

Figure 1: Site layout map

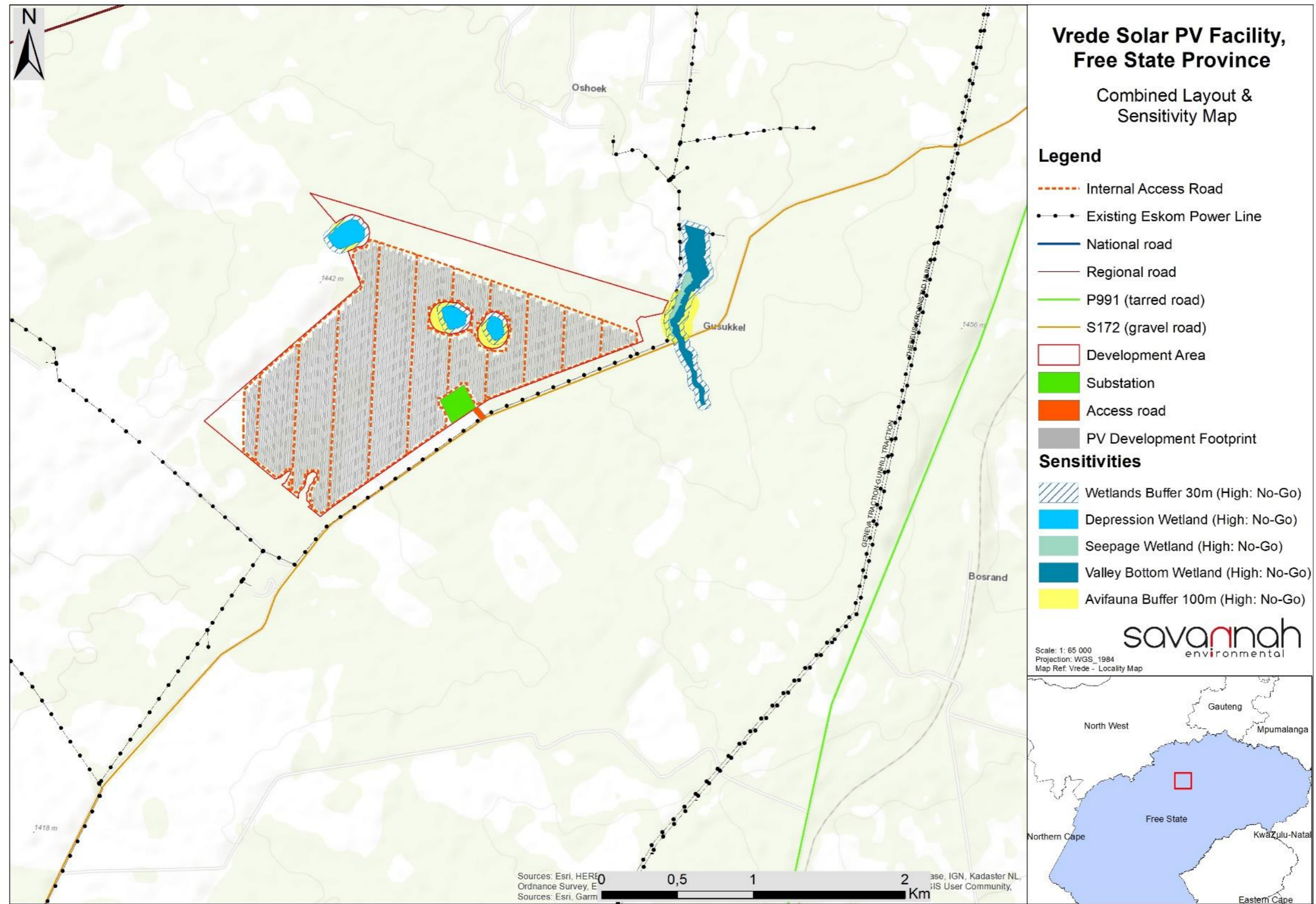


Figure 2: Environmental sensitivity map overlain with the layout of the proposed Vrede Solar PV Facility.

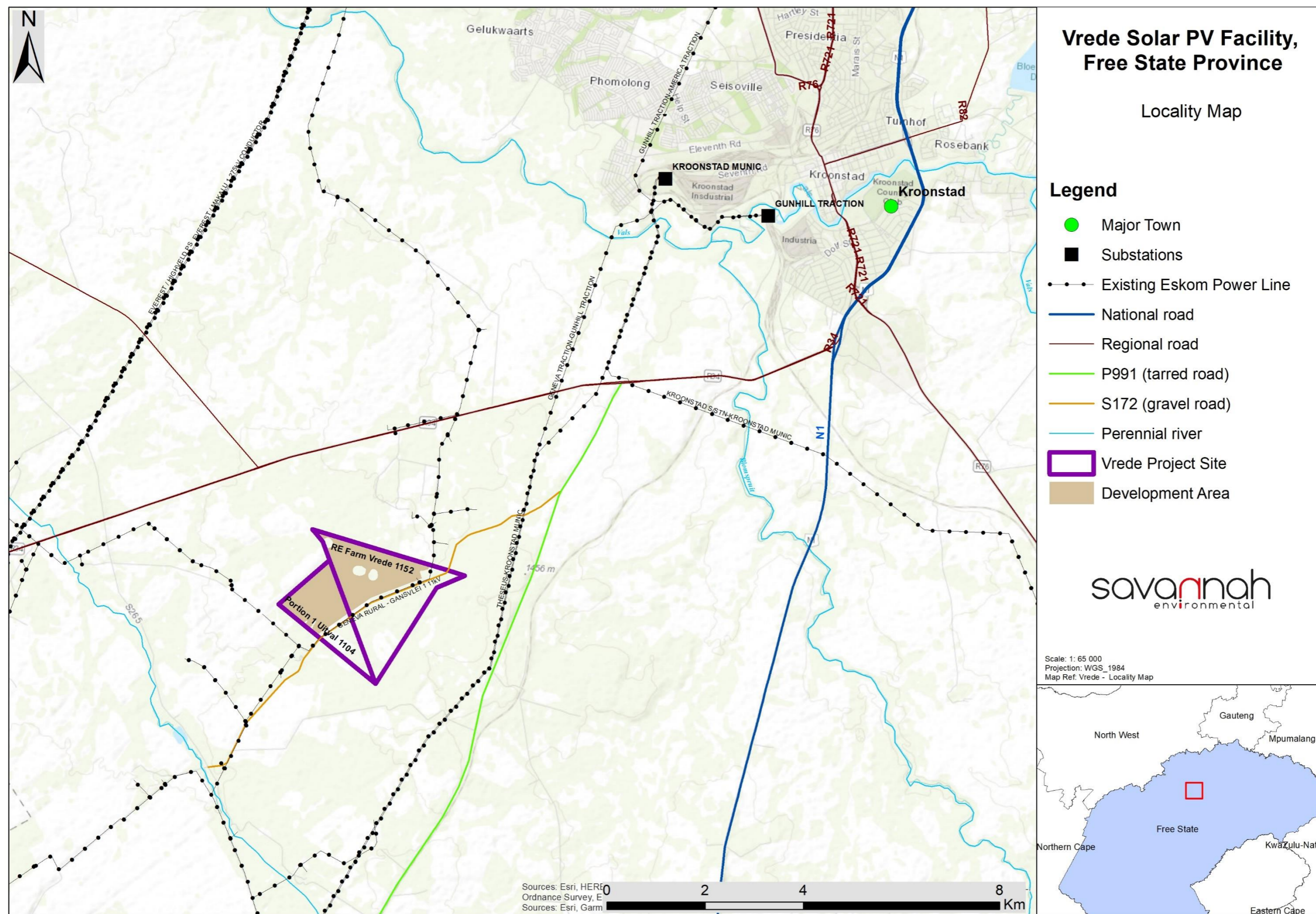


Figure 1.1: Locality map illustrating the location of the Vrede Solar Energy Facility project site on the Remaining extent of the farm Vrede No.1152, and Portion 1 of the Farm Uitval No. 1104

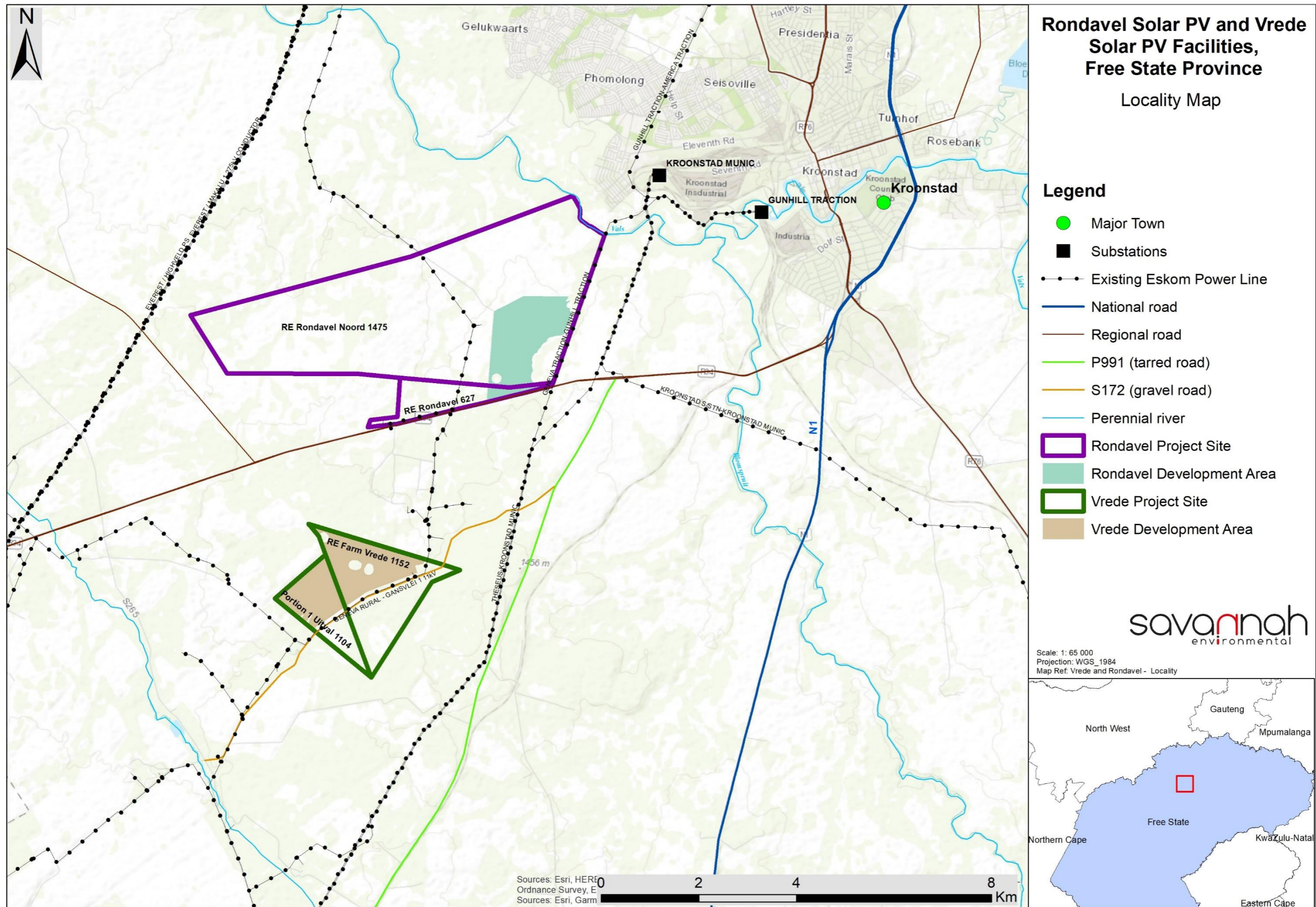


Figure 1.2: Locality map illustrating the locations of the planned Rondavel Solar PV Facility development area in relation to that of the Vrede Solar PV facility

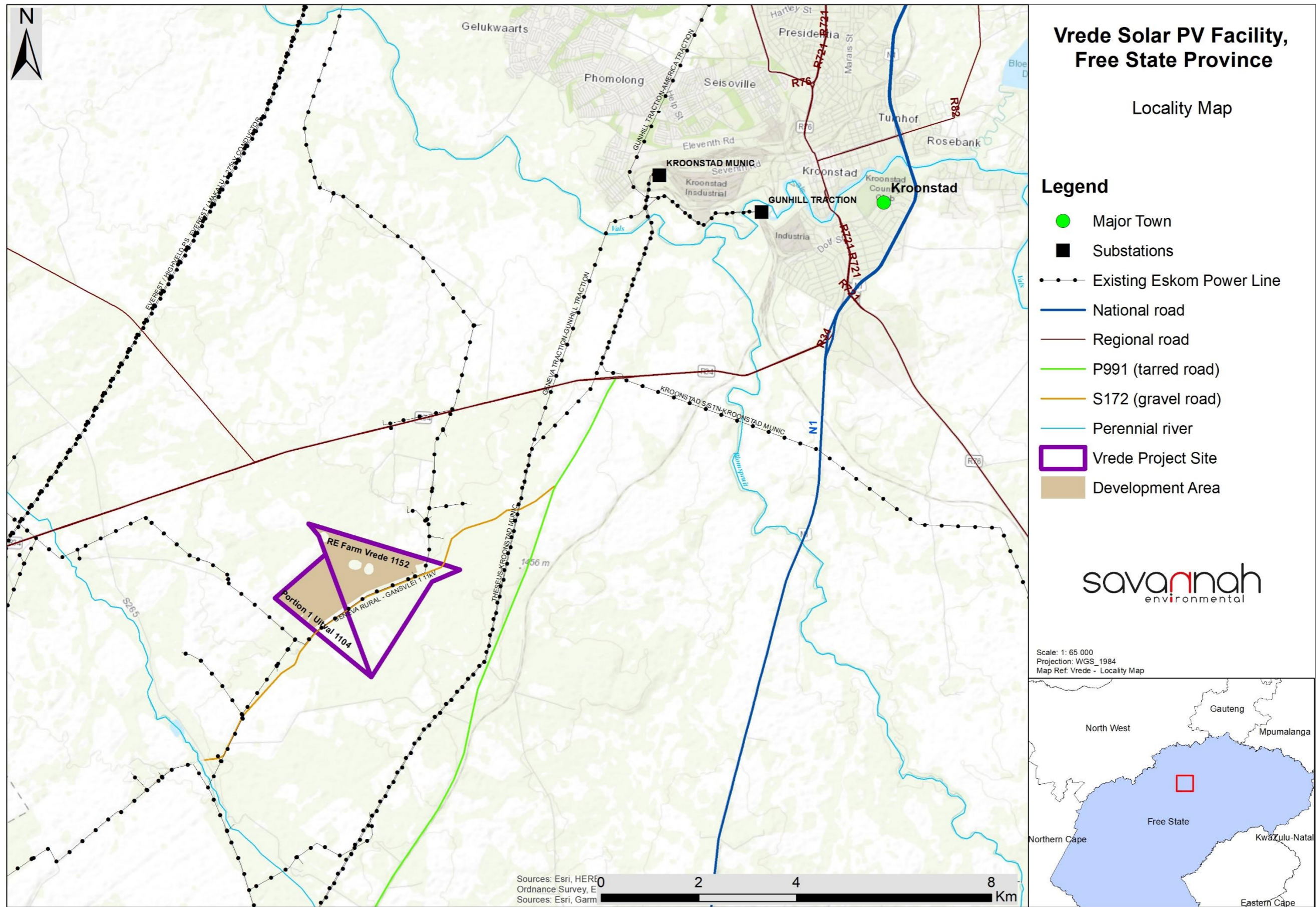


Figure 2.1: Map illustrating the development area within the project site for the Vrede Solar PV project.

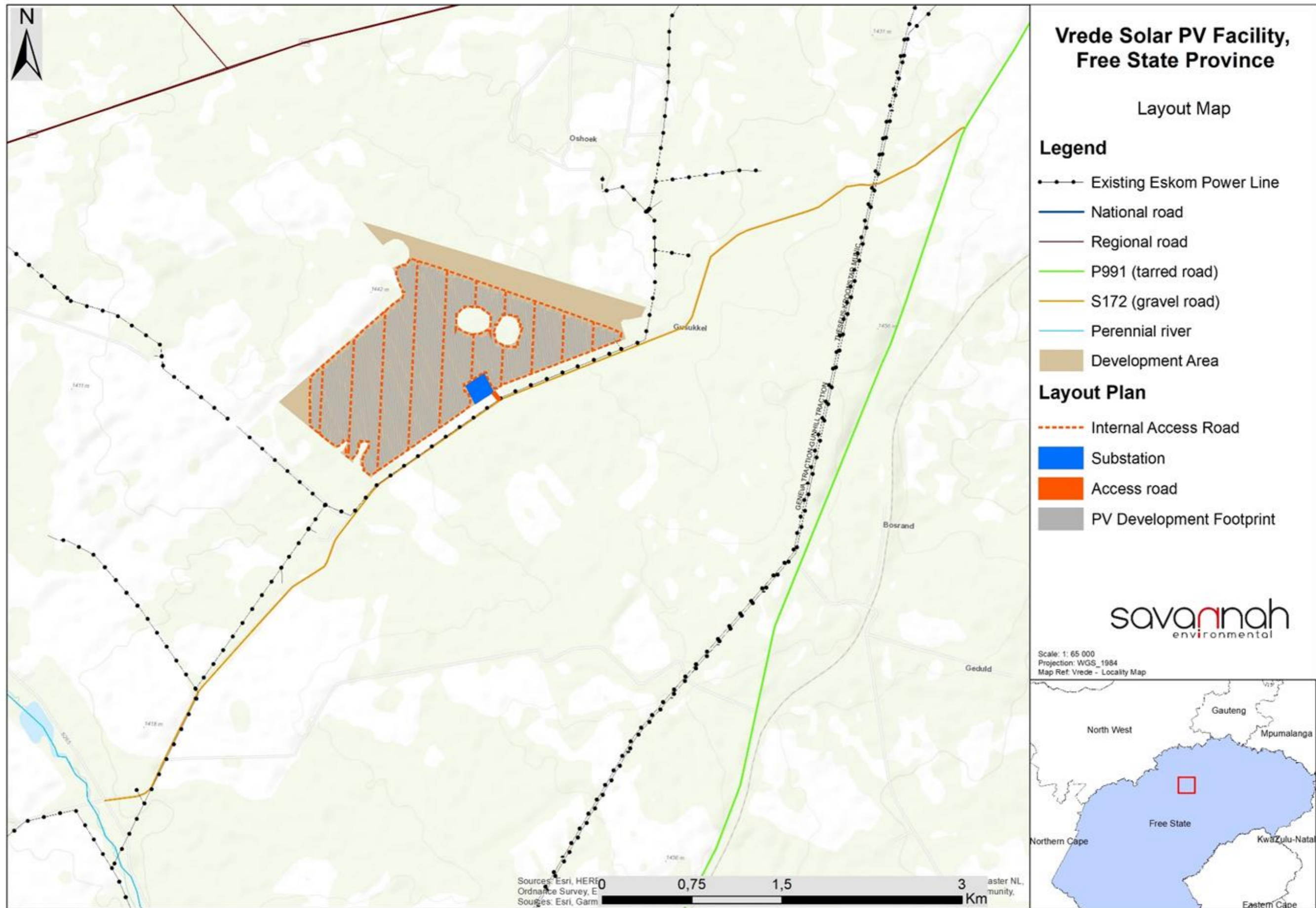


Figure 2.2 Layout of Vrede Solar PV Facility development assessment within this EIA Report.

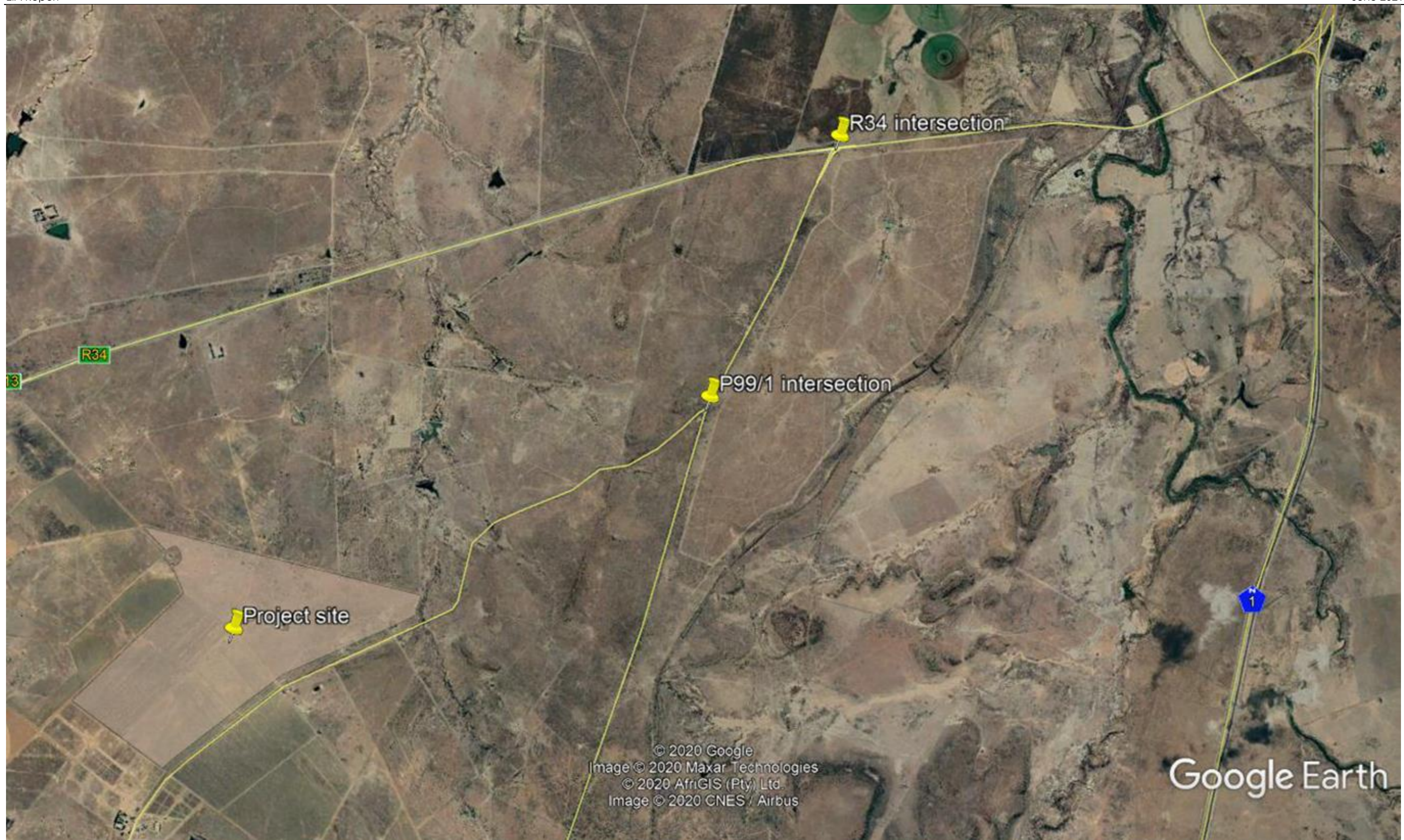


Figure 5.5: Existing road infrastructure within the vicinity of the development area for the Vrede Solar PV Facility. This infrastructure will primarily be used to gain access to the development area.

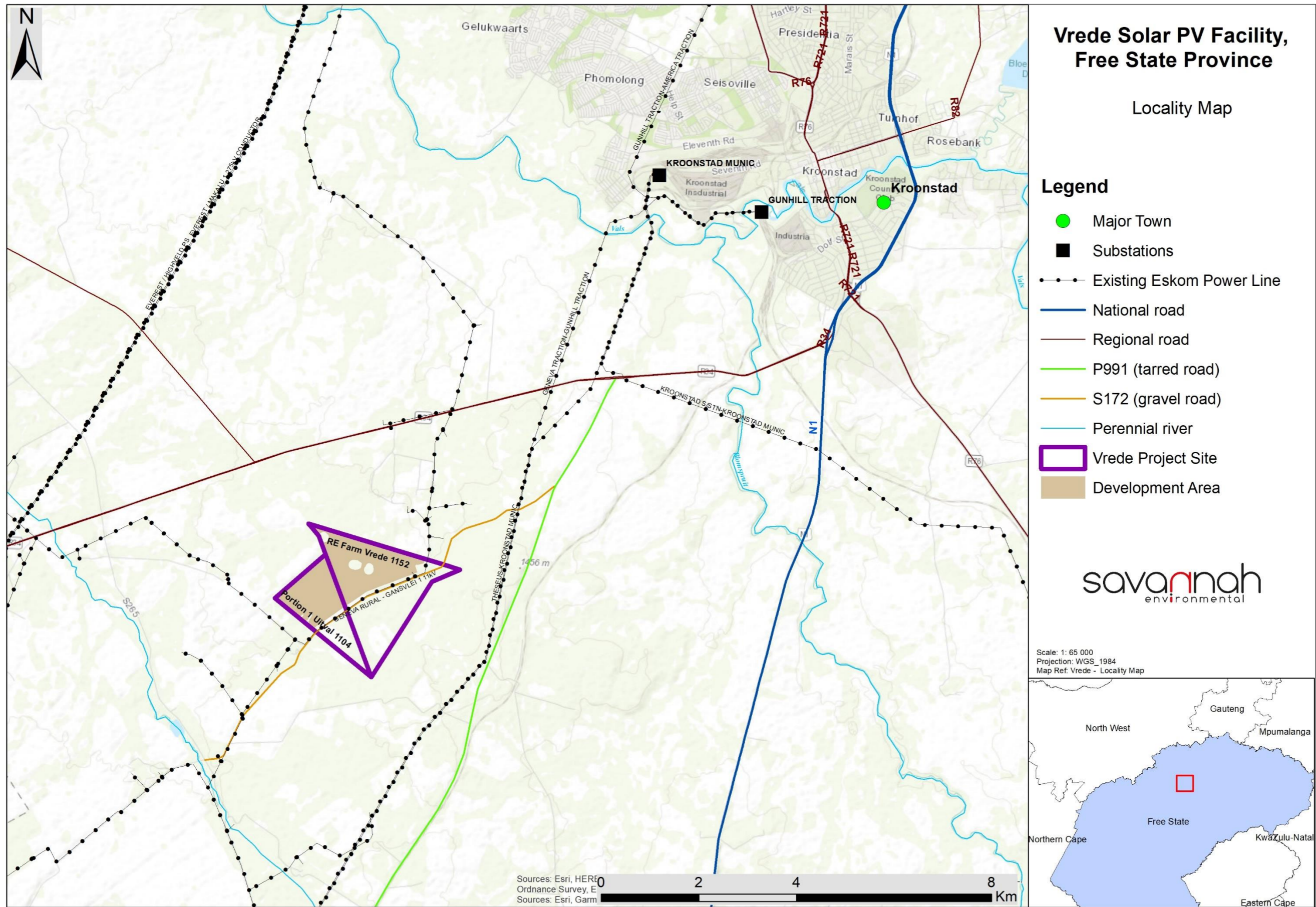


Figure 5.6: The Vrede Solar PV Facility project site in relation to the Eskom Kroonstad Municipality – Theseus 1 132kV power line (south-east) into which the facility will loop in, loop out in order to evacuate the energy to the national grid. (Refer Appendix L for A3 maps)



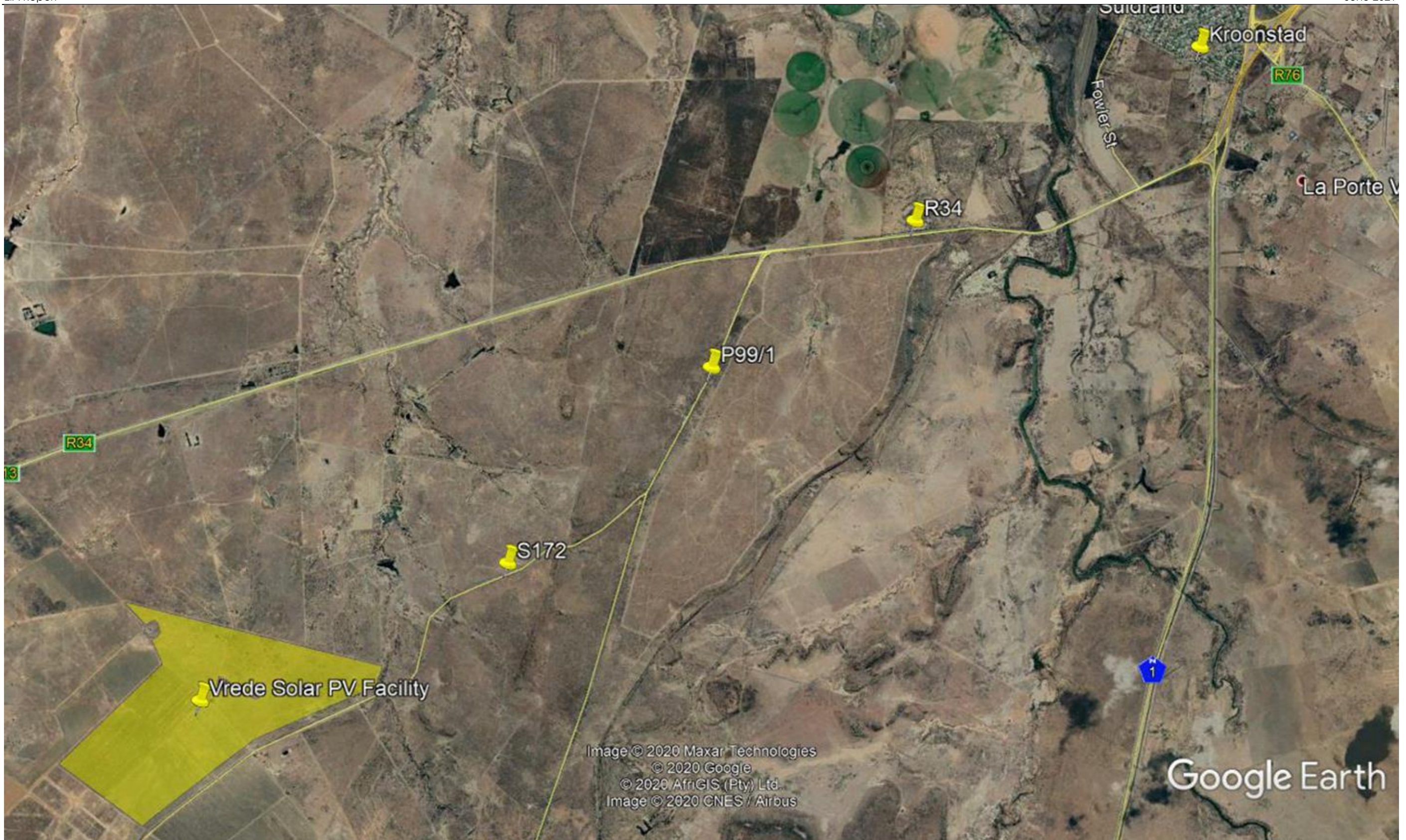
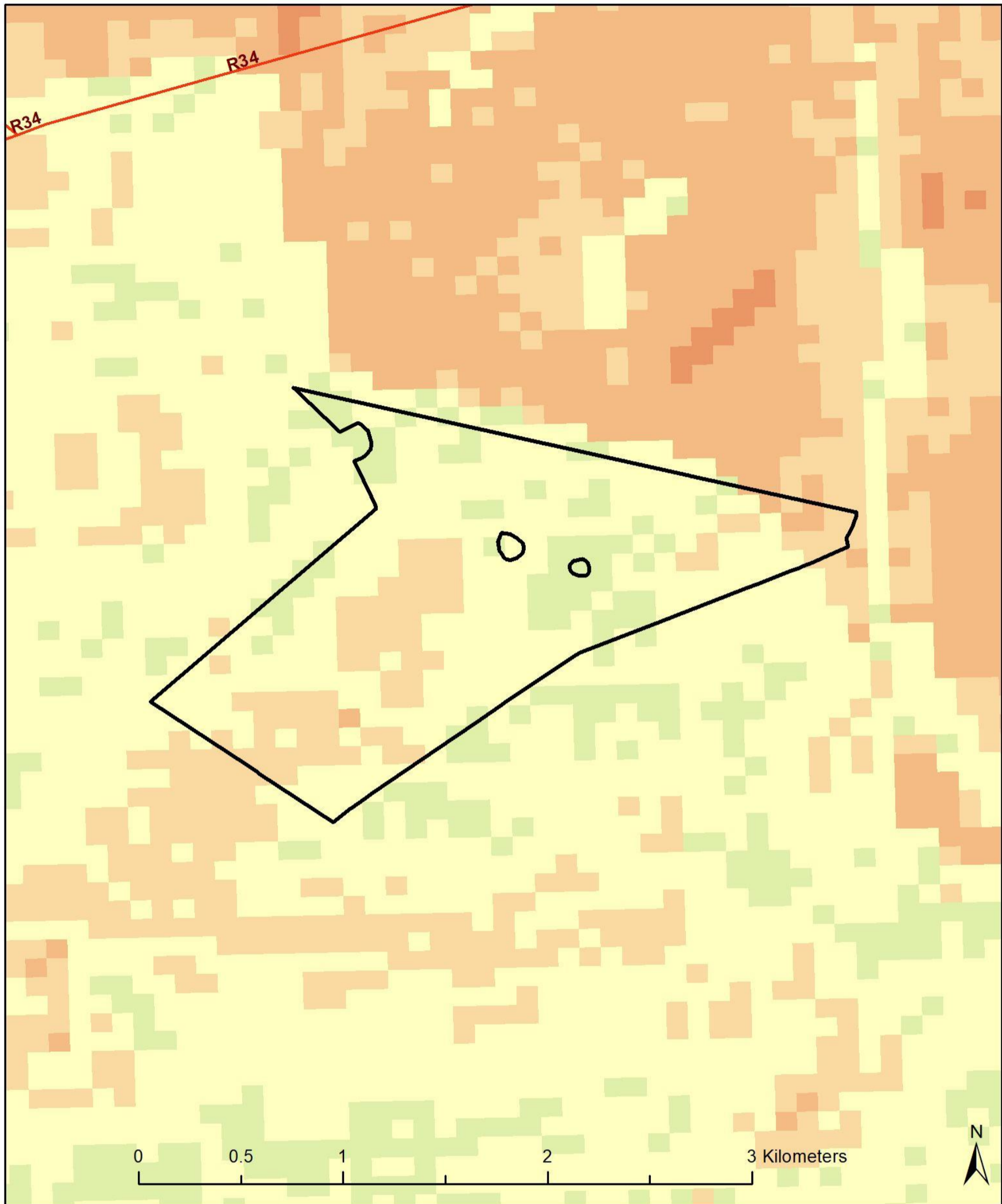


Figure 7.1: Regional map showing the location of the development area relative to Kroonstad town and the main roads in the area



**Legend**

**Land capability (DAFF)**

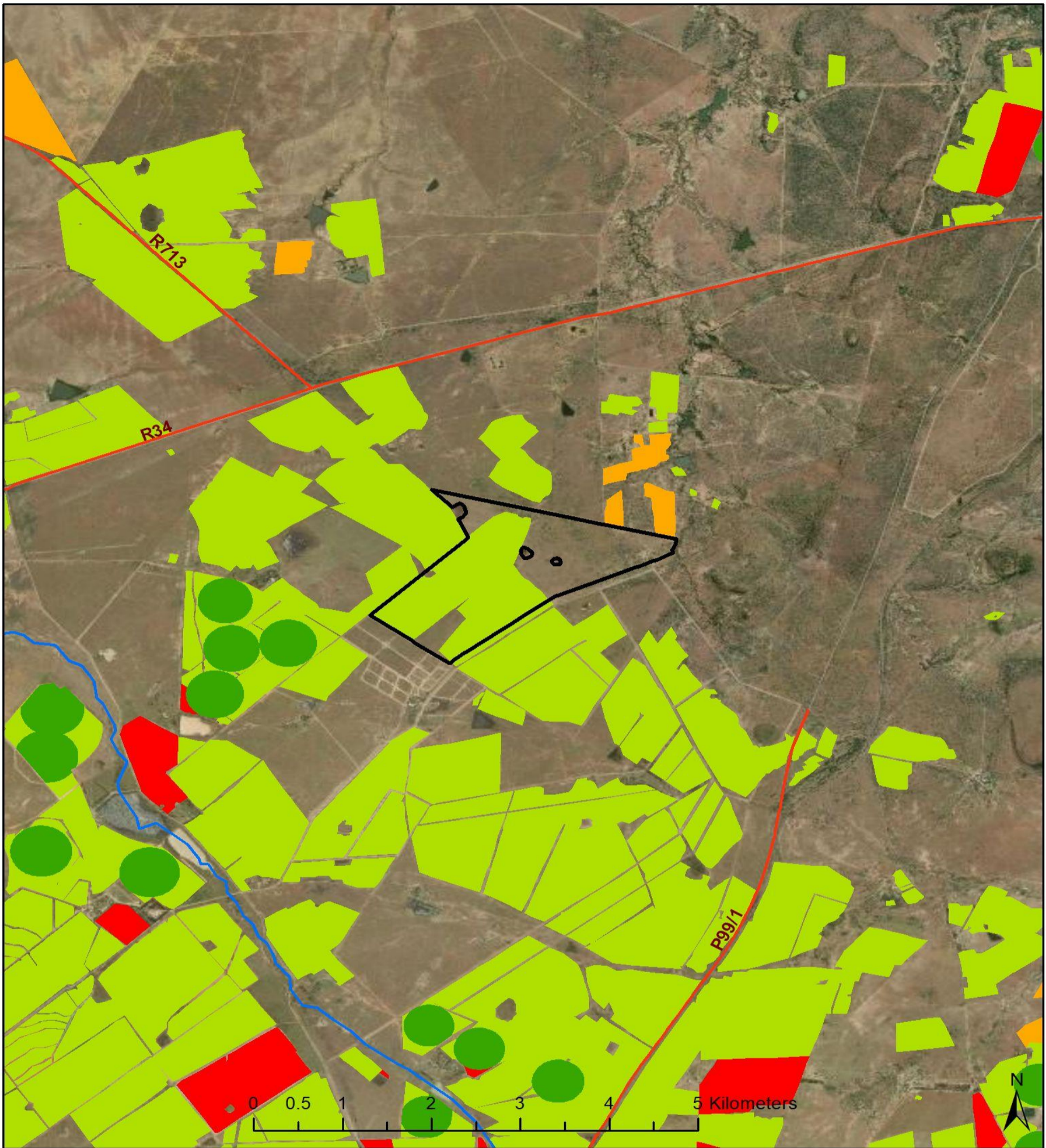
- 05. Low
- 06. Low-Moderate
- 07. Low-Moderate
- 08. Moderate
- 09. Moderate-High

 PV development area (276.8 ha)

 Road



Figure 7.2: Land capability classes of the project development area



**Legend**

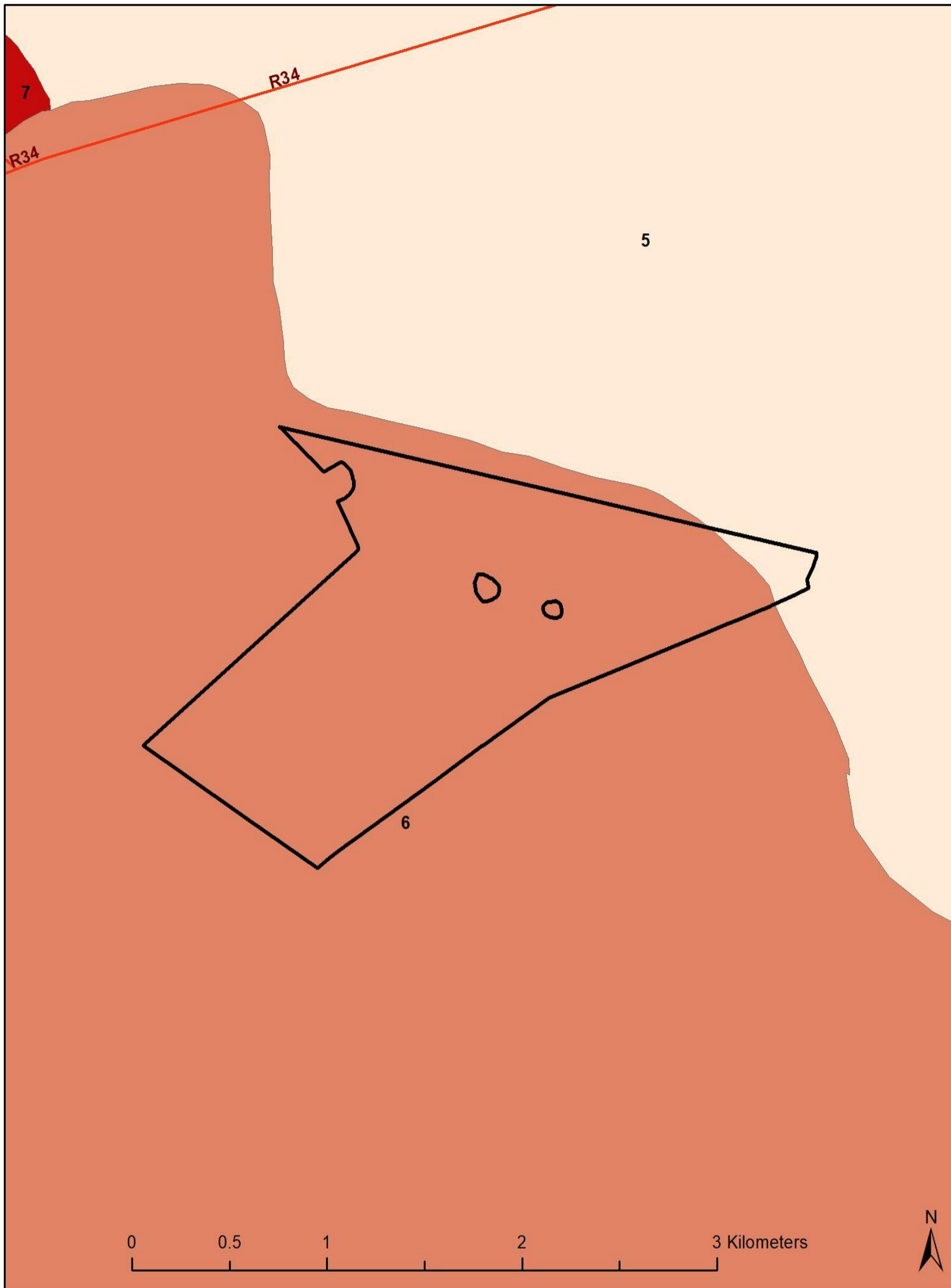
**Field crops**

- Non-pivot irrigated Annual Crop Cultivation / Planted Pastures
- Old Fields
- Rainfed Annual Crop Cultivation / Planted Pastures
- Pivot Irrigation

- PV development area (276.8 ha)
- Road
- Rivers



Figure 7.3: DAFF (2017) dataset for the development area and broader area. Note, no crop cultivation has been implemented on site since 2005 due to difficulties in profitable cultivation of the development site.



**Legend**

**Grazing capacity (ha/LSU)**

-  5
-  6
-  7

 PV development area (276.8 ha)

 Road



Figure 7.4: Long-term grazing capacity of the development area.



**Legend**







<b>Land type</b>	 Dc10	 PV development area (276.8 ha)
 Bd21	 Dc6	 Road
 Db1		



Figure 7.5: Land type classification of the development area.

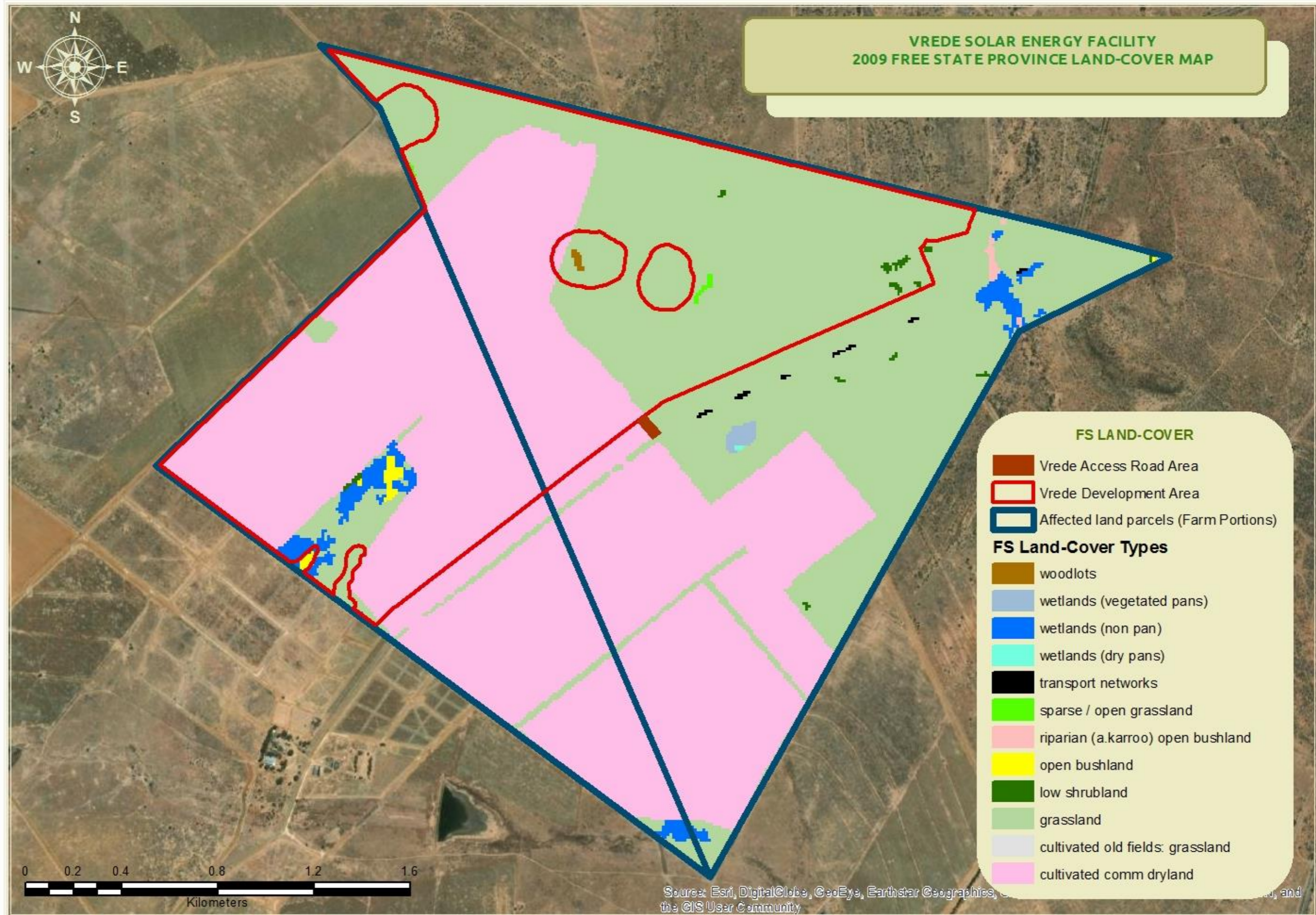


Figure 7.6: Free State Land Cover Map (2009) for the development area.

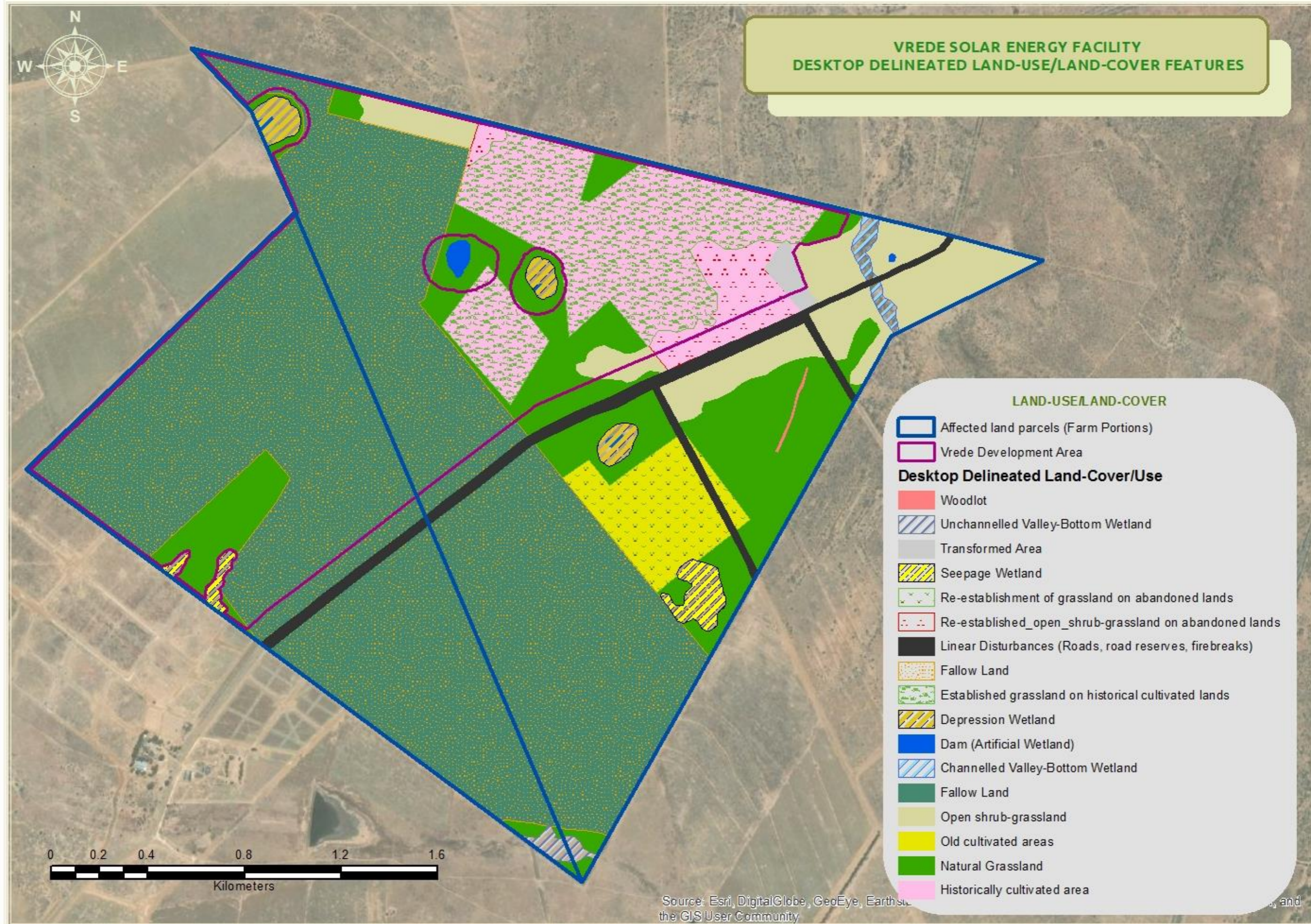


Figure 7.7: Desktop delineated land-cover features (these features were confirmed during the field work)

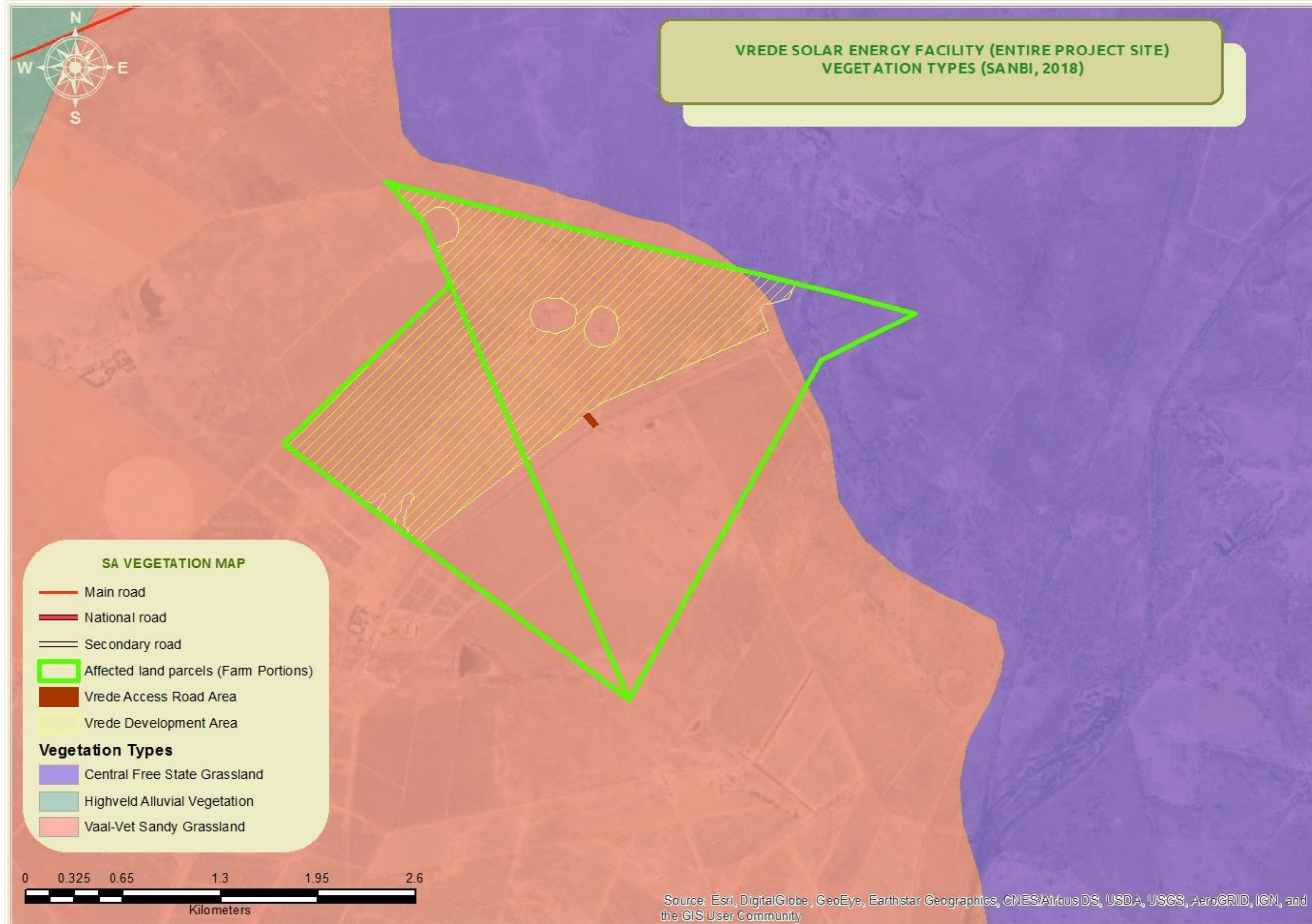


Figure 7.8: Vegetation map of the project site and development area (SANBI, 2018).



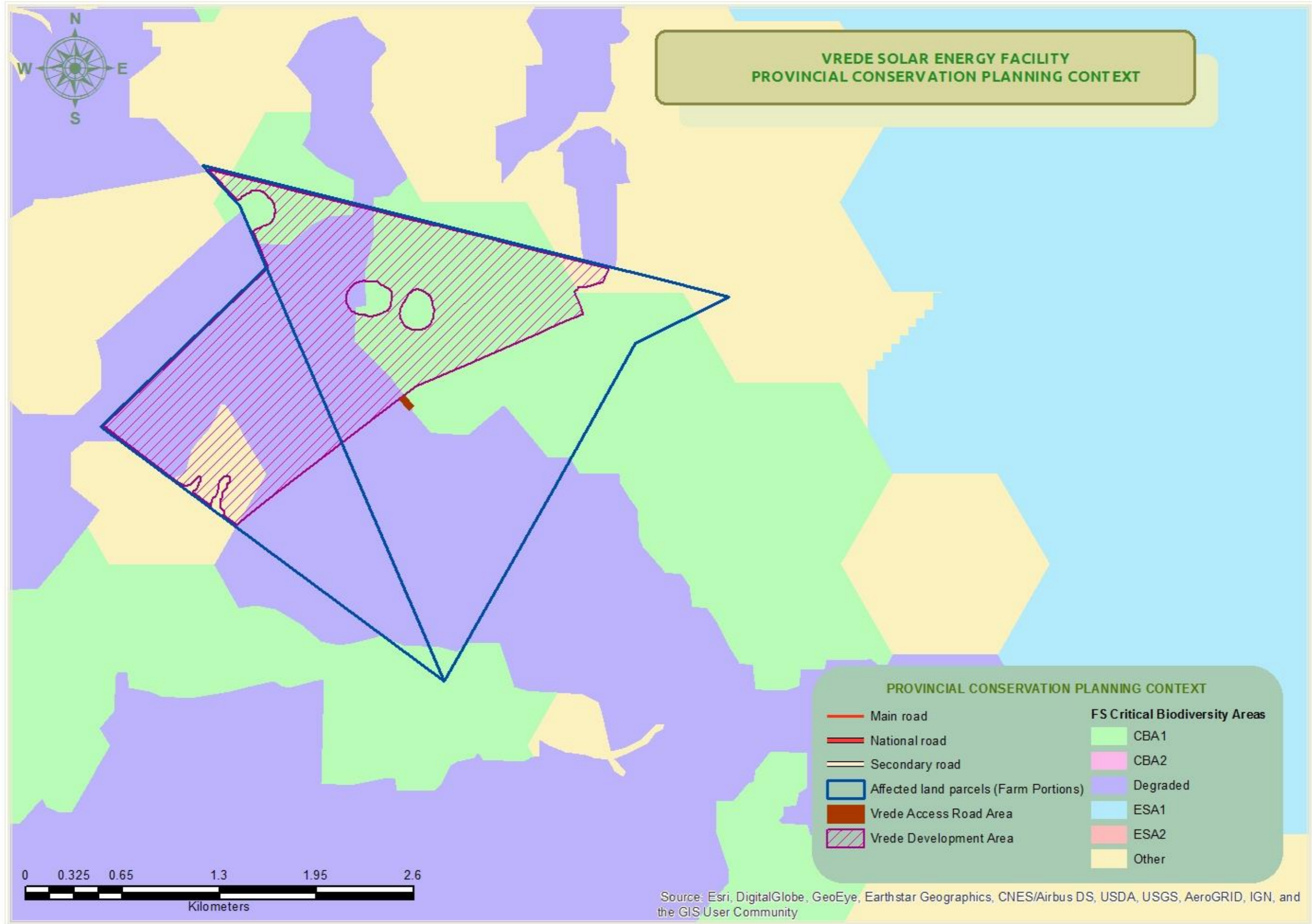


Figure 7.9: Provincial Level Conservation Planning Context – CBA Map (Free State Province Biodiversity Conservation Assessment)

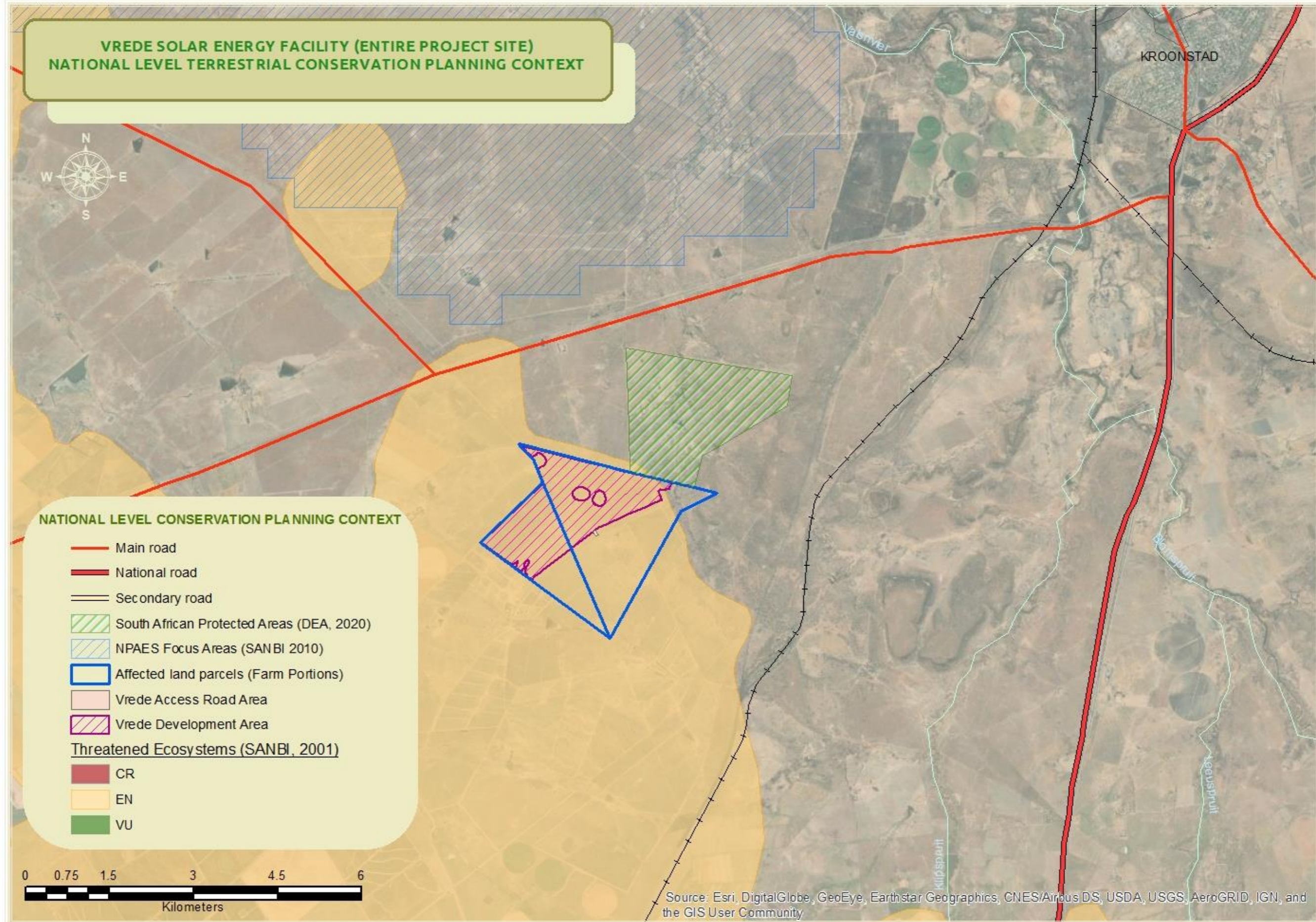


Figure 7.10: National Level Terrestrial Conservation Planning Context.

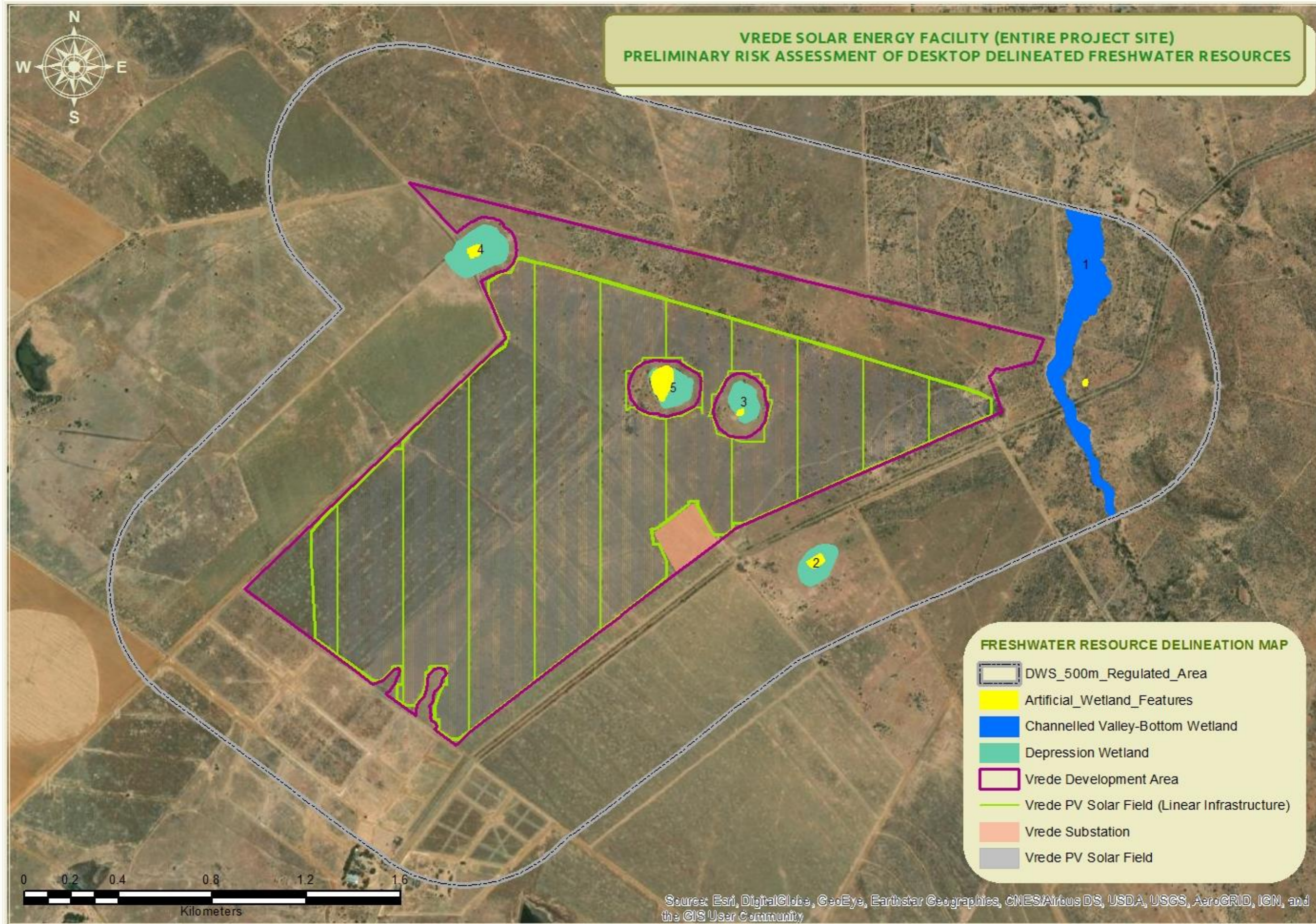


Figure 7.11: Desktop wetland delineation within the development area, to be confirmed during the EIA phase assessments.

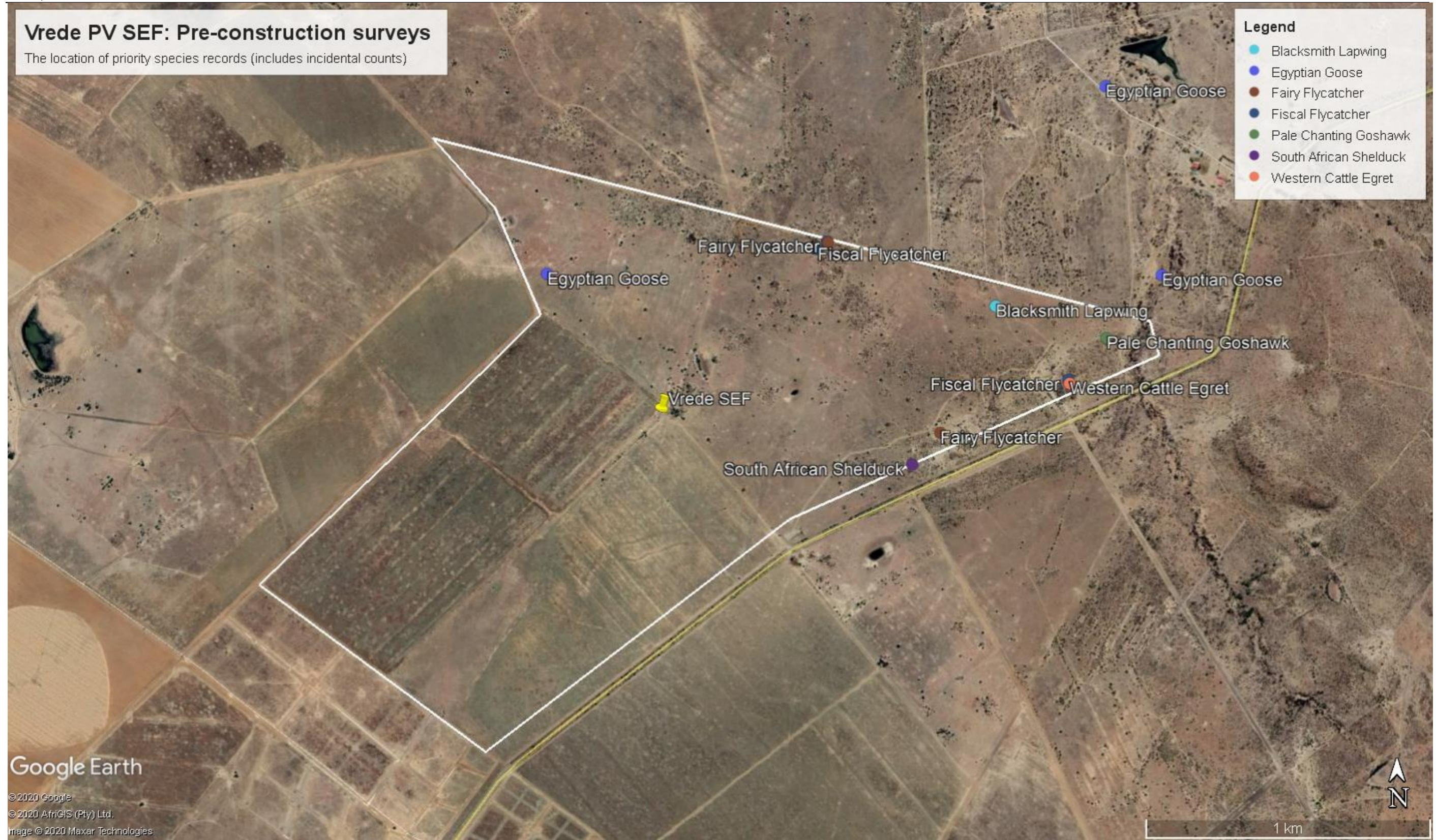


Figure 7.15: The location of priority bird species recorded during transect and incidental counts.

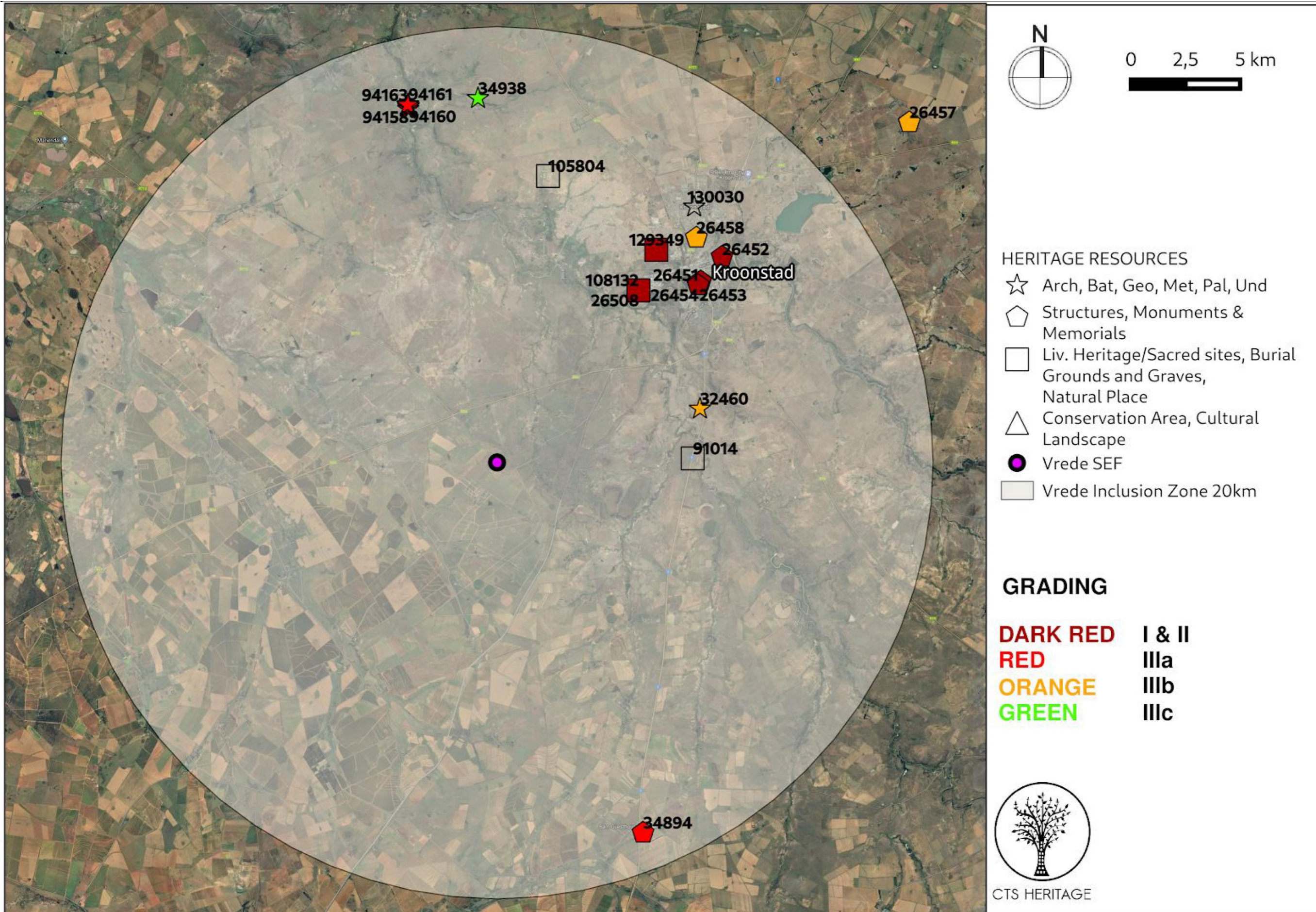


Figure 7.16: Heritage Resources previously identified within the study area, with SAHRIS Site IDs indicated in the insets below.

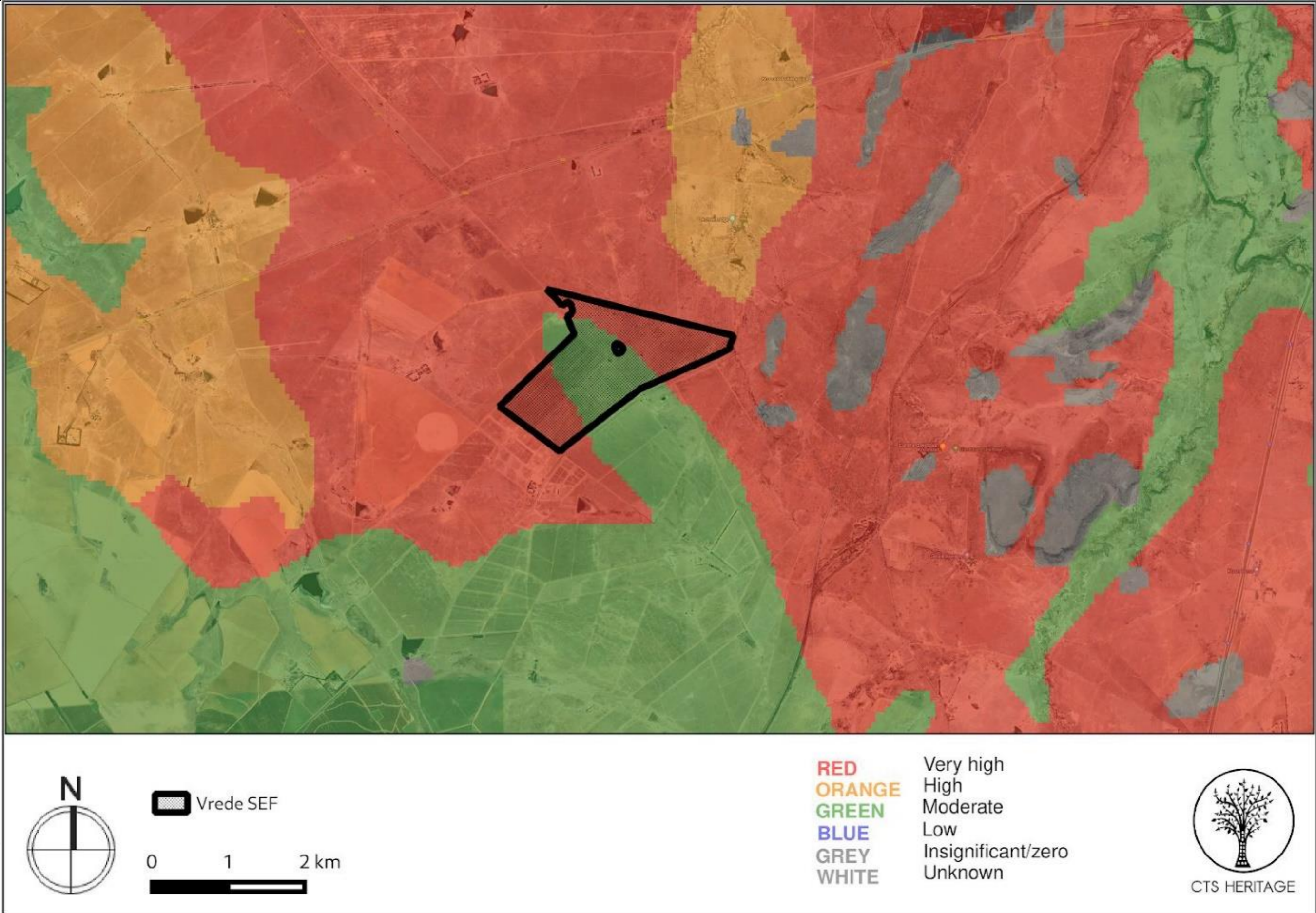


Figure 7.17: Heritage Resources previously identified within the study area, with SAHRIS Site IDs indicated in the insets below.

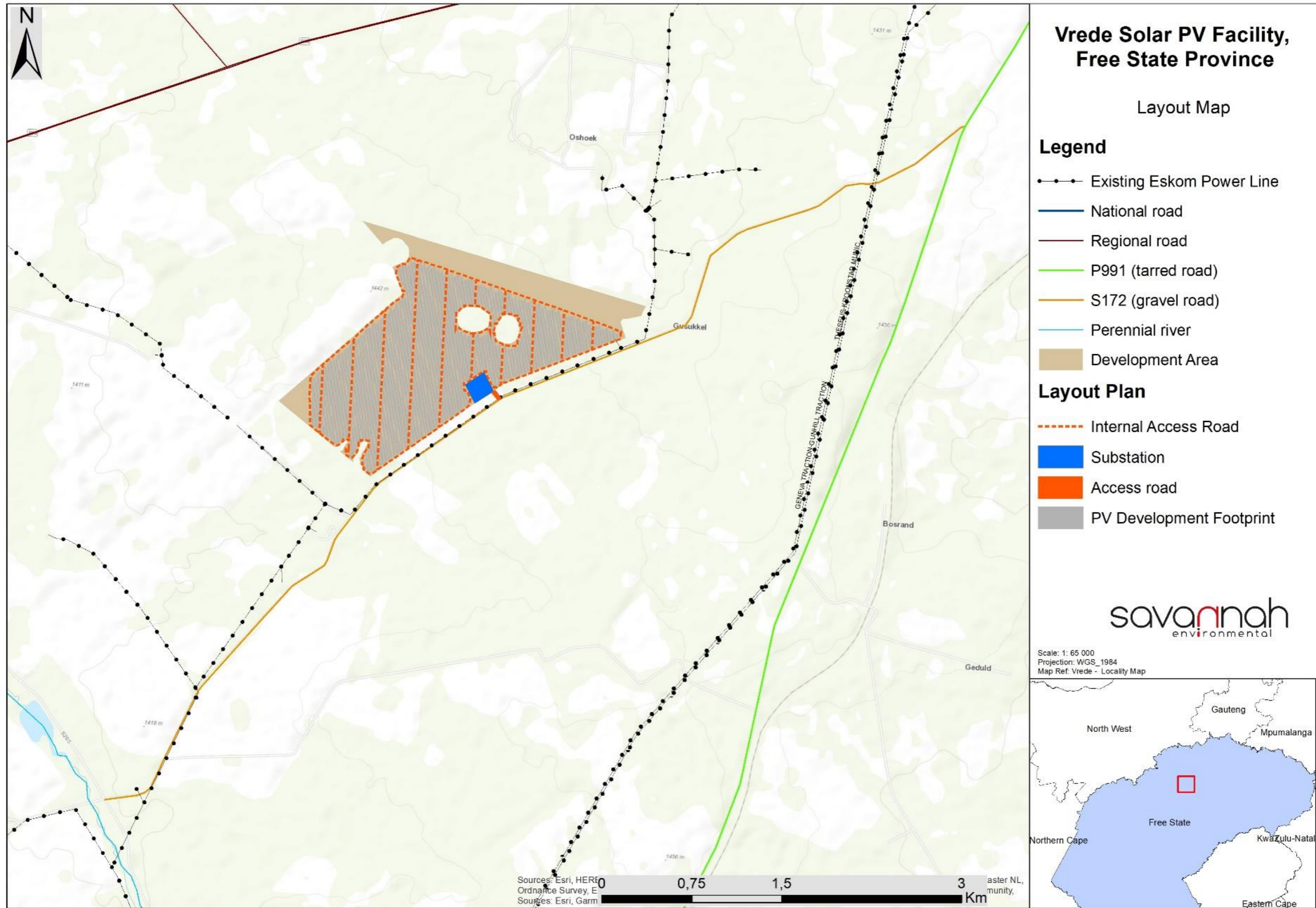


Figure 8.1: Map illustrating the facility layout considered for the Vrede Solar PV Facility as assessed in this EIA report

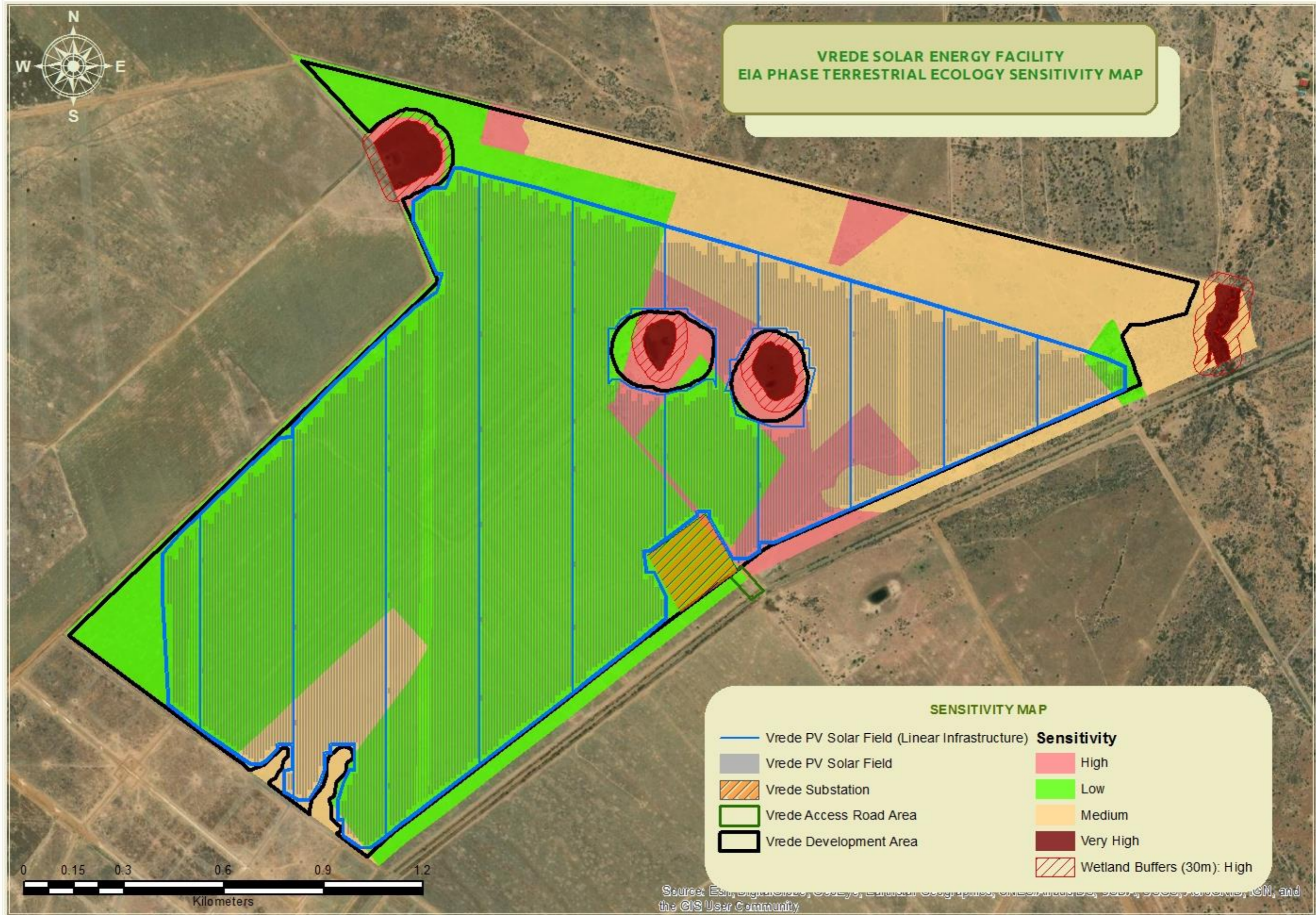


Figure 8.2: Sensitivity map for the development footprint and associated infrastructure



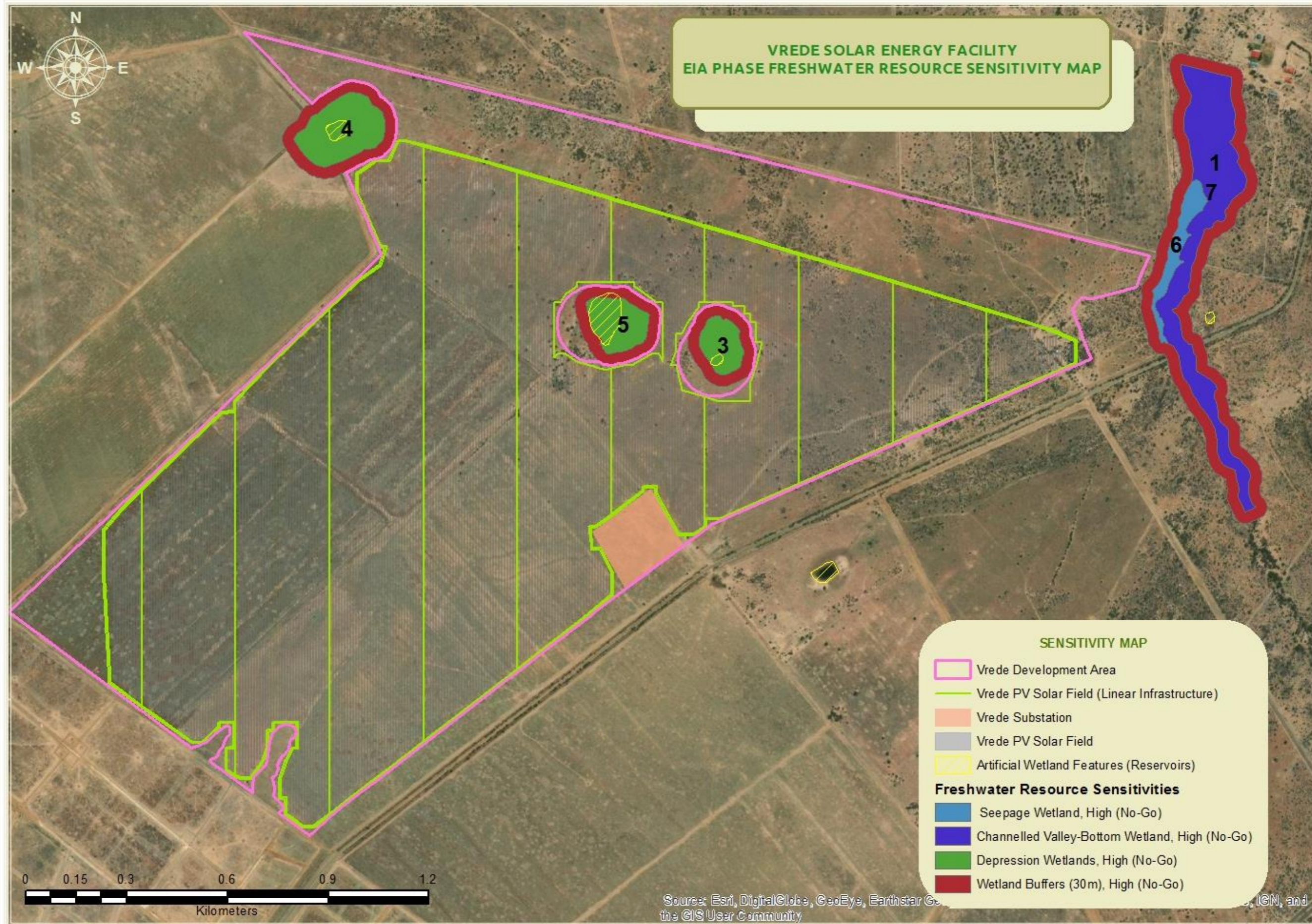


Figure 8.3: Aquatic sensitivity map

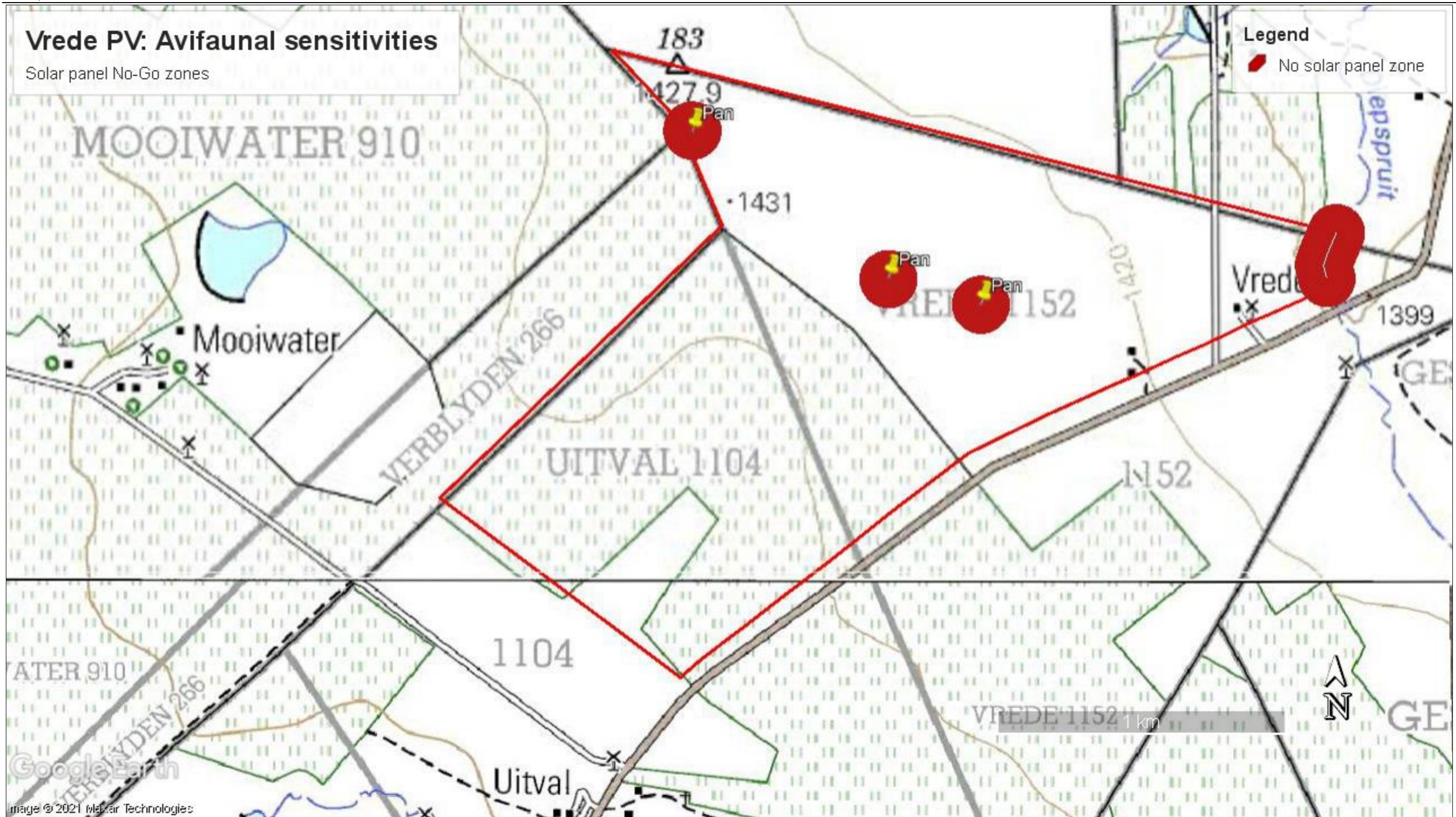
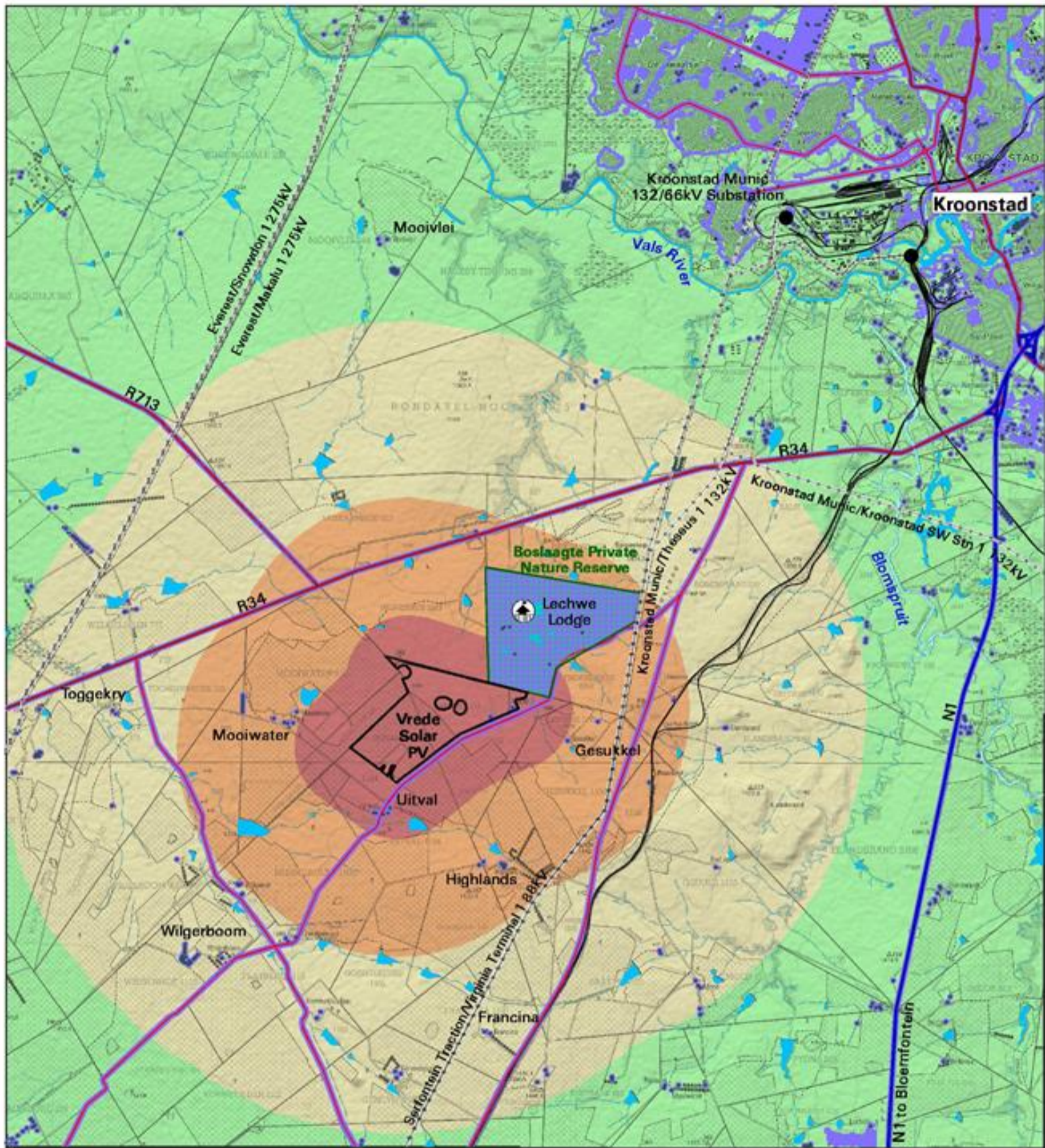


Figure 8.6. Avifaunal sensitivity of the Vrede Solar PV Facility, showing 100m panel-free zones around freshwater habitats utilised by avifauna.



- Site Identified for the SEF
- National Road
- Arterial/Main Road
- Secondary Road
- Railway Line
- Power Line
- Substation
- Perennial River
- Non-perennial River
- Dam
- Residence/Homestead
- Protected Area
- Guest Lodge

**PROXIMITY ANALYSIS (Visual Distance)**

- Short distance (0 - 1km)
- Medium distance (1 - 3km)
- Medium to longer distance (3 - 6km)
- Long distance (> 6km)

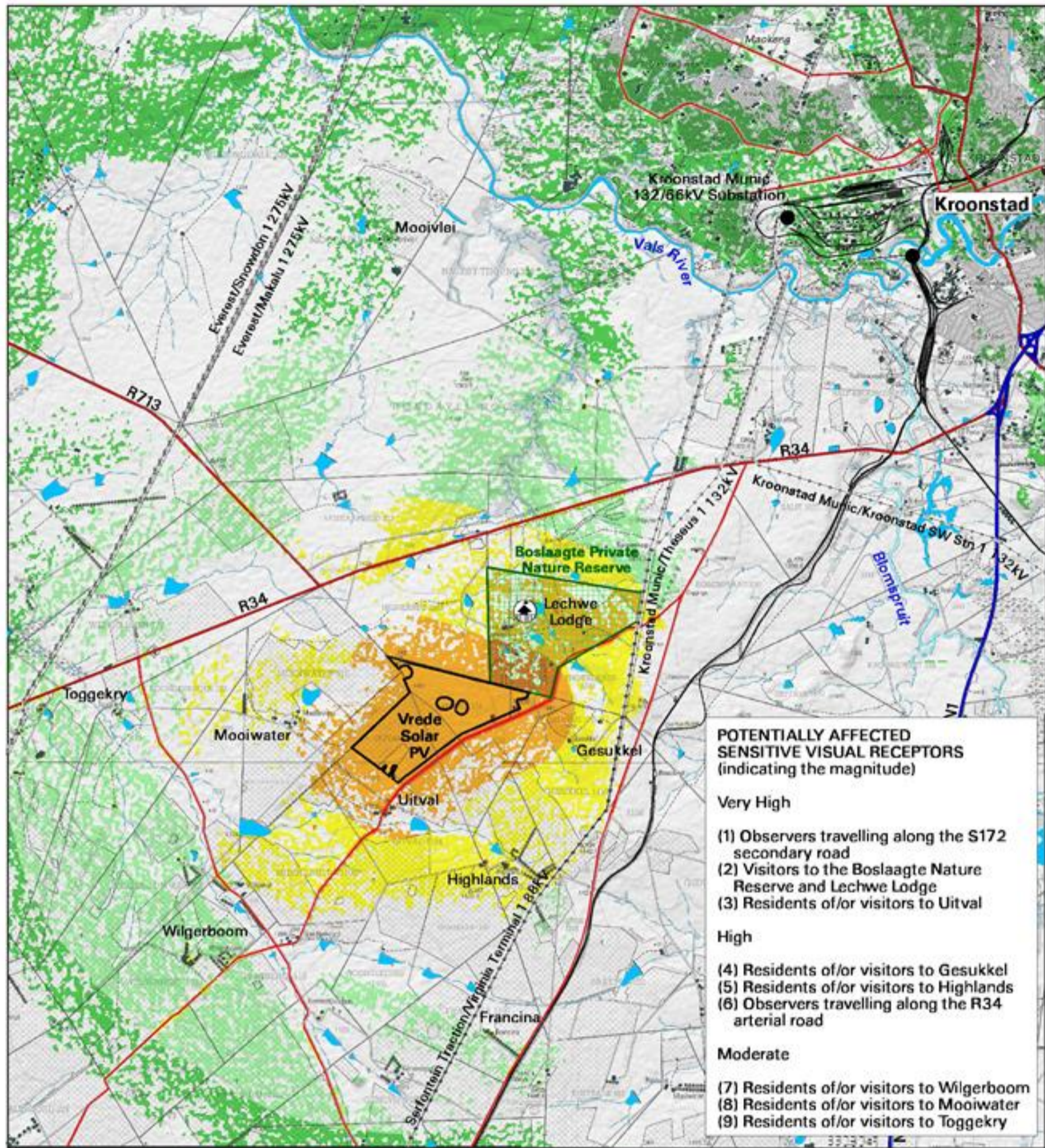
**POTENTIAL SENSITIVE VISUAL RECEPTORS**

- Residents of dwellings/homesteads on small holdings or farms
- Observers travelling along local public roads
- Residents/observers on the outskirts of built-up residential areas
- Visitors to the Boslaagte Private Nature Reserve and Lechwe Lodge

**Proposed Vrede Solar PV Facility**



Figure 8.7: Proximity analysis and potential sensitive visual receptors.



- POTENTIALLY AFFECTED SENSITIVE VISUAL RECEPTORS (indicating the magnitude)**
- Very High**
- (1) Observers travelling along the S172 secondary road
  - (2) Visitors to the Boslaagte Nature Reserve and Lechwe Lodge
  - (3) Residents of/or visitors to Uitval
- High**
- (4) Residents of/or visitors to Gesukkel
  - (5) Residents of/or visitors to Highlands
  - (6) Observers travelling along the R34 arterial road
- Moderate**
- (7) Residents of/or visitors to Wilgerboom
  - (8) Residents of/or visitors to Mooiwater
  - (9) Residents of/or visitors to Toggekry

- Site Identified for the SEF
- National Road
- Arterial/Main Road
- Secondary Road
- Railway Line
- Power Line
- Substation
- Perennial River
- Non-perennial River
- Dam
- Residence/Homestead
- Protected Area
- Guest Lodge

- VISUAL IMPACT INDEX**
- Not Visible/Negligible
  - Very Low
  - Low
  - Moderate
  - High
  - Very High

**Proposed Vrede Solar PV Facility**

Figure 8.8: Visual impact index and potentially affected sensitive visual receptors.

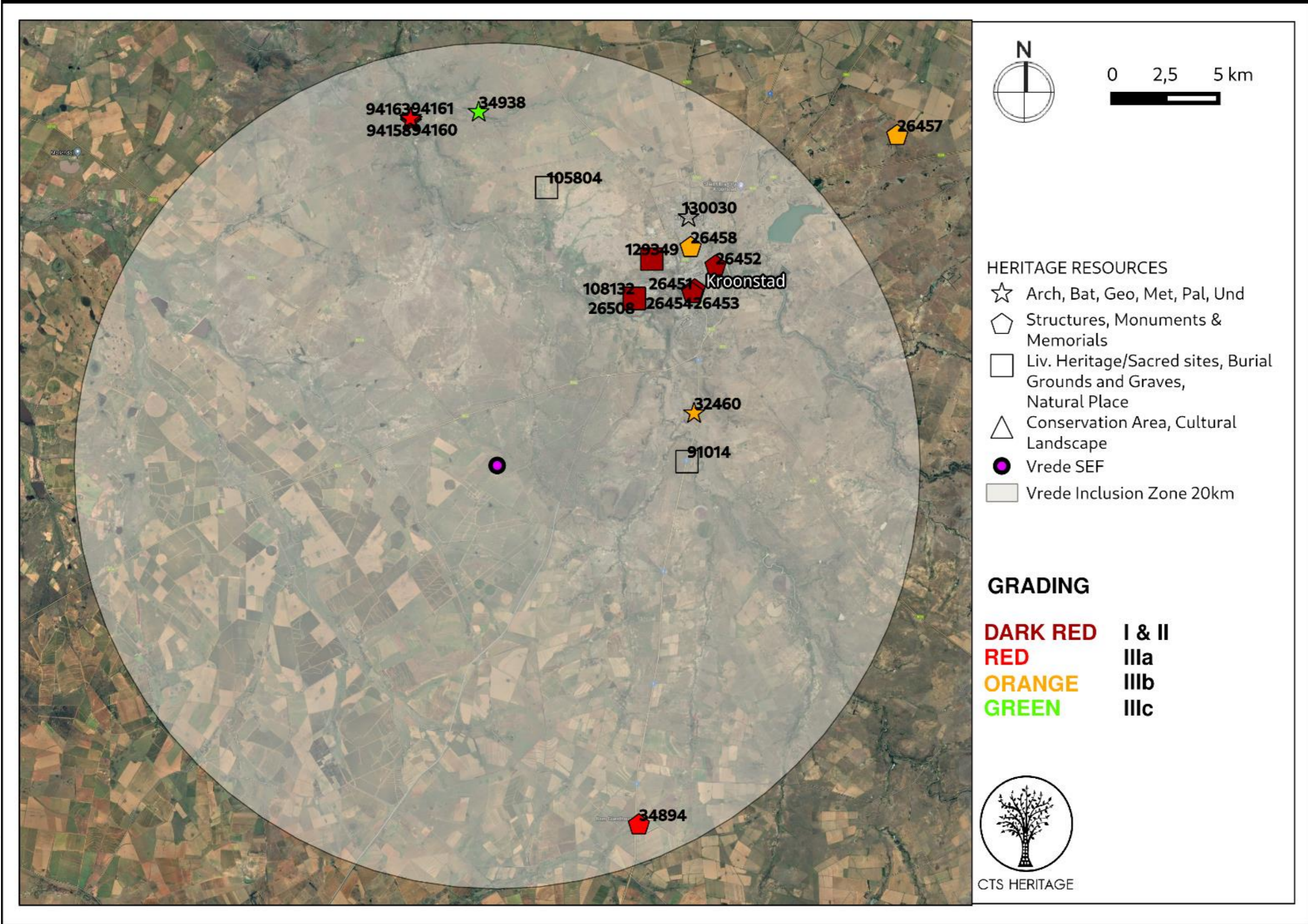


Figure 8.9: Heritage Resources previously identified within the study area.

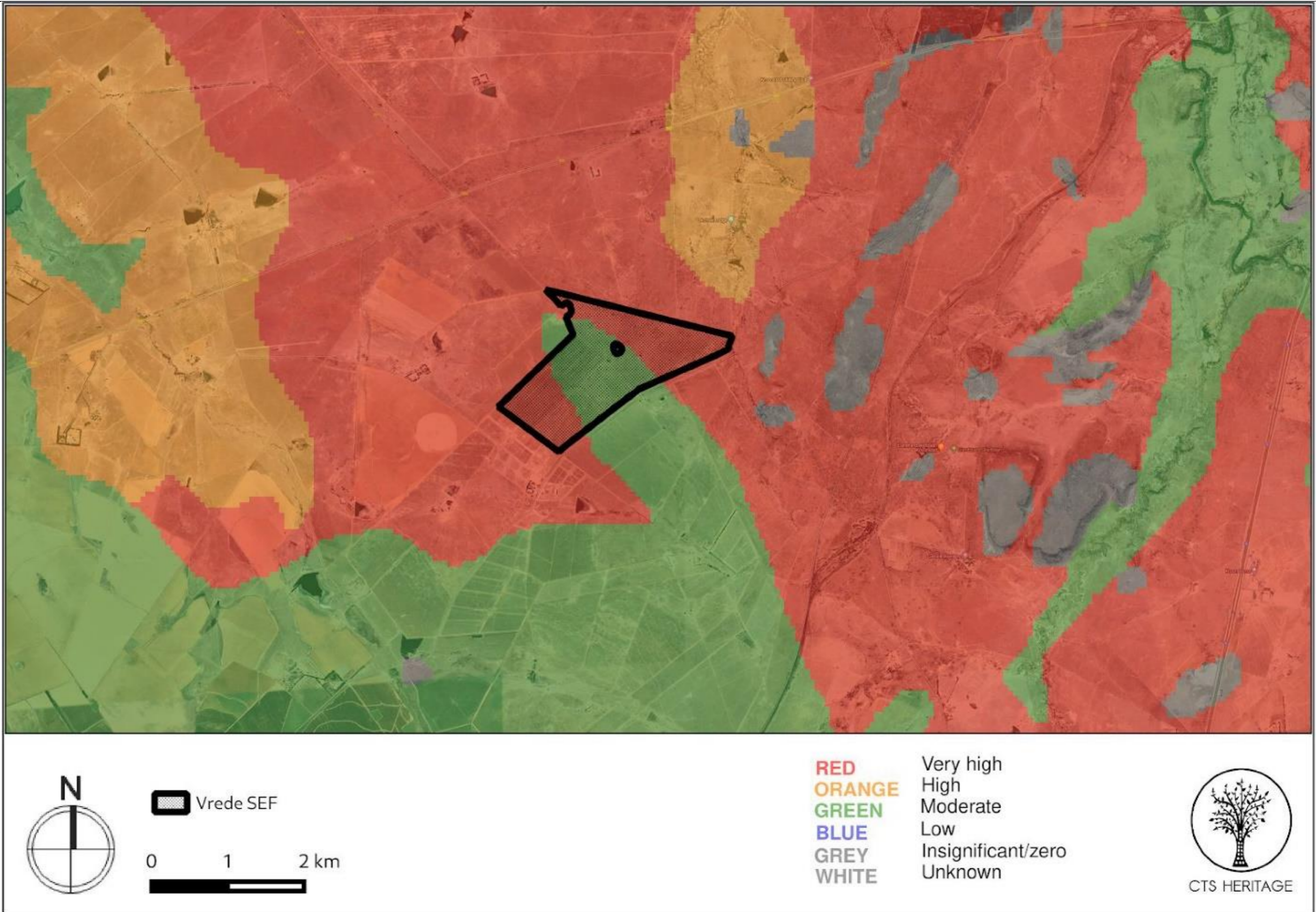


Figure 8.10: Palaeontological sensitivity of the proposed development area

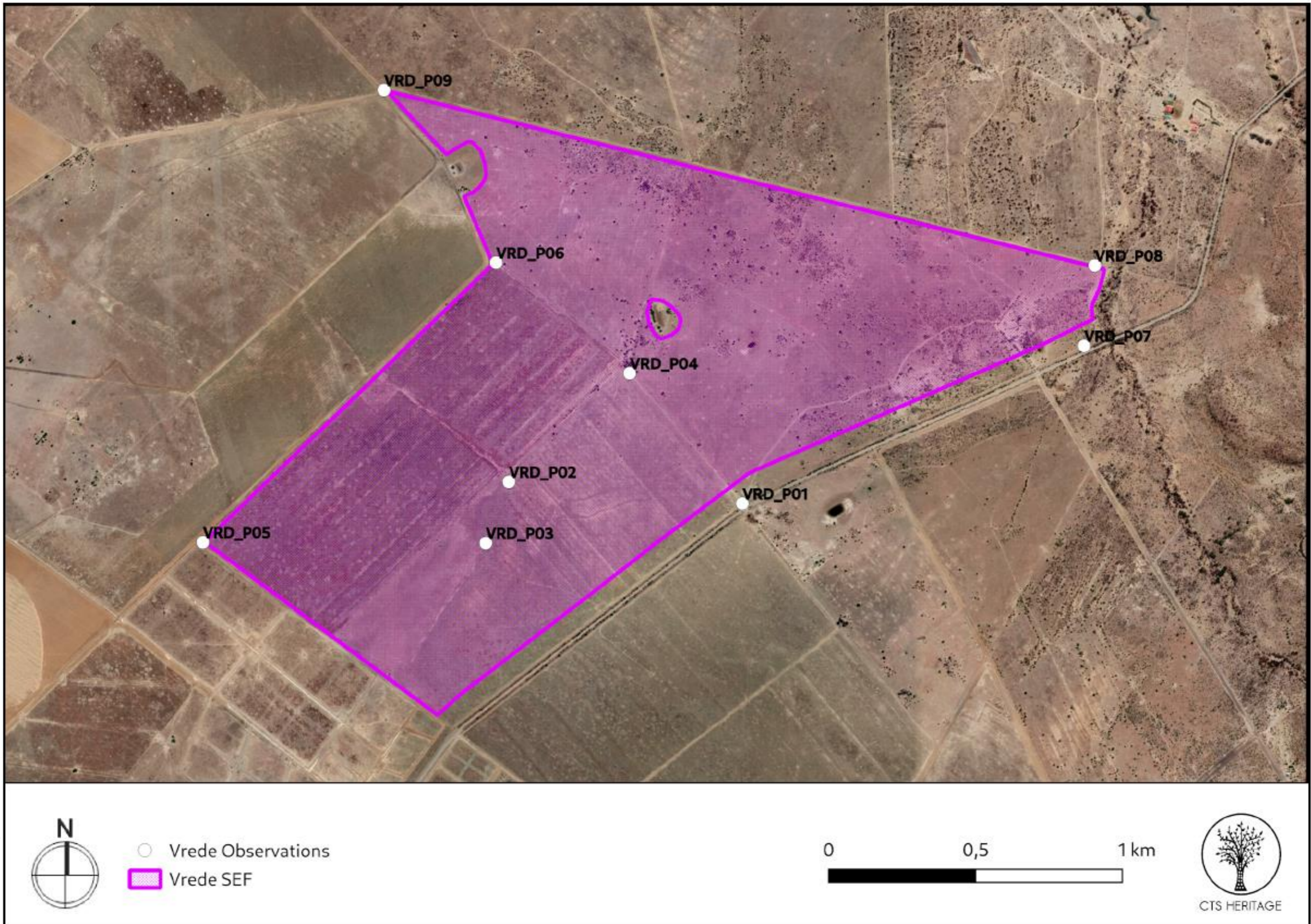
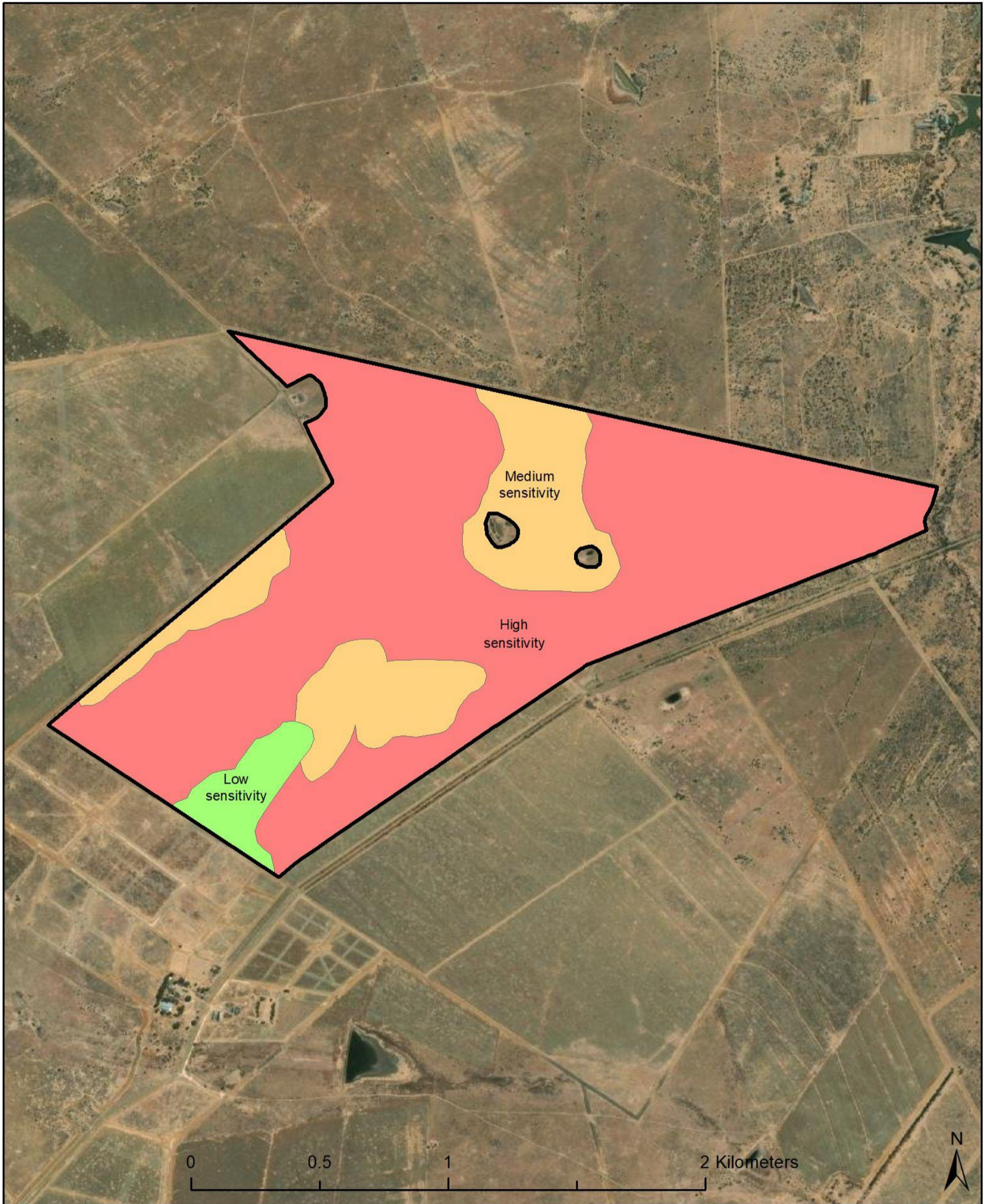
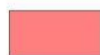




Figure 8.11: Observations made during the field assessments conducted for the Vrede Solar PV Facility



**Legend**

**Sensitivity**

-  High sensitivity (209.4 ha)
-  Medium sensitivity (56.1 ha)
-  Low sensitivity (11.3 ha)

 PV development area (276.8 ha)



Figure 8.12. Soils sensitivity rating of the Vrede solar PV facility development area.



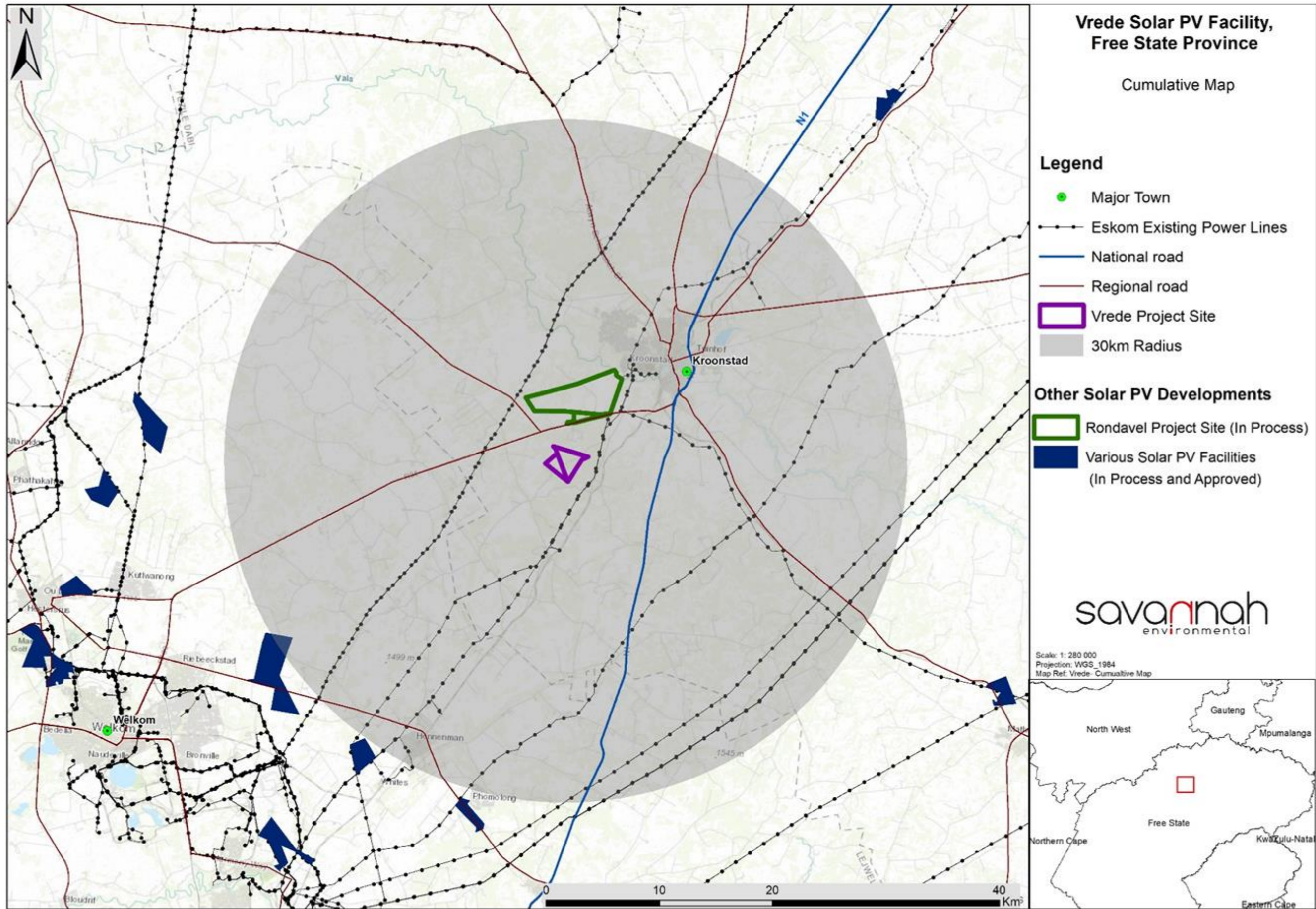


Figure 9.1: Cumulative map indicating the location of other solar energy developments within 30km of the Vrede Solar PV Facility site

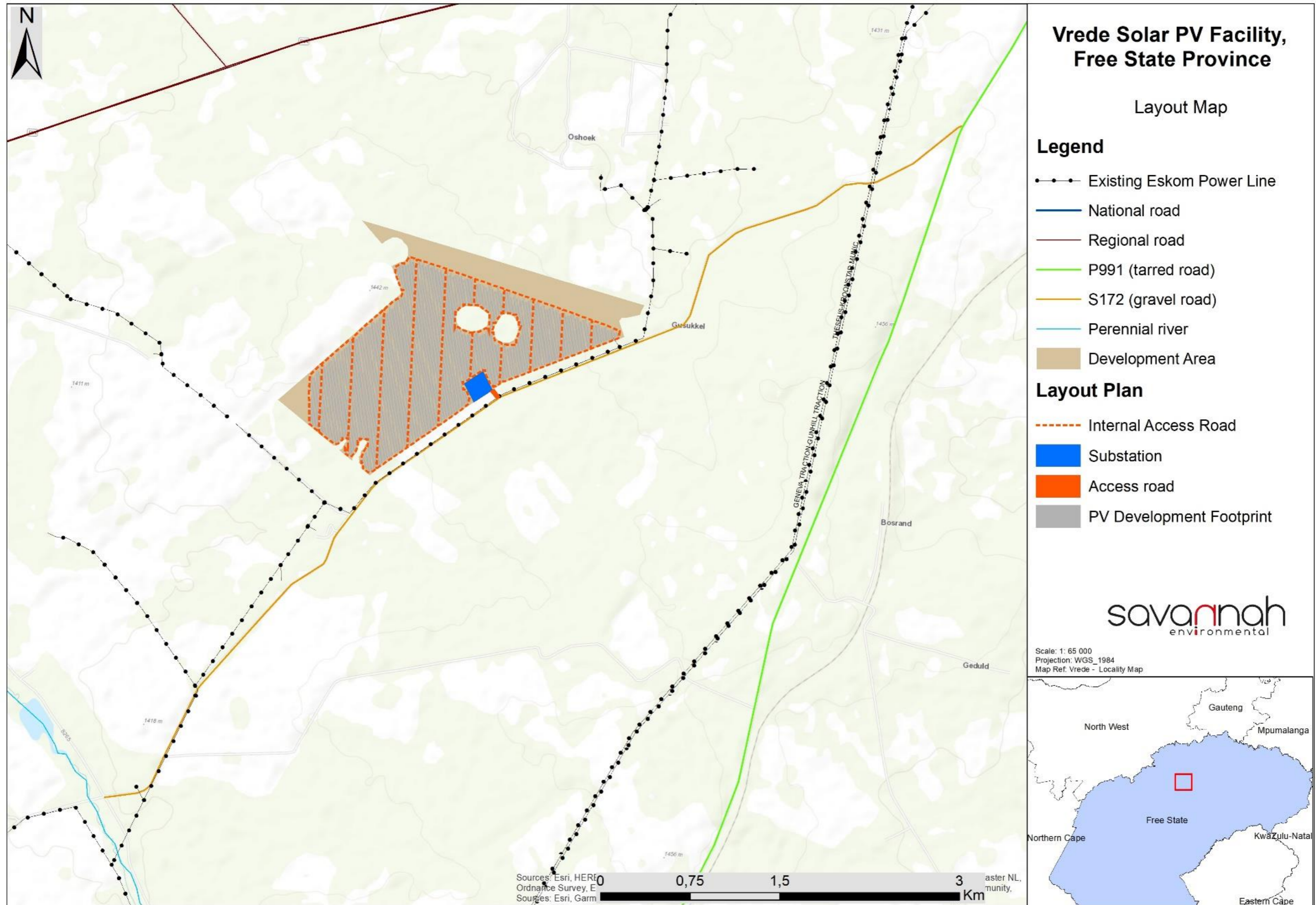


Figure 10.1: Layout of the Vrede Solar PV facility assessed within the EIA process

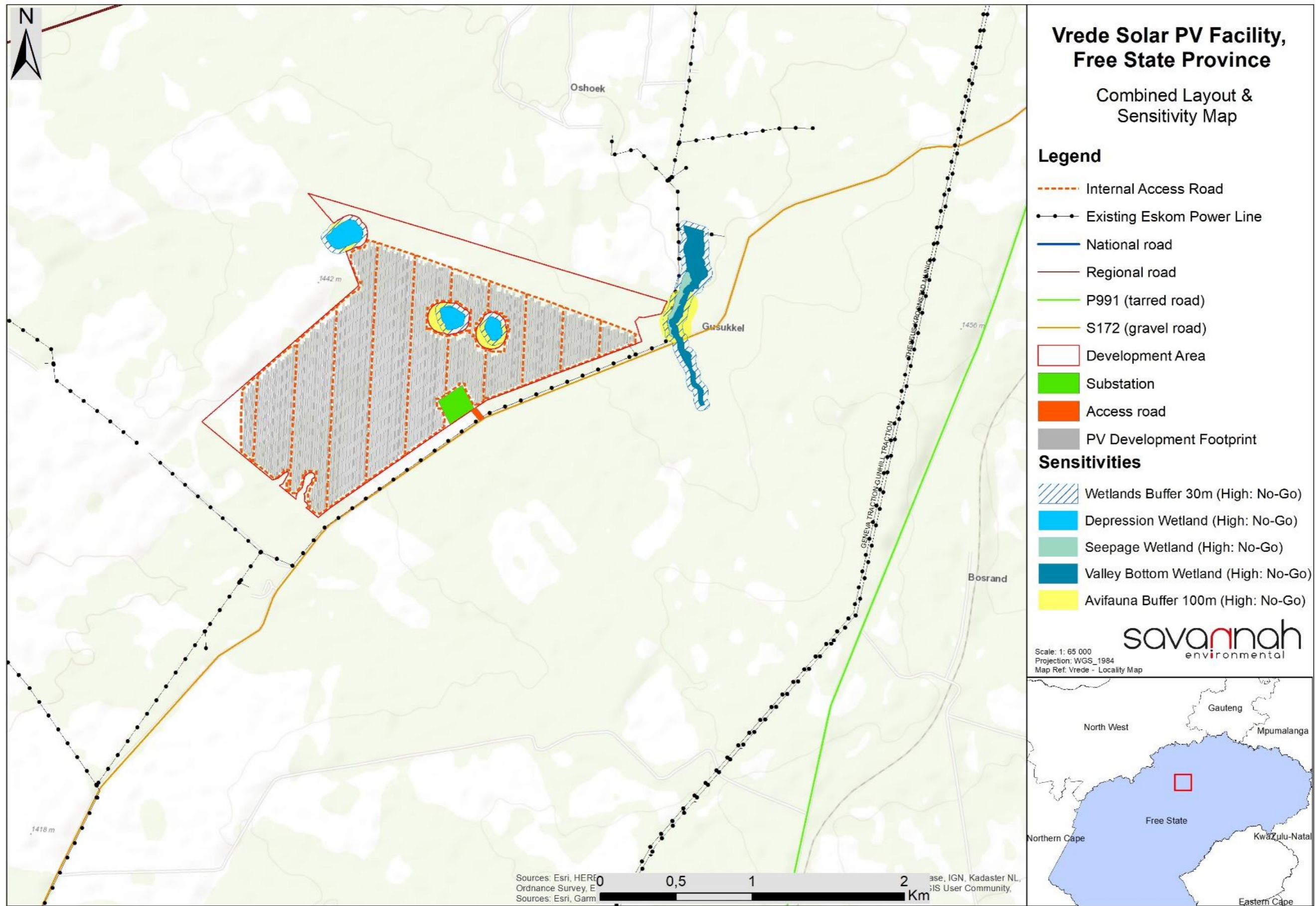


Figure 10.2: Sensitive environmental features identified within the development footprint assessed for Vrede Solar PV Facility (A3 map is included in Appendix L)