

**HERITAGE IMPACT ASSESSMENT:
PART 2 AMENDMENT TO RELOCATE AN AUTHORISED
MAIN TRANSMISSION SUBSTATION ON PORTION 7 OF
HAMELKRAAL 16, LAINGSBURG MAGISTERIAL DISTRICT,
WESTERN CAPE**

Required under Section 38(8) of the National Heritage Resources Act (No. 25 of 1999)
as part of a Heritage Impact Assessment.

HWC Case No.: 21052401

Report for:

Nala Environmental (Pty) Ltd
Kikuyu Waterfall,
Corner Of Maxwell Drive and Old Pretoria Main Road
Midrand, 2090
Email: arlene@veersgroup.com

On behalf of:

South Africa Mainstream Renewable Power Developments (Pty) Ltd



Dr Jayson Orton
ASHA Consulting (Pty) Ltd
23 Dover Road, Muizenberg, 7945
Tel: (021) 788 1025 | 083 272 3225
Email: jayson@asha-consulting.co.za

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SUMMARY

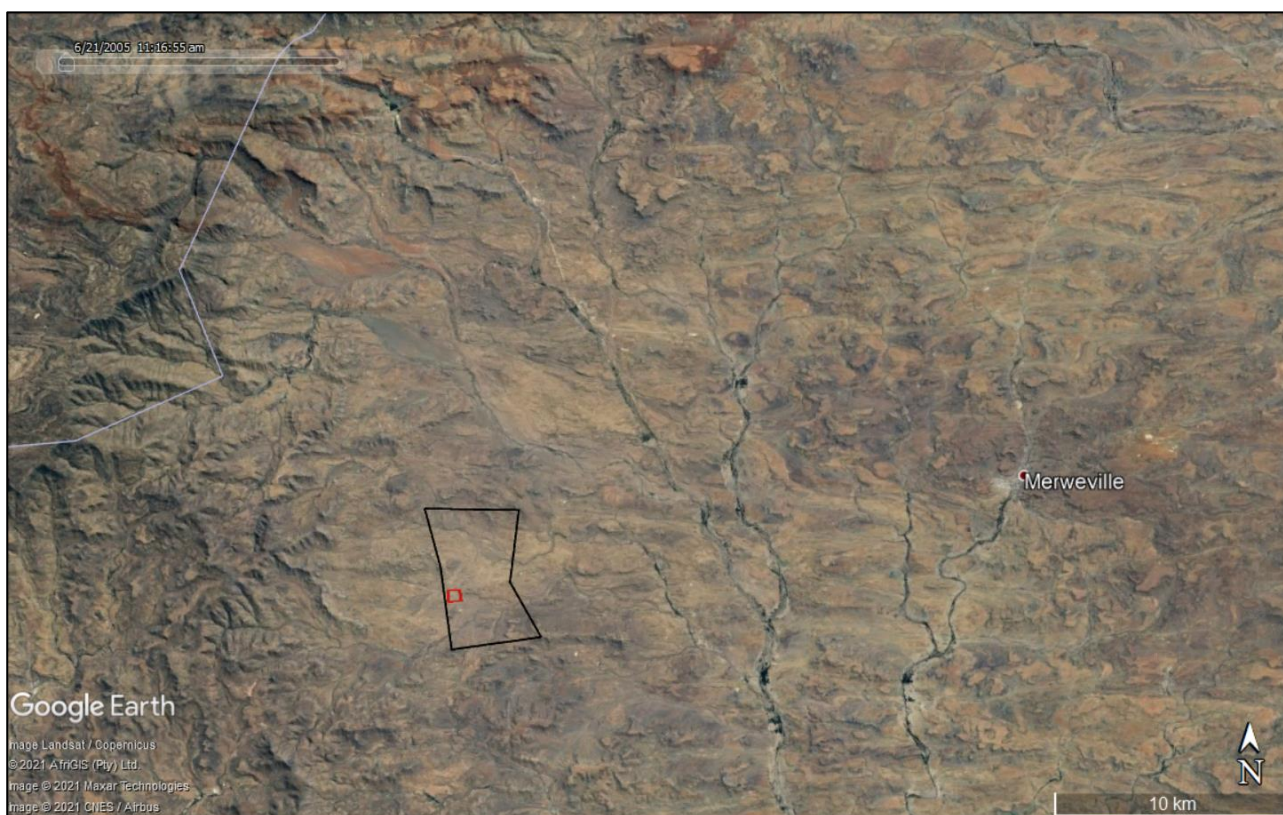
1. Site Name

n/a

2. Location

Off local unnamed gravel roads 24 km west of Merweville
Portion 7 of Hamelkraal 16
Centre point at S32° 42' 45.27" E21° 15' 34.42".

3. Locality Plan



Aerial view showing the study area (red polygon) within Portion 7 of Farm Hamelkraal 16 (black polygon) relative to Merweville and the provincial boundary with Northern Cape (purple line).

4. Description of Proposed Development

It is proposed to develop a Main Transmission Substation (MTS) within an already authorised grid connection corridor. Another location for the substation has previously been authorised some 1.3 km to the north but due to topographic constraints it is now desirable to move the MTS to a new location nearby. The project is undergoing a Part 2 Amendment to relocate the MTS. The application also seeks to lengthen the 132 kV powerline leading into the MTS from the north and shorten the 400 kV powerline leading out of the MTS towards the south so as to align with the new location.

5. **Heritage Resources Identified**

No fossils were found within the study area, largely because of the layer of unconsolidated deposits covering the surface. However, some fossils were noted in an area just to the east. They include bones, plant stem moulds and trace fossils. Archaeological materials were found within the site and its immediate surrounds and include Middle and Later Stone Age stone artefacts, some historical engravings and a stone cairn that may be a burial cairn. The wider landscape has aesthetic significance and is thus also considered a cultural landscape.

6. **Anticipated Impacts on Heritage Resources**

Given the surface deposits present, impacts to significant fossils are unlikely, but not impossible. The historical engravings and possible burial cairn are within the footprint of the MTS and will be directly impacted. The one significant area of stone artefacts lies just outside the eastern edge of the footprint. The cultural landscape will be affected but given that the application only seeks to shift an already authorised MTS this impact is of no consequence.

7. **Recommendations**

It is recommended that the proposed amendment be authorised but subject to the conditions indicated below. These should be added to those from the previously authorised project, but one earlier recommendation (relating to waypoint 1785) falls away.

- The MTS site should be included within the preconstruction survey for the already authorised powerlines in order to check for any further significant resources, especially engravings;
- The engravings should be photographed and traced as necessary to produce a clear record. This should include moving the stones in order to achieve the best light for photography;
- The potential grave cairn should be unpacked and the ground tested to determine the status of the feature;
- The cluster of Stone Age materials located just outside the eastern edge of the site should be avoided and protected from harm throughout the construction phase; and
- If any fossils, archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.

8. **Author/s and Date**

Heritage Impact Assessment: Dr Jayson Orton, ASHA Consulting (Pty) Ltd, 30 June 2021

Archaeological specialist study (included within HIA): Jayson Orton, ASHA Consulting (Pty) Ltd, 30 June 2021

Palaeontological specialist study: Dr John Almond, Natura Viva cc, June 2021

Glossary

Early Stone Age: Period of the Stone Age extending approximately between 2 million and 200 000 years ago.

Handaxe: A bifacially flaked, pointed stone tool type typical of the Early Stone Age Acheulian Industry. It is also referred to as a large cutting tool.

Holocene: The geological period spanning the last approximately 10-12 000 years.

Hominid: a group consisting of all modern and extinct great apes (i.e. gorillas, chimpanzees, orangutans and humans) and their ancestors.

Later Stone Age: Period of the Stone Age extending over the last approximately 20 000 years.

Middle Stone Age: Period of the Stone Age extending approximately between 200 000 and 20 000 years ago.

Pleistocene: The geological period beginning approximately 2.5 million years ago and preceding the Holocene.

Abbreviations

APHP: Association of Professional Heritage Practitioners

ASAPA: Association of Southern African Professional Archaeologists

BA: Basic Assessment

CRM: Cultural Resources Management

DEFF: Department of Environment, Forestry and Fisheries

EA: Environmental Authorisation

ESA: Early Stone Age

GPS: global positioning system

HIA: Heritage Impact Assessment

HWC: Heritage Western Cape

LSA: Later Stone Age

MSA: Middle Stone Age

NCW: Not Conservation Worthy

NEMA: National Environmental Management Act (No. 107 of 1998)

NHRA: National Heritage Resources Act (No. 25) of 1999

NID: Notification of Intent to Develop

PPP: Public Participation Process

REDZ: Renewable Energy Development Zone

SAHRA: South African Heritage Resources Agency

SAHRIS: South African Heritage Resources Information System

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1. INTRODUCTION

ASHA Consulting (Pty) Ltd was appointed by Nala Environmental (Pty) Ltd to conduct an assessment of the potential impacts to heritage resources that might occur through the proposed relocation of an already authorised Main Transmission Substation (MTS) on Portion 7 of Hamelkraal 16 in the Laingsburg District (Figures 1 & 2). The project has been assessed previously within the context of a transmission line corridor (Orton 2019) but for various reasons the MTS needs to be moved to a different location. It will still be within the same authorised powerline corridor. Because the new location is still within the authorised corridor, a Part 2 Amendment application will be submitted to the competent authority. The present study therefore only deals with the MTS. The new MTS study area is 25 ha in extent and its approximate centre is at S32° 42' 45.27" E21° 15' 34.42".

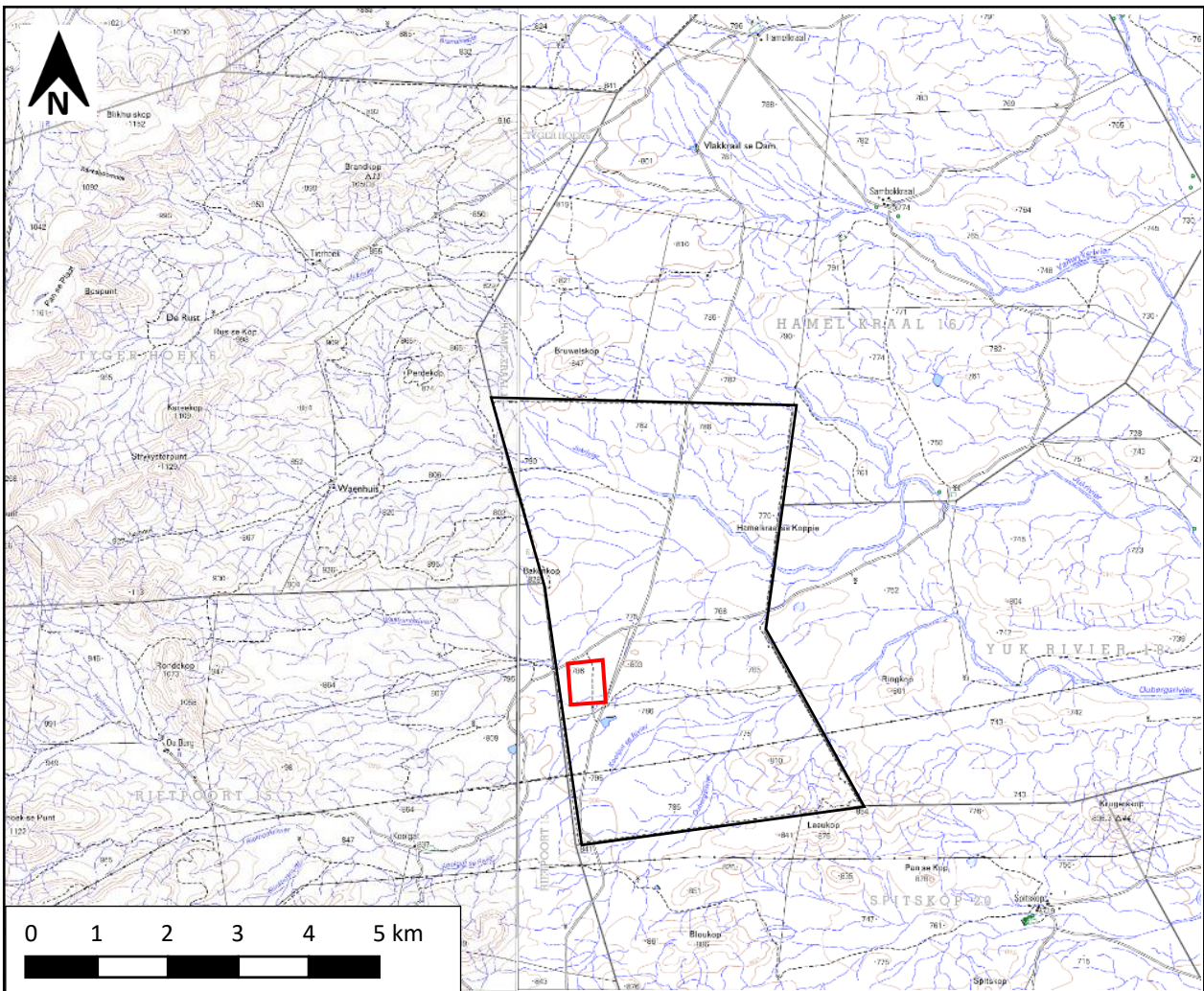


Figure 1: Extract from 1:50 000 mapsheets 3221CA&CB showing the location of Hamel Kraal 16/7 (black polygon) with the study area outlined in red. Source of basemap: Chief Directorate: National Geo-Spatial Information. Website: www.ngi.gov.za.

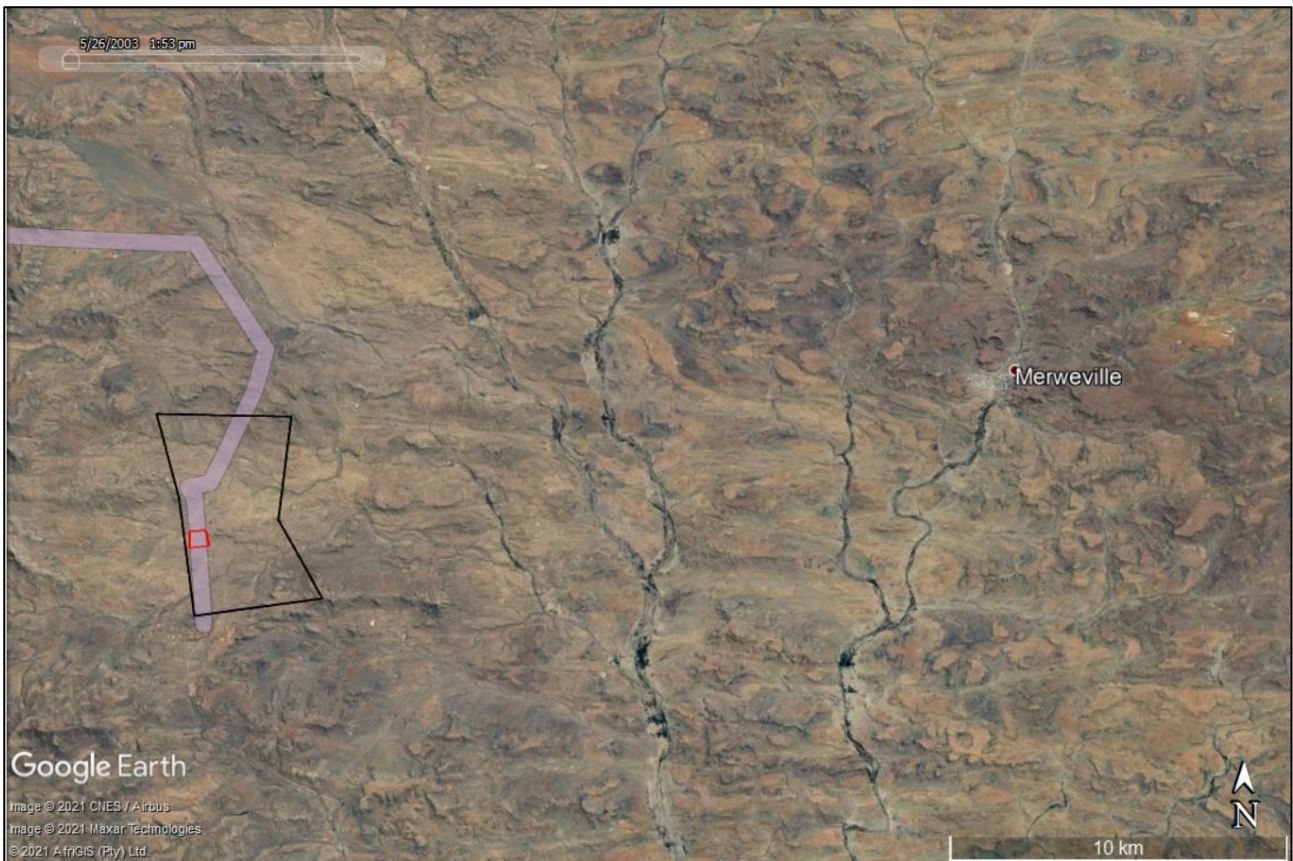


Figure 2: Aerial view of the wider area showing the location of the site relative to the town of Merweville to the east. The study area is shown in red and the purple polygon is the authorised powerline corridor.

1.1. The proposed project

1.1.1. Project description

South Africa Mainstream Renewable Power Developments (Pty) Ltd has been granted the Environmental Authorisation (DEA Ref.: 14/12/16/3/3/1/2077) for proposed construction and operation of electrical grid infrastructure to support the Sutherland, Sutherland 2 and Rietrug Wind Energy Facilities (WEF's) located in the Northern Cape and Western Cape Provinces. Following receipt of the Environmental Authorisation (as amended) it was determined that the location of the authorised Main Transmission Substation (MTS) is unsuitable due to its inaccessible location at the top of a steep hill. The current authorised location of the MTS on this steep incline will hinder construction and will not support construction vehicles, it will also be inaccessible to other projects in the vicinity seeking to connect to this MTS in the future.

In light of the proposed re-location of the authorised MTS, the authorised 132kV and 400kV powerlines will remain within the authorised grid corridor but terminate and start at the new MTS location. The 132kV powerline will terminate at the new MTS location at the following coordinates: 32°42'45.27"S 21°15'34.42"E, where the 400kV powerline will start. The start and end coordinates of these powerlines will therefore need to be amended accordingly within the EA. The powerline routing will not be assessed again as it will remain within the authorised grid corridor and has previously been assessed within the EIA.

A Part 2 amendment is proposed to be undertaken for the relocation of the authorised MTS within the authorised electrical grid corridor and the amendment of the end coordinates of the authorised 132kV and start coordinates of the authorised 400kV powerlines associated with the Sutherland Wind Energy Cluster. The new location of the authorised MTS will take into consideration the accessibility of site during construction and maintenance as well environmental sensitivities located within the authorised grid corridor.

1.1.2. Identification of alternatives

No alternative locations are currently being assessed. Two other locations have been assessed in the past but due to technical constraints the present site is currently considered the most feasible and is thus the only development alternative under consideration. The No-Go option is also under consideration for assessment

1.1.3. Aspects of the project relevant to the heritage study

All aspects of the proposed development are relevant, since excavations for foundations and/or services may impact on archaeological and/or palaeontological remains, while all above-ground aspects create potential visual (contextual) impacts to the cultural landscape and any significant heritage sites that might be visually sensitive.

1.2. Terms of reference

ASHA Consulting was asked to compile a heritage impact assessment (HIA) that meets the requirements of Heritage Western Cape (HWC) and that was based on both desktop and field research.

The report must reflect:

- » An assessment of all impacts related to the proposed changes;
- » Advantages and disadvantages associated with the changes;
- » Comparative assessment of the impacts before the changes and after the changes; and
- » Measures to ensure avoidance, management and mitigation of impacts associated with such proposed changes, and any changes to the EMPr.

The assessment must be clear on whether each of the proposed changes to the EA will:

- » Increase the significance of impacts originally identified in the EIA report or lead to any additional impacts; or
- » Have a zero or negligible effect on the significance of impacts identified in the EIA report; or
- » Lead to a reduction in any of the identified impacts in the EIA report.

Please take note that should there be no change to impacts and their significance ratings as identified in the EIA process (as the corridor has already been assessed), no impact tables will be necessary to include. Should there be an increase or decrease in significance or additional impacts not identified within the EIA process, the Impact Assessment Methodology and table format should be used and additional mitigation measures, if any, should be included.

A Notification of Intent to Develop (NID) was submitted to HWC on 15 June 2021. HWC responded requesting an HIA that included specialist studies of archaeology and palaeontology. Please see HWC comment included in Appendix 3.

It should also be noted, however, that following S.38(3) of the National Heritage Resources Act (No. 25 of 1999), even though certain specialist studies may be specifically requested, all relevant heritage resources should be identified and assessed.

1.3. Scope and purpose of the report

An HIA is a means of identifying any significant heritage resources before development begins so that these can be managed in such a way as to allow the development to proceed (if appropriate) without undue impacts to the fragile heritage of South Africa. This HIA report aims to fulfil the requirements of the heritage authorities such that a comment can be issued by them for consideration by the National Department of Forestry, Fisheries and the Environment (DFFE) who will review the Part 2 Amendment application and grant or refuse the amended authorisation. The HIA report will outline any management and/or mitigation requirements that will need to be complied with from a heritage point of view and that should be included in the conditions of authorisation should this be granted.

1.4. The author

Dr Jayson Orton has an MA (UCT, 2004) and a D.Phil (Oxford, UK, 2013), both in archaeology, and has been conducting Heritage Impact Assessments and archaeological specialist studies in South Africa (primarily in the Western Cape and Northern Cape provinces) since 2004 (please see curriculum vitae included as Appendix 1). He has also conducted research on aspects of the Later Stone Age in these provinces and published widely on the topic. He is an accredited heritage practitioner with the Association of Professional Heritage Practitioners (APHP; Member #43) and also holds archaeological accreditation with the Association of Southern African Professional Archaeologists (ASAPA) CRM section (Member #233) as follows:

- Principal Investigator: Stone Age, Shell Middens & Grave Relocation; and
- Field Director: Colonial Period & Rock Art.

1.5. Declaration of independence

ASHA Consulting (Pty) Ltd and its consultants have no financial or other interest in the proposed development and will derive no benefits other than fair remuneration for consulting services provided.

2. LEGISLATIVE CONTEXT

2.1. National Heritage Resources Act (NHRA) No. 25 of 1999

The NHRA protects a variety of heritage resources as follows:

- Section 34: structures older than 60 years;

- Section 35: prehistoric and historical material (including ruins) more than 100 years old as well as military remains more than 75 years old, palaeontological material and meteorites;
- Section 36: graves and human remains older than 60 years and located outside of a formal cemetery administered by a local authority; and
- Section 37: public monuments and memorials.

Following Section 2, the definitions applicable to the above protections are as follows:

- Structures: “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”;
- Palaeontological material: “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”;
- Archaeological material: a) “material remains resulting from human activity which are 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”; b) “rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation”; c) “wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation”; and d) “features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found”;
- Grave: “means a place of interment and includes the contents, headstone or other marker of such a place and any other structure on or associated with such place”; and
- Public monuments and memorials: “all monuments and memorials a) “erected on land belonging to any branch of central, provincial or local government, or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government”; or b) “which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual.”

Section 3(3) describes the types of cultural significance that a place or object might have in order to be considered part of the national estate. These are as follows:

- a) its importance in the community, or pattern of South Africa’s history;
- b) its possession of uncommon, rare or endangered aspects of South Africa’s natural or cultural heritage;
- c) its potential to yield information that will contribute to an understanding of South Africa’s natural or cultural heritage;
- d) its importance in demonstrating the principal characteristics of a particular class of South Africa’s natural or cultural places or objects;
- e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;

- g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- i) sites of significance relating to the history of slavery in South Africa.

While landscapes with cultural significance do not have a dedicated Section in the NHRA, they are protected under the definition of the National Estate (Section 3). Section 3(2)(c) and (d) list “historical settlements and townscapes” and “landscapes and natural features of cultural significance” as part of the National Estate. Furthermore, some of the points in Section 3(3) speak directly to cultural landscapes.

Section 38(8) of the NHRA states that if an impact assessment is required under any legislation other than the NHRA then it must include a heritage component that satisfies the requirements of S.38(3). Furthermore, the comments of the relevant heritage authority must be sought and considered by the consenting authority prior to the issuing of a decision. Under the National Environmental Management Act (No. 107 of 1998; NEMA), as amended, the project is subject to a Part 2 Amendment to amend the existing authorisation. The present report provides the heritage component. HWC is required to provide comment on the proposed project in order to facilitate final decision making by the the National Department of Forestry, Fisheries and the Environment (DFFE).

2.2. Application timeline

The final application to DFFE is expected to be submitted on 12th August 2021.

3. METHODS

3.1. Literature survey and information sources

A survey of available literature was carried out to assess the general heritage context into which the development would be set. The information sources used in this report are presented in Table 1. Data were also collected via a field survey.

Table 1: Information sources used in this assessment.

Data / Information	Source	Date	Type	Description
Maps	Chief Directorate: National Geo-Spatial Information	Various	Spatial	Historical and current 1:50 000 topographic maps of the study area and immediate surrounds
Aerial photographs	Chief Directorate: National Geo-Spatial Information	Various	Spatial	Historical aerial photography of the study area and immediate surrounds
Aerial photographs	Google Earth	Various	Spatial	Recent and historical aerial photography of the study area and immediate surrounds
Cadastral data	CapeFarmMapper (http://gis.elsenburg.com/apps/cfm/#)	Current	Spatial	Cadastral boundaries, extents and aerial photography

Cadastral data	Chief Directorate: National Geo-Spatial Information	Various	Survey diagrams	Historical and current survey diagrams, property survey and registration dates
Background data	South African Heritage Resources Information System (SAHRIS)	Various	Reports	Previous impact assessments for any developments in the vicinity of the study area
Palaeontological sensitivity	South African Heritage Resources Information System (SAHRIS)	Current	Spatial	Map showing palaeontological sensitivity and required actions based on the sensitivity.
Background data	Books, journals, websites	Various	Books, journals, websites	Historical and current literature describing the study area and any relevant aspects of cultural heritage.

3.2. Field survey

The site was subjected to a foot survey on 27th May 2021. This was during late Autumn/early Winter but, in this very dry area, the season makes no meaningful difference to vegetation covering and hence the ground visibility for the archaeological survey. Other heritage resources are not affected by seasonality. During the survey the positions of finds and survey tracks were recorded on a hand-held Global Positioning System (GPS) receiver set to the WGS84 datum. Photographs were taken at times in order to capture representative samples of both the affected heritage and the landscape setting of the proposed development.

It should be noted that amount of time between the dates of the field inspection and final report do not materially affect the outcome of the report.

3.3. Specialist studies

Two specialist studies were requested by HWC. The archaeological component is contained within the present report with the fieldwork having been carried out by Madelon Tusenius. The palaeontological specialist study was done by Dr John Almond and is appended to this HIA.

3.4. Impact assessment

The amendment process does not require a formal impact assessment unless there are changes in the earlier assessment. As such, the comparative assessment requirements are as follows:

- » An assessment of all impacts related to the proposed changes;
- » Advantages and disadvantages associated with the changes;
- » Comparative assessment of the impacts before the changes and after the changes; and
- » Measures to ensure avoidance, management and mitigation of impacts associated with such proposed changes, and any changes to the EMPr.

The assessment must be clear on whether each of the proposed changes to the EA will:

- » Increase the significance of impacts originally identified in the EIA report or lead to any additional impacts; or
- » Have a zero or negligible effect on the significance of impacts identified in the EIA report; or

» Lead to a reduction in any of the identified impacts in the EIA report.

3.5. Grading

S.7(1) of the NHRA provides for the grading of heritage resources into those of National (Grade I), Provincial (Grade II) and Local (Grade III) significance. Grading is intended to allow for the identification of the appropriate level of management for any given heritage resource. Grade I and II resources are intended to be managed by the national and provincial heritage resources authorities respectively, while Grade III resources would be managed by the relevant local planning authority. These bodies are responsible for grading, but anyone may make recommendations for grading.

It is intended under S.7(2) that the various provincial authorities formulate a system for the further detailed grading of heritage resources of local significance but this is generally yet to happen. Heritage Western Cape (2016), however, uses a system in which resources of local significance are divided into Grade IIIA, IIIB and IIIC. These approximately equate to high, medium and low local significance, while sites of very low or no significance (and generally not requiring mitigation or other interventions) are referred to as Not Conservation Worthy (NCW).

3.6. Consultation

The draft HIA was submitted to relevant interested and affected parties as required by HWC in their response to the NID application (Section 1.2). The report was also included in the main public participation process (PPP) required under NEMA as part of the Part 2 Amendment application.

3.7. Assumptions and limitations

The field study was carried out at the surface only and hence any completely buried archaeological sites would not be readily located. Similarly, it is not always possible to determine the depth of archaeological material visible at the surface.

4. PHYSICAL ENVIRONMENTAL CONTEXT

4.1. Site context

The site is located in a predominantly natural landscape, although pockets of land could better be described as rural where farming occurs. The area is used predominantly for livestock grazing, but does lie just inside the edge of the promulgated Komsberg Renewable Energy Development Zone (REDZ) and is within the Central Power Corridor.

4.2. Site description

The site is a relatively level area covered largely by alluvium and light gravel, although some areas are slightly more rocky. Vegetation is very sparse. Figures 3 to 6 illustrate the general environment on the site.



Figure 3: Looking westwards from the north-eastern corner of study area. Sandstone gravels on the alluvium in the foreground, finer gravels in the centre of the study area.



Figure 4: View from the north-eastern corner of the study area towards the east, across the alluvium and light gravels.



Figure 5: View to south from centre of study area. Sandstone and 'koffie klip' blocks are visible in the foreground with alluvium and gravels in the rest of the area.



Figure 6: Looking towards the northeast from the south-western corner of the study area.

5. FINDINGS OF THE HERITAGE STUDY

This section describes the heritage resources recorded in the study area during the course of the project.

5.1. Palaeontology

The SAHRIS Palaeosensitivity map shows the entire study area and surrounds to be of very high palaeontological sensitivity (Figure 7). Almond's (2021) field study revealed that the surface of the study area was coated in unconsolidated alluvial and downwasted gravels and other finer sediments. These are generally of low sensitivity. Rocky areas in other parts of the authorised grid

connection corridor (reported previously) as well as in an area just to the east of the site have produced fossils though. These include fragments of large bones, moulds of plant stems and some trace fossils. On contrast to the palaeosensitivity map, Almond (2021) finds the study area to be of low sensitivity.

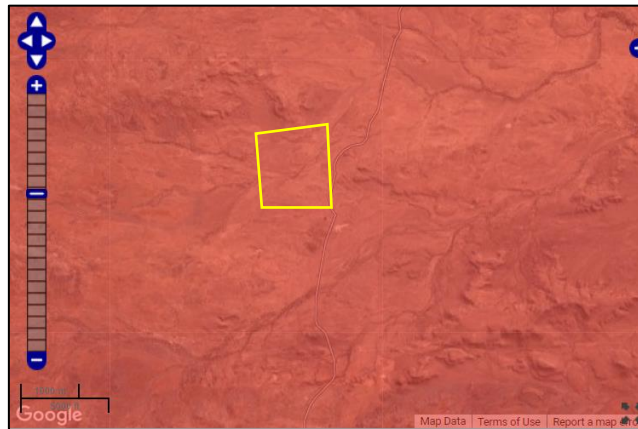


Figure 7: Extract from the SAHRIS Palaeosensitivity map showing the study area (yellow polygon) to be of high palaeontological sensitivity (red shading).

5.2. Archaeology

5.2.1. Desktop study

Prior to the 18th century colonial incursion into the interior of southern Africa, the Bushmen and, more recently, the Khoekhoen occupied the area. Very little archaeological research has been undertaken in the vicinity of Merweville, although a number of impact assessments have been carried out, largely for borrow pits in the general region between the escarpment in the northwest and the N1 in the southeast.

Two of the surveys by Deacon (2004, 2005a) did not produce any significant archaeology; three isolated artefacts were seen in one of the study areas. The third survey located an engraved rock slab which he described as follows:

“There are three incised line stylised female figures with legs as noted by Sue Milton in her report although the details of the upper portions of the figures, the ‘wings’, are less clear. A tracing of the engraving was made as a record (Fig. 3). The surface is evenly weathered suggesting the engraving is not recent. There are no associated materials to indicate the age.”

Unfortunately, no figure is provided in the report lodged on SAHRIS (Deacon 2005b). His find was 31 km east of the present study area. Tusenius (2013f) also reported engraved rock slabs from an area 42 km northeast of the present study area. The imagery ranged from a clear geometric image (but not part of the geometric rock art tradition) to various indeterminate scratches to some letters and numbers and a probable human figure in Western dress. The only other rock art site known from the area is a small ‘geometric tradition’ finger-painted site located 8 km north of the MTS site (Orton 2019). It has only red finger smears. Rock paintings are rare in the wider area but a few other examples are on record to the west and northwest, both above and just below the escarpment edge

(Halkett & Webley 2011; Orton & Halkett 2011). Some engraved rocks were also reported by Orton (2019) but because they fall within the present study area they will be dealt with below.

Tusenius (2012a, 2012b, 2013a, 2013b, 2013c, 2013d, 2013e, 2013f) has located scatters of Middle (MSA) and Late (LSA) materials in various places in the general area but with MSA artefacts seemingly far more prevalent. At one site the LSA component included flaked stone artefacts, a lower grindstone fragment, ostrich eggshell and pottery, some of which bore incised decoration. Orton (2019) reported only MSA artefacts within the immediate vicinity of the study area as well as in a wider area some 3 km to the north of the present study area.

Along the dry river beds at the base of the escarpment Hart *et al.* (2010) also identified sites which they thought were large Khoekhoe encampments situated among the Kameeldoring trees in the bottom of valleys. The sites contained thin-walled, burnished pottery, stone features, stone artefacts, grinding surfaces and graves, some of which have broken grinding stones on them. Also evident were discreet ash middens and animal bone. Hart *et al.* (2010) noted colonial period artefacts (19th century glass and ceramics) on some of the sites, possibly indicating continuous use of the area by Khoekhoe herders into the colonial period.

Early Stone Age (ESA) materials tend to be rare but handaxes have been reported from the vicinity (Hart *et al.* 2010; PGS 2010).

Historical archaeology occurs in the general area with many ruined stone-built structures being present (e.g. Hart *et al.* 2010; Halkett & Webley 2011; Kaplan 2009; Orton 2017a, 2017b, 2017c). These include kraals, houses and other domestic features and often have artefactual material (broken ceramics and glass, metal items, etc) scattered about them. Occasionally a refuse midden is found alongside an old farmstead. These middens reflect the material remains of domestic life on the early frontier farms during the 18th and 19th centuries. Various other historical stone-built features include boundary walls, markers, cairns and beacons (e.g. Hart *et al.* 2010; Orton & Halkett 2011).

Some historical farm complexes (archaeological sites) with unusual architecture also occur some 8-9 km to the north of the MTS site. A threshing floor, water well and various other stone features were located in association with these complexes (Orton 2019).

5.2.2. Site visit

The survey revealed a number of Stone Age and historical archaeological resources (Table 2 & Figure 8).

Table 2: List of sites and features recorded during the survey. Note that the grey shaded waypoints lie just outside the eastern edge of the study area.

Waypoint	Co-ordinates	Description	Grade
495	S32° 42' 48.6" E21° 15' 51.2"	Isolated, fine-grained sandstone flake in association with koffiekliip blocks to the east of the existing gravel road.	NCW
496	S32° 42' 37.6" E21° 15' 54.3"	Several crudely flaked sandstone clasts at the foot of a small hill to the E of the existing gravel road.	NCW
497	S32° 42' 43.2" E21° 15' 30.4"	Rock engraving on a koffiekliip boulder on a small rise in the middle of the western half of the study area. The engraving consists of	IIIB

		two converging lines of pecked marks. Recorded by Orton (2019) as waypoint 1783.	
498	S32° 42' 43.0" E21° 15' 31.4"	Rock engraving on koffieklip in a cluster of boulders on a small rise, close to 499 and 500. The engraving consists of scratched lines which partly cross over each other and pecked marks within three rounded shapes.	IIIB
499	S32° 42' 43.2" E21° 15' 31.3"	Rock engraving on koffieklip in a cluster of boulders on a small rise, close to 498 and 500. The engraving consists of a scratched irregular triangle with a line through the middle.	IIIB
500	S32° 42' 43.1" E21° 15' 31.2"	Rock engraving on koffieklip in a cluster of boulders on a small rise, close to 498 and 499. The engraving consists of 2 sets of roughly parallel lines of peck marks which diverge slightly.	IIIB
501	S32° 42' 43.0" E21° 15' 31.7"	Rock engraving on koffieklip in a different cluster of boulders on the same small rise as 497 to 500. The engraving consists of a scratched diamond shape. The outline of three of the four sides is made up of multiple lines rather than a single outline. Recorded by Orton (2019) as waypoint 1784.	IIIB
502	S32° 42' 43.6" E21° 15' 34.1"	Rock engraving on a koffieklip boulder at the eastern extremity of the small rise with the previous engravings. The engraving consists of scratched lines, a scratched circle and pecked marks within a semi-circular shape. Recorded by Orton (2019) as waypoint 1785.	IIIB
503	S32° 42' 48.2" E21° 15' 35.9"	Stone feature of koffieklip boulders, approximately 40cm x 70cm, situated within the sandstone and koffieklip gravels on the alluvium in the low-lying area close to the southern boundary of the study area. This could possibly indicate a burial. No artefacts in association with it.	NCW but IIIA if a grave
504	S32° 42' 48.7" E21° 15' 40.0"	Irregularly spaced arrangement of koffieklip boulders in two adjoining semicircles on the alluvium in the south-eastern corner of the study area. Each semi-circle is approximately 1.5 x 2m. No artefacts were seen in association with them.	NCW
505	S32° 42' 49.6" E21° 15' 42.5"	Isolated flaked quartzite cobble.	NCW
506	S32° 42' 41.4" E21° 15' 44.7"	Rock engraving situated in the western-most cluster of koffieklip boulders on the higher rocky area between the eastern boundary of the study area and the gravel road. It lies just within the study area. The engraving is obviously of colonial age as it consists of scratched letters – WICKUS DE WEE...	IIIB
507	S32° 42' 42.1" E21° 15' 47.0"	Small scatter of LSA flakes, chunks and cores with one snapped MSA blade at the base of the higher rocky area with waypoints 508 to 513. Artefacts possibly made of fine-grained sandstone, hornfels and perhaps even weathered and patinated Matjiesfontein chert.	IIIC
508 - 512	Concentrations of MSA and LSA artefacts amongst the 'koffie klip' boulders on the higher rocky area between the E boundary of the study area and the existing gravel road. The waypoints give the areas of greatest concentration, with a few scattered artefacts spreading a short distance beyond them. Gaps between the concentrations are mostly devoid of artefacts.		
508	S32° 42' 40.8" E21° 15' 46.1"	Scatter of weathered and patinated fine-grained sandstone, hornfels and possibly Matjiesfontein chert MSA and LSA artefacts, including blades and points.	IIIC
510	S32° 42' 41.3" E21° 15' 46.4"	Spatially discrete scatter of MSA and LSA artefacts in an area of approximately 10 x 18 m. The greatest concentration of stone artefacts is in an area of about 2 to 3 m ² where there are probably 30-40 artefacts per m ² . The artefacts are made of fine-grained sandstone, hornfels and Matjiesfontein chert and consist of flakes, blades, points, cores. Also a few more crudely-flaked sandstone artefacts. The scatter tapers off in density quite quickly.	IIIC

511	S32° 42' 40.4" E21° 15' 47.2"	Small cluster of several fine-grained sandstone flakes and chunks, one LSA flake possibly of Matjiesfontein chert.	IIIC
512	S32° 42' 41.7" E21° 15' 47.5"	Small cluster of several fine-grained sandstone flakes, blades and bladelet core, with one patinated hornfels blade.	IIIC
513	S32° 42' 40.9" E21° 15' 46.7"	Areas apparently cleared of koffieklip boulders. The boulders are heaped to one side forming a semi-circle to the west of the 3-4 cleared areas. These may be possible sleeping hollows. Fewer than 30 LSA artefacts of fine-grained chert and quartz, as well as pieces of OES occur in association with these areas.	IIIC

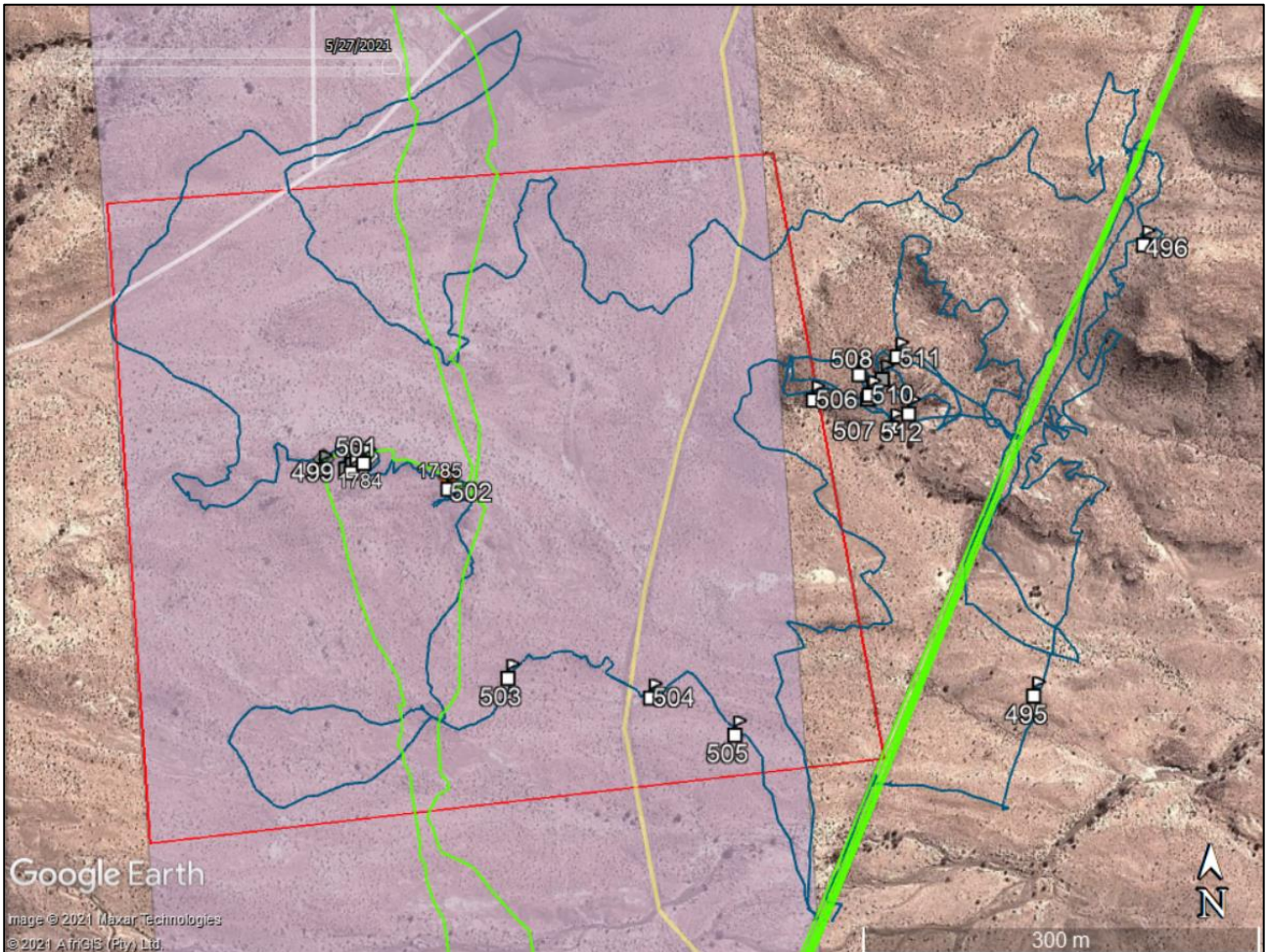


Figure 8: Aerial view of the study area (red polygon) showing the authorised transmission corridor (purple shading), the 2019 and 2021 survey tracks (blue and green lines respectively),

Most important within the study area are a number of engravings that are all assumed to be historical. None of them seems represent recognisable imagery and the markings at waypoint 497 may even simply be chop marks from somebody using the rock to chop firewood on (Figure 9). The remainder are all obviously deliberately incised and pecked though (Figures 10 to 15). Interestingly, the engravings have varying degrees of weathering suggesting variable age (but still all historical). These engravings lie along a low ridge capped with koffieklip rocks and slabs (Figure 16) and it is on this koffieklip that the engravings are made. John Almond (pers. comm.) describes this rock as “secondary (diagenetic/post-depositional) ferruginous carbonate within a channel sandstone matrix”. One further engraved rock was found right on the eastern edge of the study area (Figure 17). This one appeared to have the name “WICKUS DE WEE” incised on it. It is hard to know what these engraved rocks relate to and to know how important they are as heritage resources.



Figure 10: Historical engravings at waypoint 497. 15 cm ruler for scale.



Figure 11: Historical engravings at waypoint 498. 15 cm ruler for scale.



Figure 12: Historical engravings at waypoint 499. 15 cm ruler for scale.



Figure 13: Historical engravings at waypoint 500. 15 cm ruler for scale.



Figure 14: Historical engravings at waypoint 501. 15 cm ruler for scale.



Figure 15: Historical engravings at waypoint 502. 15 cm ruler for scale.



Figure 16: Looking NE along the low rise with koffiekliip where most of the rock engravings occur.



Figure 17: Historical engraving at waypoint 506. 15 cm ruler for scale.

Some stone features were also found. One of these is a potential grave and is discussed under Section 6.3. The other is a set of rocks on a level area of alluvium and that appear to form two conjoined semi-circular shapes (Figure 18). They have no obvious function and there were no artefacts in the area.



Figure 18: Stone feature at waypoint 504.

A number of archaeological finds were made on a small raised rocky area just outside the eastern edge of the study area (Figure 19). Most of these were spatially related (waypoints 507 to 512). In this area there were many stone artefacts dating from both the MSA and LSA, but with the former strongly dominating (Figures 20 to 23). Blades and points (pr fragments of these types) were quite common. The slightly elevated position of this area was obviously a favoured spot.



Figure 19: View towards the northeast over the area with the greatest concentration of MSA and LSA stone artefacts (waypoint 510).

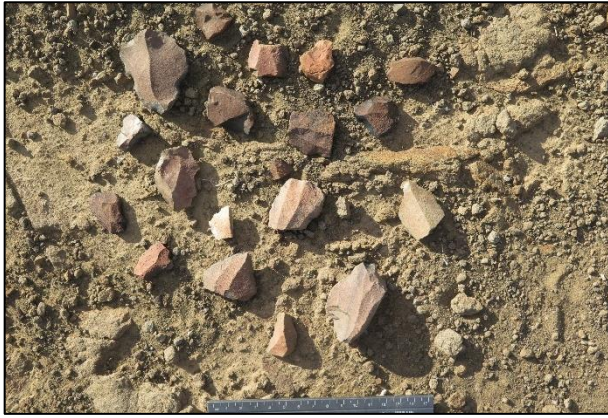


Figure 20: Stone artefacts from waypoint 508. 15 cm ruler for scale.



Figure 21: Stone artefacts from waypoint 509. 15 cm ruler for scale.



Figure 22: Stone artefacts from waypoint 510. 15 cm ruler for scale.



Figure 23: Stone artefacts from waypoint 511. 15 cm ruler for scale.

Also in this area were a number of sandier patches amongst the koffiekliip stones that might have been deliberately cleared (Figure 24). A light scattering of LSA flaked stone artefacts in CCS (chert) and quartz were found in these areas along with fragments of ostrich eggshell (Figure 25). If these areas were indeed deliberately cleared then they may represent sleeping hollows.



Figure 24: View towards the southwest across the sandy patches between koffiekliip boulders.



Figure 25: Stone artefacts from waypoint 513. 15 cm ruler for scale.

Aside from the engravings, no historical archaeological materials were found in the study area. Visible on aerial photography and already labelled as such on the 1972 topographic map is a ruin located some 250 m south of the southern edge of the MTS site adjacent to a farm dam. It is across the main gravel road and well away from harm. The earliest aerial photograph shows the structure to have already been present in 1939.

5.3. Graves

No graves were found, but one pile of stones seemed suggestive of a possible burial cairn (Figure 26). It is undoubtedly an anthropogenic feature but, although unlikely to be a grave, this cannot be ruled out.



Figure 26: Mound of koffjieklip stones.

5.4. Historical aspects and the Built environment

5.4.1. Desktop study

Historical information on the area relates mainly to the mountains rather than to the plains, since the mountains were where water could be obtained and it was thus these areas – initially the Roggeveld and later the Nuweveld – that were first targeted for settlement by the colonists. Schoeman (1986) has described the early settlement of the Roggeveld area from about 1750 onwards. The escarpment area, with its higher rainfall, was found to be good for small stock farming in summer but the extreme winter cold forced people down into the valleys and plains to the south. Initially, the European population remained small because many early loan farms were used merely as “stock posts” – the owners lived elsewhere and often had more than one loan farm.

The early days of colonial settlement were conflict-ridden because indigenous groups, called “Boschiesman Hottentoten” (Khoekhoen and San/Bushmen) were unhappy about losing their traditional lands and attempted to force the Europeans to flee what can best be described as ‘guerrilla warfare’. Livestock theft was rife and attacks on farmers and indigenous populations were commonplace. From the late 18th century commando groups (comprised of local farmers) were called up to attack the *kraals* of local Khoekhoe and Bushmen groups. Although they defended their

positions with bow and arrow, the firearms of the farmers generally resulted in many indigenes being killed (Schoeman 1986). These commandos were initiated in response to the so-called “Roggeveld Rebellion” of 1772 when many Khoekhoe labourers left their farms and banded together in response to a rumour that all Khoekhoen living in kraals would be killed (Penn 2005). They were defeated and the San and Khoekhoen were gradually driven northwards from the Roggeveld. By 1809 there was reported to have been only one Bushman *kraal* left in the area. Penn (2005:21) notes that “Without access to the resources on both sides of the escarpment, and the water of the escarpment itself, both pastoralists and hunter-gatherers were doomed; hence the desperate fighting of the 1770s, 1780s and 1790s. These were years of intense commando activity and Khoisan resistance.”

The early 19th century saw an increase in permanent European settlement, although the farmers’ main source of income was still small stock – wheat could only be grown with great difficulty in isolated and protected valleys and there was very little standing water and grazing suitable for cattle. Orton (2019) did find a threshing floor 8.3 km to the north of the MTS site which shows that even some way out of the deeper valleys it was possible to grow at least some wheat.

Schoeman (1986) notes that during the early years of settlement in the Roggeveld, many of the Trekboers lived in grass huts or Matjies houses, or even in tents. The same would likely have applied to the immediately surrounding area, including the plains around the present study area. The use of Matjies houses was reported as late as 1839. Attempts at constructing more permanent structures were inhibited by the lack of wood suitable for building. One technique that was often used to overcome this difficulty was to use drystone walling to half height and then construct a wooden framework to support a reed roof on top of it. These were tiny houses and were known as *Hartebeeshuise*. Sometimes they were made without the stone courses and looked like a tent made of vegetation. Examples were reported below the escarpment in the Roggeveld to the west by Almond (pers. comm. 2016 in Orton 2016). The early settlers were also responsible for the construction of the well-known stone corbeled houses which were developed as an adaptation to the coincidental lack of wood and abundance of building stone (Kramer 2012). The nearest one to the study area is some 23 km away to the northeast.

The town of Merweville lies 24 km to the east and is a comparatively young Karoo town. It was formed in 1905 on the farm Vanderbylskraal, although the request from the local population for a new parish was accepted in 1897 (Frandsen 2019). Although houses then began appearing around the original farmstead, the formal establishment of the town was delayed by the outbreak of the Anglo-Boer War.

The 1972 topographic map shows that the main gravel road running past the eastern side of the study area did not always follow that alignment. The original alignment in fact runs through the study area (marked by the yellow line on Figure 8). It is now completely disused. The earliest aerial photograph shows the road to have already been present in 1939.

5.4.2. Site visit

The site visit revealed no historical structures.

5.5. Cultural landscapes and scenic routes

Winter and Oberholzer (2013) regard the escarpment that overlooks the study area as a significant natural landscape at the local level. It is a very extensive landscape extending for many hundreds of kilometres through central South Africa, often providing very long and aesthetically pleasing views which afford a cultural aspect to its significance. It can also be regarded as a cultural landscape, perhaps not so much in the regular sense of a 'landscape shaped by man' but in the opposite way where we find a landscape that has determined how and where human settlement and activities have taken place. Farmsteads are relatively few and far between, often tied to natural water sources. A small ruined farmstead with a single building lies a short way to the south as noted above. The landscape, although best described as a rural one, frequently has a strong feeling of emptiness and remoteness. It is used almost exclusively for small stock grazing and the many small historic stone features scattered across the landscape are indicative of this use in times gone by. In some remote areas the only indicators of human intervention for many kilometres are occasional fences and vehicle tracks. Figure 27 gives an indication of the remoteness of the site and the lack of anthropogenic features aside from the gravel road, while Figures 3 to 7 show the generally featureless nature of the land. The road past the site is very far 'off the beaten track' and, although this is an attractive proposition for some lovers of the great outdoors, it cannot be regarded as a scenic route in the typical sense.

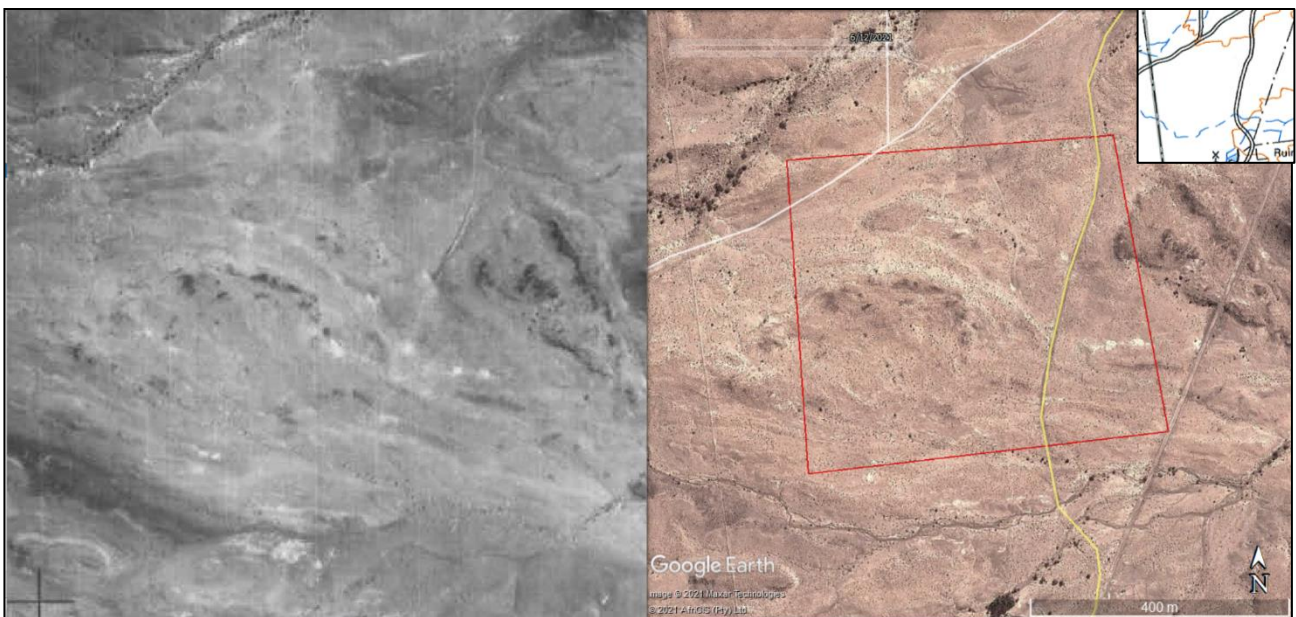


Figure 27: 1939 (139A_002_25813) and modern (Google Earth) aerial photographs showing that, with the exception of the realignment of the main gravel road, little has changed in the last 80 years. The inset shows the equivalent extract from the 1972 topographic map in which all the earlier roads are visible.

It is pertinent to note that this landscape may not remain much longer in its current condition because the present study area falls within (but right at the very edge of) a declared REDZ (Komsberg; Figure 28) and many renewable energy facilities have been proposed here, especially in the Roggeveld Mountains to the west. In addition, the study area falls within the declared Central Power Corridor. This will mean that wind turbines and power lines will comprise a new layer on this landscape, the strongest anthropogenic layer yet. There are already three high voltage powerlines running east to west across the landscape with one being 1.0 km and two being 2.2 km to the south

of the site respectively. The MTS would also have a powerline running into it from the north and another running southwards to connect to one of the existing lines.

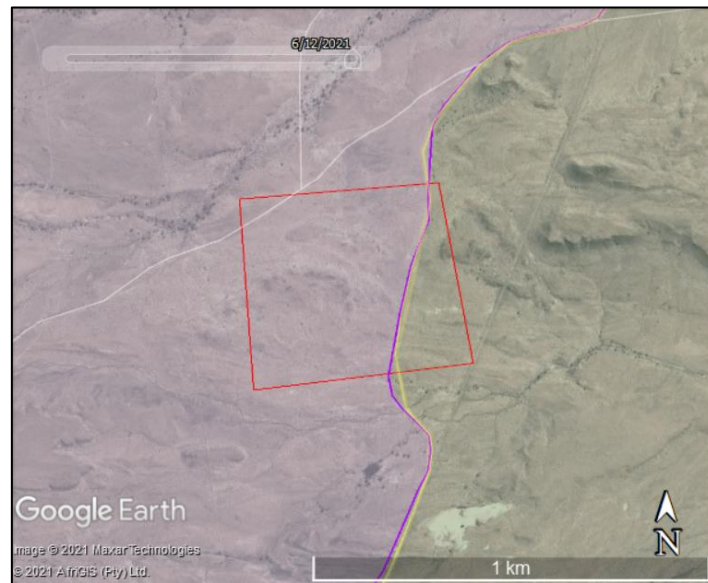


Figure 28: Aerial view of the study area showing the Komsberg REDZ shaded in purple.

5.6. Statement of significance and provisional grading

Section 38(3)(b) of the NHRA requires an assessment of the significance of all heritage resources. In terms of Section 2(vi), “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. The reasons that a place may have cultural significance are outlined in Section 3(3) of the NHRA (see Section 2 above).

Among the archaeological resources, the engravings are deemed to have medium cultural significance for their historical and possibly social value and have been allocated a provisional IIIB grading. The stone artefacts have low cultural significance for their scientific value and are either grade IIIC or NCW. Figure 28 shows the distribution of these resources. It is evident that the cluster of grade IIIB engravings occurs right in the middle of the site and will likely be impossible to avoid.

Graves are deemed to have high cultural significance for their social value and are considered IIIA resources. One possible grave was found but should it turn out to not be a grave (which is likely) then the feature would be of very low cultural significance and be graded NCW.

The cultural and natural landscape in its current form (i.e. with no renewable energy facilities and very few power lines) is considered to have medium cultural significance for its aesthetic qualities and should be allocated a grade of ‘IIIB’.

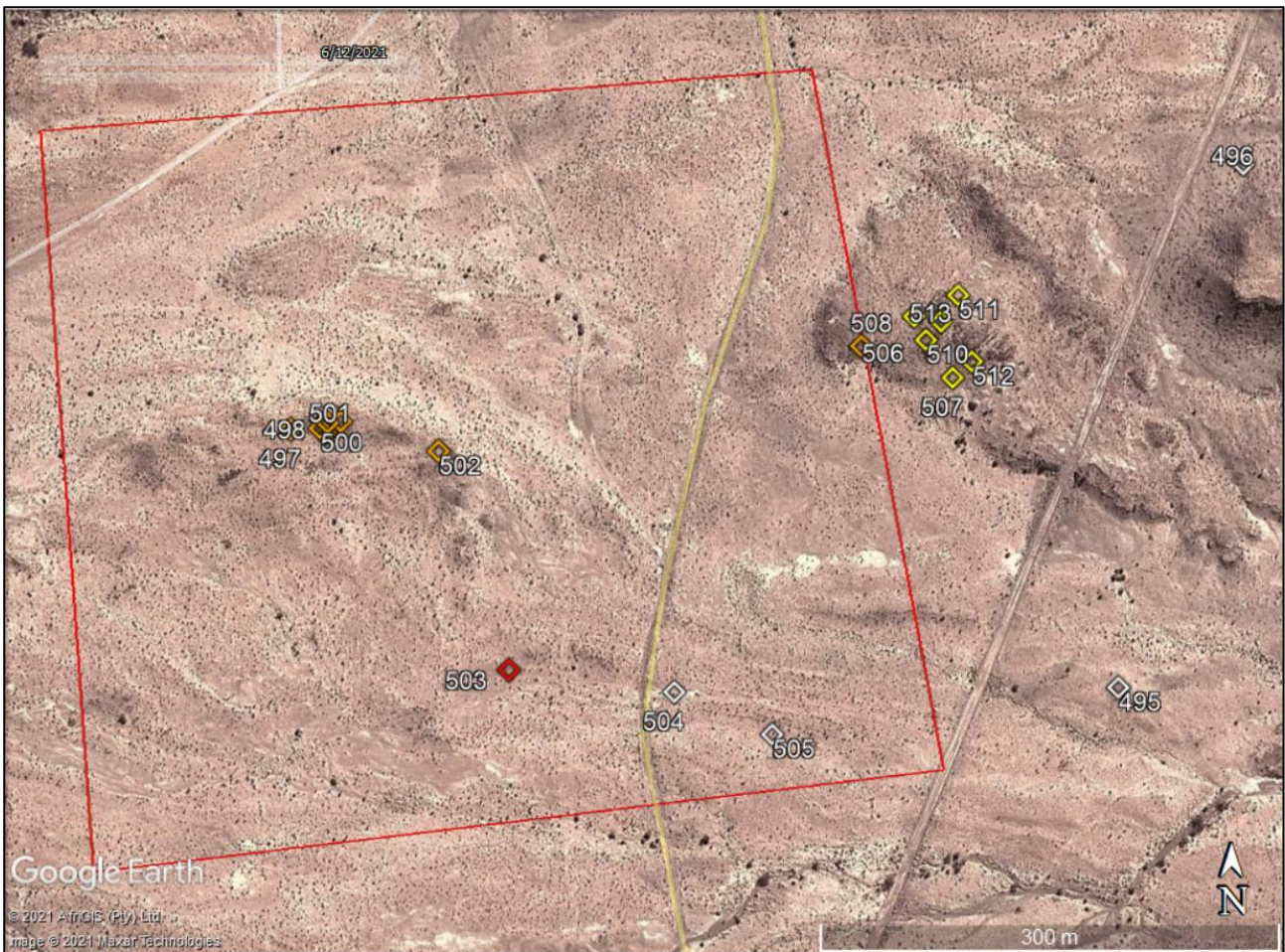


Figure 28: Map of archaeological heritage resources by grade. Red = IIIA, Orange = IIIB, Yellow = IIIC, White = NCW. Note that if waypoint 503 is not a grave then it would be NCW.

5.7. Summary of heritage indicators

Archaeological remains are generally scarce and localised. The only significant Stone Age materials found were just outside the eastern edge of the site. However, a group of historical engravings and a further isolated example all occur within the site.

- **Indicator:** Significant archaeological sites should be avoided or mitigated.

Although palaeontological resources were found in the area, none were within the proposed MTS site. Significant impacts are thus not expected.

- **Indicator:** Significant palaeontological sites should be avoided or mitigated.

One potential (but unlikely) grave was found. However, its status cannot be confirmed without subsurface testing and it should be assumed to be sensitive.

- **Indicator:** Grave sites should be avoided or, if this is impossible, relocated.

The rural cultural landscape extends throughout the study area but, aside from fences and farm tracks, human interventions are generally very sparse. The site lies within the Komsberg REDZ and Central Power Corridor which promotes Renewable Energy and Electricity Grid Infrastructure

development within these strategic geographical areas. It is thus noted that a new electrical layer is due to be added to this landscape in the very near future.

- **Indicator:** The proposed development should not strongly dominate the landscape from multiple viewpoints and especially not from scenic routes.

6. ASSESSMENT OF IMPACTS

Please note that the amendment application does not require a formal impact assessment but rather a comparative assessment looking at the previously approved and currently proposed locations.

6.1. Impacts to palaeontological resources

Formal assessment of palaeontological impacts is contained within Almond's (2021) specialist study. However, it is noted here that the significance of impacts both before and after mitigation is considered to be **low negative**. Suggested mitigation measures are monitoring by the ECO and application of a Fossil Chance Finds Procedure if any fossils are located. A Chance Finds Procedure has been provided in his report.

6.2. Impacts to archaeological resources

The earlier assessment considered the potential significance of impacts to archaeological resources as being **moderate negative** before mitigation. Given that the newly discovered heritage resources are of the same heritage grading and cultural significance, this assessment still stands. Mitigation would again result in the significance post-mitigation dropping to **very low negative**. There will thus be no change to the impact assessment ratings provided in the original assessment (Orton 2019).

In terms of the engravings discovered on the site, the previous MTS location would have been preferred because with only the powerline passing through the present site development would have easily been able to avoid the engravings. However, despite this disadvantage, mitigation can be easily effected in order to create a record of the engravings prior to construction.

Mitigation will be required. This should include:

- The MTS site must be included in the final pre-construction survey for the powerline in order to determine whether any further sensitive sites are present; and
- The engraving sites must be fully recorded through photography and/or tracing as required to create the clearest record.

Furthermore, the EMPr should note the archaeological materials located just outside the eastern edge of the site and this area should be protected from harm during construction

6.3. Impacts to the cultural landscape

The earlier assessment determined the potential significance of impacts to the cultural landscape as being **low negative** before mitigation. Given that the newly discovered heritage resources are of the same heritage grading and cultural significance, this assessment still stands. From a visual

perspective (i.e. considering aesthetic cultural significance), the MTS is only moving a short distance and all other factors remain the same which means that there will be no difference to the visual appearance of the landscape in terms of aesthetic significance with the MTS constructed in either location. Mitigation would again result in the significance post-mitigation dropping to **very low negative**. There will thus be no change to the impact assessment ratings provided in the original assessment (Orton 2019).

6.4. Existing impacts to heritage resources

There are currently no obvious threats to heritage resources on the site aside from the natural degradation, weathering and erosion that will affect rock art and archaeological materials. Trampling from grazing animals and/or farm/other vehicles is also a possibility. These impacts are of **very low negative** significance.

6.5. The No-Go alternative

The No-Go alternative would entail not building the MTS in the new location but retaining the current location as authorised. This location is not ideal due to access and topographic constraints and might result in greater environmental impacts overall. The original assessment of **moderate negative** for archaeology and **low negative** for the cultural landscape will thus apply to the no-go alternative.

6.6. Cumulative impacts

There are no similar electrical developments of the scale of an MTS in the vicinity. However, a number of high voltage powerlines occur nearby and many renewable energy facilities have been proposed in the Roggeveld Mountains to the west and northwest of the study area. While powerlines traverse all parts of the landscape and might impact upon resources in various areas, the majority of infrastructure for the renewable energy facilities is proposed on exposed ridges and flat open areas where heritage resources are not typically found. Although many sites have been recorded (see desktop study above), these are over large areas of land and the actual density of significant heritage resources (largely archaeological materials) on the landscape is low. Given this fairly low density and the fact that the most significant sites are generally the easiest seen and most likely to be found and avoided, the cumulative impacts through development of the MTS on this location are considered to be of **very low negative** significance.

6.7. Levels of acceptable change

Any impact to an archaeological or palaeontological resource or a grave is deemed unacceptable until such time as the resource has been inspected and studied further if necessary. Impacts to the landscape are difficult to quantify but in general a development that visually dominates the landscape from many vantage points is undesirable. Although the proposed MTS would be quite highly visible in the landscape, the location is very remote and, more importantly, an MTS has already been authorised in the vicinity so there would be very little change if the location was moved to the newly proposed site.

7. INPUT TO THE ENVIRONMENTAL MANAGEMENT PROGRAM

All but one of the previously proposed points for inclusion in the Environmental Management Program (EMPr) are still valid. The one that needs to change is that dealing with the engraving at waypoint 1785 (the 4th bullet in Orton 2019). Note that this engraving is now listed under waypoint 502 in this report. The engraving can no longer be protected and will require mitigation, along with others on the same outcrop. This point should be substituted with the following two points:

- The engravings at waypoints 497 to 502 and at waypoint 506 in Western Cape will require recording prior to construction. The developer or ECO should ensure that this has occurred well in advance of construction and that final approval of the mitigation work has been issued by HWC prior to construction.
- The area to the east of the MTS footprint and centred on waypoints 508 and 510 should be declared a no go area and monitored periodically by the ECO to ensure compliance.
- Fencing of the other known sites in the corridor is not necessary since, with the exception of the painted rock art site, none are very close to the route. The rock art is not easily discernible by a non-specialist and it is better not to draw attention to it. However, no entry signs should be placed at regular intervals around the two historical complexes in Western Cape.

8. EVALUATION OF IMPACTS RELATIVE TO SUSTAINABLE SOCIAL AND ECONOMIC BENEFITS

Section 38(3)(d) of the NHRA requires an evaluation of the impacts on heritage resources relative to the sustainable social and economic benefits to be derived from the development.

9. CONSULTATION WITH HERITAGE CONSERVATION BODIES

As per the HWC NID response, this report was submitted to the local municipality for comment on 7 July 2021. Responses will be reported and responded to at the end of consultation.

10. CONCLUSIONS

This study has found that a number of historical engravings occur within the proposed MTS footprint. These are only of moderate cultural significance and can be dealt with via archaeological mitigation. Because other sites of equal or higher cultural significance occur in other parts of the authorised electrical corridor, no changes to the impact significance are expected. Table 3 lists the heritage indicators proposed above and shows how each has been dealt with.

Table 3: Heritage indicators and project responses.

Indicator	Project Response
Significant archaeological sites should be avoided or mitigated.	No design response possible. A pre-construction survey will be required to assess the actual

	footprint of the broader project (i.e. including the powerline). This will determine whether any as yet unknown sites might still be impacted.
Significant palaeontological sites should be avoided or mitigated.	None known in MTS footprint but ECO should monitor excavations and report any finds.
Grave sites should be avoided or, if this is impossible, relocated.	No design response possible. A pre-construction survey will be required to assess the actual footprint of the broader project (i.e. including the powerline). This will determine whether any as yet unknown graves might still be impacted.
The proposed development should not strongly dominate the landscape from multiple viewpoints and especially not from scenic routes.	Although the development will be quite prominent in the landscape, it has already been authorised in a nearby location which means that no further response to this indicator is required.

The wider project was already approved by HWC and this new location will not significantly change the expected impact significance. There will, however, be some extra archaeological sites impacted that might have been protected if it was only the powerline passing through the study area.

None of the impacts at the new location is of high significance and all can be dealt with via mitigation work. There are no fatal flaws. Given that it is not possible for the proposed development to avoid the engravings within the footprint, there is no need to buffer them. However, some archaeology just outside the eastern edge of the site will need to be protected from harm.

10.1. Reasoned opinion of the specialist

There are no fatal flaws and because there are few heritage sites located within close proximity of the alignments, the potential impacts to all types of heritage resources are of generally moderate-low significance before mitigation and very low significance after mitigation. From a heritage point of view it is therefore suggested that the proposed amendment may be authorised.

11. RECOMMENDATIONS

It is recommended that the proposed amendment be authorised but subject to the conditions indicated below. These should be added to those from the previously authorised project, but one earlier recommendation (relating to waypoint 1785) falls away.

- The MTS site should be included within the preconstruction survey for the already authorised powerlines in order to check for any further significant resources, especially engravings;
- The engravings should be photographed and traced as necessary to produce a clear record. This should include moving the stones in order to achieve the best light for photography;
- The potential grave cairn should be unpacked and the ground tested to determine the status of the feature;
- The cluster of Stone Age materials located just outside the eastern edge of the site should be avoided and protected from harm throughout the construction phase; and

- If any fossils, archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.

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APPENDIX 1 – Curriculum Vitae



Curriculum Vitae

Jayson David John Orton

ARCHAEOLOGIST AND HERITAGE CONSULTANT

Contact Details and personal information:

Address: 23 Dover Road, Muizenberg, 7945
Telephone: (021) 788 1025
Cell Phone: 083 272 3225
Email: jayson@asha-consulting.co.za

Birth date and place: 22 June 1976, Cape Town, South Africa
Citizenship: South African
ID no: 760622 522 4085
Driver's License: Code 08
Marital Status: Married to Carol Orton
Languages spoken: English and Afrikaans

Education:

SA College High School	Matric	1994
University of Cape Town	B.A. (Archaeology, Environmental & Geographical Science) 1997	
University of Cape Town	B.A. (Honours) (Archaeology)*	1998
University of Cape Town	M.A. (Archaeology)	2004
University of Oxford	D.Phil. (Archaeology)	2013

*Frank Schweitzer memorial book prize for an outstanding student and the degree in the First Class.

Employment History:

Spatial Archaeology Research Unit, UCT	Research assistant	Jan 1996 – Dec 1998
Department of Archaeology, UCT	Field archaeologist	Jan 1998 – Dec 1998
UCT Archaeology Contracts Office	Field archaeologist	Jan 1999 – May 2004
UCT Archaeology Contracts Office	Heritage & archaeological consultant	Jun 2004 – May 2012
School of Archaeology, University of Oxford	Undergraduate Tutor	Oct 2008 – Dec 2008
ACO Associates cc	Associate, Heritage & archaeological consultant	Jan 2011 – Dec 2013
ASHA Consulting (Pty) Ltd	Director, Heritage & archaeological consultant	Jan 2014 –

Professional Accreditation:

Association of Southern African Professional Archaeologists (ASAPA) membership number: 233

CRM Section member with the following accreditation:

- Principal Investigator: Coastal shell middens (awarded 2007)
Stone Age archaeology (awarded 2007)
Grave relocation (awarded 2014)
- Field Director: Rock art (awarded 2007)
Colonial period archaeology (awarded 2007)

Association of Professional Heritage Practitioners (APHP) membership number: 43

- Accredited Professional Heritage Practitioner

➤ **Memberships and affiliations:**

South African Archaeological Society Council member	2004 – 2016
Assoc. Southern African Professional Archaeologists (ASAPA) member	2006 –
UCT Department of Archaeology Research Associate	2013 –
Heritage Western Cape APM Committee member	2013 –
UNISA Department of Archaeology and Anthropology Research Fellow	2014 –
Fish Hoek Valley Historical Association	2014 –
Kalk Bay Historical Association	2016 –
Association of Professional Heritage Practitioners member	2016 –

Fieldwork and project experience:

Extensive fieldwork and experience as both Field Director and Principle Investigator throughout the Western and Northern Cape, and also in the western parts of the Free State and Eastern Cape as follows:

Feasibility studies:

- Heritage feasibility studies examining all aspects of heritage from the desktop

Phase 1 surveys and impact assessments:

- Project types
 - Notification of Intent to Develop applications (for Heritage Western Cape)
 - Desktop-based Letter of Exemption (for the South African Heritage Resources Agency)
 - Heritage Impact Assessments (largely in the Environmental Impact Assessment or Basic Assessment context under NEMA and Section 38(8) of the NHRA, but also self-standing assessments under Section 38(1) of the NHRA)
 - Archaeological specialist studies
 - Phase 1 archaeological test excavations in historical and prehistoric sites
 - Archaeological research projects
- Development types
 - Mining and borrow pits
 - Roads (new and upgrades)
 - Residential, commercial and industrial development
 - Dams and pipe lines
 - Power lines and substations
 - Renewable energy facilities (wind energy, solar energy and hydro-electric facilities)

Phase 2 mitigation and research excavations:

- ESA open sites
 - Duinefontein, Gouda, Namaqualand
- MSA rock shelters
 - Fish Hoek, Yzerfontein, Cederberg, Namaqualand
- MSA open sites
 - Swartland, Bushmanland, Namaqualand
- LSA rock shelters
 - Cederberg, Namaqualand, Bushmanland
- LSA open sites (inland)
 - Swartland, Franschhoek, Namaqualand, Bushmanland
- LSA coastal shell middens
 - Melkbosstrand, Yzerfontein, Saldanha Bay, Paternoster, Dwarskersbos, Infanta, Knysna, Namaqualand
- LSA burials
 - Melkbosstrand, Saldanha Bay, Namaqualand, Knysna
- Historical sites
 - Franschhoek (farmstead and well), Waterfront (fort, dump and well), Noordhoek (cottage), variety of small excavations in central Cape Town and surrounding suburbs
- Historic burial grounds
 - Green Point (Prestwich Street), V&A Waterfront (Marina Residential), Paarl

Awards:

Western Cape Government Cultural Affairs Awards 2015/2016: Best Heritage Project.

APPENDIX 2 – Previous HWC approval

Our Ref: HM/LAINSGBURG/RHEEBOKKENFONTEIN, HAMELKRAAL, DE MOLEN & FARM 280
Case No.: 19042402AS0521M
Enquiries: Andrew September
E-mail: andrew.september@westerncape.gov.za
Tel: 021 483 9543
Date: 19 December 2019

Jayson Orton
PO Box 46
Noordhoek
7979



FINAL COMMENT
In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape Provincial Gazette 6061, Notice 298 of 2003

HERITAGE IMPACT ASSESSMENT PROPOSED POWERLINE AND ELECTRICAL SUPPORT INFRASTRUCTURE ON VARIOUS PORTIONS OF FARMS 280, RHEEBOKKENFONTEIN 11 & 2, DE MOLEN 2 & HAMELKRAAL 16, LAINSGBURG, CENTRAL KAROO, SUBMITTED IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

CASE NUMBER: 19042402AS0521M

The matter above has reference. Heritage Western Cape is in receipt of your application. This matter was discussed at the Impact Assessment Committee (IACOM) held on 4th December 2019.

FINAL COMMENT

The report satisfies the requirements of Section 38(3) of the NHRA.

The development is supported subject to the following conditions:

1. Any areas of the power line route and substation footprint not yet surveyed must be examined by an archaeologist in order to identify any areas or sites that should be protected or mitigated prior to commencement of construction (this includes any alterations made after completion of the assessment);
2. The Environmental Control Officer (ECO) must be aware of the potential for fossils to be uncovered during excavations. As many excavations as possible must be monitored by the ECO during construction and if any fossils are uncovered, they should be protected in situ and immediately reported to a palaeontologist in order to plan a way forward;
3. The farm road passing through the kraal complex at waypoint 546 (Northern Cape) may not be widened towards the east and should preferably not be widened at all;
4. No pylon should be placed within 30m of waypoint 1785 (Western Cape) and the site should be fenced with a 30 m buffer during the construction phase;
5. Significant palaeontological and archaeological sites as listed in the HIA report must be identified on project maps and regarded as no-go zones with buffers of at least 30 m around all associated features (the exception is the service road diversion which comes within 20 m of the rock art site but uses an existing farm track);
6. These no-go sites must be examined periodically by the ECO during the construction phase to ensure that they are being respected;
7. If any archaeological material, palaeontological material or human burials are uncovered during the course of development then work in the immediate area must be halted. The find must be reported to the heritage authorities and may require inspection by an archaeologist or palaeontologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.
8. A walk down of the proposed access road is required prior to the commencement of any earthworks or construction. A walk down report must be submitted to HWC for endorsement by HOMS prior to commencement of work.

www.westerncape.gov.za/cas

Street Address: Protea Assurance Building, Green Market Square, Cape Town, 8000 • **Postal Address:** P.O. Box 1665, Cape Town, 8000
• **Tel:** +27 (0)21 483 5959 • **E-mail:** ceheritage@westerncape.gov.za

Straatadres: Protea Assuransie-gebou, Groentemarkplein, Kaapstad, 8000 • **Posadres:** Posbus 1665, Kaapstad, 8000
• **Tel:** +27 (0)21 483 5959 • **E-pos:** ceheritage@westerncape.gov.za

Idilesi yendawo: kumqangatho 3, kwisakhiwo iProtea Assurance, Greenmarket Square, eKapa, 8000 • **Idilesi yeposi:** Inombolo yebhokisi

Our Ref: HM/LAINSGBURG/RHEEBOKKENFONTEIN, HAMELKRAAL,
DE MOLEN & FARM 280
Case No.: 19042402AS0521M
Enquiries: Andrew September
E-mail: andrew.september@westerncape.gov.za
Tel: 021 483 9543
Date: 19 December 2019



If any unexpected archaeological or palaeontological material or evidence of burials is discovered during earth-moving activities all works must be stopped and Heritage Western Cape must be notified immediately.

Applicants are strongly advised to review and adhere to the time limits contained the Standard Operational Procedure (SOP) between DEADP and HWC. The SOP can be found using the following link <http://www.hwc.org.za/node/293>

HWC reserves the right to request additional information as required.

Should you have any further queries, please contact the official above and quote the case number.

Yours faithfully


.....
Dr Mxolisi Dlamuka
Chief Executive Officer, Heritage Western Cape

www.westerncape.gov.za/cas

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Idilesi yendawo: kumtangahe 3, kwisakhiwo lprotea Assurance, Greenmarket Square, ekapa, 8000 • **Idilesi yeposi:** Inombolo yebhokisi

APPENDIX 3 – HWC NID response

To be inserted when received.

APPENDIX 4 – Site Sensitivity Verification

A site sensitivity verification was undertaken in order to confirm the current land use and environmental sensitivity of the proposed project area. The details of the site sensitivity verification are noted below:

Date of Site Visit	27 th May 2021
Specialist Name	Dr Jayson Orton (site visit by Madelon Tusenius)
Professional Registration Number	ASAPA: 233; APHP: 043
Specialist Affiliation / Company	ASHA Consulting (Pty) Ltd

- Provide a description on how the site sensitivity verification was undertaken using the following means:

- (a) desk top analysis, using satellite imagery;
- (b) preliminary on -site inspection; and
- (c) any other available and relevant information.

Initial work was carried out using satellite aerial photography in combination with the author's accumulated knowledge of the local landscape. Subsequent fieldwork served to ground truth the site, including areas identified as potentially sensitive. Desktop research was also used to inform on the heritage context of the area. This information is presented in the report (Sections 5.2.1 and 5.4.1).

- Provide a description of the outcome of the site sensitivity verification in order to:

- (a) confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.; and
- (b) include a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

The map below is extracted from the screening tool report and shows the archaeological and heritage sensitivity to be low. The site visit showed that the majority of the site is indeed of low sensitivity but that a few small areas of higher sensitivity were present (where archaeological resources were found). Figure 2 in the report shows the areas considered to be archaeologically sensitive. Since the sites were not of high cultural significance, these areas can be considered as a medium sensitivity. A photographic record and description of the relevant heritage resources are contained within the impact assessment report. The specialist thus generally agrees with the screening tool sensitivity rating but noting that the low sensitivity is not uniform.

