

CTS HERITAGE

SITE SENSITIVITY VERIFICATION (IN TERMS OF PART A OF THE ASSESSMENT PROTOCOLS PUBLISHED IN GN 320 ON 20 MARCH 2020)

1 Introduction

juwi South Africa (Pty) Ltd (hereafter referred to as juwi) is proposing to develop a hybrid renewable energy cluster, located on various land parcels in the western part of Mpumalanga, in the Emakhazeni Local Municipality. All of the projects fall within the Emalahleni Renewable Energy Development Zone (REDZ) but outside of the strategic transmission corridor.

The Roos PV facility is envisioned to be the solar PV component of a hybrid wind and solar facility. The intention is to develop (through one BA process) a cluster of five 20MW solar PV facilities and associated infrastructure on the property, depending on site sensitivities. The joint PV cluster will be located on the portions of the properties not used for wind energy development. So far these are in the west of the area. This will be confirmed prior to commencement of the EIA process – overall 270Ha of PV development area (indicated in white shading below) should be authorised. The associated infrastructure would include a BESS, site camp, substation and OHL, and O&M building.

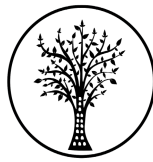
According to the results of the DFFE Screening Tool, the area proposed for development has LOW sensitivity for impacts to archaeology and cultural heritage and VERY HIGH sensitivity for impacts to palaeontology.

The site is located within the Renewable Energy Development Zone (REDZ) but outside the Power Corridor.

2 Site sensitivity verification

The site sensitivity verification was undertaken as follows:

- o A Desktop Study was conducted of relevant reports previously written (please see the reference list for the age and nature of the reports used)
- o An archaeologist conducted an assessment of archaeological resources likely to be disturbed by the proposed development. The archaeologists conducted their site visit on 26 March 2023



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- o A palaeontologist conducted a field assessment of palaeontological resources likely to be disturbed by the proposed development for 21 March 2023

3 Outcome

Archaeology and Heritage:

The results of the field assessment confirm the findings of the desktop assessment and a number of features that are very likely to be associated with Late Iron Age occupation of the area have been identified (Observation 008 and 006). The proposed development will impact negatively on archaeological resources associated with the Late Iron Age and also likely burial grounds and graves as well as stone age archaeological resources. Areas of high archaeological sensitivity based on a survey of aerial imagery as well as the topographic map for the area and the results of the field assessment have been mapped in Figure below. Based on the results of the field assessment, this demarcated area has HIGH sensitivity for impacts to archaeological heritage.

Of the 8 archaeological observations made during the field assessment, observations 001, 002, 005 and 007 are structures that have been determined to have no cultural value and are therefore considered to be Not Conservation-Worthy from a heritage perspective and are not considered further here. Of the remaining sites, Observation 004 represents an historic homestead of some stature and architectural value and as such, this site is graded IIIB. It is recommended that this site be buffered from the proposed by the implementation of a 100m no development area around the structure to retain some sense of place and to ensure that no buried archaeology associated with the structure is negatively impacted by the development.

The remaining sites - 003 and 009 - represent historic kraals associated with the historical farming practices of the area. It is recommended that a no development buffer of 50m be implemented around these sites to ensure their conservation.

As noted above, the Iron Age remains identified in the field assessment as Site 008 likely reflect a much more extensive past settlement and as such, CTS Heritage has mapped out the areas of high archaeological sensitivity associated with this. These areas are reflected in RED in the maps below and must be considered strict no-development areas as the likelihood of impacting significant archaeological heritage in these areas is VERY HIGH. This directly impacts the proposed layout for PV Site 1. It is recommended that the layout for PV Site 1 be adjusted to ensure that the area marked as HIGH SENSITIVITY is not impacted by any development activities.



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Sites 003 and 004 are located within the PV Site 4. It is recommended that the layout for PV Site 4 be adjusted to ensure that the buffer areas identified are not impacted by any development activities.

No significant heritage resources were identified within the areas proposed for PV Site 2 and PV Site 3.

Palaeontology

Based on the nature of the project, surface activities may impact upon the fossil heritage if preserved in the development footprint. The geological structures suggest that some of the rocks are the correct age and type to preserve fossils. The site visit and walk through confirmed that there were NO FOSSILS of any significance in the project footprint. Furthermore, the surface material to be excavated is soil and this does not preserve fossils. Since there is a small chance that fossils from the Vryheid Formation might occur below ground and might be disturbed when excavations commence for foundations and infrastructure, a Fossil Chance Find Protocol has been added to this report. Taking account of the defined criteria, the potential impact to fossil heritage resources is low to moderate.

The northern part of the project is on non-fossiliferous rocks of the Rustenburg Layered Suite but was surveyed. Based on the fossil record but confirmed by the site visit and walk through there are NO FOSSILS of any significance such as those of recognisable *Glossopteris* floral elements, even though fossils have been recorded from rocks of a similar age and type in South Africa. It is extremely unlikely that any fossils would be preserved in the overlying soils and sands of the Quaternary. There is a very small chance that fossils may occur below the ground surface in the shales of the Vryheid Formation so a Fossil Chance Find Protocol should be added to the EMP. If fossils are found by the contractor, environmental officer, or other responsible person, once excavations and drilling have commenced for the foundations and infrastructure, then they should be rescued and SAHRA notified so that a palaeontologist can be called to assess and collect a representative sample.

4 National Environmental Screening Tool

According to the DFFE Screening Tool analysis, the development area has Very High levels of sensitivity for impacts to palaeontological heritage and Low levels of sensitivity for impacts to archaeological and cultural heritage resources. The results of this assessment in terms of site sensitivity are summarised below:

- The cultural value of the broader area has some significance in terms of its mining and



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agricultural history (Moderate)

- Significant archaeological resources have been identified within the development area (Very High)
- No highly significant palaeontological resources were identified within the development area, however the geology underlying the development area is very sensitive for impacts to significant fossils (Moderate)

As per the findings of this assessment, and its supporting documentation, the outcome of the sensitivity verification disputes the results of the DFFE Screening Tool for Palaeontology - this should be considered to be Moderate - and disputes the results of the screening tool for archaeology and cultural heritage - this should be considered to be Very High and Moderate. This evidence is provided in the body of this report and in the appendices (Appendix 1 and 2 of the HIA).

5 Conclusion

It is confirmed that the site sensitivities identified in the specialist study have been verified as per section 4 above.