

**DRAFT ARCHAEOLOGICAL IMPACT ASSESSMENT: PROPOSED  
CONSTRUCTION OF THE MARALLA WEST WIND ENERGY FACILITY  
NEAR SUTHERLAND IN THE NORTHERN CAPE**

(Assessment conducted under Section 38 (8) of the  
National Heritage Resources Act No 25 of 1999)

**SAHRA Case Id: 10183**

Prepared for:  
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WSP/Parsons Brinckerhoff

On behalf of:  
BioTherm Energy (Pty) Ltd

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## EXECUTIVE SUMMARY

### Site Name:

The Maralla West Wind Energy Facility in the Northern Cape Province.

### Location

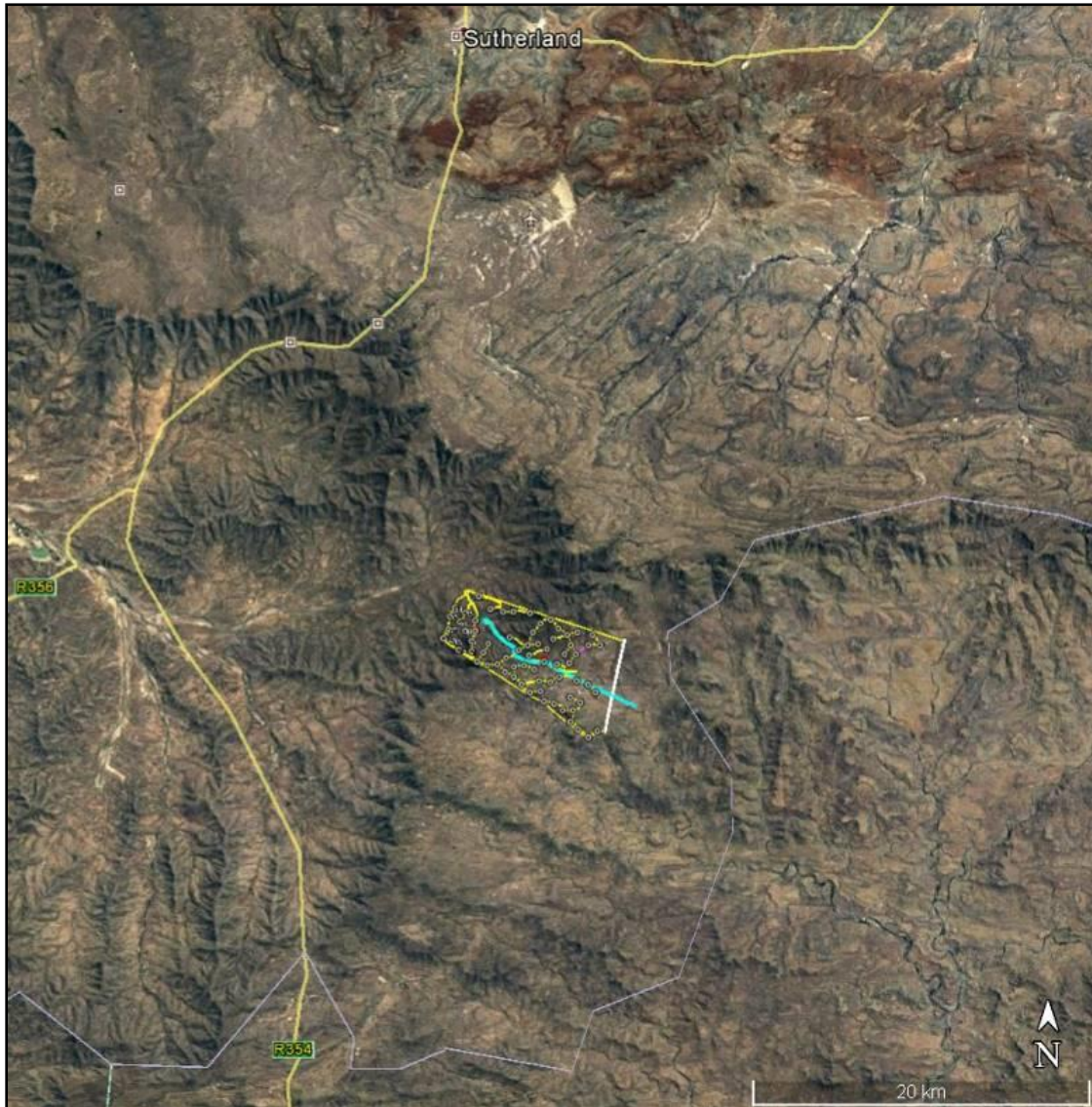


Figure: The Maralla West Wind farm is situated off the R354, midway between Matjiesfontein and Sutherland. The Maralla West WEF and the powerline connection to the Komsberg substation are located in the Northern Cape Province.

### South African Heritage Resources Agency

The Maralla West WEF is located in the Northern Cape, and the heritage authority responsible for providing comments is the *South African Heritage Resources Authority (SAHRA)*.

They have issued an interim comment requesting:

- Archaeological and Historical heritage resources;
- Burial grounds and graves;
- The detailed Palaeontological impact assessment conducted by John Almond

- Visual Impact assessment
- Any comments by the public regarding heritage resources

## **Methodology**

- Desktop review of the literature (both published and unpublished) on the archaeological resources which have been identified in the general area;
- Field survey by Webley & Halkett from 7 to 11 March 2016, and earlier survey of part of the Maralla West WEF was conducted by Halkett, Bluff & Pinto as part of the Sutherland WEF in 2011.

The limitations of this study are primarily related to the rough terrain, with many of the areas identified for placement of turbines situated on the high ridges which were completely inaccessible.

## **Archaeological Resources Identified**

There are at least two concentrations of archaeological (with later, superimposed historical) sites on Maralla West, one along a stream ("River Settlement"), and the second along the public gravel road (old Roggeveld Road) which bisects Drie Roode Heuvels (Die Kom) named "Road Settlement":

- River Settlement: There are a number of well-defined LSA sites with relatively abundant artefactual material (including Khoekhoen pottery) associated with water sources such as small streams and spring. These "pastoralist" sites are found on sandy river banks, often in proximity to later colonial sites. There are numerous stone kraals and abandoned stockpost dwellings in the same area;
- Road Settlement: There the remains of a large, late 19<sup>th</sup> century settlement, on Drie Roode Heuvels, on both sides of the public gravel road (old Roggeveld Road). It comprises a series of kraal complexes to the west of the road, as well as a threshing floor (*trapvloer*) and a wide distribution of 19<sup>th</sup> century ceramics and glass. This site has been bisected by the gravel road, as the graveyard, containing at least 12-15 Christian style graves, is located to the east of the road. There is also extensive stone walling, on both sides of the road.

There are no significant archaeological resources on the high lying ridges which will accommodate the wind turbines.

## **Anticipated Impacts on Archaeological Resources**

- The majority of archaeological sites are located along river beds. The construction of, in particular, access roads across river beds may result in the destruction of archaeological sites on the river banks.
- The widening of the public gravel road through the farm Drie Roode Heuvels (Die Kom) will result in the destruction of the settlement and graveyard next to the road.

## **Anticipated Impacts on Cemeteries and Graves**

- Informal cemeteries and graves are located close to ruined and abandoned settlements and due care must be undertaken when infrastructure, such as roads and powerlines are constructed to avoid destroying them.

## **Cumulative Impacts on Archaeology**

The Maralla West WEF is located within the Komsberg REDZ and is therefore considered to be located within the renewable energy hub that is intended for the Komsberg area. The Visual Study lists the 16 applications for renewable energy facilities within a 60km radius of Maralla West WEF

and their current status. Some have received environmental status, others have been withdrawn or lapsed, and others are still in the process of obtaining authorisation. The Visual Study points out that it is not possible to accurately estimate the significance of the cumulative impacts as not all facilities granted environmental approval will be constructed.

The cumulative impacts of a number of Wind Energy facilities in this particular area – increases the probability of negative impacts to archaeological resources, despite the mitigation measures proposed in each individual AIA report. This is because:

- Surveys can never achieve a 100% cover of the area which may potentially be impacted. They sample a portion of the proposed area, and draw deductions from this. There may be significant sites (such as rock art sites or graves) which were not identified during the survey;
- Many archaeological sites (including graves) are located under the soil surface, and are only exposed once the construction work commences. It is essential that the EMPr make provision for the recovery of archaeological material which may be uncovered during construction.

### **Archaeological Recommendations**

The following highly sensitive areas have been identified and they should be declared *no-go* areas during the construction:

- LSA sites with pottery along a river bed;
- Remains of a late 19<sup>th</sup> century settlement (including graveyard) on both sides of the old Roggeveld gravel road on Drie Roode Heuvelds (Die Kom) on Maralla West. The widening of the road will result in the destruction of unmarked graves.

The following archaeological recommendations are proposed:

- No Go areas should be avoided;
- If there are any significant changes to the layout of the wind turbines, then a walk down of the proposed facility is recommended as part of the EMPr;
- If any archaeological remains, including human remains, are uncovered during construction, then work must stop in that area and the responsible heritage authorities (SAHRA) must be notified. It is essential that the EMPr make provision for the recovery of archaeological material which may be uncovered during construction.

### **Author/s and Dates**

Lita Webley

ACO Associates cc

Archaeology

## GLOSSARY

**Archaeology:** Remains resulting from human activity which is in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures.

**Early Stone Age:** The archaeology of the Stone Age between 700 000 and 2500 000 years ago.

**Fossil:** Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.

**Heritage:** That which is inherited and forms part of the National Estate (Historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999).

**Heritage Western Cape:** The compliance authority that protect heritage in the Western Cape.

**Holocene:** The most recent geological time period which commenced 10 000 years ago.

**Late Stone Age:** The archaeology of the last 20 000 years associated with fully modern people.

**Middle Stone Age:** The archaeology of the Stone Age between 20-300 000 years ago associated with early modern humans.

**National Estate:** The collective heritage assets of the Nation

**Palaeontology:** Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

**SAHRA:** South African Heritage Resources Agency – the compliance authority which protects national heritage in the Northern Cape.

**Structure (historic):** Any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith. Protected structures are those which are over 60 years old.

## Acronyms

DEA	Department of Environmental Affairs
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
LSA	Late Stone Age
MSA	Middle Stone Age
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency
WEF	Wind Energy Facility

## Archaeologists/Heritage Specialists

Lita Webley is an archaeologist (PhD from the University of Cape Town 1992) with ACO Associates cc and has been conducting Heritage Impact Assessment and archaeological specialist studies in the Western Cape, Northern Cape and Eastern Cape Provinces since 1996. She is a member of the Archaeology, Palaeontology and Meteorites Committee and the Impact Assessment Committee of Heritage Western Cape (HWC), the Provincial Heritage Resources Authority. She is accredited as a Principal Investigator by the Association of Southern African Professional Archaeologists (ASAPA) CRM section as follows:

- Principal Investigator: Stone Age, Shell Middens and Colonial Period; and
- Field Director: Grave Relocations.

ACO Associates cc has no financial or other interest in the proposed development and will derive no benefits other than fair remuneration for consulting services provided.

David Halkett (BA, BA Hons, MA (UCT)) is an Archaeologist and Member of the Association of Professional Archaeologists of Southern Africa (ASAPA) and accredited with Principal Investigator status. He has been working in heritage management for 23 years and has considerable experience in impact assessments with respect to a broad range of archaeological and heritage sites in the Northern Cape.

## SPECIALIST DECLARATION

I, Lita Webley, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have potential of influencing – any decision to be taken with respect to the application by the competent authority; and – the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offense in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist



Specialist Field: Archaeology and Heritage

Name of Company: ACO Associates

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## 1 INTRODUCTION

ACO Associates cc was appointed by WSP on behalf of BioTherm Energy (Pty) Ltd to undertake an Archaeological Impact Assessment for the construction of the Maralla West Wind Energy Facility between Laingsburg and Sutherland in the Northern Cape Province (Figure 1).

The Archaeological Impact Assessment forms one component of the Heritage Impact Assessment, the palaeontology was undertaken by Dr John Almond of Natura Viva cc while Belinda Gebhardt undertook the Visual Impacts on the Cultural Landscape.



**Figure 1:** The boundaries of the Maralla West WEF in yellow. They fall within the boundaries of the Northern Cape. The onsite substations are shown in blue and red, and the powerline connection to the substation in blue. Most turbines are placed in the higher ground. The terrain is very mountainous and cabling and roads need to cross valleys and river beds.

### 1.1 Maralla West Wind Energy Facility

Maralla West WEF, of 140MW, is located 33km south of the town of Sutherland. Maralla West (Site 1) is in the Northern Cape Province (Figure 2) while the eastern portion of the Maralla East (Site 2) is in the Western Cape Province (Figure 3). The site access is via the old Roggeveld gravel road off the R354. The boundary dividing Maralla West WEF from Maralla East runs through the centre of the farm Drie Roodeheuvelds 180.

- Remaining extent of Drie Roodeheuvelds 180;
- Portion 1 of Wolven Hoek 182;
- Portion 2 of Wolven Hoek 182, and

The Wind Farm will comprise:



- 56 wind turbines generators with a generating capacity of between 2 and 4MW each. The turbines will have a hub height of up to 120m and rotor diameter of up to 150m.
- Concrete foundation to support the turbines
- Onsite 132kV Substation, with the transformers for voltage step up from medium voltage to high voltage. Substation will occupy an area of 150mx 150m
- The medium voltage collector system will comprise of cables (1kV up to and including 33kV) that will be run underground, except where a technical assessment suggest that overhead lines are applicable, in the facility connecting the turbines to the onsite substation
- A laydown area for the temporary storage of materials during the construction activities.
- The laydown area will be a maximum of 4ha in size
- Permanent laydown for turbine crane platforms
- Haul roads between 4 – 6m wide. Double width roads required in strategic places for passing
- Temporary site compound for contractors

Operations and maintenance compound area including O&M building, car park and storage area”

The Maralla West WEF will have a 33/132kV powerline connection from the Onsite IPP substation to the Common Eskom substation, with a 250m wide corridor. The Common Eskom substation and Powerline will be assessed through a separate Basic Assessment Process.

## 2 METHODOLOGY AND LIMITATIONS

*This study has been commissioned as Archaeological Impact Assessment.*

It includes a review of the published material as well as unpublished reports on the SAHRIS database. The 1:50 000 maps of the area as well as Google Earth aerial images were consulted. Numerous impact assessments have been conducted in proximity to the proposed facility as reflected on the SAHRIS database. Little was known of the study area until recently, when the area was identified as suitable for wind farm development (Komsberg REDZ). The following CRM reports provide valuable information on the heritage resources of the area and were consulted:

- The Suurplaat Wind Energy facility (Hart et al. 2010)
- The Roggeveld Wind Energy facility (Hart & Webley 2011, 2013)
- The Sutherland WEF facility (Halkett & Webley 2011)
- The Kareebosch Wind Energy facility (Roggeveld Phase 2) (Hart & Kendrick 2015)
- The Hidden Valley Wind Energy facility (Phases 1, 2 & 3) (Booth 2012)
- The Gunstfontein Wind Energy Facility (Heritage Contracts and Archaeological Consulting 2015);
- The Komsberg Wind Energy facility (Hart 2016).

Not all these wind farms have received environmental authorisation.

### 2.1 Assumptions

This impact assessment is based on the knowledge which has been accumulated from archaeological impact assessment undertaken in surrounding areas as well as a site visit in March 2016. It assumes that the heritage resources on Esizayo and Maralla are similar to the surrounding areas.

However, in addition to those graves with headstones and inscriptions, there were at least 15 unmarked graves inside the fence. In addition, there are a substantial number of cairns outside the fence which presumably also relate to graves. The full list of cairns is provided in Table 2a.

## 2.2 Limitations

- It is important to record, that the archaeological survey was conducted of the Esizayo WEF, Maralla East WEF and the Maralla West WEF at the same time, and a single report was written for the three wind farm facilities which was only later divided into three;
- Due to the mountainous nature of the terrain, only a small percentage of the proposed locations for the wind turbines could be assessed;
- The resolution on aerial photography (Google Earth) is not sufficiently high to identify all stone structures (including kraals), archaeological sites or graves. We are limited to our field assessment of the study area.

## 3 LEGISLATIVE BACKGROUND

While the National Department of Environmental Affairs is the decision making authority acting in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) and Regulations (2014), they must ensure that the evaluation of the statutorily defined broad range of heritage resources fulfils the requirements of the relevant heritage resources authority in terms of Section 38 (3) of the National Heritage Resources Act (Act 25 of 1999) (NHRA) and that any comments and recommendations of the relevant heritage resources authority with regard to proposed development have been taken into account prior to the granting of the consent.

This report is conducted in terms of Section 38 (8) of the National Heritage Resources Act, No 25 of 1999.

The NHRA provides protection for the following categories of heritage resources:

- Landscapes, cultural or natural (Section 3 (3))
- Buildings or structures older than 60 years (Section 34);
- Archaeological Sites, palaeontological material and meteorites (Section 35);
- Burial grounds and graves (Section 36);
- Public monuments and memorials (Section 37);
- Living heritage (defined in the Act as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) (Section 2 (d) (xxi)).

### 3.1 Archaeology & Palaeontology (Section 35(4))

No person may, without a permit issued by HWC, destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.

Archaeological is defined as: “material remains resulting from human activity which is in a state of disuse and is in or on land and which is older than 100 years, including artefacts, human and hominid remains and artificial features and structures”.

Palaeontological is defined as: “any fossilised remains or fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace”.

### 3.2 Burial grounds and graves (Section 36(3))

No person may, without a permit issued by the South African Heritage Resources Authority (SAHRA), destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority.

### 3.3 Grading

The significance of heritage resources is assessed according to the grading criteria established by the National Heritage Resources Act, No 25 of 1999.

**Table 1:** Grading of Heritage Resources

Grade	Level of significance	Description
I	National	Of high intrinsic, associational and contextual heritage value within a national context, i.e. formally declared or potential Grade 1 heritage resources.
II	Provincial	Of high intrinsic, associational and contextual heritage value within a provincial context, i.e. formally declared or potential Grade 2 heritage resources.
IIIA	Local	Of high intrinsic, associational and contextual heritage value within a local context, i.e. formally declared or potential Grade 3a heritage resources.
IIIB	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3b heritage resources.
IIIC	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3c heritage resources.

The subdivision of Grade III sites has been introduced in the Western Cape to facilitate significance grading at the local level.

### 3.4 Heritage Authorities

The Maralla West WEF is located in the Northern Cape, and the heritage authority responsible for providing comments is the South African Heritage Resources Authority (SAHRA).

They have issued an interim comment (Case ID: 10183) requesting:

- Archaeological and Historical heritage resources;
- Burial grounds and graves;
- The detailed Palaeontological impact assessment conducted by John Almond
- Visual Impact assessment
- Any comments by the public regarding heritage resources

The South African Heritage Resources Agency (SAHRA) are required to provide comment on the proposed project in order to facilitate final decision making by the Department of Environmental Affairs (DEA).

## 4 REGIONAL OVERVIEW

### 4.1 Environmental attributes

The Study Area is located some 35 km south-east of Sutherland, beneath the plateaux. The R354 between Matjiesfontein and Sutherland runs some ...km to the west of the Maralla West WEF while the old road to Sutherland including the Komsberg pass (old Roggeveld Road) runs through the Maralla West WEF and provides access to the plateaux.

Although myriad streams are to be found on all the farms, the main river systems are found in the Maralla East and Esizayo WEF sites. Old settlements tend to focus on the water resources and along river valleys. These areas contain numerous kraals, located near water and built against the rocky ridgelines along the valley sides. These areas contain numerous kraals, located next to pools and built against the rocky ridgelines along the valley sides. Exotic vegetation is often present around settlements but otherwise is low scrub. Typical landforms are wide plains, surrounded by hills and koppies both above and below the escarpment.



**Plate 1:** View in a westerly direction across the mountainous terrain of the farm Wolven Hoek 182, on the western margins of the Maralla West WEF.



**Plate 2:** View northward, to the escarpment from the Maralla West WEF.

There are a number of farm tracks which cross the study area to service fenced stock camps and associated small dams and their accompanying wind pumps. Despite human intervention related to farming, the site remains predominantly natural and isolated.

#### **4.2 Pre-colonial Archaeology**

Recent contract surveys by heritage practitioners as well as academics from the University of Cape Town have increased our knowledge of the archaeology of the area.

There are very few Early or Middle Stone Age sites in the study area. Halkett & Webley (2011) observed Middle Stone Age (MSA) artefacts including scatters of polished/patinated stone chunks, flakes and cores, with occasional denticulation noted. Distinctive bifaces representative of the ESA were only seen on one site.

Lloyd Evans et al. (1985) excavated a small rock shelter on the grounds of the South African Astronomical Observatory in Sutherland. It contained a Later Stone Age assemblage. They commented (1985: 108) that the presence of the shell beads points to cultural ties with people along the Cape coast while the small scrapers can be assigned to the Wilton industry. Hart (2005) reported finding a dense artefact scatter associated with a shallow rock shelter while doing a survey for a golf course to the south of Sutherlands. The study indicated that archaeological sites may found in areas that were sheltered from the wind.

#### **4.3 Colonial Archaeology**

Schoeman (1986) has described the early settlement of the Roggeveld and Sutherland area which commenced around 1750. The first recorded loan farms in the Roggeveld date to 1743, and by 1750 there were 31 registrations (Penn 2005). The early farmers found the escarpment, which enjoys the highest rainfall, particularly suitable for small stock farming during the summer months but they moved down into the valleys and plains of the Karoo to escape the extreme winters. According to Penn (2005), in the 18th century there were numerous independent Khoekhoen kraals located amongst the Trekboer farms in the Roggeveld. Resistance to the Trekboers in the



Roggeveld came initially from the San who resisted fiercely throughout the great Karoo, at times beating back the vanguard of *Trekboer* farmers. The colonists fought back by establishing the *Kommando* system. The Khoisan were gradually driven from the Roggeveld northward to the extent that by 1809 there is reported to have been only one settled “Bushmen” kraal left in the area.

During the South African War, the threat of Boer incursions led British forces to build fortifications at a number of strategic passes through the Roggeveld. With Manie Maritz active in the district, many young men from the Roggeveld joined the Boer cause. A stone redoubt was built at the top of the Brandkloof and Maleishoek passes. Orton & Halkett (2011) reported finding stone-walled structures relating to the South African War on the farm Jakhalsvalley 99, outside Sutherland. They related that stone-walled defensive enclosures were made by both Boer and British and it is difficult to distinguish between them, even when they are associated with historic tin cans, glass and ceramics.

## **5 FINDINGS**

Since our field survey of the Maralla West WEF was undertaken before the decision was taken to divide the wind farm into two separate wind farms (Maralla West and Maralla East) it has been difficult to separate our field tracks and archaeological sites which were recorded during the survey.

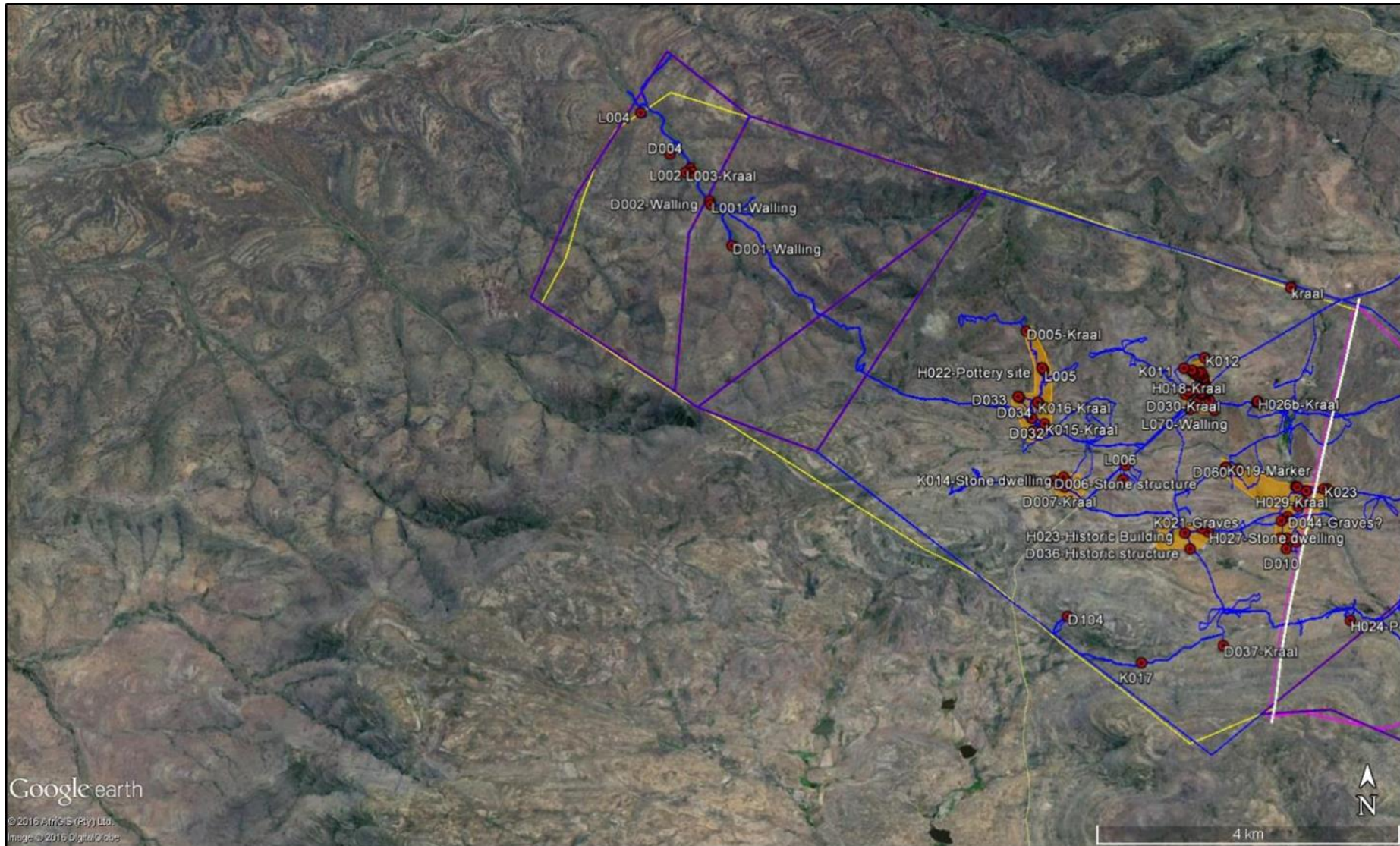
### **5.1 Maralla WEF**

The boundary dividing the Maralla East (Site 2) WEF from the Maralla West (Site 1) WEF runs through the centre of the farm Drie Roodeheuvelds 180. Maralla East includes the farms Wolven Hoek 182 and Drie Roode Heuvelds 181.

Most of the heritage sites on the Maralla East and Maralla West WEF sites are located along the deeply incised river valleys (Figures 2 & 3).

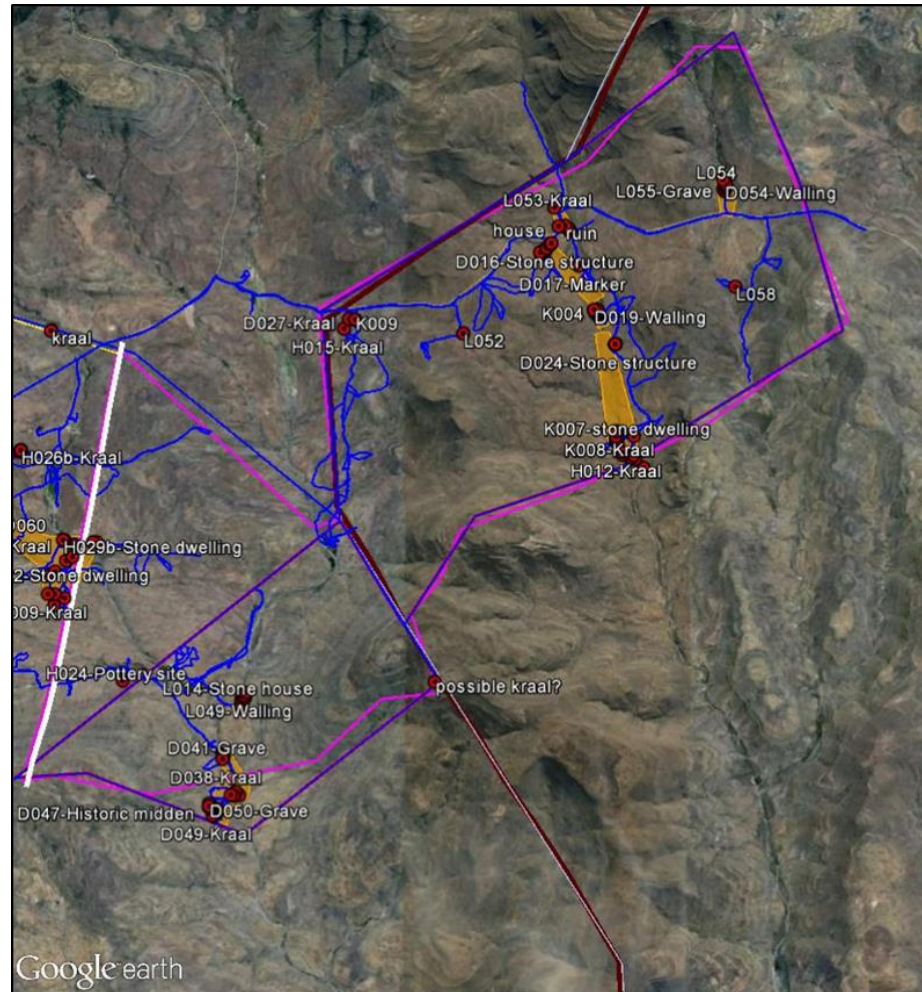
The archaeological sites for Maralla West WEF are shown on Tables 2a and are supplemented by the records of Halkett & Webley (2011) undertaken as part of a survey for a proposed renewable energy facility for Mainstream Renewable Power Limited (Table 2b).

The pre-colonial and colonial period archaeological sites appear to concentrate in the same areas (Figures 2 & 3), namely in little valleys and near to streams and flat areas. There are concentrations of ruined stone buildings, old kraal complexes, occasional graves and stone artefact scatters in the same locations.



**Figure 2:** The boundary between the Maralla West and Maralla East WEF sites is indicated with the white line to the right of the image. Our survey tracks (2011 & 2016) for the Maralla West WEF are shown in royal blue. Due to the very rough terrain below the escarpment, our surveys were limited to following vehicle tracks to the Wolven Hoek farm in the extreme west of the wind farm. At least three areas of high archaeological significance are shown as orange polygons, with specific archaeological sites as red dots. The concentration of sites around the farmhouse of Die Kom is assessed separately in the Heritage Impact Assessment.





**Figure 3:** Maralla East WEF comprises portions of Drie Roode Heuvel 180, Schalkwykskraal 204 and the farm Welgemoed 269. The provincial boundary of the Western Cape Province is indicated in dark brown. Our survey tracks are shown in royal blue. Archaeological sites are indicated with red dots, and sensitive heritage areas are shown as orange polygons. Heritage sites are primarily concentrated along the river valleys.

### 5.1.1 Pre-Colonial archaeological sites

No ESA sites were recorded during the fieldwork.

During their 2011 survey (Halkett & Webley 2011) recorded scatters of MSA artefacts made on hornfels, silcrete and chert. This is included a single, isolated broken silcrete bifacial blade with prepared platform. Single MSA cores and flakes may occur in the veld, but they are thinly distributed across the landscape.

With respect the LSA, there are a few well-defined sites with relatively abundant artefactual material associated with water sources. They include scatters of thin-walled (approx. 4mm) pottery, typically described as Cape Coastal ware and attributed to the Khoekhoen. The pot sherds are generally fragmentary and the rim sherds are too small to determine the vessel shape (Plate 18). One such scatter of grey chert and brown chalcedony artefacts includes Wilton scrapers and miscellaneous retouch pieces; a second site is associated with 19<sup>th</sup> century ceramics, glass and bone; while a third scatter is associated with quartzite cores and flakes and a broken lower grindstone. These “pastoralist” sites are found on sandy river banks, often in proximity to later colonial sites.



**Plates 3 & 4:** Example of pastoralist potsherds from H024 on Drie Roode Heuvels (left) and pottery and LSA stone artefacts from H022.

### 5.1.2 Rock Art Sites

Two rock art sites were recorded on Maralla West and East WEF during the 2011 and 2016 surveys. There is a rock art site to the west of the gravel road on the farm Drie Roode Heuvels 180 (Table 2a) (Maralla West WEF). According to Halkett & Webley (2011) it occurs in a natural cave with a waterfall that runs through it. There is a possible rock painting (human figure) on the left in a small overhang. There is no associated artefactual material.

### 5.1.3 Colonial Period Archaeology

There is considerable over-printing of sites, with historic sites often in close proximity to pre-colonial sites, suggesting that certain locations, close to rivers, were favoured by both pre-colonial and colonial inhabitants.

There is a spread of historical material, relating to a large, late 19<sup>th</sup> century settlement, on Drie Roode Heuvels, on both sides of the old Roggeveld Road. It comprises a series of kraal complexes to the west of the road, as well as a threshing floor (*trapvloer*) and a wide distribution of aqua and dark green glass, metal and 19<sup>th</sup> century ceramics including transfer print, annular ware and some ginger jar fragments (Sites D030- D031). This site has been bisected by the gravel road, as the

graveyard, containing at least 12-15 Christian style graves, is located to the east of the road. There is also extensive stone walling, on both sides of the road (Plate 4). This settlement may have developed next to the road to the escarpment.



**Plate 5:** Some of the historic remains found near the D030-D031 settlement bisected by the gravel road.

#### **5.1.4 Cemeteries and Graves**

A number of semi-formal and informal cemeteries and graves were recorded within the boundaries of the Maralla West and East WEF and there may be more undiscovered graves. Formal graveyards are easily identified as they are either fenced or walled, whereas informal ones are unmarked and overgrown and difficult to identify. Many of the graves comprise cairns or earthen mounds with or without head and/or footstones. Graves are commonly found near settlements and are usually located in softer soils on river terraces or other alluvial accumulations.

There is an abandoned and overgrown graveyard (Table 2a: Site D031) comprising at least 15-20 graves next to the gravel road on the farm Drie Roode Heuvels 180 (Die Kom). The graves are covered with rocks and situated in soft, silty soil near a small stream. The site is located to the east of the road, while the settlement to which it belongs is located to the west, indicating that the road effectively bisected the settlement. The graveyard was first identified and recorded by Halkett & Webley (2011). The subsequent visit confirmed that it may have been enclosed by a stone wall, but only a portion remains of this, the rest destroyed during construction of the road. It is not impossible that some graves may have been disturbed as well. There are some ceramics and glass distributed across the surface nearby, but these are probably associated with the nearby historic midden.

The family graveyard on De Kom (Drie Roode Heuvels 180) is located close to the farmhouse, and includes two graves with headstones inside a fenced site and a further six graves outside the fence.

Isolated cairns, possibly denoting graves, were recorded on sandy deposits close to streams in various areas of the Maralla West WEF.



### 5.1.5 Stockposts and stone enclosures/Maralla West

Intact, farm buildings are not discussed here, but are briefly described in the Heritage Impact Assessment (HIA) report. In line with the definition of archaeology, which includes abandoned and disused structures older than 100 years, this report has identified a number of isolated settlements comprising small stone structures (possibly shepherd's huts), often associated with stone kraals, threshing floors, historic rubbish dumps and sometimes graves.

Some of the small stone dwellings have a cooking shelter (*kookskerm*) of stone and there is often a spread of 19<sup>th</sup> and early 20<sup>th</sup> century historic rubbish around the settlement. At least two of these settlements are associated with a circular threshing floor (*trapvloer*), which suggests more permanent settlement and some agricultural practices nearby.



**Plate 6:** Extensive stone walling on the farm De Kom (Drie Roode Heuvels), suggesting extensive agricultural practices in the past.

## 6 IMPACT ASSESSMENT

In the case of the proposed wind energy facilities it is expected that impacts to heritage will be moderate if the most highly sensitive areas are avoided (no-go). During the construction phase, the following activities will result in direct impacts to the landscape and any heritage that lies on it:

- Bulldozing of roads across river valleys to the turbine sites;
- Upgrading of existing roads particularly where they cut through river valleys or are in close proximity to existing settlements (i.e. the farm houses on Wolvenhoek and Aurora). Any upgrading to the existing gravel road through Drie Roode Heuvels (Die Kom) will damage the informal graveyard next to the road;
- Excavation of linear trenches for cables through river valleys may damage or destroy historic or abandoned settlements.

The main impacts resulting from the operational phase of the wind facility are potential vandalism of heritage sites by staff of the wind facility(s). This includes stripping of fittings from abandoned farm buildings, careless damage to kraal walls, graffiti on rock art sites, etc. No further impacts to heritage would occur during operation of the currently proposed facility, although any expansion to the facility (effectively a new construction phase), would introduce new impacts.

Impacts resulting from the de-commissioning phase of the wind farm facilities may include the dumping of electrical infrastructure on heritage sites. At this stage, indirect impacts to heritage resources that were felt during construction and operation can be reduced or removed with the

successful rehabilitation of the site. Direct impacts to heritage resources would, however, remain the same.

These impacts are all considered to be negative.

With respect the Maralla West WEF, the probability of the current turbine and infrastructure layout encountering archaeological sites is “probable” and the severity impact is likely to be “moderately severe”. In other words, mitigation (preferably avoidance of sensitive sites) would be possible.

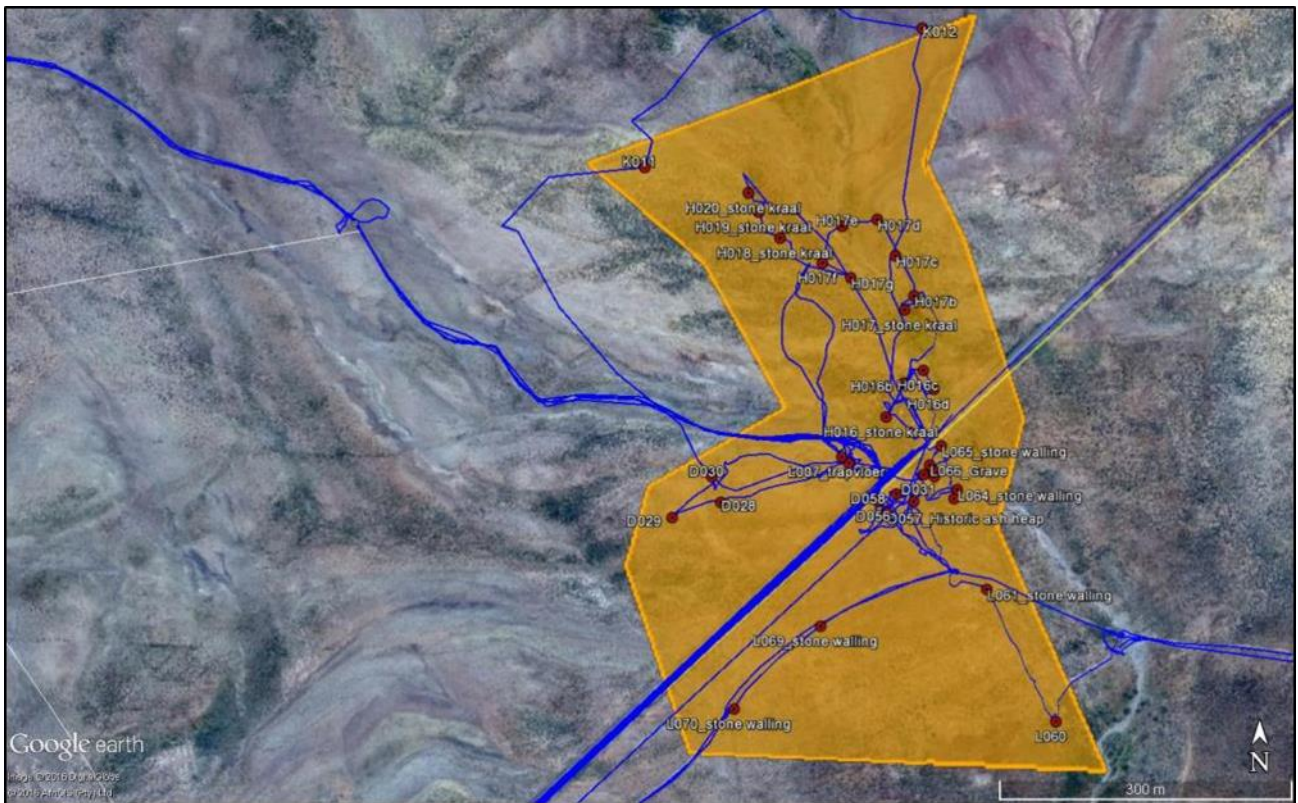
The majority of heritage sites (shown in red) are located close to the gravel road which bisects the Maralla West WEF (Figure 2). They are also located along stream banks, and include ruined farmhouse settlements as well as archaeological sites.

## 6.1 Impact Rating

**Table 2:** The potential impacts of the proposed Maralla West WEF on the heritage resources of the area.

<b>Nature of Impact:</b> Potential impacts to ruined settlement on the old Roggeveld Road which bisects the Maralla West WEF. The graveyard next to the road has already been disturbed, and further widening of the road will result in the destruction of graves.		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	2	1
<b>Duration</b>	5	5
<b>Magnitude</b>	8	2
<b>Probability</b>	4	2
<b>Significance</b>	60	16
<b>Irreplaceable loss of resources?</b>	YES	NO
<b>Can impacts be mitigated?</b>	N/A	
<b>Mitigation:</b> Avoid widening the old Roggeveld Road at that section where is bisect an old ruined settlement with a historic graveyard.		
<b>Cumulative Impacts:</b> Cumulative impacts from the destruction of a historic graveyard will be high.		
<b>Residual Impacts:</b> None		

With respect to cemeteries and graves, any impacts which result in a disturbance to a grave are considered high. They are best avoided by development. An extensive consultation process with interested and affected parties is required if exhumation is considered. Apart from the family graveyard on Die Kom, which is fenced and not under any direct threat, there is the informal graveyard next to the old Roggeveld road which will be damaged or destroyed if the road is widened. *All graveyard and graves should be declared “No-Go” areas.*



**Figure 4:** The remains of a late 19<sup>th</sup> century settlement (with stone kraals, a *trapvaer*, historic rubbish dump and a small walled cemetery) have been bisected by the local old Roggeveld gravel road. The widening of the road to provide access to the Maralla West and East WEFs could result in further destruction of the graveyard and any widening of the road should occur inside the road reserve.

We could support widening the road within the boundary of the road reserve, but any further widening of the road would result in further negative impacts to the graveyard, and this must be considered a *no-go*.

In addition to the sites along the road, there are also potential impacts to sites along streams and near fountains.

## 7 MITIGATION

This study notes that the proposed wind turbines are located on high lying ridges and hills and that these areas are generally devoid of heritage resources.

The study has identified that the most significant heritage sites, both colonial settlements and archaeological sites, are located in river valleys and kloofs, and they will not be impacted by the construction of the turbines. However, impacts may occur when access roads, underground cabling or powerlines are constructed across these river valleys/kloofs.

The main cause of impacts to archaeological sites is direct, physical disturbance of the material itself and its context resulting in the loss of the heritage resource.

The probability of impacts to heritage sites is considered to be moderate. These impacts can be mitigated by avoidance.

- We could support widening the old Roggeveld road within the boundary of the road reserve, but any further widening of the road would result in further negative impacts to the graveyard associated with the old ruined settlement, and this must be considered a *no-go*.

- Buffers of at least 15m need to be established around graveyards to ensure that they are not damaged during construction. Frequently, burials occur outside the walls of a cemetery, and a buffer ensures that they are not accidentally damaged or destroyed;
- If any archaeological remains, including human remains, are uncovered during construction, then work must stop in that area and the responsible heritage authorities (SAHRA) must be notified. It is essential that the EMPr make provision for the recovery of archaeological material which may be uncovered during construction.

## **8 CUMULATIVE IMPACTS**

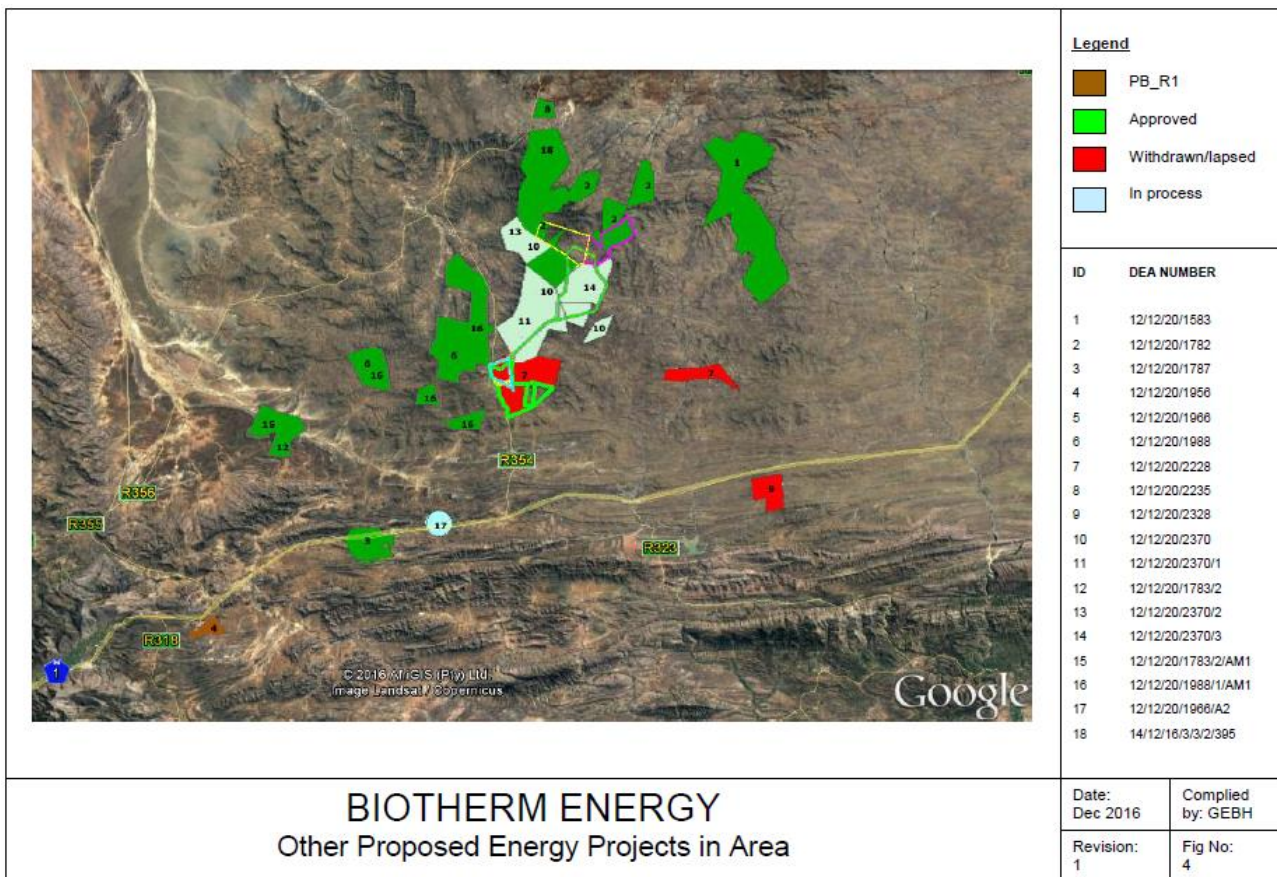
The site is located within the Komsberg REDZ and is therefore considered to be located within the renewable energy hub that is intended for the Komsberg area. The Visual Study (Table 11) lists the 16 applications for renewable energy facilities within a 60km radius of Maralla East WEF and their current status. Some have received environmental status, others have been withdrawn or lapsed, and others are still in the process of obtaining authorisation. The Visual Study points out that it is not possible to accurately estimate the significance of the cumulative impacts as not all facilities granted environmental approval will be constructed.

The cumulative impacts of a number of Wind Energy facilities in this particular area – increases the probability of negative impacts to archaeological resources, despite the mitigation measures proposed in each individual AIA report. This is because:

- Surveys can never achieve a 100% cover of the area which may potentially be impacted. They sample a portion of the proposed area, and draw deductions from this. There may be significant sites (such as rock art sites or graves) which were not identified during the survey;
- Many archaeological sites (including graves) are located under the soil surface, and are only exposed once the construction work commences. For this reason, it is necessary to have a robust management plan in place to ensure that significant sites are not destroyed when uncovered accidentally.

With respect the cumulative impacts on archaeological resources, the impacts of the Maralla West WEF are predicted to be medium, provided the mitigation measures are implemented.





**Figure 5:** The proposed Maralla WEF (purple) and Esizayo WEF (turquoise) are indicated above.

## 9 RECOMMENDATIONS

The probability of impacts to archaeological sites is considered to be moderate. These impacts can be mitigated by avoidance.

The following highly sensitive areas must be declared no-go areas during construction:

- River Settlement - LSA sites with pottery along a river bed which will be crossed by the on-site powerline;
- Road Settlement - Remains of a late 19<sup>th</sup> century settlement (including graveyard) on both sides of the public gravel road on Drie Roode Heuvels (Die Kom) on Maralla West.

The following recommendations are proposed:

- No-Go areas must be avoided;
- If there are any significant changes to the layout of the wind turbines, then a walk down of the proposed facility is recommended as part of the EMPr;
- It is recommended that there is a walk down of all river crossings during the EMP phase of the project, once the final location of the access roads and cable crossings has been finalised of the EMPr, to ensure that no heritage resources are destroyed;
- If any archaeological remains, including human remains, are uncovered during construction, then work must stop in that area and the responsible heritage authorities (SAHRA) must be notified.



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**Table 2a:** Archaeological Sites (and Built Environment) recorded during the field survey for Maralla West WEF (NCW = No research potential or other cultural significance). Farm Drie Roodeheuvelds 180 = DRH; Annex Drie Roodeheuvelds 181 = ADRH; Wolven Hoek 182 = WH; Schalkwyskraal 204 = SWK; Welgemoed 268 = WG.

Farm	Site	Lat S	Lon E	Type	Description	Significance
WH	L001	-32.70305403	20.67209803	Stone walling	Packed semi-circular stone walling at road, 2 stones high, no historic material	NCW
WH	L002	-32.69911202	20.66944096	House	So-called "hartebeest huis" only 2m from farm road. Corrugated iron roof, solder room, originally one room of stone, 2 <sup>nd</sup> room of red brick. Recent bathroom at the back. Windows replaced with iron frames. Inside wall cupboards. Inside kitchen hearth in 1 <sup>st</sup> room. Ceiling of new pine. Outside kookskerm	IIIC
WH	L003	-32.69917002	20.66849699	Kraal	Large rectangular stone kraal (20mx50m), with lamb kraal, some 60m from the farm road.	IIIC
WH	L004	-32.69193602	20.66209900	Midden	20 <sup>th</sup> century remains on banks of small stream	NCW
	L005	-32.72307102	20.71882303		?	
DRH	L006	-32.73434300	20.73048603	Midden	Isolated tin can, green bottle glass on position of proposed substation	NCW
DRH	L007	-32.72539800	20.74075202	Trapvloer	Recorded previously. 20m in diameter, with flat and smooth (clay?) base, and very large boulders supporting outer stones. Floor has historic material, including horse shoe blue glass and spongware ceramics	IIIC
DRH	L008	-32.74348003	20.75481903	Stone walling/stone marker?	Short section of rough walling on side of rocky knoll, on position of substation	NCW
DRH	12H			Kraal	Stone kraal (50mx30m) against the side of the hill, about 1m high.	IIIC
DRH	L060	-32.72782004	20.74310498	Stone walling	An extensive stone wall, this is not the beginning or end. Very rough walling, reaches 1m in height, in some places.	
DRH	L061	-32.72660499	20.74233603	Stone walling	Continuation of above. Much reduced in height. Bits of metal and blue glass, old cans, ceramics, etc. Stone wall starts to curve here, following route of the road.	
DRH	L062	-32.72580201	20.74153597	Stone walling	Section of stone walling, which forms a triangle with L063, L064 and L065 enclosing a possible graveyard.	IIIC
DRH	L063	-32.72577996	20.74197200	Stone walling	Ditto	IIIC
DRH	L064	-32.72569799	20.74200603	Stone walling	Ditto	IIIC
DRH	L065	-32.72530102	20.74182901	Stone walling	Ditto	IIIC
DRH	L066	-32.72547402	20.74170504	Grave	Forms part of the cemetery (D031) recorded by Halkett in 2011	IIIB
DRH	L067	-32.72551602	20.74173798	Grave	Ditto	IIIB
DRH	L068	-32.72557897	20.74175701	Grave	Ditto	IIIB
DRH	L069	-32.72693197	20.74053702	Stone walling	Continuation of walling L060, L061	IIIC
DRH	L070	-32.72768601	20.73960504	Stone walling	Ditto. Here the wall swings away from the road.	IIIC
		-32.75277799	20.80569299	possible kraal?	not visited – identified on Google Earth in 2016	
		-32.70160798	20.82283800	ruin	One of a number of buildings at the farm on the upper part of the Venters River – some buildings recorded in 2011.	
		-32.72585004	20.82946700	146 rock art	Recorded in 2011	
WH	D001	-32.70805199	20.67512004	Stone walling	Possible stone "walling" on silt terrace. Some sections appear man-made while others less clear. Lots of cobbles thrown here by river.	
WH	D002	-32.70260601	20.67190700	Stone walling?	Possible stone arrangement – largish boulders (walling??)	
WH	D003	-32.69867197	20.66922203	Grave?	Small rectangular stone arrangement – possible grave though not conventional vernacular pattern for the area. Approx 50m to the north of the small cottage L002	
WH	D004	-32.69691696	20.66629800	Stone artefact	Isolated large flake – possibly ESA	
DRH	D005	-32.71847396	20.71630200	Stone kraal	Stone kraal and hut/lammerkraal close to the edge of a stream. 1x frag clear bottle glass	
DRH	D006	-32.73613103	20.72026396	Stone dwelling	Small 2 room stone dwelling with attached semi-circular stone arrangement (kookskerm?). Few artefacts except 1x small ceramic sherd (ref earthenware – no	

					decoration), and 1x iron strip.	
DRH	D007	-32.73689303	20.72187002	Old kraal?	Denuded area in veld. Believe this is the remains of an old kraal.	
DRH	D008	-32.73606196	20.73013399	Grave?	Concentration of slabby stone in veld. Unlikely to be a grave!	
DRH	D009	-32.74301098	20.75259799	Kraal	Possible old pre-colonial kraal against a low bedrock platform, almost not visible (no photos as a result). Few rocks to suggest some human intervention.	
DRH	D010	-32.74429902	20.75342998	Stone artefact	Isolated chalcedony flake in veld.	
DRH	D011	-32.74304903	20.75350701	Stone artefact	Isolated weathered quartz side-scraper	
DRH	D012	-32.74096001	20.75267896	Stone artefact	Isolated chert flake (unweathered)	
DRH	D056 D057 D058	-32.72580000 -32.72590402 -32.72573596	20.74115099 20.74124596 20.74134797	Historic ash heap	Very large ash heap/dump (approx. 50m diam). Bone ash, refined earthenware (many patterns), porcelain (oriental), brass/copper buttons (1 x military), glass (many types and colours), stoneware, iron work, tin cans (incl Anglo-Boer types), clay pipe stems, oes, 1x Mrtini Henri cartridge case (foil type). This is associated with a settlement and graveyard recorded in 2011.	
?	D059 D060	-32.73483502 -32.73478196	20.74657601 20.74654601	?	Concentration of large rocks – likely to have been dragged from ploughed fields alongside - no heritage significance	

**Table 2b:** Archaeological (and Built Environment) sites recorded by Halkett & Webley (2011) during their earlier survey. Farms (Drie Roode Heuvels) or De Kom - DK; Nootgedagt - NG; Schalkwykskraal - SK; Welgemoed – WG. The shaded sites represent Maralla West WEF heritage sites.

NB: Significance Ratings reflect the ratings which were used in 2011. Since 2014, ratings as per the guidelines provided by Heritage Western Cape have been implemented.

Farm	Site	Lat S (dec°)	Lon E (dec°)	Type	Description	Significance
WG	D015	-32.70371	20.820793	Grave?	from 2011 survey	High
WG	D016	-32.703555	20.820985	Stone structure with artefacts	from 2011 survey	High
WG	D017	-32.706032	20.824617	marker	from 2011 survey	Med
WG	D018	-32.711583	20.827036	Stone kraal with artefacts	from 2011 survey	Med
WG	D019	-32.710988	20.826587	Stone walling?	from 2011 survey	Med
WG	D019a	-32.711217	20.827155	Grave with artefacts?	from 2011 survey	High
WG	D020	-32.725549	20.829521	Stone kraal	from 2011 survey	Med
WG	D021	-32.725911	20.829601	Rock Painting	from 2011 survey	High
WG	D022	-32.725209	20.829429	Kraal complex with artefacts	from 2011 survey	High
WG	D023	-32.728761	20.833163	stone kraal	from 2011 survey	High
WG	D024A	-32.71484200	20.82948402	Stone structure	from 2011 survey	med
WG	D025	-32.70219899	20.82345097	Stone dwelling? w	from 2011 survey	high

Farm	Site	Lat S (dec°)	Lon E (dec°)	Type	Description	Significance
				artefacts		
WG	D026	-32.70196103	20.82329197	Grave?	from 2011 survey	high
WG	D027	-32.71202099	20.79369899	Kraal complex w artefacts	from 2011 survey	med- high
DK	D028	-32.72580301	20.73945601	stone kraal w artefacts	from 2011 survey	med
DK	D029	-32.72593897	20.73893700	stone kraal	from 2011 survey	med
DK	D030	-32.72557402	20.73935802	stone kraal w artefacts	from 2011 survey	high
DK	D031	-32.72556103	20.74164402	graves	from 2011 survey	high
DK	D032	-32.72874900	20.71717498	artefact scatter	from 2011 survey	med
DK	D033	-32.72617802	20.71522904	isolated artefact	from 2011 survey	low
DK	D034	-32.72630098	20.71544101	stone quarry	from 2011 survey	low
DK	D035	-32.72701797	20.71820897	stone structure	from 2011 survey	Medium
DK	D036	-32.74427899	20.73973202	Historic building	from 2011 survey	High
DK	D037	-32.75578902	20.74441499	stone kraal	from 2011 survey	medium
SK	D038	-32.76179197	20.77591301	stone kraal w artefacts	from 2011 survey	med
SK	D039	-32.76150003	20.77601602	stone structure	from 2011 survey	med
SK	D040	-32.76137598	20.77600496	stone structure	from 2011 survey	med
SK	D041	-32.76132996	20.77601904	grave	from 2011 survey	high
SK	D042	-32.76773499	20.77510499	graves w artefacts	from 2011 survey	high
SK	D043	-32.76828300	20.77475597	stone kraal	from 2011 survey	med
SK	D044	-32.74048300	20.75356099	Graves?	from 2011 survey	High
SK	D045	-32.73925899	20.75506202	marker	from 2011 survey	Medium
SK	D046	-32.73718203	20.75927502	isolated artefact	from 2011 survey	low
DK	D104	-32.75215404	20.72212500	rock painting	from 2011 survey. The rock art occurs in a natural cave-like feature with a waterfall that runs through it. Possible rock painting (human figure) on the left in a small overhang. Not artefactual material nearby.	Medium-high
WG	H010	-32.70451600	20.81970996	marker	from 2011 survey	Medium
WG	H011	-32.70459697	20.81946496	marker	from 2011 survey	Medium
WG	H012	-32.72702401	20.83034400	stone kraal	from 2011 survey	Medium



Farm	Site	Lat S (dec°)	Lon E (dec°)	Type	Description	Significance
WG	H013	-32.72762700	20.83149500	Stone shepherds hut	from 2011 survey	Medium
WG	H014	-32.72735501	20.83183397	stone kraal	from 2011 survey	Medium
WG	H015	-32.71309404	20.79300203	stone kraal	from 2011 survey	Medium
WG	H016	-32.72504001	20.74123004	stone kraal w artefacts	from 2011 survey	high
DK	H016b	-32.72473499	20.74141997	"	from 2011 survey	"
DK	H016c	-32.72462100	20.74162298	"	from 2011 survey	"
DK	H016d	-32.72478998	20.74173898	"	from 2011 survey	"
DK	H017	-32.72408204	20.74141301	stone kraal	from 2011 survey	med
DK	H017b	-32.72395698	20.74151100	"	from 2011 survey	"
DK	H017c	-32.72360201	20.74130698	"	from 2011 survey	"
DK	H017d	-32.72327897	20.74111302	"	from 2011 survey	"
DK	H017e	-32.72333697	20.74074397	"	from 2011 survey	"
DK	H017f	-32.72366504	20.74053199	"	from 2011 survey	"
DK	H017g	-32.72379496	20.74083500	"	from 2011 survey	"
DK	H018	-32.72344401	20.74008096	stone kraal	from 2011 survey	med
DK	H019	-32.72321502	20.73985297	stone kraal	from 2011 survey	med
DK	H020	-32.72304604	20.73974501	stone kraal	from 2011 survey	med
DK	H021	-32.73023704	20.71743197	artefact scatter	from 2011 survey	low-med
DK	H022	-32.72279802	20.71857098	artefact scatter	Revisited the site in 2016 – few sherds of thin walled (approx. 4mm) pottery including 1x rim sherd. Grey chert and brown ccs flakes/chips, 1x core. At least 3 side scrapers and 1x MRP/scrapper. Not as many potsherds as Hugo described, some of which were likely to just be local rock that resembles pottery.	med-high
DK	H023	-32.74239499	20.73897103	historic building	from 2011 survey	high
DK	H024	-32.75285896	20.76257899	isolated artefacts	from 2011 survey	low
SK	H025	-32.76599902	20.77744899	artefact scatter	from 2011 survey	Medium-high
SK	H025b	-32.76593397	20.77814402	"	from 2011 survey	Medium-high
SK	H025c	-32.76553902	20.77770498	"	from 2011 survey	Medium-high
DK	H026	-32.72690297	20.74904398	stone kraal	from 2011 survey	med
DK	H026b	-32.72673802	20.74917600	stone kraal	from 2011 survey	med

Farm	Site	Lat S (dec°)	Lon E (dec°)	Type	Description	Significance
DK	H026c	-32.72688403	20.74919997	stone kraal	from 2011 survey	med
DK	H027	-32.74229701	20.74234801	stone dwelling w artefacts	from 2011 survey	med
DK	H028	-32.73743601	20.75623599	stone dwelling	from 2011 survey	med
DK	H029	-32.73697601	20.75492397	stone kraal w artefacts	from 2011 survey	med
DK	H029b	-32.73688699	20.75469296	stone dwelling	from 2011 survey	med
	house	-32.70168099	20.82197199		from 2011 survey	
WG	K001	-32.70411702	20.82035797	stone kraal	from 2011 survey	med
WG	K002	-32.70463804	20.82001297	stone kraal	from 2011 survey	med
WG	K003	-32.71125999	20.82674196	stone kraal	from 2011 survey	med
WG	K004	-32.71097300	20.82701999	artefact scatter	from 2011 survey	high
WG	K005	-32.71132001	20.82705896	Grave?	from 2011 survey	high
WG	K006	-32.71133400	20.82702996	Grave?	from 2011 survey	high
WG	K007	-32.72517404	20.83187403	stone shepherds hut	from 2011 survey	med
WG	K008	-32.72462997	20.82947999	stone kraal w artefacts	from 2011 survey	med
WG	K009	-32.71208603	20.79454598	stone kraal w artefacts	from 2011 survey	med
DK	K010	-32.72545299	20.74082896	Stone feature w artefacts	from 2011 survey	med
DK	K011	-32.72283096	20.73864900	marker	from 2011 survey	med
DK	K012	-32.72160301	20.74157001	marker	from 2011 survey	med
DK	K013	-32.73618199	20.72208501	stone kraal	from 2011 survey	med
DK	K014	-32.73572199	20.72168201	stone dwelling	from 2011 survey	med
DK	K015	-32.72940396	20.71898396	stone kraal w artefacts	from 2011 survey	med
DK	K016	-32.72684103	20.71797998	stone kraal	from 2011 survey	med
DK	K017	-32.75774603	20.73267697	marker	from 2011 survey	med
SK	K018	-32.76588896	20.77701104	artefact scatter	from 2011 survey	med
DK	K019	-32.73459203	20.74483702	marker	from 2011 survey	low
DK	K020	-32.73463301	20.74471498	marker	from 2011 survey	low

<b>Farm</b>	<b>Site</b>	<b>Lat S (dec°)</b>	<b>Lon E (dec°)</b>	<b>Type</b>	<b>Description</b>	<b>Significance</b>
DK	K021	-32.74184396	20.74136599	Graveyard	from 2011 survey	high
DK	K022	-32.73881097	20.75593801	stone dwelling w artefacts	from 2011 survey	med
DK	K023	-32.73717298	20.75868803	isolated artefacts	from 2011 survey	low