



10 November, 2021

Att: Elana Mostert
Enviro Works
Block B2 Edison Square
C/O Century Avenue & Edison Way
Century City
Cape Town
7441

Dear Elana,

DESKTOP HERITAGE SCREENING ASSESSMENT, THE PROPOSED KHAUTA SOLAR PV CLUSTER NEAR WELKOM, FREE STATE PROVINCE

1. Introduction

ACRM has been requested to conduct a desktop heritage screening assessment for the proposed Khauta Solar PV Cluster near Welkom, in the Free State Province.

The aim of the screening study is to assess the heritage sensitivity of the study site which will inform any potential heritage constraints in the planning and layout of the proposed development.

The study will highlight 'Red Flag' areas and identify any 'No-Go' development areas.

2. The development proposal

The development proposal entails the following key components (Figure 1)

- 3 x 100MW Solar PV facilities
- 2 x line route options for a new 132kV overhead powerline (150m corridor to be assessed on either side of the proposed line).

The following possible additional components, are being considered by the applicant

- 2 x 19.9MW Solar PV facilities
- 2 x line route options for a new 44kV overhead powerline (150m corridor to be assessed on either side of the proposed line).

3. Sources of information

The primary source of information for the screening assessment was the South African Heritage Resources Information System (SAHRIS) national database.

The heritage specialist consulted with Ms Loudine Phillip of the Department of Archaeology, National Museum of Bloemfontein.

The heritage specialist also consulted with Ms Vicky Heunis of the War Museum in Bloemfontein for information regarding battlefield sites and war memorials, in Welkom.

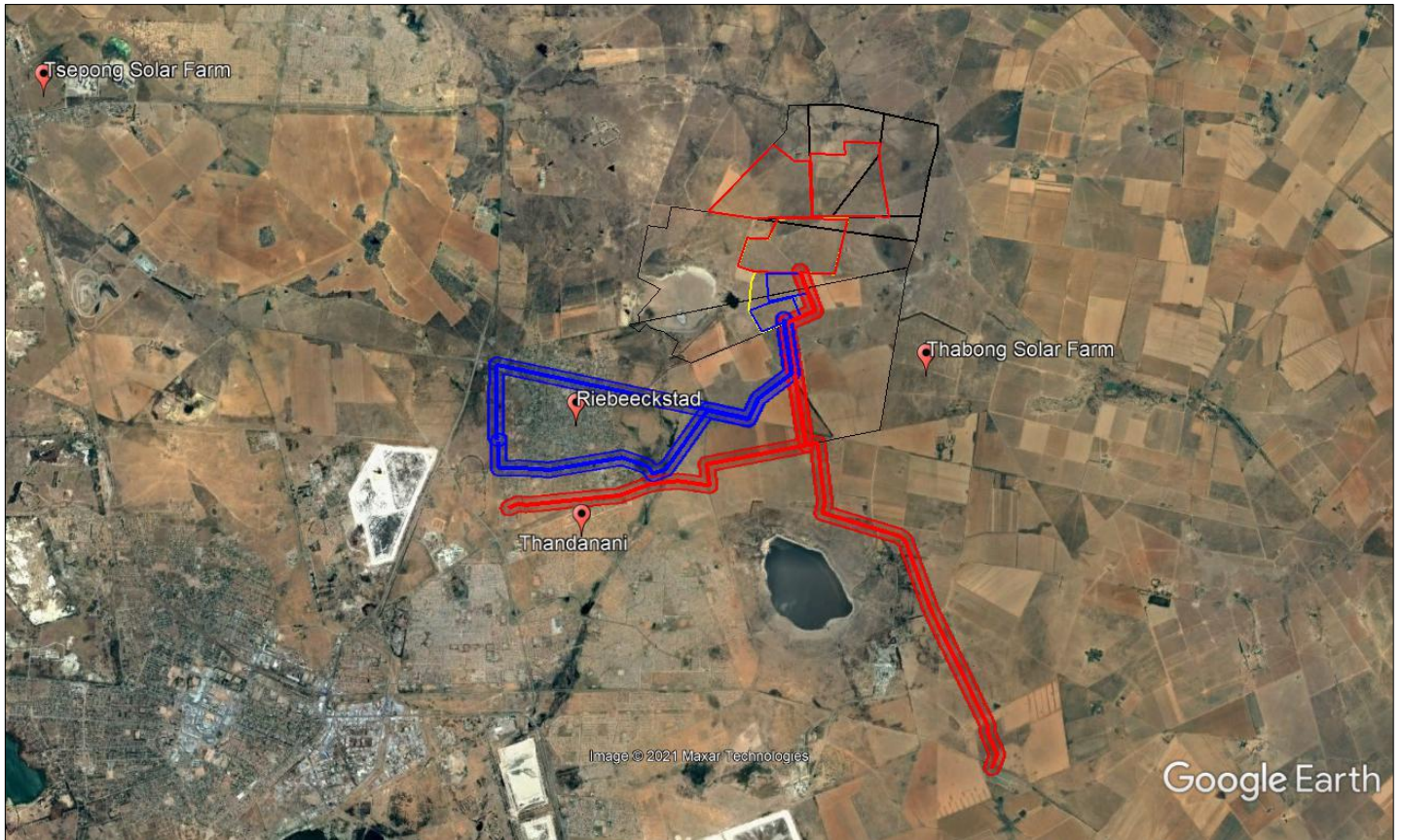


Figure 1. Layout of the proposed Khauta Solar PV Cluster in Welkom

4. Limitations

Evaluation of archival and historic maps and satellite imagery have not been conducted, which would have provided more accurate information on the presence of heritage resources in the study area

No fieldwork has been undertaken which would confirm the presence/absence of heritage resources in the study area.

5. Heritage context

The desktop study was undertaken to assess the heritage context surrounding the proposed development site.

The Free State has a rich archaeological and historical history going back millions of years and includes significant aspects such as Later Stone Age rock art, Anglo Boer War Battlefields and Iron Age stonewalled enclosures. The general surroundings of the area became a melting pot of contact and conflict as it represents one of many frontiers where San/Bushman hunter gatherers, Nguni and Sotho-Tswana agro-pastoralists, Dutch Voortrekkers and British Colonists all came together (Birkholtz 2017). The ravages of war also swept across these plains, and in particular the South African War (1899-1902), as well as the Boer Rebellion (1914-1915).



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The town of Welkom was laid out on a farm of the same name after gold was discovered in the region, and officially proclaimed a town in 1948. Riebeeckstad is named after Jan van Riebeeck and was established as an upper-class suburb void of mine shafts for people working in Welkom and on the Free State goldfields.

The archaeological history of the area can broadly be divided into a Stone Age, Iron Age and Historic Period. Both the Stone Age and Iron Age form part of what is referred to as the Pre-Colonial Period, whereas the Historic Period is referred to as the Colonial Period.

It is interesting to note that no, or very little archaeological or cultural heritage resources have been identified during the majority of the CRM¹ project reports consulted (Coetzee 2008; Dreyer 2011, 2008, 2004; Prins 2013; Van der Walt 2020, 2015), aside from Colonial Period farming infrastructure and cemeteries (Dreyer 2007; Van Ryneveld 2009) – giving the impression of a general low archaeological and cultural heritage significance to the general area. The surrounding area, it appears, has been heavily impacted on by residential housing development, construction of powerlines, roads, agricultural production and mining activities that have clearly impacted on surface indicators of heritage sites.

Heritage resources were identified during the field assessment of the Thabong Solar Farm, on the Farm Uitkyk 509, directly to the east of the proposed Khauta Solar PV Cluster (Van Ryneveld 2013) (Figure 1). These included several Colonial Period sites including a ruined homestead, and a barn and adjoining livestock enclosure. The remains were graded as having Low local significance. Three historic cemeteries were recorded on the 867ha property. Cemeteries are graded as having High Local Significance. Two cemeteries were also recorded on the adjacent Farm Re Helderwater 494 (Van Ryneveld 2013). No pre-colonial archaeological Stone Age heritage resources were encountered during the Thabong study.

Van Ryneveld (2009) also conducted a Phase 1 Archaeological Impact Assessment (or AIA) of the proposed Thandanani Residential Development south west of Riebeeckstad (Figure 1). Heritage sites identified during the study included one Historical Period farming site which was graded as having Low local Significance (Van Ryneveld 2009). No archaeological resources or any other old buildings or features identified across the 180ha study site. No graves, cemeteries or historic period middens were found either.

Very little is known about the Stone Age archaeology of the study area and its immediate surroundings. A number of Middle and Later Stone Age material in association with mammal fossil remains have been identified in erosion gullies along the Sand, Doring and Vet Rivers between Virginia and Theunissen (Birkholtz 2017; Loudine Phillip National Museum Bloemfontein, pers. comm.).

The arrival of early Black farming communities during the first millennium, heralded in the start of the Iron Age for South Africa. The Iron Age is that period in South Africa's archaeological history associated with pre-colonial farming communities associated with agricultural and pastoralist farming activities, and metal production. According to the distribution map for Iron Age settlements on the Southern Highveld as published in Maggs (1976), the Khauta Solar PV area is located to the west of the known distribution of such Late Iron Age sites. It is therefore unlikely for any Late Iron Age sites to be located within the study area or its immediate surroundings (Birkholtz 2017). However, it is still possible for Iron Age sites to be located within the study area.

¹ Cultural Resource Management



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The desktop study/screening assessment has highlighted a number of *potential* heritage indicators that may occur within the proposed Khauta Solar PV Cluster. These include mostly Colonial Period farm buildings, structures and features, cemeteries and grave sites.

An assessment by an architectural historian of each historic building and structure located within the study footprint areas, will have to be undertaken. These studies will be required to determine significance of each building or structure and will assess the possible development impacts on each of them during the Heritage Impact Assessment (HIA) phase. At the same time appropriate mitigation measures will also be outlined.

Cemeteries and grave sites are protected by various legislations. Such legislation may include the National Heritage Resources Act 25 of 1999, the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissue Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place. The best option is *in-situ* preservation of the grave sites. Should this not be possible, a standard grave relocation process including a detailed social consultation process with former or present residents, must be undertaken.

Pre-colonial Stone Age archaeological sites appear to be thin on the ground, but their presence in the landscape cannot be ignored. Archaeological visibility is often constrained due to dense vegetation cover.

Sacred Natural Sites may also occur, but for obvious reasons these are often not revealed². The International Union for Conservation of Nature (IUCN) defines Sacred Natural Sites as areas of land or water having special spiritual significance to peoples and communities (IUCN, 2008). Such Sacred Natural Sites are found across Southern Africa as well, and for distinct reasons are often kept secret. The belief in water spirits for example, have been recorded amongst many of the South-Eastern Bantu speaking groups such as the Zulu, Xhosa, Shona, Swazi, Venda, Sotho, Tshangaan, Ndebele and Tswana as well as the first nations who resided in South Africa, namely the San and Khoi (Birkholtz 2017). Sacred sites relating to water include springs and fountains that are used for medicinal, cultural and ritualistic purposes. The location of such sacred springs and fountains are also often kept secret.

Historic homesteads of black African communities may also occur within the study area. The presence of these features raises another heritage concern, that of unmarked still born babies. In terms of black African tradition, stillborn babies were often buried in unmarked graves underneath or adjacent to the homesteads of their parents (Birkholtz 2017).

6. Potential Heritage indicators

Regarding the proposed Khauta Solar PV Cluster in Welkom, the following potential heritage indicators have been identified

6.1 Proposed Khauta Solar PV Cluster

- Colonial Period buildings, ruins and structures: High Probability
- Cemeteries and graves: High Probability

² Questions pertaining to Sacred Natural Sites to be addressed during the Social Impact Assessment Phase, and Public Participation process



- Colonial Period middens (old rubbish dumps): Low-Medium Probability
- Stone Age remains: Medium-Low Probability
- Battlefield Sites & memorials: Low Probability
- Mining Heritage: Low Probability

6.2 Proposed 132kV Route to Everest substation

- Colonial Period buildings, ruins and structures: Medium-Low Probability
- Cemeteries and graves: Medium-Low Probability.
- Colonial Period middens (old rubbish dumps): Low Probability
- Stone Age remains: Medium-Low Probability
- Battlefield Sites & memorials: Low Probability
- Mining Heritage: Low Probability

6.3 Proposed 132kV Route to Leander substation

- Colonial Period buildings, ruins and structures: Medium-Low Probability
- Cemeteries and graves: Medium-Low Probability.
- Colonial Period middens (old rubbish dumps): Low Probability
- Stone Age remains: Medium-Low Probability
- Battlefield Sites & memorials: Low Probability
- Mining Heritage: Low Probability

6.4 Proposed 44kV Option 1 & Option 2 to Riebeeckstad substation

- Colonial Period buildings, ruins and structures: Low Probability
- Cemeteries and graves: Low Probability.
- Stone Age remains: Low-Medium Probability
- Battlefield Sites & memorials: Low Probability
- Mining Heritage: Low Probability



7. *'Red Flags'*

'Red Flags' include cemeteries, and unmarked graves

8. *No Go Areas*

No, 'No Go' Areas have been identified during the desktop screening assessment.

9. *Conclusion*

Indications are that the cultural heritage profile of the Khauta Solar PV Cluster, is Low.

Most frequently found heritage resources are farmsteads, old buildings, ruins and structures such as kraals, cemeteries and burial sites.

Regarding the proposed 132kV and proposed 44kV Grid Connection Options, no one route is preferred over the other.

It is important to note that the desktop study merely informs on the potential heritage sensitivity of the study area.

Evaluation of archival and historic maps and satellite imagery is a more accurate guide to the presence of cultural heritage resources in the study area.



10. References

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