

APPENDIX F

SITE SENSITIVITY VERIFICATION REPORT

PROPOSED GROOTVLEI 600MW SOLAR PV PLANT, BESS
AND GRID CONNECTION, NEAR VENTERSDORP, DR
KENNETH KAUNDA AND NGAKA MODIRI MOLEMA
DISTRICT MUNICIPALITIES, NORTH WEST PROVINCE

SITE SENSITIVITY VERIFICATION REPORT

AUGUST 2026



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Title and Approval Page

Project Name:	Proposed Grootvlei 600MW Solar PV Plant, BESS and Grid Connection, near Ventersdorp, Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, North West Province
Report Title:	Site Sensitivity Verification (SSV) Report
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Applicant:	LTM Green Energies (Pty) Ltd
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1 BACKGROUND

Nemai Consulting was appointed by LTM Green Energies (Pty) Ltd (the “Applicant”) as the independent Environmental Assessment Practitioner (EAP) to conduct the Environmental Impact Assessment (EIA) for the Proposed Grootvlei 600MW Solar PV Plant, Battery Energy Supply System (BESS) and Grid Connection, near Ventersdorp, Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, North West Province (the “Project”).

The South African Government ratified the Paris Agreement in 2016, thereby demonstrating the country’s commitment to contributing to the global effort to address climate change. Electricity generation sources need to be diversified to ensure security of supply and reduce the carbon footprint created by South Africa's (SA) current heavy reliance on coal for electricity production. Electricity demand is increasing in SA, and to meet that demand, there is a need to supply a diversified power generation mix that includes renewable energy technologies.

The Applicant intends to bid for the current and future Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) bid windows and/or other renewable energy markets within SA.

On 13 December 2023, the Applicant received Environmental Authorisation (EA) for the development of the Grootvlei 600MW Solar Plant, BESS and Grid Connection Project (Department of Forestry, Fisheries and the Environment (DFFE) Reference Number: 14/12/16/3/3/2/2386). Upon optimising the layout plan for the Proposed Grootvlei 600MW Solar PV Plant, BESS, and Grid Connection near Ventersdorp, North West Province, the Applicant determined that the previously secured land would be insufficient to accommodate the planned power capacity. To ensure that no incremental decision-making occurs, as guided by DFFE, the Applicant applied to amend the existing EA to lapse. The amendment was granted on 07 April 2026 (DFFE Reference Number: 14/12/16/3/3/2/2386/AM1). The Applicant is now applying for an EA for the entire Project site, including the originally authorised site and the expansion area following a full Scoping and Environmental Impact Reporting (S&EIR) Process.

The EIA is being undertaken according to the process prescribed in the EIA Regulations of 2014, published under Government Notice (GN) No. 982 in Gazette No. 38282 of 4 December 2014 and amended by GN 326 of 7 April 2017 published in Gazette No. 40772 (the “EIA Regulations”). The EIA Regulations were promulgated in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA).

2 INTRODUCTION

The Protocols for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes (“the Protocols”) were published in Government Gazette No. 43110 on 20 March 2020 and Government Gazette No. 43855 on 30 October 2020, in terms of Sections 24(5)(a) and (h) and 44 of the NEMA.

After 9 May 2020, compliance with the Protocols became mandatory for every new application for EA submitted. According to the Protocols, the EAP must verify the current use of the site in question and potential environmental sensitivity, as identified by the National Web-Based Environmental Screening Tool (“Screening Tool”), to determine the need for specialist inputs in relation to the themes included in the Protocols.

This document serves as the Site Sensitivity Verification (SSV) Report for the proposed Project and aims to comply with the SSV section of the Protocols. The report produced by the Screening Tool is appended to the Application Form, which is contained in Appendix B of the Scoping Report.

It is noted that some specialists conducted SSVs for their respective themes. The findings of these reports are incorporated into this Report and attached as Appendices.

3 FINDINGS OF THE SCREENING TOOL

The National Sector Classifications that were selected during the running of the Screening Tool were as follows:

- ❑ For the Solar PV Site: *Utilities Infrastructure | Electricity | Generation | Renewable | Solar | PV*; and
- ❑ For the Powerline and Main Transmission Substation (MTS): *Utilities Infrastructure | Electricity | Distribution and Transmission | Powerline*.

Table 1 and **Table 2** lists the sensitivities for the various environmental themes relevant to the Solar PV Site and Powerline and MTS, respectively, as determined by the Screening Tool. Only the highest environmental sensitivities are indicated.

Table 1: Sensitivities for environmental themes for the Solar PV Site (Screening Tool)

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Avian Theme		X		
Civil Aviation (Solar PV) Theme				X
Defence Theme				X
Landscape (Solar) Theme	X			
Paleontology Theme	X			
Plant Species Theme				X
RFI Theme				X
Terrestrial Biodiversity Theme	X			

Table 2: Sensitivities for environmental themes for the Powerline and MTS (Screening Tool)

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme	X			
Animal Species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme				X
Defence Theme				X
Paleontology Theme	X			
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

The verification of the site sensitivity of the Screening Tool's themes is provided in the **Section 4**. It is noted that the Screening Tool did not generate sensitivity maps for some features (including Landscape/Visual, Geotechnical, Socio-Economic). Nonetheless, the SSV of these features is captured in **Section 4**.

The specialist studies identified by the Screening Tool, as well as the relevance of these studies to the Project following SSV, are captured in **Section 5**. The Scoping Report contains further information pertaining to the environmental themes.

The SSV was undertaken by the EAP based on the following:

- ☐ A site visit undertaken on 27 March 2026;
- ☐ Inclusion of SSVs undertaken by the following specialists:
 - Agricultural Specialist (**Appendix A**);
 - Terrestrial and Avian Specialist (**Appendix B**);
 - Aquatic Specialist (**Appendix C**); and
 - Heritage Specialist (**Appendix D**).

- ❑ A desktop appraisal of the site was undertaken using various Geographic Information Systems (GIS) layers representing environmental features in the Project area, along with Google Earth imagery.

4 SITE SENSITIVITY VERIFICATION

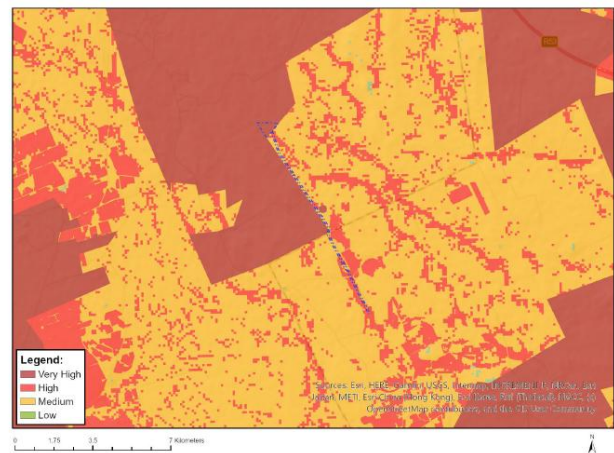
4.1 Agriculture Theme

According to the Screening Tool, most of the Project site falls within a medium-sensitivity area for the Agriculture Theme, with scattered portions across the Project site within high-sensitivity areas (**Figure 1**).

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY



MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	Rainfed Annual Crop Cultivation / Planted Pastures
High	08. Moderate
High	09. Moderate-High
Medium	06. Low-Moderate
Medium	07. Low-Moderate
Very High	Grootpan PAA

Figure 1: Relative Agriculture Theme Sensitivity (Screening Tool)

The information that follows is extracted from the Agricultural SSV Report prepared by an agricultural specialist (Mchunu, 2026) (refer to **Appendix A**).

The Project area is characterised by a generally low agricultural potential, with the prevailing soils classified as non-arable and assigned a Class VI land capability rating, indicating that the land is

best suited to grazing at most (Mchunu, 2026) (refer to **Figure 2**). Furthermore, data from the Agricultural Geo-Referenced Information System (AGIS) indicate that the grazing capacity within the project area ranges from 5 to 7 hectares per Large Stock Unit (LSU). This reflects the extent of land required to sustain grazing for a standard LSU, defined in terms of the Conservation of Agricultural Resources Act (Act No. 43 of 1983) (CARA), (Regulation 10), as an animal weighing approximately 450 kg with a daily mass gain of 0.5 kg on forage with a digestible energy content of 55% (Mchunu, 2026).

Therefore, the agricultural specialist determined that the agricultural theme sensitivity of the proposed Project is mostly low, with two small, isolated spots of medium sensitivity (refer to **Figure 3**). Therefore, it was determined, in accordance with the Protocols, that only an Agricultural Compliance Statement is required for the EIA Phase.

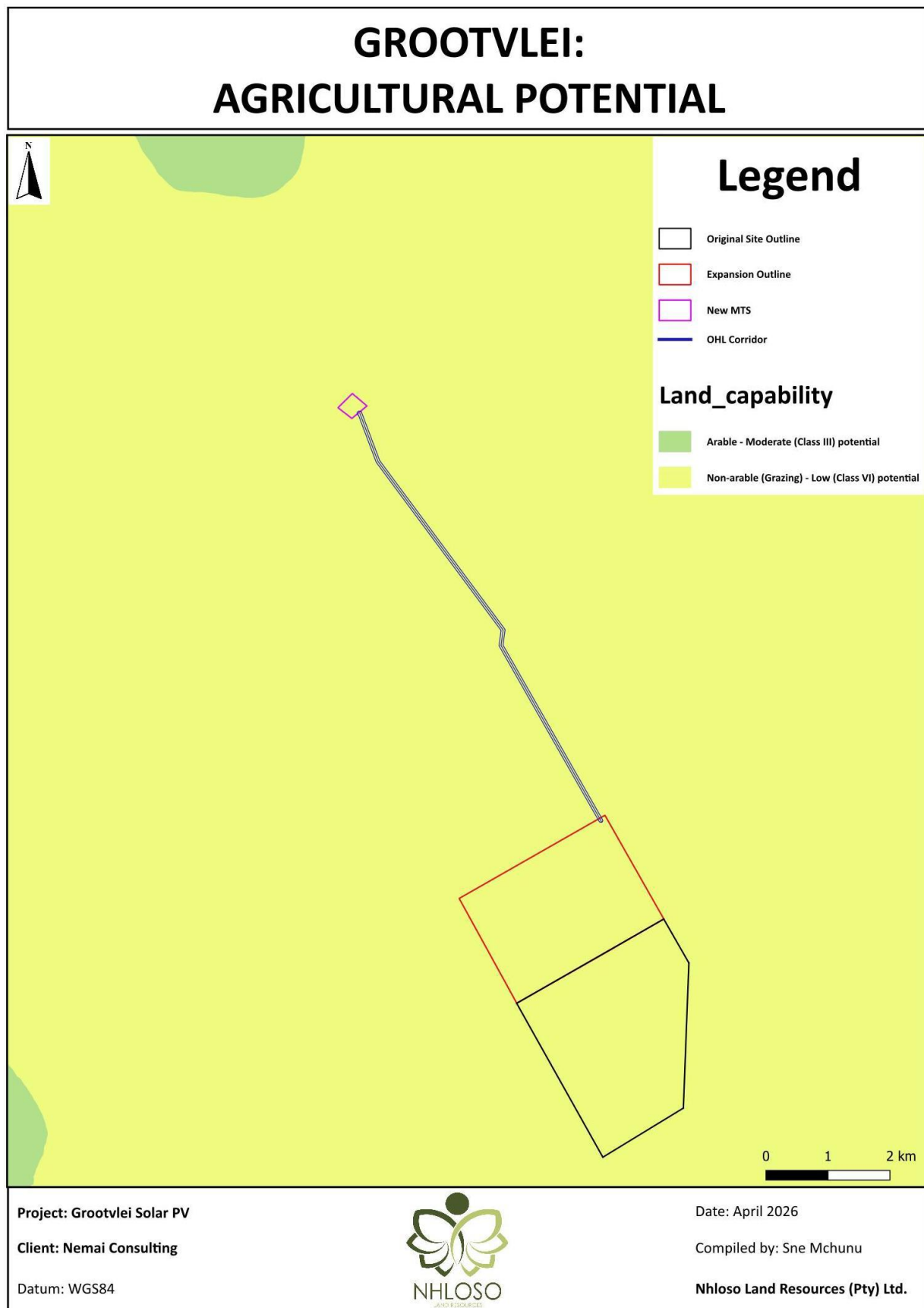


Figure 2: Land Capability in the vicinity of the Project site (Mchunu, 2026)

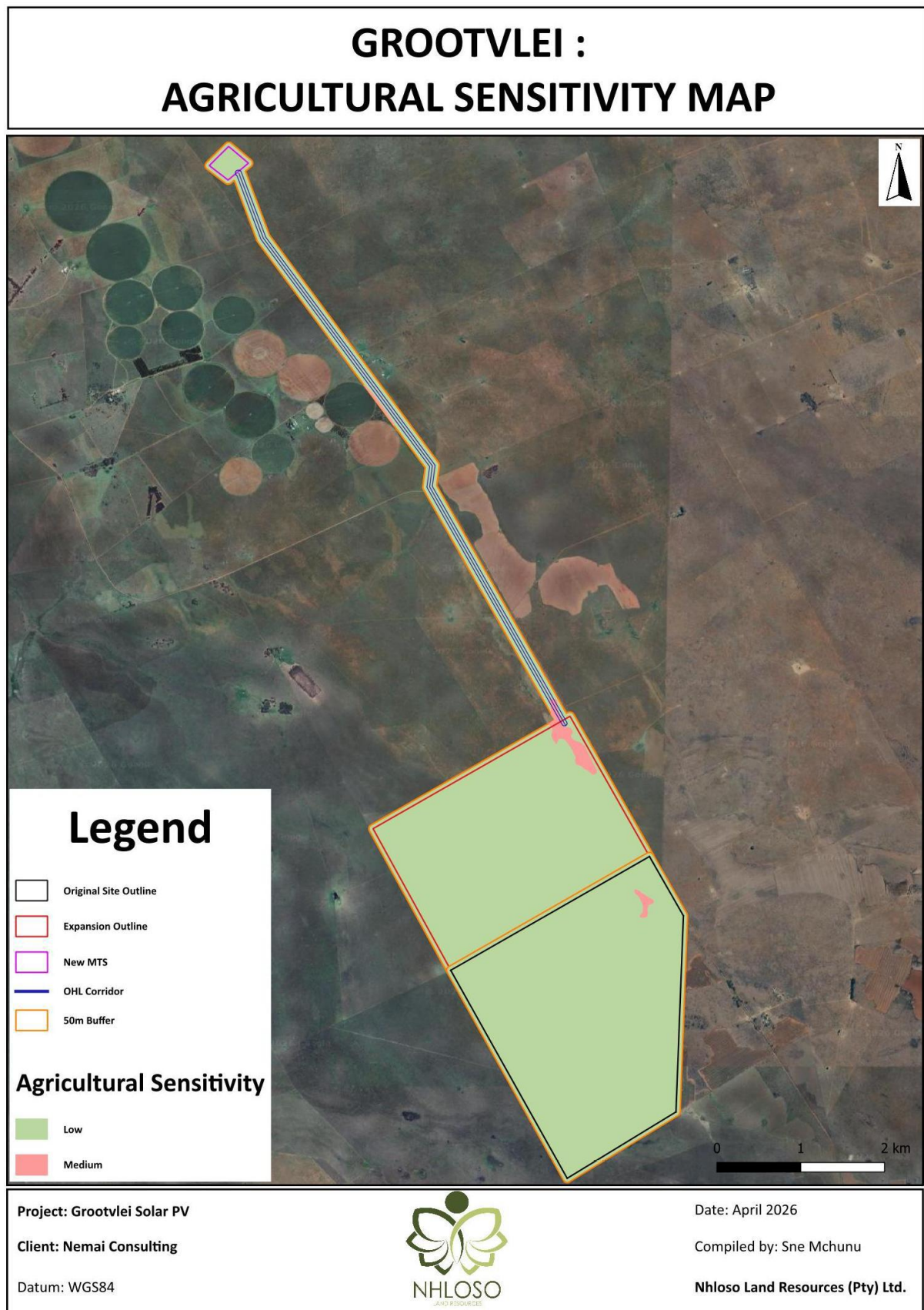


Figure 3: Agricultural Sensitivity within a 50 m buffer of the site (Mchunu, 2026)

4.2 Animal Species, Avian, Plant Species and Terrestrial Biodiversity Theme

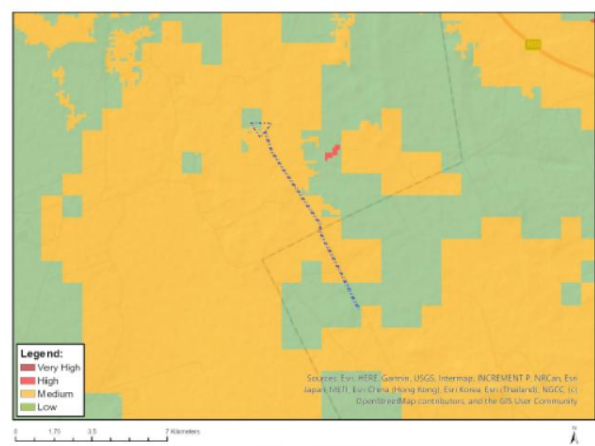
According to the Screening Tool, the following sensitivities are noted:

- ❑ Most of the Project site falls within a Medium Sensitivity area in terms of the Animal Species Theme, with portions of the southern and northern sections of the Solar PV site and grid connection site occurring in a low sensitivity area (**Figure 4**);
- ❑ Most of the Project site falls within a low sensitivity for the Avian Theme. However, the southern section of the Project site falls within a high sensitivity area, as it is located within 20 km of a known Cape Vulture restaurant site (**Figure 5**);
- ❑ The Project site falls within a Low Sensitivity area for the Plant Species Theme (**Figure 6**); and
- ❑ Most of the Project site falls within a Very High Sensitivity area for the Terrestrial Biodiversity Theme, with portions of the southern and northern sections of the Solar grid connection site and portions of the southeastern section of the Solar PV site occurring in a low sensitivity area (**Figure 7**).

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Subject to confirmation
Medium	Aves-Eupodotis senegalensis
Medium	Mammalia-Crocidura maquassiensis

Figure 4: Relative Animal Species Theme Sensitivity (Screening Tool)

MAP OF RELATIVE AVIAN THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	within 20 km of known Cape Vulture restaurants sites
Low	Low Sensitivity

Figure 5: Relative Avian Theme Sensitivity (Screening Tool)

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

Figure 6: Relative Plant Species Theme Sensitivity (Screening Tool)

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA2
Very High	ESA1
Very High	ESA2
Very High	National Protected Area Expansion Strategy (NPAES)

Figure 7: Relative Terrestrial Biodiversity Theme Sensitivity (Screening Tool)

The information that follows is extracted from the Terrestrial SSV Report prepared by a terrestrial specialist (Paul, 2026) (refer to **Appendix B**).

The following is noted with regard to the desktop Screening that was undertaken by the EAP and the terrestrial specialist:

- ❑ The Project site is found in the Carletonville Dolomite Grassland vegetation bioregion.
- ❑ According to the spatial data from the South African Protected Area Database (SAPAD), the Klipstraat Private Nature Reserve and the Makokskraal Private Nature Reserve are located within 10 km of the site. As both reserves fall outside of any known important bird and biodiversity areas, this finding is unlikely to have a significant impact on the proposed development.
- ❑ The site is also located within a Priority Focus Area under the National Protected Area Expansion Strategy (NPAES).
- ❑ According to the North West Biodiversity Sector Plan (BSP) Terrestrial CBAs, the Solar PV site falls within CBA2 and ESA1; sections of the Powerline fall within CBA1, CBA2, and ESA1; and the MTS falls within CBA1.

Based on the findings of the terrestrial specialist SSV, the following sensitivities have been confirmed for the Project site:

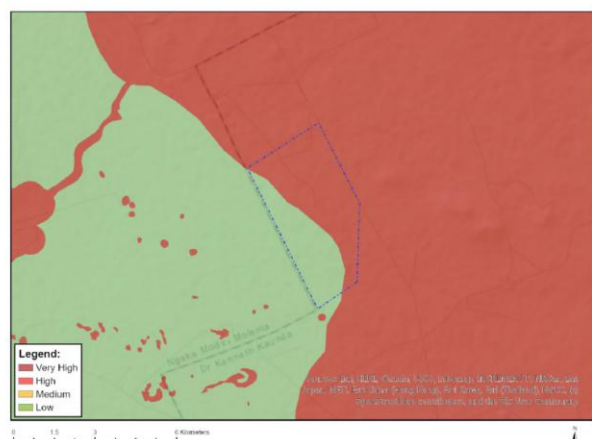
- ❑ The animal species theme sensitivity of the proposed Project ranges from very low to high sensitivity due to the presence of wetlands within the proposed development footprint;
- ❑ The site does not occur within any known important bird areas. However, this will be investigated further during the Terrestrial Biodiversity Impact Assessment, which will include the avian impact assessment to be undertaken as part of the EIA Phase;
- ❑ The plant species theme sensitivity of the proposed Project ranges from very low to high sensitivity due to the presence of wetlands within the proposed development footprint; and
- ❑ The terrestrial biodiversity theme sensitivity of the proposed Project ranges from very low to high sensitivity due to the presence of wetlands within the proposed development footprint.

Therefore, based on the information above, it has been determined, in accordance with the Protocols, that a Terrestrial Biodiversity Impact Assessment is required for the EIA Phase, including assessments of animal, avian, and plant species, as well as terrestrial biodiversity.

4.3 Aquatic Biodiversity Theme

According to the Screening Tool, most of the Project site occurs within a Very High Sensitivity area in terms of the Aquatic Biodiversity Theme, with only the southern section of the Project site occurring in a low sensitivity area (**Figure 8**).

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY



MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA1
Very High	ESA1
Very High	ESA2

Figure 8: Relative Aquatic Theme Sensitivity (Screening Tool)

The Project site falls within Quaternary catchment C24F, which is part of the Vaal-Orange Water Management Area (WMA) 4. This WMA includes major rivers such as the Wilge, Liebenbergsvlei, Mooi, Renoster, Vals, Sand, Vet, Harts, Molopo and Vaal. The closest river to the Project site is a non-perennial watercourse located approximately 7 km away, which flows into the Taaibosspruit and ultimately drains into the Vaal River. No rivers occur within the Project site.

According to the National Wetland Map 5 (NWM5) (SANBI, 2018) and the North West BSP (Hawley *et al.*, 2025), the Project site is located in proximity to a depression wetland and falls within areas classified as Wetland CBA1, ESA1, and ESA2.

The information that follows is extracted from the Aquatic SSV Report prepared by an aquatic specialist (Hoosen, 2026) (refer to **Appendix C**).

The Aquatic SSV Report (Hoosen, 2026) identified four watercourses within the PAOI, defined as a 500 m buffer around the Project site (refer to **Figure 9**). Of these, one feature was identified as an artificial livestock-watering dam, while the remaining three were classified as natural-depression wetlands. This means that the proposed Project is classified as having a very high sensitivity due to the depression wetlands falling within the proposed development footprint.

The depression wetlands were noted to have been historically disturbed by agricultural activities and are currently affected by sporadic farm dwellings, linear infrastructure (including dirt roads and overhead powerlines), and livestock grazing within the catchment. These activities have resulted in hydrological and geomorphological impacts. Vegetation within these areas comprises indigenous sedges (e.g. *Juncus spp.*) and hydrophilic grasses (e.g. *Imperata cylindrica*), as well as alien invasive species such as *Tagetes minuta*.

Therefore, based on the information above, it has been determined, in accordance with the Protocols, that a Wetland Impact Assessment will be required as part of the EIA Phase.

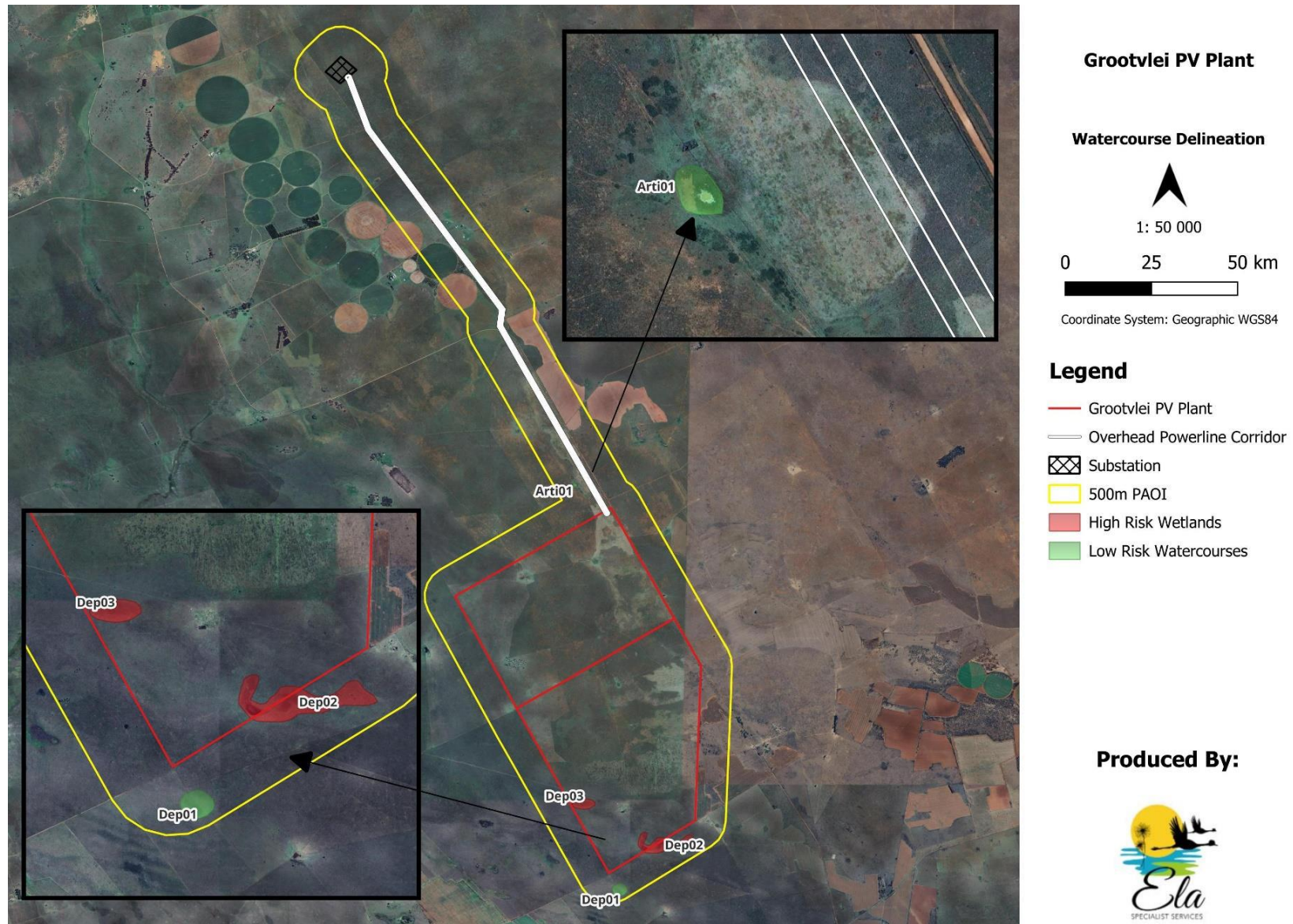


Figure 9: Delineated watercourses within the PAOI by the Aquatic Specialist (Hoosen, 2026)

4.4 Archaeological and Cultural Heritage Theme

According to the Screening Tool, the Project site falls within a low-sensitivity area for the Archaeological and Cultural Heritage Theme (**Figure 10**).

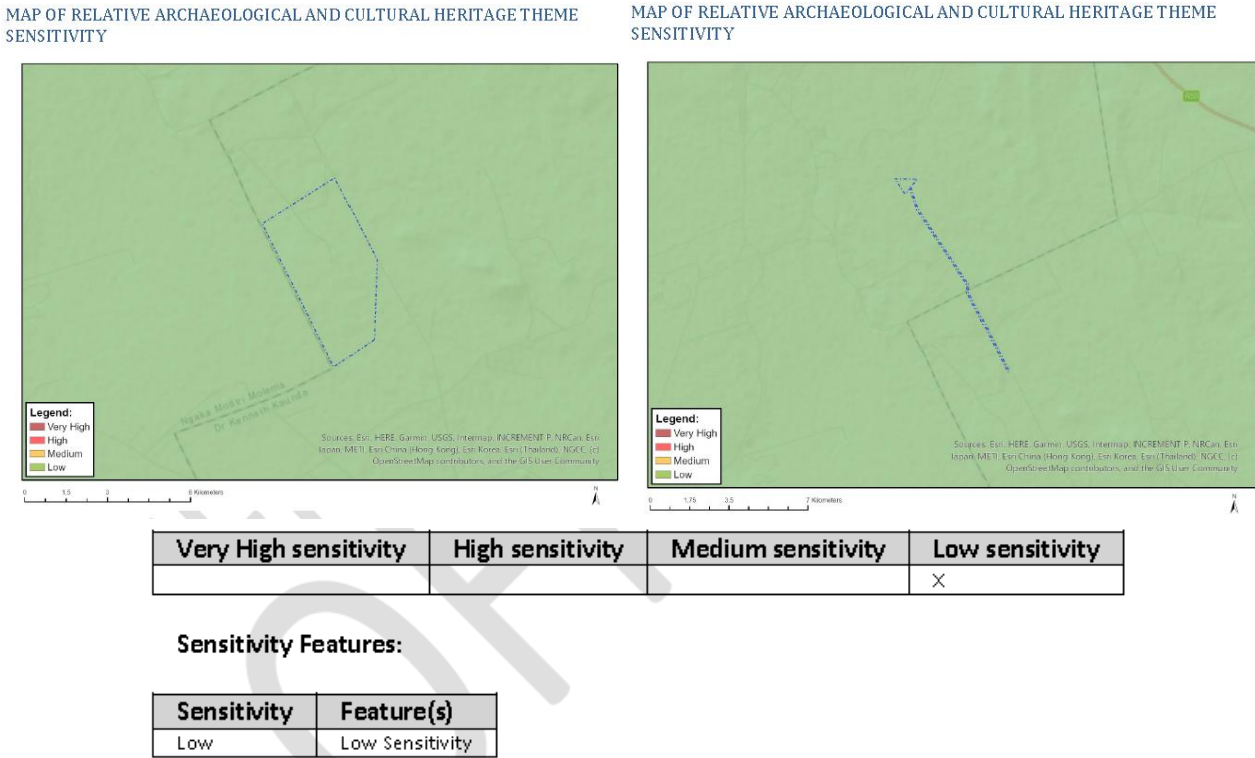


Figure 10: Relative Archaeological and Cultural Heritage Theme Sensitivity (Screening Tool)

The information that follows is extracted from the Heritage SSV Report prepared by a heritage specialist (Kitto, 2026) (refer to **Appendix D**).

A review of historical 1:50 000 topographic mapping (Sheet 2626BA Zwartrand) was undertaken to identify potential heritage features within and surrounding the Project area (Kitto, 2026). The earliest available mapping, based on aerial imagery from the mid-1960s, indicates the presence of a limited number of features, including kraals, farmsteads, ruins and structures located within and adjacent to the Solar PV footprint and the proposed powerline corridor. Later map editions reflect some changes in land use, including areas of cultivation and disturbance. The most recent mapping shows that a small number of structures remain within and near the Project area, and that parts of the proposed overhead line corridor traverse previously cultivated land (Kitto, 2026). Examination of Google Earth satellite imagery also showed partial disturbance of the Project site by agricultural activities between 2014 and 2023.

An on-site heritage inspection was undertaken over multiple site visits between 2023 and 2026 to assess the Project footprint (by a heritage specialist) (Kitto, 2026). Due to dense vegetation cover,

ground visibility was generally low; however, the site was inspected as comprehensively as possible. The surveys identified a limited number of heritage resources within and adjacent to the Project site, including a stone kraal, a possible informal grave, scattered stone artefacts and a modern stock ramp, with additional historical features located nearby. Based on these findings, the overall heritage sensitivity of the project area is considered low, except for two features of medium significance: the stone kraal and the possible grave (refer to **Figure 11** below) (Kitto, 2026).

Therefore, based on the information above, it has been determined, in accordance with the Protocols and the requirements of the National Heritage Resources Act (Act No. 25 of 1999) (NHRA), that a Phase 1 Heritage Impact Assessment is required and will be undertaken as part of the EIA Phase.

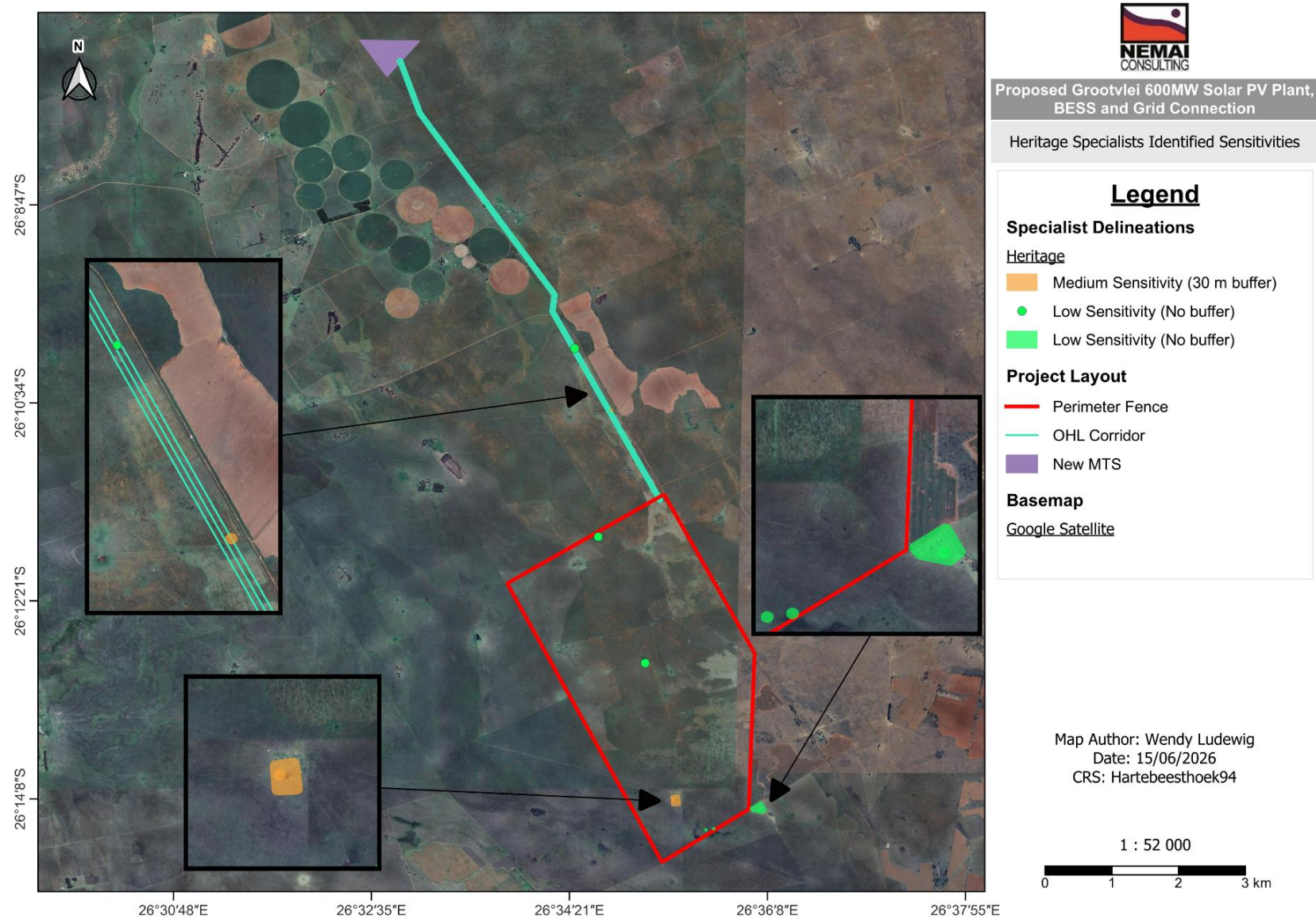


Figure 11: Sensitivities of heritage and archaeological features in relation to the Project site

4.5 Civil Aviation Theme

According to the Screening Tool, the Project site falls within a low-sensitivity area for the Civil Aviation Theme (**Figure 12**).

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY



MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	No major or other types of civil aviation aerodromes

Figure 12: Relative Civil Aviation Theme Sensitivity (Screening Tool)

Upon an interrogation of the surrounding environment through the site visit and desktop review, no evidence of any civil aviation infrastructure was found near the Project site. The site verification thus supports and confirms the Screening Tool's findings of low sensitivity for this theme. In terms of the Protocols, where a development site is identified as having low sensitivity, no further assessment requirements apply. Therefore, no further studies will be undertaken during the EIA Phase.

4.6 Defence Theme

According to the Screening Tool, the relative Defence Theme sensitivity is low for the Project site (**Figure 13**). Upon interrogation of the surrounding environment, through the site visit and desktop review, no evidence was found of any military or defence operations or installations. The site verification thus supports and confirms the Screening Tool's findings of low sensitivity for this theme. In terms of the Protocols, where a development site is identified as having low sensitivity, no further assessment requirements apply. Therefore, no further studies will be undertaken during the EIA Phase.

MAP OF RELATIVE DEFENCE THEME SENSITIVITY



MAP OF RELATIVE DEFENCE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

Figure 13: Relative Defence Theme Sensitivity (Screening Tool)

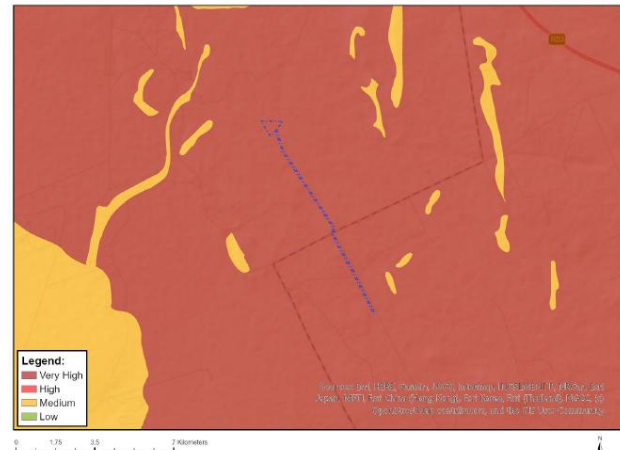
4.7 Palaeontology Theme

According to the Screening Tool, the Project site falls within a very high-sensitivity area for the Palaeontology Theme (Figure 14).

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY



MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity
Very High	Features with a Very High paleontological sensitivity

Figure 14: Relative Palaeontology Theme Sensitivity (Screening Tool)

The information that follows is extracted from the Heritage SSV Report prepared by a heritage specialist (Kitto, 2026) (refer to **Appendix D**).

According to the SAHRIS database, South African Fossil Sensitivity Map, the Project footprint falls within an area with Very High fossil sensitivity, likely as the Project site is within a dolomite area. Therefore, it was determined that a Palaeontological Impact Assessment is required as part of the EIA Phase.

4.8 Landscape/Visual Theme

According to the findings of the Screening Tool, the site consists of areas of very high sensitivity in terms of the relative landscape (solar) theme due to the occurrence of mountaintops and high ridges on the site (**Figure 15**).

MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY

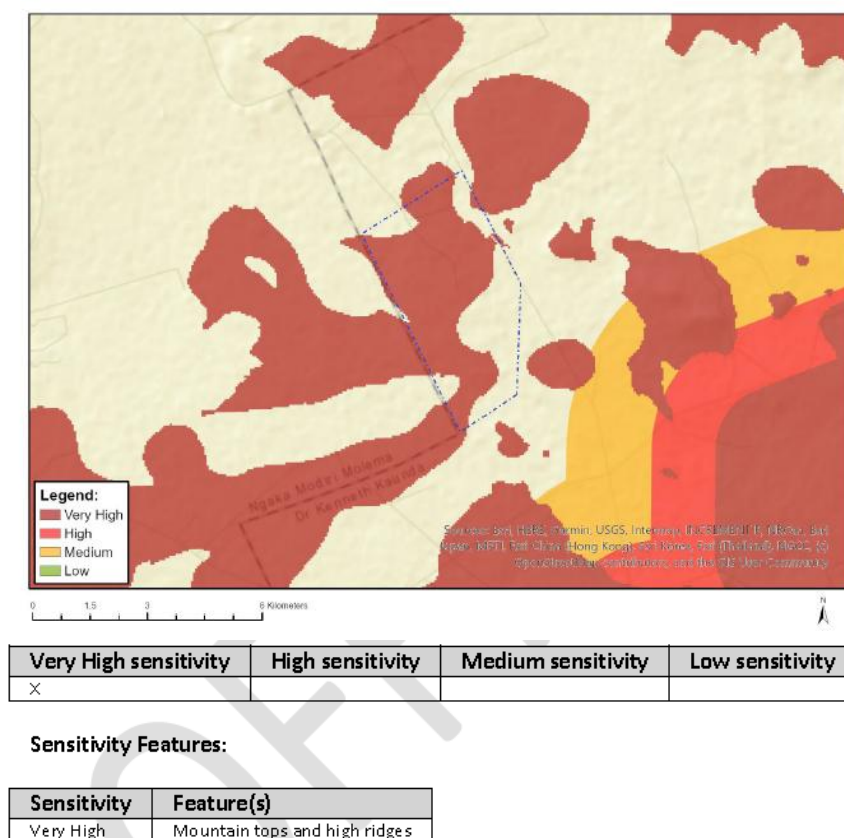


Figure 15: Relative Landscape (Solar) Theme Sensitivity (Screening Tool)

The Project site elevation ranges from 1514 m to 1523 m above sea level. Across the entire Solar PV site from north to south, there is an elevation gain/loss of 24.5 m/-25.7 m with an average slope of 0.8%/-0.9%. From east to west, the Project elevation ranges from 1524 m to 1509 m with an elevation gain/loss of 9.5 m/-19.0 m and an average slope of 0.8%/-1.1%. The Project site's

elevation is classified as level land, a plain at a high elevation, according to the Soil and Terrain (SOTER) Database.

The visual character of the Project site is typical of a rural agricultural landscape, comprising predominantly open grassland, generally flat topography, and extensive views across the surrounding area (**Figure 18**). The site is characterised by a mosaic of natural grass cover interspersed with disturbed or exposed soil, including visible vehicle tracks and compacted ground associated with farming activities. Livestock grazing is evident throughout the site, as indicated by the presence of reservoirs and feeding troughs (**Figure 16**). Additional visual features include scattered rocks and low stone-packed areas, as well as isolated farm-related infrastructure such as fencing and a small structure with solar panels (**Figure 17**). Vegetation is generally low-growing, with occasional trees and shrubs, contributing to the landscape's open, expansive character (**Figure 19**). Overall, the visual quality of the Project site is consistent with the surrounding agricultural environment.



Figure 16: Livestock grazing area on the Project site



Figure 17: Stone-packed areas and scattered rocks on the Project site



Figure 18: Open grassland, flat topography and extensive views of the surrounding landscape of the Project site



Figure 19: Clump of trees on the Project site

Based on the information above, the land is relatively flat, making it suitable for a Solar PV site. However, the site's visual quality will be affected by the Project. As a result, a Visual Impact Assessment will be undertaken as part of the EIA Phase.

4.9 RFI Theme

According to the Screening Tool, the relative Radio Frequency Interference (RFI) Theme sensitivity is low for the Project site (**Figure 20**). Upon interrogation of the surrounding environment through the site visit and desktop review, no evidence of any radio-frequency infrastructure that could be interfered with was found near the Project site. The site verification thus supports and confirms the Screening Tool's findings of low sensitivity for this theme. Therefore, no further studies will be undertaken during the EIA Phase

MAP OF RELATIVE RFI THEME SENSITIVITY

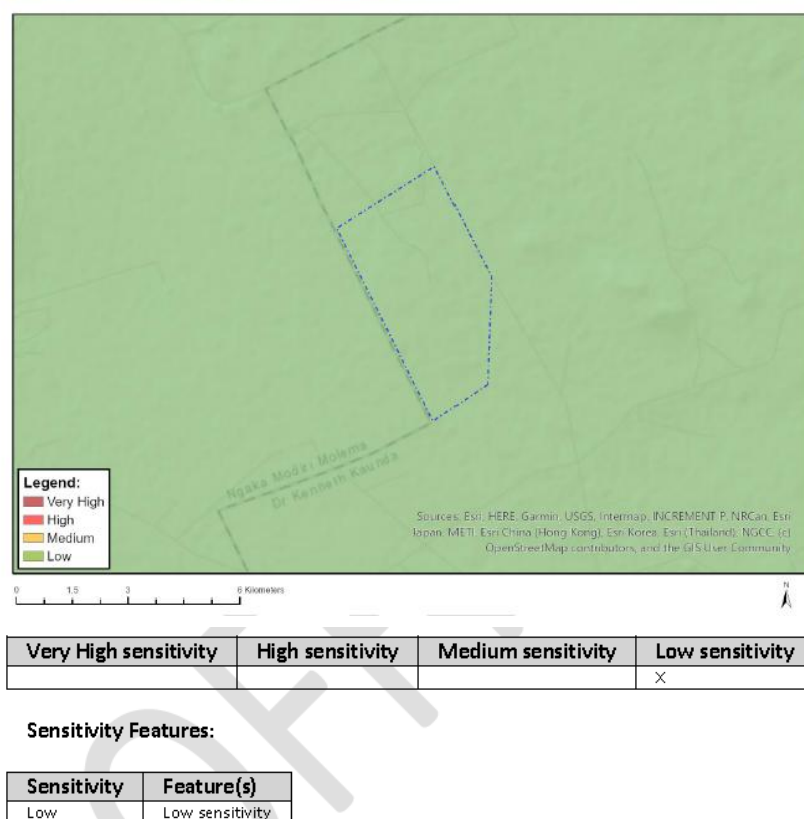


Figure 20: Relative RFI Theme Sensitivity (Screening Tool)

4.10 Socio-Economic

According to the Screening Tool, there is a need for a Socio-Economic Impact Assessment, however, the Screening Tool does not indicate any Socio-Economic sensitivities for the Project site.

The Project Solar PV site and half of the power line are located within Ward 34 in the JB Marks Local Municipality (LM), Dr Kenneth Kaunda District Municipality (DM). The rest of the power line and the new MTS are located within Ward 17 of the Ditsobotla LM, Ngaka Modiri Molema DM.

The proposed Project is expected to create at least 300 employment opportunities during the construction phase and approximately 23 employment opportunities during the operation phase. This could result in an influx of people to the area seeking employment. Therefore, an assessment of the Project's impact on the socio-economic environment is required. As a result, a Social Impact Assessment will be undertaken as part of the EIA Phase.

4.11 Geotechnical Assessment

According to the Screening Tool, there is a need for a Geotechnical Assessment, however, the Screening Tool does not indicate any geotechnical sensitivities for the Project site.

According to the 2626 West Rand – 1:250 000 Geological map series, the study area is underlain by the Precambrian dolomites and associated marine sedimentary rocks of the Monte Christo Formation of the Malmani Subgroup (Chuniespoort Group, Transvaal Supergroup) (**Figure 21**).

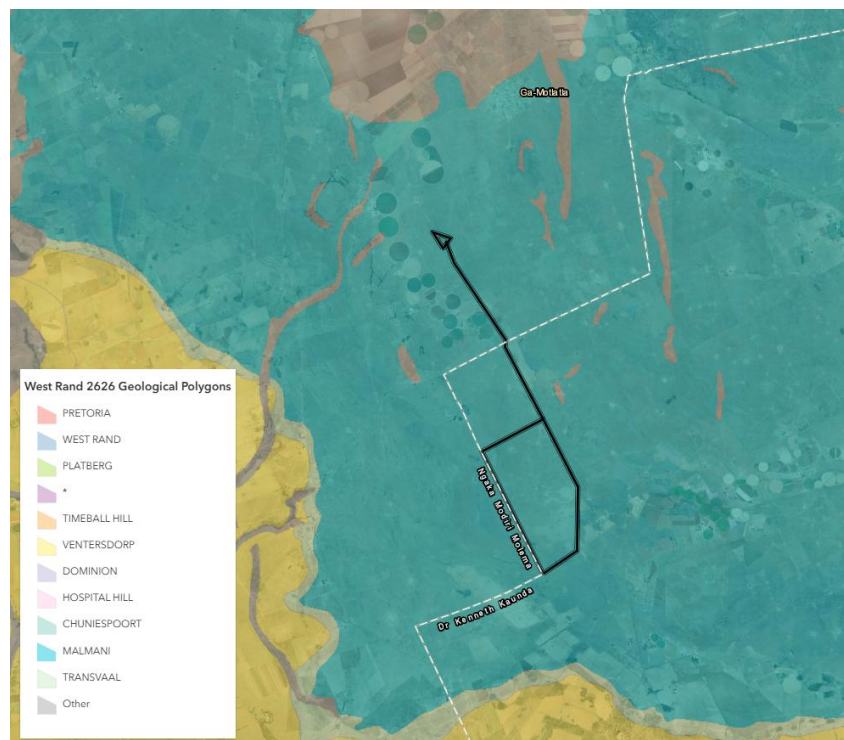


Figure 21: Extract of the 1:250 000 West Rand (1986) Geological Map indicating that the proposed development site is underlain by the Malmani Subgroup

As the site is underlain by dolomitic rock, which is highly soluble and degrades over time, a Geotechnical Assessment will be undertaken as part of the EIA Phase to confirm the impact of the underlying geology on the Project and the impact of the Project on the underlying geology.

5 SPECIALIST STUDIES TRIGGERED

Table 3 lists the specialist studies that were identified in the Screening Report, produced by the Screening Tool and notes the relevance of these studies to the Project following SSV.

Table 3: Relevance of specialist studies identified in the Screening Report based on SSV

No.	Specialist Study identified in Screening Report	Relevance to the Project following SSV
1.	Agricultural Impact Assessment	According to the Screening Tool, most of the Project site falls within a medium-sensitivity area for the Agriculture Theme, with scattered portions across the Project site within high-sensitivity areas. Based on the SSV findings, an Agricultural Compliance Statement will be compiled during the EIA Phase of the S&EIR Process.
2.	Landscape/Visual Impact Assessment	Although the Screening Tool indicates the need for a Visual Impact Assessment, it did not identify visual/landscape sensitivity for the study area. Based on the SSV findings, a Visual Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
3.	Archaeological and Cultural Heritage Impact Assessment	According to the Screening Tool, the site is located in an area of low sensitivity for the Archaeological and Cultural Heritage Theme. Based on the SSV findings, a Phase 1 Heritage Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
4.	Palaeontology Impact Assessment	According to the Screening Tool, the site occurs in areas of very high Palaeontological Sensitivity. Based on the SSV findings, a Palaeontology Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
5.	Terrestrial Biodiversity Impact Assessment	According to the Screening Tool, most of the Project site falls within a Very High Sensitivity area for the Terrestrial Biodiversity Theme, with portions of the southern and northern sections of the Solar grid connection site and portions of the southeastern section of the Solar PV site occurring in a low sensitivity area. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
6.	Aquatic Biodiversity Impact Assessment	According to the Screening Tool, most of the Project site falls within a Very High Sensitivity area for the Aquatic Biodiversity Theme, with only the southern section of the Project site occurring in a low-sensitivity area. Based on the SSV findings, a Wetland Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
7.	Avian Impact Assessment	According to the Screening Tool, most of the Project site falls within a low sensitivity for the Avian Theme. However, the southern section of the Project site falls within a high-sensitivity area, as it is located within 20 km of a known Cape Vulture restaurant site. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment, including the avian impact assessment, will be compiled during the EIA Phase of the S&EIR Process.

No.	Specialist Study identified in Screening Report	Relevance to the Project following SSV
8.	Civil Aviation Assessment	According to the Screening Tool, the site is located in an area of low sensitivity for the Civil Aviation Theme. Based on the SSV findings, a Civil Aviation Assessment will not be compiled during the EIA Phase of the S&EIR Process.
9.	Defence Assessment	According to the Screening Tool, the site is located in an area of low sensitivity for the Defence Theme. Based on the SSV findings, a Defence Assessment will not be compiled during the EIA Phase of the S&EIR Process.
10.	RFI Assessment	According to the Screening Tool, the site is located in an area of low sensitivity for the RFI Theme. Based on the SSV findings, an RFI Assessment will not be compiled during the EIA Phase of the S&EIR Process.
11.	Geotechnical Assessment	Although the Screening Tool indicates the need for a Geotechnical Assessment, it did not identify geotechnical sensitivity for the study area. Based on the SSV findings and consultation with DFFE, a Geotechnical Assessment will be compiled during the EIA Phase of the S&EIR Process.
12.	Socio-Economic Assessment	Although the Screening Tool indicates the need for a Socio-Economic Assessment, it did not identify socio-economic sensitivity for the Project site. Based on the findings of this SSV, a Social Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
13.	Plant Species Assessment	According to the Screening Tool, the site is located in an area of low sensitivity for the Plant Species Theme. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment, including the plant species assessment, will be compiled during the EIA Phase of the S&EIR Process.
14.	Animal Species Assessment	According to the Screening Tool, most of the Project site falls within a Medium Sensitivity area in terms of the Animal Species Theme, with portions of the southern and northern sections of the Solar PV site and grid connection site occurring in a low-sensitivity area. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment, including the animal species assessment, will be compiled during the EIA Phase of the S&EIR Process.

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- Hoosen, S.M. 2026. Aquatic Site Sensitivity Verification for the proposed Grootvlei 600MW PV Solar Plant. Gauteng, South Africa.
- Kitto, J. 2026. Heritage Site Sensitivity Verification Report for the Proposed Grootvlei 600MW Solar Plant, Battery Energy Storage Systems & Grid Connection Project, Near Ventersdorp, JB Marks Local Municipality, North West Province. Ferndale, Gauteng, South Africa.
- Mchunu, S. 2026. Agricultural Site Sensitivity Verification Report for the Proposed Grootvlei 600MW Solar PV Plant, Battery Energy Storage Systems (BESS) and Grid Connection Project, Located

within Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, Near Ventersdorp, North West Province. Richards Bay, KwaZulu-Natal, South Africa.

Paul, B. 2026. Terrestrial Biodiversity Site Sensitivity Verification Report for the Proposed Grootvlei 600 MW Solar PV Plant. KwaZulu-Natal, South Africa.

Appendix A

Agricultural SSV Report



Conserving Natural Resources Through Sustainable Land Use

27 Nkanyezi Street, Vulindlela, Empangeni, 3886

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**AGRICULTURAL SITE SENSITIVITY VERIFICATION REPORT FOR THE PROPOSED GROOTVLEI
600MW SOLAR PV PLANT, BATTERY ENERGY STORAGE SYSTEMS (BESS) AND GRID
CONNECTION PROJECT, LOCATED WITHIN DR KENNETH KAUNDA AND NGAKA MODIRI
MOLEMA DISTRICT MUNICIPALITIES, NEAR VENTERSDORP, NORTH WEST PROVINCE.**

Prepared for:

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Project Ref.: 10820 AIA

1st Draft: 14 April 2026

2nd Draft: 21 April 2026

Final Draft: 20 May 2026

SPECIALIST DECLARATION

Declaration of Independence

I, Sinethemba Mchunu, hereby declare that I am responsible for compiling this report on behalf of Nhloso Land Resources (Pty) Ltd. All assumptions, data analysis, and recommendations are made in good faith and are considered to be correct to the best of my knowledge and the referenced information sources (where applicable).

I further declare that Nhloso Land Resources (Pty) Ltd is an independent consulting firm and has no interest or personal gains in this project except receiving fair payment for rendering an independent professional service.

Report Author: Sinethemba Mchunu

Contact number: 071 974 0651

Email address: mchunusne@outlook.com

SACNASP Registration Number: 008755



Sinethemba Mchunu

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ACRONYMS

AGIS	Agricultural Geo-referenced Information System
BESS	Battery Energy Storage Systems
CA	Competent Authority
CARA	Conservation of Agricultural Resources Act (Act 43 of 1983)
DFFE	Department of Forestry, Fisheries, and the Environment
EAP	Environmental Assessment Practitioner
GN	Government Notice
IUSS	International Union of Soil Sciences
LSU	Large Stock Unit
MW	Megawatts
PV	Photovoltaics
S&EIR	Scoping and Environmental Impact Reporting
SOTER	Soil & Terrain
WRB	World Reference Base

1. INTRODUCTION

LTM Green Energies (Pty) Ltd (the “Applicant”) is proposing the development of Grootvlei 600 MW Solar Photovoltaics (PV) Plant, Battery Energy Storage Systems (BESS) and Grid Connection Project near Ventersdorp, within the Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, North West Province. An Environmental Authorisation (EA) was previously granted for the proposed project on 13 December 2023 for the Project with a site extent of approximately 600 hectares. The Applicant has undertaken further optimisation of the Project layout, which determined that the extent of the originally secured land is insufficient to accommodate the required generation capacity for the proposed project. As a result, based on guidance received from the Department of Forestry, Fisheries, and the Environment (DFFE), the Applicant is applying to lapse the existing EA and undertake a new EA application for the entire Project extent of approximately 1,200 hectares (including an additional 580 hectares from the previously authorised footprint).

Nemai Consulting has been appointed by the Applicant to undertake the new Scoping and Environmental Impact Reporting (S&EIR) process for the entire project in terms of the Environmental Impact Assessment (EIA) Regulations of 2014, as amended. A Site Sensitivity Verification was required to confirm or dispute the sensitivity of agricultural resources within the proposed project footprint. Nhloso Land Resources (Pty) Ltd was subsequently appointed by Nemai Consulting to conduct a site verification assessment for the expansion footprint of approximately 580 hectares and new powerline route (hereafter referred to as “the site”) to inform the Agricultural Impact of the proposed project.

The Site Sensitivity Verification was conducted in accordance with the requirements of the Protocol for the specialist assessment and minimum report content requirements for environmental impacts on agricultural resources, gazetted on 20 March 2020 in Government Notice (GN) No. 320, as presented in **Table 1** below, with reference to specific sections in this report.

Table 1: Site sensitivity verification and minimum report content requirements

Site Sensitivity Verification and Reporting Requirements		Relevant Section
Prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration, identified by the screening tool, must be confirmed by undertaking a site sensitivity verification.		
2.1	The site sensitivity verification must be undertaken by an environmental assessment practitioner (EAP) or a specialist.	✓
2.2	The site sensitivity verification must be undertaken through the use of:	
(a)	A desk top analysis, using satellite imagery;	Section 2
(b)	A preliminary on-site inspection; and	Section 3
(c)	Any other available and relevant information.	N/A
2.3	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.;	Section 4 - 5
(b)	Contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and	Section 3
(c)	Is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.	✓

2. DESKTOP ANALYSIS

2.1 Screening Tool Review

The DFFE screening tool report identified some areas with high agricultural sensitivity within the proposed project footprint, as depicted in **Figure 1** below. This necessitated the assessment of anticipated impacts of the proposed solar PV infrastructure on the Agricultural Potential as required by the 2014 Environmental Impact Assessment (EIA) regulations. The desktop assessment process consulted various data sources including, but not limited to, the Agricultural Geo-referenced Information System (AGIS), Soil Terrain (SOTER), and geological databases.

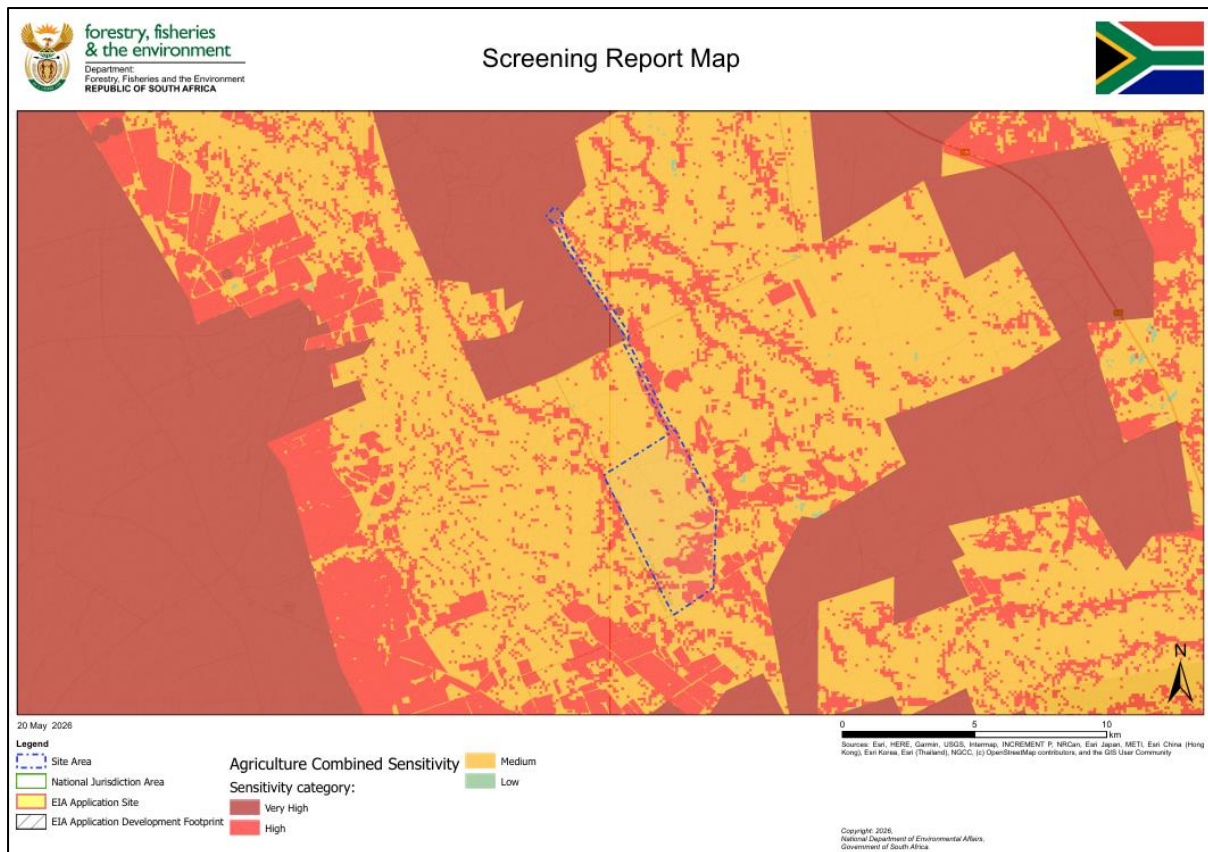


Figure 1: Agricultural Sensitivity Map (DFFE Screening Tool).

2.2 SOTER Soil Types

The collected desktop data indicates that the site comprises of Eutric Leptosols (LPe) soil types, which are characterised as very thin soils underlain by continuous rock and soils that are extremely rich in coarse fragments (adopted from a Greek word '*leptos*,' meaning thin). These soils typically have a continuous rock at or very close to the surface or are extremely gravelly and commonly occur at high or medium altitudes (mountainous regions) with strongly dissected topography across all climatic zones (IUSS, 2014).

2.3 Agricultural Potential

Contrary to the DFFE screening tool classification as high agricultural potential land, the prevailing soils were classified as non-arable, with Class VI land capability that is best suited to grazing land use at best, according to the available desktop land capability data, as depicted in **Figure 3** below. Therefore, the desktop land capability data disputes the DFFE screening tool report findings, which substantiates that an Agricultural Compliance Statement reporting protocol will suffice for the proposed project.

Furthermore, the AGIS database indicates that the grazing capacity ranges from 5 to 7 ha per Large Stock Unit (LSU) within the proposed project area, as depicted in **Figure 4** below. This indicates the amount of hectares required to sustain production of a Large Stock Unit, defined as an animal with a mass of 450 kg, which gains 0.5 kg per day on forage with a digestible energy of 55% in accordance with the Conservation of Agricultural Resources Act (CARA), Act 43 of 1983 Regulation 10.

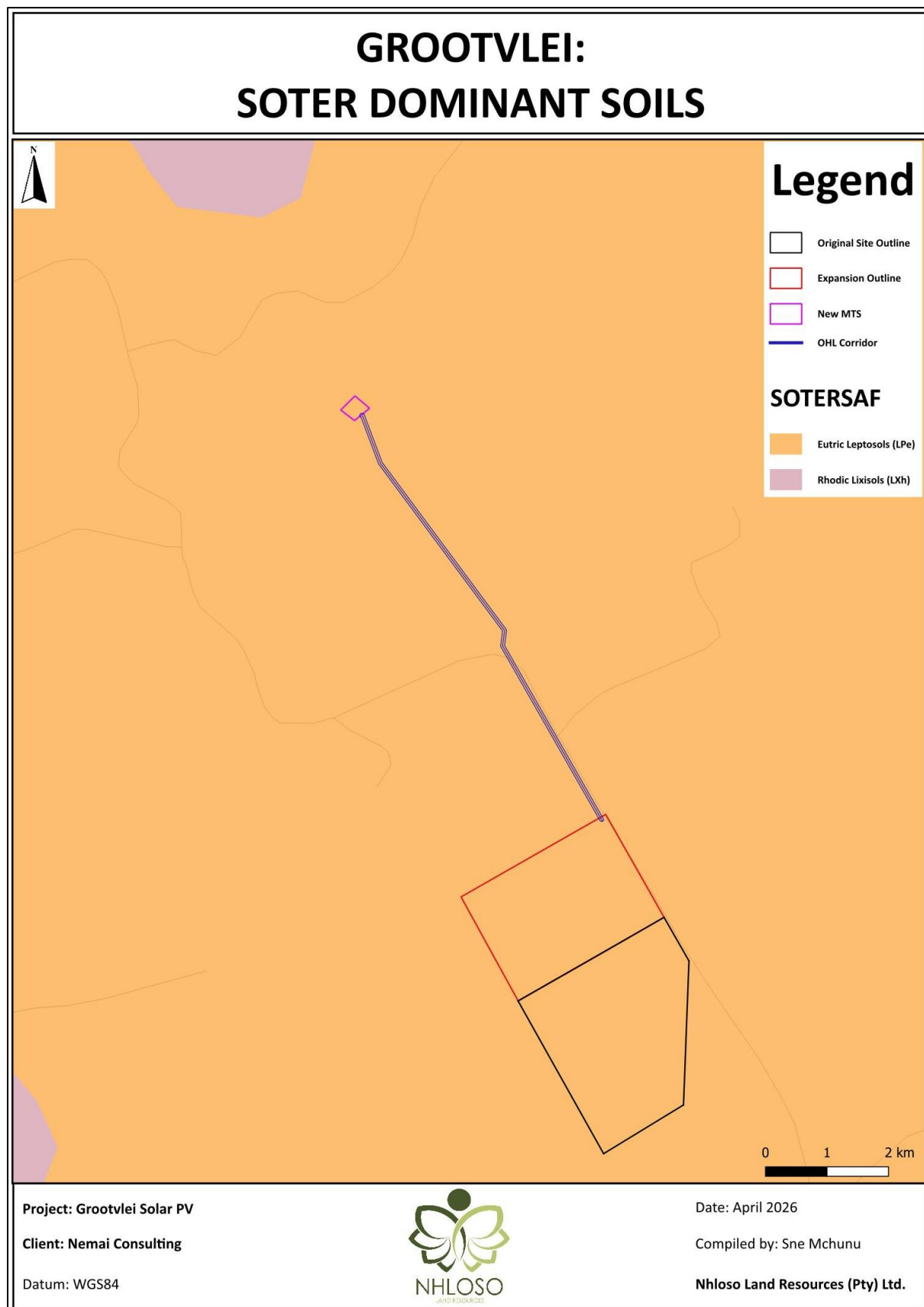


Figure 2: Dominant soil types in the vicinity of the site.

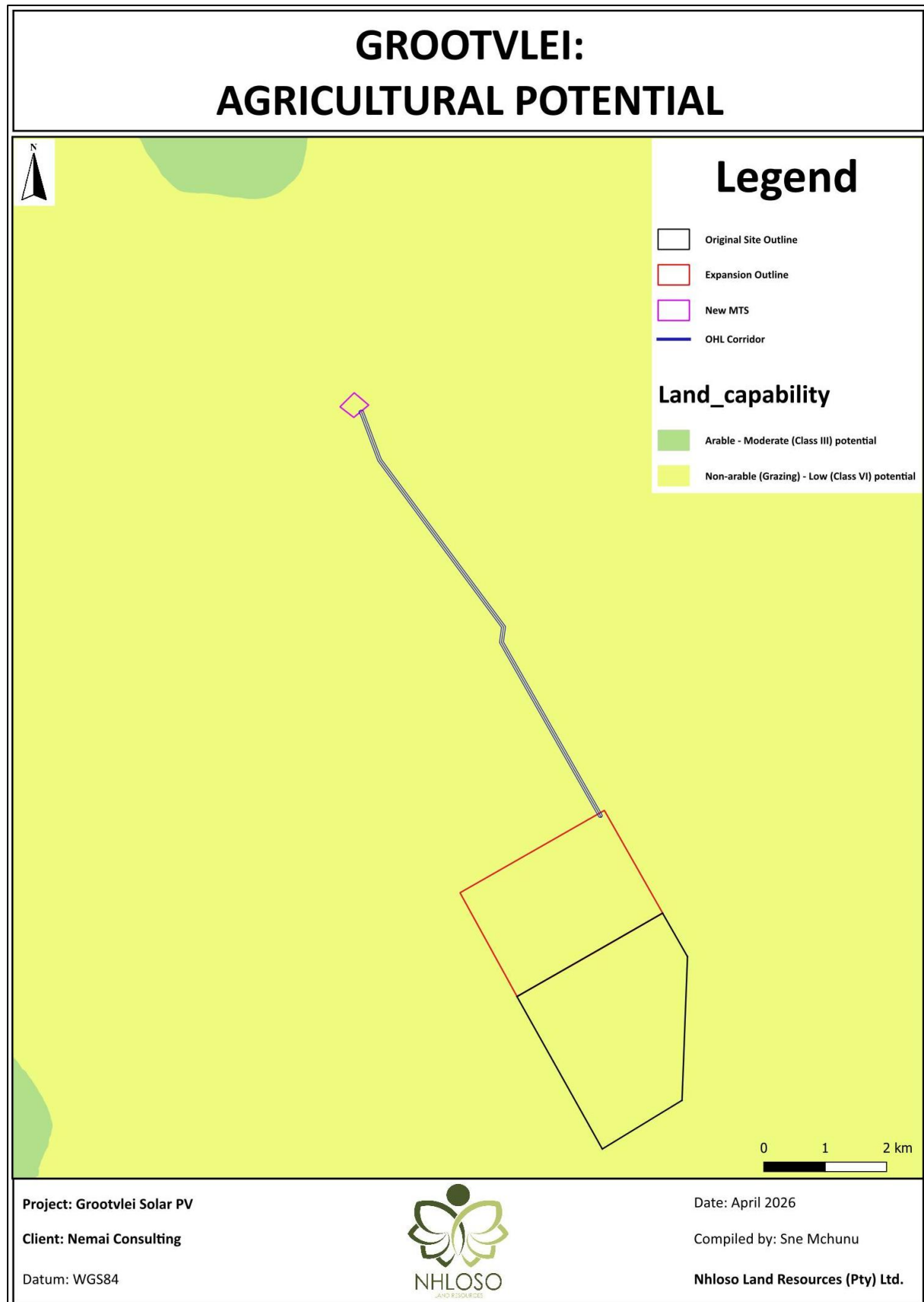


Figure 3: Agricultural potential in the vicinity of the site.

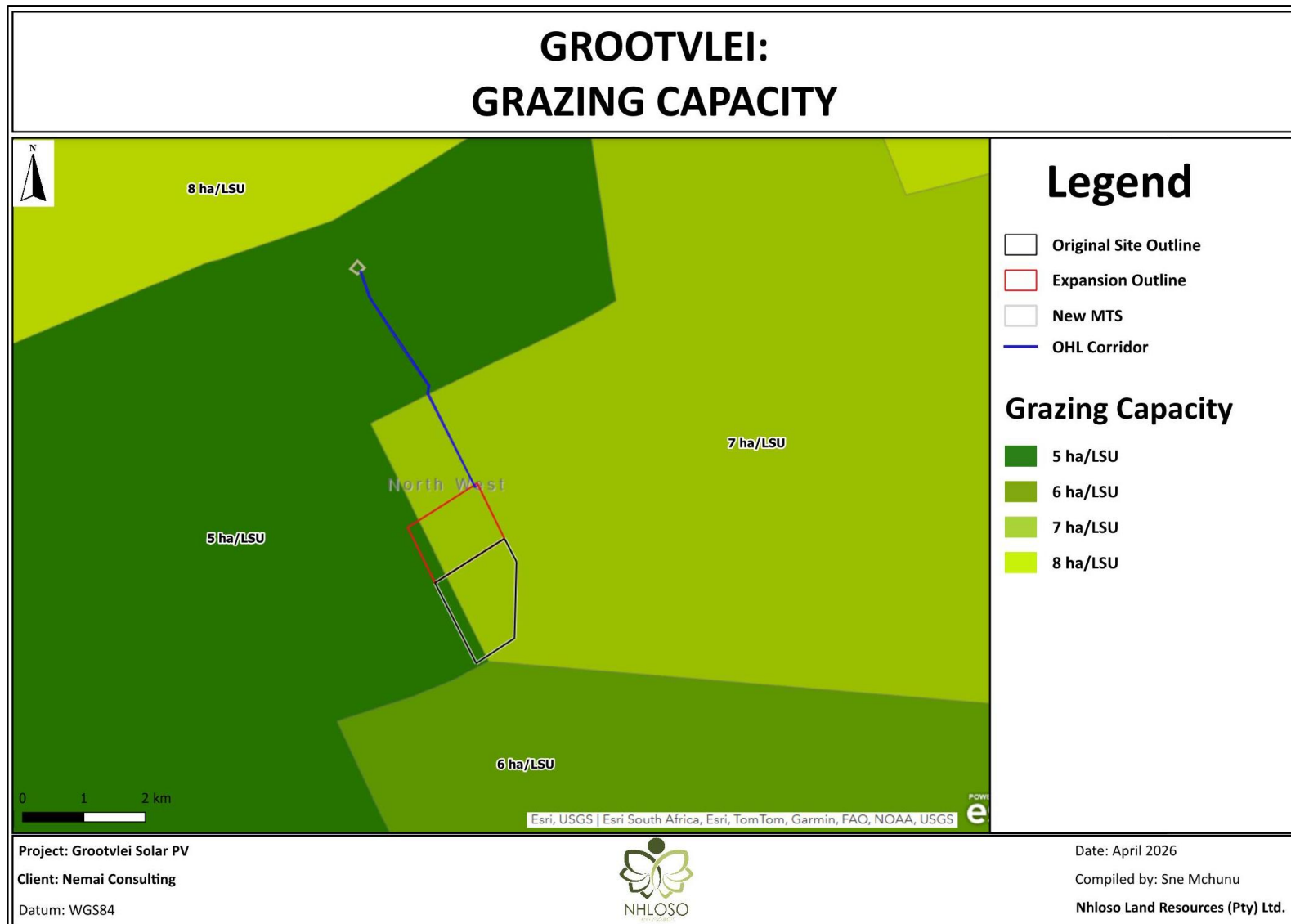


Figure 4: Grazing Capacity in the vicinity of the site.

3. SITE INSPECTION AND VERIFICATION

The site inspection and verification was conducted on the 1st of April 2026, which entailed collecting visual evidence of prevailing land use and soil conditions within the proposed project footprint. Livestock grazing is the predominant land use under prevailing site conditions and no existing crop fields were identified within the proposed project footprint although the historic satellite imagery indicates that some of the prevailing soils were previously cultivated between year 2017 and 2021. The prevailing agricultural resources were therefore limited to the windmill and concrete livestock water troughs observed across various grazing camps, as depicted in **Figure 5** below.

The existing land use impacts include extensive erosion, evidenced by patches of exposed bedrock where the topsoil has been gradually truncated over time, intuitively exacerbated by historic ploughing in certain areas as evidenced by numerous stockpiles of boulders and bedrock material strewn across the site, as depicted in **Figure 6** below. Other observed land use impacts in the vicinity of the project area include the existing powerline servitude adjacent to the proposed powerline route, and an informal dumping excavation located approximately 100m from the southern portion of the proposed powerline servitude towards the expansion footprint, as depicted in **Figure 5** below.

None of the identified soils are considered to be of high agricultural potential. The site is dominated by shallow Dresden / Mispah / Glenrosa and Glencore (Type A) soil forms, with effective rooting depth varying from 18 to 32 cm, as depicted in **Figure 6** below. A limited extent of moderately deep Glencore (Type B) soil form variant with effective rooting depth varying from 35 to 48 cm were also identified, as depicted in **Figure 7** below.



Figure 5: Land use within the proposed project footprint.



Figure 6: View of the dominant shallow Dresden / Mispah / Glenrosa soil form on site.



Figure 7: View of the identified moderately deep Glencoe (Type B) soil forms on site.

4. AGRICULTURAL SENSITIVITY

Agricultural Sensitivity is inferred from land capability, which is an indication of what level and type of agricultural production can sustainably be achieved on any land; generally defined through a combination of soil, climate and terrain suitability factors for supporting rain-fed (dryland) agricultural production.

The identified shallow Dresden / Mispah / Glenrosa and Glencore (Type A) soil forms have an inherently poor (low) agricultural potential, which is attributed to the physical impediment of most plant roots by the indurated bedrock encountered at relatively shallow depth, as depicted in **Figure 8** below. The relatively deep Glencore (Type B) soil forms have a marginal (class IV) agricultural potential and medium sensitivity as these soils can be effectively cultivated for arable crop production, and are best suited for subsistence farming due to the limited spatial extent. Whereas the shallow Dresden / Mispah / Glenrosa and Glencore (Type A) soil form variants are suited for light grazing at best, hence low agricultural sensitivity.

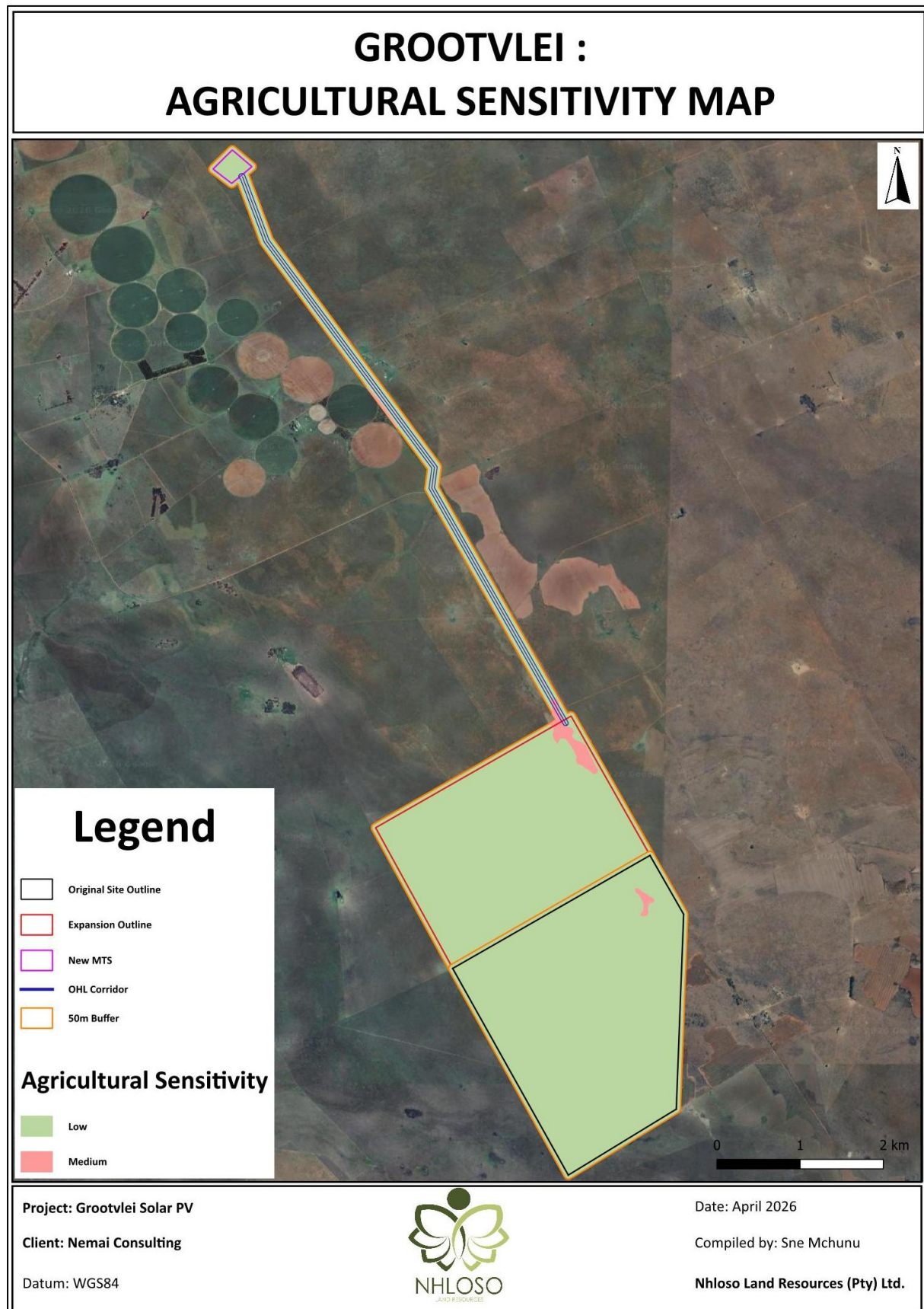


Figure 8: Agricultural sensitivity within a 50m buffer of the site.

5. PRELIMINARY CONCLUSIONS

The findings of this assessment disputes the DFFE screening tool findings that the proposed project infrastructure intersects through land of high agricultural potential, as substantiated by both desktop land capability and *in-situ* soil data collected during the verification assessment. The desktop land capability data classified the prevailing soils as non-arable, with Class VI land capability that is best suited to grazing land use at best. The desktop soil data corroborated the desktop land capability data as it indicates that the site comprises of shallow Eutric Leptosols (LPe) soil types, which are characterised as very thin soils underlain by a continuous rock, and soils that are extremely rich in coarse fragments; which would significantly hamper root development for most arable crops, and thus non-arable and best suited to livestock grazing at best.

Furthermore, the *in-situ* site verification assessment findings indicated that the site is dominated by shallow Dresden / Mispah / Glenrosa and Glencore soil forms. Two variants of the Glencore soil form (Glencore Type A and Glencoe Type B) were identified on site; with effective rooting depth varying from 18 to 32 cm and 35 to 48 cm for Glencore (Type A) and Glencoe (Type B), respectively. The dominant Dresden / Mispah / Glenrosa soil forms were classified to be of Class VII land capability with inherently poor agricultural potential, attributed to the extremely shallow nature of these soils, with effective rooting depth varying from 0 to 18 cm. This corroborates the desktop soil and land capability data and disputes the DFFE screening tool assertion that the site intersects through land of high agricultural potential. The Glencoe (Type A) soil form was classified to be of Class VI land capability with inherently poor agricultural potential, attributed to relatively shallow effective rooting depth; while the moderately deep Glencoe (Type B) variant was classified to be of Class IV land capability with marginal potential for arable agricultural use.

In light of the above findings, the desktop data analysis and *in-situ* soil data collected during the verification assessment both effectively disputed the DFFE screening tool findings as none of the identified soil forms are considered to be of high agricultural potential. Therefore, an Agricultural Compliance Statement will suffice for the assessment and reporting of environmental impacts on agricultural resources for the proposed project, in accordance with the gazetted GN 320 protocols (Government Gazette 43110).

6. REFERENCES

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APPENDIX A:

DETAILS, EXPERTISE AND CURRICULUM VITAE OF THE SPECIALIST

1.(a)(i) Details of the specialist who prepared the report

Ms. Sinethemba E. Mchunu

SACNASP: 008755

M.Sc. Agric. (Soil Science, University of Stellenbosch)

B.Sc. Hons (Soil Science, University of Stellenbosch)

B.Sc. (Viticulture & Soil Science, University of Stellenbosch)



Sinethemba E. Mchunu

1.(a).(ii) The expertise of the specialist who compile a specialist report including a curriculum vitae

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Name / Contact person:	Sinethemba Mchunu
Physical address:	27 Nkanyezi Street Vulindlela, KwaDlangezwa Empangeni 3880
E-mail:	mchunusne@outlook.com
Contact Number:	+27 71 974 0651
Qualifications	MSc. Soil Science (University of Stellenbosch) BSc Hons. Soil Science (University of Stellenbosch) BSc. Agric. Viticulture & Soil Science (University of Stellenbosch)
Registration / Associations	South African Council for Natural Scientific Professions (SACNASP) Member of the Land Rehabilitation Society of Southern Africa (LaRSSA) Member of the Soil Science Society of South Africa (SSSSA) Member of the South African Soil Surveyors Association (SASSO) Member of the Gauteng Wetland Forum (GWF)

SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF SINETHEMBA MCHUNU

PERSONAL PROFILE

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ACADEMIC QUALIFICATIONS

- 2012: MSc. Soil Science, University of Stellenbosch
- 2010: BSc. Hons. Soil Science, University of Stellenbosch
- 2009: BSc. Agric. Viticulture and Soil science, University of Stellenbosch
Postgraduate Biometry (Statistics) course

PROFESSIONAL AFFILIATIONS

- South African Council for Natural Scientific Professions (SACNASP): Reg. No.: 008755
- International Association for Impact Assessment South Africa (IAIAsa): Membership No.: 7024
- Land Rehabilitation Society of Southern Africa (LaRSSA)
- Soil Science Society of South Africa (SSSSA)
- South African Soil Surveyors Organization (SASSO)

WORK EXPERIENCE

- 2024 - Current: Principal Consultant at Nhloso Land Resources (Pty) Ltd.
- 2022–2024: Principal Environmental Consultant at Coastal and Environmental Services (CES) (Pty) Ltd.
- 2015–2017: Senior Environmental Consultant at Scientific Aquatic Services (SAS) CC.
- 2013–2015: Contaminated Site Consultant at Environmental Resources Management (ERM) South Africa
- 2012 – 2013: Soil Specialist at Strategic Environmental Focus (Pty) Ltd.
- 2009 – 2010: Soil Analytical Researcher at Stellenbosch University.

SELECTED PROJECT EXAMPLES

Agricultural Potential and Land Capability Impact Assessments

- Soil and Land Capability Assessment for the expansion of the Royal Bafokeng Styldrift Mine near Brits, North West province, South Africa;
- Soil and Land Capability Impact Assessment for the proposed Xstrata Coal Mine in Paardekop, Mpumalanga Province, South Africa;
- Soil and Land Capability Impact Assessment for the proposed Xstrata Coal Mine in Amersfoort, Mpumalanga Province, South Africa;
- Agricultural Impact Assessment for a proposed 30 megaWatts (MW) Photo Voltaic (PV) Solar Facility in Mareetsane, North West Province, South Africa;
- Soil and Land Capability Impact Assessment for the proposed BioGas Plant facility in Malmesbury, Western Cape Province, South Africa; and
- Soil and Agricultural Potential Assessment for the proposed Hulett Milling Plant at the Owen Sithole College of Agriculture (OSCA) in Empangeni, KwaZulu Natal Province, South Africa.

Contaminated Land Investigations

- Soil and Groundwater contamination assessments prior to installation and decommissioning of underground fuel storage tanks at multiple petroleum filling stations within the Gauteng, Limpopo, Free State, Northern Cape, and North West Provinces;
- Soil contamination assessment at ELCA Engineering Turbo Manufacturing and Fabrication to inform the due diligence process;
- Bi-annual soil contamination assessment at BHP Billiton Klipspruit Coal Mine for Water Use Licence compliance;
- Soil Contamination and Waste Classification Assessment at Petra Diamonds Mine in Lime Acres, Kimberly, Northern Cape Province, South Africa;
- Soil and Groundwater contamination assessments at multiple Mining and Distribution operations with private fuel storage facilities; and
- Sediment and water quality assessment for the Bokoni Platinum Mine.

Environmental Risk Assessments

- Environmental Risk and Liability Assessment prior to decommissioning and mine closure for the BECSA TNC Colliery in the Mpumalanga Province, South Africa;
- Environmental Risk Assessment for the abandonment of the former Rand Uranium Gold Mine, prior to land use change to a mixed residential and commercial development at Bhongweni and Toekomsrus in Randfontein, Gauteng Province, South Africa;

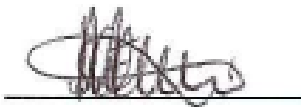
Wetland Delineations and Impact Assessments

- Characterisation of the wetland recharge mechanism(s) through the vadose zone, as part of the impact assessment of the proposed coal mining activities within the catchment in Kwagga North, Mpumalanga Province, South Africa;
- Investigating wetland offset alternatives and appropriate rehabilitation measures for the proposed coal mining activities at Phalanndwa Colliery in Delmas, Mpumalanga Province, South Africa;
- Wetland Rehabilitation Plan and ecological assessment of an artificial watercourse “abandoned quarry” in Olifantsfontein, Gauteng Province, South Africa;

1.(b) A declaration that the specialist is independent as may be required by the competent authority (CA)

I, Sinethemba Mchunu, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct



Signature of the Specialist

Appendix B

Terrestrial Biodiversity SSV Report



Terrestrial Biodiversity Site Sensitivity Verification Report for the Proposed Grootvlei 600 MW Solar PV Plant



22 May 2026

Prepared For



DECLARATION

I, **Bryan Walter Paul**, declare that -

- I act as the independent specialist in this matter;
- I do not have and will not have any vested interest (either business, financial, personal or other) in the undertaking of the proposed activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the National Environmental Management Act (Act 107 of 1998) (NEMA), regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the NEMA Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity; and
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority; all the particulars furnished by me in this report are true and correct.

Signature of the specialist:



Report Title	Terrestrial Biodiversity Site Sensitivity Verification Report for the Proposed Grootvlei 600 MW Solar PV Plant		
Report Version	Draft 0.0		
Specialist:	BP Environmental Solutions		
Contact person:	Bryan Walter Paul		
Qualification:	B.Sc. Honours		
Professional affiliation(s) (if any)	Pri.Sci.Nat. (SACNASP) (119552) – Ecological Science		
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E-mail:	bpenviros@gmail.com		

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LIST OF ACRONYMS AND ABBREVIATIONS

ADU	ANIMAL DEMOGRAPHY UNIT
CBA	CRITICAL BIODIVERSITY AREA
ECO	ENVIRONMENTAL COMPLIANCE OFFICER
EIA	ENVIRONMENTAL IMPACT ASSESSMENT
ESA	ECOLOGICAL SUPPORT AREA
HA	HECTARE
IUCN	INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE
M	METRE
M²	METRES SQUARED
NEM:BA	NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT
NEMA	NATIONAL ENVIRONMENTAL MANAGEMENT ACT
PAOI	PROJECT AREA OF INFLUENCE
POSA	PLANTS OF SOUTH AFRICA
QDS	QUARTER DEGREE SQUARE
SANBI	SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE
SCC	SPECIES OF CONSERVATION CONCERN
TOPS	NATIONAL LIST OF THREATENED OR PROTECTED SPECIES

INDEMNITY

BP Environmental Solutions exercises due care and diligence in rendering services and preparing documents, the Consultants do not accept any liability, and the Client by receiving this document, indemnifies the Consultants (directors, managers, agents and employees) against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered directly or indirectly by the Consultants and by the use of the information contained in this document.

1 INTRODUCTION

1.1 Background and Project Specifications

BP Environmental Solutions was appointed by Nema Consulting Proprietary Limited to compile a Terrestrial Biodiversity Site Sensitivity Verification (SSV) Report for the proposed Grootvlei 600 Megawatts (MW) solar photo-voltaic (PV) plant (hereafter known as the proposed development).

According to GN R320 and GN R1150 of 20 March 2021 of the National Environmental Management Act (NEMA) and the Regulations thereto, prior to commencing with a specialist assessment, a SSV must be undertaken to confirm the current land use and environmental sensitivity of the proposed development as identified by the Department of Forestry, Fisheries and the Environment's web-based Screening Tool.

The project will entail construction of solar panels, substations, overhead powerlines that will connect to new and existing substations.

1.2 Locality

Majority of the study area in the southern portion, located at where the PV plant and portions in the of the overhead powerlines, will be placed falls within the Ventersdorp Local and Dr Kenneth Kaunda District Municipalities. Whereas, the northern portion of the study area which encompasses the overhead powerline and substation falls within the Ditsobotla Local and Ngaka Modiri Molema District Municipalities. The closest major suburb away from proposed development is Ventersdorp, which is approximately 21 kilometres (km) south-west from the proposed development. The proposed development will be located at central geographic co-ordinates 26°12'47.69"S 26°35'4.74"E.

The following map (Figure 1) provides a visual illustration of the site that has been assessed, and its proximity to other key landscape features within the area.



Figure 1: Locality map of the study area.

1.3 Assumptions and Limitations

- A 20m Project Area of Influence (PAOI) has been determined for the nature and scale of this project.
- The fieldwork for this assessment was undertaken over one (1) day on 27 March 2026.
- No detailed layout was provided at the time of compiling this report and it is assumed that the design will only be confirmed at the time of compiling the terrestrial biodiversity impact assessment report..
- The verification report does not contain details of a full Terrestrial Biodiversity Impact Assessment Report.
- The vegetation units identified at a desktop level will differ to those observed *in-situ* as the site has historically been transformed by activities related to agricultural practices and grazing.
- Plant species display a range of morphological and physiological attributes that determine their growth, reproduction and survival. It is therefore unlikely that all plant species identified on site will remain the same over temporal and spatial scales.
- To accurately record the species on site, long-term field assessments would have to be conducted to consider seasonal and temporal variations and provide more accuracy. This assessment however, is considered appropriate for the scale and nature of the proposed development.

2 METHODOLOGY

This A desktop assessment was undertaken of all available data. This involved the investigation of aerial photography, GIS databases, government records and previous studies, including literature reviews pertaining to the study area to determine the theoretical importance and sensitivity of the terrestrial ecosystems involved. The study area was mapped using GIS (e.g. QGIS) to better understand the layout and structure of the surrounding environment. The following data sources and GIS information provided in Table 1 was utilised.

Table 1: Description of the GIS databases used in the sensitivity assessment

Data	Source	Date of Data Source
Latest and Historic Google Earth TM imagery	Google Earth PRO TM (Online)	2026
Vegetation Map of South Africa, Lesotho and Swaziland and Associated Threat Statuses	SANBI	2006/2018
The South African Protected Areas Database	DFFE	2025
The South Africa Conservation Areas Database	DFFE	2025
National Biodiversity Assessment (NBA) - List of Threatened Ecosystem	Skowno <i>et al.</i> 2018 / Van Deventer <i>et al.</i> 2018 / SANBI	2011 / 2018 / 2022
National Biodiversity Assessment (NBA) - Formal Protected Areas	Skowno <i>et al.</i> 2018 / Van Deventer <i>et al.</i> 2018 / SANBI	2011 / 2018
The National Protected Areas Expansion Strategy: Focus Areas	DFFE	2018
North-West Biodiversity Sector Plan	North-West Biodiversity Sector Plan	2015

3 TERRESTRIAL BIODIVERSITY DESKTOP SENSITIVITIES

The following sensitivities were identified at a desktop level:

- According to the North-West Biodiversity Sector Plan most of the PV footprint falls within Critical Biodiversity Area (CBA) 2 and Ecological Support Area (ESA) 1. Sections of the proposed transmission line fall within both ESA 1 and 2 and CBA 2, with the remaining route falling outside of any spatially important conservation features.
- The entire study falls within the Carletonville Dolomite Grassland which has a threat status of least concern and not currently under significant threat.
- No portion of the study area falls within a threatened ecosystem (Critically Endangered, Endangered, Vulnerable).
- The entire project footprint falls outside of any ecologically sensitive and protected areas. However, the Klipstraat Private Nature Reserve and Makokskraal Private Nature Reserve are found within 10 km of site. As both reserves fall outside of any known important bird and biodiversity areas, this finding is unlikely to have a significant impact on the proposed development. These areas will be assessed further in the terrestrial biodiversity report.

The following maps (Figures 2 to 5) provide a summary of the desktop sensitivities which were associated with the site at the time of compiling this report.



Figure 2: National vegetation types found within the study area

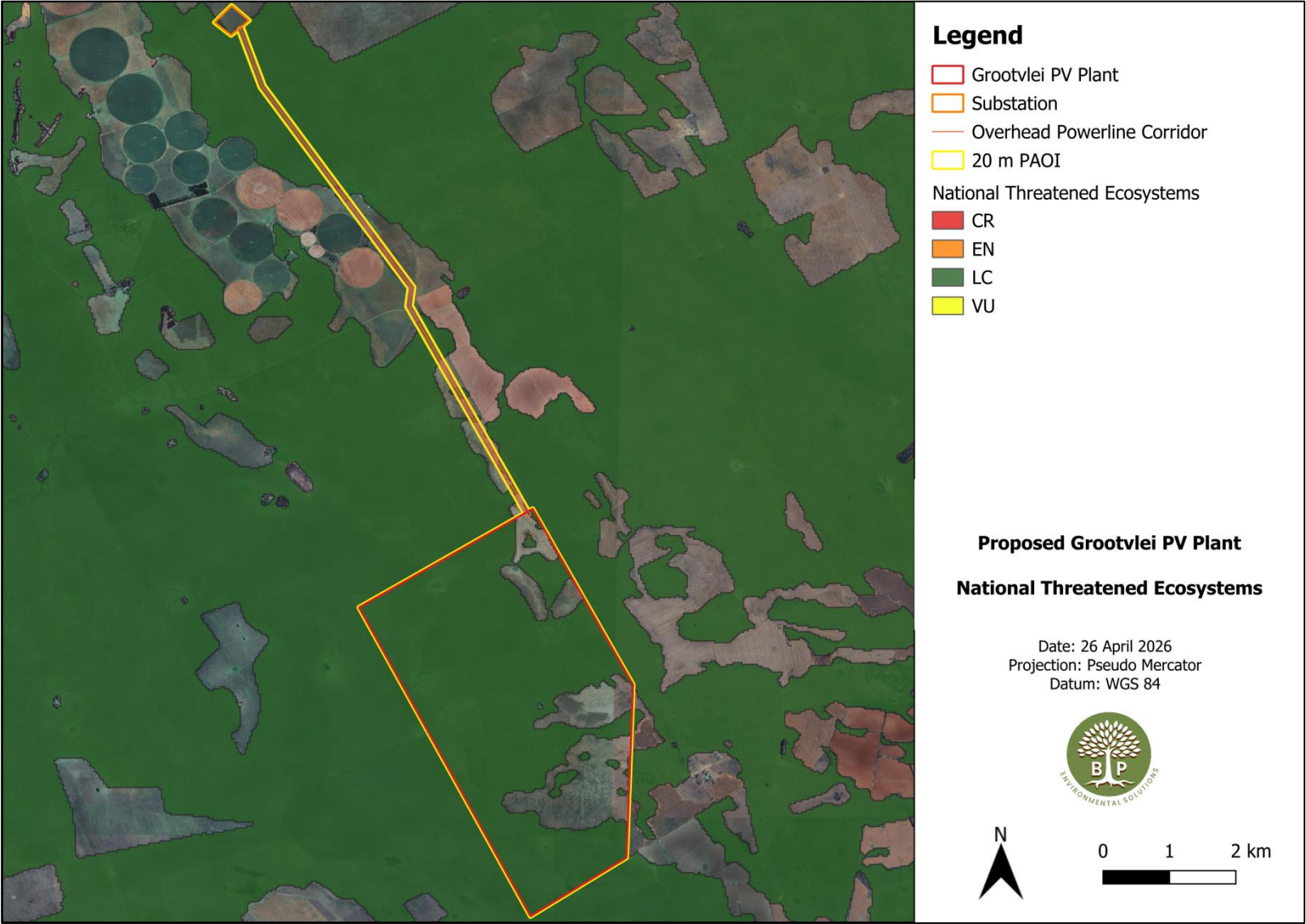


Figure 3: National ecosystems in relation to the study area

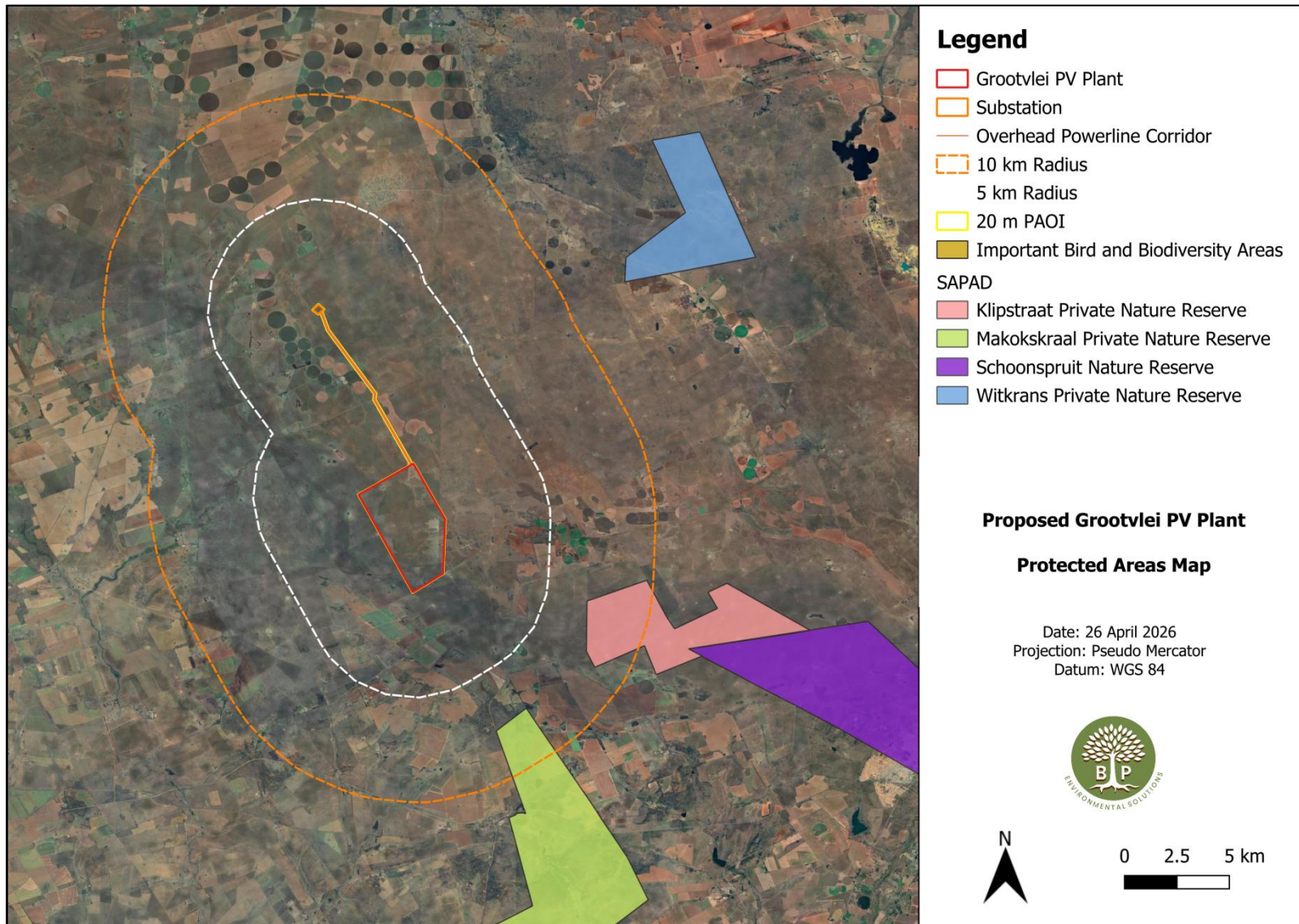


Figure 4: Protected areas and ecological sensitive areas found within a 10 km radius of the site

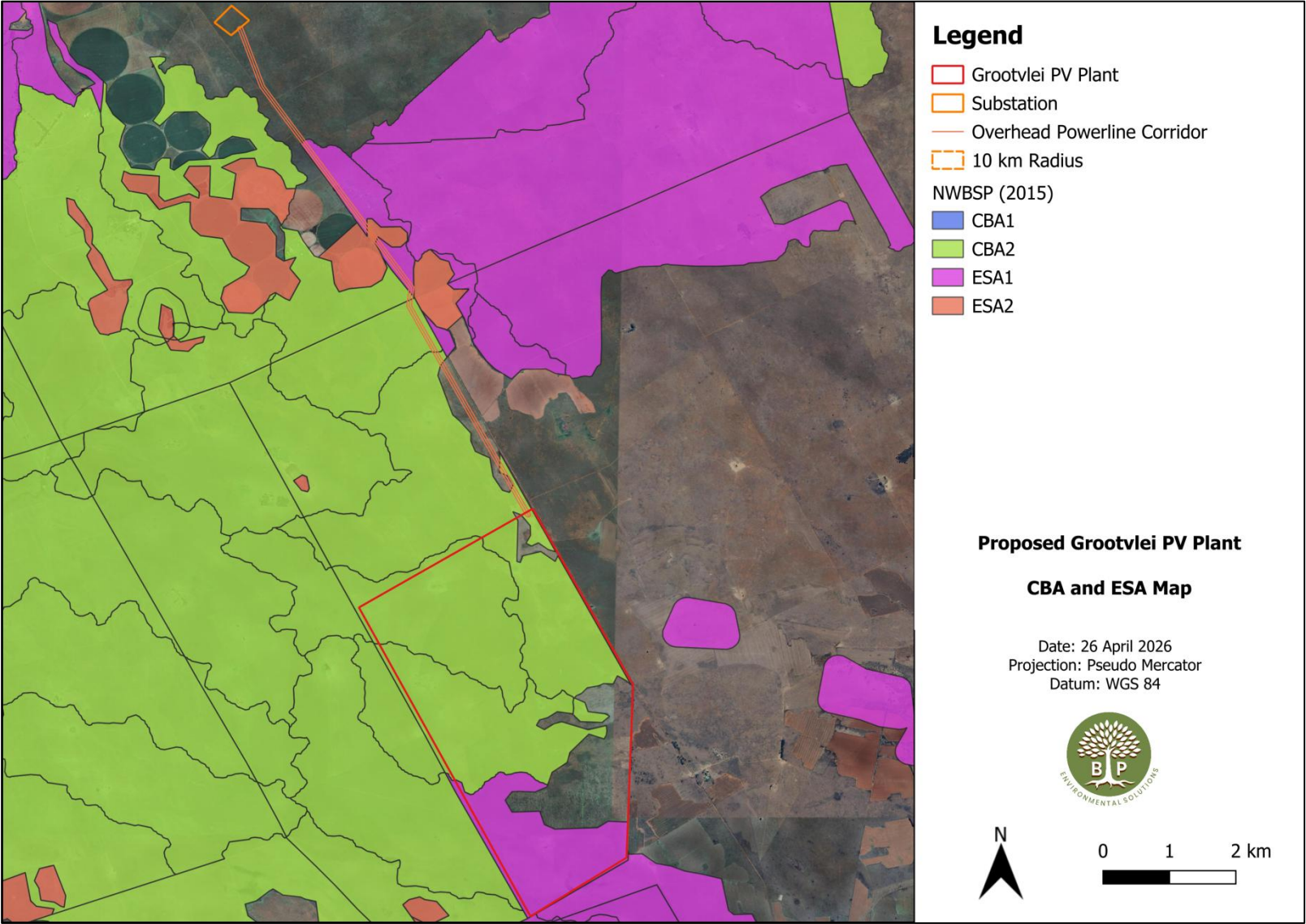


Figure 5: Protected areas and ecological sensitive areas found within a 10 km radius of the site

4 FINDINGS DURING THE SITE INVESTIGATION

As demonstrated within Figure 7 below a total of five (5) broad habitat units were identified during the field assessment. Grassland habitat represented the largest habitat unit, which was divided further into disturbed and natural grasslands based on their structure, diversity and level of transformation. Old fields were also broadly distributed on site and overlapped areas which were historically used to grow crops and were used for other intensive agricultural practices. At the time of the assessment, they were being used for grazing of cattle and/ or left as fallow fields. The remaining other minor classes included disturbed areas (a nearby gravel road) and two watercourses delineated by the wetland specialist (Elemental-S, 2026).

During the assessment grasslands (disturbed and natural) as well as the wetland habitat were considered to be the most significant ecological feature within the study area. Whilst the avoidance of grassland would not be recommended (due to its moderate sensitivity) wetlands and the recommended buffers should be avoided where possible to maintain ecological function and connectivity within the study area.

The following recommendations should be considered when finalising the layout for the project:

- Maintain ecological connectivity within the study area,
- Select a PV panel design which allows for indigenous vegetation to persist under each panel / structure, and
- Preserve as much remnant habitat and soils where possible.



Figure 6: Photographic evidence of the grassland habitat found on site (Disturbed Grassland - Left; Natural Grassland - Right)

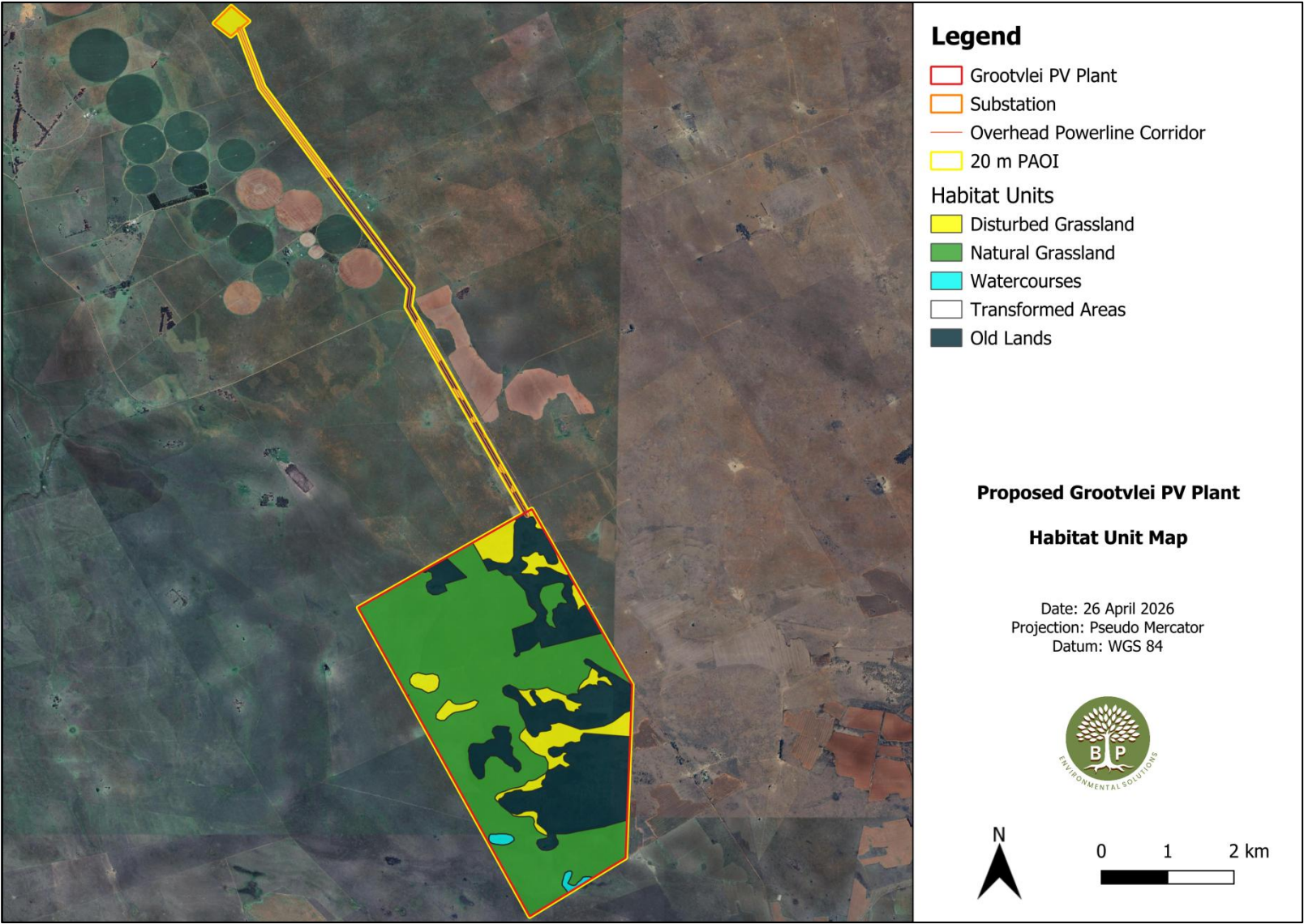


Figure 7: Visual illustration of the various land habitat units identified by the specialist during the site visit

5 SITE SENSITIVITY VERIFICATION

5.1 DFFE Screening Tool

The outcome of the DFFE web-based screening tool showed that the proposed development and associated study area has the following sensitivities:

- Medium Sensitivity for the Animal Species Theme (Figure 8)
 - o *Eupodotis senegalensis*, and
 - o *Crocidura maquassiensis*
- Low Sensitivity for the Plant Species Theme (Figure 9)
- Very High Sensitivity for the Terrestrial Biodiversity Theme (Figure 10)
 - o CBA 2
 - o ESA 1
 - o ESA 2, and
 - o National Protected Protected Area Expansion Strategy (NPAES)



Figure 8: Animal Species Theme Sensitivity (DFFE, 2026)



Figure 9: Plant Species Theme Sensitivity (DFFE, 2026)

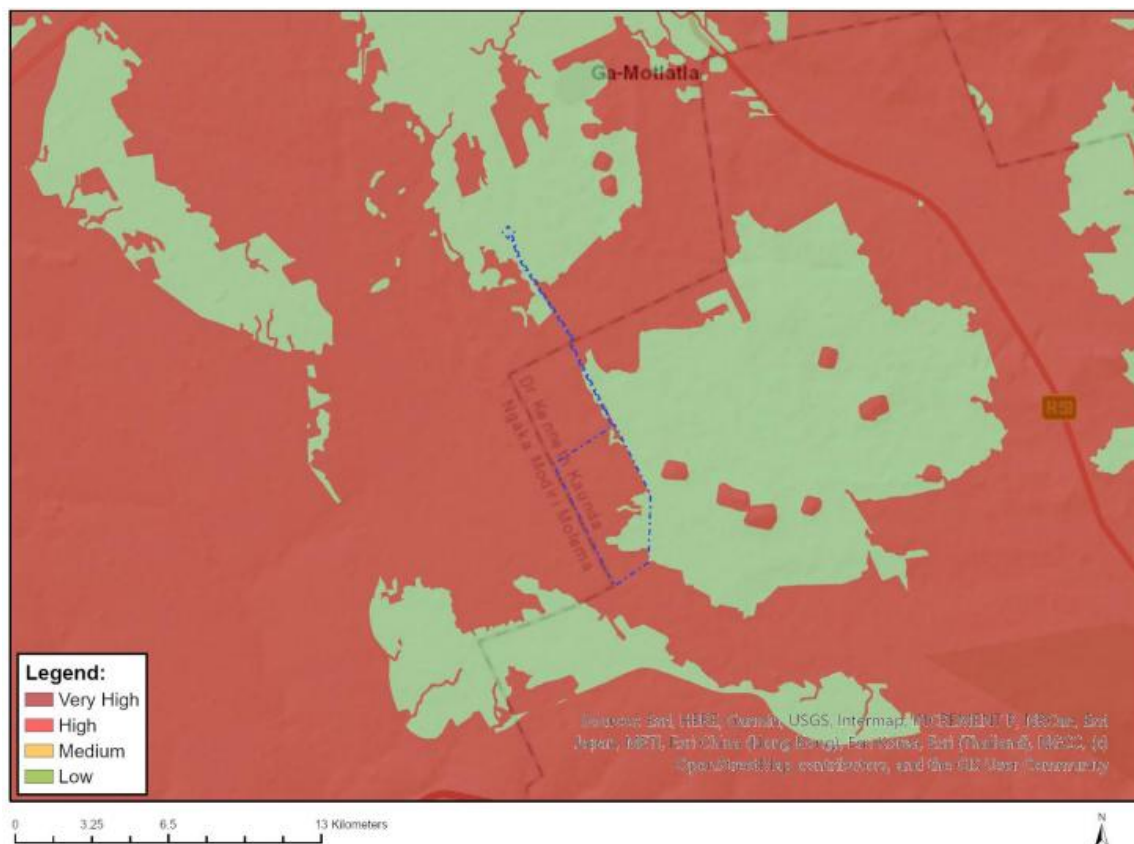


Figure 10: Terrestrial Biodiversity Theme Sensitivity (DFFE, 2026)

5.2 On Site Verification

Vegetation has been used as a common biological indicator to identify the Present Ecological State (PES) or ecological health of ecosystems, given their overall ability to respond rapidly to disturbance. Conservative plant species are the most commonly affected species given their high conservatism status, high sensitivity, narrow distribution ranges and low tolerance to disturbance, these species are the first to be eradicated in disturbed conditions (Rocchio, 2007).

The following table (Table 2) provides a summary of the Site Ecological Importance (SEI), which was assessment using the latest assessment methodology prescribed by SANBI (2020) and the habitat units identified during the verification process.

Table 2: Summary of the Site Ecological Importance (SEI) assessment

Habitat	Conservation Importance (CI)	Functional Integrity (FI)	Biodiversity Importance (BI)	Receptor Resilience (RR)	Site Ecological Importance (SEI)
Old Lands	Medium	Low	Low	Medium	Low
Transformed Areas	Low	Very Low	Very Low	Very High	Very Low
Natural Grassland	High	Medium	Medium	Medium	Medium
Disturbed Grassland	Medium	Medium	Medium	Medium	Medium
Watercourses	High	High	High	Medium	High

The following sensitivity map (Figure 11) has been produced using the outcome of the sensitivity analysis provided in Table 2 above.

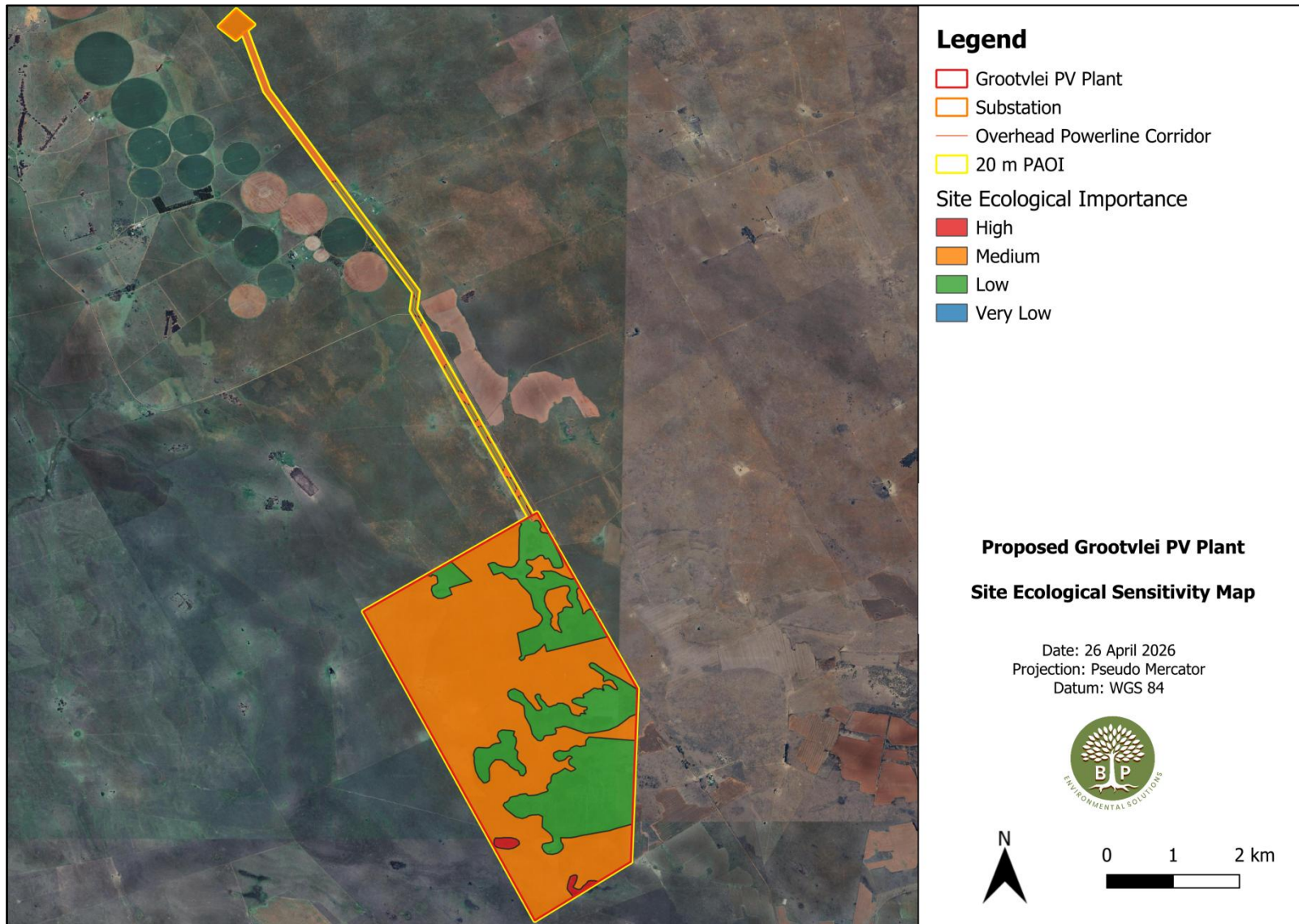


Figure 11: Site Ecological Importance (SEI) for the study area.

6 CONCLUSION AND RECOMMENDATIONS

A site verification was undertaken on 27 March 2026, where by the entire proposed development footprint and 20 m PAOI (study area) was walked on foot by the specialist. The Plant Species Theme, Animal Species Theme and Terrestrial Biodiversity Theme features listed within the DFFE Screening Tool Report (DFFE, 2026) were noted and verified during the assessment and the following findings were made:

1. The specialist **disputes** the overall Plant Species Theme rating of **Low** and confirms that portions of the study area not only have low sensitivity habitat, but also sensitivities rating between **very low** to **high**. The presence of natural grassland and wetlands support the dispute.
2. The specialist **disputes** with the overall Animal Species Theme rating of **Medium** and confirms that portions of the study area not only have moderately sensitivities but also sensitivities ranging from **very low** to **high** in areas.
3. The specialist **disputes** the overall Terrestrial Biodiversity Theme rating of **Very high** and confirms that portions of the study area have sensitivities ranging from between **very low** to **high**.

During the field assessment, no faunal or floral Species of Conservation Concern (SCC) were observed. It was also confirmed that by applying mitigation techniques during construction, the proposed development should not displace any notable faunal populations, destroy and/ or remove plant SCC.

The desktop assessment found that the site is associated with CBAs and ESAs. However, it is likely that niche habitats (like wetlands) will be avoided, and development will only take place within the very low to moderately sensitive areas. The proposed design will also ensure that some habitat and ecological functionality will be retained on site.

It is the specialist's opinion that most of the site is not linked with any significant faunal, botanical and ecological value and it is unlikely that any irreplaceable features will be lost by development of the site. As such there were no fatal flaws identified that would prevent the project from proceeding, provided that a full terrestrial biodiversity impact assessment is undertaken and the mitigation measures listed within this report are carefully implemented throughout the project life-cycle.

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APPENDIX A: SPECIALIST CV AND PROOF OF PROFESSIONAL REGISTRATION

PERSONAL PROFILE

Bryan is an environmental practitioner and ecologist with over eleven (11) years of experience in the environmental industry. Bryan has been involved in several types of projects, ranging from environmental impact assessments to compliance auditing. Bryan is also actively involved in rehabilitation, terrestrial impact assessments and coordinating large scale protected plant species search and rescue operations across South Africa. Bryan is a Professional Natural Scientist in the Environmental Science, Botany and Ecology, with SACNASP (119552).

QUALIFICATIONS

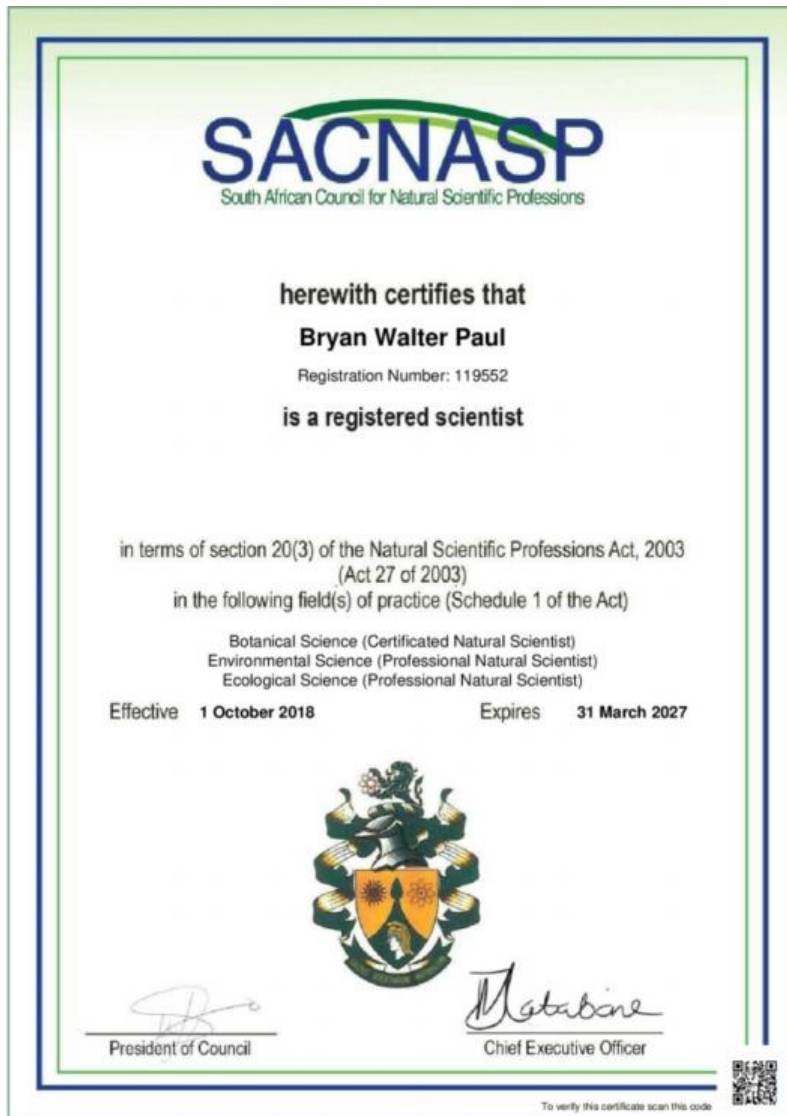
EDUCATION AND QUALIFICATIONS	BSc Honours Environmental Management; University of South Africa, 2017. BSc Degree in Zoology and Botany; University of South Africa, 2014		
CONTINUED PROFESSIONAL DEVELOPMENT	COURSE	INSTITUTION	COMPLETED
	Seed Biology	University of Pretoria	2023
PROFESSIONAL STATUS Registrations & Memberships	South African Council of Natural Scientific Professions - Registered Professional Scientist – Environmental Science and Ecology (119552) Member of the IAIA:SA		

WORK

WORK EXPERIENCE AND SKILLS	Development of Mine closure cost assessments in accordance with MPRDA regulations. Mine closure risk assessments. Development of project plans, delivery schedules and budget planning. Project risk management. Development of audit protocol, conducting of audits. Environmental due diligences, WUL audits, EMPR ROD audits. EMP Performance Reviews, Air Emission Licenses (AEL), Scoping EIA, EIA, BAR and Environmental Management Plans for mines, industrial developments and powerlines. Development of IWWMP and Closure Plans. Application for Mining rights and prospecting rights. Environmental legislation interpretation, recommendations and implementation.
PROJECT EXPERIENCE	– High level Authorisation projects. – Auditing – Terrestrial Biodiversity Impact Assessments.

EXPERIENCE

A full list of projects may be provided upon request.



I, Bryan Paul, declare that, to the best of my knowledge, all the information contained herein is true.



Signature
Date: 22/05/2026

Appendix C

Aquatic Biodiversity SSV Report

ESSP01_26-27

Aquatic Site Sensitivity Verification Report for the Grootvlei 600MW Solar PV Plant

PREPARED BY



FOR



Document Control and Author

Report Title	Aquatic Site Sensitivity Verification for the proposed Grootvlei 600MW PV Solar Plant		
Client	Nemai Consulting (Pty) Ltd.		
Report Status	Final		
Version No.	0.1	Report Date	April 2026
Report Citation	ELA Specialist Services (Pty) Ltd, 2026. Aquatic Site Verification for the proposed Grootvlei 600MW PV Solar Plant. April 2026		

Responsible person	Position	Responsibility	Experience (No of Years)	Signature
Suheil Hoosen Pr.Sci,Nat), Environmental Earth Sciences	MSc and Senior Environmental Specialist	Author	11 Years	

SPECIALIST DECLARATION

I, Suheil Malek Hoosen, hereby declare that:

- I acted as the independent specialist and performed the work in an objective manner, even if the findings and conclusions are not favourable to the applicant.
- I do not have any financial interest in the undertaking of this project or projects, other than remuneration for the work performed in terms of the National Environmental Management Act (NEMA) and National Water Act (NWA) (Act no. 36 of 1998).
- The contents of this report comply with the relevant legislative requirements.
- I have the relevant expertise required to conduct a specialist report of this nature in terms of the National Environmental Management Act (NEMA) and National Water Act (NWA) (Act no. 36 of 1998).
- I understand that any false information published in this document is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.
- I am a professionally registered scientist with the South African Council for Natural Scientific Professions (SACNASP).
- I undertake to disclose and provide to the competent authority all material and information in my possession regarding this project as required in terms of the National Environmental Management Act (NEMA) and National Water Act (NWA) (Act no. 36 of 1998).
- Based on the information provided to me by the client and in addition to information obtained during this study, I have presented the results and conclusion regarding this project to the best of my professional ability.



Suheil Malek Hoosen

Pr.Sci.Nat.

Date: 24/04/2026

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According to GN R320 and GN R1150 of 20 March 2021 of the National Environmental Management Act (NEMA) and the Regulations thereto, prior to commencing with a specialist assessment, a SSV must be undertaken to confirm the current land use and environmental sensitivity of the proposed development as identified by the Department of Forestry, Fisheries and the Environment’s web-based Screening Tool.	1
The project will entail construction of solar panels, substations, overhead powerlines that will connect to new and existing substations.	1
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ASSUMPTION AND LIMITATIONS

- The fieldwork component of the assessment comprised of one (1) day of site work, during the wet season on the 27 March 2026
- No detailed layout was provided by the client and only the property boundary and the 500m investigation area was assessed by the specialist.
- A transitional gradient occurs within rivers/wetlands from the saturated permanent zone to dry terrestrial areas. This gradient makes it difficult to determine the exact boundary of river/wetland features and some difference in opinion on river/wetland boundaries may therefore occur. The delineation as presented in this report is however considered to be a best estimate of the outer boundary of the riparian zone/temporary zone as determined by a wetland specialist with extensive experience in the wetland delineation techniques advocated by the DWS.
- Wetland and/or riparian boundaries are essentially based on GPS coordinate waypoints taken on-site of soil sampling points and of important morphological features. The variations experienced in GPS precision will ultimately affect the accuracy of the GPS waypoints and consequently will affect the accuracy of the recorded freshwater resource boundaries. All sampling waypoints were recorded using a Garmin Montana 650 GPS (estimated accuracy rating of 3-5 metres) and captured, analysed and geo-processed utilising a Geographic Information System (GIS) (i.e. QGIS and ArcGIS).
- The Site Sensitivity Verification (SSV) report does not contain details of a full Aquatic Biodiversity Impact Assessment Report/Wetland Impact Assessment Report.
- Deriving a 100% factual report based on field collecting and observations can only be done over several years and seasons to account for fluctuating environmental conditions and migrations. Since environmental impact studies deal with dynamic natural systems additional information may come to light at a later stage.

1. INTRODUCTION

1.1 Activity Description

Nemai Proprietary Limited (hereafter referred to as the client) appointed ELA Specialist Services to conduct an Aquatic Site Sensitivity Verification (SSV) Report for the proposed Grootvlei 600 Megawatts (MW) solar photo-voltaic (PV) plant (hereafter known as the proposed development). The proposed development along with the 500 metre (m) investigation area around the proposed development will be assessed for wetlands. The 500m investigation area, including the proposed development will be known as the 'study area.'

According to GN R320 and GN R1150 of 20 March 2021 of the National Environmental Management Act (NEMA) and the Regulations thereto, prior to commencing with a specialist assessment, a SSV must be undertaken to confirm the current land use and environmental sensitivity of the proposed development as identified by the Department of Forestry, Fisheries and the Environment's web-based Screening Tool.

The project will entail construction of solar panels, substations, overhead powerlines that will connect to new and existing substations.

The field survey for the proposed development was conducted during the wet season on the 27 March 2026

1.2 Locality

Majority of the study area in the southern portion, located at where the PV plant and portions in the of the overhead powerlines will be placed falls within the Ventersdorp Local and Dr Kenneth Kaunda District Municipalities. Whereas, the northern portion of the study area which encompasses the overhead powerline and substation falls within the Ditsobotla Local and Ngaka Modiri Molema District Municipalities.

The closest major suburb away from proposed development is Ventersdorp, which is approximately 21 kilometres (km) south-west from the proposed development. The proposed development will be located at central geographic co-ordinates 26°12'47.69"S 26°35'4.74"E. The project development extent is illustrated in Figure 1.

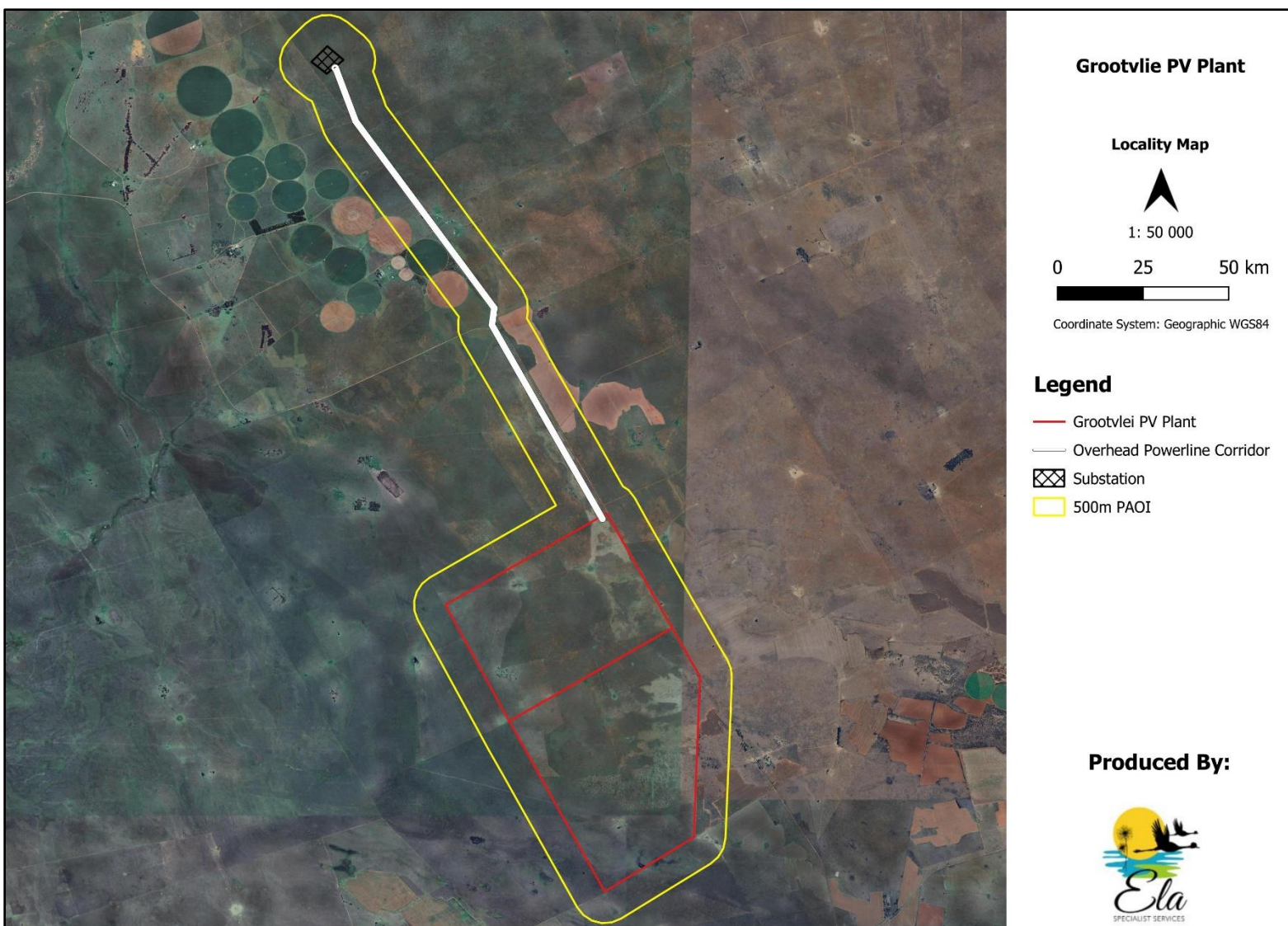


Figure 1: Locality map of the study area located within the North-West Province

2. METHODOLOGY

A desktop assessment was undertaken of all available data. This involved the investigation of aerial photography, GIS databases, government records and previous studies, including literature reviews pertaining to the study area to determine the theoretical importance and sensitivity of the aquatic ecosystems involved. The study area was mapped using GIS (e.g. QGIS) to better understand the layout and structure of the surrounding environment. The following data sources and GIS information provided in **Table 1** was utilised.

Table 1: Description on the data utilized.

Data	Source	Date of Data Source
Latest and Historic Google Earth™ imagery	Google Earth PRO™ (Online)	2026
South African Inventory of Inland Aquatic Ecosystems (SAIIAE), 2018 – River Ecosystems	Van Deventer <i>et al.</i> 2018	2018
South African Inventory of Inland Aquatic Ecosystems (SAIIAE), 2018 – Wetland Ecosystems	Van Deventer <i>et al.</i> 2018	2018
North-West Biodiversity Sector Plan	North-West Biodiversity Sector Plan	2015
National Freshwater Ecosystem Priority Area (NFEPA) maps and database	CSIR / Water Research Commission, Implementation: Manual and Maps for FEPA area / SANBI	2011
National Wetland Map (NWM) Version 5	Van Deventer <i>et al.</i> 2018 / SANBI	2018

3. AQUATIC DESKTOP SENSITIVITIES

According to the aquatic desktop sensitivities such as the National Wetland Map 5 (NWM5) (SANB, 2018), National Biodiversity Assessment for Inland Aquatic Systems (SANBI, 2018), National Freshwater Ecosystem Priority Areas (NFEPA) (Nel et al., 2011) and North-West Biodiversity Sector Plan (NW BSP) (2015); one (1) NFEPA wetland and one (1) NWM5, which was classified as a depression wetland falls within the study area but outside the proposed development extent. Furthermore, the study area and proposed development extent also falls within a Critical Biodiversity Area (CBA) 2 and Ecological Support Area (ESA) 2. The following map (**Figure 2**) illustrates where these biodiversity sensitivities occur in relation to the proposed development extent and study area.

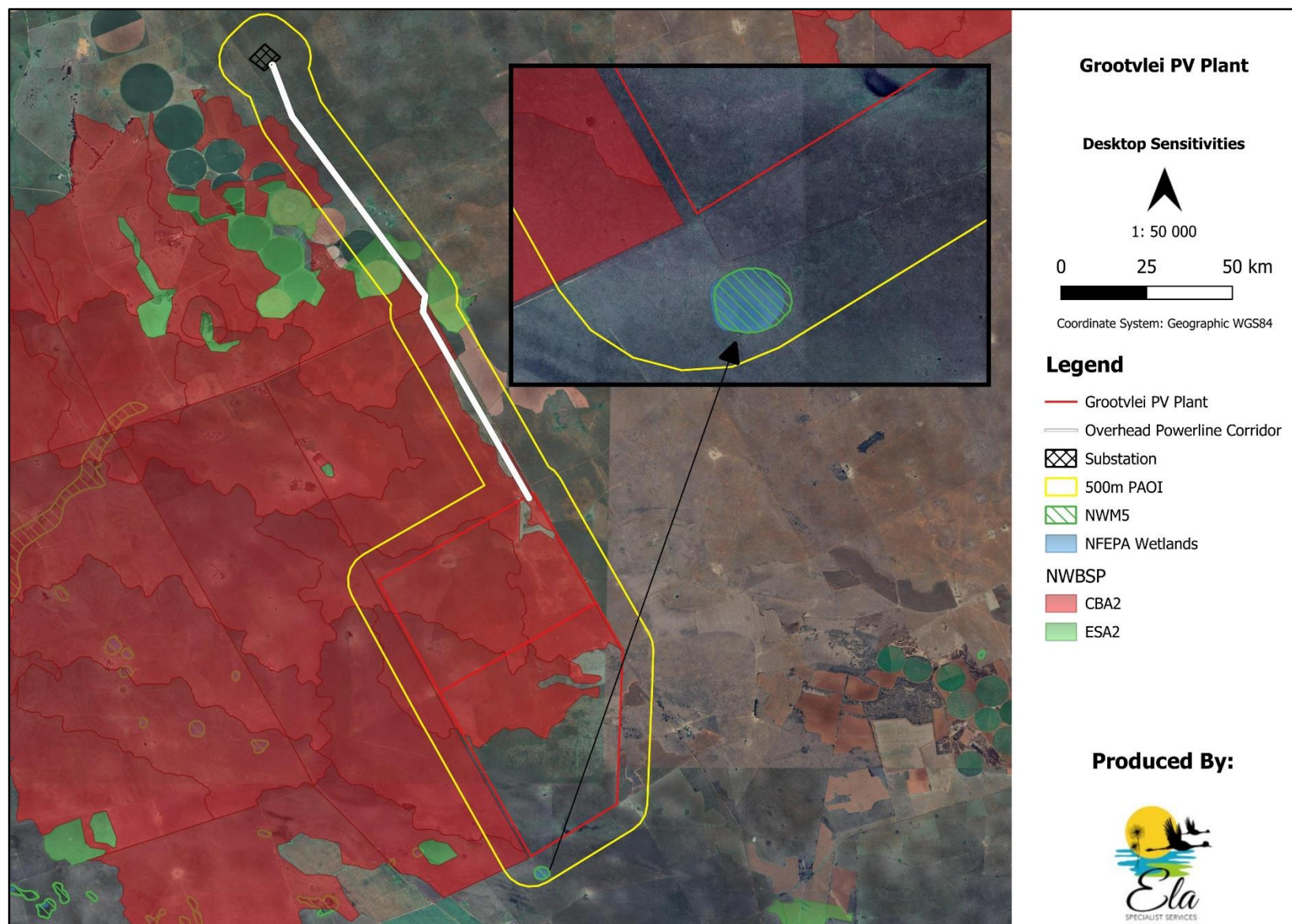


Figure 2: Aquatic desktop sensitivities in relation to the proposed development and study area

4. FINDINGS DURING THE SITE INVESTIGATION

Upon conducting the site visit for the proposed development and associated study area, a total of four (4) watercourses were delineated within the study area. Of the four (4) watercourses, one (1) was deemed to be artificial livestock drinking dam and three (3) were deemed to be natural depression wetlands (**Figure 4**).

The depression wetlands on site were noted to be disturbed historical by agricultural activities and currently by sporadic farm houses, linear activities (dirt roads, overhead powerlines) and livestock grazing in the catchment, which had led to hydrological and geomorphological impacts. Furthermore, the vegetation was noted to consists of indigenous sedges such as *Juncus spp.* and hydrophilic grasses such as *Imperata cylindrica*; and alien invasive plants such as *Tagetes minuta* (**Figure 3**).

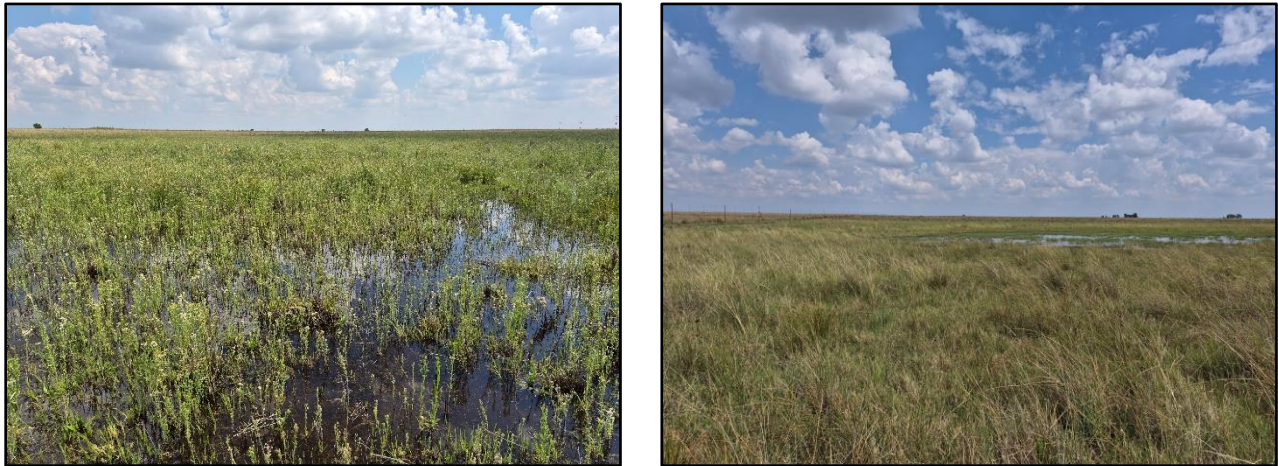


Figure 3: Image left: Depression wetland with alien vegetation. Image right: Depression wetland with hydrophilic grasses and sedges

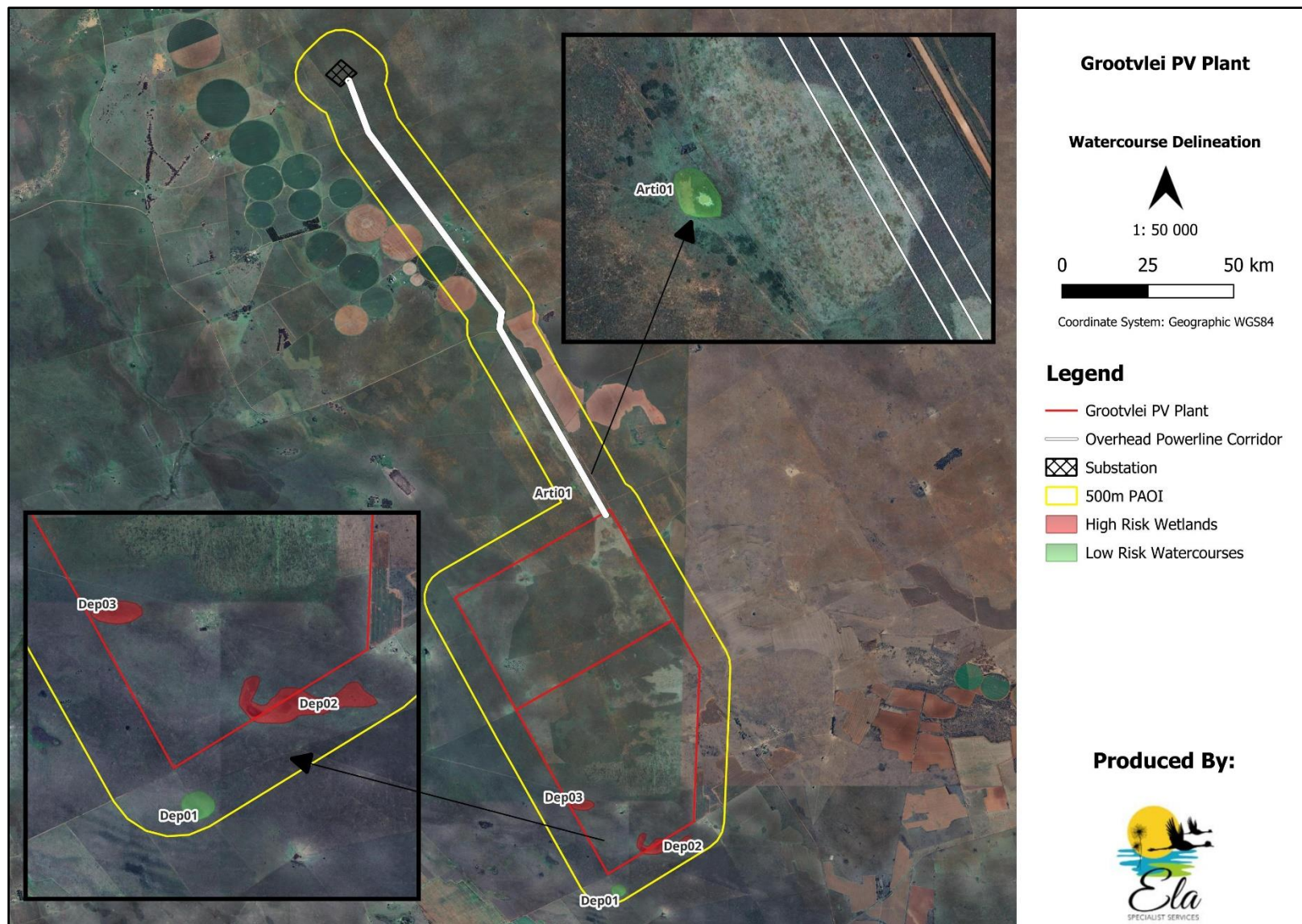


Figure 4: Delineation of artificial dam and natural wetlands within the study area and 50m applied buffer.

5. SITE SENSITIVITY VERIFICATION

The outcome of the DFFE web-based screening tool showed that the proposed development and associated study area is of a **Very High Sensitivity for the Aquatic Biodiversity Theme**. A map of the Aquatic Biodiversity Theme sensitivity as provided by The Screening Tool Report is included in **Figure 5** below. From the DFFE screening tool it was determined that the proposed development falls within a very high sensitivity in terms of aquatic biodiversity. This is further supported by the on-site visit, it which it was determined that natural depression wetlands are within the proposed development footprint.



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	ESA: Important subcatchments
Very High	FEPA Subcatchment

Figure 5: Aquatic biodiversity theme showing very high sensitivity on the DFFE screening tool

6. CONCLUSION AND RECOMMENDATIONS

Based on desktop review and site-based findings for the proposed Grootvlei PV solar project, the specialist agrees with the DFFE site sensitivity as 'Very High Sensitivity' due to depression wetlands falling within the proposed development footprint which will most probably be at risk from the proposed development activities.

Therefore, it is recommended that a full Wetland Impact Assessment be compiled in line with requirements of the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Aquatic Biodiversity (Government Gazette 43110 / Government Notice 320, dated 20 March 2020) as part of the application for Environmental Authorisation to the competent authority (i.e: DFFE) and as part of the Water Use License Application through the Department of Water and Sanitation (DWS). This full assessment must determine if the project can proceed ahead or not.

7. REFERENCES

Council for Scientific and Industrial Research (CSIR). (2011). National Freshwater Ecosystem Priority Areas (NFEPA). Council for Scientific and Industrial Research, Pretoria, South Africa.

CSIR. (2018). National Wetland Map 5 and Confidence Map [Vector] 2018. Pretoria: Council for Scientific and Industrial Research. B-GIS website. Retrieved from Biodiversity GIS.

CSIR. (2018). River ecosystem threat status and protection level (Shapefile) [Vector] 2018. Available from the Biodiversity GIS website, downloaded on 20 August 2020. Pretoria: Council for Scientific and Industrial Research.

Van Deventer, H., Smith-Adao, L., Collins, N.B., Grenfell, M., Grundling, A., Grundling, P-L., Impson, D., Job, N., Lötter, M., Ollis, D., Petersen, C., Scherman, P., Sieben, E., Snaddon, K., Tererai, F. & Van der Colff, D. (2019). *South African National Biodiversity Assessment 2018: Technical Report. Volume 2b: Inland Aquatic (Freshwater) Realm*. CSIR report number CSIR/NRE/ECOS/IR/2019/0004/A. South African National Biodiversity Institute, Pretoria. <http://hdl.handle.net/20.500.12143/6230>.

Van Deventer, H., Smith-Adao, L., Collins, N.B., Grenfell, M., Grundling, A., Grundling, P-L., Impson, D., Job, N., Lötter, M., Ollis, D., Petersen, C., Scherman, P., Sieben, E., Snaddon, K., Tererai, F. & Van der Colff, D. (2019). *South African National Biodiversity Assessment 2018: Technical Report. Volume 2b: Inland Aquatic (Freshwater) Realm*. CSIR report number CSIR/NRE/ECOS.

APPENDIX A: SPECIALIST CURRICULUM VITAE AND QUALIFICATIONS

Current position

Senior Environmental
Specialist

Years of experience

11

Nationality

South African

Qualifications

- BSc Environmental Science (2013)
- BSc Honours Environmental Science (2014)
- MSc Environmental Science (2017)

Professional associations

South African Council for
Natural Scientific
Professionals (SACNASP)

Suheil Malek Hoosen

Suheil is an environmental Specialist with approximately ten (11) years of experience in the field of environmental science. His current core experience and expertise are in the mining and industrial sectors but has vast experience in residential and linear activities. His core focus is the management of projects from cradle to grave, providing support to colleagues, business development, client liaison and most important to conduct specialist related projects such as Aquatic Biodiversity Impact Assessments, Wetland Impact Assessments, Wetland Rehabilitation Plans, Wetland Offset Plans and Wetland Audits, SASS5 Aquatic Biomonitoring, Water Quality Assessments, GIS Mapping and Hydropedology Impact Assessments. He has proven competence in environmental legal compliance audits (WUL) for various industrial and mining projects; and completed Water Use Licence Applications (WULAs). He is an enthusiastic individual with highly developed people skills, believing in maintaining professional and scientific knowledge to provide innovative and relevant solutions.

Summary of experience:

Key areas of experience include:

- Management of projects from cradle to grave (i.e: client liaison, managing external specialist, reporting, invoicing).
- Proposal administration.
- Provide guidance and support to junior and mid-level colleagues.
- Highly level scan of environmental sensitivities.
- Desktop and infield wetland delineation and classification.
- Infield identification of macro-invertebrates utilising the SASS5 methodology.
- Infield identification of soils and hydrological soil types.
- Conduct Wetland Assessment Tools
- Conducting Risk Assessment Matrix.
- Proficient in GIS.
- Master Layout Plans that form part of the Water Use Licence Application process.
- Conducting specialist Aquatic, Wetland and Hydropedology reporting.
- Experience as an Environmental Control Officer.
- Conducting Water Use Licence Applications



herewith certifies that

Suheil Malek Hoosen

Registration Number: 120680

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)

in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective **31 March 2019**

Expires **31 March 2027**



A handwritten signature in black ink, likely belonging to the President of the Council.

President of Council

A handwritten signature in black ink, likely belonging to the Chief Executive Officer.

Chief Executive Officer



To verify this certificate scan this code

CERTIFICATION

I, Suheil Hoosen, declare that, to the best of my knowledge, all the information contained herein is true.

Signature:

A handwritten signature in black ink, appearing to read 'Suheil Hoosen', with a horizontal line underneath.

Date: 24/04/2026

Appendix D

Heritage SSV Report

LTM GREEN ENERGIES (PTY) LTD



**HERITAGE SITE SENSITIVITY VERIFICATION REPORT FOR THE PROPOSED GROOTVLEI
600MW SOLAR PLANT, BATTERY ENERGY STORAGE SYSTEMS & GRID CONNECTION
PROJECT, NEAR VENTERSDORP, JB MARKS LOCAL MUNICIPALITY, NORTH WEST PROVINCE**

14 APRIL 2026

Prepared by:

Jennifer Kitto

Nitai Consulting (PTY) Ltd.

147 Bram Fischer Drive

Ferndale

2194



Authors	Qualification	Date	Signature	Version No.
Jennifer Kitto	BA Archaeology and Social Anthropology; BA (Hons) Social Anthropology	14 April 2026		1.0
Prepared for	Nemai Consulting (PTY) Ltd. 147 Bram Fischer Drive, Ferndale Randburg, 2194 			

1 INTRODUCTION & PROJECT DESCRIPTION

1.1 Background

Electricity generation sources need to be diversified to ensure security of supply and reduce the carbon footprint associated with South Africa's (SA) current heavy reliance on coal for electricity generation. LTM Green Energies (Pty) Ltd (the "Applicant") is proposing the development of Grootvlei 600MW Solar Photo Voltaic (PV) Plant, Battery Energy Storage Systems (BESS) and Grid Connection Project near Ventersdorp, Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, North West Province (the "Project").

An Environmental Authorisation (EA) was granted for the Project on 13 December 2023 for the Project with a Site Extent of ± 600 hectares (ha). After the Applicant had undertaken further optimisation of the Project layout it was determined that the extent of land originally secured for the Project is insufficient to accommodate the required generation capacity. As a result, based on guidance received from the Department of Forestry, Fisheries and Environment (DFFE), the Applicant is applying to lapse the existing Environmental authorisation (EA) and undertake a new EA Application for the entire Project extent of ± 1200 hectares (an additional 580 hectares from what was originally authorised).

Nemai Consulting (Nemai) has been appointed by the Applicant to undertake the new Scoping and Environmental Impact Reporting (S&EIR) Process for the entire Project in terms of the Environmental Impact Assessment (EIA) Regulations of 2014, as amended. It is noted that the Project may also require additional environmental approvals, which may be identified during the S&EIR Process. Nemai appointed Nitai Consulting to undertake the Heritage Sensitivity Verification and the Heritage Impact Assessment (HIA) study.

In terms of the Grid Connection Capacity Assessment (GCCA) 2024, which is a report that presents the results of available generation connection capacity of all the transmission substations in all the supply areas in all the provinces of South Africa, the Project is located within the North West Supply Area. Based on the latest GCCA that was released by Eskom in March 2022, the GCCA confirms that the North West Supply Area currently has 4370MW generation connection capacity available. The Project Site is located approximately 14 km from the Pluto – Watershed 275kV power line. The Applicant intends to bid for the current and future Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) bid windows and/or other renewable energy markets within SA.

1.2 Project Description

The Project is located approximately 20 km to the northwest of Ventersdorp central business district (CBD) and falls within Ward 34 of the JB Marks Local Municipality, in the North West Province. The site can be accessed via the N14 (main access) and the R53 (gravel road). The property earmarked for the Solar Project covers a combined area of approximately 1200 hectares (ha). See **Figure 1** and **Figure 2** below.

The location details of the affected properties are provided below:

- Solar PV Plant: Portion number 0 of the farm Grootvlei 161 IP;
- New Main Transmission Substation (MTS): Portion number 1 of the Farm Houtkop 152;
- Overhead Powerline (OHL) Route: Portion number 1, Portion number 9, Portion number 11, Portion number 12 of the Farm Houtkop 152, Portion number 1 of the Farm Roodepoortje 154 and Portion number 0 of the farm Grootvlei 161 IP.

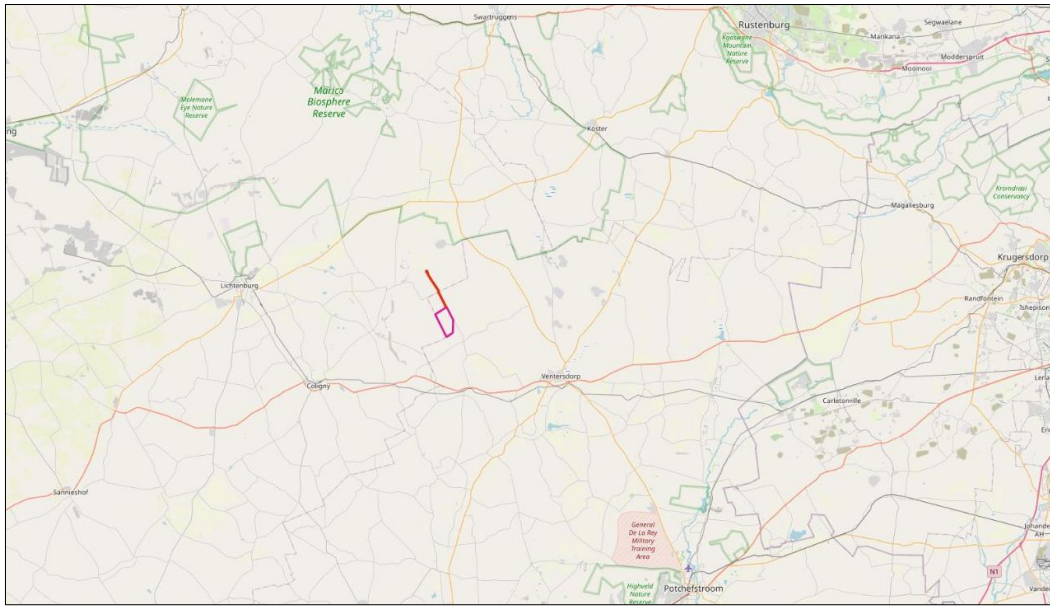


Figure 1: Regional Locality Map of Grootvlei PV and BESS site (pink polygon) with OHL corridor and MTS (red polygon)

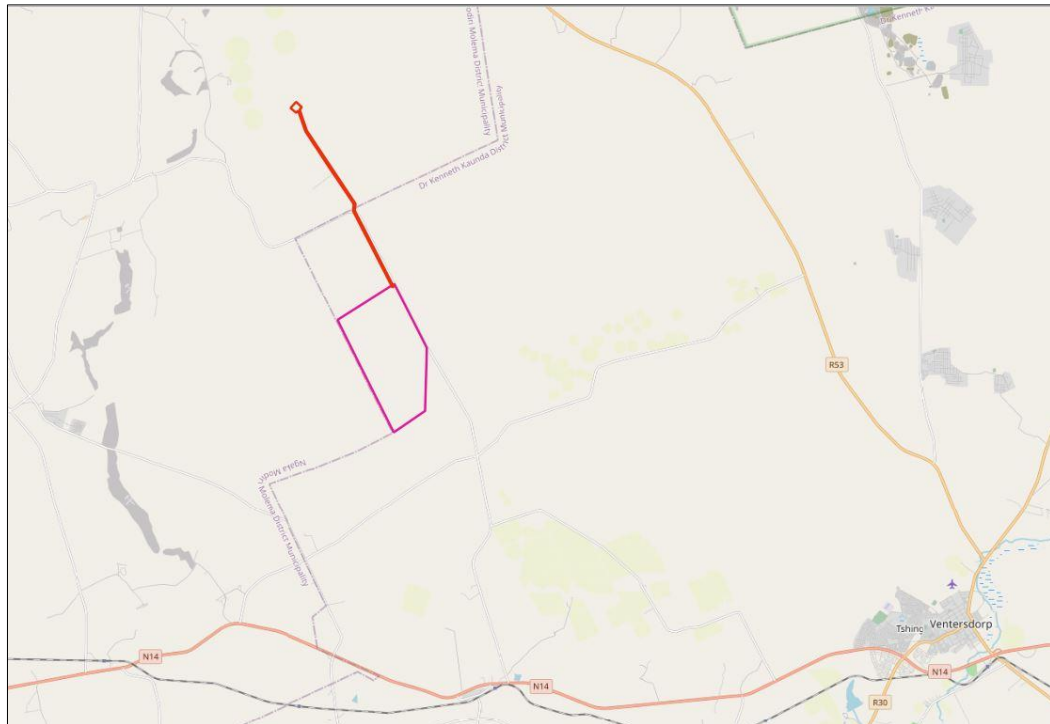


Figure 2: Locality Map of Site Footprint in relation to Ventersdorp

2 SITE VERIFICATION REPORT: HERITAGE SENSITIVITY THEME

A basic desktop study was undertaken for the proposed Grootvlei PV & BESS development (including the Overhead Line (OHL) corridor), which included accessing information from the National Web-based Environmental Screening Tool of the DFFE, an examination of the historical topographic map sheets for the area and a review of past HIA reports that included the specific project area or the immediate surrounding region. Historical satellite imagery obtained from Google Earth was also examined. The desktop study was followed by an on-site inspection.

2.1 Desktop Study

2.1.1 National Environmental Screening Tool (DFFE)

The National Environmental Screening Tool identified the Archaeological Cultural Sensitivity of the proposed Grootvlei PV & BESS development footprint site as **Low** (**Figure 3** and **Figure 4**). However, the Palaeontological Sensitivity is identified as being **High** (**Figure 5** and **Figure 6**).

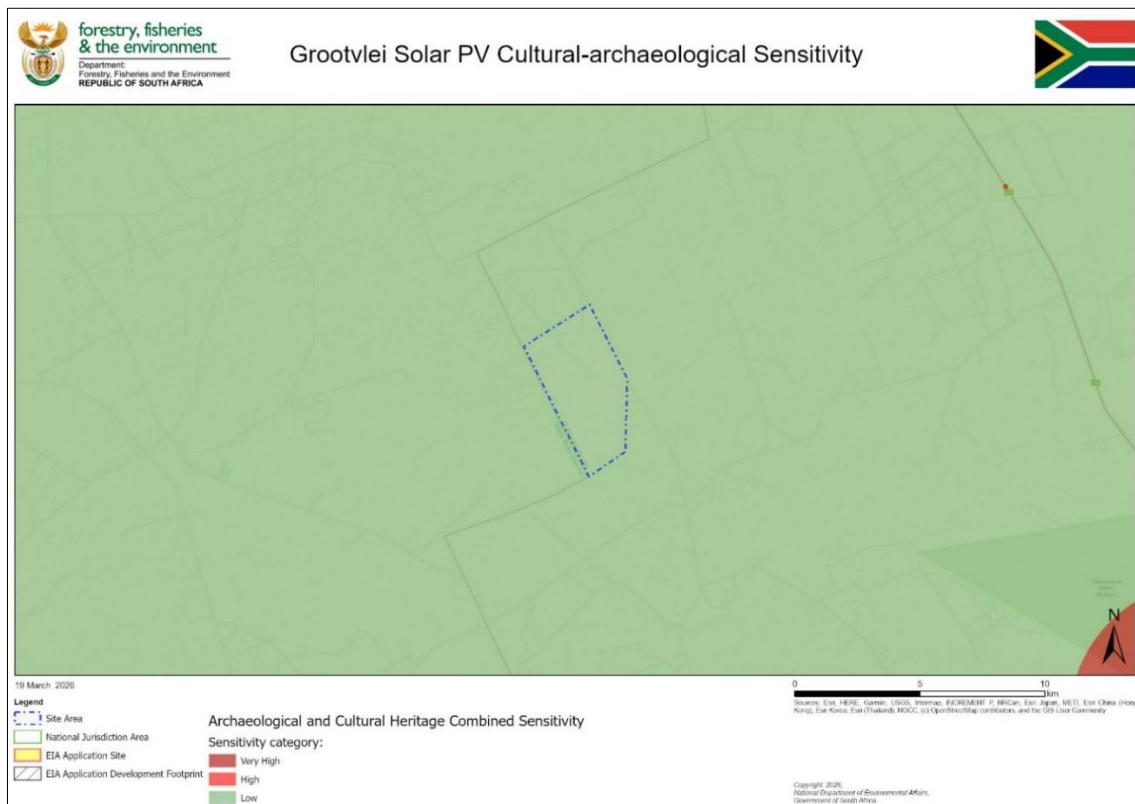


Figure 3: Archaeological Cultural Sensitivity map indicating that the PV footprint of the project is located within a region of low archaeological and cultural heritage sensitivity (DFFE Screening Tool).

Figure 4: Archaeological Cultural Sensitivity map indicating that the OHL & MTS footprint of the project is located within a region of low archaeological and cultural heritage sensitivity (DFFE Screening Tool).

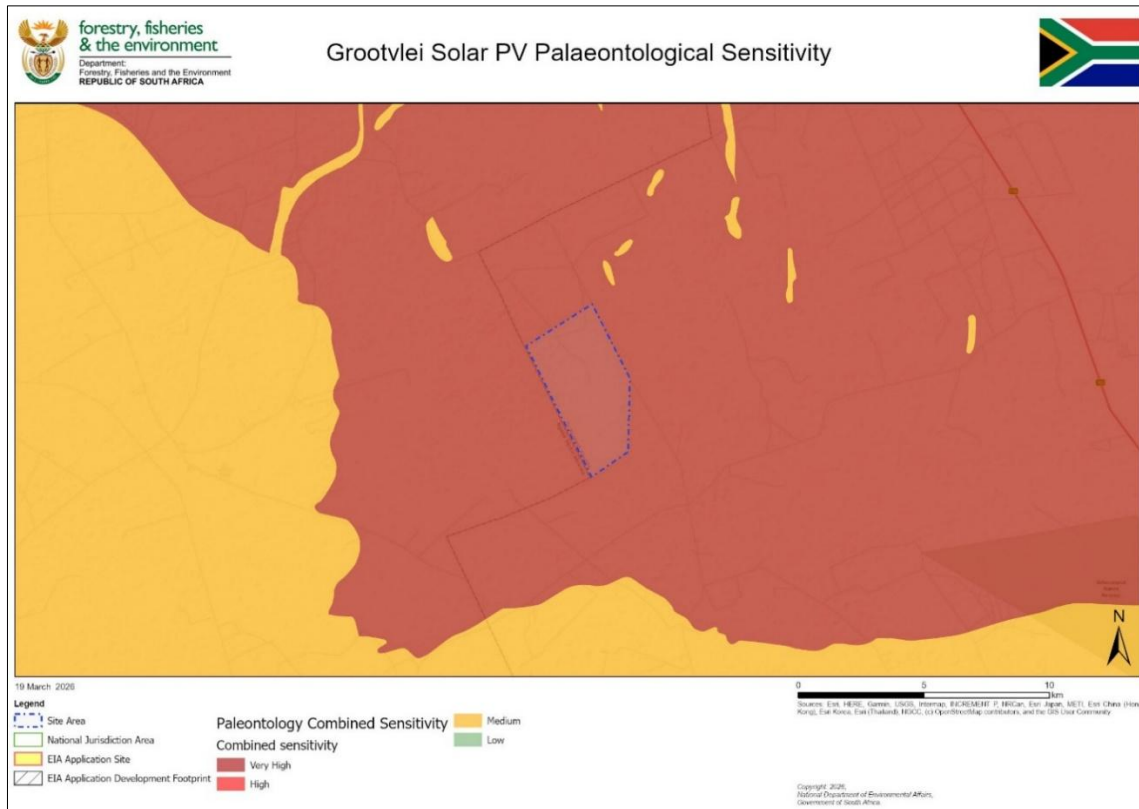


Figure 5: Palaeontological Sensitivity map indicating that the PV footprint of the project is located within a region of high palaeontological sensitivity (DFFE Screening Tool).

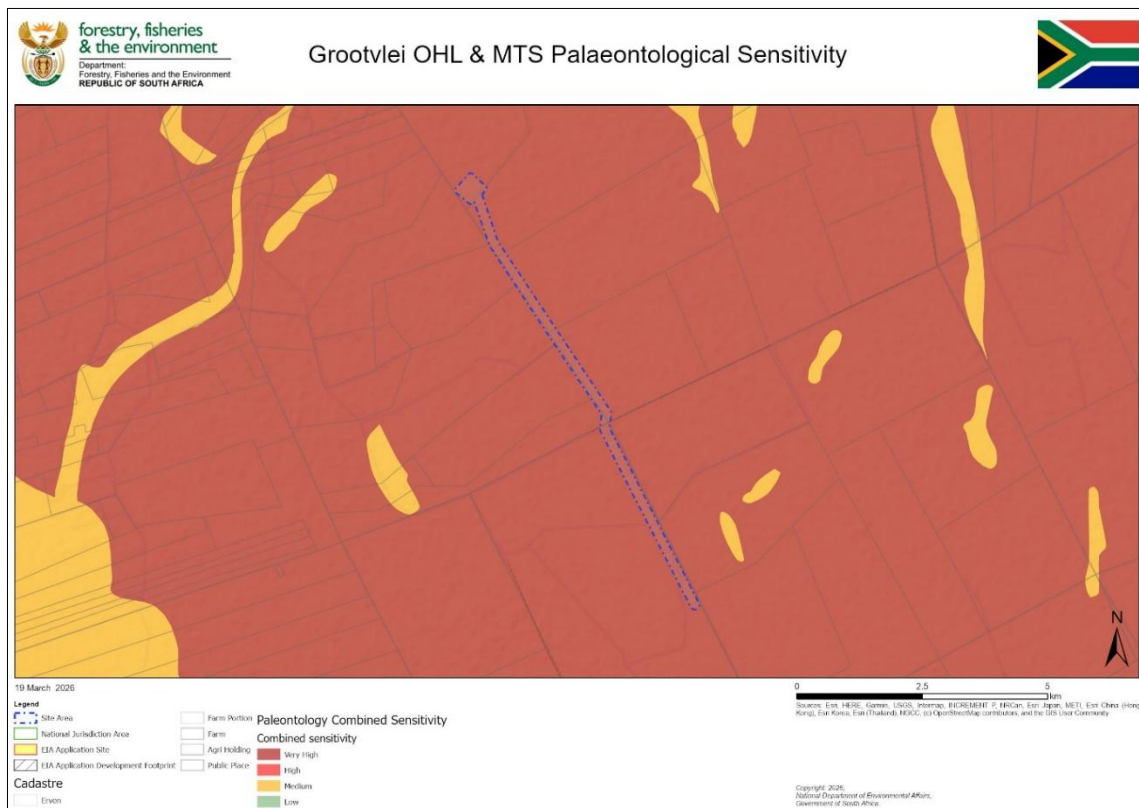


Figure 6: Palaeontological Sensitivity map indicating that the project footprint is located within a region of high sensitivity (DFFE Screening Tool).

2.1.2 Historical Topographical 1:50 000 Map sheets

An examination of the information depicted on the earliest edition (and subsequent editions) of the historical topographic map sheets was also undertaken. Overlays of the available 1:50 000 South Africa map sheets with the project footprint were generated using Google Earth. The map sheet consulted was 2626BA Zwartrand. Any heritage structures or features that are 60 years or older would be depicted on the first edition sheet. The map was surveyed in 1972 and drawn in 1974 by the Director-General Surveys of South Africa from aerial photographs taken in 1966. The topographical maps were obtained from the Department of Land Reform and Rural Development (DLRRD) in Pretoria.

The 1966 sheet depicts one heritage feature (Kraal) located within the PV footprint, and one heritage feature adjacent to the PV footprint (structures and kraal), while three heritage features are depicted adjacent to the powerline corridor (two farmsteads and a ruin). See **Figure 7** and **Figure 11**. Sporadic cultivation of some areas and disturbance by excavation is depicted on the 1992 and 2006 sheets (**Figure 8** and **Figure 9**). The most recent sheet available (2016), depicts one feature (structure) within the Solar PV footprint and one (structure) outside the PV footprint, while two features (one farmstead and a ruin) are depicted adjacent to the powerline corridor. See **Figure 10** and **Figure 14**. Some sections of the OHL corridor cross areas that have been cultivated (**Figure 11** to **Figure 14**).

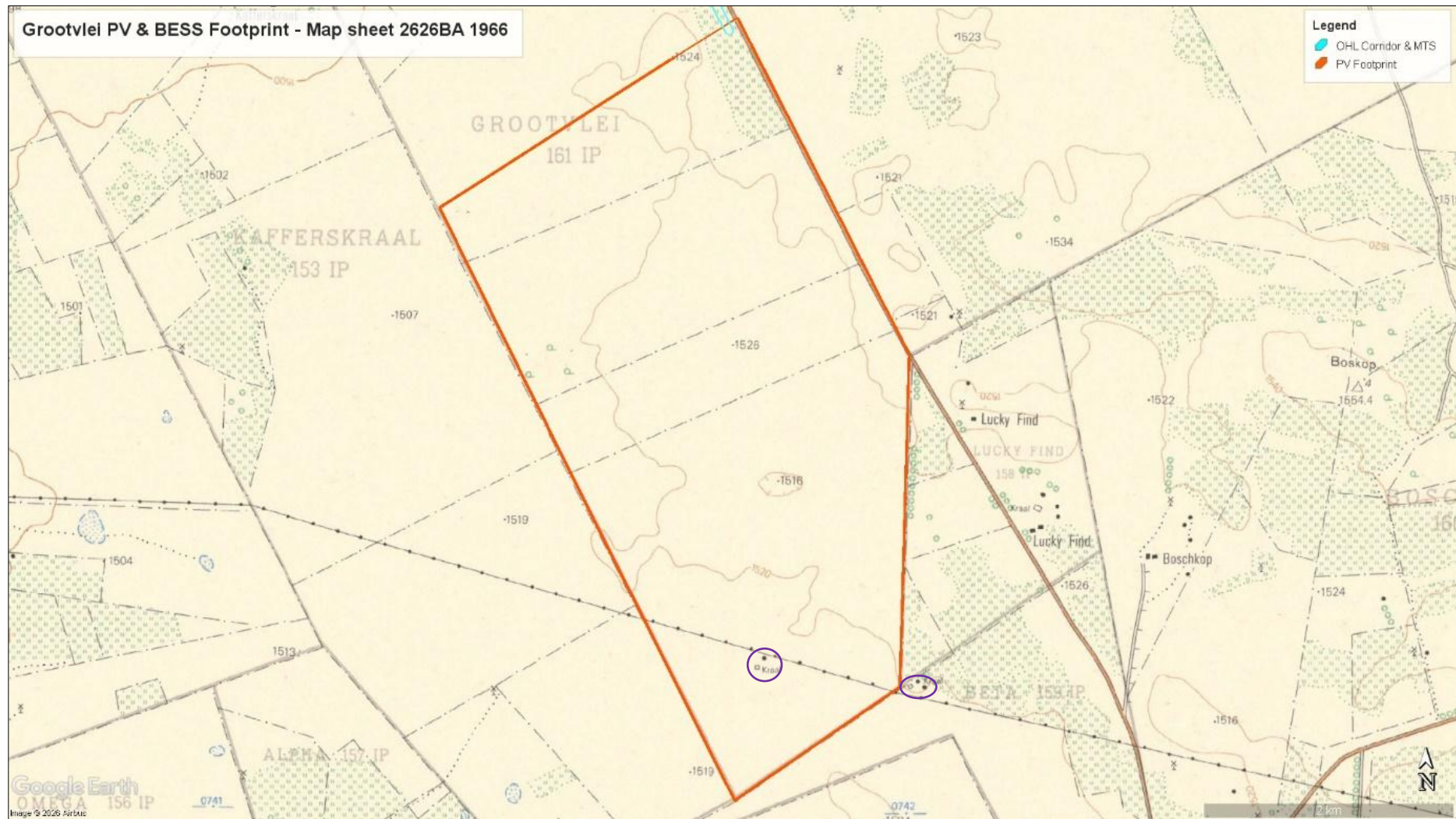


Figure 7: Enlarged view of Ed 1 topographic map sheet 2626BA 1966, depicting one heritage feature (Kraal) within the Solar PV footprint and one (Kraal and structures) (purple circles).

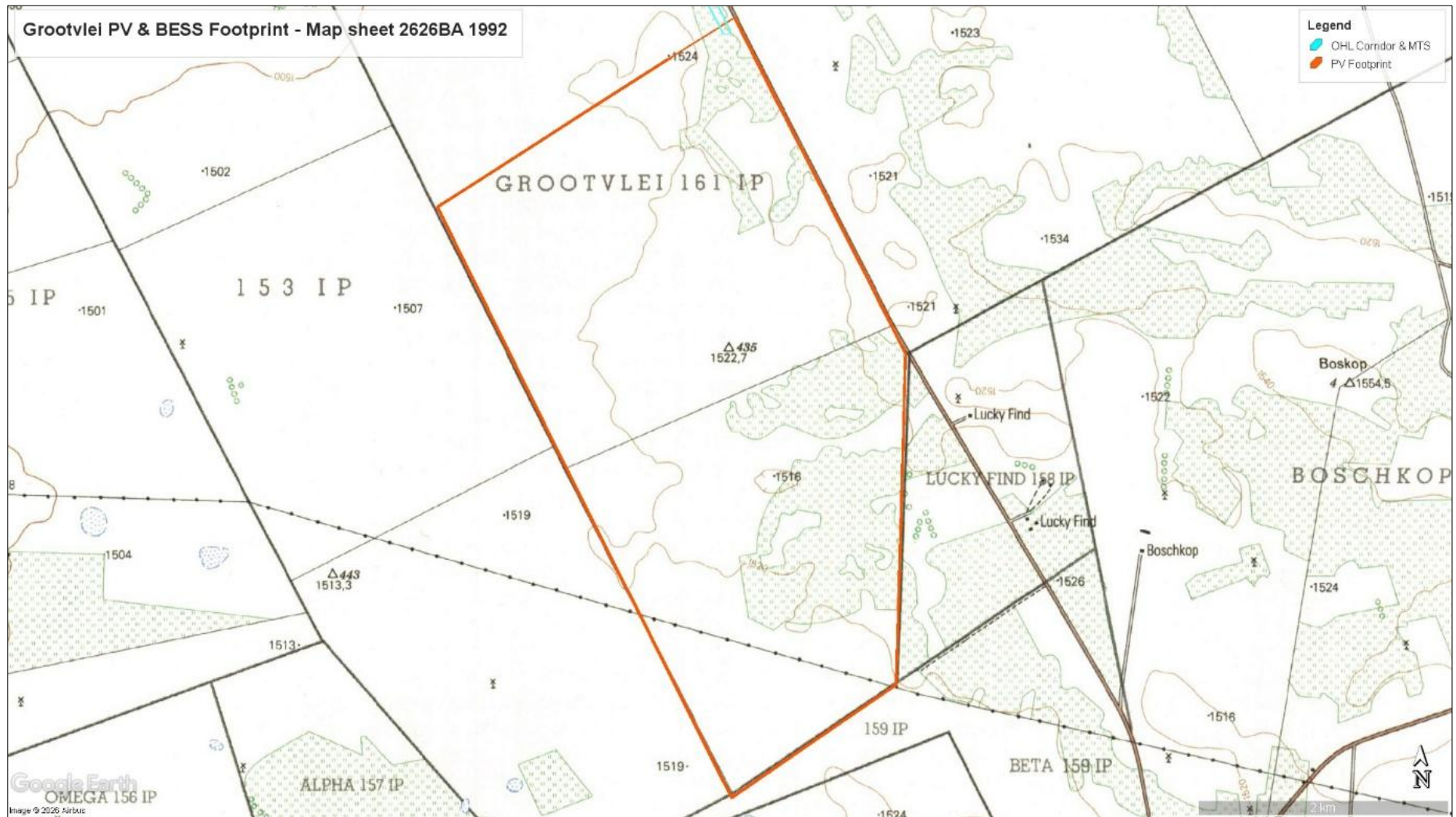


Figure 8: Enlarged view of Ed 2 topographic map sheet 2626BA 1992, depicting no heritage feature within or outside the Solar PV footprint. Some areas of the PV footprint have been cultivated.

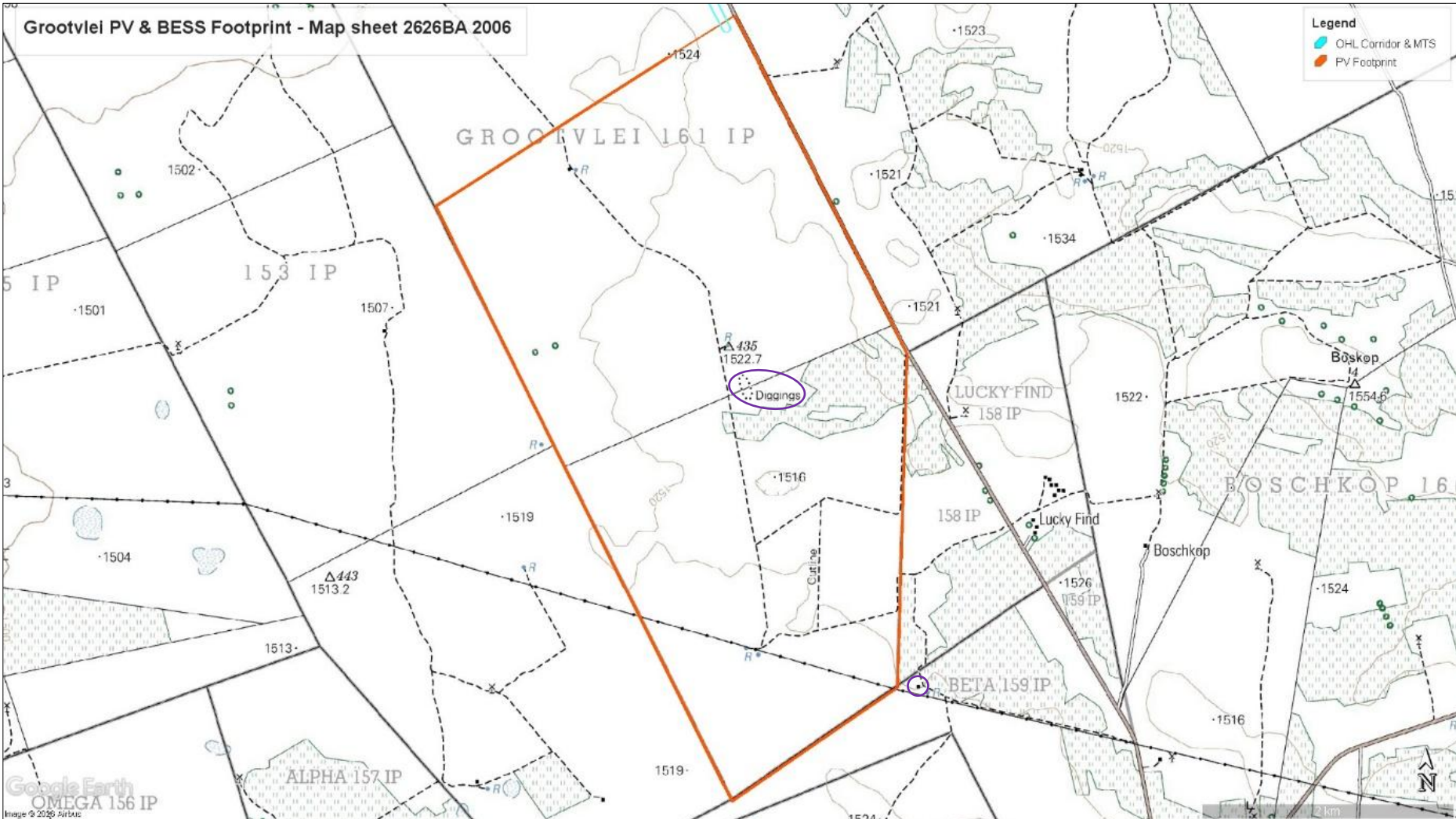


Figure 9: Enlarged view of Ed 3 topographic map sheet 2626BA 2006, depicting no feature except a diggings site within the Solar PV footprint and one structure outside (purple circles). One area of the PV footprint has been cultivated and disturbed by excavation

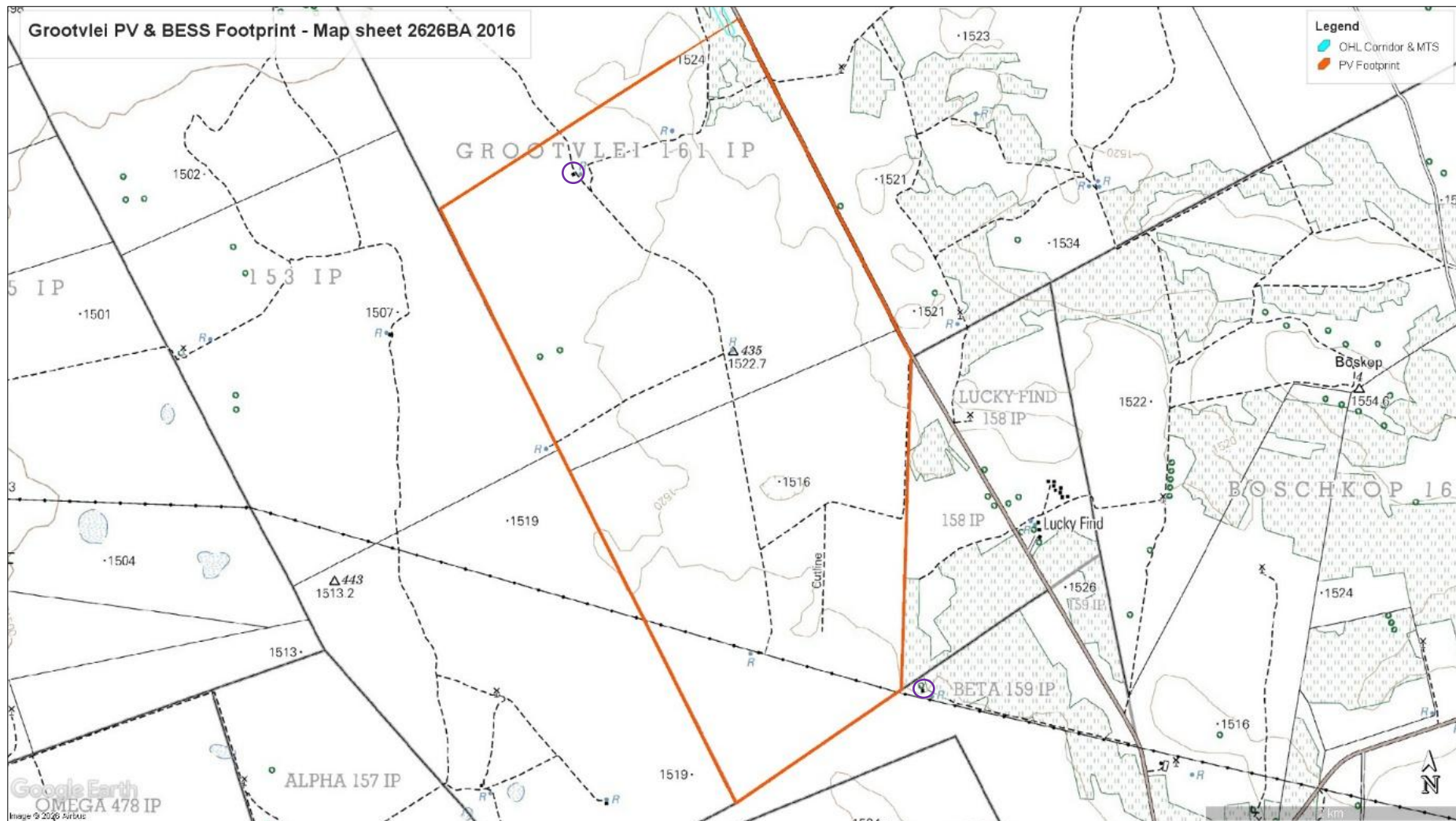


Figure 10: Enlarged view of Ed 4 topographic map sheet 2626BA 2016, depicting one feature (structure) within the Solar PV footprint and one (structure) outside (purple circles).

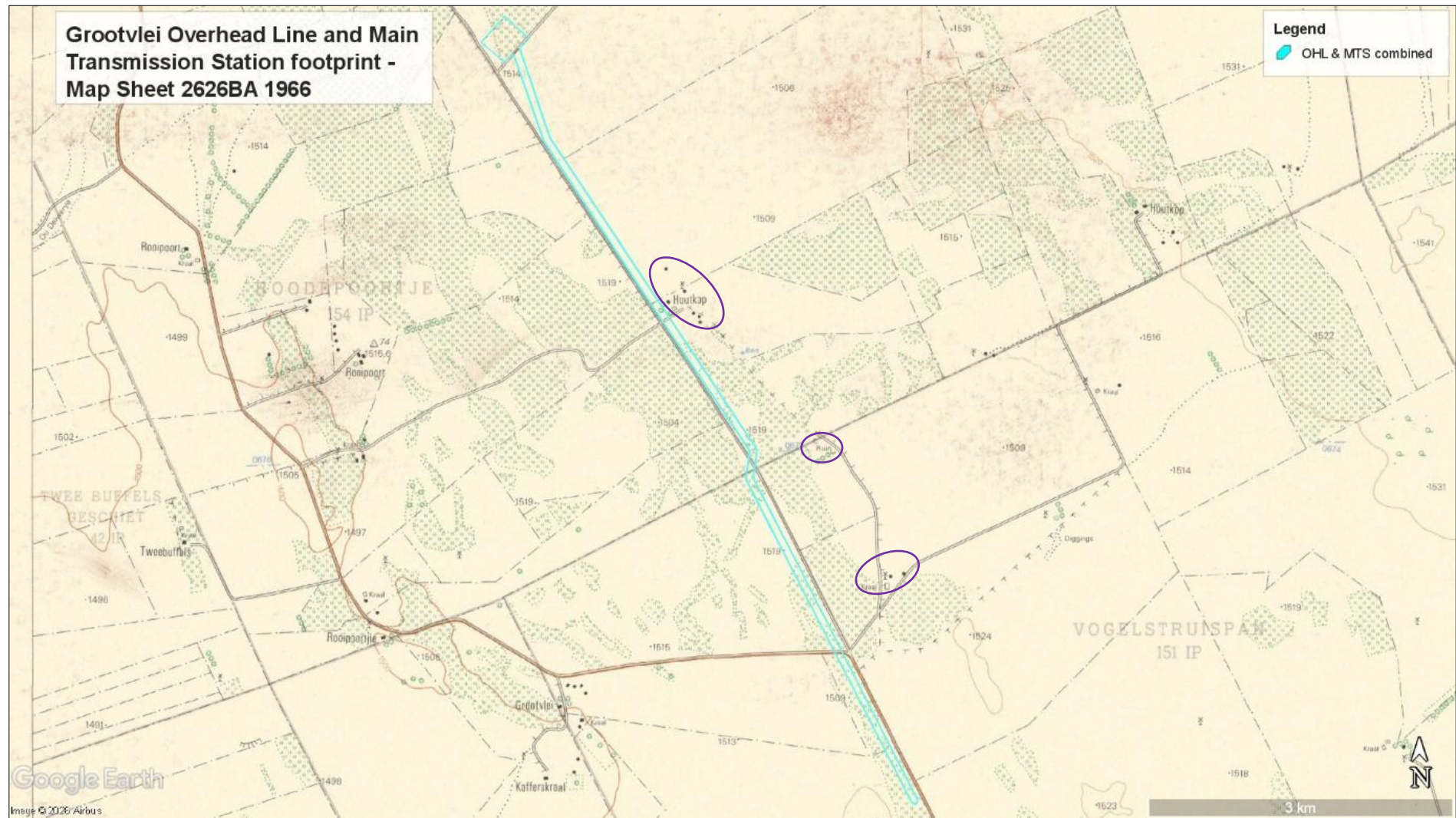


Figure 11: Enlarged view of Ed 1 topographic map sheet 2626BA 1966, depicting one farmstead immediately adjacent to the powerline route and one a short distance away (purple circles). The southern section of the OHL corridor crosses agricultural fields

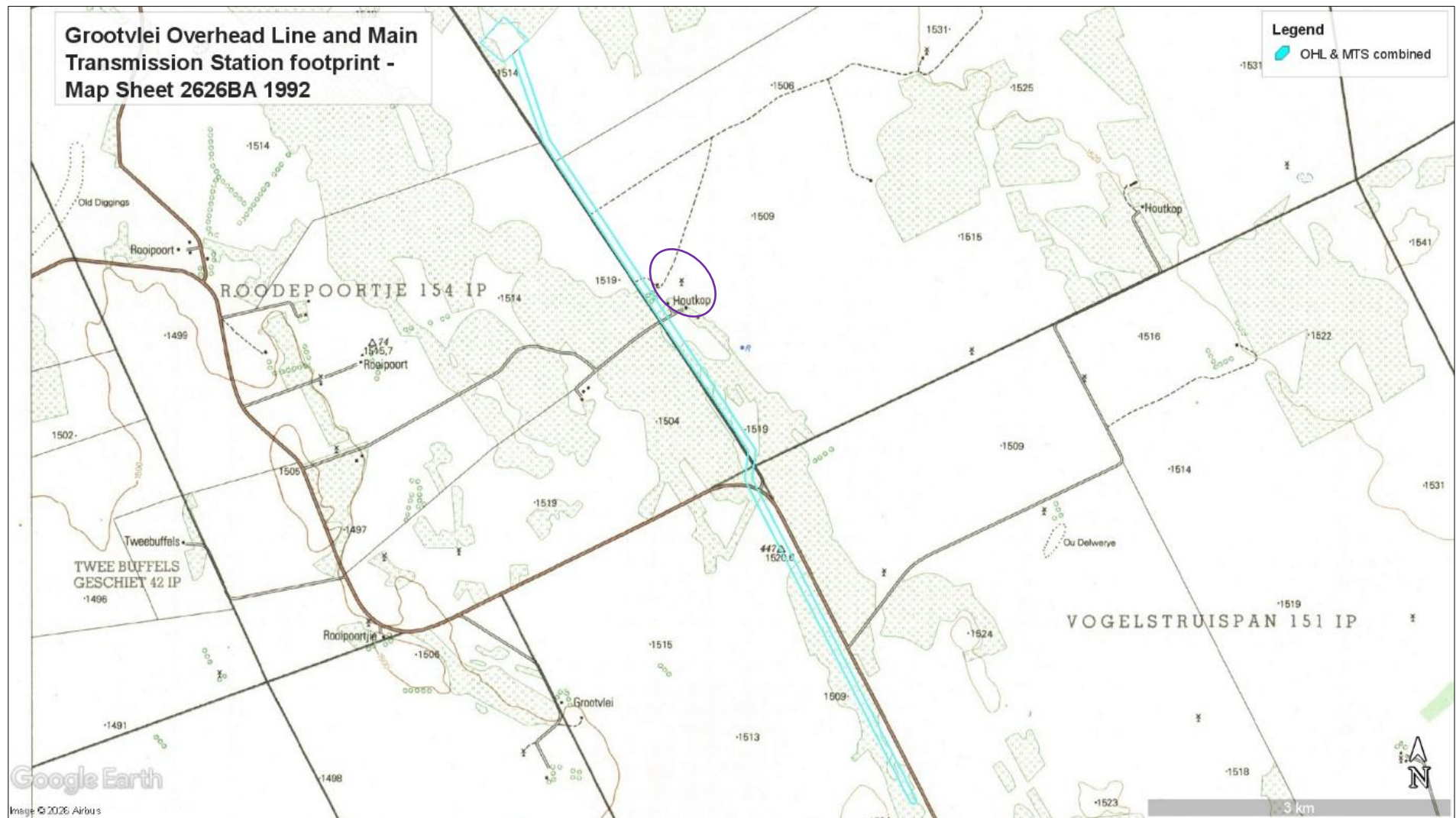


Figure 12: Enlarged view of Ed 2 topographic map sheet 2626BA 1992, depicting one farmstead (purple circle) adjacent to the powerline route. The southern section of the OHL corridor crosses agricultural fields

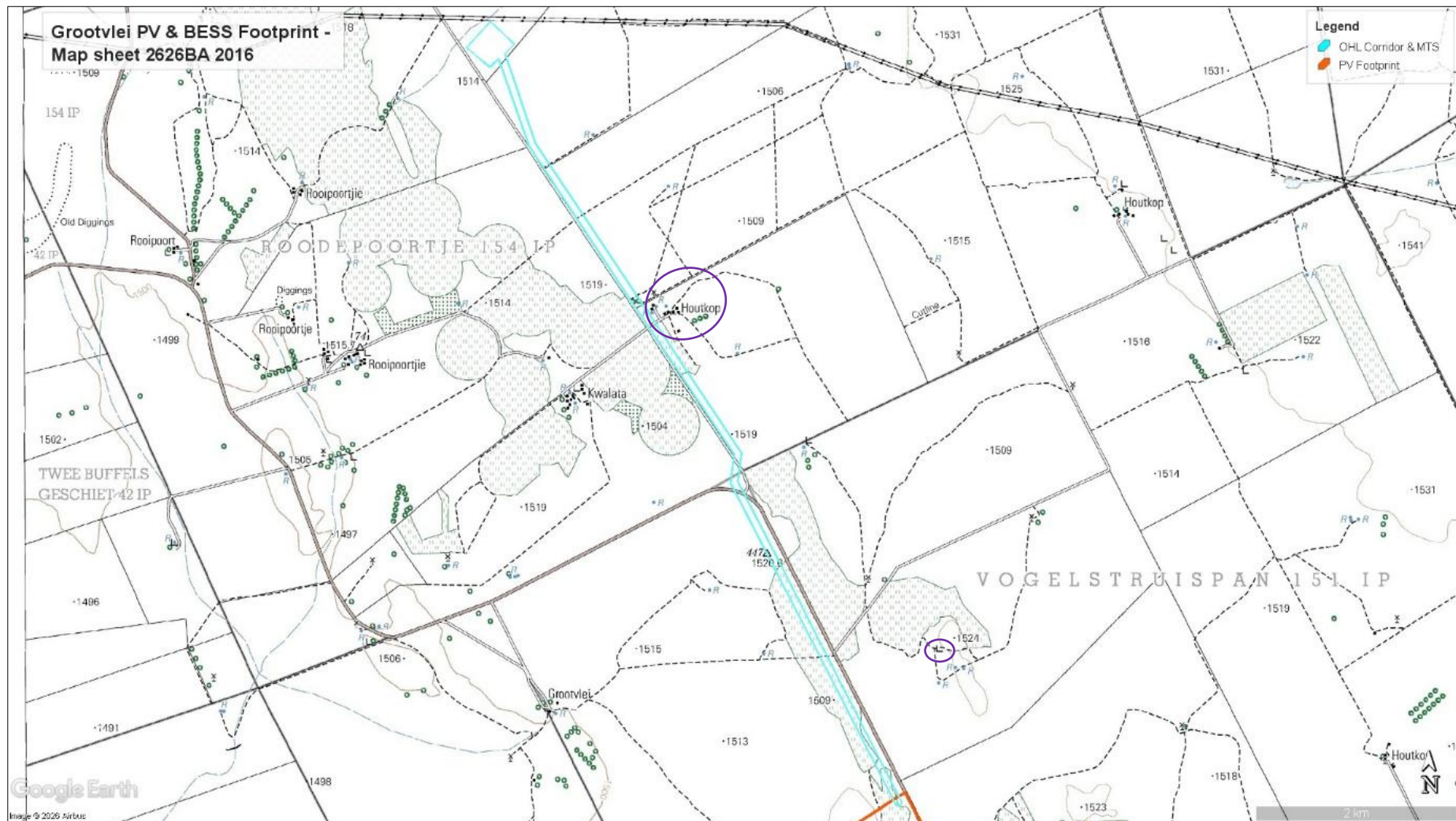


Figure 14: Enlarged view of Ed 4 topographic map sheet 2626BA 2016, depicting one farmstead adjacent to the powerline route and one ruin where the other farmstead was located (purple circles). The southern section of the OHL corridor crosses agricultural fields.

2.1.3 Past HIA Reports

A search on the South African Heritage Resources Information System (SAHRIS) has identified several previous Heritage Impact Assessment Reports for the area around the Grootvlei PV Project site. The study area of one of these reports covered the farms Houtkop and Kwaggaslaagte, which are located immediately north of the current project area (Mlilo 2017). Several remains of historical house foundations were recorded, including one traditional grave and a formal village cemetery. The project area for another of these reports covered several farms located immediately south of the current project area (Coetzee 2020).

Mlilo T. 2017. Phase 1 Archaeological Impact Assessment for the proposed Section 102 EMP Amendment for Mivami Agri- Mining Pty Ltd to include the Remaining Extent of Kwaggaslaagte 121 IP into the Prospecting Right for Dunbar 119 IP, and portion 9 of Houtkop 152 IP, in Ditsobotla Local Municipality of Ngaka Modiri Molema District Municipality, North West Province. The proposed development consists of prospecting for diamonds and manganese and is located on the farm Kwaggaslaagte 121 IP (Ga Motlatla Village). Twenty-six (26) remains of historical house foundations were recorded adjacent to the prospecting area including one traditional grave. A formal village cemetery (with historical graves) was also recorded.

Coetzee T. 2020. Phase 1 Archaeological Impact Assessment & Desktop Study for Rivanet Mining & Exploration on Several Portions of the Farms Wolvenfontein 74 IQ, Syferfontein 81 IQ, Modderfontein 187 IP, Roodepoort 191 IP, Oatlands 79 IQ, Uitkyk 184 IP, Palmietfontein 189 IP, Koppieskraal 500 IP, Makokskraal 203 IP, Sweethome 197 IP and Doornpan 193 IP near Ventersdorp, North. The farms Palmietfontein 189 IP, Koppieskraal 500 IP, Makokskraal 203 IP, Sweethome 197 IP and Doornpan 193 IP are located a short distance south to southeast of the current project area. However, only Palmietfontein 189 IP was subject to a field survey, while the other farms were assessed at a desktop level. Therefore, the only confirmed heritage resources were noted on Palmietfontein 189 IP and included: 29 historical structure sites, which varied in terms of preservation; 4 cemeteries (containing between 25 to 45 graves each) and 6 modern buildings and structures.

Coetzee F. 2022. Cultural Heritage Impact Assessment: Phase 1 Investigation for the Proposed Construction of Several Layer, Rearing Houses and Broilers with Associated Activities and Supporting Infrastructure on Portion 2 of the Farm Rietfontein 210 IP, Portion 1 of the Farm Oatlands 79 IP and Portion 1 of the Farm Ventersdraai 183 IP, JB Marks Local Municipality, Dr Kenneth Kaunda District Municipality, North West Province. Isolated finds comprising debitage and some broken formal Middle Stone Age tools were recorded, as well as two extant historical structures and two historical structure (foundation) remains.

Birkholtz PD. 2008. Phase 1 Heritage Impact Assessment Proposed Etruscan Diamonds (Pty) Ltd Development Situated on the Remaining Extent of the Farm Nooitgedacht 131 IP, Zwartrand 145 IP and Hartbeeslaagte 146 IP, Magisterial District of Ventersdorp, North West Province. A study for the proposed development of the Etruscan Diamonds mining extension on the remaining extent of the farms Nooitgedacht 131 IP, Swartrand 145 IP and Hartbeeslaagte 146 IP. Eight sites were located, including two historic farm dwellings, four cemetery sites and two Later Stone Age sites.

2.1.4 Palaeontological sensitivity

Note that this section was compiled by the author and not by a palaeontological specialist. A basic palaeontological sensitivity was determined using the SAHRIS database South African Fossil Sensitivity Map (<http://www.sahra.org.za/sahris/map/palaeo>). This map indicates that the project footprint falls within an area where the underlying geology has Very High fossil sensitivity (red) (**Figure 15**, below). Therefore, a separate palaeontological study is being undertaken by a professional palaeontologist.



Figure 15: SAHRIS Palaeontological Sensitivity Map with the Project footprint overlaid

Table 1: SAHRIS Fossil Map Palaeontological Sensitivity Ratings and Required Actions

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 to be requested.
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 becomes known, SAHRA will continue to populate the map.

2.1.5 Satellite Imagery (Google Earth)

As noted above, historical Satellite images (Google Earth) of the area containing the footprint of the proposed Grootvlei PV & BESS footprint (including OHL corridor and MTS) were examined for evidence of past disturbance of the area. The information obtained from the satellite images shows evidence of partial disturbance by agricultural activities over some sections of the PV footprint area and the OHL corridor between 2014 to 2023. See **Figure 16** to **Figure 21**, below.

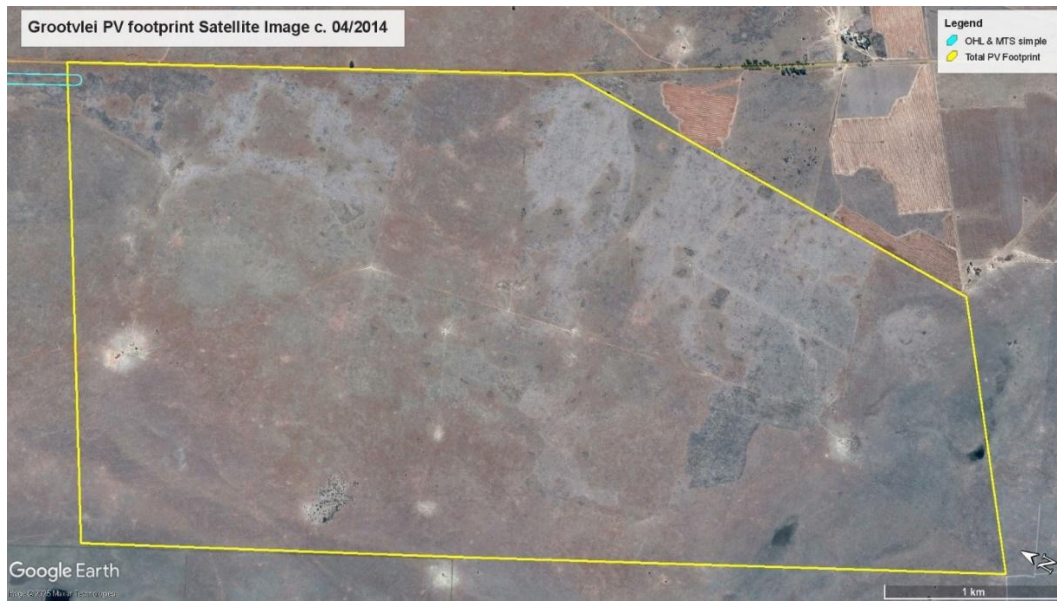


Figure 16: Historical satellite image (Google Earth) dated c. 2014 of the PV Project footprint area (yellow polygon) showing old agricultural fields in the eastern section

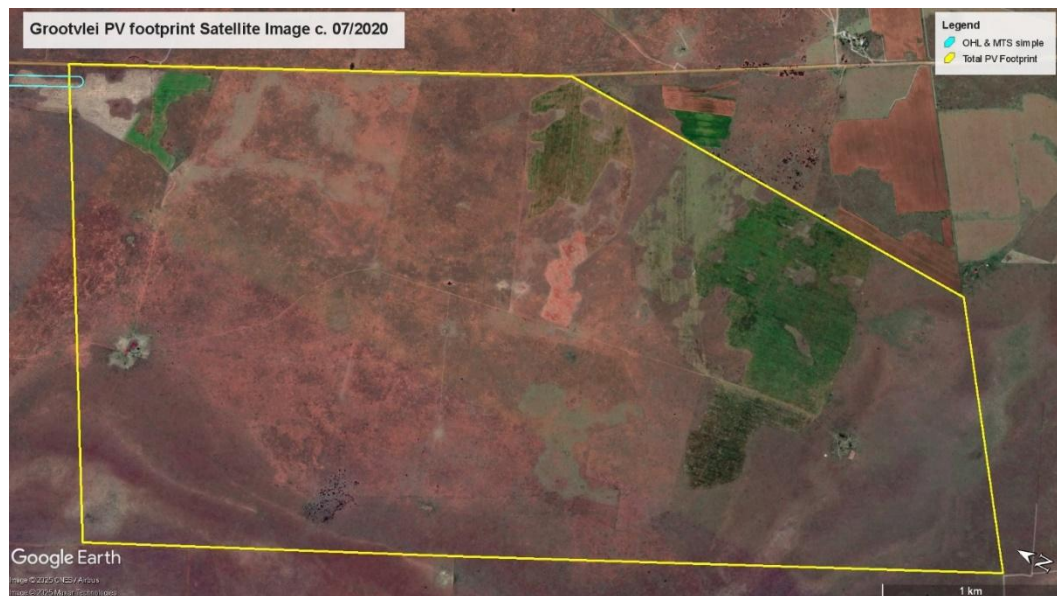


Figure 17: Satellite dated c. 2020 of the area containing the PV Project footprint area (yellow polygon) showing agricultural fields in use in the eastern section

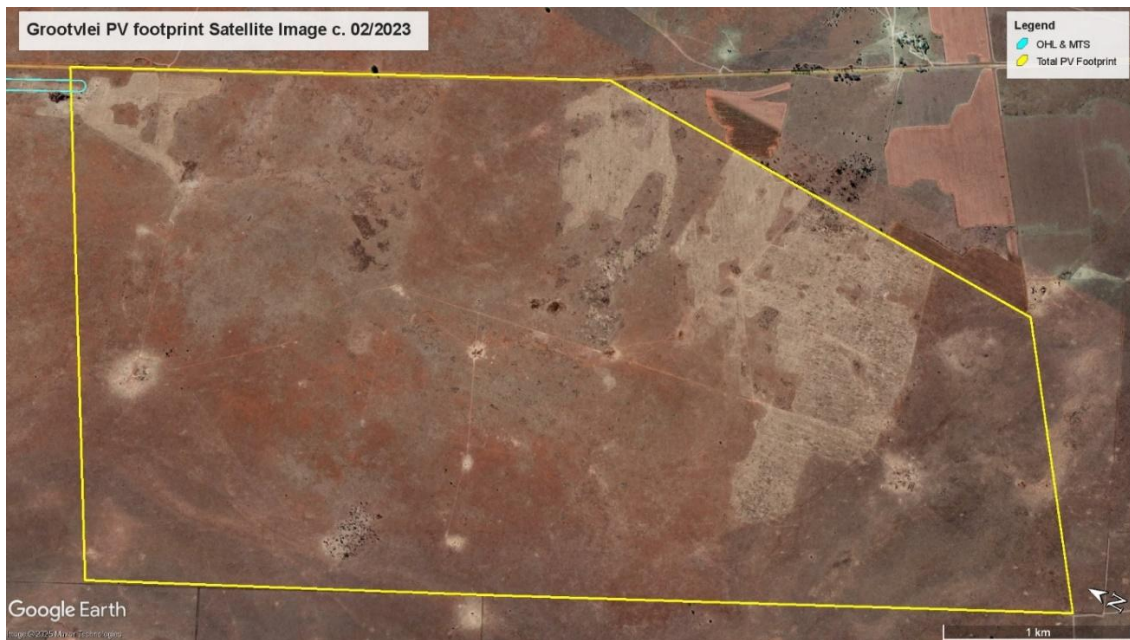


Figure 18: Satellite image dated c. 2023 of the area containing the PV Project footprint area (yellow polygon) showing agricultural fields in the eastern section

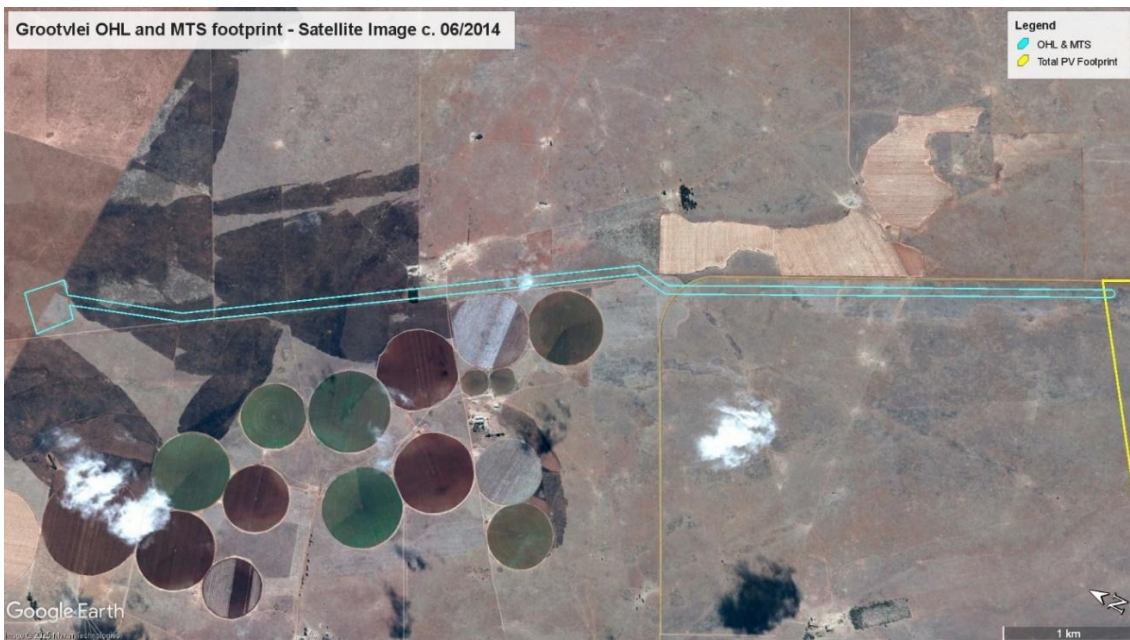


Figure 19: Historical satellite image (Google Earth) dated c. 2014 of the OHL corridor and MTS area (blue polygon) showing agricultural fields adjacent to the northern section and burned areas (grazing land?) within the northern section

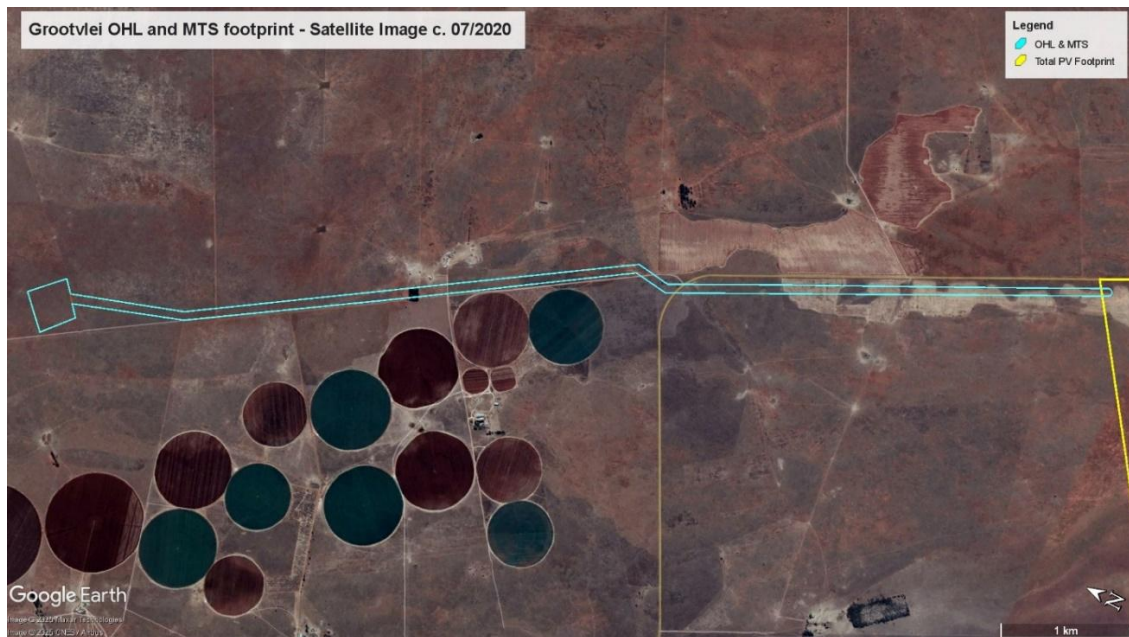


Figure 20: Historical satellite image (Google Earth) dated c. 2020 of the OHL corridor and MTS area (blue polygon) showing agricultural fields adjacent to the northern section and within the southern section

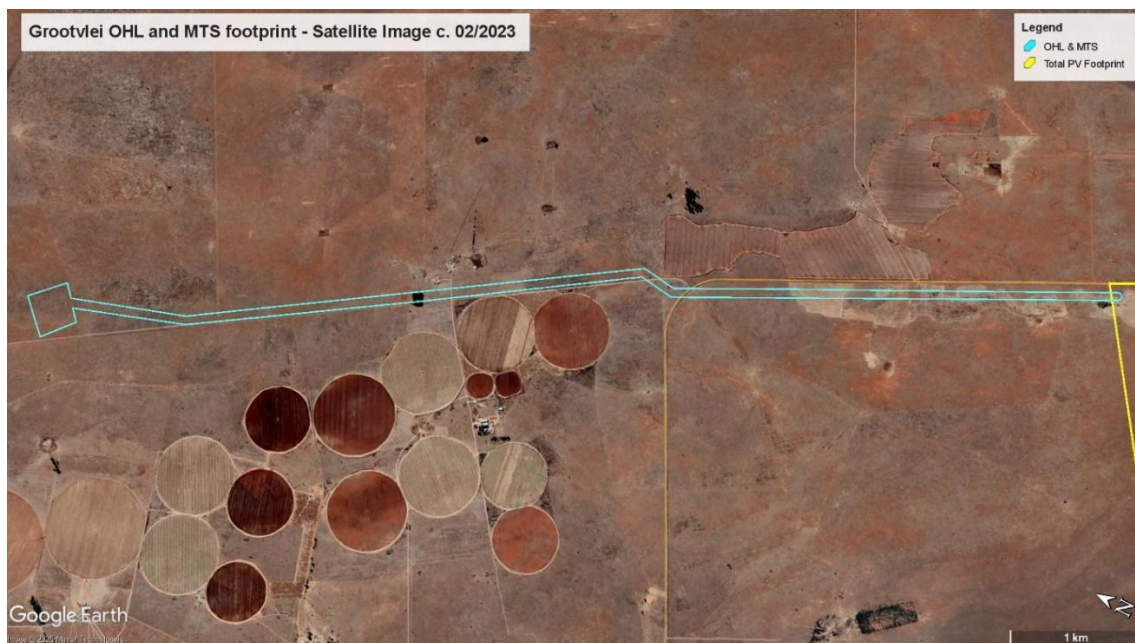


Figure 21: Historical satellite image (Google Earth) dated c. 2023 of the OHL corridor and MTS area (blue polygon) showing agricultural fields adjacent to the northern section and within the southern section

3 CURRENT STATUS OF THE PROJECT FOOTPRINT

3.1 On-site Inspection

The Project is located approximately 20 km to the northwest of Ventersdorp's Central Business District (CBD). The areas affected by the proposed Project footprint are rural in nature. The Project's PV Site, OHL corridor and MTS site are currently vacant and were used historically for agricultural purposes (both agriculture and grazing). The Project's power line connection to the Eskom grid is located 2 km from the Project area. Grazing is the dominant land use in the Project area. The terrain topography is mostly flat and covered with mixed grassland and other vegetation that varies from relatively short to long and dense. There are several natural outcrops of dolomite, chert, quartz and dolerite and many piles of rocks from field clearing occur on the site, especially on the PV footprint.

As the current PV site footprint is an expansion of the originally identified footprint, the on-site inspection of the footprint took place over several separate days between 2023 and 2026 (22 March and 24 April 2023; 27 March 2026) by the author (heritage specialist) as part of a specialist team. The landowner accompanied the team on the first visit in 2023.

During both the 2023 and the 2026 site visits the archaeological visibility was very low due to the extremely dense and long grass and other vegetation cover over most of the project footprint. However, the PV site was covered as extensively as possible both by vehicle and on foot and particular attention was paid to soil around burrows and patches of bare ground.

The 2023 survey of the project area (southern section of the PV site) identified four visible heritage resources within or immediately adjacent to the project footprint and the 2026 survey of the additional area (northern section) identified two heritage resources and one modern structure. These resources include a stone kraal (older than 60 years), a possible informal grave, a modern stock ramp and a few scattered findspots of stone flakes or broken stone tools. The remains of a stone kraal and historical farmhouse are located adjacent to the PV footprint. They will be described in detail in the Phase 1 Heritage Impact Assessment Report for the project.

Considering the above information, the heritage sensitivity of the project footprint can be confirmed as generally Low but with two sites of Medium significance (the stone kraal and the possible grave).

Note: only the southern section of the OHL corridor was accessible while the northern section crosses private property and was not accessible on the days of the site visits.

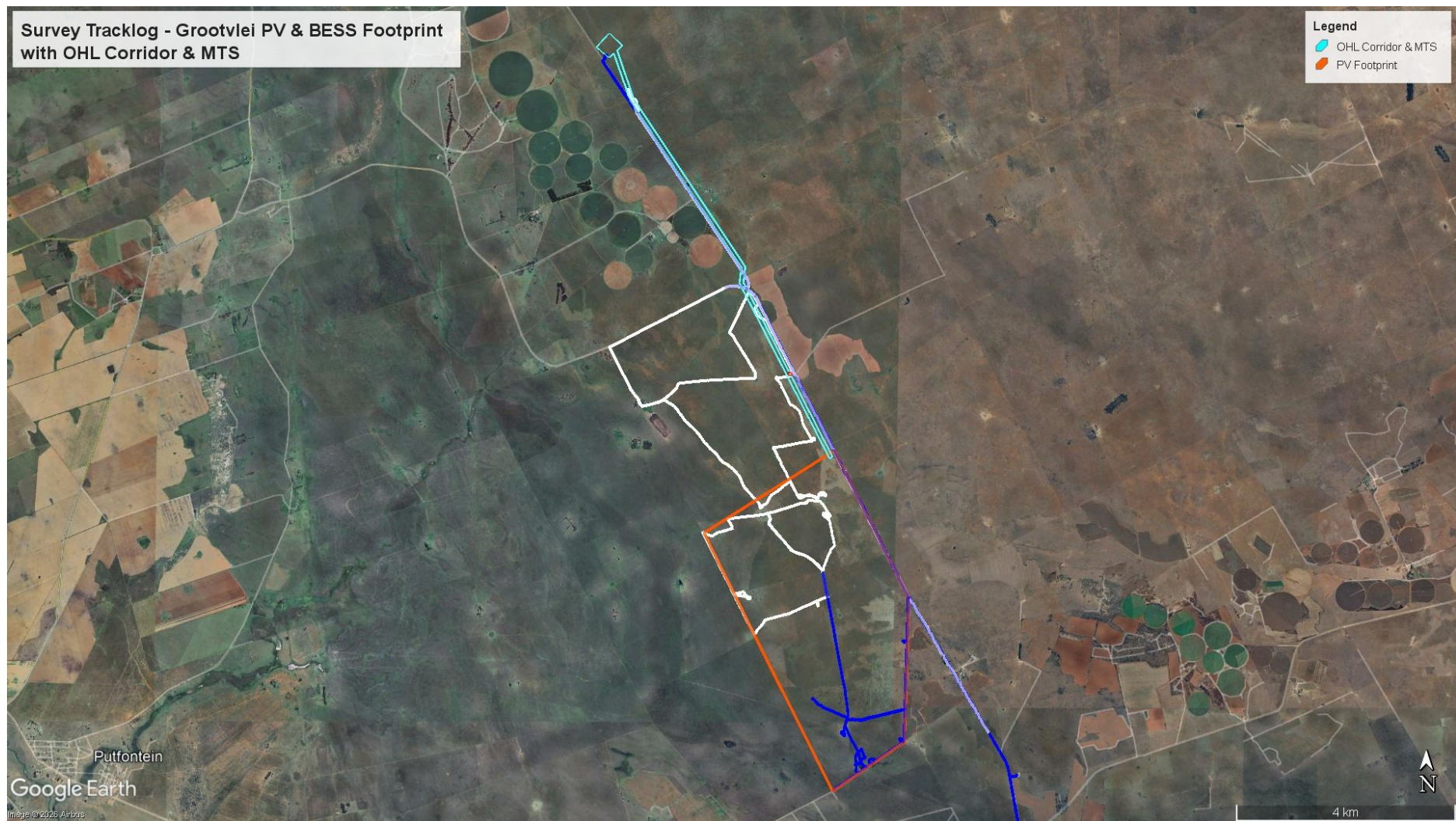


Figure 22: On-site Inspection Tracklog (blue line 2023 and white line 2026)

3.1.1 Status Quo/Baseline Receiving Environment photographs

3.1.1.1 Original PV footprint (southern area of current PV footprint)



Figure 23: View over the northeast section of the PV footprint area, showing the mainly grassland cover (April 2023)



Figure 24: View showing one of the many stone piles scattered over the PV footprint (April 2023)



Figure 25: View showing dolomite rock outcrop visible in the southeast section of the PV footprint (April 2023)



Figure 26: View of water hole located inside the southern boundary of the PV footprint (April 2023)



Figure 27: View of vlei/wetland around the waterhole in the southern section of the PV footprint (April 2023)



Figure 28: View of the grass cover and several rock piles in the central section of the PV footprint, looking east (April 2023)



Figure 29: View of the long and dense vegetation section around the northeast section of the PV footprint (April 2023)

3.1.1.2 Expanded area of PV footprint (northern area of current PV footprint)



Figure 30: View looking east over northern area of PV footprint (March 2026)



Figure 31: View of northeast area of PV footprint looking southwest (March 2026)



Figure 32: View of southern area of the PV footprint looking northwest (March 2026)



Figure 33: Close-up view of a rock clearing pile with a large pile in the background



Figure 34: View of the tree patch on the western area of the PV footprint with dense vegetation cover.



Figure 35: Closer view of the long and dense vegetation within the tree patch,



Figure 36: View looking southeast to the centre of the PV footprint area showing dolomite outcroppings



Figure 37: Quartzite outcropping on PV footprint area

3.1.1.3 Overhead Line Corridor and Main Transmission Station footprint



Figure 38: View looking south along the OHL corridor area (southern section)



Figure 39: View looking north along the OHL corridor area (southern section)



Figure 40: View of dolerite outcropping along the OHL corridor (southern section)



Figure 41: View of bluegum plantation along northern section of OHL corridor



Figure 42: View of northern OHL corridor, looking northeast (March 2026)



Figure 43: View of MTS area looking southeast, showing long dense grass (April 2023)



Figure 44: View of MTS area looking northeast, showing long dense grass and existing powerlines (April 2023)

4 CONCLUSION AND RECOMMENDATIONS

Based on the desktop study and site visit information, the environmental sensitivity indicated by the National Environmental Screening Tool of generally Low sensitivity for the Archaeological and Cultural Heritage Theme for the proposed Grootvlei PV & BESS project footprint is confirmed. However, a few heritage resources were identified during the site visit, including historical structures and a possible informal grave (two of which are considered of medium heritage sensitivity) (see **Figure 45** and **Figure 46**). Therefore, a Phase 1 Heritage Impact Assessment is required to be included in the S&EIR process in terms of section 38(8) of the National Heritage Resources Act (No 25 of 1999).

Note: only the Medium sensitivity buffer of 30 m is a no-go buffer (stone kraal and informal grave).

5 REFERENCES

- Birkholtz, PD. 2008. *Phase 1 Heritage Impact Assessment Proposed Etruscan Diamonds (Pty) Ltd Development Situated On The Remaining Extent Of The Farm Nooitgedacht 131 Ip, Zwartrand 145 Ip And Hartbeeslaagte 146 Ip, Magisterial District Of Ventersdorp, North West Province*
- Coetzee, T. 2020. *Phase 1 Archaeological Impact Assessment & Desktop Study for Rivanet Mining & Exploration on Several Portions of the Farms Wolvenfontein 74 IQ, Syferfontein 81 IQ, Modderfontein 187 IP, Roodepoort 191 IP, Oatlands 79 IQ, Uitkyk 184 IP, Palmietfontein 189 IP, Koppieskraal 500 IP, Makokskraal 203 IP, Sweethome 197 IP and Doornpan 193 IP near Ventersdorp, North West Province*

- Coetzee, F. 2022. *Cultural Heritage Impact Assessment: Phase 1 Investigation for the Proposed Construction of Several Layer, Rearing Houses and Broilers with Associated Activities and Supporting Infrastructure on Portion 2 of the Farm Rietfontein 210 IP, Portion 1 of the Farm Oatlands 79 IP and Portion 1 of the Farm Ventersdraai 183 IP, JB Marks Local Municipality, Dr Kenneth Kaunda District Municipality, North West Province*
- Dreyer, C. 2006. *A First Phase Archaeological and Cultural heritage Assessment of the Proposed developments at the Farms Bovenste Oog 68IQ (Mooi River), Digby Plain 63 IQ, Somerville 62 IQ, Preton Pans 59 IQ and Drylands 64 IQ, Ventersdorp, Gauteng*
- Mlilo, T. 2017. *Phase 1 Archaeological Impact Assessment for the proposed Section 102 EMP Amendment for Mivami Agri- Mining Pty Ltd to include the Remaining Extent of Kwaggaslaagte 121 IP into the Prospecting Right for Dunbar 119 IP, and portion 9 of Houtkop 152 IP, in Ditsobotla Local Municipality of Ngaka Modiri Molema District Municipality, North West Province*

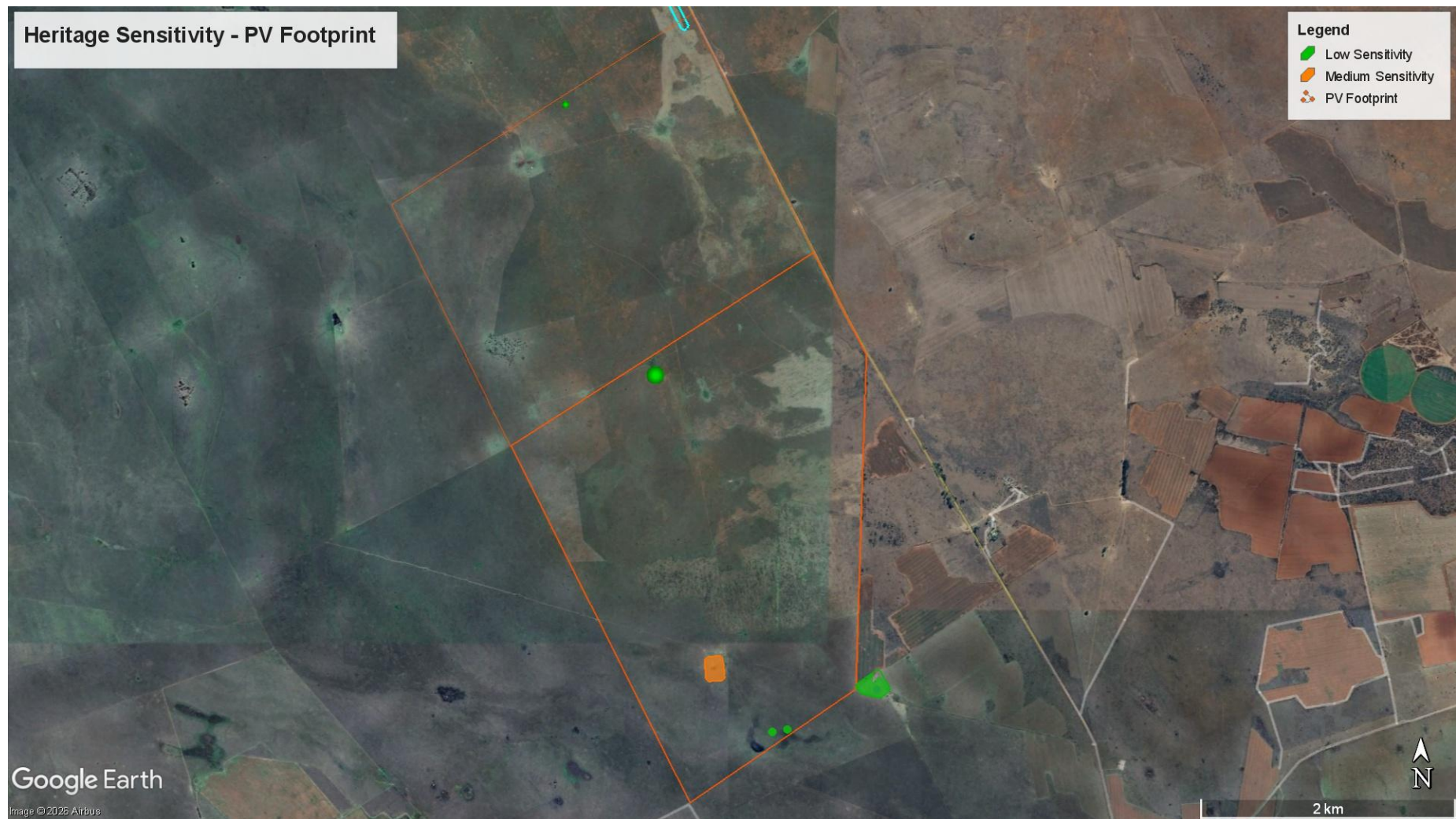


Figure 45: Grootvlei PV Footprint with Heritage Sensitivity buffers



Figure 46: Grootvlei OHL Corridor and MTS with sensitivity buffers

APPENDIX 1: CURRICULUM VITAE OF HERITAGE SPECIALIST

1 Personal Particulars

Profession:	Heritage Specialist
Date of Birth:	11 September 1966
Name of Firm:	Nitai Consulting
Name of Staff:	Jennifer Kitto
Nationality:	RSA
Membership of Professional Societies	Association of Southern African Professional Archaeologists (444); Association of Professional Heritage Practitioners (PHP0156); International Association for Impact Assessment South Africa (7151)

2 Education:

BA Hons Social Anthropology, WITS, South Africa, 1994

BA. Archaeology and Social Anthropology, WITS, South Africa, 1993

Higher National Diploma, Practical Archaeology, Dorset Institute for Higher Education (now Bournemouth University), UK, 1989

3 Employment Record:

2022 – Present Heritage Specialist, Nitai Consulting

Conduct Heritage Impact Assessments.

2012 – 2021 Heritage Specialist, PGS Heritage (Pty) Ltd

Conduct Heritage Impact Assessments

Compile Desktop Historical Research

Compile Heritage Audit and Management Plans

Compile and submit permit applications to National and Provincial Heritage Authorities for Section 34 building alterations and demolitions (under National Heritage Resources Act, 25 of 1999)

Compile and submit permit applications to Provincial and Municipal Health Authorities for Section 36 relocations of graves and burial grounds (under National Heritage Resources Act, 25 of 1999 and National Health Act, No 61 of 2003)

2008 – 2011 Cultural Heritage Officer (National), Burial Grounds and Graves Unit: South African Heritage Resources Agency (SAHRA)

Review and assess permit applications for relocation of historical graves and burial grounds.

1998 – 2008 Cultural Heritage Officer (Provincial), Provincial Office – Gauteng: SAHRA

Review and comment on heritage and archaeological impact reports.

Research for the nomination and grading process for related to the declaration of specific heritage resources as National Heritage Sites

Monitoring of certain archaeological and built environment National Heritage Sites (e.g. The Cradle of Humankind World Heritage Site)

4 Selected Consultancies

4.1 Karoo Geophysical Research Project: Seismic Surveys Within the Central Karoo District, Eastern Cape Province

2025, Undertake Heritage Impact Assessment of all heritage resources situated within or adjacent to the road reserves of the proposed survey routes

4.2 Karoo Geophysical Research Project: Seismic Surveys Within the Central Karoo District, Western Cape Province

2025, Undertake Heritage Impact Assessment of all heritage resources situated within or adjacent to the road reserves of the proposed survey routes

4.3 Rietspruit Pipeline Deviation, Emfuleni, Gauteng

2025, Undertake Heritage Impact Assessment of all heritage resources associated with the footprint of the proposed pipeline deviation

4.4 Postmasburg Hospital, Postmasburg, Northern Cape

2025, Undertake Heritage Impact Assessment of all heritage resources associated with the footprints for the proposed new hospital

4.5 Sulphonation Plant, Wadeville, Ekurhuleni, Gauteng

2025, Undertake Heritage Impact Assessment of all heritage resources associated with the footprints for the proposed new sulphonation plant

4.6 Varsputs and Brakputs Wind Energy Facility projects, Springbok, Northern Cape

2024, Undertake Heritage Impact Assessment of all heritage resources associated with the respective footprints for the two Wind Energy Facility projects and associated grid infrastructure

4.7 Lemenong and Boitekong BESS Projects, Rustenburg, North-West Province

2024, Undertake Heritage Impact Assessment of all heritage resources associated with the respective footprints for the two Battery Energy Storage System projects

4.8 Leratong Reservoirs, Johannesburg, Gauteng

2024, Undertake Heritage Impact Assessment of all heritage resources associated with the project footprints for the construction of two water reservoirs

4.9 Hartebeest Skuur WEF, Damara 1 & 2 SEFs, & associated infrastructure

2023/24 Undertake Heritage Impact Assessment of all heritage resources associated with the respective footprints for the two Wind Energy Facility projects and associated grid infrastructure

4.10 New Vessel Tracking System Tower, Port of Durban, KwaZulu Natal

2023/2024, Heritage Specialist, Undertake Heritage Impact Assessment of all heritage resources within or adjacent to the development footprint

4.11 Pensfontein Residential Development, Postmasburg, Northern Cape

2023/2024, Heritage Specialist, Undertake Heritage Impact Assessment of all heritage resources within or adjacent to the development footprint

4.12 Bhobhoyi Pipeline Upgrade, Port Shepstone, Kwa-Zulu Natal Province.

2023, Heritage Specialist, Pipeline Upgrade associated with proposed Umzimkhulu River Weir and Pumpstation Upgrade, Undertake Heritage Impact Assessment of all heritage resources along the proposed route and submit HIA Report to Amafa Institute.

4.13 Pilanesberg Platinum Mine Community Bulk Water Supply pipeline near Pilanesberg Nature Reserve, North West Province

2023, Heritage Specialist, Proposed development of Bulk Water Supply pipeline for local community; Undertake Heritage Impact Assessment of all heritage resources along the proposed route

4.14 400kV Transmission and 132kV distribution power lines for the Apollo-Lepini-Mesong Project, Gauteng Province, South Africa

2023, Heritage Specialist, Proposed development of a 400kV transmission and 132kV power lines; Undertake Heritage Impact Assessment of all heritage resources along the proposed routes for the two power lines.

4.15 Carbon Capture Utilisation & Storage (CCUS) Pilot Project - 3D Seismic Survey & Drilling, Leandra, Mpumalanga Province, South Africa

2023, Heritage Specialist. Proposed 3D Seismic Survey within the Leandra area, Undertake Heritage Impact Assessment of all heritage resources within the footprint of the survey area.

4.16 Carbon Capture Utilisation & Storage (CCUS) Pilot Project - Injection Site 2023, Leandra, Mpumalanga Province, South Africa

2023, Heritage Specialist. Proposed Injection Site 2023 for the CCUS pilot project within the Leandra area, Undertake Heritage Impact Assessment of all heritage resources within the footprint of the survey area.

4.17 Decommissioning of Komati Power Station, Middelburg, Mpumalanga, South Africa

2023, Heritage Specialist, in association with architectural historian; Proposed Decommissioning of the Komati Power Station, Undertake Heritage Impact Assessment of all heritage structures within the power station

4.18 Paulputs Strengthening Powerline Route, Postmasburg-Paulputs, Northern Cape

2023, Heritage Specialist, Proposed development of a 400kV transmission lines; Undertake Heritage Impact Assessment of all heritage resources along the proposed route

4.19 Mooivlei Solar PV Facilities, near Kroonstad, Free State Province, South Africa

2022/2023 Heritage Specialist, proposed development of three Solar PV facilities west of Kroonstad, Undertake Heritage Impact Assessment of all heritage resources associated with the three Solar PV facilities:

- Mooivlei Solar 1 PV facility, west of Kroonstad

- Mooivlei Solar 2 PV facility, west of Kroonstad
- Mooivlei Solar 2 PV facility, west of Kroonstad

4.20 Kroonstad South Solar PV Facilities near Kroonstad, Free State Province, South Africa

2022/2023 Heritage Specialist, Development of five Solar PV facilities south of Kroonstad, Undertake Heritage Impact Assessment of all heritage resources associated with the five solar PV facilities:

- Oslaagte Solar 1 PV project, south of Kroonstad
- Oslaagte Solar 2 PV project, south of Kroonstad
- Oslaagte Solar 3 480MW PV facility south of Kroonstad
- Leeuwspruit Solar 1 320MW PV facility south of Kroonstad
- Leeuwspruit Solar 2 PV facility south of Kroonstad

4.22 Rustenburg Solar PV Facilities, North West Province, South Africa

2022/2023 Heritage Specialist, Development of three Solar PV facilities near Rustenburg, , Undertake Heritage Impact Assessment of all heritage resources associated with the three solar PV facilities.

- Onderstepoort Solar 1 PV facility, near Rustenburg
- Onderstepoort Solar 2 PV facility, near Rustenburg
- Rhino Solar PV facility, near Rustenburg

4.23 Seelo Solar PV Facilities, near Carletonville, North West Province, South Africa,

2022/2023 Heritage Specialist, Development of three Solar PV facilities near Carletonville, Undertake Heritage Impact Assessment of all heritage resources associated with the three solar PV facilities.

- Seelo Alpha 240MW Solar PV & BESS facility, near Carletonville
- Seelo Beta 240MW Solar PV & BESS facility, near Carletonville
- Seelo Charlie Solar PV & BESS facility, near Carletonville

4.24 Ferrum-Upington Powerline Route, Upington-Kathu, Northern Cape

2022/2023 Heritage Specialist, Proposed Deviations to Authorised Route of a 400kV transmission power line between Upington and Kathu, Undertake Heritage Impact Assessment for of all heritage resources along the proposed route

5 Languages:

English - excellent speaking, reading, and writing

Afrikaans –fair speaking, reading and writing