

# Generic EMP: Appendix 1 - Substations

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## PART B: SECTION 2

### 7. SITE SPECIFIC INFORMATION AND DECLARATION

#### 7.1 Sub-section 1: Contact details and description of the project

##### 7.1.1 Details of the applicant

<b>Applicant name</b>	Vlakfontein Solar PV1 (Pty) Ltd
<b>Contact person</b>	Mr Warren Morse
<b>Physical address</b>	Top Floor Golf Park 4, Raapenberg Rd, Mowbray, 7700
<b>Postal address</b>	PO Box 548, Howard Place, Western Cape, 7450
<b>Email</b>	warren@mulilo.com
<b>Telephone</b>	021 685 3240 / 083 760 9586

##### 7.1.2 Details and expertise of the EAP

<b>EAP Name</b>	Annelize Erasmus
<b>EAP qualifications</b>	<ul style="list-style-type: none"><li>• BL (Landscape Architecture) Degree – University of Pretoria, 1988</li><li>• “Integrated Environmental Management – Theory and Practice”; University of Cape Town, 1992</li><li>• Assessor of EAP Applications for registration with EAPASA (since 1 February 2020)</li><li>• Various workshops and webinars in the environmental consultancy field</li></ul>
<b>Professional affiliation/ registration</b>	<ul style="list-style-type: none"><li>• EAPASA Registered: Annelize Erasmus (Grobler): 2019/1728</li><li>• Member of the IAIASA</li></ul>
<b>Physical address</b>	91 Wenning Street, Groenkloof, Pretoria, 0181
<b>Postal address</b>	PO Box 947, Groenkloof, Pretoria, 0027
<b>Email</b>	<a href="mailto:info@landscapedynamics.co.za">info@landscapedynamics.co.za</a> / <a href="mailto:annelize@landscapedynamics.co.za">annelize@landscapedynamics.co.za</a>
<b>Telephone</b>	082 566 4530 / 012 460 6043
<b>Curriculum Vitae</b>	The Landscape Dynamics Company Profile and condensed CV of the EAPS are attached hereto

### 7.1.3 Project name

Vlakfontein Solar PV1

### 7.1.4 Description of the project

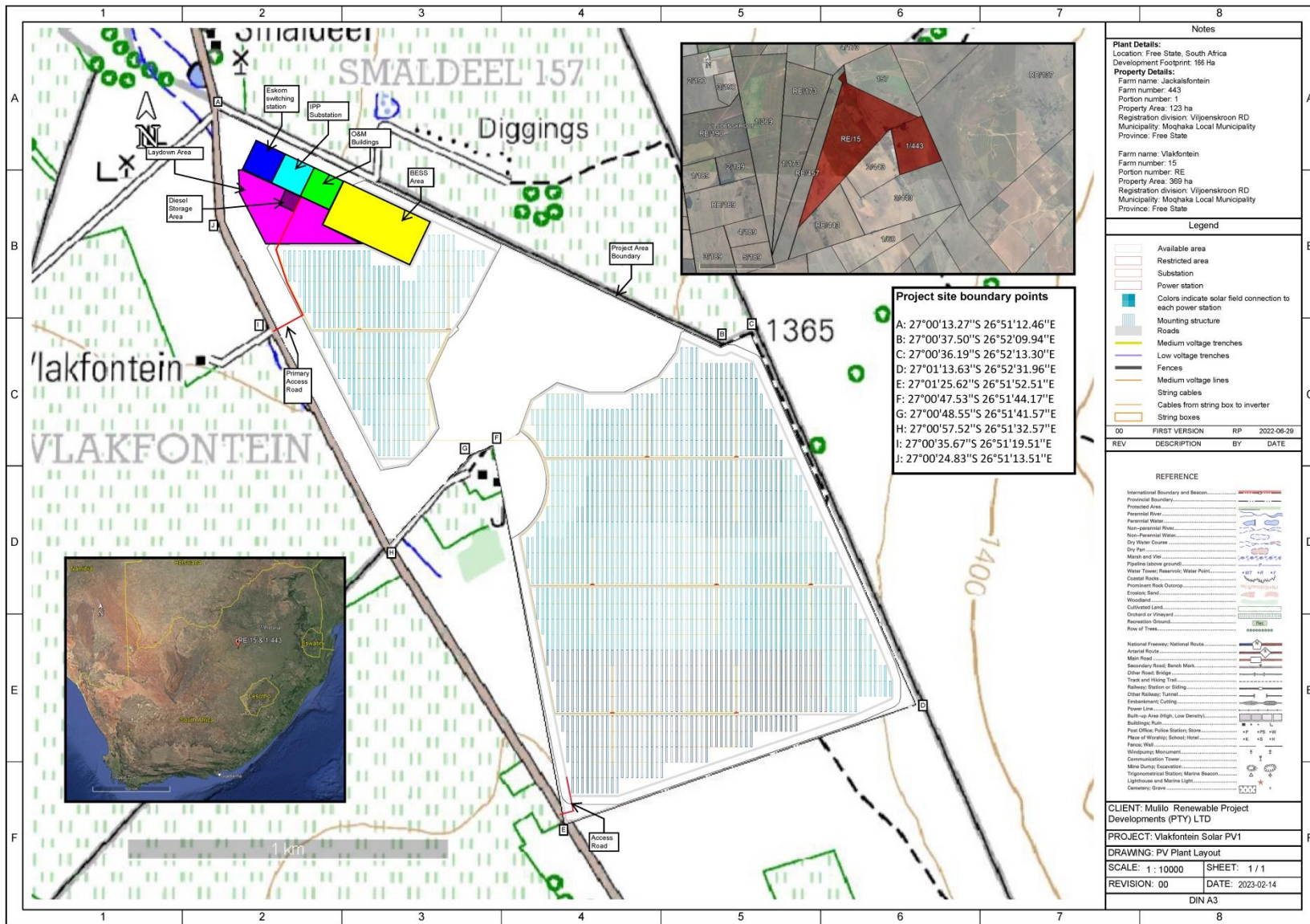
The Vlakfontein Solar PV1 facility will have a contracted capacity of up to 100MW with a total development footprint of approximately 151 hectares in size.

Infrastructure associated with the Vlakfontein Solar PV1 Facility will include the following (relevant to this document is the Onsite 132kV IPP Substation marked in blue below):

Infrastructure	Specifications
Solar PV Array	<p>The Solar PV Array includes the following components:</p> <ul style="list-style-type: none"> <li>• Bifacial PV Modules</li> <li>• Mounting structures using single axis tracking technology</li> <li>• Inverters</li> <li>• Transformers</li> <li>• Cabling between panels</li> <li>• Total PV area is approximately 151 ha.</li> </ul>
Onsite 132 kV Independent Power Producer (IPP) Substation	<p>The IPP Substation includes the following components:</p> <ul style="list-style-type: none"> <li>• HV Step-up transformer</li> <li>• MV Interconnection building</li> <li>• Total area approximately 100 m x 100 m (1 ha)</li> </ul>
Access and internal roads	<ul style="list-style-type: none"> <li>• Main access to the IPP substation area is required directly off Vermaasdrift Road (S643), approximately 8m wide. The length of the road is approximately 498 m. The coordinates of the access point are: 27° 0'36.07"S 26°51'19.21"E</li> <li>• Existing internal farm roads to be utilised where possible,</li> <li>• Internal roads to be constructed up to 6m wide.</li> <li>• Regraveling of roads to take place if required by the provincial roads authority.</li> </ul>
Laydown area	<ul style="list-style-type: none"> <li>• A temporary construction site area of approximately 4ha directly adjacent to the IPP and Eskom substation will be required.</li> <li>• Temporary infrastructure will be rehabilitated following the completion of the construction phase, where it is not required for the operation phase.</li> </ul>
Battery Energy Storage System (BESS)	<ul style="list-style-type: none"> <li>• Solid State Batteries (SSB) is the preferred battery technology</li> <li>• It will be constructed on approximately 4.5 ha.</li> </ul>
Storage of Dangerous Goods	<ul style="list-style-type: none"> <li>• Storage of dangerous goods (Including lubrications, oils, paints, fuel/diesel, etc.) with a combined capacity not exceeding 80 cubic metres is required.</li> <li>• Diesel/fuel is generally required for the following purposes: <ul style="list-style-type: none"> <li>▪ During construction for construction vehicles as well as generators for the construction camp and commissioning whilst waiting for the Eskom grid connection works to be completed</li> <li>▪ During operations, diesel is required for vehicles at the PV plant as well as for backup diesel generators at the substation. The Generators supply auxiliary power to the substation's protection and communications systems, should there be outages on the grid. This</li> </ul> </li> </ul>

	is an Eskom requirement together with a battery room at the substations to act as UPS for these critical systems.
Ancillary facilities	<ul style="list-style-type: none"> <li>• Operations and Maintenance Building</li> <li>• Site Offices</li> <li>• Construction camps</li> <li>• Storage Warehouse</li> <li>• Workshop</li> <li>• Guard House</li> <li>• Ablutions with conservancy tanks</li> <li>• During the construction phase, temporary sanitation facilities will be provided (i.e. chemical toilets) and these toilets will be regularly serviced by a licensed company.</li> </ul>

Refer to the Site Layout of the Vlakfontein Solar PV1 provided on the following page. The position of the IPP substation is indicated in light blue.



### 7.1.5 Project location

The development site is situated north of the R76 close to the town of Viljoenskroon in the Free State Province. It falls within the jurisdiction of the Moqhaka Local Municipality (MLM) in the Fezile Dabi District Municipality.

The project is situated on the following two properties:

- Remainder of Vlakfontein No 15
- Portion 1 of Jackalsfontein No 443

The 21 digit codes are as follows:

Major region				Minor region				Farm / Erf number							Portion number					
F	0	3	6	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0
F	0	3	6	0	0	0	0	0	0	0	0	0	4	4	3	0	0	0	0	1

The coordinates of the IPP Substation are as follows:

<b>Northern point</b>	27°00'17.85"S and 26°51'20.64"E
<b>Eastern point</b>	27°00'19.22"S and 26°51'23.85"E
<b>Southern point</b>	27°00'22.16"S and 26°51'22.34"E
<b>Western point</b>	27°00'20.86"S and 26°51'19.11"E

### 7.2 Sub-section 2: Development footprint site map

This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity map must be prepared from the national web based environmental screening tool, when available for compulsory use at: <https://screening.environment.gov.za/screeningtool>. The sensitivity map shall identify the nature of each sensitive feature e.g. threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features within 50m from the development footprint.

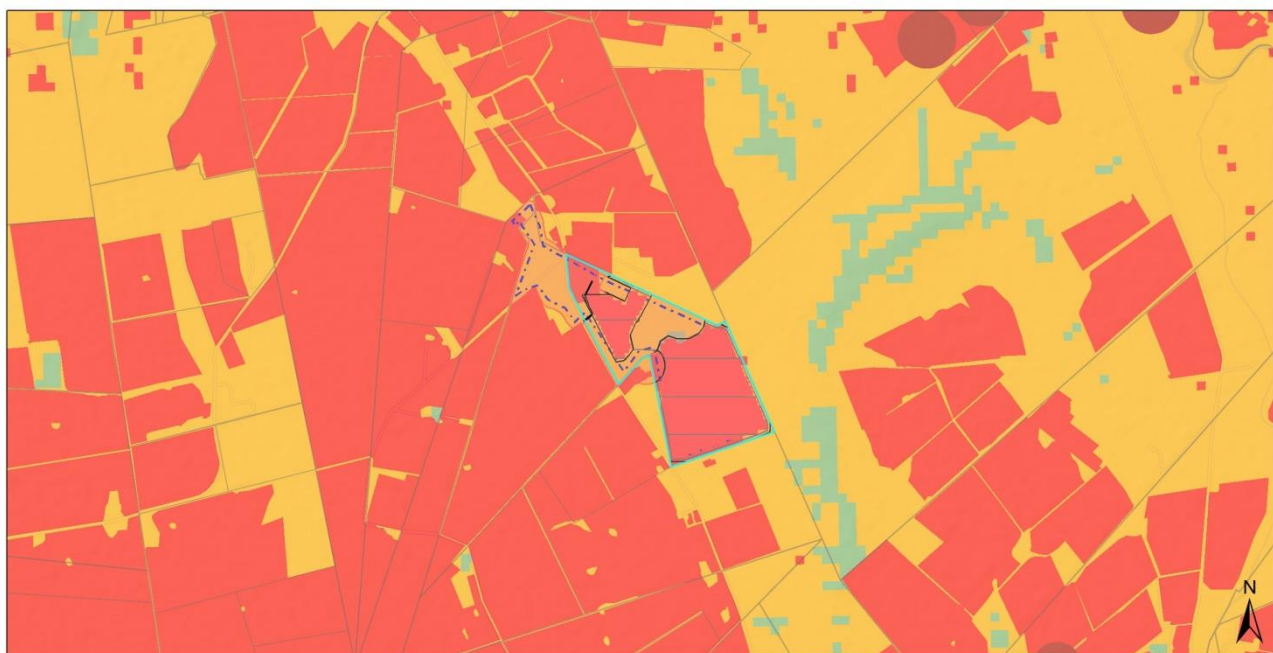
Key results from the Screening Tool Report are as follows:

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			
Palaeontology Theme			X	
Plant Species Theme			X	
RFI Theme				X
Terrestrial Biodiversity Theme	X			

The Screening Tool maps provided on the following pages were compiled on 12 October 2022.



### Agricultural Sensitivities



12 October 2022

**Legend**  
 kmi-Vlakfontein Solar PV1.kmz-06758185057964823  
 sn\_ylw-pushpin  
 Line\_CIVIL Roads\_width6.06  
 Line\_CIVIL Fence\_width1.09  
 kmi-Vlakfontein Solar PV1.kmz-04986783981756384

**Site Area**  
 EIA Application Development Footprint  
 EIA Application Site  
 National Jurisdiction Area

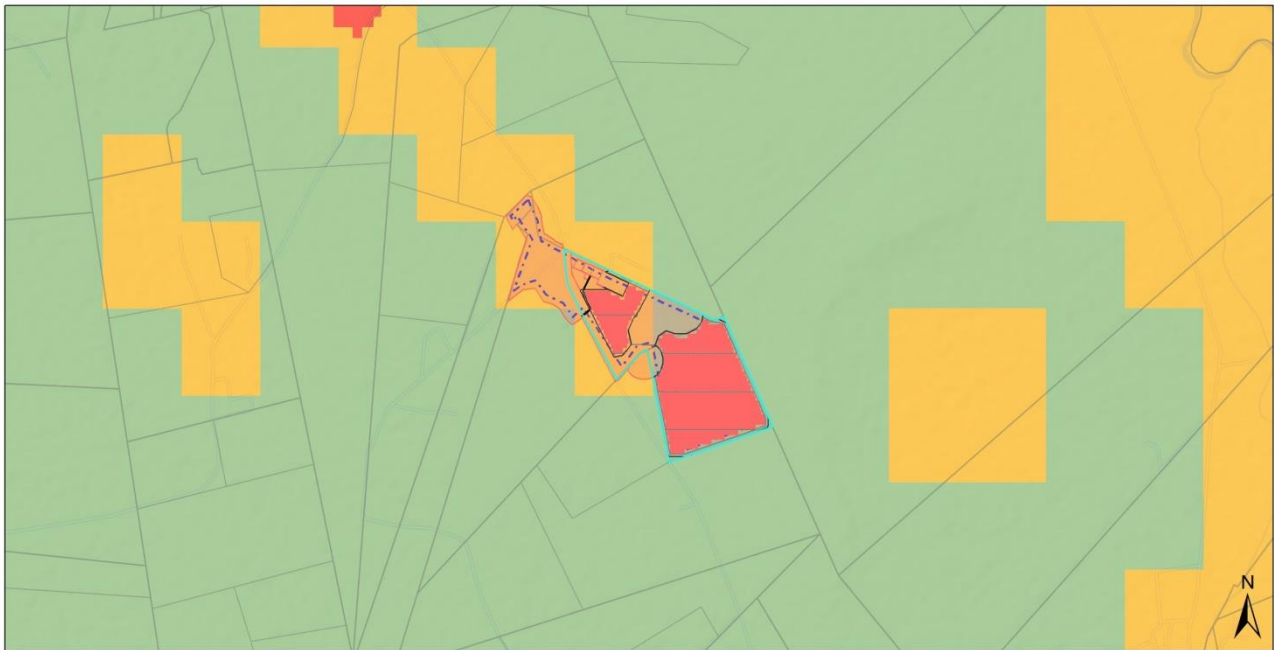
**Cadastral**  
 Erven  
 Farm Portion  
 Farm  
 Agri Holding

**Public Place**  
 Agriculture Combined Sensitivity  
 Very High  
 High  
 Medium  
 Low

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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## Animal Species Sensitivities



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**Legend**

- kmi-Vlakfontein Solar PV1.kmz-06758185057964823
- sn\_ylw-pushpin
  - Line\_CIVIL Roads\_width6.06
  - Line\_CIVIL Fence\_width1.09
  - kmi-Vlakfontein Solar PV1.kmz-04986783981756384
  - Site Area

- EIA Application Development Footprint
  - EIA Application Site
  - National Jurisdiction Area
- Cadastral**
- Erven
  - Farm Portion

- Farm
  - Agri Holding
  - Public Place
- Animal Species Combined Sensitivity**
- Very High
  - High

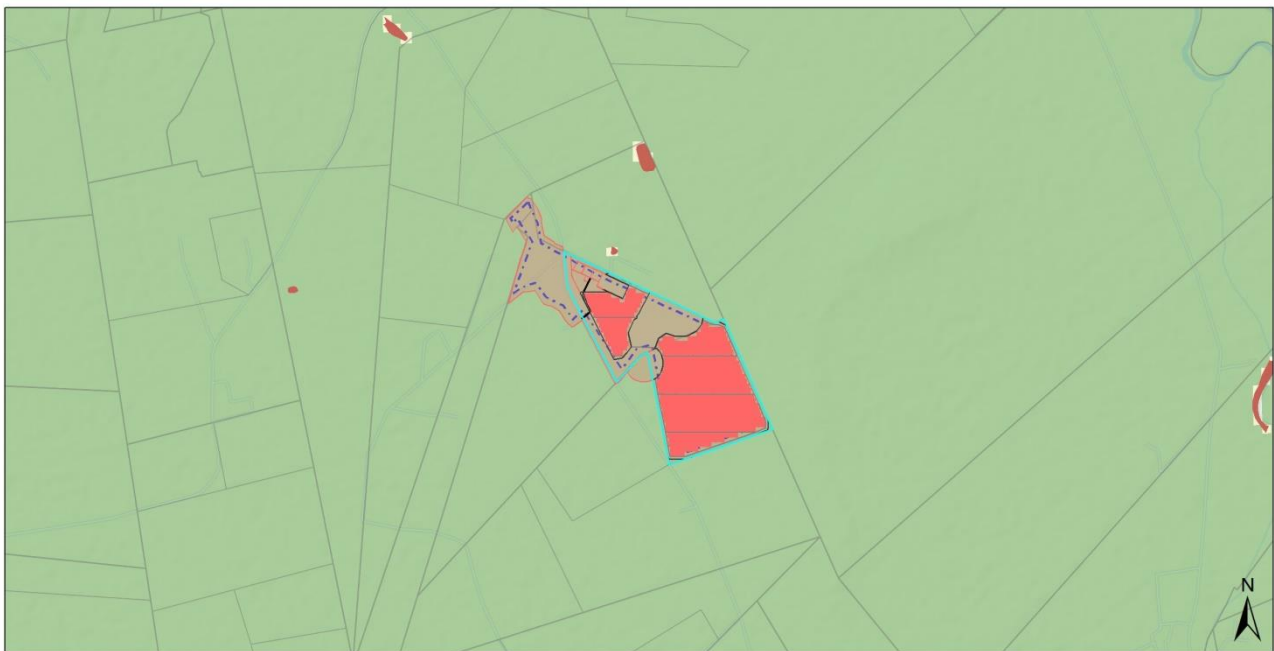
- Medium
- Low



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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## Aquatic Sensitivities



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**Legend**

- kmi-Vlakfontein Solar PV1.kmz-06758185057964823
- sn\_ylw-pushpin
  - Line\_CIVIL Roads\_width6.06
  - Line\_CIVIL Fence\_width1.09
  - kmi-Vlakfontein Solar PV1.kmz-04986783981756384
  - Site Area

- EIA Application Development Footprint
  - EIA Application Site
  - National Jurisdiction Area
- Cadastral**
- Erven
  - Farm Portion
  - Farm
  - Agri Holding

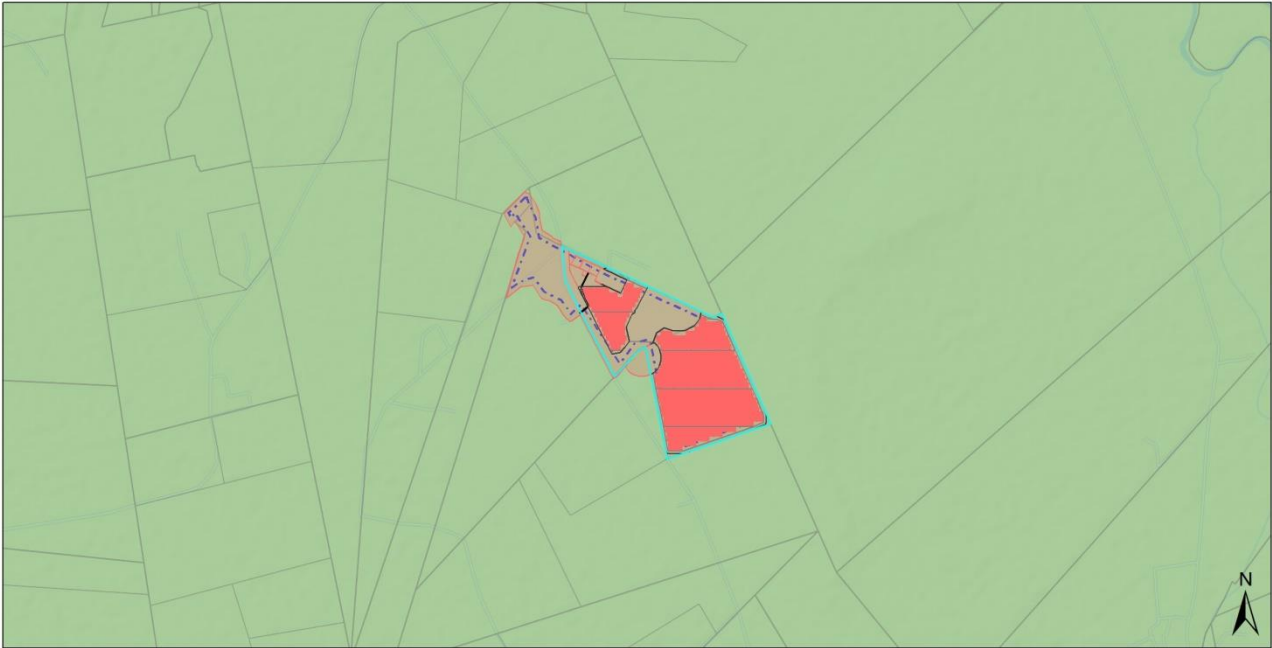
- Farm
  - Public Place
- Aquatic Biodiversity Combined Sensitivity**
- Very High
  - Low

- Medium
- Low



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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**Legend**

- kml-Vlakfontein Solar PV1.kmz-06758185057964823
- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlakfontein Solar PV1.kmz-04986783981756384

- Site Area
- EIA Application Development Footprint
- EIA Application Site
- National Jurisdiction Area

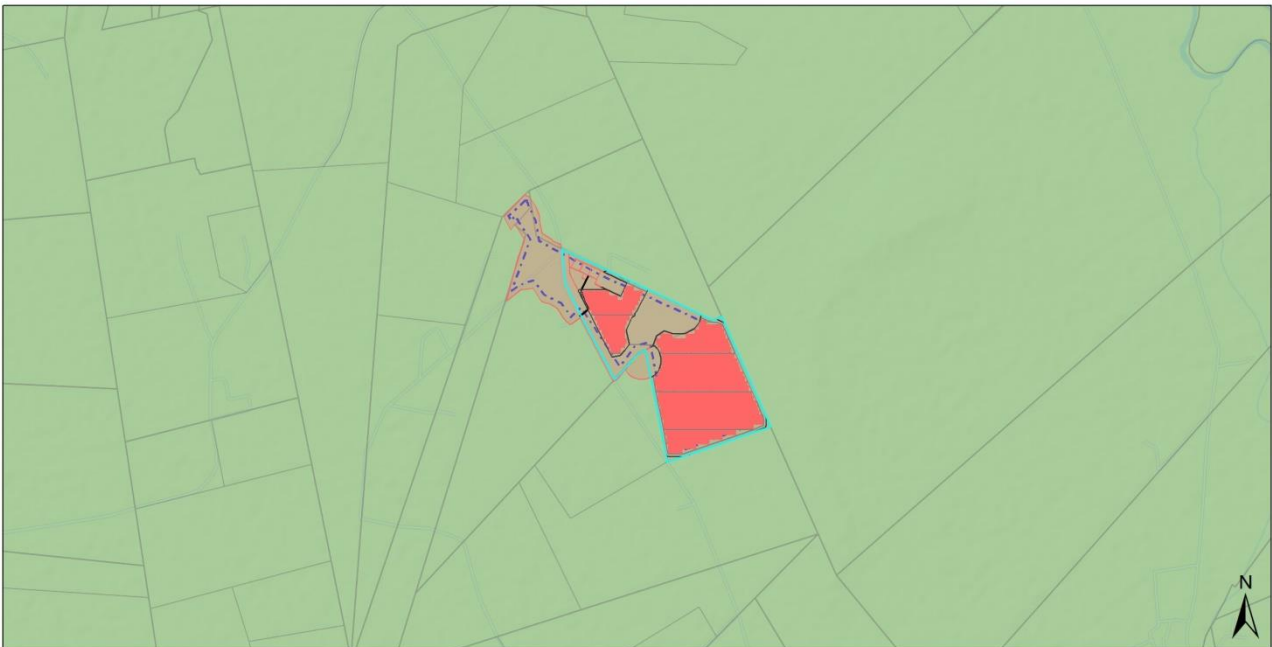
- Cadastral**
- Erven
  - Farm Portion
  - Farm
  - Agri Holding

**Public Place**

- Archaeological and Cultural Heritage Combined Sensitivity**
- Very High
  - High
  - Low

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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**Legend**

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- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlakfontein Solar PV1.kmz-04986783981756384

- Site Area
- EIA Application Development Footprint
- EIA Application Site
- National Jurisdiction Area

- Cadastral**
- Erven
  - Farm Portion
  - Farm
  - Agri Holding

**Public Place**

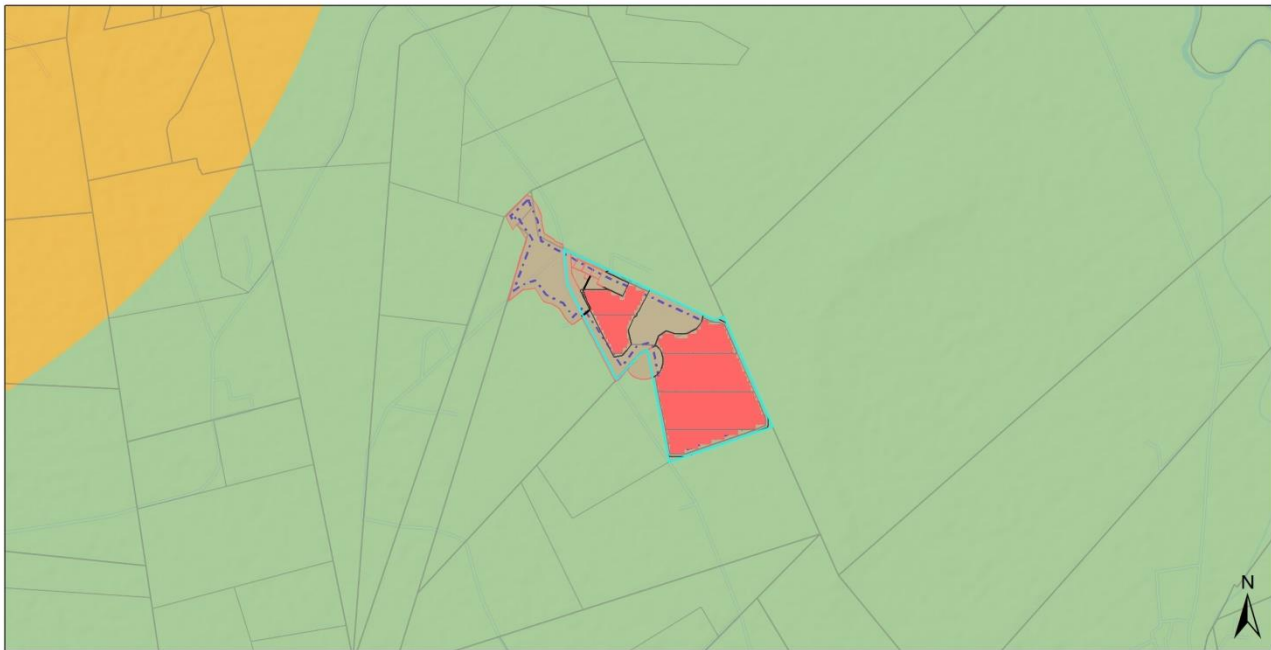
- Avian Combined Sensitivity**
- Very High
  - High
  - Medium
  - Low

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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## Civil Aviation Sensitivities



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### Legend

kml-Vlakfontein Solar PV1.kmz-06758185057964823

- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlakfontein Solar PV1.kmz-04986783981756384

### Site Area

- EIA Application Development Footprint
- EIA Application Site
- ⋯ National Jurisdiction Area

### Cadastral

- Erven
- Farm Portion
- Farm
- Agri Holding

### Public Place

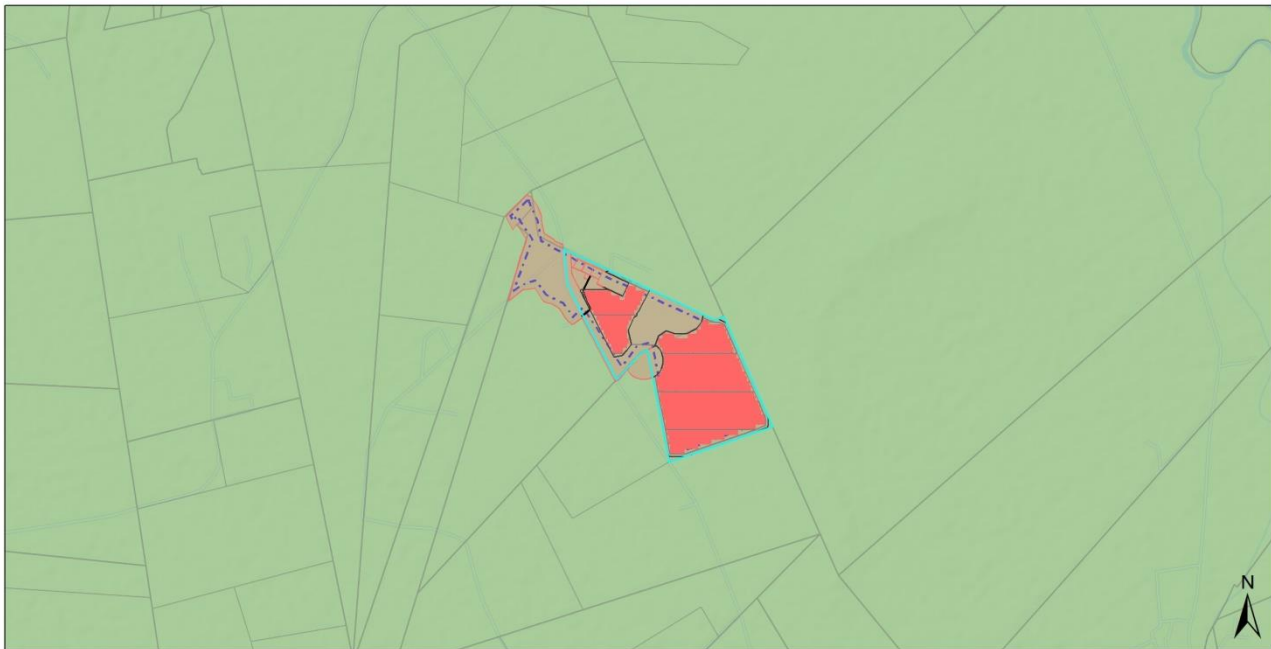
- Civil Aviation (Solar PV) Combined Sensitivity
- Medium
- Low

0 1.75 3.5 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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## Defence Sensitivities



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### Legend

kml-Vlakfontein Solar PV1.kmz-06758185057964823

- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlakfontein Solar PV1.kmz-04986783981756384

### Site Area

- EIA Application Development Footprint
- EIA Application Site
- ⋯ National Jurisdiction Area

### Cadastral

- Erven
- Farm Portion
- Farm
- Agri Holding

### Public Place

- Defence Combined Sensitivity
- Very High
- Medium
- Low

0 1.75 3.5 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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## Paleontological Sensitivities



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**Legend**  
 kml-Vlakfontein Solar PV1.kmz-06758185057964823

- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width8.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlakfontein Solar PV1.kmz-04986783981756384

Site Area

- EIA Application Development Footprint
- EIA Application Site
- ⋯ National Jurisdiction Area

Cadastral

- Erven
- Farm Portion
- Farm
- Agri Holding

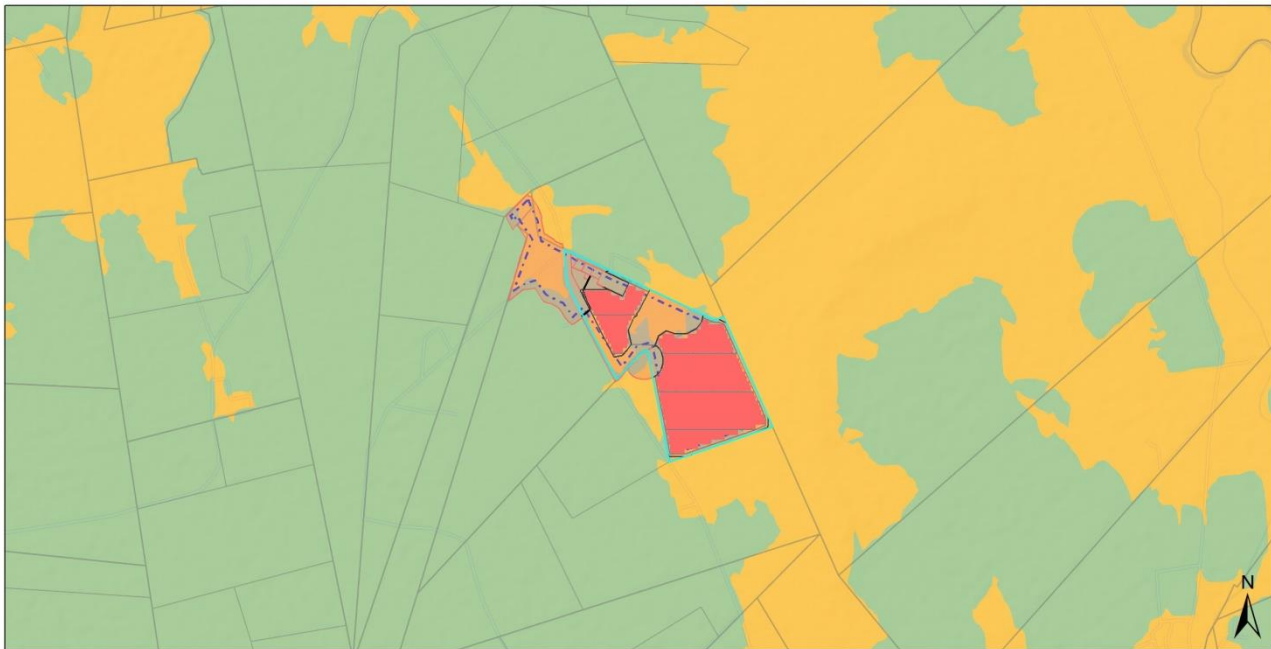
Public Place

- Paleontology Combined Sensitivity
- Very High
- High
- Medium

Low

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## Plant Species Sensitivities



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**Legend**  
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- sn\_ylw-pushpin
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Site Area

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- EIA Application Site
- ⋯ National Jurisdiction Area

Cadastral

- Erven
- Farm Portion
- Farm
- Agri Holding

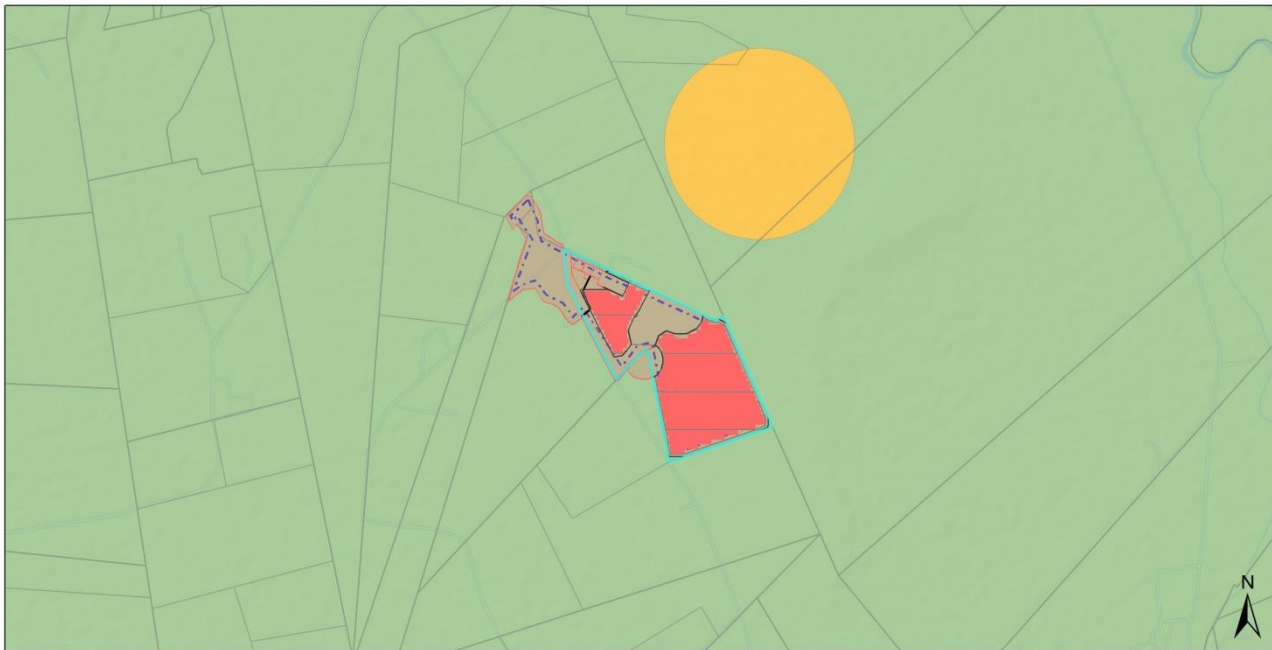
Public Place

- Plant Species Combined Sensitivity
- Very High
- High
- Medium

Low

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## RFI Sensitivities



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**Legend**

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- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlakfontein Solar PV1.kmz-04986783981756384

■ Site Area

□ EIA Application Development Footprint

■ EIA Application Site

□ National Jurisdiction Area

**Cadastral**

□ Erven

□ Farm Portion

□ Farm

□ Agri Holding

□ Public Place

**RFI Combined Sensitivity**

■ Very High

■ High

■ Medium

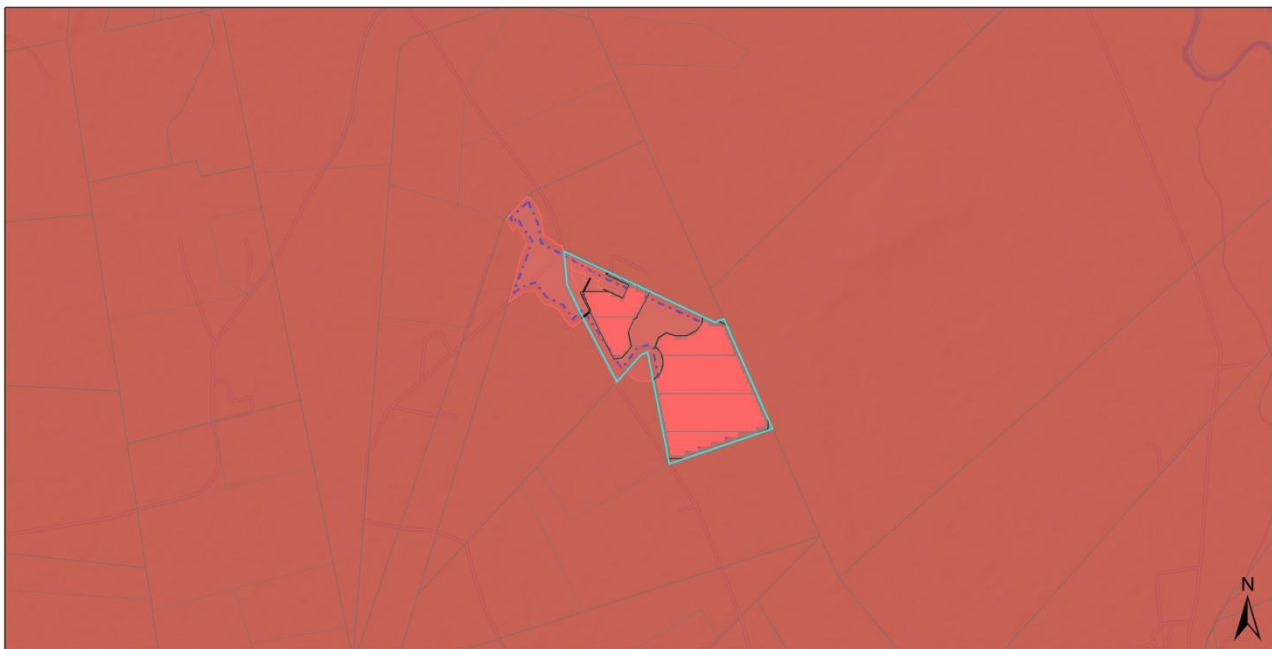
≡ Low

0 1.75 3.5 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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## Terrestrial Biodiversity Sensitivities



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**Legend**

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- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlakfontein Solar PV1.kmz-04986783981756384

■ Site Area

□ EIA Application Development Footprint

■ EIA Application Site

□ National Jurisdiction Area

**Cadastral**

□ Erven

□ Farm Portion

□ Farm

□ Agri Holding

□ Public Place

**Terrestrial Biodiversity Combined Sensitivity**

■ Very High

■ High

■ Medium

≡ Low

0 1.75 3.5 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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### 7.3 Sub-section 3: Declaration

The proponent/applicant or holder of the EA affirms that he/she will abide and comply with the prescribed impact management outcomes and impact management actions as stipulated in part B: section 1 of the generic EMPr and have the understanding that the impact management outcomes and impact management actions are legally binding. The proponent/applicant or holder of the EA affirms that he/she will provide written notice to the CA 14 day prior to the date on which the activity will commence of commencement of construction to facilitate compliance inspections.



\_\_\_\_\_  
Signature Proponent/applicant/ holder of EA

16 March 2023

Date