
viii)	Where no acceptable mitigation measures can be applied, re-routing options or engineering solution, for example routing under the risk area identified or increasing the height of the power line in order to avoid potential collision risk areas, must be applied. Where engineering options are considered, these must be discussed with EWT, BirdLife South Africa and the local conservation agency.	N/A

3.7.2 Adoption of the Mitigation Hierarchy

The Avifauna impact assessment report provides mitigation measures to reduce the negative impacts of all project phases. These mitigation measures have been incorporated into Part C of the generic EMPr.

Table 3-11: Consideration of the mitigation hierarchy

Avoid	All high sensitivity areas were avoided.
Minimise	The generic EMP mitigation measures were not adequate, additional measures have been recommended in Section 6 of the Avifauna report (Appendix A5) and incorporated into the generic EMPr.
Rehabilitate	The generic EMP mitigation measures were not adequate, additional measures have been

	recommended in Section 6 of the Avifauna report (Appendix A5) and incorporated into the generic EMPr.
Offset	No offsets were required.

3.8 Bat Site Sensitivity

The screening tool report does not provide a sensitivity rating for bats. During a walkdown of the powerline route by the EAP no bat roosts were identified.

3.8.1 Bat Specifications

No sensitivity rating was provided in the screening tool report for bats. The route of the corridor and Line 2 was inspected for bat roosts by the EAP. None were identified.

The following environmental specifications apply to the bat theme:

Table 3-12: Bat resources specifications

Standard No.	Specification	Comment
2	Avoid bat roosts that are known and/or have been identified within a 500 m buffer of the proposed alignment.	No bat roosts were identified within 500m of the proposed alignment.

3.9 Civil Aviation Theme

The Civil Aviation theme is rated as low sensitivity by the DFFE screening tool report. The EAP is in agreement with this rating as there are no airfields in close proximity to the site. The South African Civil Aviation Authority (SACAA) have been included in the I&AP database. An application with all relevant supporting documents was submitted by the applicant on 30 August 2022 via the necessary procedural requirements of the CAA. Note that this application is made outside of NEMA-related processes as it is executed in terms of the Civil Aviation Act (No. 13 of 2009).

3.9.1 Civil Aviation Specifications

The following environmental specifications apply to the civil aviation theme:

Table 3-13: Civil aviation theme specifications

Standard No.	Specification	Comment
21	Engage with Civil Aviation Authority to identify potential hazards and obstacles to civil aviation installations and conditions as described in the South African Civil Aviation Regulations of 2011.	The Civil Aviation Authority (CAA) is listed as an I&AP. They will be informed of the proposed development and requested to provide comment on the draft ESR. A CAA Obstacles Application was submitted to CAA on 30 August 2022. <i>Note that this application is made outside of NEMA-related processes as it is executed in terms of the Civil Aviation Act (No. 13 of 2009).</i>
22	The outcomes of the engagement process must be documented in the final environmental sensitivity report, including any restrictions or design requirements.	<i>Copies of correspondence with the CAA have been included in the public participation report (Appendix B).</i>

3.10 Defence Theme

The defence theme was rated as low by the DFFE screening tool. There is no military infrastructure in close proximity to the site, thus a study was not required.

Table 3-14: Defence theme specifications

Standard No.	Specification	Comment
23	Engage with the defence authorities in the event of the power line being located within: (a) 1 km of forward airfields, high sites, operational military bases, military training areas, shooting ranges, border posts, all other Department of defence features (including naval bases, housing, offices, workshops); (b) 8 km from air force bases; (c) 10 km from ammunition depots; or (d) 56 km from bombing ranges.	N/A. Power lines are not located within any of the buffer zones provided. The Bloemspruit Air Force Base and South African National Defence Force (SANDF) are both included in the I&AP database and were notified of the project. A notification on the intent to register the project was submitted to the Air Force Base Bloemspruit on 11 August 2022 and a follow up email was sent on 23 August 2022. On the 20 of September, Airforce Bloemspruit confirmed in an email that South African National Defence Force (SANDF) is the commenting authority. During the public participation process, an email was sent to the SANDF on 07 March for comment on the DESR and a follow-up email was sent on 27 March 2023. No comment was received within the 30-day public commenting period.
24	The outcomes of the engagement process, where required, must be documented in the final environmental sensitivity report, including any restrictions or design requirements.	Copies of correspondence with SANDF have been included in the public participation report (Appendix B).

3.11 Palaeontology Theme

A Palaeontological Impact Assessment in-line with the requirement of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) was undertaken by Professor Marion Bamford. A full version of the report is available in **Appendix A6**.

The screening tool report rated the palaeontology theme as **high sensitivity** for the corridor and Line 2. Following the on-site sensitivity verification, the route of the corridor and Line 2 was classified as having **low sensitivity**. If fossils are found during the construction and operation phase, they should be however photographed, removed and handled as per the Fossil Chance Find Protocol which will be incorporated into the EMPr as recommended in the specialist study.

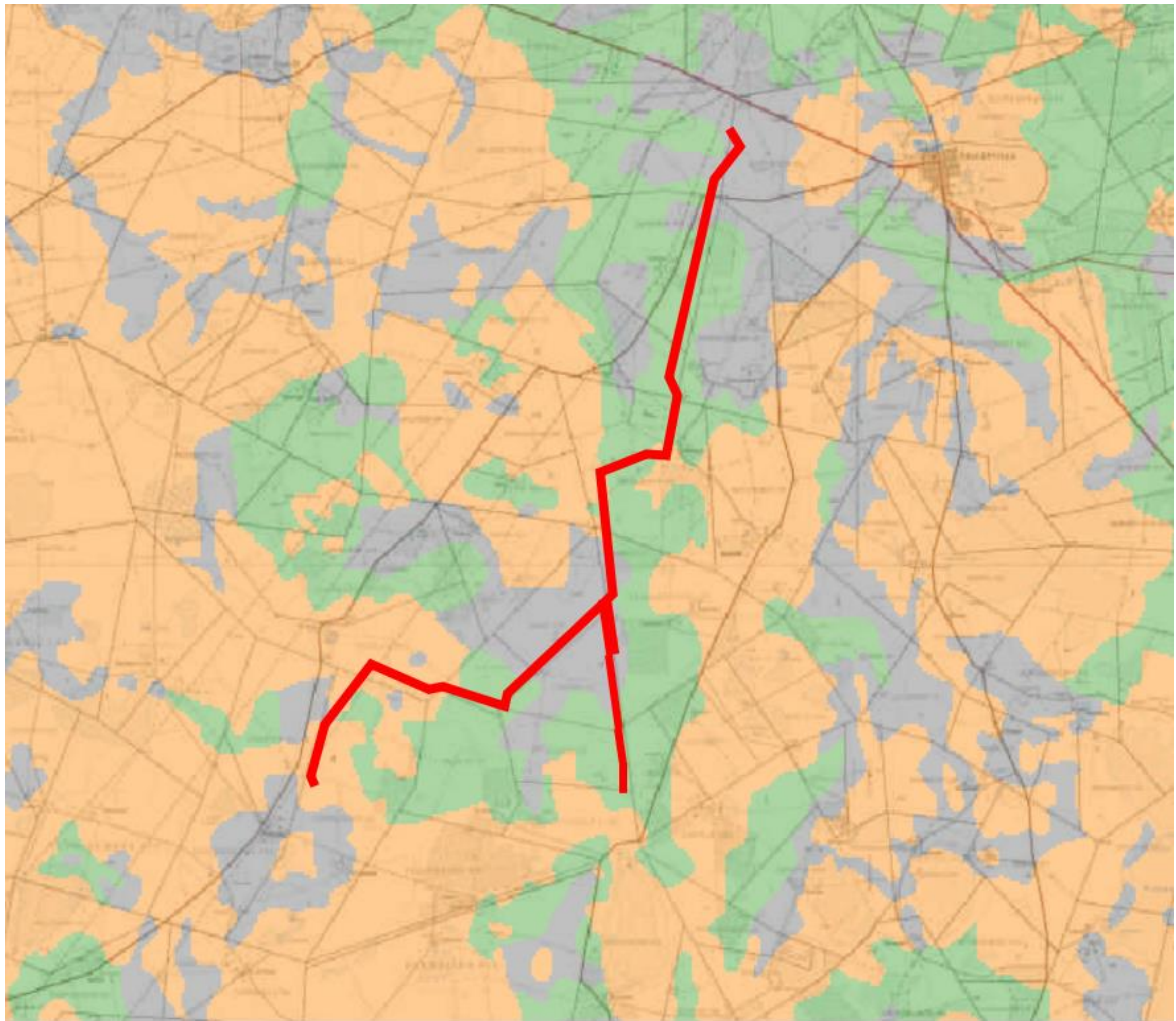


Figure 3-8: Palaeontological sensitivity map (source ASHA Consulting, 2022) showing the footprint of the Line 2 (red line). Colours show areas of heritage sensitivity: red (very highly sensitive), orange/yellow (high), green (moderate), blue (low), grey (insignificant/zero).

3.11.1 Adoption of the Mitigation Hierarchy

The Palaeontological specialist study provides mitigation measures (a chance find protocol) to reduce the negative impacts of all project phases. These mitigation measures have been incorporated into Part C of the generic EMPr.

Table 3-15: Consideration of the mitigation hierarchy

Avoid	The footprint of Line 2 avoids sensitive palaeontological resources. Avoidance of high sensitivity areas has been achieved
Minimise	The specialist has provided recommendations to minimise the impact of the development on palaeontological resources at all stages of the development. These measures have been incorporated into the generic EMPr.
Rehabilitate	No specific rehabilitation measures, in relation to palaeontological impacts, have been deemed necessary.
Offset	No offsets are required as no high sensitivity palaeontological resources are impacted by Line 2.

3.11.2 Palaeontological Specifications

The following environmental specifications apply to the Palaeontological theme:

Table 3-16: Palaeontological theme specifications

Standard No.	Specification	Comment
18	Where required, a heritage impact assessment (HIA) will be undertaken in compliance with Section 38(1) to 38(4) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) as well as any Minimum Standards or Guidelines published in relation to Section 38(3) 31 .	The HIA report was submitted to the South African Heritage Resources Agency and applicable Provincial Heritage Authorities for decision making. Comment was received from SAHRA on 13 March 2023. No objections to the development were raised by SAHRA. SAHRA included recommendations and requirements for the development in the letter received. All the recommendations and requirements that have been prescribed by SAHRA have been incorporated in the final EMPr. The final ESR (this report) will be submitted to SAHRA and they will also be notified of the registration of the document.
19	The HIA must be submitted to the South African Heritage Resources Agency and applicable Provincial Heritage Authorities for decision making procedures.	The HIA report was submitted to the South African Heritage Resources Agency and applicable Provincial Heritage Authorities for decision making. Comment was received from SAHRA on 17 March 2023. No objections to the development were raised by SAHRA
20	The applicable recommendations or requirements from the South African Heritage Resources Agency and applicable Provincial Heritage Authorities must be documented in the final environmental sensitivity report.	All the recommendations and requirements that have been prescribed by SAHRA have been incorporated in the final EMPr. The final ESR (this report) will be submitted to SAHRA and they will also be notified of the registration of the document.

3.12 Plant Species Sensitivity

A Plant Species Assessment was undertaken by BergWind. A full version of the report is available in **Appendix A8**.

A field survey was undertaken from 11 - 15 February 2023. The survey was undertaken in the summer season which is deemed optimal for botanical surveys.

The online screening tool report identifies the route of the corridor and Line 2 as Low sensitivity for the Plant Species Theme. The majority of the line is located in Western Free State Clay Grassland (least concern), the northern section, covering approximately 4.2km is located in Vaal-Vet Sandy Grassland (endangered) (SANBI, 2018). The specialist site sensitivity verification confirmed that the theme is of **low sensitivity** for the site

The Springhaas study area (indicated in yellow in Figure 3-10) was surveyed by a botanist in 2021. No species of special concern or red listed species were identified in the area. A botanist was appointed to undertake a walkdown of the section of line outside the Springhaas study area. It was found that the route would traverse a landscape where the habitat is mostly of Least Concern. In the area where it would traverse Endangered Vaal—Vet Sandy Grassland, the negative impact would be low



Figure 3-9: Vegetation in the section of the Line 2 and the corridor mapped as Vaal-Vet Sandy Grassland

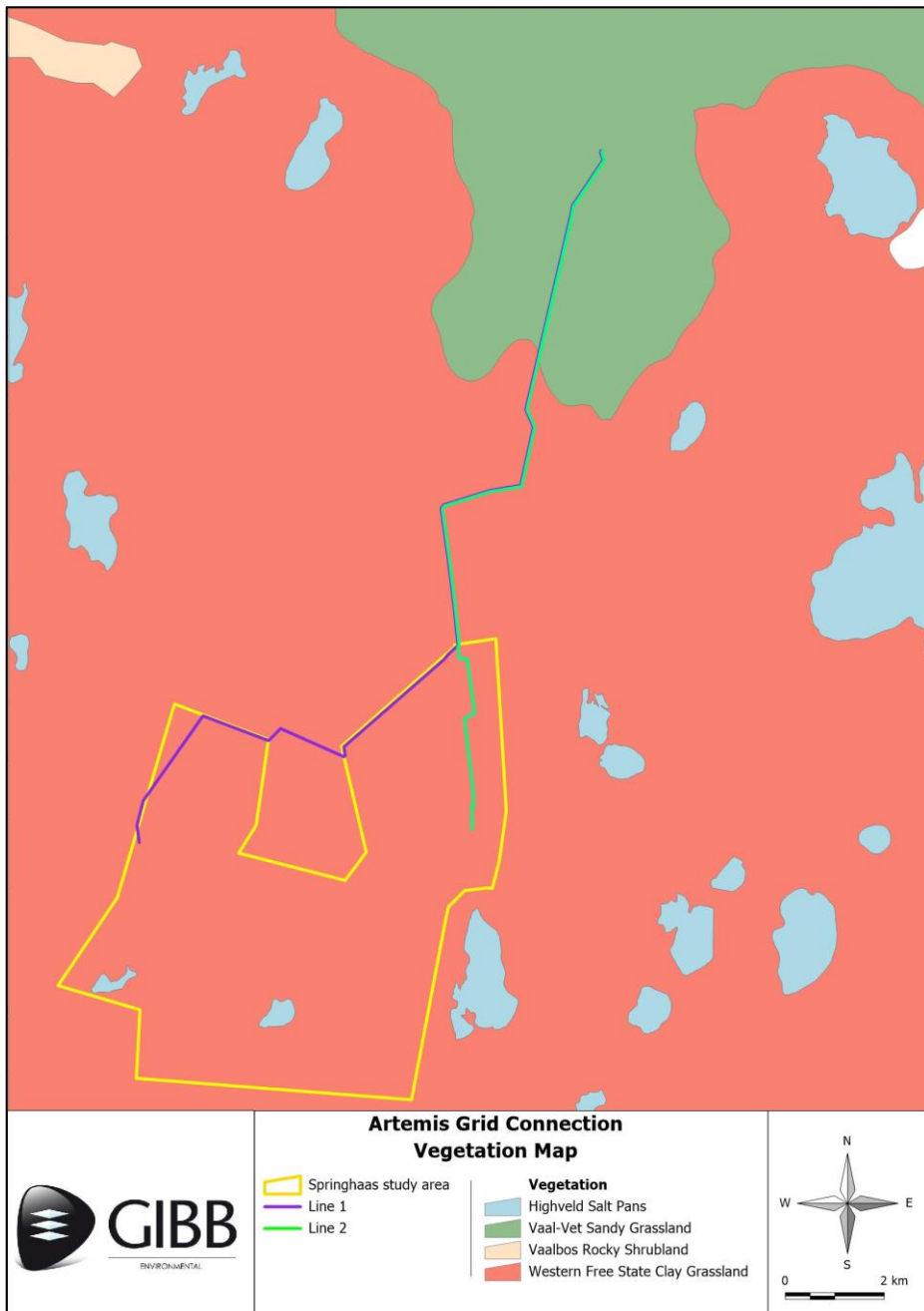


Figure 3-10: Vegetation map (data source, SANBI 2018)

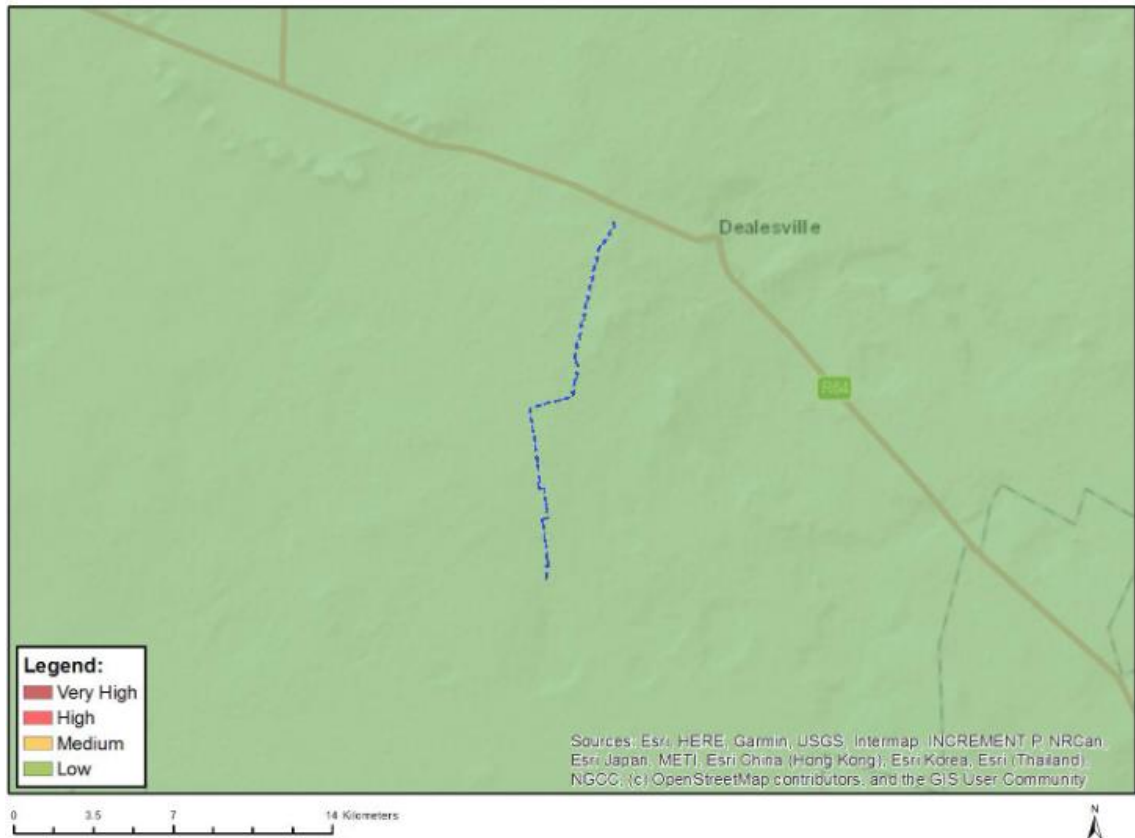


Figure 3-11: Plant sensitivity map from DFFE screening tool report

3.13 Landscape and Visual Sensitivity

A landscape and visual specialist assessment was undertaken. Afzelia Environmental Consultants & Environmental Planning and Design was appointed to undertake a site sensitivity verification for the landscape and visual theme. A site visit was undertaken on 01 - 02 October 2021. Seasonality has no impact on the findings. A copy of the site sensitivity verification report is available in **Appendix A7**.

No sensitivity rating for the landscape/ visual theme was provided for Line 2 by the DFFE Online Screening Tool. Based on the specialist findings in **Appendix 7**, Line 2 is located in an area of generally **low sensitivity** from a landscape/ visual perspective. Areas of **high sensitivity** are encountered where the line runs within 1km of homesteads and existing salt pans. The Proponent has indicated that all land owners have consented and it appears that all salt pans have been avoided.

The development of Line 2 will result in relatively low levels of impact post mitigation and the project is anticipated to have a low contribution to cumulative visual impacts. Provided that the proposed mitigation measures are implemented there is no reason from a landscape and visual perspective why Collector Line 2 should not be authorised (Afzelia, 2022)

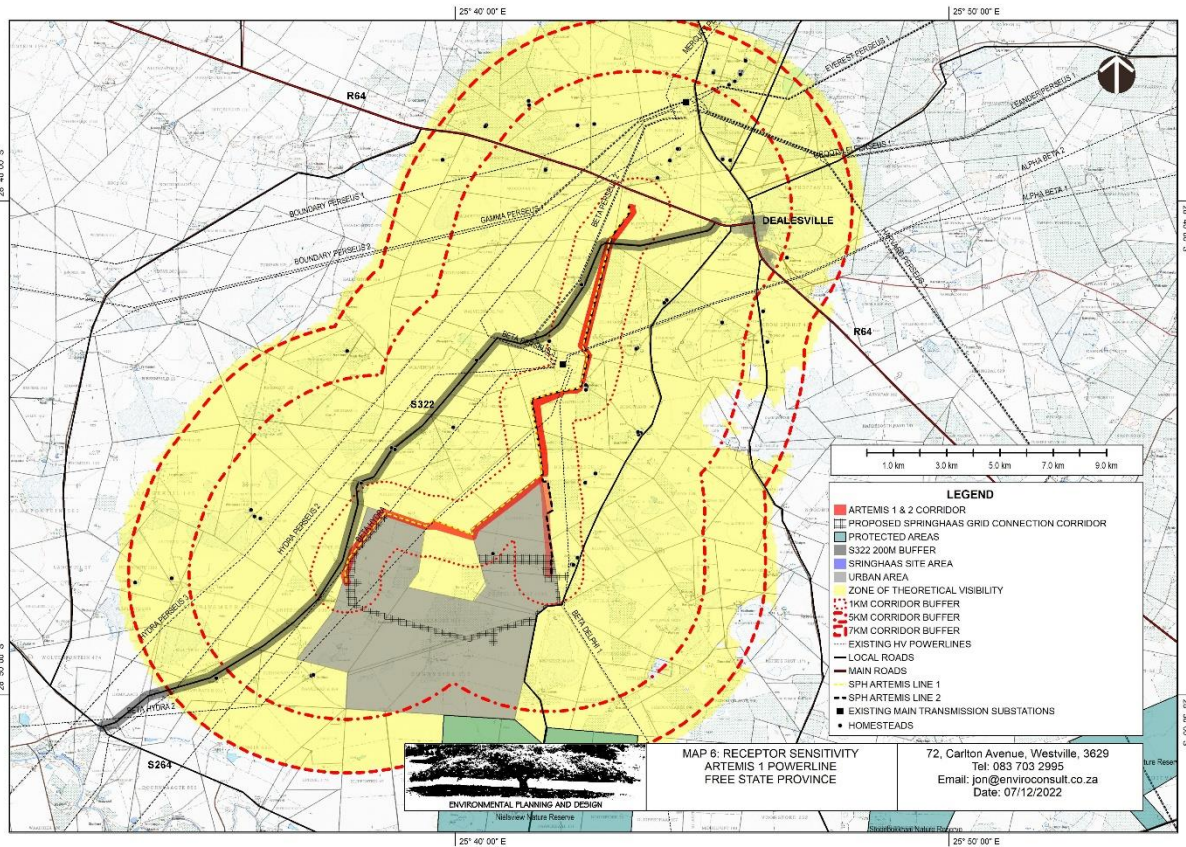


Figure 3-12: Landscape and Visual sensitivity map (source Afzelia Environmental Consultants & Environmental Planning and Design, 2022) showing the footprint of the Line 2 (red line).

3.13.1 Adoption of the Mitigation Hierarchy

The following environmental specifications apply to the Landscape and Visual theme:

Table 3-17: Landscape and visual theme specifications

Standard No.	Specification	Comment
15	Sensitive receptors - including, but not limited to human receptors such as residents, commuters, visitors and tourists, as well as sensitive scenic routes such as wilderness zones 30 must be identified. A visual sensitivity map must be compiled to inform the location of the proposed route of the power line.	See Appendix E of the landscape and visual assessment contained in Appendix A7 of this report.
16	It is understood that affected landowners have consented to the proposed power line, however, this should be confirmed.	This will be undertaken during the Public Participation stage of the assessment. It is recommended that receptors living within 1km of the proposed power line corridor are notified and provided opportunity to comment.
17	If the negotiations stipulated in subparagraph 16 of Paragraph A.7 are unsuccessful, the power line must avoid sensitive human receptors.	See above.

3.13.2 Adoption of the Mitigation Hierarchy

Table 3-18: Landscape and visual theme specifications

Avoid	Highly sensitive landscape areas are unlikely to be affected. It is possible that highly sensitive receptors could be affected. This will be resolved during public participation
Minimise	Mitigation measures in the generic EMPr are sufficient to minimise impacts.
Rehabilitate	Mitigation measures in the generic EMPr are sufficient to minimise impacts.
Offset	No offsets are required.

3.14 Sensitivity Mapping & Specialist Input

The table below shows the online screening tool rating and the site sensitivity verifications undertaken by various specialists, including comment for each theme.

Table 3-19: Sensitivity mapping and specialist input

Theme	Screening Tool Sensitivity Rating	Specialist Rating	Registration approach	Specialist comment regarding sensitivity
Agricultural	High	Low – Medium	A specialist was appointed to undertake an agricultural impact assessment including a site sensitivity verification.	Low - medium sensitivity: Corridor and Line 2 site is fully located within an area with low to medium agricultural potential.
Animal species*	Medium	Medium	A specialist was appointed to undertake an animal species impact assessment including a site sensitivity verification.	Medium sensitivity: The site is situated in continuous natural to near-natural grassland that has been grazed in places but is classified as medium sensitivity.
Terrestrial biodiversity	Very High	Medium	A specialist was appointed to undertake a terrestrial biodiversity impact assessment including a site sensitivity verification.	Medium sensitivity: The site is largely located in Western Free State Clay Grassland which is listed as least threatened. A short section is located in Vaal-Vet Sandy Grassland which is listed as endangered, the habitat was confirmed on site to be disturbed and of medium sensitivity. A botanist has been appointed to undertake a walkdown of the route to confirm the vegetation type and sensitivity thus fulfilling that particular recommendation indicated in this assessment. All highly sensitive features (wetlands) have been avoided.
Aquatic biodiversity	Low	Low	A specialist was appointed to undertake an aquatic biodiversity impact assessment including a site sensitivity verification.	Low sensitivity: The site verification assessment confirmed that there are no aquatic constraints within the area. This assessment thus concurs with the screening tool mapping, that the proposed development area is an area of low Aquatic Biodiversity Combined Sensitivity.
Archaeological and cultural heritage theme	Low	Low	A specialist was appointed to undertake a heritage impact assessment including a site sensitivity verification.	Low sensitivity: No heritage resources were found in the footprint of the corridor and Line 2. The site is therefore rated as low sensitivity, which is in-line with the findings of the screening tool report.

Avian	N/A	Low – Medium	A specialist was appointed to undertake an avifaunal impact assessment including a site sensitivity verification.	Low- Medium sensitivity: Avifaunal Specialist confirmed the site is of low – medium sensitivity for avifauna. The site has avoided all sensitive spatial features.
Civil Aviation	Low	N/A	Civil Aviation Authority was notified and an obstacles application was submitted.	N/A. No specialist study necessary
Defence theme	Low	N/A	A notification on the intent to register the project was submitted to the Air Force Base Bloemspruit and the South African National Defence Force	N/A. No specialist study necessary
Palaeontology	High	Low	A specialist was appointed to undertake a palaeontology impact assessment including a site sensitivity verification.	Low sensitivity: Palaeontologists identified the site to be of low sensitivity as there is a lack of any previously recorded fossils from the area.
Plant species	Low	Low	A specialist was appointed to undertake a plant species impact assessment including a site sensitivity verification.	Low sensitivity: Corridor and Line 2 are located within an area with very few sensitive species or species of conservation concern.
Landscape and visual	N/A	Low	A specialist was appointed to undertake a landscape and visual impact assessment including a site sensitivity verification.	No sensitivity rating from the DFFE Screening Tool Report.
				The corridor and Line 2 are located in an area classified as low-sensitivity.

All the relevant environmental sensitivity themes were evaluated by specialists and all themes were confirmed to be of low, low-medium, or medium sensitivity for Line 2.

4 Public Participation Process

A Public Participation Process (PPP) has been initiated. Public participation is the involvement of all parties who potentially have an interest in a development or project or may be affected by it.

The principal objective of public participation is to inform and enrich decision-making. These principles include the provision of sufficient and transparent information to I&APs on an on-going basis, to allow them to comment and ensure the participation of historically disadvantaged individuals, including women, the disabled and the youth.

The PPP aims to:

- Ensure all relevant key stakeholders and I&APs have been identified and invited to engage in the ESR Process;
- Raise awareness, educate and increase understanding of stakeholders about the proposed project, the affected environment and the environmental process being undertaken;
- Create open channels of communication between key stakeholders and I&APs and the project team;
- Provide opportunities for key stakeholders and I&APs to identify issues or concerns and propose suggestions for enhancing potential benefits;

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- Provide opportunities for key stakeholders and I&APs to provide suggestions in terms of mitigating the severity of potential impacts that may result from the project; and
 - Accurately document all opinions, concerns and queries raised regarding the project.

4.1.1 Identification of Key Stakeholders and I&APs

The identification and registration of I&APs is an on-going activity during the course of the ESR Process. GIBB Environmental has developed, and will maintain and update, an electronic I&AP database for the project during the ESR phase. As such, I&APs were identified using the following:

- Existing I&AP databases obtained from the Proponent (where available / applicable);
- Existing I&AP databases for other projects within the study area (where available);
- Placement of an advertisement in two local newspapers (Bloemnuus and Noordkaap Bullentin 19 January 2023) in English
- Placement of site notice boards around the grid connection corridor and posters in Dealesville on 06 and 07 February 2023

As indicated above an I&AP database is included in Appendix B. I&APs representing the following sectors of society were identified:

- National, provincial and local government;
- Affected landowners/ occupiers
- Adjacent landowners/ occupiers
- Ward councillor;
- Community Based Organisations;
- Non-Governmental Organisations;
- Business, Religious and Civic Organisations;
- Service Providers; and
- Relevant Parastatals.

4.1.2 Public Announcement of the Project

Interested and Affected Parties (I&APs), as listed above, were informed of the Proposed Development and have been requested to register, review the BID and submit their comments to GIBB Environmental by means of the following:

- Publication of newspaper advertisements in the Bloemnuus and Noordkaap Bulletin (**Appendix B**); and
- Distribution of notification letters by email.
- Distribution of notification letters by letter drop
- Placement of site notices along the route/corridor of the proposed powerline

4.1.3 Environmental Sensitivity Report for Public Review

The BID was made available electronically on GIBB's website and this ESR will also be made available on the website. Should I&APs formally request it, CD copies of the ESR will be made available to them.

A hardcopy of the draft ESR will be made available for I&APs to review at the Tokologo Local Municipality Offices in Dealesville.

4.1.4 Draft Environmental Sensitivity Report

The draft ESR was made available for a 30-day review period from 07 March – 06 April 2023.

A hardcopy of the draft ESR will be made available at the Tokologo Local Municipality (Dealesville), 33 Brand street, Dealesville 9348.

The draft ESR is available electronically for download from the GIBB Environmental website. CD copies of the report are available on request.

All comments made on the draft ESR during the first public review period have been captured and adequately responded to in the Comments and Response Report (CRR) (Appendix B).

4.1.5 Final Environmental Sensitivity Report

The final ESR (this report) has been compiled and submitted to the DFFE for decision making upon completion of the public participation process of the draft ESR.

The final ESR (this report) has been made available for I&APs electronically for information purposes.

Registered I&APs will be notified of the availability of the final ESR. Registered I&APs will then be notified of the decision issued by the DFFE within the legislated timeframe.

4.1.6 Compliance of Public Participation Process with NEMA EIA Regulation Requirements

All relevant aspects of Chapter 6, Regulation 41 of the EIA Regulations 2014, as amended has been complied with as follows:

Table 4-1 Summary of public participation process undertaken

NEMA PPP requirement	Actions undertaken
(a) Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of (i) the site where the activity to which the application or proposed application relates is or is to be undertaken	This was done on 06 & 07 February 2023.
(b) Giving written notice, in any of the manners provided for in section 47D of the Act, to (i) the occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site where the activity is to be undertaken, the owner or person in control of the site where the activity is or to be undertaken.	Letter drops were undertaken on 06 - 07 February for landowners and adjacent landowners where contact details were not available. I&APs were notified on 07 March 2023 to indicate the availability of the DESR with the 30-day comment period on the DESR from 07 March – 06 April 2023. DFFE were provided with a 30 day period to review the DESR from 07 March to 06 April 2023. In addition, engagement was undertaken with several parties including VULPRO, BirdLife SA, EWT and DFFE Biodiversity and Conservation Directorate. Where these parties

NEMA PPP requirement	Actions undertaken
(iii) the municipal councillor of the ward in which the site and alternative is situated and any organisation of rate payers that represent the community in the area (iv) the municipality which has jurisdiction in the area (v) any organ of state having jurisdiction in the area (vi) any other party as required by the competent authority.	commented within the allocated 30 day period comments have been captured in the comments and responses report (Appendix B).
(c) Placing an advertisement in- (i) One local newspaper; or (ii) any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations	Adverts were placed two local newspapers in both English and Afrikaans: 19 January 2023 – Bloemneus and Noordkap Bulletin These newspaper adverts informed potential I&APs of the availability of the BID and the procedure to be followed to register as an I&AP.

5 Conclusions

All of the environmental themes identified in the DFFE Screening Tool Report were rated as low or medium sensitivity through site sensitivity verifications.

A team of specialists were appointed to undertake environmental sensitivity reports, sensitivity mapping and provide mitigation measures where needed over and above those covered by the DFFE generic EMPr.

No fatal flaws were raised by the specialist team or EAP and no objections to the proposed powerlines were raised during the PPP.

The EAP therefore recommends that Line should be registered in terms of the Standard and the generic EMPr must be complied with during all project phases.

6 References

Afzelia Environmental Consultants & Environmental Planning and Design (2022). Landscape & visual Impact Sensitivity Report: The proposed Overhead Powerlines from Springhaas Collector Substation B to Artemis Substation (Line 2)

ASHA Consulting (2022). Heritage Impact Assessment: The proposed powerline from Springhaas Collector Substation B to the authorised Artemis Substation near Dealesville, Free State

Cossypha Ecological (2022). Terrestrial Biodiversity Assessment and Animal Species Sensitivity Report: The proposed overhead powerline from Springhaas Collector B Substation to the Authorised Artemis Substation (Line 2)

Department of Forestry, Fisheries and the Environment (2022). Standard for the Development and Expansion of Power Lines and Substations within Identified Geographical Areas Revision 2. Prepared by the CSIR and SANBI for the Strategic Environmental Assessment for the Expansion of Electricity Grid Infrastructure Corridors in South Africa.

EnviroSci (2022). Aquatic Environmental Sensitivity Report: The proposed Springhaas Grid Connection Corridor 2 to the Artemis Substation (Corridor 2)

Marion Bamford Consulting (2022). Palaeontological Impact Assessment: for the proposed Overhead Powerline from Springhaas Collector Substation B to the Authorised Artemis Substation, Near Dealesville, Bloemfontein, Free State (Line 2)

South African National Biodiversity Institute (2018). Beta Vegetation Map of South Africa, Lesotho and Swaziland (Shapefile) [vector geospatial dataset] 2018. Available from the Biodiversity GIS website, downloaded on 26 January 2023

Terra Africa Consult (2023). Agricultural Environmental Sensitivity Report: The proposed overhead powerline from Springhaas Collector B Substation to the Authorised Artemis Substation (Line 2)

Wildskies Ecological Services (2022). Avifaunal Environmental Sensitivity Report: The proposed overhead Powerline from Springhaas Collector B Substation to the Authorised Artemis Substation (Line 2).

Appendix A1: Agricultural Site Sensitivity Assessment

Appendix A2: Terrestrial Biodiversity and Animal Species Assessment

Appendix A3: Aquatic Ecology Assessment

Appendix A4: Heritage Impact Assessment

Appendix A5: Avifauna Impact Assessment

Appendix A6: Palaeontological Impact Assessment

Appendix A7: Landscape and Visual Assessment

Appendix B: Public Participation Documentation

Appendix C: Generic Environmental Management Programme

Appendix D: Registration Form