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

## 1 Introduction

FE Kudu (Pty) Ltd is proposing the development of a wind energy facility and associated infrastructure on a site located approximately 40km west of Aberdeen in the Eastern Cape Province. The project is located within the Dr Beyers Naude Local Municipality and the greater Sarah Baartman District Municipality. The project site comprises a single affected property, Portion 2 of Farm Oorlogspoort 85. The project is known as the FE Kudu Wind Energy Facility. The project is planned as part of a cluster of renewable energy projects, which includes a second wind energy facility with a capacity of up to 240MW (FE Tango Wind Energy Facility), located approximately 20km east of the FE Kudu Wind Energy Facility.

CTS Heritage was appointed by Savannah Environmental to undertake a Site Verification and Sensitivity analysis that forms part of the Environmental Authorisation (EA) for the proposed Kudu Wind Farm and its associated grid connections.

## 2 Site sensitivity verification

The site sensitivity verification was undertaken as follows:

- A Desktop Study was conducted of relevant reports previously written (please see the reference list for the age and nature of the reports used)
- An archaeologist conducted an assessment of archaeological resources likely to be disturbed by the proposed development. The archaeologist conducted his site visit from 20 to 24 June 2023.
- A palaeontologist conducted an assessment of palaeontological resources likely to be disturbed by the proposed development. The palaeontologist conducted his site visit in from 20 to 24 June 2023.
- A cultural landscape assessment was conducted that covers the proposed development area with fieldwork completed in July 2023.

A Heritage Impact Assessment (HIA) process has been undertaken and is reported on in a separate HIA report that will be submitted to the South African Heritage Resources Agency (SAHRA) as is required in terms of Section 38(8) of the National Heritage Resources Act (NHRA).



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### 3 Outcome

In terms of site sensitivity with specific consideration of heritage resources, clarity on the broader context and its cultural value is important to understand overall heritage sensitivity and in order to contextualise site specific findings. Please find both contextual information as well as site specific information below.

#### ***Cultural Landscape and the Built Environment***

The concept of cultural landscape gives spatial and temporal expression to the processes and products of the interaction between people and the environment. It may thus be conceived as a particular configuration of topography, geology, vegetation, land use and settlement pattern and associations which establishes some coherence of natural and cultural processes.

The overall landscape of the study area is a vast, open, barren, largely featureless plain. It lies to the west of an area of high scenic value framed to the north by the south-west sector of the Camdeboo Mountains, notably the Sleeping Giant. The R61 and N9 are regional linkage routes traversing a representative Karoo landscape and having some scenic heritage value in terms of its sense of remoteness.

The Camdeboo Plains and mountain backdrop, with its core lying east of the proposed development area, is of high local historical, aesthetic architectural and social significance. Of particular heritage significance is the town of Aberdeen, which is worthy of Grade IIIA heritage status in terms of the following:

- Historical value dating to the mid-19th century and including its local role in the South African War.
- Architectural and aesthetic value in terms of its street pattern, streetscape and townscape, concentration of conservation worthy buildings, and its relationship with its setting, notably its mountain backdrop to the north.
- Cultural landscape value as providing a focal and destination point within a vast open flat landscape and at the intersection of two regional routes.

The cultural landscape to the west of Aberdeen and forming part of the landscape affected by the proposed WEF has historical value in terms of forming part of a pattern of land grants dating to the mid-19th century. Natural features and patterns of use over time contribute to its landscape character (watercourses, topographical features, routes, farmsteads, stone kraals). While the landscape itself is not worthy of formal protection in terms of the NHRA, it possesses conservation-worthy landscape elements for aesthetic (visual, place making) and historical reasons.

#### ***Archaeology***



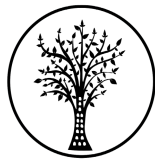
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The historic to modern farming use of the landscape has contributed to the built environment pattern of settlement in the area with typical Karoo werfs, many now ruined, dotting the landscape. A number of farm dams have been made in the past by using earthmoving equipment to push up dirt banks along the watercourses. Nearly 60 additional observations were made of various archaeological sites falling within the Kudu WEF area. Two areas previously recorded during the Kariega WEF study identified ruins and built environment heritage located near the northeastern end of the Kudu WEF associated with a stock kraal settlement on the way to the Benekraal werf as well as the Rooidraai werf near the southern end of the development area noted earlier. No impacts on these built environment heritage resources are anticipated but are noted as part of the broader assessment of heritage resources in the region.

Given the lack of natural rock shelters on the landscape and absence of dolerite boulders favoured by rock engravers during the Later Stone Age, the vast majority of the observations consisted of open air scatters of Middle and Later Stone Age artefact scatters. The vast majority of the archaeological sites recorded consisted of Middle Stone Age open site scatters of tools made of hornfels and siltstone which are abundant and easily sourced within the local area. The Later Stone Age scatters tended to contain high quality hornfels that appeared to be introduced into the area and were far less patinated and weathered than the extensive MSA material. Artefacts were seen throughout the study site and areas within the floodplain of the Kariegarivier containing less visible surface material are likely to hold buried archaeological material. The modern dirt furrows and sand banks created in the 1950s have no doubt contributed substantially to the build up of sediment burying many of these scatters.

**Table 1: Sites of significance identified within or near to the development area for Kudu WEF**

POINT ID	Description	Type	Period	Density	Co-ordinates		Grading	Mitigation
001	Rooidraai farm. "Karoo Secret" Cottage, early 20th century with corrugated iron roof, more modern stoep added later	Structure	Historic	n/a	-32.488176	23.550344	IIIC	No impact anticipated
062	Rooidraai main werf, mostly modern additions but early 20th century buildings present, lots of labourers' cottages.	Structure	Historic, Modern		-32.487224	23.54628	IIIC	No impact anticipated



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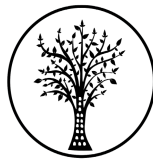
### ***Palaeontology***

The Kudu WEF project area on the northern margins of the Aberdeen *Vlakte*s are underlain at depth by potentially fossiliferous continental (fluvial / lacustrine) bedrocks of the Lower Beaufort Group (Adelaide Subgroup). These bedrocks probably belong largely or entirely to the Middle Permian Abrahamskraal Formation rather than the Late Permian Teekloof Formation as currently mapped. However, basal channel sandstones of the Poortjie Member (Teekloof Formation) might extend into the NW edges of the Kudu WEF project area on the lower footslopes of the Oorlogspoortberge. There are no historical records of fossil vertebrates from the project area; this is probably largely due to the extremely poor levels of bedrock exposure found here. Fragmentary remains of large dinocerophalians have recently been recorded from the Aberdeen *Vlakte*s just to the south as well as from the slopes of the Oorlogskloofberge to the west. During the recent 3-day palaeontological field visit no occurrences of fossil vertebrates were recorded.

A background scatter of petrified (silicified) wood blocks reworked from the Lower Beaufort Group bedrocks occurs within surface gravels of eluvial and alluvial origin in several sectors of the Kudu WEF project area. Locally abundant, ferruginised moulds and poorly-preserved petrified wood occurs in association with channel sandstone basal conglomerates on the NW margins of the Kudu WEF project area (Oorlogspoortberge eastern footslopes). Most of the fossil wood material is poorly preserved and of very limited scientific value. Mitigation of the recorded fossil wood sites is not recommended here, given the abundance and widespread occurrence of better-preserved material regionally in the northern Aberdeen *vlakte*s and the fact that the material is not *in situ*.

Most of the low-relief terrain within the WEF project area is covered by a thin to thick blanket of Late Cenozoic superficial deposits, including alluvial gravels and sands, eluvial and colluvial surface gravels, calcrete hard pans, pan sediments and gravelly to sandy soils. Apart from reworked fossil wood blocks and Late Cenozoic calcretised plant root casts of widespread occurrence and limited palaeontological interest, no fossils of Cenozoic age have been recorded within these younger sediments.

*Kudu WEF is mapped relative to significant heritage resources including cultural landscape elements, archaeology and palaeontology in Figure 1 and 2 below.*



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## 4 National Environmental Screening Tool

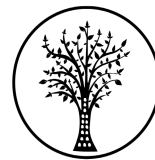
According to the DFFE Screening Tool analysis, the development area has Very High levels of sensitivity for impacts to palaeontological heritage and High levels of sensitivity for impacts to archaeological and cultural heritage resources. The results of this assessment in terms of site sensitivity are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

- The cultural value of the pristine Karoo Landscape is very high and the location of the proposed development will impact this significance (Very High)
- Some significant archaeological resources were identified within the development area (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 (Very High)

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

## 5 Conclusion

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



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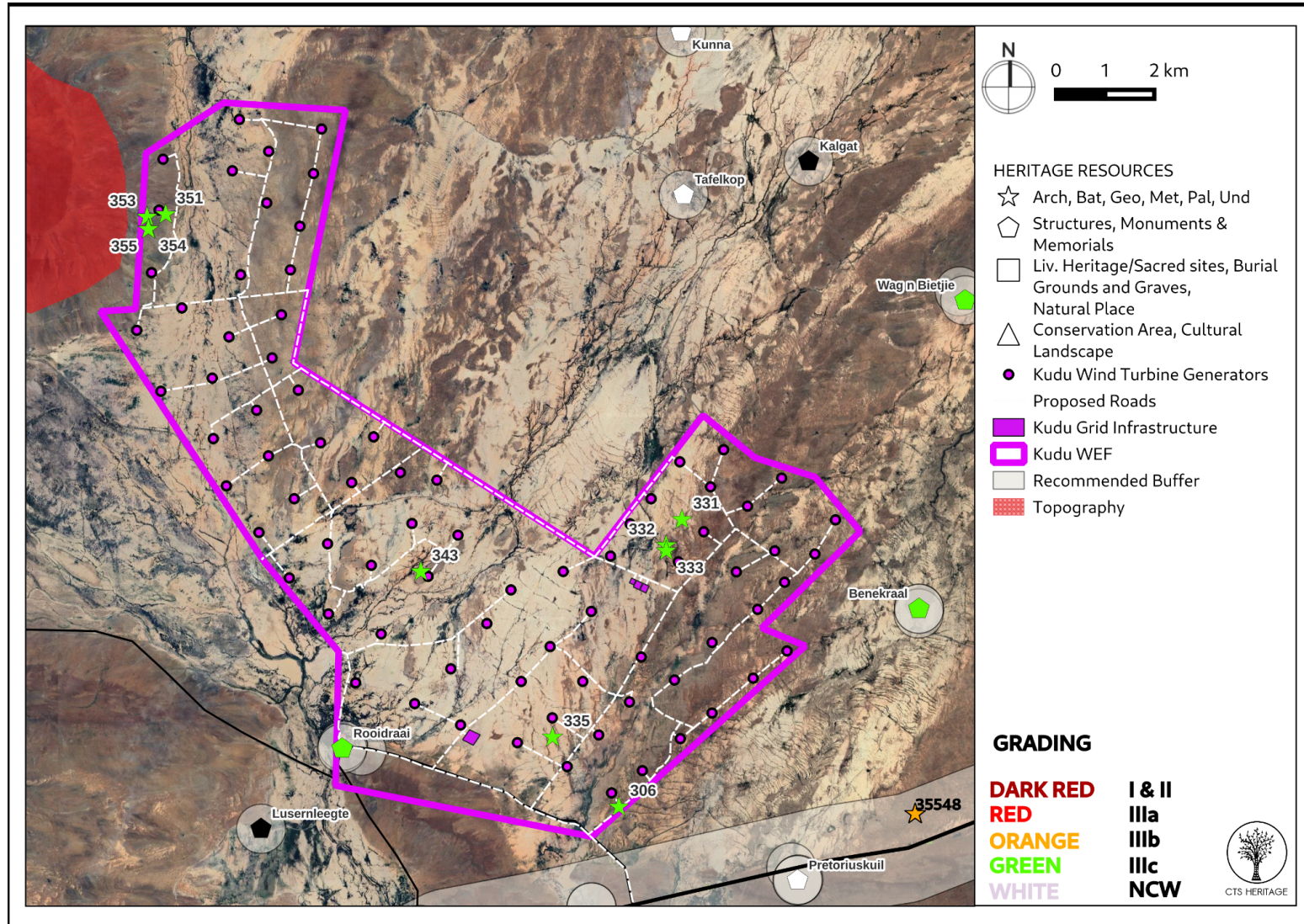
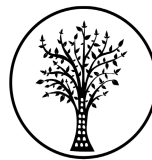


Figure 1: All heritage resources within proximity to the development area



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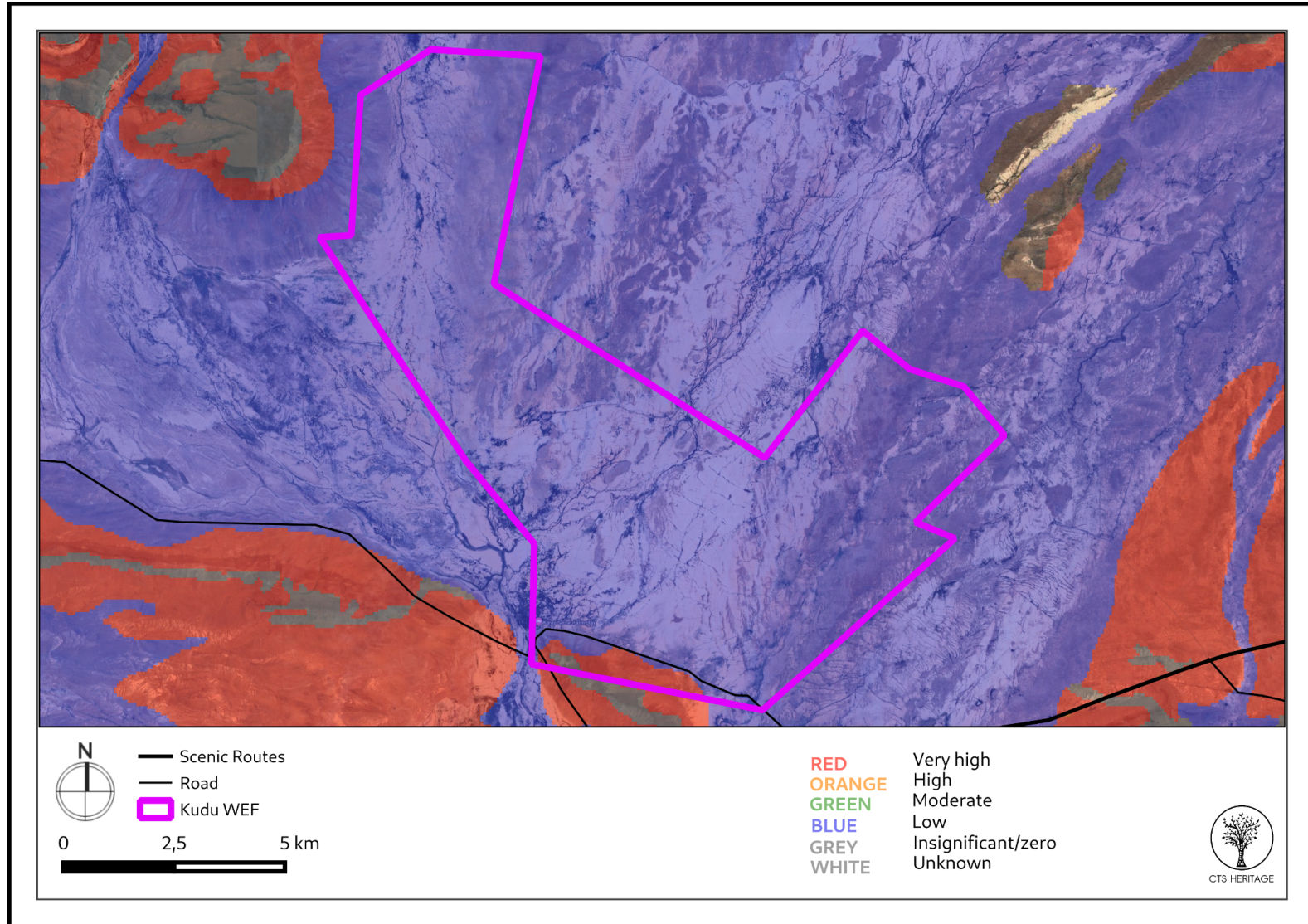


Figure 2: Palaeontological sensitivity of the development area from SAHRIS