SITE SENSITIVITY VERIFICATION REPORT – 132KV GRID CONNECTION THE DEVELOPMENT OF THE IGOLIDE WIND ENERGY FACILITY AND ASSOCIATED INFRASTRUCTURE, NEAR FOCHVILLE, GAUTENG PROVINCE (REF: GAUT 002/24-25/E0031)

1 INTRODUCTION

ENERTRAG South Africa (Pty) Ltd (ENERTRAG) proposes to develop a 132kV switching station, a 132kV single or double circuit powerline, and termination point upgrades (as may be necessary), including possible expansion, to allow for the proposed new 132kV powerline connection (hereafter the Project). The Project is intended to feed the electricity generated by the approved 100MW Igolide Wind Energy Facility (WEF) (DFFE reference number: 14/12/16/3/3/2/2385, EA date 31 January 2024) to the national energy grid, with the point of connection being the existing East Drie Five Substation. In terms of Sections 24 and 24D of the National Environmental Management Act (Act 107 of 1998), as read with GNR 983, GNR 984 and GNR 985 (as amended), the proposed grid connection infrastructure triggers a Basic Assessment (BA) process.

This Site Sensitivity Verification Report forms part of the Application for Environmental Authorisation in terms of the NEMA.

2 PURPOSE OF THE REPORT

WSP Group Africa (Pty) Ltd (WSP) has been appointed by ENERTRAG as the independent Environmental Assessment Practitioner (EAP) to undertake the required BA process.

The Department of Forestry, Fisheries and the Environment (DFFE) has developed the National Web-based Environmental Screening Tool in order to flag areas of potential environmental sensitivity related to a site as well as a development footprint and produce the screening report required in terms of regulation 16 (1)(v) of the Environmental Impact Assessment (EIA) Regulations (2014, as amended). The Notice of the requirement to submit a report generated by the national web-based environmental screening tool in terms of section 24(5)(h) of the NEMA, 1998 (Act No 107 of 1998) and regulation 16(1)(b)(v) of the EIA regulations, 2014, as amended (GN 960 of July 2019) states that the submission of a report generated from the national web-based environmental screening tool, as contemplated in Regulation 16(1)(b)(v) of the EIA Regulations, 2014, published under Government Notice No. R982 in Government Gazette No. 38282 of 4 December 2014, as amended, is compulsory when submitting an application for environmental authorisation in terms of regulation 19 and regulation 21 of the EIA Regulations, 2014 as of 04 October 2019.

The Screening Report generated by the National Web-based Environmental Screening Tool contains a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed

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development footprint as well as the most environmentally sensitive features on the footprint based on the footprint sensitivity screening results for the application classification that was selected.

A screening report for the construction of the proposed 132kV grid connection was generated on 26 June 2024 and is attached as **Appendix E** of the Draft Basic Assessment Report (BAR). The Screening Report for the project identified various sensitivities for the site. The report also generated a list of specialist assessments that should form part of the legalisation process based on the development type and the environmental sensitivity of the site. Assessment Protocols in the report provide minimum information to be included in a specialist report to facilitate decision-making.

The Screening Report recognises that "*it is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the footprint situation*." This report therefore addresses the findings of the Screening Report and provides a motivation for the proposed specialist studies identified to be conducted.

It also discusses whether the specialist studies forming part of this project are required to comply with the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Section 24(5) (a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation (the Protocols) (Government Notice No. 320 as published in Government Gazette No. 43110 on 20 March 2020 (GNR 320)).

3 METHODOLOGY

In line with GNR 320, the site sensitivity verification requirements have been achieved as per **Table 1** below.

Table 1: Site Sensitivity Verification and Minimum Report Content Requirements

Requirement	Reference
1.1. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.	This Site Sensitivity Verification was undertaken by Ashlea Strong, a registered EAP. Details of the EAP are provided in **Table 1-4** of the Draft BAR. The CV of the EAP and The EAP declaration of interest and undertaking is included in **Appendix A** and **Appendix B** of the Draft BAR.
1.2. The site sensitivity verification must be undertaken through the use of: (a) a desk top analysis, using satellite imagery; (b) a preliminary on-site inspection; and (c) any other available and relevant information.	The Site Sensitivity Verification was undertaken through the use of the following: • Available satellite imagery • Site inspections were undertaken by the specialists during the following period: March – May 2024 • Supporting information supplied by specialists
1.3. The outcome of the site sensitivity verification must be recorded in the form of a report that--	A summary of the environmental sensitivities identified by the DFFE Screening Tool, and the confirmed sensitivity is provided in **Table 4**. Motivation for the confirmed sensitivity rating is provided in **Section 7** below.

Requirement	Reference
(a) confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;	
(b) contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and	Motivation for the confirmed sensitivity rating is provided in **Section 7** below.
(c) is submitted together with the relevant assessment report prepared in accordance with the requirements of the EIA Regulations.	This Site Sensitivity Verification Report is being submitted as **Appendix J** of the Draft BAR.

4 PROJECT AND SITE OVERVIEW

The proposed 132kV OHPL, 33/132kV Switching Station and associated infrastructure will be developed approximately 6km northeast of Fochville, within the Merafong City Local Municipality in the Gauteng Province. The entire extent of the Project is located within the Central Corridor of the Strategic Transmission Corridors. The proposed project including the associated alternatives, is indicated in **Figure 1** below.

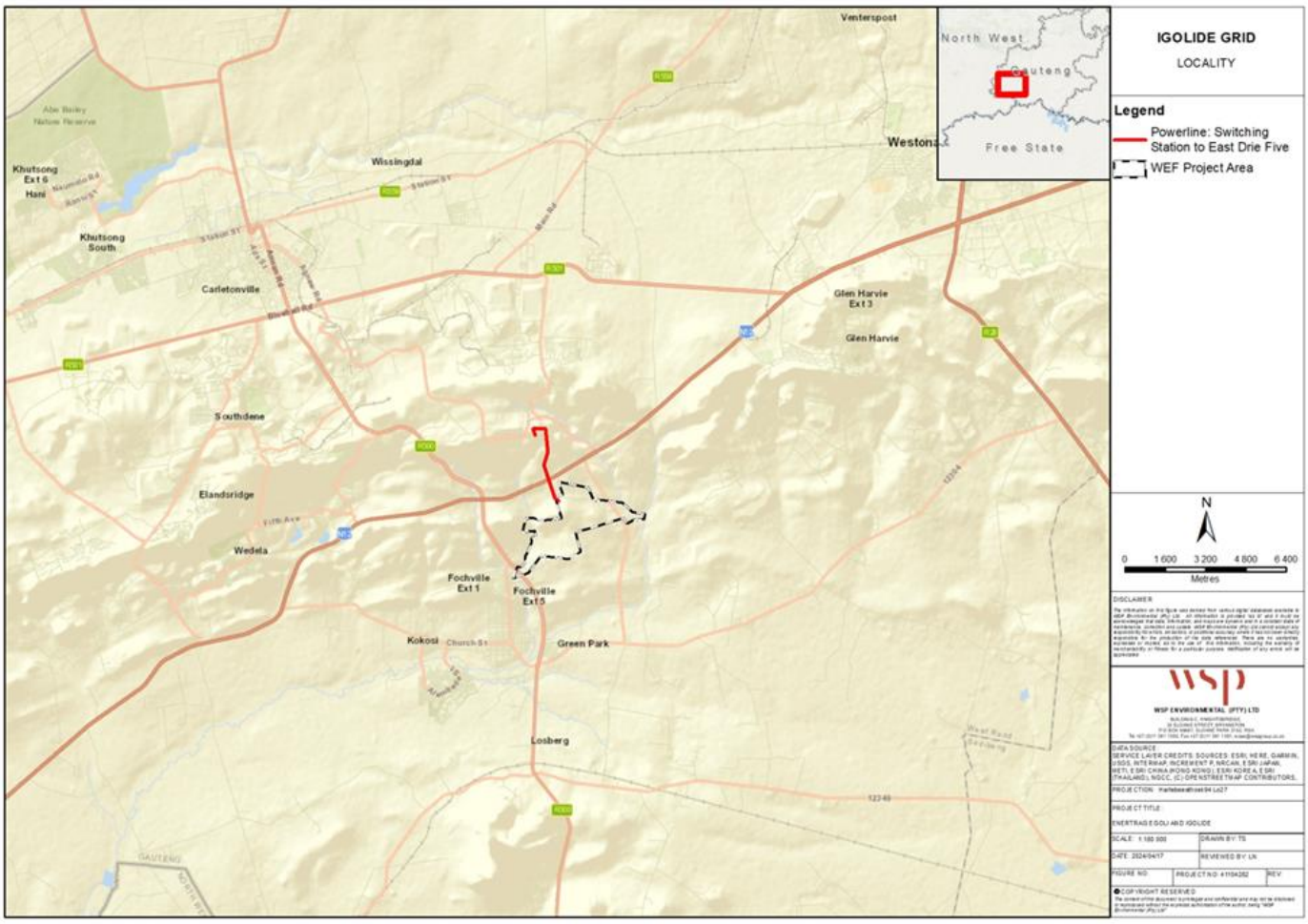

Figure 1: Regional locality map

5 ENVIRONMENTAL SENSITIVITY

As per the Screening Tool Report (**Appendix J** of the Draft BAR), the proposed site is indicated to be located within areas ranging from low to very high sensitivity. These are identified in **Table 2**.

Table 2: Sensitivities identified in the DFFE Screening Report

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Agricultural Theme		X		
Animal Species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Civil Aviation (Wind) Theme		X		
Defence (Wind) Theme				X
Palaeontology Theme		X		
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Based on information gathered through a desktop study and site assessment, not all of the identified sensitivities apply to the site in its current state. **Section 7** below serves to:

- Verify land use and sensitivities identified in the Screening Tool Report (as indicated above);
- Provide motivation and evidence of either the verified or different use of the land and environmental sensitivity; and
- Confirm / refute the need for the various specialist inputs recommended in terms of the Screening Tool Report.

6 SPECIALIST ASSESSMENTS

The specialist studies required for the proposed Project, as identified by the DFFE Screening Tool are included in **Table 3**. The table also identifies the specialist studies commissioned and provides motivation for specialist studies not commissioned.

Table 3: Specialist Studies identified by the DFFE Screening Tool

Specialist Study Identified	Specialist Study Commissioned	Specialist and Report Reference	Motivation
Agricultural Impact Assessment	Yes	Johann Lanz (Independent consultant) **Appendix F-1** of the Draft BAR	N/A
Avifauna Impact Assessment	Yes	AfriAvian Environmental Albert Froneman **Appendix F-7** of the Draft BAR	N/A

Specialist Study Identified	Specialist Study Commissioned	Specialist and Report Reference	Motivation
Terrestrial Ecology (including Plant and Animal Species Assessments)	Yes	Hawkhead Consulting; Andrew Zinn **AppendixF-4, Appenidx F-5 and Appendix F-6** of the Draft BAR	N/A
Aquatic Ecological Impact Assessment	Yes	WSP Group Africa (Pty) Ltd Lufuno Nemakhavhani **Appendix F-3** of the Draft BAR	N/A
Heritage and Palaeontology	Yes	Beyond Heritage; Jaco van der Walt **Appendix F-8** and **Appendix F-9** of the Draft BAR	N/A
Socio-economic Impact Assessment	Yes	Tony Barbour Environmental Consulting **Appendix F-11** of the Draft BAR	N/A
Geotechnical Impact Assessment	Yes	WSP Group Africa (Pty) Ltd Heather Davis **Appendix F-2** of the Draft BAR	N/A
Civil Aviation Assessment	No	N/A	According to the DFFE Screening Tool Report, civil aviation is regarded as having high sensitivity. due to the possible location of an aerodrome within 8 km of civil aviation aerodromes. Therefore, a compliance statement is required as per the protocol specifications. The relevant Authorities have been included in the project stakeholder database including the Air Traffic and Navigation Services (ATNS) and the

Specialist Study Identified	Specialist Study Commissioned	Specialist and Report Reference	Motivation
			South African Civil Aviation Authority (SACAA). These stakeholders have been informed of the proposed Project, and comments have been sought from these authorities as applicable
Defence Assessment	No	N/A	According to the DFFE Screening Tool Report, Defence is regarded as having low sensitivity. Therefore, a compliance statement is not required as per the protocol specifications. The Department of Defence have been included in the project stakeholder database. They have been informed of the proposed Project; comments have been sought from these authorities as applicable.
Radio Frequency Interference (RFI) Assessment	No	N/A	An RFI Study will not be undertaken. The RFI theme was not identified by the Screening tool as a sensitivity for the project. The proposed development area is not located within any Astronomy Advantage Area. The South African Weather Service (SAWS) and relevant telecommunications stakeholders have been included in the project stakeholder database. They have been informed of the proposed Project; comments have been sought from these authorities as applicable.

Specialist assessments were conducted in accordance with the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes, which were promulgated in Government Notice No. 320 of 20 March 2020 and in Government Notice No. 1150 of 30 October 2020 (i.e. “the Protocols”), or Appendix 6 of the EIA Regulations, depending on which legislation apply to the assessment under consideration. A summary of the DFFE screening tool, the applicable legislation as well as the specialist sensitivity verification are detailed in **Table 4** below. The motivation for the site sensitivity verification for each environmental theme is discussed in **Section 7** below.

Table 4: Assessment Protocols and Site Sensitivity Verifications

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
Agricultural Impact Assessment	Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) and (H) and 44 of 4 NEMA, 1998).	**High Sensitivity**	Page 4 of the Agricultural Compliance Statement outlines the specific sections of the report which align with the agricultural protocol. The outcome of the site sensitivity verification can be found in Section 7 of the Agricultural Compliance Statement (**Appendix F-1** of the Draft BAR). The results of the DFFE Screening Tool indicated that the Agricultural theme has a High Sensitivity. However, this result was disputed by the specialist who confirmed that the study area has a **Low Sensitivity**.
Archaeological and Cultural Heritage Impact Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	**Low Sensitivity**	in the absence of a specific protocol for Archaeology and cultural heritage Assessments, the Archaeological and Cultural Heritage Impact Assessment (**Appendix F-8** of the Draft BAR) has been undertaken in compliance with Appendix 6 of the EIA regulations. Appendix 2 of the study outlines the outcome of the site sensitivity verification. The results DFFE Screening Tool indicated that the Archaeological and Cultural Heritage theme has a Low Sensitivity. This result was disputed by the specialist who confirmed that the study area has a **Medium Sensitivity**.
Palaeontology Impact Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification	**High Sensitivity**	Pages 7 & 8 of the Palaeontology Impact Assessment (**Appendix F-9** of the Draft BAR) outlines the specific sections of the specialist report which align with Appendix 6 of the EIA regulations. The results DFFE Screening Tool indicated that the Palaeontological

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
	and must comply with Appendix 6 of the EIA Regulations.		theme has a High Sensitivity. However, this result was disputed by the specialist who confirmed that the study area has a **Medium Sensitivity.**
Terrestrial Biodiversity Impact Assessment	Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation (GN 320, 20 March 2020) provides the criteria for the assessment and reporting of impacts on terrestrial biodiversity for activities requiring environmental authorisation.	**Very High Sensitivity**	The Terrestrial Biodiversity Assessment has been undertaken in line with the terrestrial biodiversity protocol and Appendix 6 of the EIA regulations 2014. The site sensitivity verification is discussed in Appendix C of the Terrestrial Biodiversity Assessment (**Appendix F-4** of the Draft BAR). It is noted that the tracts of natural grassland and bushveld habitat in the study area are of biodiversity importance with respect to their roles as ecological support areas. The results DFFE Screening Tool indicated that the Terrestrial Biodiversity theme has a Very High Sensitivity. This result was supported by the specialist who confirmed that the study area has a **Very High sensitivity.**
Aquatic Biodiversity Impact Assessment	Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation (GN 320, 20 March 2020)) provides the criteria for the assessment and reporting of impacts on aquatic biodiversity for activities requiring environmental authorisation.	**Very High Sensitivity**	The Aquatic Biodiversity Assessment has been undertaken in line with the Protocol for the specialist assessment and minimum report content requirements for environmental impacts on aquatic biodiversity. The site sensitivity verification can be found in Section 6 of the Aquatic Biodiversity Assessment (**Appendix F-3** of the Draft BAR). The results DFFE Screening Tool indicated that the Aquatic Biodiversity theme has a Very High Sensitivity. However, based on the findings of this study, the project area was considered as having **High Sensitivity**.

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
Civil Aviation Assessment	Protocol For The Specialist Assessment And Minimum Report Content Requirements For Environmental Impacts On Civil Aviation Installations	**High Sensitivity**	The high sensitivity identified in the DFFE Screening tool. The closest airfield to the study area is 17km away and therefore there are no active airfields within 8km of the study area. Therefore, the sensitivity is disputed and regarded as Low Sensitivity.
Defence Assessment	Protocol For The Specialist Assessment And Minimum Report Content Requirements For Environmental Impacts On Civil Aviation Installations	**Low Sensitivity**	The Department of Defence has been included on the project stakeholder database. No comment has been received to date.
Plant Species Assessment	Protocol (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of sections 24(5)(a) and (h) and 44 of NEMA, gazetted on 30 October 2020), provides the criteria for the assessment and reporting of impacts on plant and animal species for activities requiring environmental authorisation.	**Medium Sensitivity**	The Plant Species Assessment has been undertaken in line with the Protocol for the specialist assessment and report content requirements for environmental impacts on terrestrial plant species. The site sensitivity verification is discussed in the Appendix D of the Plant Species Assessment (**Appendix F-5** of the Draft BAR). The results DFFE Screening Tool indicated that the Terrestrial Biodiversity theme has a Medium Sensitivity. This result was disputed by the specialist confirmed that the sensitivity rating for the Rocky Ridge/Outcrop Grassland and Mixed Rocky Ridge Bushveld units in the study area are rated as having '**High' sensitivity**, with the remainder of the study area regarded as '**Medium' sensitivity**.
Animal Species Assessment	Protocol (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of sections 24(5)(a) and (h) and 44 of NEMA, gazetted on 30 October 2020), provides the criteria for	**Medium Sensitivity**	The Animal Species Assessment was undertaken in line with the Protocol for the specialist assessment and report content requirements for environmental impacts on terrestrial animal species. The site sensitivity verification is discussed in the Animal Species

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
	the assessment and reporting of impacts on plant and animal species for activities requiring environmental authorisation.		Assessment (**Appendix F-6** of the Draft BAR). The results DFFE Screening Tool indicated that the Animal Biodiversity theme has a **Medium Sensitivity**. This result was confirmed by the specialist.
Avifauna Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	No sensitivity identified by the screening tool However, the Animal Species Theme indicates a **Medium Sensitivity**	Appendix C of the specialist report contains the site sensitivity verification (**Appendix F-7** of the Draft BAR). Based on the Site Sensitivity Verification survey (conducted in April 2024) and the integrated pre-construction monitoring conducted at the associated Igolide WEF (2020–2022), the classification of **High Sensitivity** for avifauna is advocated for the Igolide WEF EGI project area
Desktop Geotechnical Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	No sensitivity identified by the screening tool	No preliminary geotechnical sensitivities or sensitivity rating was identified in the relevant Screening Tools (i.e., a preliminary sensitivity rating was not provided that could then be confirmed or altered based on further assessment).
Socio Economic Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	No sensitivity identified by the screening tool	No preliminary socio-economic sensitivities or sensitivity rating was identified or provided based on the Screening Tools (i.e., a preliminary sensitivity rating was not provided that could then be confirmed or altered based on further assessment).
Visual Impact	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the	No sensitivity identified by the screening tool	No preliminary socio-economic sensitivities or sensitivity rating was identified or provided based on the Screening Tools (i.e., a preliminary

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
	required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.		sensitivity rating was not provided that could then be confirmed or altered based on further assessment). However, A site sensitivity verification has been conducted in respect of the VIA, which indicated a **Medium Sensitivity**.

7 SPECIALIST SITE SENSITIVITY VERIFICATION MOTIVATION

Agricultural Impact Assessment

A specialist agricultural assessment is required to include a verification of the agricultural sensitivity of the development site as per the sensitivity categories used by the web-based environmental screening tool of the DFFE. Agricultural sensitivity is an indication of the capability of the land for agricultural production, based only on its climate, terrain, and soil capabilities and its agricultural land use. The different categories of agricultural sensitivity indicate the priority by which land should be conserved as agricultural production land. However, the screening tool's agricultural sensitivity is often of very limited value for assessing agricultural impact. What is of importance to an agricultural assessment, rather than the site sensitivity verification, is its assessment of the cropping potential and its assessment of the impact significance, both of which are not necessarily correlated with sensitivity.

The screening tool classifies agricultural sensitivity according to two independent criteria, from two independent data sets, both of which may be indicators of the land's agricultural production potential but are limited in that the first is outdated and the second is fairly course, modelled data. The two criteria are:

- whether the land is classified as cropland or not on the field crop boundary data set (Crop Estimates Consortium, 2019), and
- its land capability rating on the land capability data set (DAFF, 2017)

All classified cropland is, by definition, either high or very high sensitivity. Land capability is defined as the combination of soil, climate, and terrain suitability factors for supporting rain-fed agricultural production. It is rated by the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). The higher land capability values (≥8 to 15) are likely to indicate suitability as arable land for crop production, while lower values (<8) are likely to only be suitable as non-arable grazing land. The direct relationship between land capability rating, agricultural sensitivity, and rain-fed cropping suitability is shown in **Table 5**.

Table 5: Relationship between land capability, agricultural sensitivity, and rain-fed cropping suitability

Land capability value	Agricultural sensitivity	Rain-fed cropping suitability
1 - 5	low	Unsuitable
6 - 8	medium	Unsuitable to marginally suitable
9 - 10	high	Suitable
11 - 15	very high	Suitable

The agricultural sensitivity of the site, as classified by the screening tool, is shown in **Figure 2**. However, the screening tool sensitivity requires specialist verification because of the limitations of the data sets on which it is based.

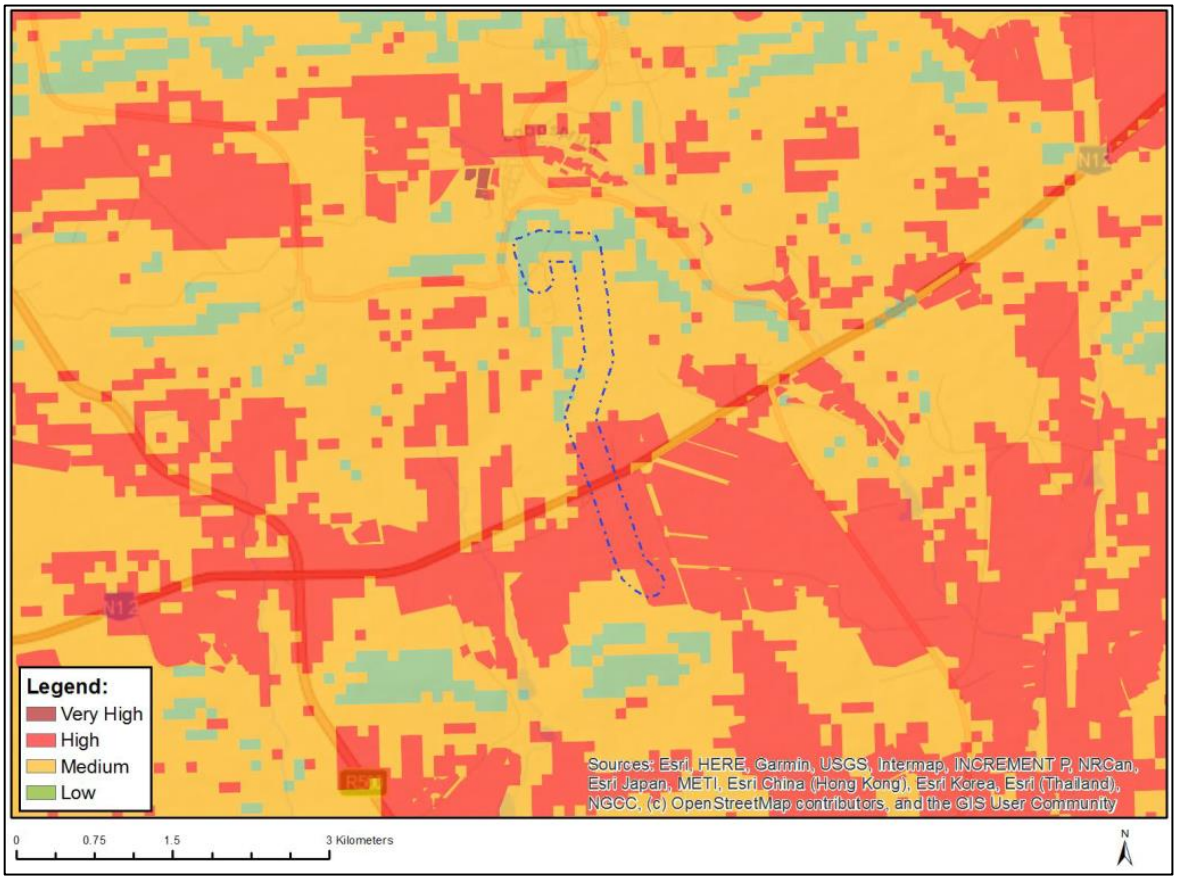

Figure 2: Map of Agriculture Sensitivity
Source: DFFE Screening Report

Note that there will be no agricultural impact associated with any development at the existing East Drie Five substation because it is non-agricultural land. That part of the site and of the development does not therefore need to be addressed in this report.

This verification of sensitivity for the switching station footprint addresses both components that determine it, namely cropping status and land capability. The screening tool classifies the footprint as high agricultural sensitivity. The high sensitivity classification is due to the land being classified as cropland.

However, the data set used by the screening tool to classify cropland is outdated. All land across the footprint is no longer used or viable as cropland. This land should not, therefore, still be classified as cropland and allocated high sensitivity because of it. This assessment therefore disputes the high sensitivity rating by the screening tool that is based on cropping status.

The classified land capability of the footprint ranges from 6 to 8. This assessment disputes a classified land capability of >7, based on an assessment that the site is unsuitable for viable rain-fed crop production. The appropriate land capability of land that is unsuitable for viable rain-fed crop production is ≤7 because the relationship between land capability and agricultural production potential is such that a land capability of >7 should denote land that is suitable (or at least marginal) for viable rain-fed crop production. This assessment therefore rates the entire proposed footprint as having a maximum land capability of 7.

In conclusion, this assessment disputes the high sensitivity classification of the switching station by the screening tool and rates it as being of medium agricultural sensitivity with a maximum land capability of 7 because of its assessed agricultural production potential and current agricultural land use.

The screening tool sensitivity of a power line corridor has very little relevance to the assessment of its agricultural impact because the impact is negligible, regardless of the agricultural sensitivity of the land which it crosses. The agricultural sensitivity of the corridor, as classified by the screening tool, ranges from low to high sensitivity. This assessment **disputes** the high sensitivity classification by the screening tool because of the current agricultural land use and land capability of the corridor and rates it as being **Low sensitivity**.

Archaeological and Cultural Heritage Impact Assessment

The output of the DFFE Screening Tool for the Archaeological and Cultural Heritage Theme is illustrated in **Figure 3** and indicates that the site is classified as Low Sensitivity.

Initial work was carried out using satellite aerial photography in combination with the author's accumulated knowledge of the local landscape. This was used to determine whether any areas were likely to be particularly sensitive. Subsequent fieldwork served to ground truth the site, including areas identified as potentially sensitive. Desktop research using maps, historical aerial photography, published literature and commercial reports was also conducted to inform on the heritage context of the area.

Figure 3 below is extracted from the screening tool report and shows the archaeological and heritage sensitivity to be low throughout the proposed powerline corridor. The sensitive location shown to the west of the north end of the corridor is likely the stone wall documented during the present survey, but this cannot be confirmed. The site visit showed that in fact the majority of the site is of low sensitivity but that a number of small areas (where heritage resources were found) are considered to be of high sensitivity. **Figure 4** below shows the areas considered to be sensitive from a heritage point of view (red polygons). These are mostly archaeological sites, but the steep slope northeast of the mine is also included.

The heritage specialist therefore **disputes** the Screening Tool map and advocates for a **medium sensitivity**.

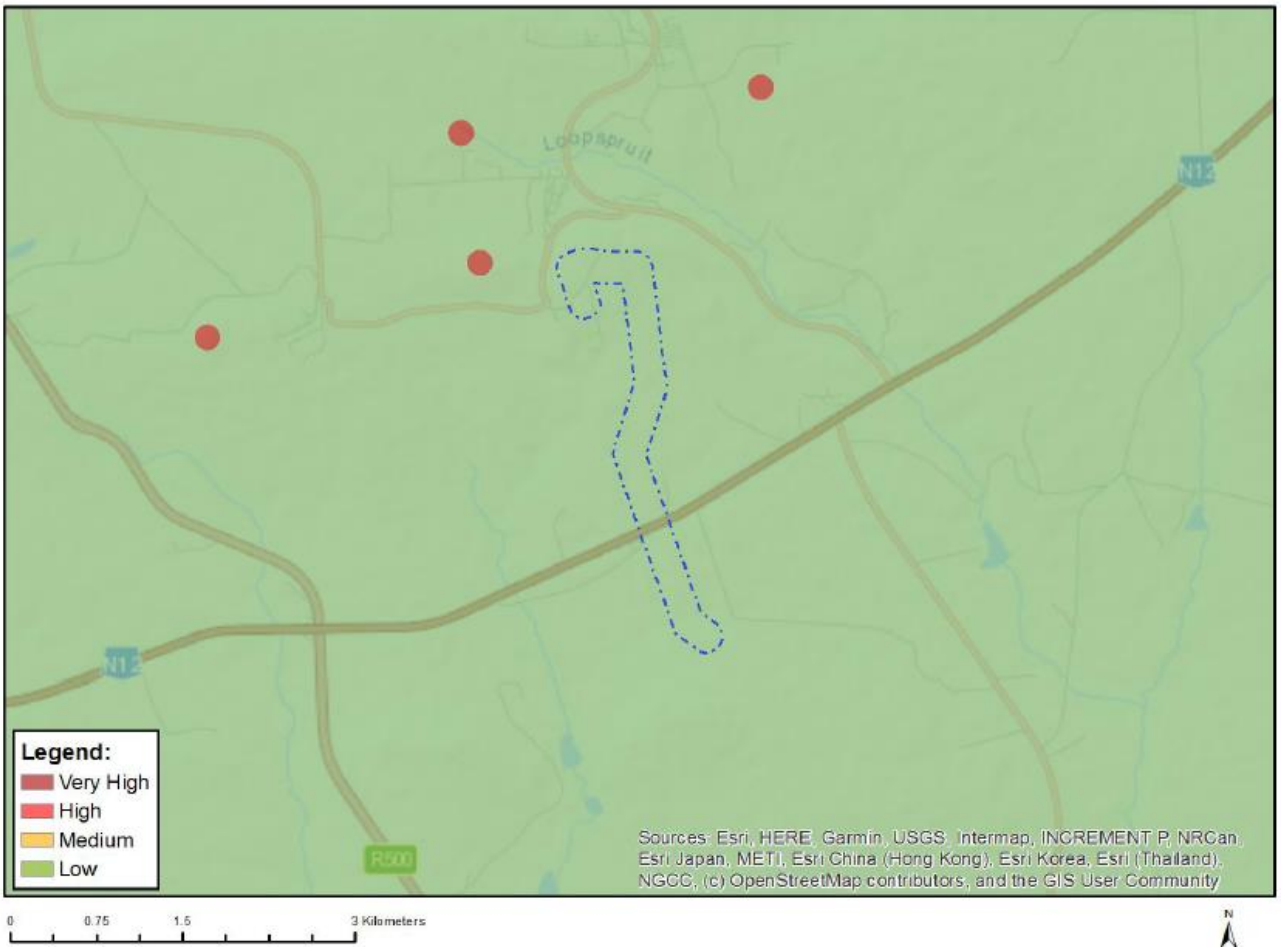

Figure 3: Map of Archaeological and Cultural Heritage Sensitivity
Source: DFFE Screening Report

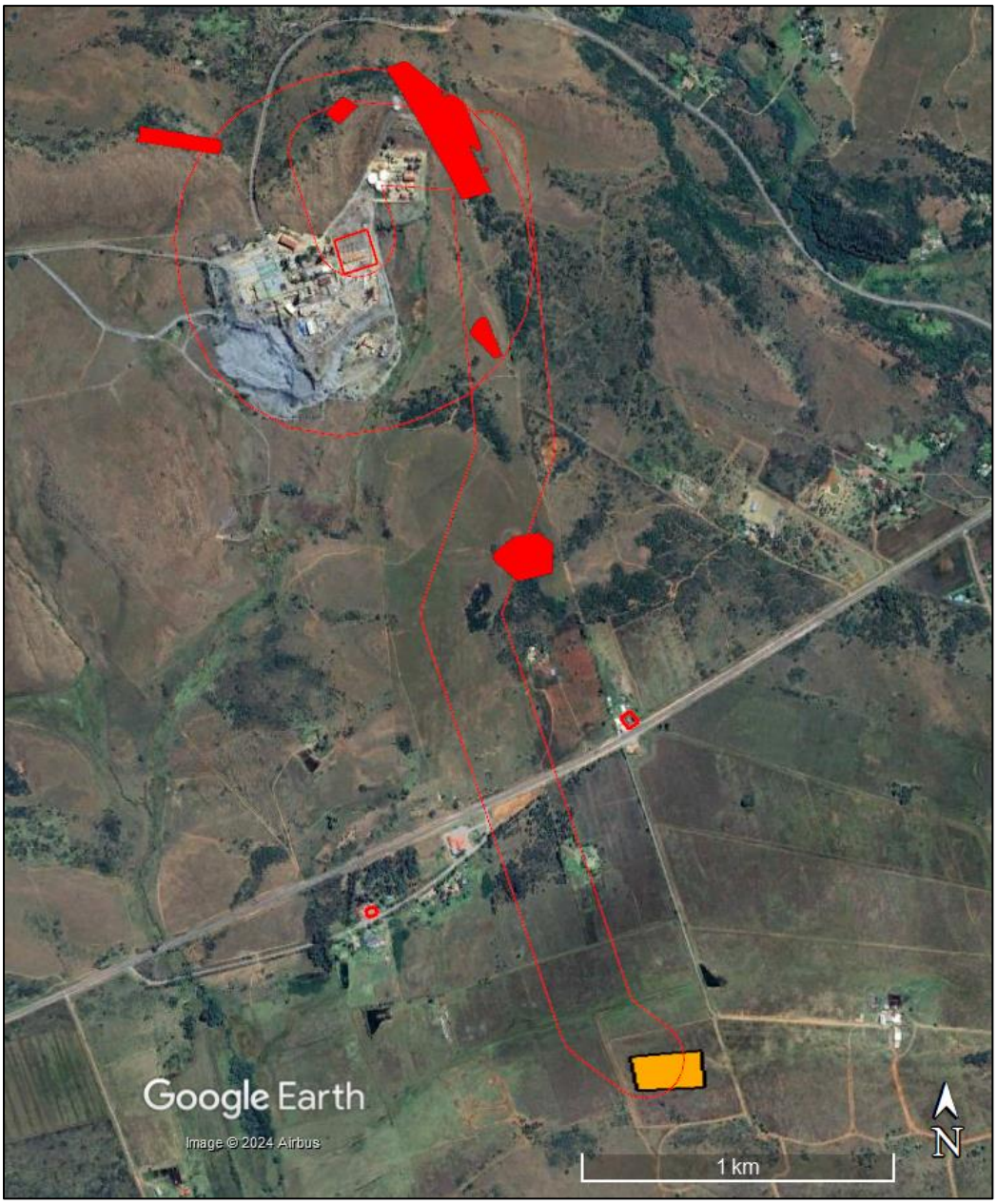

Figure 4: Map showing the heritage sensitivity on site

Palaeontology Impact Assessment

Based on the DFFE Screening Tool, the site contains areas of High Sensitivity (**Figure 5**).

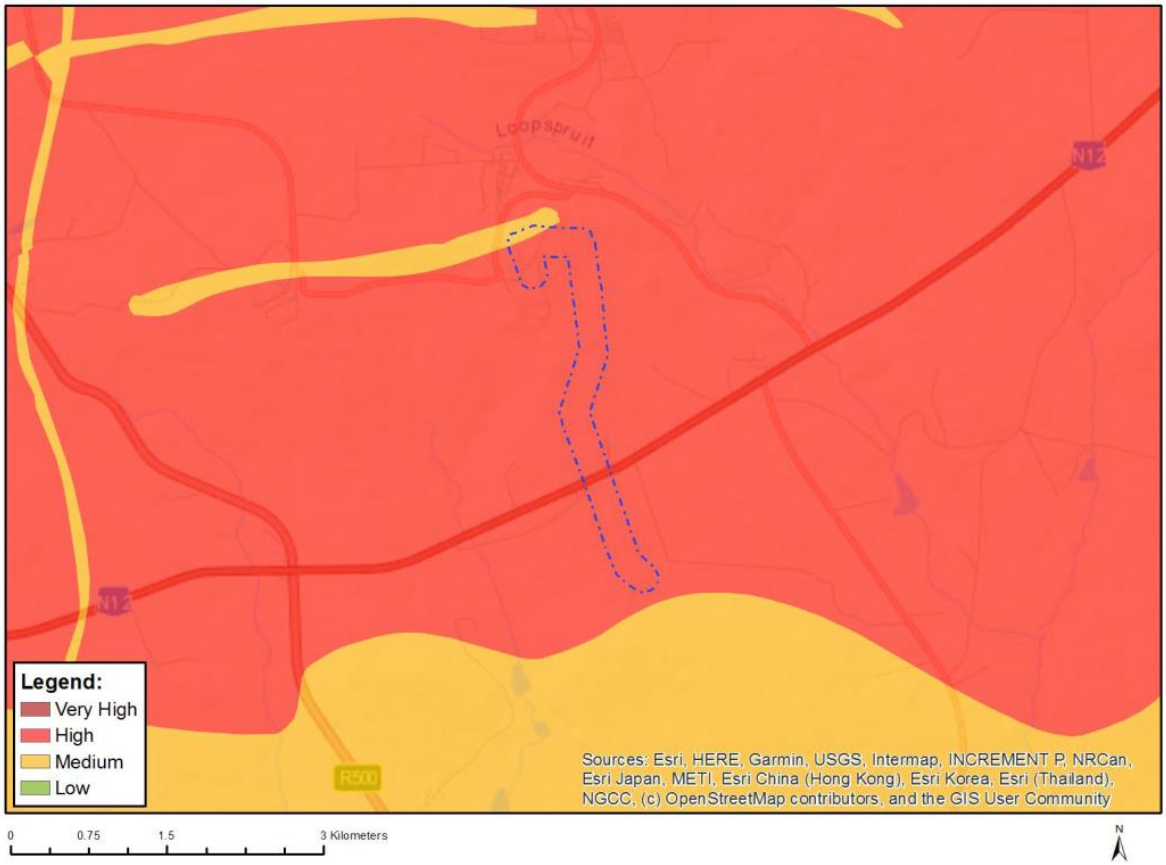

Figure 5: Map of Palaeontology Sensitivity

Source: DFFE Screening Report

The proposed WEF lies on potentially highly sensitive rocks of the Timeball Hill Formation (northern part of the project area), and on moderately fossiliferous rocks of the Hekpoort and Silverton Formations (central and southeast, respectively). Based on the published records it is unlikely that any trace fossils such as stromatolites or microbialites, occur in the project footprint. Nonetheless, a Fossil Chance Find Protocol should be added to the EMPr. Based on this information it is recommended that no further palaeontological impact assessment is required unless fossils are found by the contractor, environmental officer or other designated responsible person once excavations or drilling activities have commenced. The specialist disputed the Screening tools findings and confirmed that the study area has a **medium sensitivity**.

Terrestrial Biodiversity Impact Assessment

The proposed Project's infrastructure footprint was assessed at a desktop level using the National Web-based Environmental Screening Tool. According to the sensitivity report output, the Terrestrial Biodiversity Theme is rated 'Very High Sensitivity' due to the presence of the following features (**Figure 6**):

- Ecological Support Areas 1; and
- Ecological Support Areas 2.

The study area comprises patches of modified habitat, and fairly large areas of natural habitat. Based on field work conducted for this study, it is noted that the character and condition of the habitat patches that are delineated as ESA 1 and ESA 2 is commensurate with the assigned C-Plan designation, and accordingly, the findings of this study **support** the '**Very High' sensitivity** rating of the screening tool.

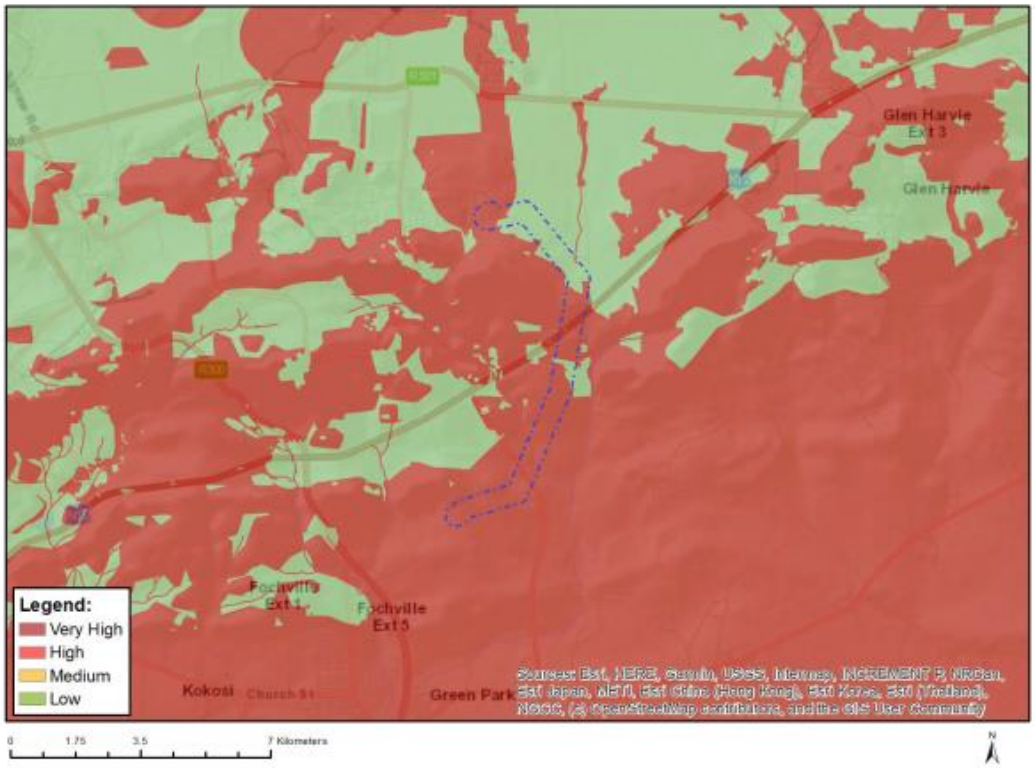

Figure 6: Map of Terrestrial Biodiversity Sensitivity

Source: DFFE Screening Report

Aquatic Biodiversity Impact Assessment

Based on the DFFE Screening Tool rates the aquatic biodiversity theme as 'Very High Sensitivity' as shown in **Figure 7** due to the presence of wetland features and areas mapped as wetland Critical Biodiversity Area (CBA) and Freshwater Ecosystem Priority Area (FEPA) sub-catchment in the study area. Based on the findings of this study, the project area was considered as having '**High Sensitivity**' instead of 'Very High Sensitivity' due to the size and moderately modified present ecological state of the wetland as well as the Low/Marginal ecological importance and sensitivity of the wetland.

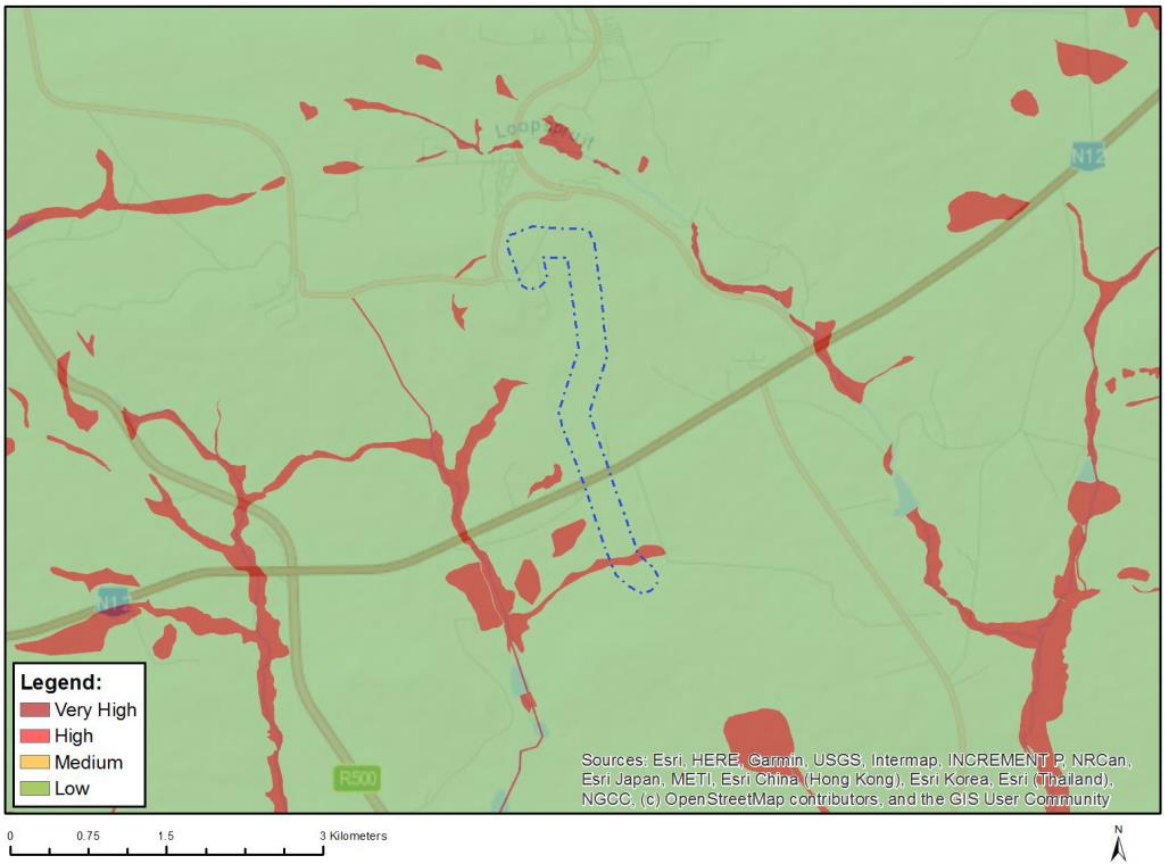

Figure 7: Map of Aquatic Biodiversity Sensitivity

Source: DFFE Screening Report

Plant Species Assessment

According to the National Web Based Screening Tool, the Plant Species Theme for the broader study area was rated 'Medium Sensitivity' on account of the potential presence of several threatened flora species (**Figure 8**).

Neither *Khadia beswickii* or Sensitive species 1248 were recorded in the study area. However, habitat suitability assessments indicate that there is suitable habitat available for both species; *Khadia beswickii* favours open shallow soils, over rocks in grassland, and Sensitive species 1248 occurs in open woodland and steep rocky hills in shady situations. These habitats occur in the study area, and it is therefore possible that both *Khadia beswickii* and Sensitive species 1248 are present. Suspected *Adromischus umbraticola* subsp. *umbraticola* (Near Threatened) were recorded in the study area during the field survey.

Based on the findings of this study, the Plant Species Theme sensitivity rating for the Rocky Ridge/Outcrop Grassland and Mixed Rocky Ridge Bushveld units in the study area are rated as having 'High' sensitivity, with the remainder of the study area is regarded as '**Medium' sensitivity**.

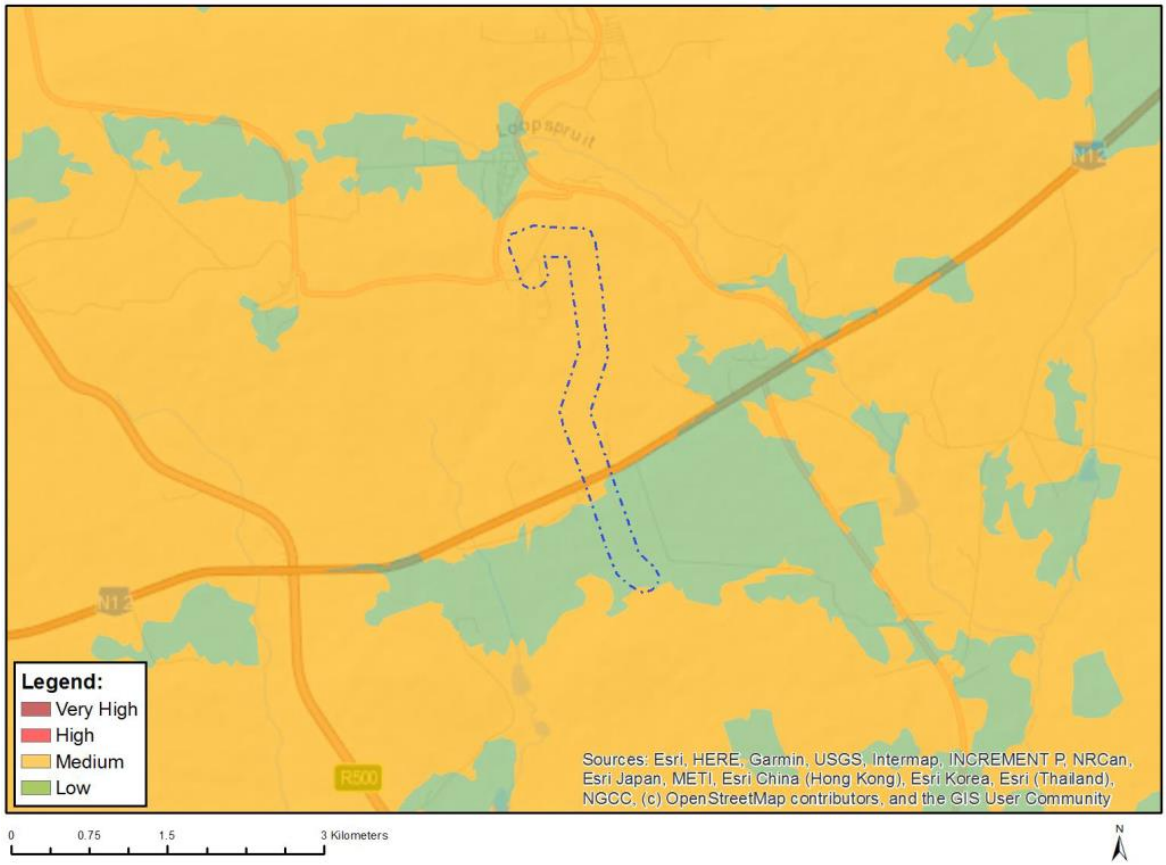

Figure 8: Map of Plant Species Sensitivity
Source: DFFE Screening Report

Animal Species Assessment

The National Web-based Environmental Screening Tool rates the Animal Species Theme for the proposed Project as 'Medium' sensitivity on account of the potential presence of two bird, two mammal and three invertebrate species of conservation concern(**Figure 9**).

Based on habitat suitability assessments, the presence of two species highlighted in the screening report as potential sensitive features were considered 'Possible' (viz., White-bellied Bustard *Eupodotis senegalensis*, Maquassie Musk Shrew *Crocidura maquassiensis*, Highveld Nimble Blue *Lepidochrysops praeterita* and Potchefstroom Blue *Lepidochrysops procera*), while the remaining taxa were considered unlikely. Based on these findings, the sensitivity rating for the study area with respect to animal species is confirmed as '**Medium' Sensitivity**.

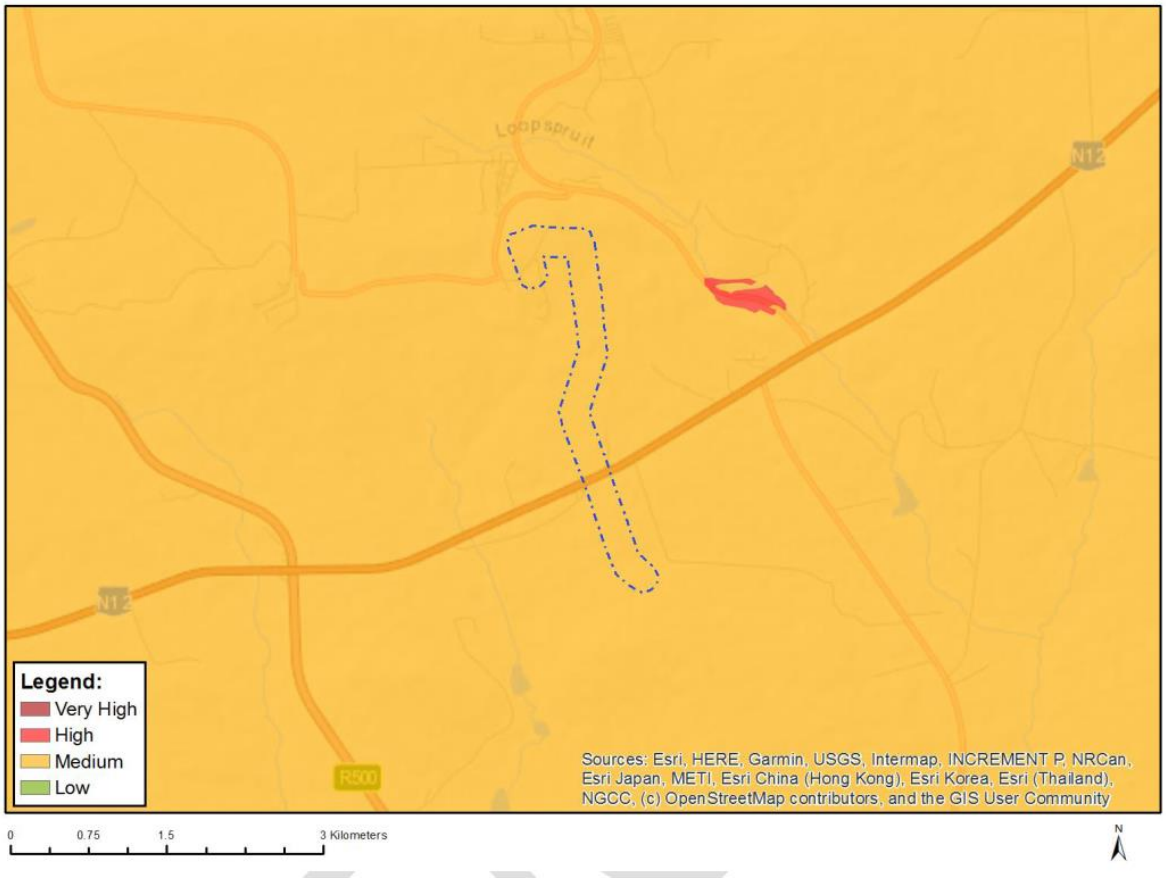

Figure 9: Map of Animal Species Sensitivity

Source: DFFE Screening Report

Avifauna Assessment

Due to the potential presence of several electrical grid infrastructure (EGI) sensitive species, including Species of Conservation Concern (SCC), which could utilise the whole Species of Conservation Concern and Broader Area, including the Igolide WEF EGI Development Area, for foraging, roosting, and nesting, the entire study area has been assessed to be a High Sensitivity zone (**Figure 10**) from a collision impact perspective and an electrocution risk perspective. Although the study area is classified as **High sensitivity** it is not considered a No-Go zone.

Development in the remaining natural grassland in the Species of Conservation Concern must be limited as far as possible. Where possible, infrastructure must be located near margins, with the shortest routes taken from the existing roads. The grassland is a potential breeding, roosting and foraging habitat for a variety of SCC. These include African Grass Owl (Globally Least Concern, Regionally Vulnerable), and Secretarybird (Globally Endangered, Regionally Vulnerable). The entire 132kV power line should be marked with Bird Flight Diverters according to the applicable Eskom Standard to reduce the risk of collisions.

There are wetlands, dams, and drainage lines within the Species of Conservation Concern. Wetlands (including dam margins) are important breeding, roosting and foraging habitat for a variety of SCC, most notably for African Grass Owl (Regionally Vulnerable), Greater Flamingo (Regionally Near Threatened), Maccoa Duck (Globally Vulnerable, Regionally Near Threatened), and Yellow-billed Stork (Regionally Endangered). These SCC have all been recorded in the Broader Area through the Southern African Bird Atlas Project (SABAP2). It should also be noted that any road and/or grid line crossings across these

features should be restricted to what is unavoidable. EGI sensitive species moving between these habitat features would be at risk of colliding with the 132kV power line, therefore the entire 132kV power line should be marked with Bird Flight Diverters (BFDs) according to the applicable Eskom Standard.

Cape Vultures have been recorded in the Broader Area (SABAP2 Data). Cape Vultures would be at risk of electrocutions on the 132kV power line as they are large enough to bridge the gap between the live components of the power line. A vulture-friendly pole design must be used to minimise the electrocution risk. The final pole design must be signed off by an avifaunal specialist.

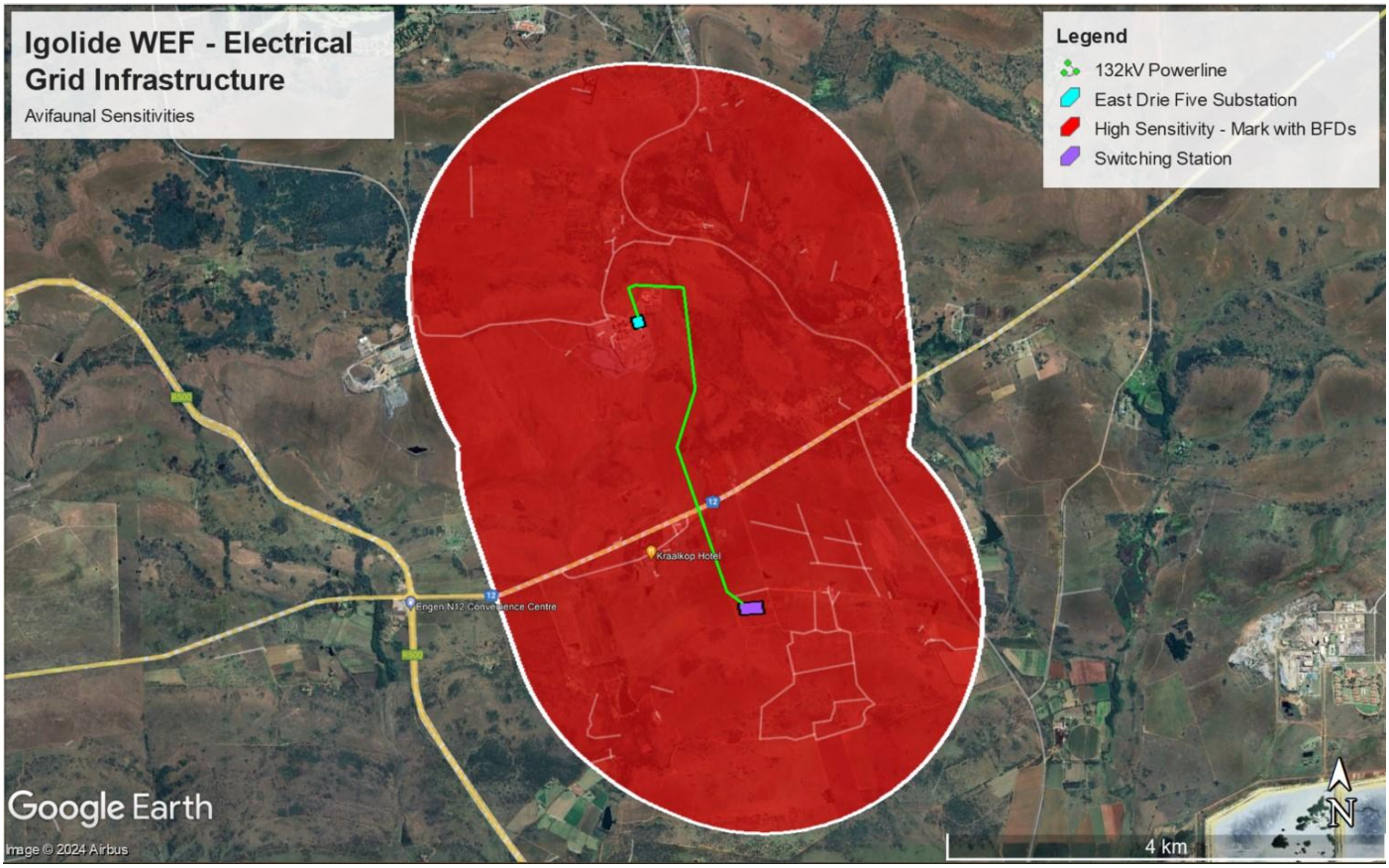

Figure 10: Avifauna Sensitivity Map

Visual Impact Assessment

The sensitivity assessment determined that the study area has a somewhat mixed visual character, transitioning from the heavily transformed mining landscape in the north to a more rural / pastoral character across the remainder of the study area. Hence, although EGI development would alter the visual character and contrast with the rural / pastoral character, the location of the proposed EGI in relatively close proximity to the gold mining complex will significantly reduce the level of contrast.

A broad-scale assessment of visual sensitivity, based on the physical characteristics of the study area, economic activities and land use that predominates, determined that the area would have a low visual sensitivity. An important factor contributing to the visual sensitivity of an area is the presence, or absence of visual receptors that may value the aesthetic quality of the landscape and depend on it to produce revenue and create jobs. No formal protected areas, leisure-based tourism activities or sensitive receptor locations

were identified in the study area, and this factor in conjunction with the high levels of transformation in the north have reduced the overall visual sensitivity of the broader area.

A site sensitivity assessment was undertaken with the aim of indicating any areas that should be precluded from the proposed development footprint. From a visual perspective, these are areas where the establishment of grid connection infrastructure would result in the greatest probability of visual impacts on any sensitive or potentially sensitive visual receptors.

Using GIS-based visibility analysis, it was possible to determine which sectors of the EGI assessment corridor would be visible to the highest numbers of receptors in the study area. This analysis confirmed that areas of higher elevation are visible to greater numbers of potentially sensitive receptors. Hence the visual prominence of a tall structure such as a powerline pylon would be exacerbated if located on any ridges or relatively higher-lying plateaus. It is noted that the northern section of the assessment corridor is located on an area of relatively higher elevation that could be seen as an area of potentially high visual sensitivity. However, due to the relatively low number of potentially sensitive receptors in the area, the presence of existing powerlines, road infrastructure and mining activity as well as the fact that the study area as a whole is rated as having a low visual sensitivity, the sensitivity rating of these area would be reduced to “Medium”.

In determining visual sensitivity, consideration must be given to the direct visual impact of the EGI on any farmsteads or receptors located in, or within 500m of, the assessment corridor. Accordingly, a 500m zone of potential visual sensitivity has been delineated around six receptor locations that were found to be within 500m of the assessment corridor. However, one of these receptor locations, namely VR127 is within the Igolide WEF project area, and as the owners of this property are involved in the development, they are not expected to view the proposed EGI in a negative light. The remaining five receptor locations are all located in relatively close proximity to the N12 National Route. These factors are expected to reduce the visual impacts on these receptor locations resulting from the Igolide EGI project. Hence the zones of potential visual sensitivity, as shown in **Figure 11** are not considered to be “no go areas”, but rather should be viewed as zones of potential visual sensitivity, with a sensitivity rating of “**Medium**”.

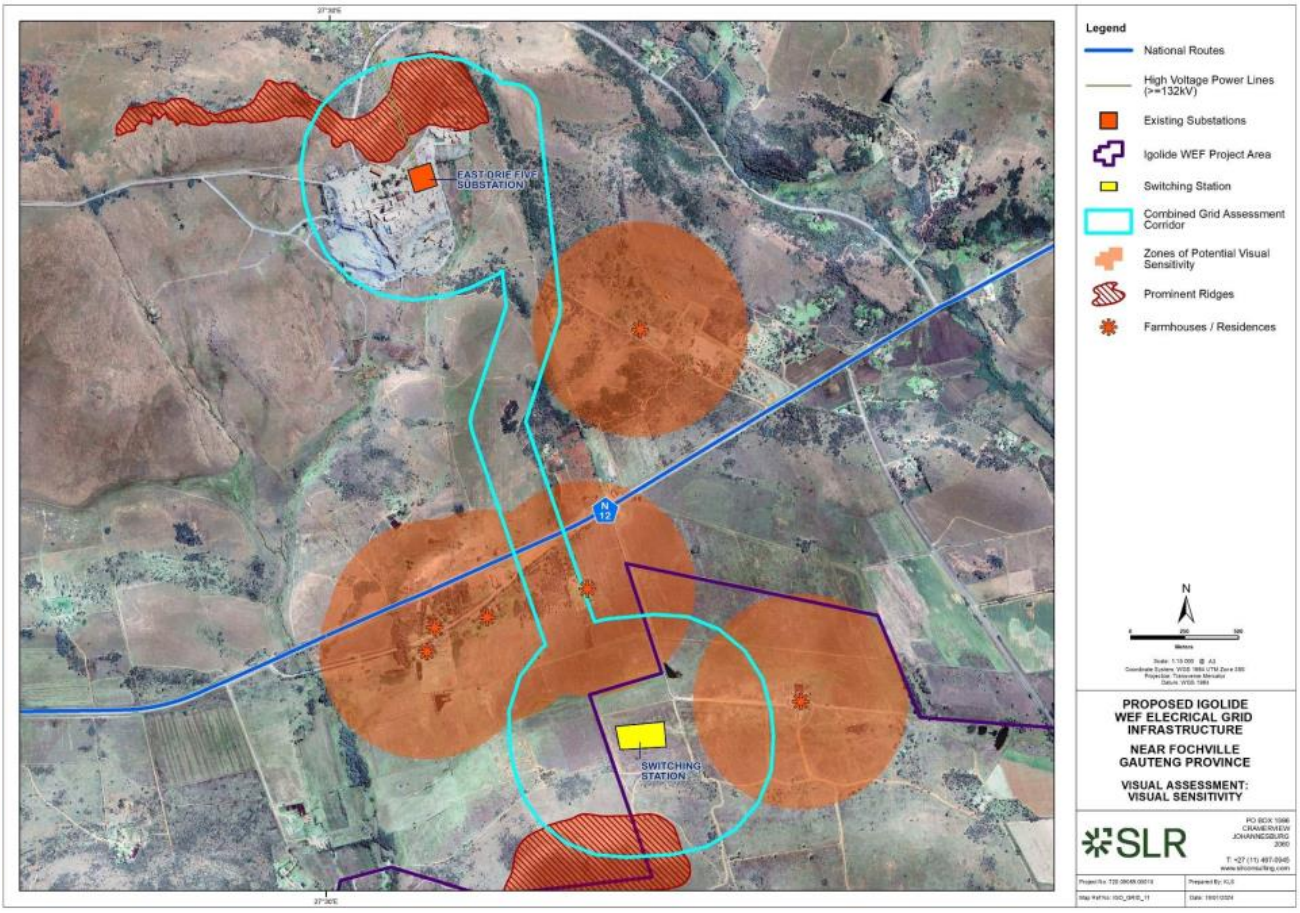

Figure 11: Potential visual sensitivity in relation to the proposed Igolide EGI assessment corridor

Civil Aviation

The output of the DFFE Screening Tool for the Theme is illustrated in **Figure 12** and indicates that the site is classified as High Sensitivity.

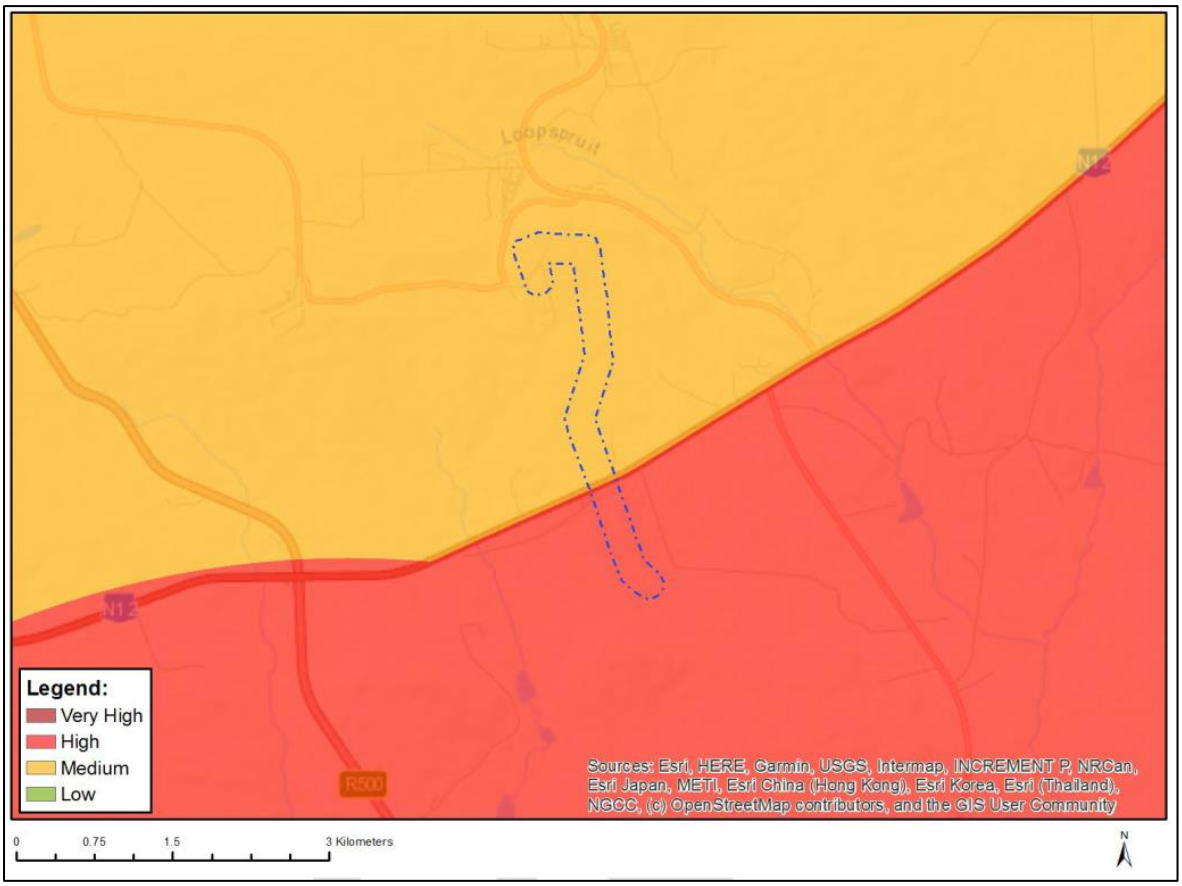

Figure 12: Map of Civil Aviation Sensitivity

Source: DFFE Screening Report

According to the DFFE Screening Tool Report, civil aviation is regarded as having high sensitivity. due to the possible location of an aerodrome within 8 km of civil aviation aerodromes.

A google earth search shows that there are no active aerodromes within 8km of the site. The closest active aerodrome is the Carletonville Aerodrome which is 17km northwest of the proposed project. The high sensitivity identified in the DFFE Screening tool is therefore disputed and regarded as **Low Sensitivity**.

As of the 1st of May 2021, ATNS has been appointed as the new Obstacle application Service Provider for Wind farms and later Solar Plants. Their responsibility would pertain to the assessments, maintenance, and all other related matters in respect to Windfarms and in due time Power Plant assessments. The ATNS and SACAA have been included on the project stakeholder database. They have been informed of the proposed Project, and comment is being sought. Furthermore, an application for the Approval of Obstacles has been submitted to ATNS by the applicant

8 CONCLUSION

The EAP hereby confirms the following environmental themes were confirmed to coincide with the DFFE Screening Tool Rating:

- Terrestrial biodiversity (confirmed very high sensitivity); and

- Animal Species (Confirmed medium Sensitivity).

The following environmental themes were disputed and found to be a lower sensitivity than what was identified by the DFFE Screening Tool:

- Agricultural Impact Assessment (Confirmed Low Sensitivity);
- Aquatic Biodiversity (Confirmed High Sensitivity);
- Paleontology (Confirmed Medium Sensitivity); and
- Civil aviation (confirmed Low Sensitivity).

The following environmental themes were disputed and found to be a higher sensitivity than was identified by the DFFE Screening Tool:

- Archaeological and Cultural Heritage (Confirmed Medium Sensitivity); and
- Plant Species Assessment (Confirmed High and Medium Sensitivity).

The following environmental themes were not identified by the DFFE Screening Tool which were also confirmed to have a low sensitivity:

- Avifauna Assessment (Confirmed High Sensitivity); and
- Visual Assessment (confirmed medium Sensitivity).

Due to the fact that high and very high sensitivities have been confirmed along the powerline corridor means that the project will not be eligible to follow a registration process in terms of GN 2313 (Adoption of the Standard for the Development and expansion of powerlines and substations within identifies geographical areas and the exclusion of the infrastructure from the requirement to obtain an environmental authorisation), and there must follow the required Basic Assessment process required in terms of the NEMA EIA Regulations.

Kind Regards,

Digitally signed by Ashlea Strong
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Date: 2024.10.22 07:17:12 +02'00'

Ashlea Strong

Registered EAP