Appendix F

SITE SENSITIVITY VERIFICATION REPORT

SITE SENSITIVITY VERIFICATION REPORT – KROMHOF WIND ENERGY FACILITY LOCATED NEAR VERKYKERSKOP IN THE FREE STATE PROVINCE

1. Introduction

Mulilo Renewable Project Developments (Pty) Ltd (Mulilo) are proposing the development of the Verkykerskop Wind Energy Facility (WEF) Cluster in the Free State Province.

The Verkykerskop WEF Cluster is divided into 3 projects that require a Scoping and Environmental Impact Reporting (S&EIR) process:

- Groothoek WEF;
- Kromhof WEF; and
- Normandien WEF.

The Kromhof WEF (the Project) forms the focus of this application. The Project will be developed to allow for an up to 300 MW for export from the facility. The Project footprint (buildable area) is approximately 150 hectares (ha) (subject to finalisation based on technical and environmental requirements), and the extent of the project area (i.e. area of applicable farm portions) is approximately 7 269 ha. The development footprint includes the wind turbines, and all associated infrastructures.

This Site Sensitivity Verification Report forms part of the Application for Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA).

2. Purpose of the Report

WSP Group Africa (Pty) Ltd (WSP) has been appointed by Mulilo as the independent Environmental Assessment Practitioner (EAP) to undertake the required S&EIR process.

The 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 produces the screening report required in terms of regulation 16 (1)(v) of the 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 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 proposed Kromhof WEF was generated on 30 September 2024 and is attached as **Appendix E** of the Final Scoping Report. 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 Environmental Assessment Practitioner (EAP). Details of the EAP are provided in Table 1-4 of the Final Scoping Report. The CV of the EAP and The EAP declaration of interest and undertaking is included in Appendix A.1 and Appendix A.2 of the Scoping Report.
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 ▪ 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) 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.;	A summary of the environmental sensitivities identified by the DFFE Screening Tool and the verified sensitivity is provided in Error! Reference source not found.. Motivation for the verified s ensitivity rating is provided in **Section 4.4**.
(b) contains a motivation and evidence (e.g. photographs) of either the verified or different	Motivation for the verified sensitivity rating is provided in **Section 4.4**.

Requirement	Reference
use of the land and environmental sensitivity; and	
(c) is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations1 (EIA Regulations).	This Site Sensitivity Verification Report is being submitted as Appendix F of the Final Scoping Report. This information is also included in Section 7 of the Final Scoping Report.

4. FINDINGS

4.1 PROJECT AND SITE OVERVIEW

The proposed Kromhof WEF is located near the town of Verkykerskop in Ward 5 of the Phumelela Local Municipality (PLM) and in the Thabo Mofutsanyana District Municipality (TMDM) in the Free State Province (**Figure 1**).

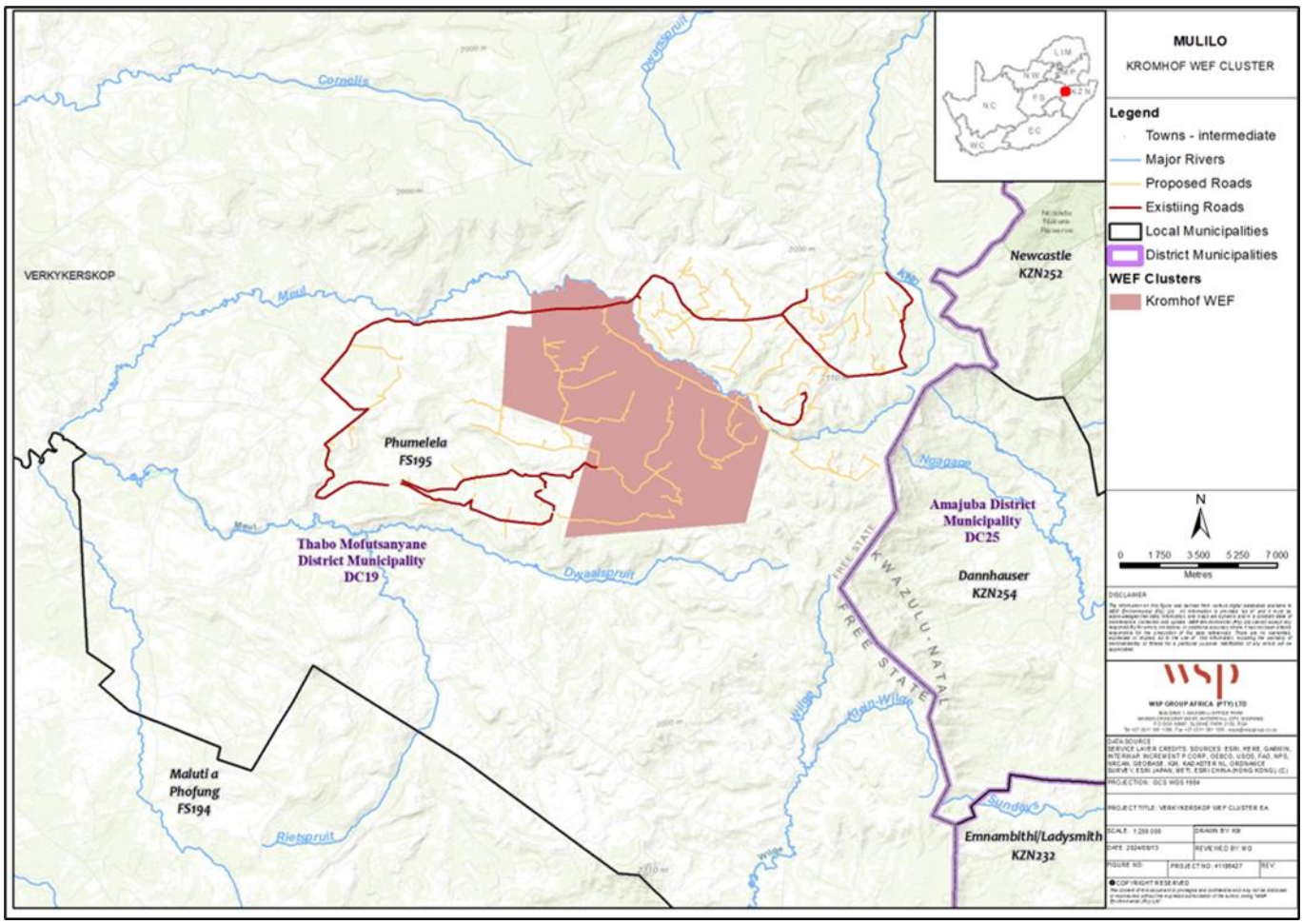


Figure 1: Regional locality map of Kromhof WEF

4.2 ENVIRONMENTAL SENSITIVITY

As per the Screening Tool Report (**Appendix E** of the Final Scoping Report), 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
Avian (Wind) Theme		X		
Bats (Wind) Theme		X		
Civil Aviation (Wind) Theme				X
Defence (Wind) Theme				X
Flicker Theme	X			
Landscape (Wind) Theme	X			
Palaeontology Theme	X			
Noise Theme	X			
Plant Species Theme			X	
RFI (Wind) Theme				X
Terrestrial Biodiversity Theme	X			
Vulture Species 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 4.3** 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.

4.3 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	N/A
Landscape/Visual Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Archaeological and Cultural Heritage Impact Assessment	Yes	Beyond heritage	N/A
Palaeontology Impact Assessment	Yes	Beyond heritage	N/A
Terrestrial Biodiversity Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Aquatic Biodiversity Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Avian Impact Assessment (inclusive of Vulture Theme)	Yes	Andrew Husted	N/A
Bats Impact Assessment	Yes	Inkululeko Wildlife Services	N/A
Civil Aviation Assessment	No	N/A	According to the DFFE Screening Tool Report, civil aviation is regarded as having low sensitivity. No major or other types of civil aviation aerodromes will be impacted by the proposed development. Therefore, a compliance statement is not required as per the protocol specifications. Nevertheless, the relevant Authorities have been included on the project stakeholder database. As of the 1st of May 2021, Air Traffic and Navigation Services (ATNS) has been appointed as the new Obstacle application Service Provider for Windfarms 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. An Application for the Approval of Obstacles has been submitted to ATNS. The South African Civil Aviation Authority (SACAA) has been included on the project stakeholder database. They have been informed of the proposed Project, and comments have been

Specialist Study Identified	Specialist Study Commissioned	Specialist and Report Reference	Motivation
			sought from these authorities as applicable (Refer to **Appendix C** of the Final Scoping Report for the proof). An application for the Approval of Obstacles has been submitted to ATNS/CAA and the required permits will be obtained prior to the development of the project.
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 on the project stakeholder database. They have been informed of the proposed Project, comments have been sought from these authorities as applicable (Refer to **Appendix C** of the Final Scoping Report for the proof).
RFI Assessment	No	N/A	Due to the low sensitivity identified by the Screening tool, a compliance statement is not required. A RFI Study will not be undertaken. However, the Square Kilometre Array (SKA), South African Radio Astronomy Observatory (SARAO), South African Weather Service (SAWS) and relevant telecommunications stakeholders will be engaged with as part of the Public Participation Process. (Refer to **Appendix C** of the Final Scoping Report for the proof).
Noise Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Traffic Impact Assessment	Yes	iWink Consulting (Pty) Ltd	N/A
Geotechnical Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Socio-Economic Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Plant Species Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Animal Species Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A

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 4.4** 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 by onshore wind and/or solar photovoltaic energy generation facilities where the electricity output is 20 megawatts or more gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) of 4 NEMA, 1998).	High Sensitivity	An Agricultural Agro-Ecosystem Specialist Assessment must be undertaken as the proposed activity is identified as high sensitivity for agricultural resources. The outcome of the site sensitivity verification can be found in Section 7 of the Agricultural Impact Assessment (**Appendix G.4** of this Final Scoping Report). The results of the DFFE Screening Tool indicated that the Agricultural theme has a High Sensitivity, and the specialist confirmed that those parts of the site, on which there are currently viable croplands, as being of **High agricultural sensitivity** and the rest of the site as being of medium agricultural sensitivity.
Landscape/Visual 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.	Very High Sensitivity	The outcome of the sensitivity verification can be found in Section 5 of the Visual Impact Assessment and Sensitivity Receptors are found in Section 7(**Appendix G.2** of this Final Scoping Report). The results DFFE Screening Tool indicates that large parts of the study area are of very high or high visual resource value, and that the areas of least concern are located along the lower-lying valley which was confirmed by specialist results that indicated that potential visual receptor base to the proposed development is somewhat limited but diverse. Furthermore, the visual resource value of the site within the context of the surrounding study area is very high, owing mainly to the low prevailing levels of development, highly characteristic topography, and largely intact Highveld

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
			grassland cover, and furthermore also has a low ability to absorb visual change.
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	The outcome of the sensitivity verification can be found in Appendix A of the Heritage Scoping Assessment (**Appendix G.10** of the FSR). The results of the DFFE Screening Tool indicated that the Heritage theme has a Low Sensitivity, and the results of the specialist's desktop study confirmed that the proposed site has a **Low 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 and must comply with Appendix 6 of the EIA Regulations.	Very High Sensitivity	The outcome of the sensitivity verification for the palaeontological sensitivity can be found in Appendix A of the Heritage Scoping Assessment (**Appendix G.10** of the FSR). The results of the DFFE Screening Tool indicated that the Palaeontological theme has a Very High Sensitivity, and the results of the specialist's desktop study indicated that the proposed site has **Very High Sensitivity,** and further studies will be required in the EIA phase.
Terrestrial Biodiversity Impact Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial biodiversity where the site of the proposed activity is identified as very high sensitivity for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment. gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) of 4 NEMA, 1998).	Very High Sensitivity	The site sensitivity verification can be found in Section 3, 4 and 7 of the Terrestrial and Aquatic Biodiversity Assessment (**Appendix G.6** of this Final Scoping report). The results DFFE Screening Tool indicated that the Terrestrial Biodiversity theme has a Very High Sensitivity due to its overlap with Critical Biodiversity Areas (CBA) 1 and 2, Ecological support Areas (ESA) 1 and 2, FEPA sub catchments and National Protected Areas Expansion Strategy (NPAES). However, this result was disputed by the results of the biodiversity study indicated that the terrestrial biodiversity would have a **Medium Sensitivity** in terms of ESA and **High Sensitivity** in terms of CBA. Although much of the Project area may be occupied by cultivated/secondary grasslands, areas that coincide with provincial conservation targets require special consideration in design phase to minimise impacts and possible offset requirements.

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
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 site sensitivity verification can be found in Section 5, 6 and 7 of the Freshwater Ecological (Aquatic Biodiversity) Assessment (**Appendix G.5** of this Final Scoping Report). The results of the DFFE Screening Tool indicated that the Aquatic Biodiversity theme has a Very High Sensitivity due to the presence of FEPA sub-catchments, Rivers_AB, Wetlands_(Rivers) and Wetlands Mesic Highveld Grassland Bioregion: Depression; Floodplain and Valley Bottom. The specialist confirmed the overall sensitivity of the project area is considered to be **High** due to the presence of NFEPA wetland cluster, and rivers in good ecological condition within 500 m of Project area.
Avian Impact Assessment	Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998)., when applying for environmental authorisation (GN 320, 20 March 2020)) provides the criteria for the assessment and reporting of impacts on avifaunal species associated with the development of onshore wind energy generation facilities, where the electricity output is 20 megawatts or more, which require environmental authorisation	Low Sensitivity	The site sensitivity verification can be found in Section 5, of the avifauna Impact Assessment (**Appendix G.7** of this Final Scoping Report). The results DFFE Screening Tool indicated that the Avian theme has a Low Sensitivity. However, this result was disputed by the results of the Avifauna study which indicate that the Avian theme has a **Very High Sensitivity** best be described as supporting an abundance of birds, of which a very high proportion are of conservation importance.
Vulture Species Theme	Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998)., when applying for	High Sensitivity	The site sensitivity verification can be found in Section 5, of the avifauna Impact Assessment (**Appendix G.7** of this Final Scoping Report). The results DFFE Screening Tool indicated that the Vulture theme has a **High Sensitivity**, and this has been confirmed by the specialist results as a high number of priority species nests and

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
	environmental authorisation (GN 320, 20 March 2020)) provides the criteria for the assessment and reporting of impacts on avifaunal species associated with the development of onshore wind energy generation facilities, where the electricity output is 20 megawatts or more, which require environmental authorisation		roosts (including three Cape Vulture roosts), it is apparent that the project area is situated in an area of high avifaunal importance and sensitivity, particularly from a threatened vulture perspective.
Bat Impact Assessment	Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Bats	High Sensitivity	The site sensitivity verification can be found in Section 6.2, of the Bat Impact Assessment (**Appendix G.8** of this Final Scoping Report). The results DFFE Screening Tool indicated that the Bat (Wind) theme has a **High Sensitivity**. This result was confirmed by the specialist.
Civil Aviation Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on civil aviation installations	Low Sensitivity	**Low Sensitivity** The relevant stakeholders i.e. CAA and ATNS have been included on the project database. However, no comment has been received to date**.**
Defence Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on civil aviation installations	Low Sensitivity	**Low Sensitivity** The relevant stakeholders i.e. CAA and ATNS have been included on the project database. However, no comment has been received to date.
RFI Assessment	Site Sensitivity Verification Requirements where a specialist Assessment is required but no Specific Assessment Protocol has been prescribed	Low Sensitivity	**Low Sensitivity**
Noise Impact Assessment	Protocol for specialist assessment and minimum report content requirements for noise impacts	Low Sensitivity	The results DFFE Screening Tool indicated that the noise theme has a Low Sensitivity. The specialist stated that the status of these receptors (inhabited or uninhabited) needs to be confirmed (ground-truthed) in the EIA phase in order to effectively quantify the noise impacts of the WEF. However, confirmed the overall impact of the project is considered to be **Medium Sensitivity** (**Appendix G.3** of the FSR).

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
Flicker 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.	Very High Sensitivity	The specialist has confirmed a low sensitivity.
Traffic 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.	No sensitivity identified by the screening tool	
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	
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	
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 executive summary and Section 3 of the specialist report outlines the specific sections of the report which align with the terrestrial biodiversity protocol. The site sensitivity verification is discussed in Section 3.3 section of the Terrestrial and Aquatic Species Assessment (**Appendix G.6**) The results DFFE Screening Tool indicated that the Plant Species theme indicated Medium Sensitivity on account of the potential presence of at least 2 flora

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
			species of conservation concern, namely, sensitive species 1252 and 998, whose names have been withheld due to their vulnerability to illegal harvesting The specialist confirmed that the site has **Medium Sensitivity in disturbed areas** since there is the presence of Primary and secondary grasslands could support plant Species of Conservation Concern (SCC).
Animal Species Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial animal species gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) of 4 NEMA, 1998), provides the criteria for the assessment and reporting of impacts on plant and animal species for activities requiring environmental authorisation.	High Sensitivity	The executive summary and Section 3 of the specialist report outlines the specific sections of the report which align with the terrestrial biodiversity protocol. The site sensitivity verification is discussed in Section 3.3 section of the Terrestrial and Aquatic Species Assessment (**Appendix G.6**) The results DFFE Screening Tool indicated that the Animal Species theme has a High Sensitivity due to the potential presence of due to the presence of 32 species (those identified in the screening report and the additional species identified from the literature review) that are likely to occur within the Project area. However, this result was disputed by the specialist who confirmed that the site has **Medium Sensitivity** due to the possible presence of protected species.

4.4 SPECIALIST SITE SENSITIVITY VERIFICATION MOTIVATION

4.4.1 Agricultural Impact Assessment

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

This verification of sensitivity addresses both components that determine it, namely cropping status (that is whether the land is currently or has recently been used for crop production) and land capability. The screening tool classifies the assessed area as ranging from low to high agricultural sensitivity. The high sensitivity classification is due to a combination of some land being classified as cropland and some being classified as high sensitivity because of its land capability rating. However, the data set used by the screening tool to classify cropping status is outdated. This assessment has verified all current areas of viable cropland, which differ from those classified as cropland by the screening tool. The verified areas of viable cropland are shown in **Figure 2** and

Figure 3. This assessment therefore confirms the high sensitivity rating by the screening tool that is based on the cropping status component of sensitivity, but only for those areas that have been verified as viable cropland in this assessment.

The classified land capability of the site ranges from 3 to 9. The rating of land capability used by the screening tool is determined by an average soil capability value attributed to each land type. However, there are a range of soil capabilities within each land type, the detail of which the land capability data is unable to take account of and map. On the ground, the soils (and therefore the land capability) vary in a complex pattern across the landscape, which is not reflected at the scale of the land capability data. The most reliable indication of soil cropping potential or soil capability at a landscape scale in this environment is current and historical land use. The suitable versus the unsuitable soils have been identified over time through trial and error. In an agricultural environment like the one being assessed, all the suitable soils are generally cropped. Cropped soils have a real land capability of ≥8 because the relationship between land capability and agricultural production potential is such that a land capability of ≥8 should denote land that is suitable for viable rainfed crop production. Uncropped soils can fairly reliably be considered to have limitations that make them unsuitable for crop production with the result that their real land capability is less than 8.

In conclusion, this assessment confirms the high sensitivity of the screening tool. The verified areas of high sensitivity across the site differ somewhat from those classified as high sensitivity by the screening tool. This assessment verifies those parts of the site which have been assessed as viable croplands, as shown in **Figure 2** and

Figure 3, as being of high agricultural sensitivity and the rest of the site as being of medium agricultural sensitivity with a land capability of <8.

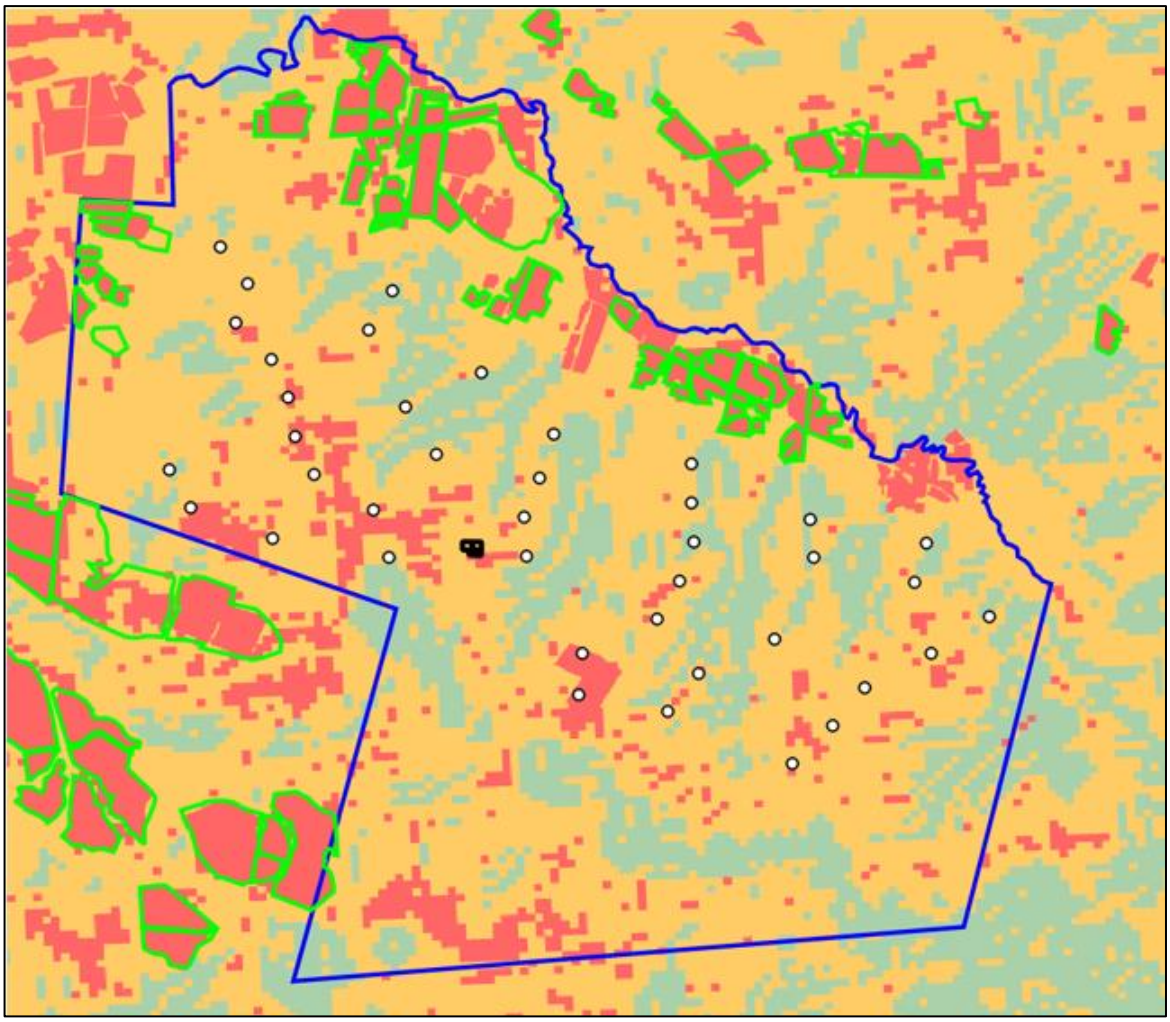


Figure 2: The preliminary development footprint overlaid on Agricultural Sensitivity – Agricultural Theme
(green = low; yellow = medium; red = high; dark red = very high). All confirmed areas of high sensitivity (croplands) are shown in green outline. All areas outside of these are rated as medium sensitivity
Source: SoilZA (2024)

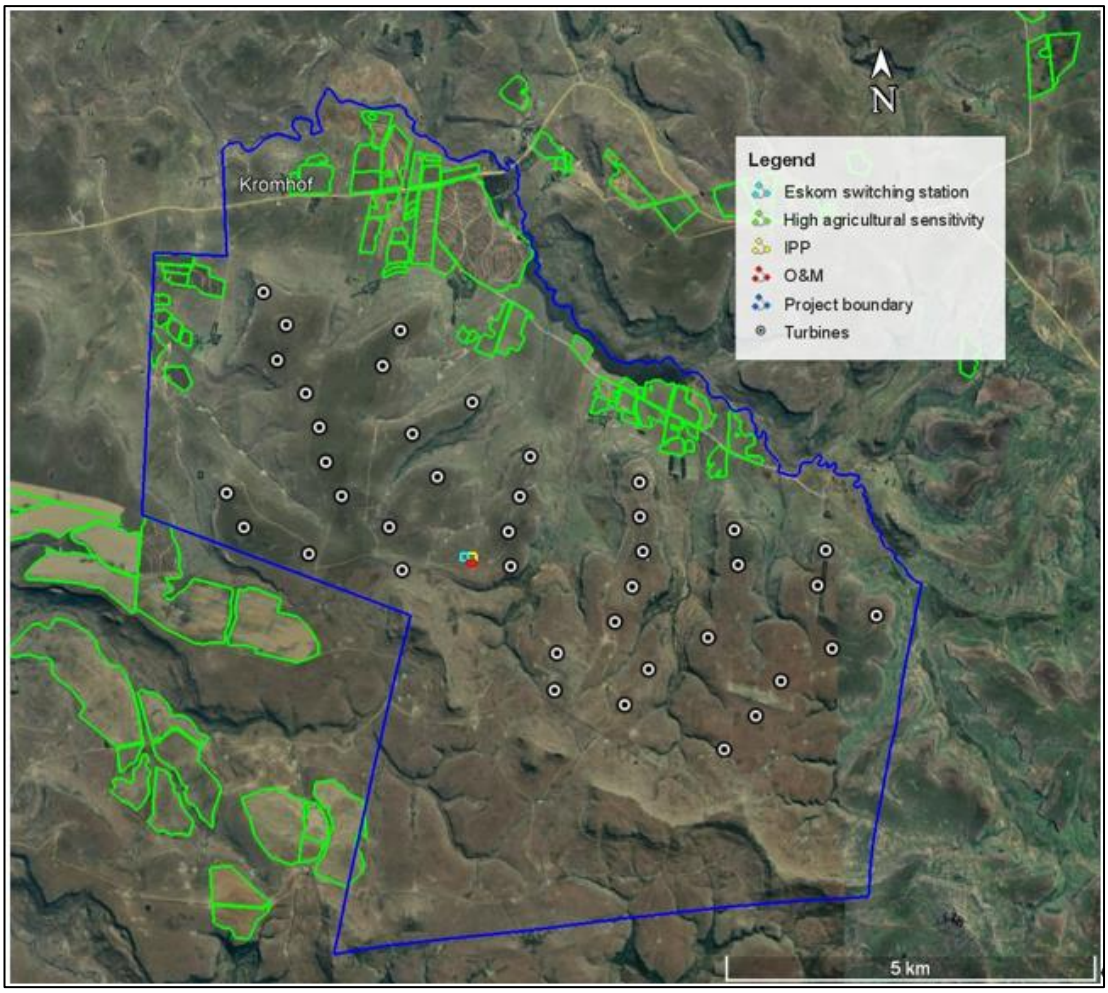


Figure 3: Satellite image map of the assessed development.
Source: SoilZA (2024)

4.4.2 Animal Species Assessment

The Project area is considered to be of High sensitivity in terms of the Animal Species Theme (**Figure 4**), as fifteen mammal SCC have the potential to occur in the Project area based on historical distribution; however, only some of these are likely to be present. These could be present in undisturbed areas of primary grassland and wetland and may also occur in the vicinity of cultivated lands. These include:

- Two Critically endangered species: Mountain Reedbuck (*Redunca fulvorufula*); of which just Mountain Reedbuck could potentially occur;
- Nine Near threatened species, of which six could potentially occur: Brown Hyaena (*Parahyaena brunnea*); Grey Rhebok (*Pelea capreolus*); African Clawless Otter (*Aonyx capensis*); Highveld Golden Mole (*Amblysomus septentrionalis*); Serval (*Leptailurus serval*) and Vlei Rat (*Otomys auratus*);
- Three Vulnerable species: White-tailed Rat (*Mystromys albicaudatus*); Oribi (*Ourebia ourebi ourebi*); Spotted necked Otter (*Hydrictis maculicollis*); and One Endangered species: Black-footed Cat (*Felis nigripes*).

The specialist studies dispute the screening tool and confirms the site is classified as Medium sensitivity. Baseline animal species field surveys to establish the presence of these species on site, with a focus on mammal and herpetofauna species, will be conducted during the dry (June-July 2024) and wet (Oct 2024 – Jan 2025) seasons are scheduled. In addition, an assessment of site suitability for support of invertebrate SCC will be done to determine whether dedicated invertebrate surveys are required.

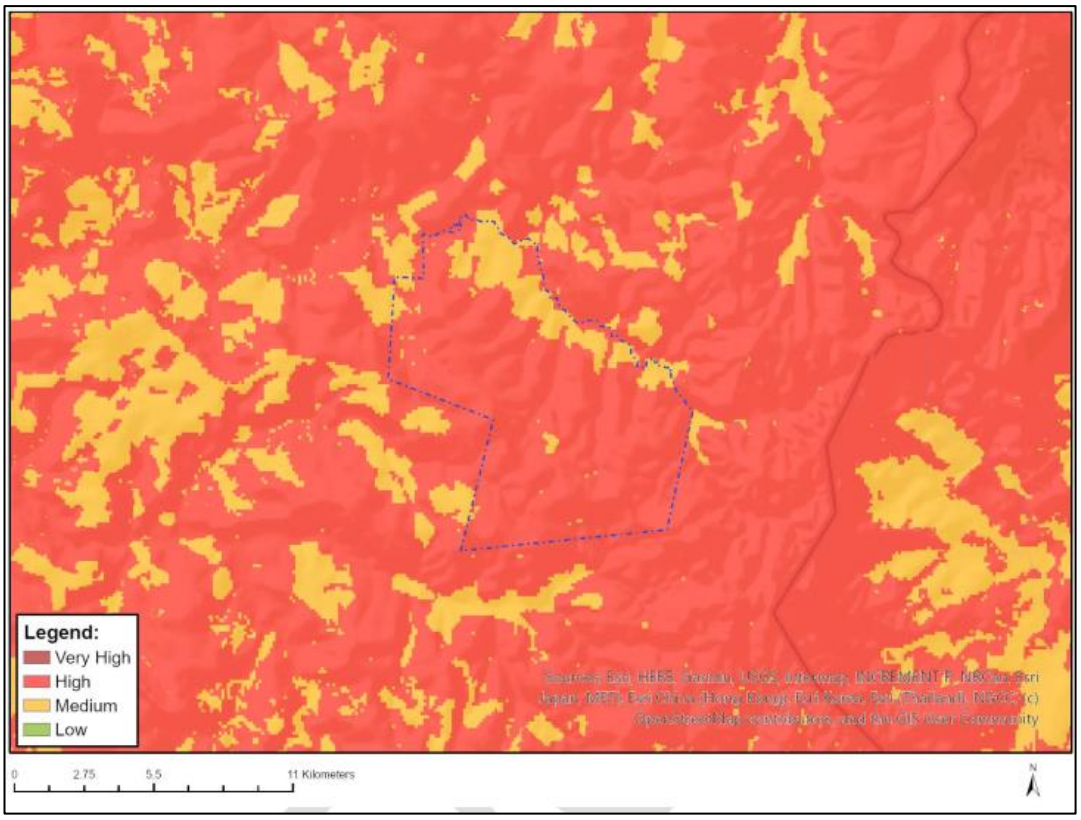


Figure 4: Map of Animal Species Sensitivity
Source: DFFE Screening Report (2024)

4.4.3 Archaeological and Cultural Heritage Impact Assessment

The project area is considered to be of low sensitivity in terms of the Archaeological and Cultural Heritage Theme (**Figure 5**),

The area has historically been occupied and although the cultural landscape attests to more recent occupation, heritage resources such as structures (including farmsteads/ruins and associated burial sites) and associated landscape elements older than 60 years are of importance and are protected by Section 34 & 36 of the NHRA. There are no fatal flaws and high significance sites are localised and can be mitigated. The verified heritage sensitivities are illustrated in **Figure 6**. The specialist confirms the low sensitivity of the project area.

Figure 5: Map of Archaeological and Heritage Theme Sensitivity
Source: DFFE Screening Report (2024)

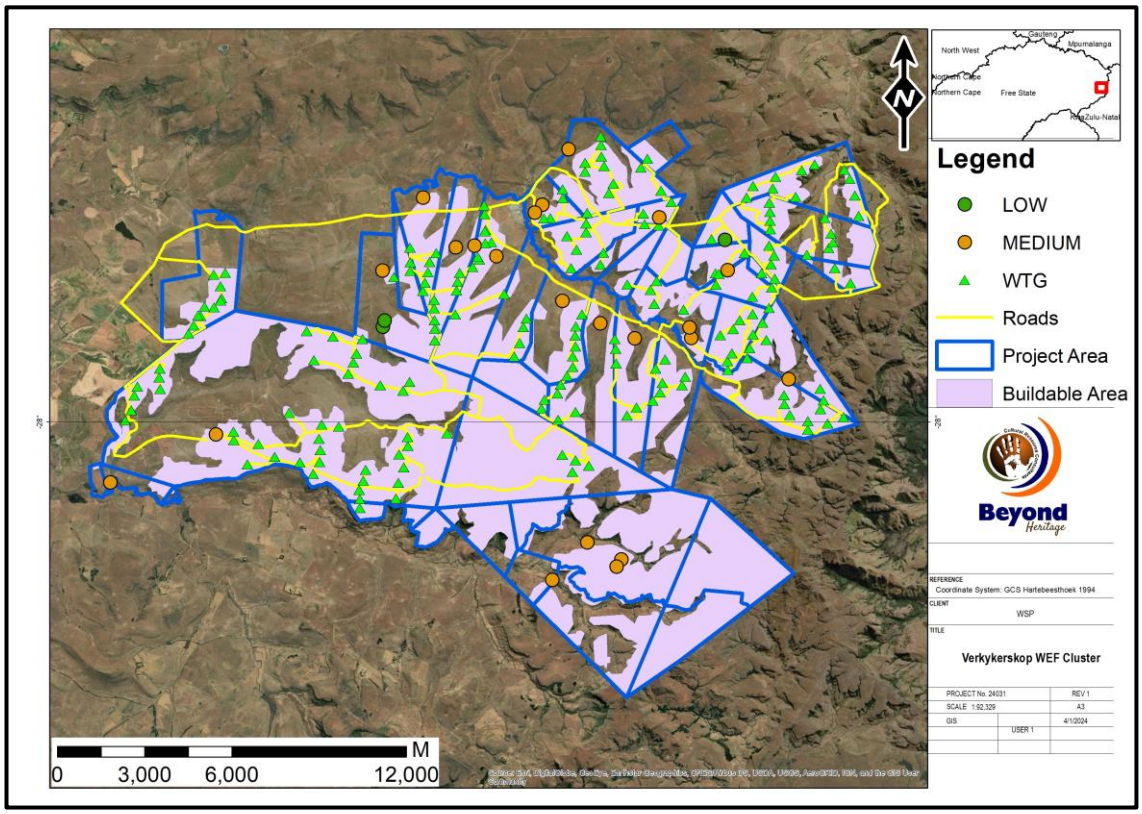


Figure 6:Verified Heritage Sensitivities (Desktop) - Cultural Heritage

Source: Beyond Heritage (2024)

4.4.4 Palaeontology Impact Assessment

The Project area is considered to be of Very High sensitivity in terms of the Palaeontological Theme (**Figure 7**).

The study area is of insignificant, medium and very high palaeontological sensitivity based on the SAHRA Paleontological Sensitivity Map (Figure 4) and further studies will be required in the EIA phase. The specialist confirms the very high sensitivity of the project area.

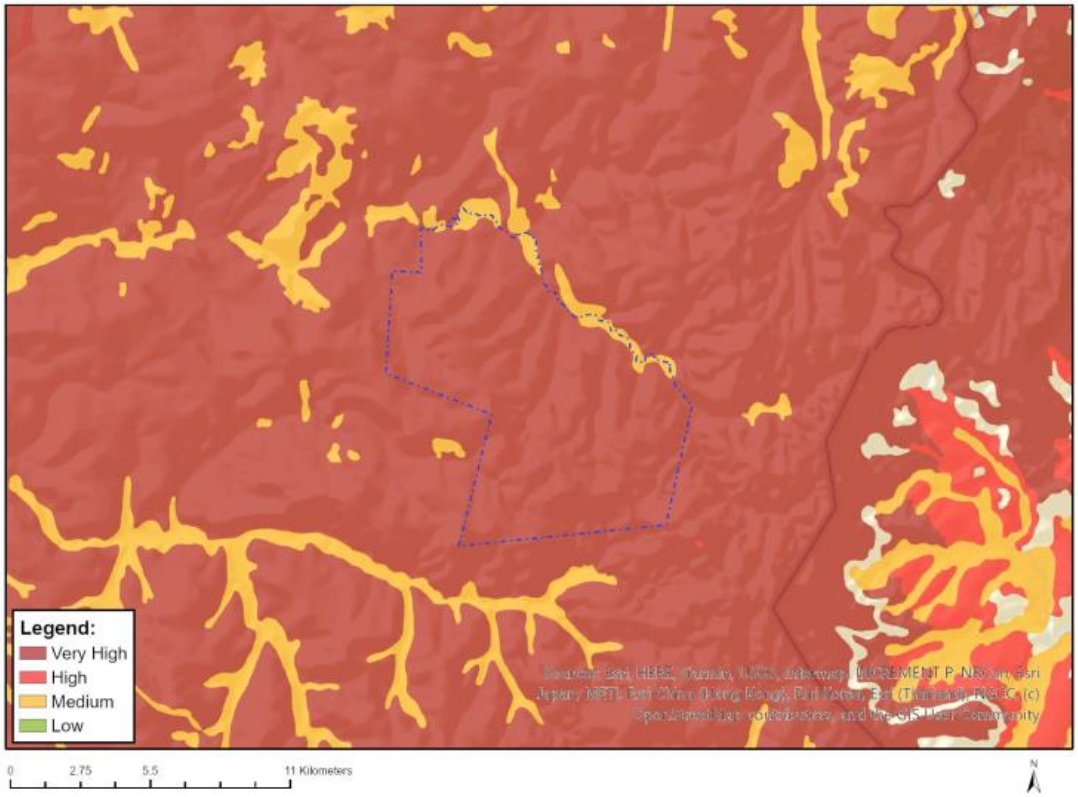
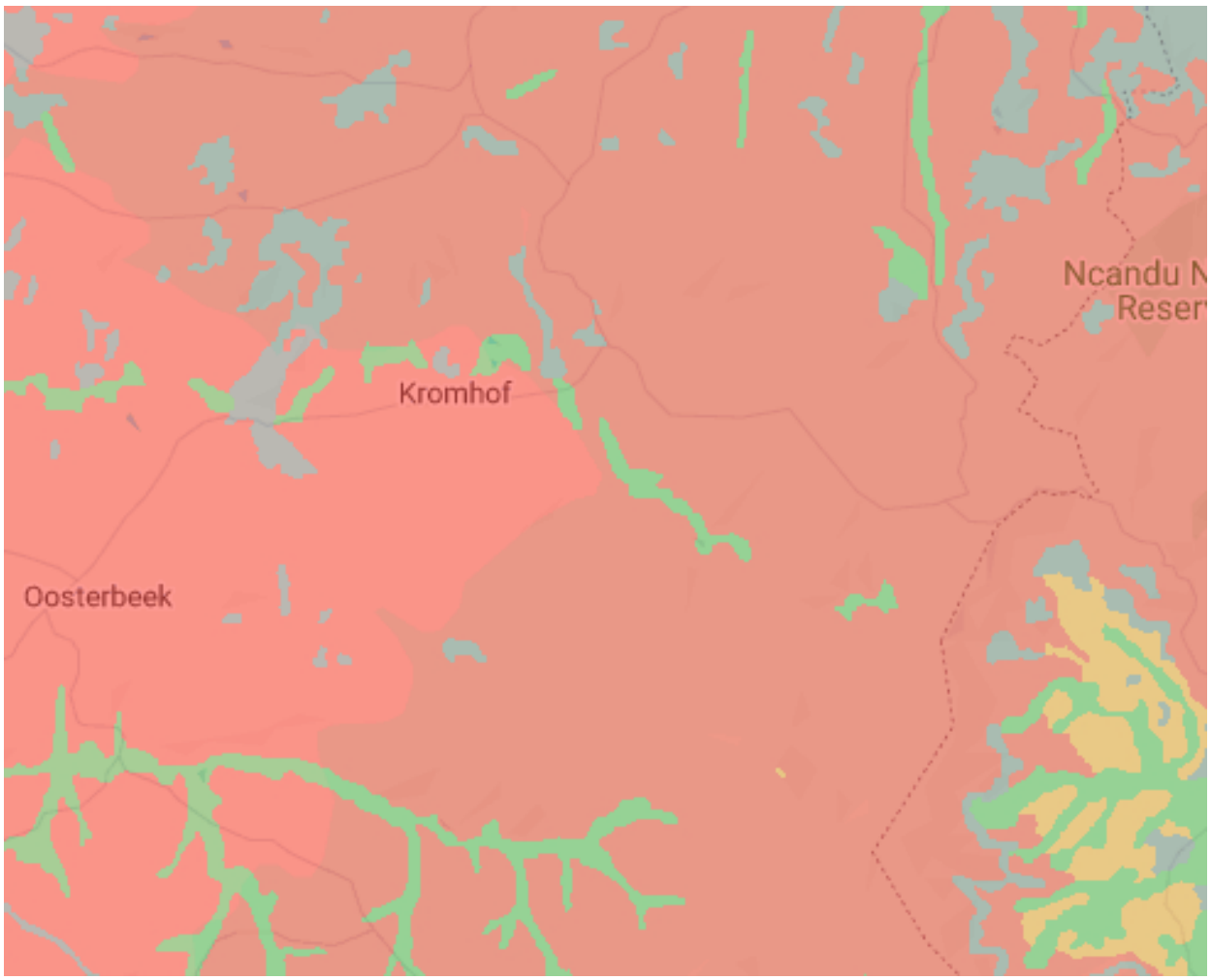


Figure 7: Map of Palaeontological Theme Sensitivity
Source: DFFE Screening Report (2024)



Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study; a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 8:Preliminary verified sensitivities - Palaeontology

4.4.1 Noise Impact Assessment

Wind turbines have the ability to generate noise, causing disturbance for receptors within close proximity of the turbines. There are numerous receptors within the Project site area, and although most of the turbines are positioned away from these receptors, some of the receptors are within close proximity (~500 m) of the proposed wind turbines (based on the preliminary layout). The Kromhof WEF, therefore poses a “medium” noise sensitivity impact on such receptors, which does not correlate with the Department of Forestry, Fisheries and the Environment’s screening tool sensitivity results, which classifies the sensitivity

impacts as “very high” (**Figure 9**). The status of these receptors (inhabited or uninhabited) needs to be confirmed (ground-truthed) in the EIA phase in order to effectively quantify the noise impacts of the WEF.

Based on some basic initial modelling, in order to keep LA90 noise levels within the acceptable 35 dB(A) threshold stipulated by the IFC EHS guidance, a minimum buffer zone of 1,336 m from each turbine to the nearest receptor is recommended. Should receptors be financially vested in the Project, this LA90 threshold increases to 45 dB(A) and the suitable buffer for locating turbines will decrease to 543 m from each receptor. It must be noted that such calculations are based on a worst-case scenario of turbines with a hub height of 140 m and maximum sound power level of 111.6 dB(A).

The status of these receptors (inhabited or uninhabited) needs to be confirmed (ground-truthed) in the EIA phase in order to effectively quantify the noise impacts of the WEF.

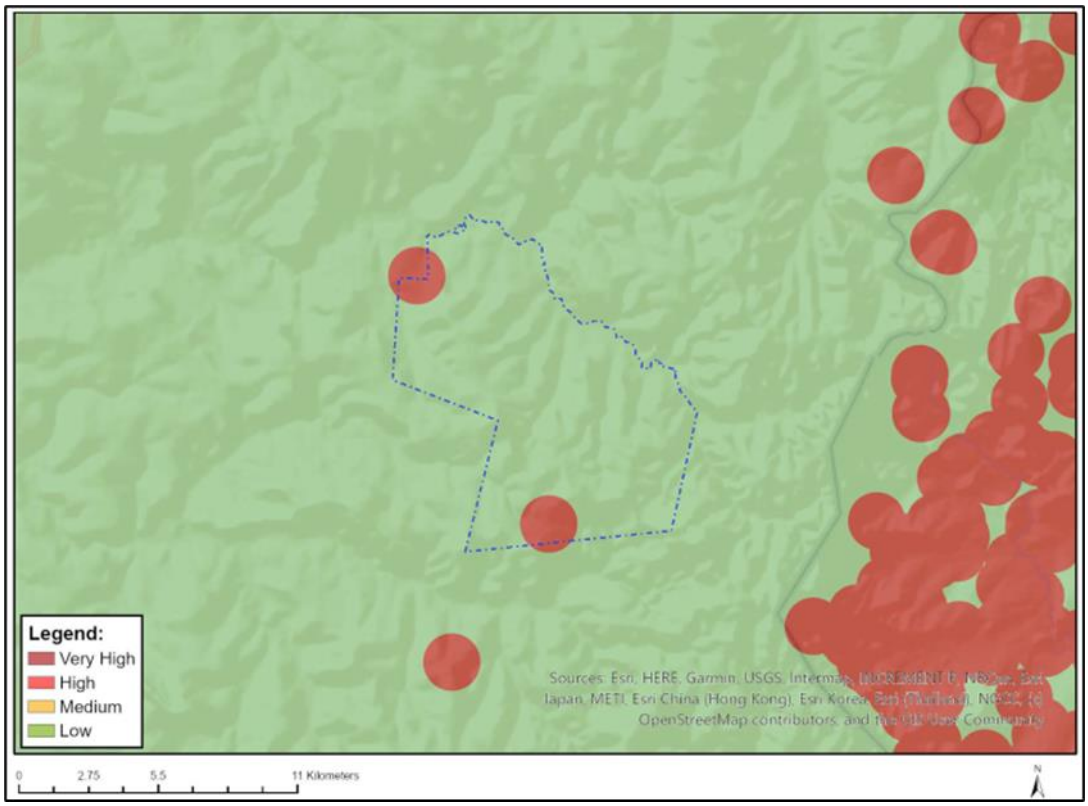


Figure 9: Map of relative noise theme sensitivity

Source: DFFE Screening Report (2024)

4.4.2 Terrestrial Biodiversity Impact Assessment

The proposed infrastructure footprint was assessed at desktop level using the National Web-based Environmental Screening Tool. According to the Tool, the Terrestrial Biodiversity Theme for the study area is rated ‘Very High Sensitivity’ (**Figure 10**) due to its overlap with land mapped as:

- Critical Biodiversity Areas (CBA) 1 and 2;
- Ecological support Areas (ESA) 1 and 2;
- FEPA sub catchments;
- SWSA(SW)_Northern Drakensburg; and
- National Protected Areas Expansion Strategy (NPAES).

The National Web Based Screening Tool also indicated that the Project area is considered to be of ‘Medium’ sensitivity in terms of the Plant Species Theme on account of the potential presence of at least 2 flora

species of conservation concern, namely, sensitive species 1252 and 998, whose names have been withheld due to their vulnerability to illegal harvesting.

The Project area is considered to be of 'High' sensitivity in terms of the Animal Species Theme, due to the potential presence of the range-restricted Lalande's Black-winged Clonia (*Clonia lalandei)* which is listed as Vulnerable on the SANBI red list (2014), the mammals Spotted-necked Otter (*Hydrictis maculicollis* – Vulnerable), and Oribi (*Ourebia ourebi ourebi* - Endangered); and bird species including Secretarybird *(Sagittarius serpentarius*-Vulnerable*),* Southern Bald Ibis *(Geronticus calvus-Vulnerable),* Denham's bustard *(Neotis denhami-Vulnerable),* Yellow-breasted pipit *(Anthus chloris*-Vulnerable*),* Grey crowned crane *(Balearica regulorum*-Endangered*),* Black Bushcap *(Sylvia Nigricapillus*-Vulnerable*),* Lanner falcon *(Falco biarmicus*-Vulnerable*),*White-bellied bustard *(Eupodotis senegalensis*-Vulnerable*),* Rudd's lark *(Heteromirafra ruddi*-Endangered*),* Botha's lark *(Spizocorys fringillaris*-Endangered*),* Black stork *(Ciconia nigra*-Vulnerable*),* African Grass Owl *(Tyto Capensis*-Least Concern*),* in addition to sensitive species 23, whose name has been withheld due to its vulnerability to illegal poaching and disturbance.

The specialist studies dispute the screening tool and confirms the site is classified as Medium to High sensitivity due to areas of the site that overlap with ESA and CBA. The Project area consists of secondary grasslands however ecological processes are occurring.

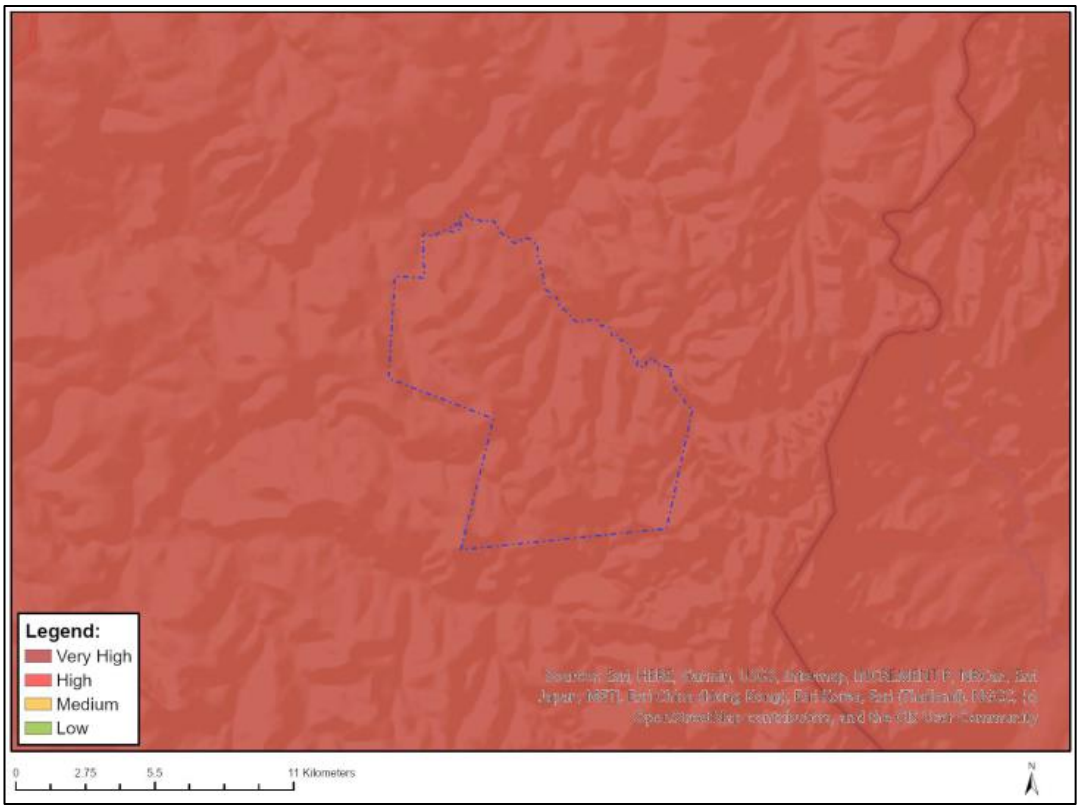


Figure 10: Map of Terrestrial Biodiversity Sensitivity
Source: DFFE Screening Report (2024)

4.4.3 Aquatic Biodiversity Impact Assessment

The proposed infrastructure footprint was assessed at desktop level using the National Web-based Environmental Screening Tool. According to the Tool, the Aquatic Biodiversity Theme for the study area is rated 'Very High Sensitivity' (**Figure 11**) due to the presence of:

- FEPA sub-catchments;
- Rivers with largely natural Present Ecological Status (PES AB); and

- Wetlands of the Mesic Highveld Grassland Bioregion, including Depression; Floodplain and Valley Bottom hydrogeomorphic (HGM) types.

The specialist studies dispute the screening tool and confirms the site is classified as Medium sensitivity due to presence of NFEPA wetland cluster, and rivers in good ecological condition within 500 m of Project area (**Figure 12**). Aquatic Biodiversity Specialist Assessments, covering wetland and riparian systems will be undertaken during the EIA phase.

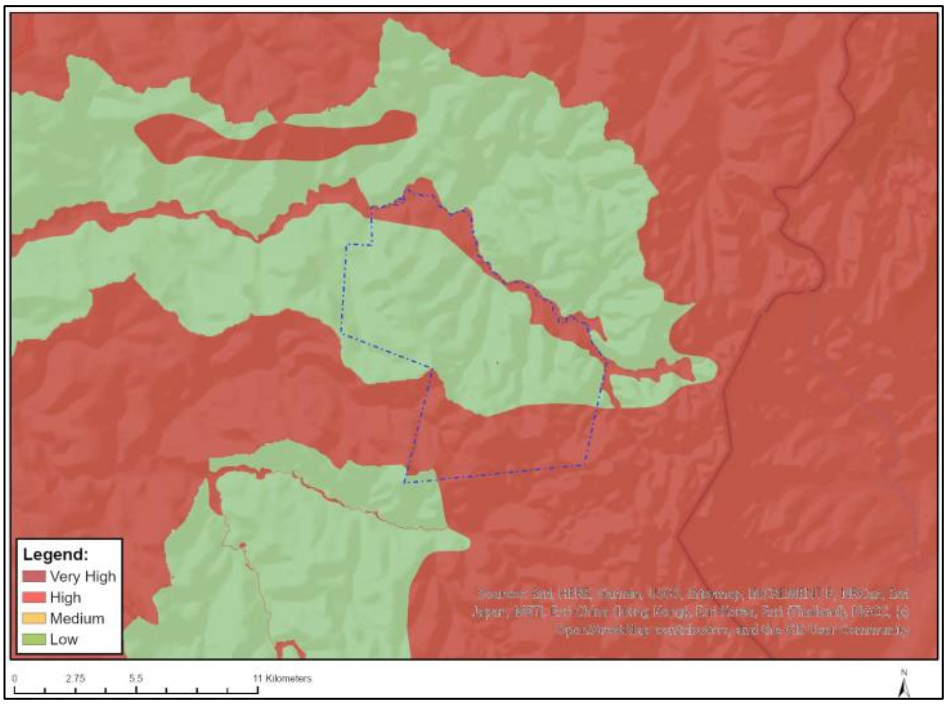


Figure 11: Map of Aquatic Biodiversity Sensitivity
Source: DFFE Screening Report (2024)

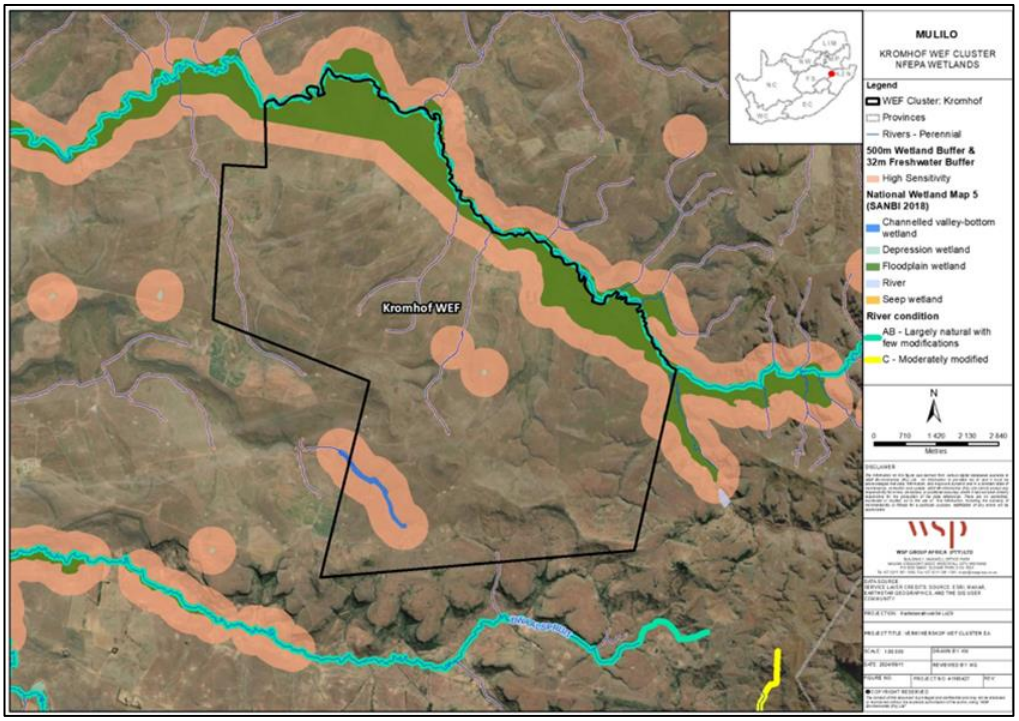


Figure 12: Desktop Based Aquatic Biodiversity Sensitivity Mapping
Source: WSP (2024)

4.4.4 Avian Impact Assessment

The output of the DFFE Screening Tool for the Avifauna Theme is illustrated in **Figure 13** and indicates that the site is classified as High Sensitivity.

At a regional scale, the VWC is surrounded by five IBAs (within 30 km radius) including one that marginally overlaps the north-western corner of the VWC (Grasslands SA020). Additionally, several well-established birding routes traverse the AOI. At a local scale the Kromhof WEF intersects 12 nest buffers of priority species (highlighted in red in the table below). These include Cape Vulture Roosts 1-5, Southern Bald Ibis Roosts 5 and 11, Blue Crane Nests 1-3, Jackal Buzzard Nest 3 and Verreaux's Eagle Nest 2.

The southern regions of the Kromhof WEF overlaps near pristine plateau grassland which was identified as a hotspot for Threatened high altitude species. Additionally, two flight corridors for priority species were identified over the project area. The WEF also supports an abundance of rugged terrain with a slope greater than 20% which was identified as important habitat for threatened raptors.

The key receptors underpinning the sensitivity map are illustrated in **Figure 14**. These areas of avifaunal sensitivity within the project area spatially depicted in **Figure 15**.

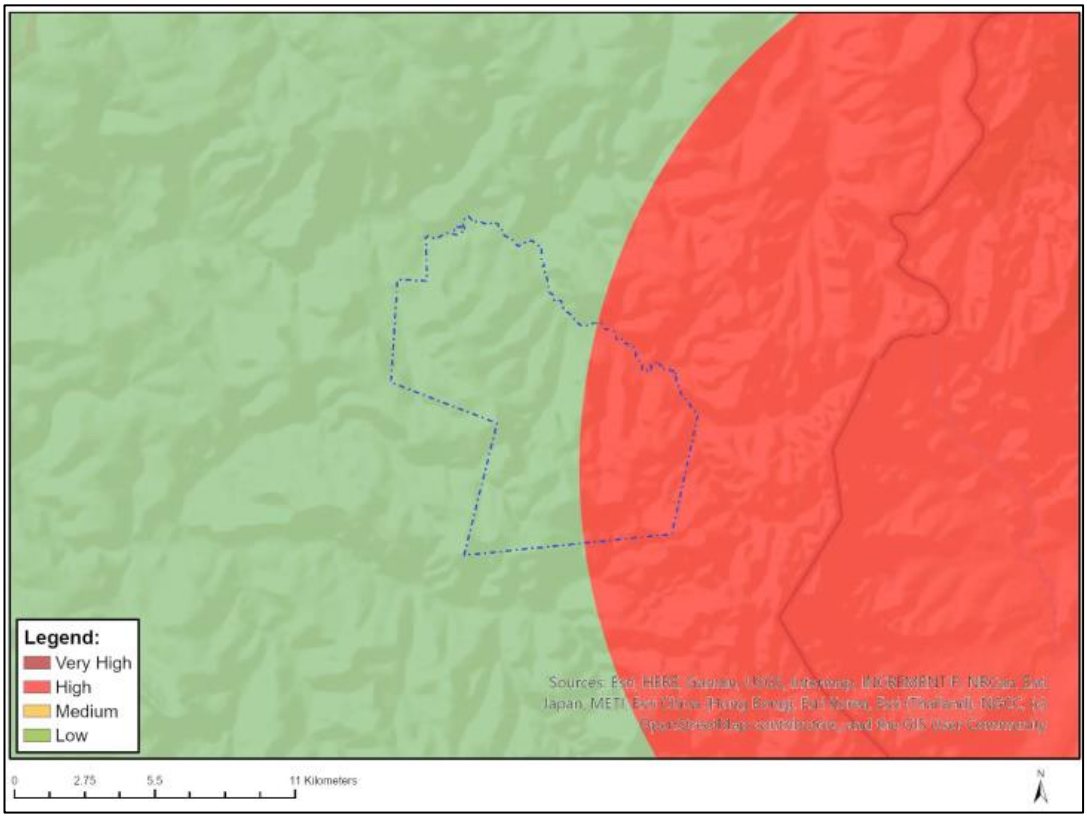


Figure 13: Map of Avian Sensitivity Source: DFFE Screening Report

Source: DFFE Screening Report (2024)

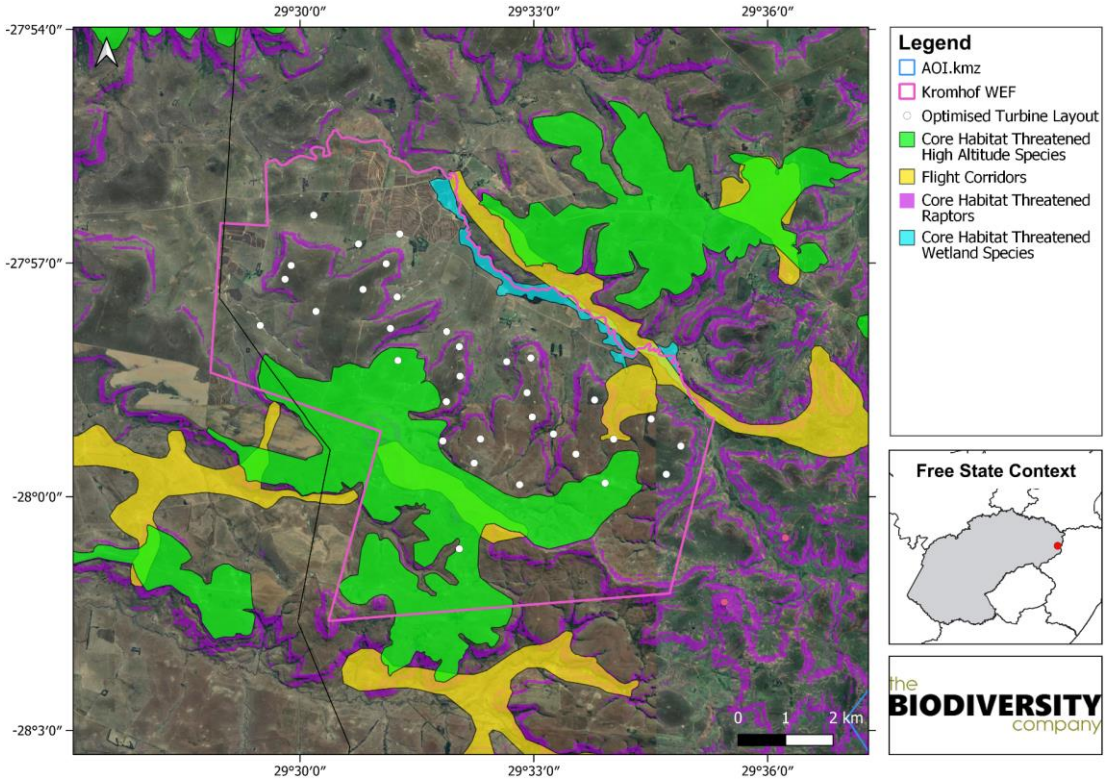


Figure 14: Map depicting key flight paths and core habitats for threatened high altitude, wetland and raptor species

Source: The Biodiversity Company (2024)

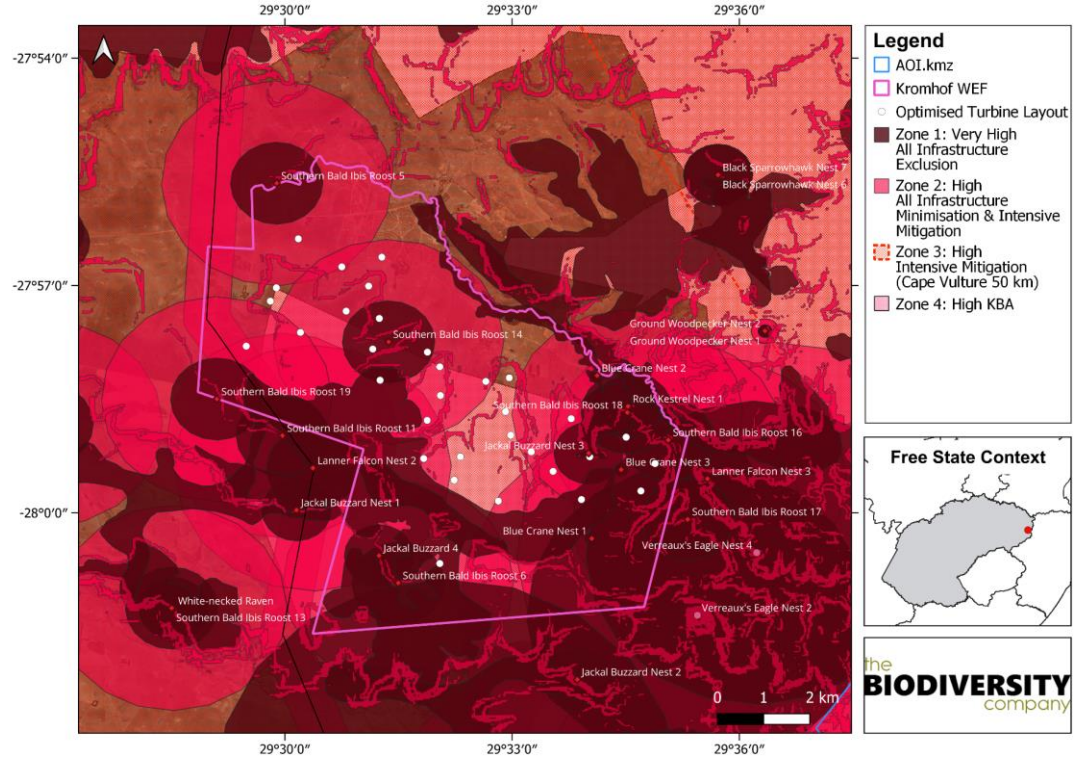


Figure 15: Preliminary Avifaunal sensitivity map for Groothoek WEF

Source: The Biodiversity Company (2024)

4.4.5 BATS SPECIALIST STUDY

The output of the DFFE Screening Tool for the Bats Theme is illustrated in **Figure 16**, and indicates that the site is classified as High Sensitivity. Based on the preliminary identified bat sensitivities, IWS agrees with the “High” overall sensitivity rating of the three WEF sites comprising the Verkykerskop Cluster as per the national Screening Tool. However, this is not only due to the presence of various hydrological features and croplands onsite, but due to the collective presence of local hydrological features, croplands, woody vegetation, and buildings (potentially including bat roosts), and nearby protected areas.

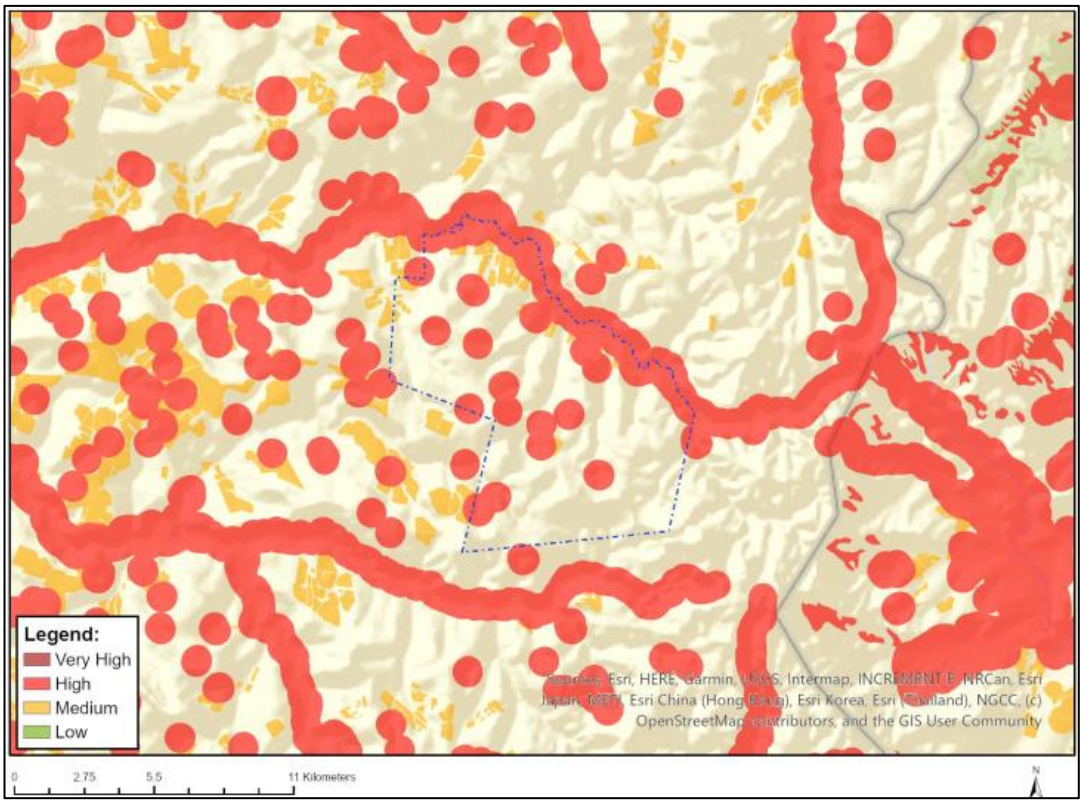


Figure 16: Map of Bat Theme Sensitivity
Source: DFFE Screening Report (2024)

4.4.6 Civil Aviation Assessment

The output of the DFFE Screening Tool for the Civil Aviation Theme is illustrated in **Figure 17** and indicates that the site is classified as Low Sensitivity. The DFFE sensitivity result is confirmed. A compliance statement will not be required as part of the EIA phase.

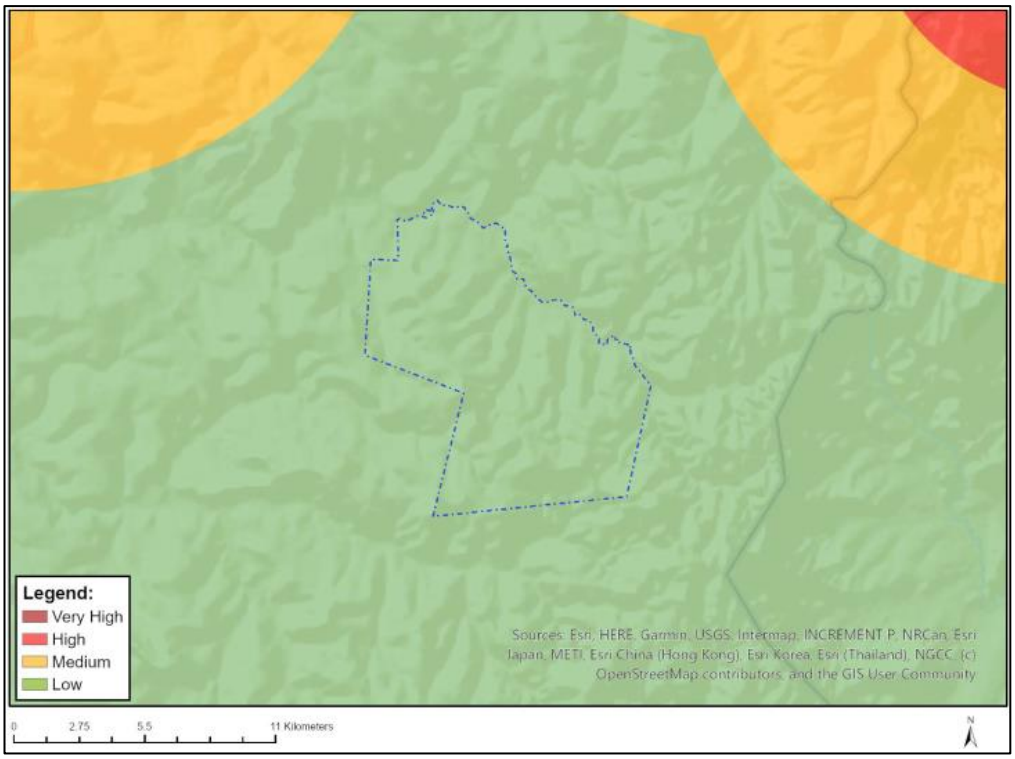


Figure 17: Map of Civil Aviation Sensitivity – Civil Aviation Theme
Source: DFFE Screening Report (2024)

4.4.7 Flicker Assessment

The output of the DFFE Screening Tool for the Flicker Theme is illustrated in **Figure 18**, and indicates that the site is classified as Very High Sensitivity. However, the specialist has confirmed a low sensitivity.

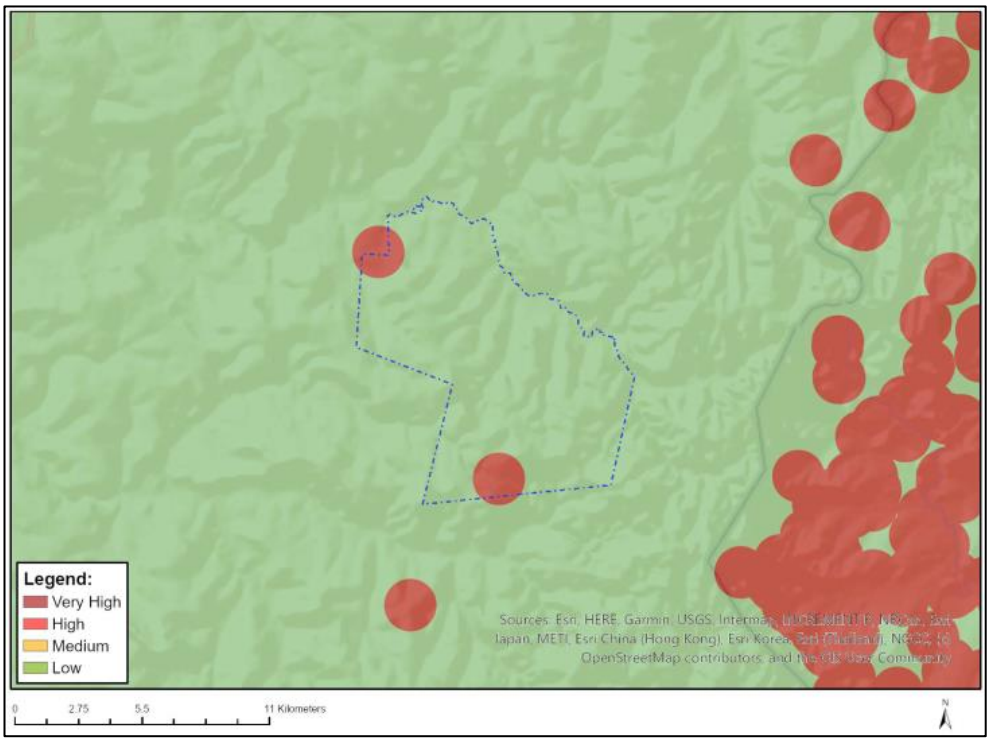


Figure 18: Map of Flicker Sensitivity – Flicker Theme

Source: DFFE Screening Report (2024)

4.4.8 Landscape (Wind) Theme

The DFFE preliminary environmental impact assessment screening indicates that large parts of the study area are of very high or high visual resource value, and that the areas of least concern are located along the lower-lying valley (**Figure 19**).

A review of the national web-based environmental impact assessment screening tool indicates that the site is not considered sensitive regarding the visual resource. Nonetheless, it recommends that a visual impact assessment be conducted as part of the environmental assessment process.

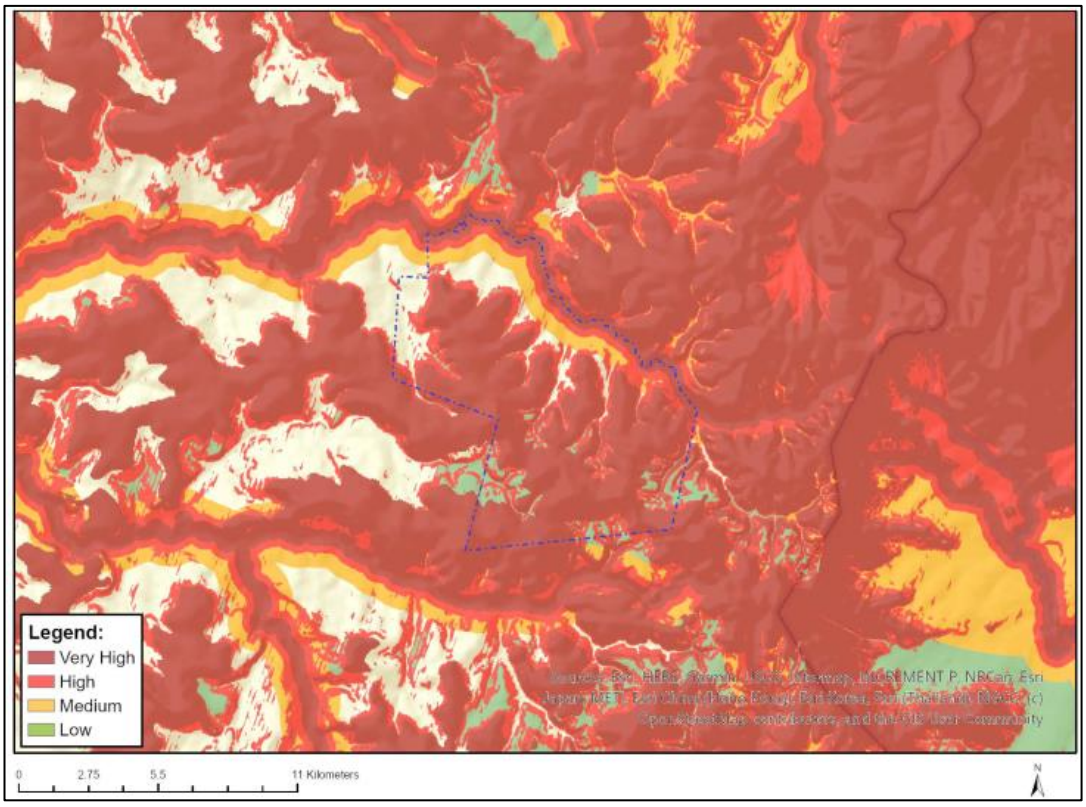


Figure 19: DFFE environmental assessment screening tool - landscape wind theme

Source: DFFE Screening Report (2024)

4.4.9 Plant Species Assessment

The majority of the Project area is considered to be of 'Medium sensitivity' in terms of the Plant Species Theme of the National Screening Tool, on account of the potential presence of at least two Vulnerable flora species namely the sensitive species 1252 and 998 (**Figure 20**). An additional 10 species have been identified from desktop assessment. These include Sensitive Species 1248 (Endangered); Sensitive Species 851 (Vulnerable); *Prunus Africana* (Vulnerable); *Zaluzianskya distans* (Vulnerable); *Anemone fanninii* (Near Threatened); *Eucomis bicolor* (Near Threatened); *Polygala praticola* (Near Threatened); *Merwilla plumbea* (Near Threatened); *Ocotea bullata* (Endangered) and *Lotononis amajubica* (Rare).

The presence of these species will only be confirmed upon completion of Flora site verification process. The entirety of the Project area is mapped as CBAs and ESAs (**Figure 21**), which are largely aligned with grassland and cultivated stands towards the Northern boundary, as presented in the national landcover dataset (GTI, 2020) (Figure 4-2). These datasets are based on satellite imagery interpretation and as such the data may be aged, and will require in-field verification. A key output of the vegetation and flora baseline study (to be conducted) will be the vegetation map of the Project area, which defines the location and extent

of natural and modified vegetation communities – these will be utilised for CBA/ESA extent verification purposes in the Terrestrial Biodiversity Specialist Assessment at EIA stage.

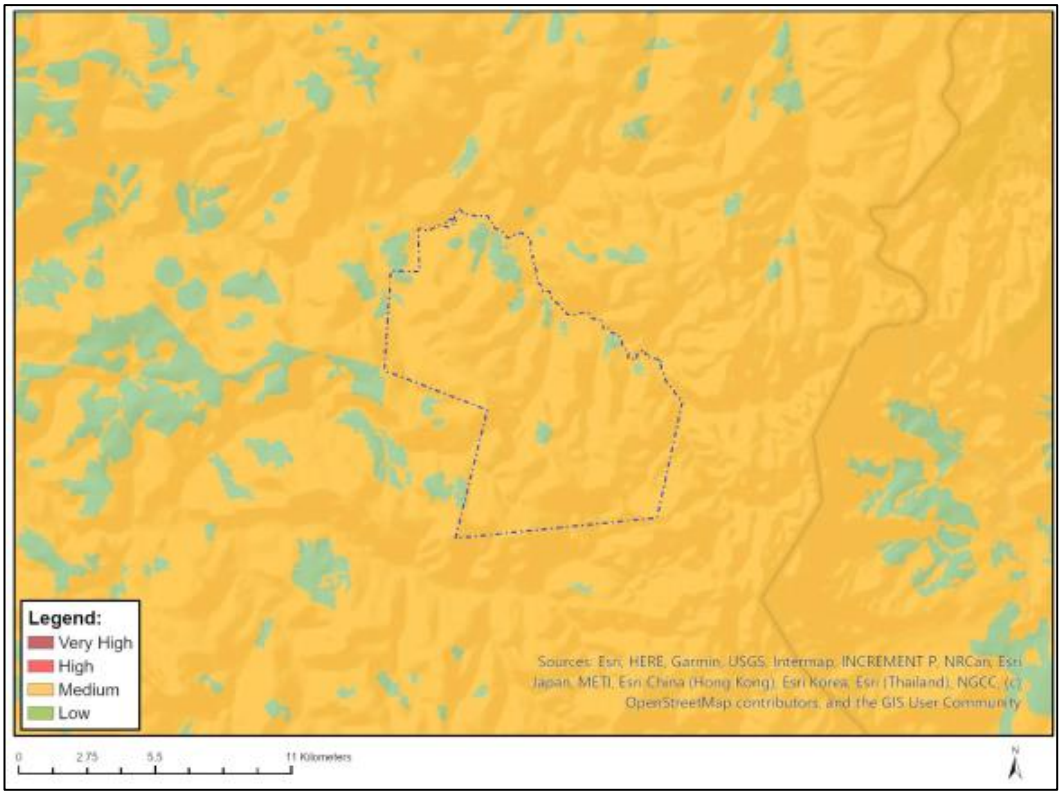


Figure 20: Map of Plant Species Sensitivity – Plant Species Theme

Source: DFFE Screening Report (2024)

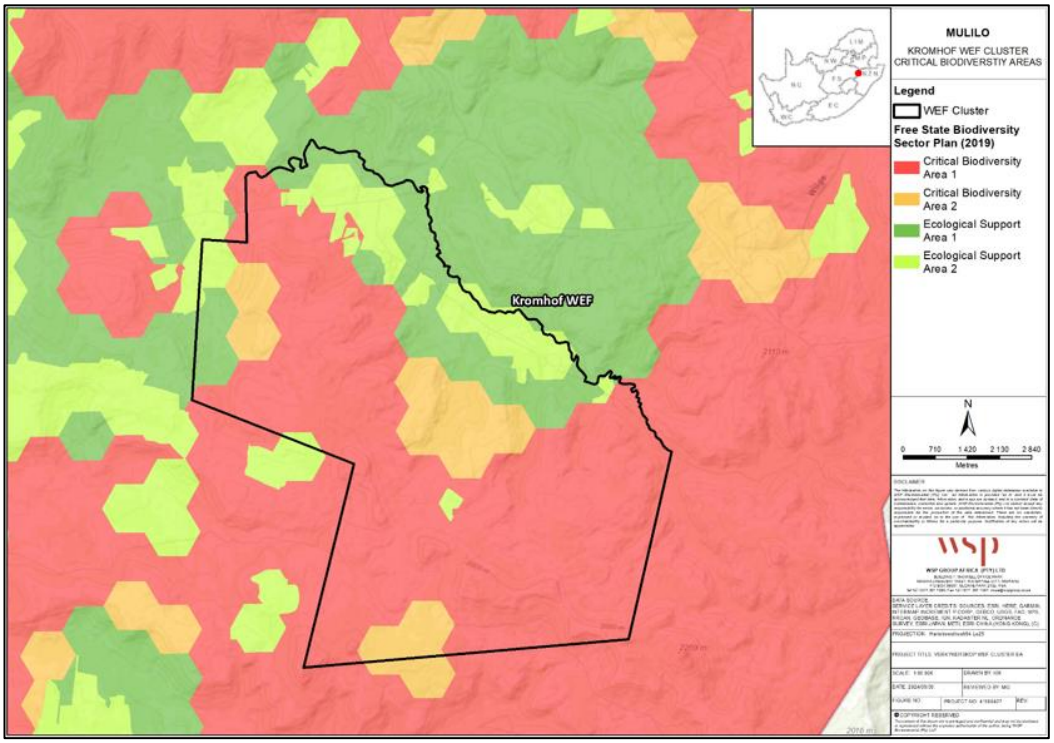


Figure 21: Project area in relation to FSBSP (2019)
Source: WSP(2024)

4.4.10 Vulture Theme Sensitivity

The output of the DFFE Screening Tool for the Vulture Theme is illustrated in **Figure 22** and indicates that the site is classified as High Sensitivity. The specialist has confirmed this high sensitivity result.

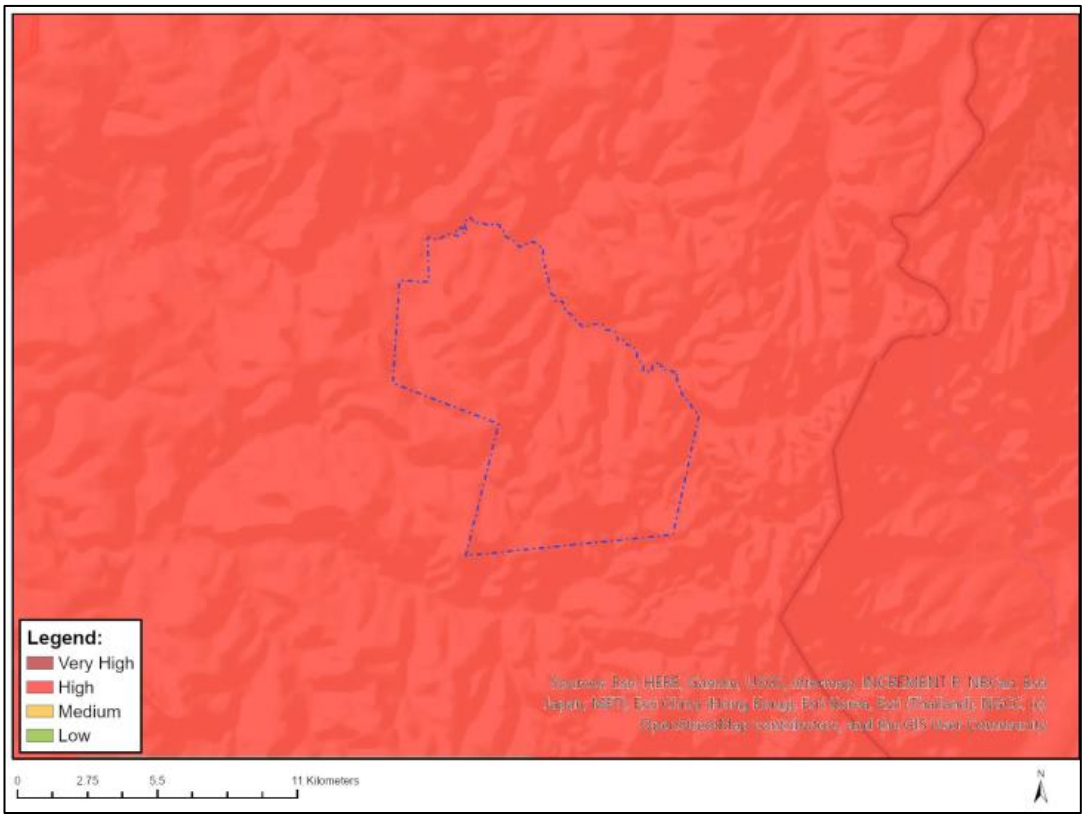


Figure 22: Map of Vulture Sensitivity – Vulture Species Theme
Source: DFFE Screening Report (2024)

4.5 CONSOLIDATED SENSITIVITY MAP – SCOPING PHASE

Figure 23 illustrates the consolidated sensitivity map for the preliminary layout, while **Figure 24** illustrates the consolidated sensitivity map overlain by the optimised layout. **Figure 25** illustrates both the Preliminary and optimised layouts for comparison purposes.

The “optimised” layout will be further assessed by the specialists during the EIA Phase, and amended and further optimised as required.

Given the nature of the data provided by the avifauna specialist, separate avifauna sensitivity maps were created to properly illustrate all avifaunal sensitivities including their respective buffers. **Figure 26** depicts the avifaunal sensitivities overlain by the preliminary and optimised layouts for comparison. **Figure 27** depicts the avifaunal sensitivities overlain by the optimised layout for the project. The turbines within the ‘no-go zone’ areas (i.e. Avifauna Zone 1) have been acknowledged and are indicated in red (**Figure 26** and **Figure 27**). With regards to the Kromhof WEF, only two turbine locations will require relocation as a result of the avifauna sensitivities. The layouts will be amended accordingly and provided to the specialist team for assessment in the EIA phase once the specialists confirm the sensitivities

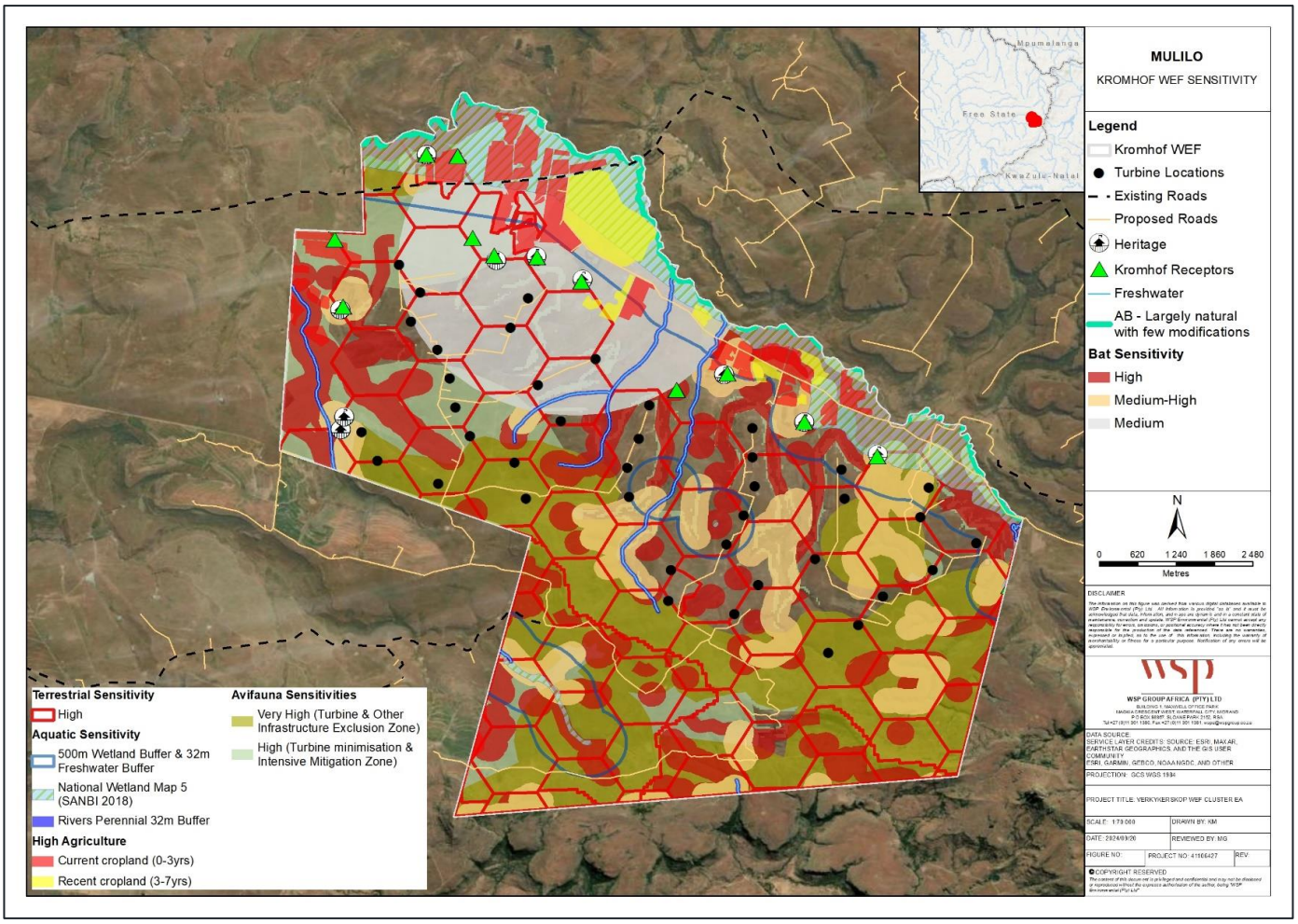


Figure 23: Consolidated Sensitivity Map overlain by the Preliminary Site Layout for the proposed Kromhof WEF (excluding Avifauna)

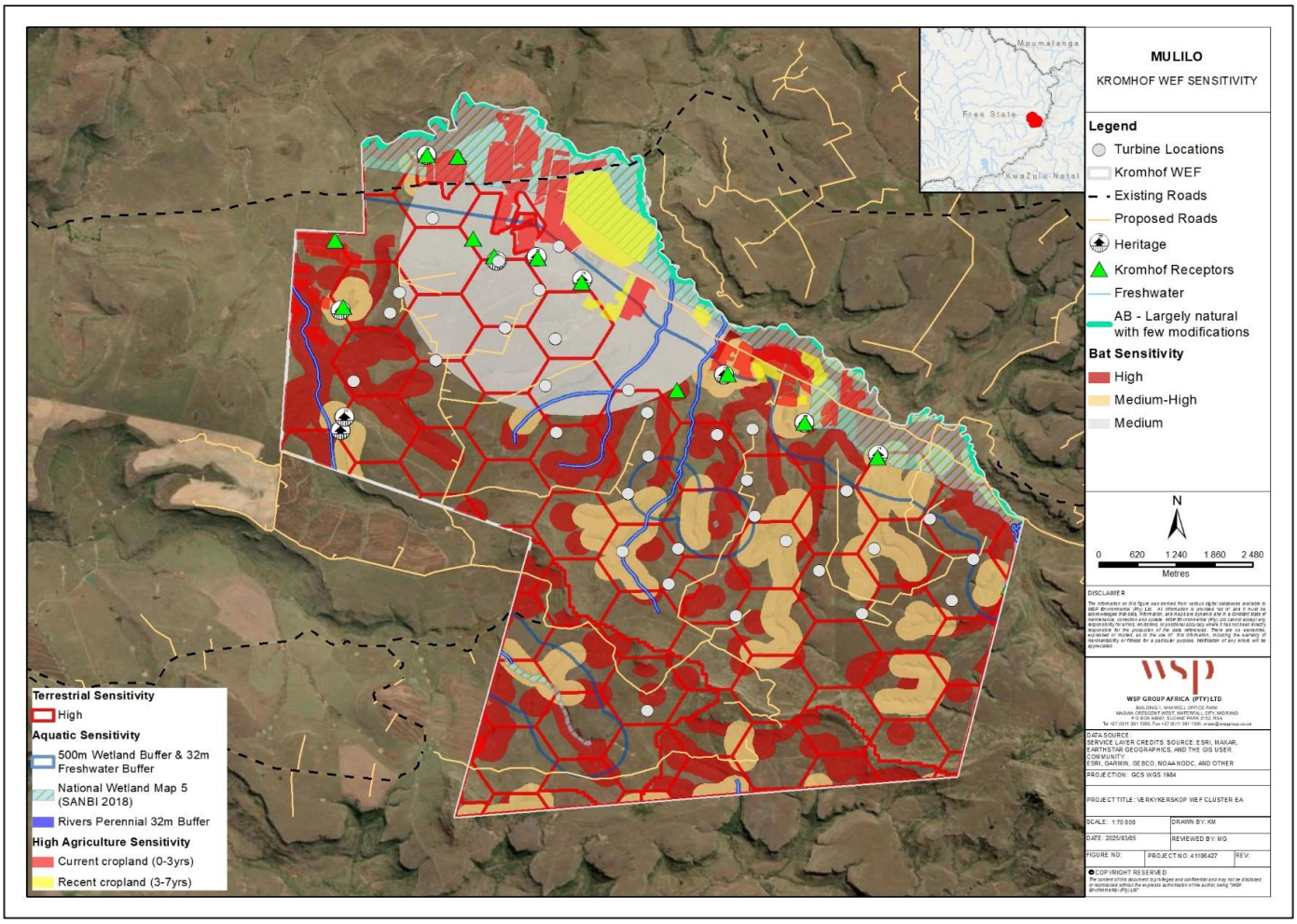


Figure 24: Consolidated Sensitivity Map overlain by the Optimised Site Layout for the proposed Kromhof WEF (excluding Avifauna)

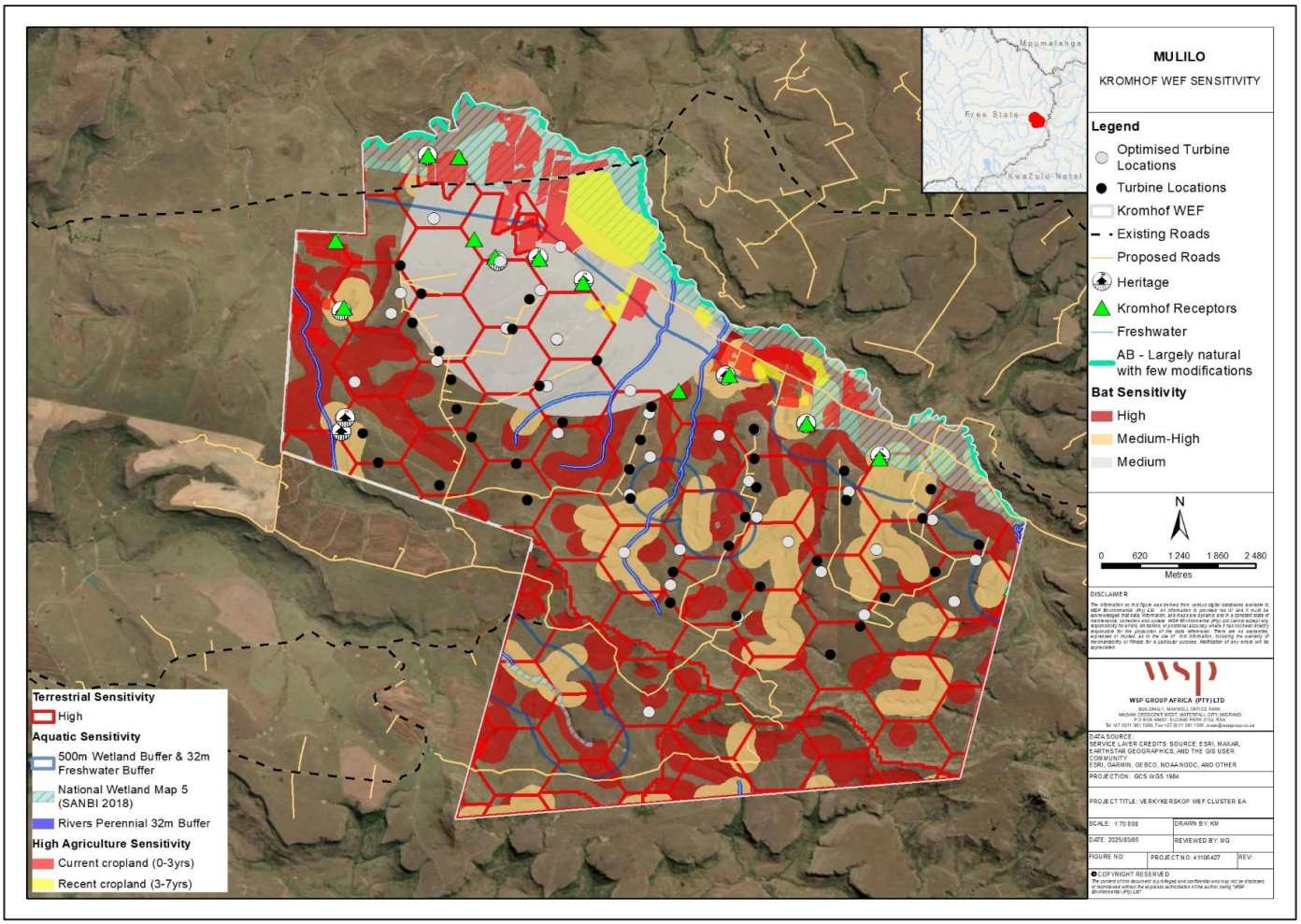


Figure 25: Kromhof WEF - Map reflecting the Preliminary and optimised layouts for comparison (excluding Avifauna)

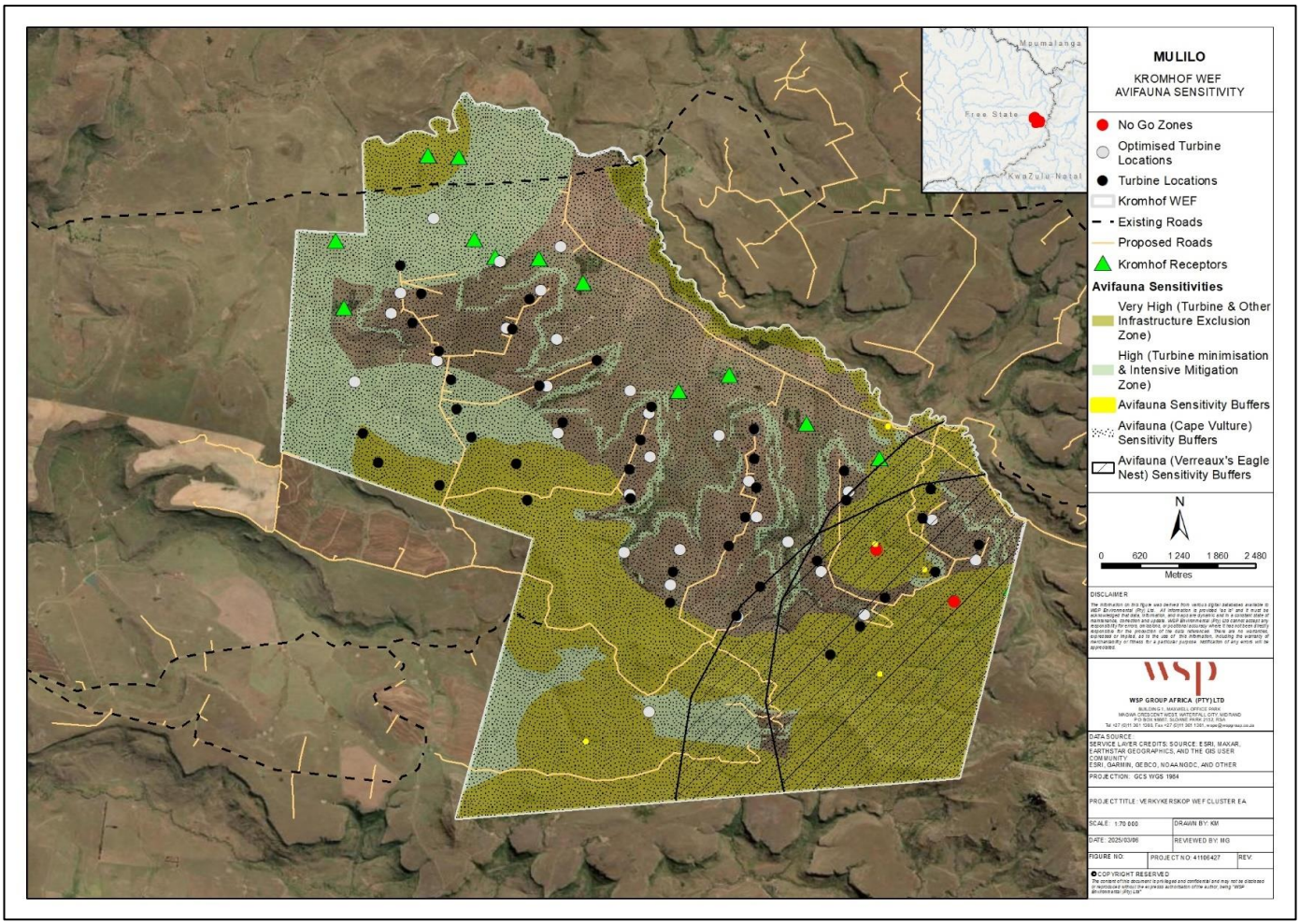


Figure 26: Kromhof WEF - Avifauna Sensitivity Map overlain by the Preliminary and Optimised Layouts for comparison

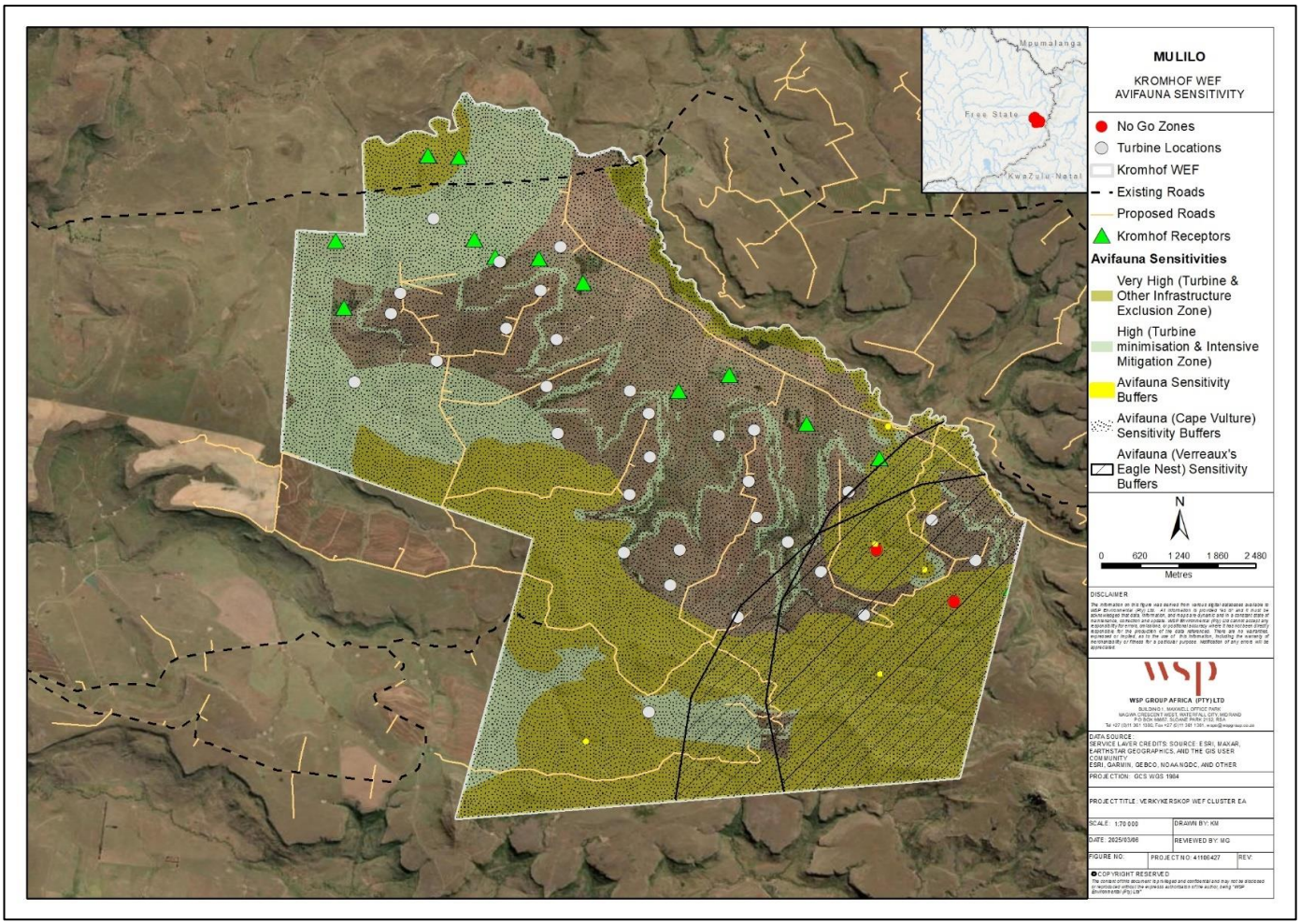


Figure 27: Kromhof WEF - Avifauna Sensitivity Map overlain by the Optimised Layout

5. Conclusion

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

- Bats (Wind) Theme (Confirmed High Sensitivity)
- Landscape Theme/ Visual (Confirmed Very High Sensitivity)
- Archaeological and Cultural Heritage (Confirmed Low Sensitivity)
- Agricultural Impact Assessment (Confirmed High Sensitivity)
- RFI (Confirmed Low Sensitivity)
- Palaeontology (Confirmed Very High Sensitivity)
- Vulture Theme (Confirmed High Sensitivity)
- Civil Aviation Theme (Confirmed Low Sensitivity)
- Defence Theme (Confirmed Low Sensitivity)
- Plant Species Assessment (Confirmed Medium Sensitivity)

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

- Avifauna Assessment (Verified Very High Sensitivity)
- Noise Theme (Verified Medium Sensitivity)

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

- Flicker Theme (Verified Low Sensitivity)
- Terrestrial Biodiversity (Verified Medium to High Sensitivity)
- Aquatic Biodiversity (Verified High Sensitivity)
- Animal Species (Verified Medium Sensitivity)

Kind Regards,

Digitally signed by Ashlea Strong
DN: cn=Ashlea Strong, c=ZA, o=WSP Group Africa, ou=Earth and Environment, email=ashlea.strong@wsp.com
Date: 2025.03.06 21:04:03 +02'00'

Ashlea Strong

Registered EAP