Archaeological Scoping Report for the Proposed Establishment of the Majuba Solar PV facility, Mpumalanga Province

Prepared For

Savannah Environmental (Pty) Ltd

By

PO BOX 863
MODIMOLLE
0510

VERSION 1.0

28 NOVEMBER 2014

ACKNOWLEDGEMENT OF RECEIPT

CLIENT: Savannah Environmental (Pty) Ltd

CONTACT PERSON: **Sheila Muniongo**
Tel: +27 11 656 3237
E – mail: sheila@savannahsa.com

SIGNATURE: _____

LEADING CONSULTANT: Heritage Contracts and Archaeological Consulting CC

CONTACT PERSON: Jaco van der Walt
Heritage Contracts and Archaeological Consulting
Professional Member of the Association of Southern African Professional Archaeologist (#159)

I, Jaco van der Walt as duly authorised representative of Heritage Contracts and Archaeological Consulting CC, hereby confirm my independence as a specialist and declare that neither I nor the Heritage Contracts and Archaeological Consulting CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which Savannah Environmental was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

SIGNATURE: _____

EXECUTIVE SUMMARY

Site name and location: The Majuba Solar PV Facility is located Portion 1, 2 and 6 of the farm Witkoppies 81 HS, Mpumalanga Province
1: 50 000 Topographic Map: 2729BB

EIA Consultant: Savannah Environmental (Pty) Ltd.

Developer Eskom Holdings (SOC) Limited

Heritage Consultant: Heritage Contracts and Archaeological Consulting CC (HCAC).

Contact person: Jaco van der Walt Tel: +27 82 373 8491 E –mail jaco.heritage@gmail.com.

Date of Report: 28 November 2014

Findings of the Assessment:

This scoping study underlined the lack of systematic research in the area and no sites of significance are on record for the study area. However historic homesteads and graves were recorded in the general area and similar sites could occur in the proposed development footprint. Therefor in order to comply with the National Heritage Resources Act (Act 25 of 1999) it is recommended that a Phase 1 Archaeological Impact Assessment must be undertaken. During this study sites of archaeological, historical or places of cultural interest must be located, identified, recorded, photographed and described. During this study the levels of significance of recorded heritage resources must be determined and mitigation proposed should any significant sites be impacted upon, ensuring that all the requirements of SAHRA are met.

Dr Barry Millsteed completed a desktop paleontological assessment of the area and did not record any reasons why the development cannot continue if the recommendations in his report are adhered to. His letter is included as Annexure A. It is incumbent upon the developer to ensure that these recommendations are implemented before construction starts.

Disclaimer: *Although all possible care is taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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Annexure A – Paleontological Desktop Study

ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (2 million to 300 000 years ago)

Middle Stone Age (300 000 to 30 000 years ago)

Late Stone Age (30 000 years ago until recent)

Historic (approximately AD 1840 to 1950)

Historic building (over 60 years old)

Lithics: Stone Age artefacts

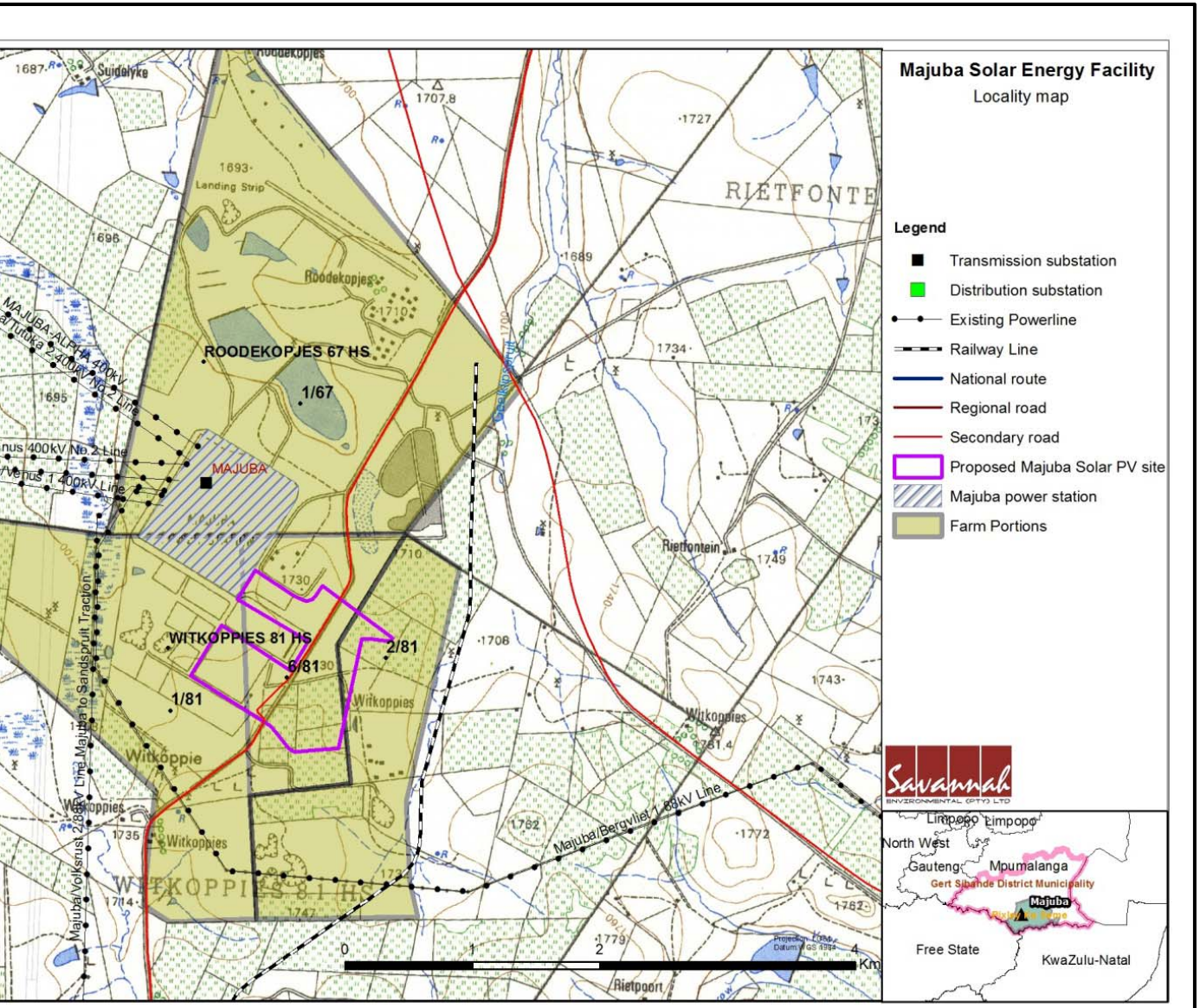
1. INTRODUCTION

Heritage Contracts and Archaeological Consulting CC was contracted by Savannah (Pty) Ltd to conduct a Heritage Scoping report for the proposed Majuba Solar PV Development.

The heritage scoping report forms part of the EIA for the proposed project.

The aim of the scoping report is to conduct a desktop study to identify possible heritage resources within the project area and to assess their importance within a Local, Provincial and National context. The study furthermore aims to assess the impact of the proposed project on non - renewable heritage resources and to submit appropriate recommendations with regards to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage legislation.

The report outlines the approach and methodology utilized for the Scoping phase of the project. The report includes information collected from various sources and consultations. Possible impacts are identified and mitigation measures are proposed in the following report. It is important to note that no field work was conducted as part of the scoping phase but will be conducted as part of the Impact Assessment phase of the EIA.


Majuba Solar Energy Facility
Locality map
Legend
Transmission substation
Distribution substation
Existing Powerline
Railway Line
National route
Regional road
Secondary road
Proposed Majuba Solar PV site
Majuba power station
Farm Portions
ROODEKOPJES 67 HS
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Majuba to Sandspruit Traction
Savannah
ENVIRONMENTAL (PTY) LTD
Limpopo
North West
Gauteng
Mpumalanga
Gert Sibande District Municipality
Majuba
Free State
KwaZulu-Natal
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1.2 Terms of Reference

The main aim of this scoping report is to determine if any known heritage resources occur within the study area and to predict the occurrence of any possible heritage significant sites that might present a fatal flaw to the proposed project. The objectives of the scoping report were to:

- Conduct a desktop study:
    - Review available literature, previous heritage studies and other relevant information sources to obtain a thorough understanding of the archaeological and cultural heritage conditions of the area;
    - Gather data and compile a background history of the area;
    - Identify known and recorded archaeological and cultural sites;
    - Determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.
- Report

The reporting of the scoping component is based on the results and findings of the desk-top study, wherein potential issues associated with the proposed project will be identified, and those issues requiring further investigation through the IA Phase highlighted. Reporting will aim to identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project activity on the identified heritage resources for all 3 development stages of the project, i.e. construction, operation and decommissioning. Reporting will also consider alternatives should any significant sites be impacted on by the proposed project. This is done to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage Legislation.

1.3 Nature of the development

The PV Facility will include the following infrastructures:

- Arrays of photovoltaic (PV) panels.
- Mounting structures to support the PV panels.
- Cabling between the project components.
- Inverters/transformer enclosures.
- An on-site substation or switching station.
- A power line to facilitate the connection of the solar energy facility to the existing substation at the power station.
- Internal access roads.
- Buildings (which could include workshop area for maintenance and storage, and an on-site office).

1.4 The receiving environment

The proposed project is located on Portion 1, 2 and 6 of the farm Witkoppies 81 HS, to the south west of Amersfoort, Mpumalanga Province.

The topography of the area is relatively flat and the south western portion used to be cultivated. The study area falls within the Mesic Highveld Grassland Bioregion as described by Mucina et al (2006) with the vegetation described as Amersfoort Highveld Clay Grassland. Land use in the general area is characterized by mining and agriculture.

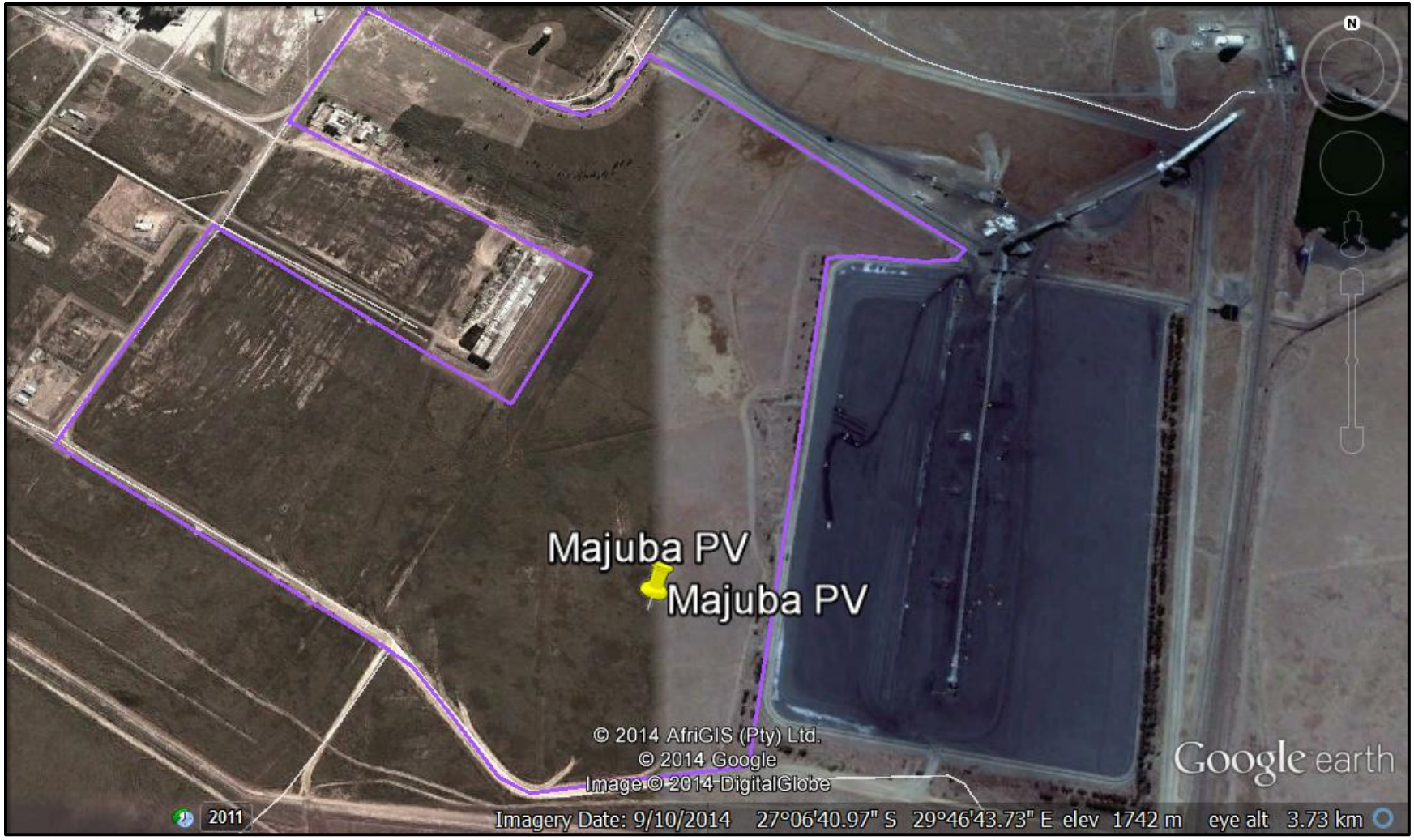

Figure 2: Google image of the study area.

2. APPROACH AND METHODOLOGY

The assessment is to be undertaken in two phases, a desktop study as part of the Scoping phase and an Archaeological Impact Assessment as part of the Environmental Impact Assessment phase. This report concerns the scoping phase. The aim of the scoping phase is to cover archaeological and cultural heritage data available to compile a background history of the study area. In order to identify possible heritage issues or fatal flaws that should be avoided during development.

This was accomplished by means of the following phases (the results are represented in section 4 of this report):

2.1 Literature search

A literature search was conducted utilising data from published articles on the archaeology and history of the area. The aim of this is to extract data and information on the area in question, looking at archaeological sites, historical sites and graves of the area.

2.2 Information collection

The SAHRA report mapping project (Version 1.0) and SAHRIS was consulted to further collect data from CRM practitioners who undertook work in the area to provide the most comprehensive account of the history of the area where possible.

2.3 Public consultation

A full public consultation process is facilitated by Savannah Environmental.

2.4 Google Earth and mapping survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological sites might be located.

2.5 Genealogical Society of South Africa

The database of the genealogical society was consulted to collect data on any known graves in the area.

3. LEGISLATION

For this project the National Heritage Resources Act, 1999 (Act No. 25 of 1999) is of importance and the following sites and features are protected:

a. Archaeological artefacts, structures and sites older than 100 years
b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
c. Objects of decorative and visual arts
d. Military objects, structures and sites older than 75 years
e. Historical objects, structures and sites older than 60 years
f. Proclaimed heritage sites
g. Grave yards and graves older than 60 years
h. Meteorites and fossils
i. Objects, structures and sites or scientific or technological value.

The national estate that includes the following:

a. Places, buildings, structures and equipment of cultural significance
b. Places to which oral traditions are attached or which are associated with living heritage
c. Historical settlements and townscapes
d. Landscapes and features of cultural significance
e. Geological sites of scientific or cultural importance
f. Archaeological and palaeontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

Section 34 (1) of the act deals with structures which is older than 60 years. Section 35(4) of this act deals with archaeology, palaeontology and meteorites. Section 36(3) of the National Heritage Resources Act, deals with human remains older than 60 years. Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

3.1 Heritage Site Significance and Mitigation Measures

The presence and distribution of heritage resources define a Heritage Landscape. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. National and Provincial Monuments are recognised for conservation purposes. The following interrelated criteria were used to establish site significance:

- The unique nature of a site;
- The integrity of the archaeological/cultural heritage deposit;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined or is known);
- The preservation condition of the site;
- Potential to answer present research questions.

The criteria above will be used to place identified sites with in SAHRA's (2006) system of grading of places and objects which form part of the national estate. This system is approved by ASAPA for the SADC region. The recommendations for each site should be read in conjunction with section 10 of this report.

FIELD RATING	***GRADE***	***SIGNIFICANCE***	***RECOMMENDED MITIGATION***
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

4. REGIONAL OVERVIEW

4.1 General Information

4.1.1. Literature search

Several previous heritage studies were conducted in the immediate vicinity of the study area (SAHRA report mapping project V1.0 and SAHRIS). Studies consulted for this scoping study include Van Schalkwyk (2013), Becker (2008) and Seliane (2013). Becker recorded graves close to the Majuba Power Station and Seliane and van Schalkwyk also recorded graves as well as structures that could be older than 60 years and therefore protected by legislation.

4.1 2. Public consultation

A public participation process is facilitated by Savannah environmental as per the EIA process.

4.1.3. Google Earth and mapping survey

Google Earth and 1:50 000 maps of the area was utilised to identify possible places where archaeological sites might be located.

4.1.4. Genealogical Society of South Africa

No grave sites are indicated within the study area.

4.2. Palaeontology

The palaeontology of the area has been assessed at a desktop level by Dr Barry Millsteed. He concluded the following:

*"*The project location is completely underlain by potentially fossiliferous sedimentary rocks of the Early Permian Volksrust Formation. The potential for the proposed project to result in a negative impact upon the palaeontological heritage of the site has been assessed as moderate. The fossils known to be present within the formation elsewhere in South Africa are known to contain highly scientifically and culturally significant fossils, particularly the plant macrofossils of the *Glossopteris* flora. Any damage caused to the fossil materials that may be present within the strata underlying the project area would be both permanent and irreversible" Millsteed (2014).

4.3 Archaeological and Historical Information Available on the Study Area"

The following section will endeavour to give an account of the history of the greater area of the proposed development and also a brief overview of the history of the district in which it is located. The report has been divided into several sections that will focus on the following aspects:

- General history of human settlement in the area
- The history of black and white interaction in the farm area

The Stone Age is divided in Early; Middle and Late Stone Age and refers to the earliest people of South Africa who mainly relied on stone for their tools.

Very few Early Stone Age sites are on record for Mpumalanga and no sites dating to this period are expected for the study area. An example in Mpumalanga is Maleoskop on the farm Rietkloof where ESA tools have been found. This is one of only a handful of such sites in Mpumalanga.

The MSA has not been extensively studied in Mpumalanga but evidence of this period has been excavated at Bushman Rock Shelter, a well-known site on the farm Klipfonteinhoek in the Ohrigstad district. This cave was excavated twice in the 1960s by Louw and later by Eloff. The MSA layers show that the cave was repeatedly visited over a long period. Lower layers have been dated to over 40 000 BP (Before Present) while the top layers date to approximately 27 000 BP (Esterhuizen & Smith in Delius, 2007). MSA material is found widely across South Africa and some MSA manifestations can be expected in the study area.

The Later phases of the Stone Age began at around 20 000 years BP. This period was marked by numerous technological innovations and social transformations within these early hunter-gatherer societies. These people may be regarded as the first modern inhabitants of Mpumalanga, known as the San or Bushmen. They were a nomadic people who lived together in small family groups and relied on hunting and gathering of food for survival. Evidence of their existence is to be found in numerous rock shelters throughout the Eastern Mpumalanga where some of their rock paintings are still visible. A number of these shelters have been documented throughout the Province (Bornman, 1995; Schoonraad in Barnard, 1975; Delius, 2007). These include areas such as Witbank, Ermelo, Barberton, Nelspruit, White River, Lydenburg and Ohrigstad.

The Iron Age as a whole represents the spread of Bantu speaking people and includes both the pre-Historic and Historic periods. It can be divided into three distinct periods:

- The Early Iron Age: Most of the first millennium AD.
- The Middle Iron Age: 10th to 13th centuries AD
- The Late Iron Age: 14th century to colonial period.

The Iron Age is characterised by the ability of these early people to manipulate and work Iron ore into implements that assisted them in creating a favourable environment to make a better living. No Sites dating to the Early or Middle Iron Age have been recorded or is expected for the study area. The same goes for the Later Iron Age period where the study area is situated outside the southern periphery of distribution of Late Iron Age settlements in Mpumalanga. This phase of the Iron Age (AD 1600-1800's) is represented by various tribes including Ndebele, Swazi, BaKoni, Pedi marked by extensive stonewalled settlements found throughout the Mpumalanga escarpment

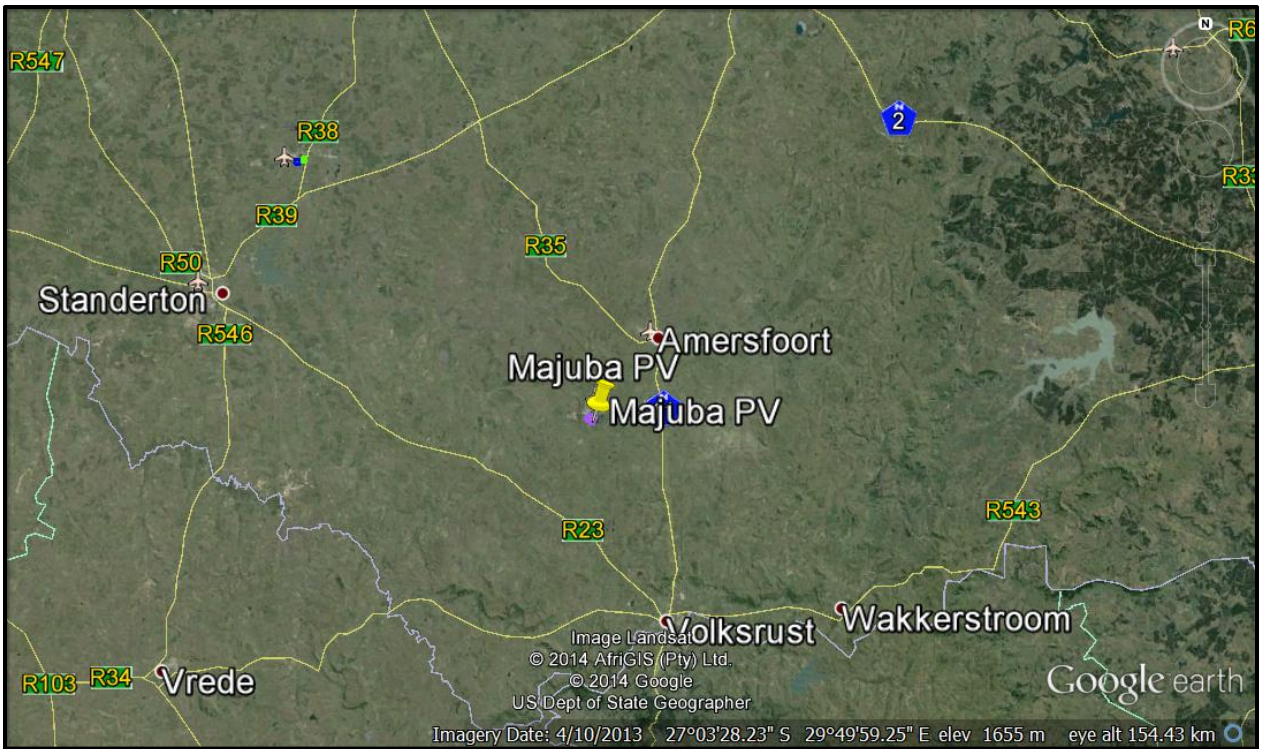

Figure 3 The study area in relation to Standerton, Amersfoort, Wakkerstroom and Volksrust.

When writing about the Mpumalanga Province, it is perhaps best to briefly glance back to prehistoric times, when coals formed in vast swamps from rotting forests between 200 and 300 million years ago. Massive seams of vast coal fields have been discovered and extracted in the southern areas in the province. The areas surrounding the towns of Witbank, Middelburg, Bethal, Hendrina, Ermelo and Carolina had long provided South Africa with an abundant source of cheap energy. This discovery has also had unfortunate effects on these areas, since the toxic by-products of burning coal in such quantities had severely polluted the ground and atmosphere in this area. (*Delius* 2007: 36-37)

J. S. Bergh's historical atlas of the four northern provinces of South Africa is a very useful source for the writing of local and regional histories.

Iron Age sites have been identified to the north of the area, around Bethal (Geskiedenisatlas van Suid-Afrika 1999: 6-7). These all are dated to the Late Iron Age. It is also known that the early trade routes did not run through this area (Geskiedenisatlas van Suid-Afrika 1999: 9).

No major black tribes seem to have settled very close to the area where the study area is located today by the start of the nineteenth century, but the Phuthing Tribe was prominent in the area to the north thereof. (Geskiedenisatlas van Suid-Afrika 1999: 10)

In a few decades, the sociographic nature of the then Transvaal province would change forever. The Difaqane (Sotho), or Mfekane ("the crushing" in Nguni) was a time of bloody upheavals in Natal and on the Highveld, which occurred around the early 1820's until the late 1830's. (Geskiedenisatlas van Suid-Afrika 1999: 109-115) It came about in response to

heightened competition for land and trade, and caused population groups like gun-carrying Griquas and Shaka's Zulus to attack other tribes. (Geskiedenisatlas van Suid-Afrika 1999: 14; 116-119) Mzilikazi and his raiders had moved from the Northern Nguni area to the area north of the Vaal River by 1821. It has been recorded that the Ndebeles first attacked the Phuthing tribe, which in turn migrated to the south of the Vaal River and joined groups of Southern Sotho speakers. The Phuthing and Southern Sotho tribes moved westward and northward and started raiding Tswana communities in the surrounding area. The Phuthing were commanded first by Chief Tshane, and later Ratsebe. As the Phuthing under Ratsebe moved eastwards along the Vaal River, they collided with Mzilikazi's Ndebele once more. The Phuthing and other raiding groups were finally taken captive in 1823 by Mzilikazi's men. (Geskiedenisatlas van Suid-Afrika 1999: 110-111) It is unlikely that these events would have had a great influence on the area where the farms under investigation are located today, but it is still important to understand the social dynamics of the larger area.

During the time of the Difaqane, a northwards migration of white settlers from the Cape was also taking place. Some travellers, missionaries and adventurers had gone on expeditions to the northern areas in South Africa – some as early as in the 1720's.

By the late 1820's, a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek.

This migration resulted in a massive increase in the extent of that proportion of modern South Africa dominated by people of European descent. (Ross 2002: 39) As can be expected, the movement of whites into the northern provinces would have a significant impact on the black people who populated the land. By 1860, the population of whites in the central Transvaal was already very dense and the administrative machinery of their leaders was firmly in place. Many of the policies that would later be entrenched as legislation during the period of apartheid had already been developed. (Geskiedenisatlas van Suid-Afrika 1999: 170)

During the second Anglo Boer War the Town of Standerton played a role when a British Garrison was besieged in the town for three months.

Much can be said about the systematic oppression of black people in South Africa. In 1904 about a half of the black population in the Transvaal was living on private land, owned by whites or companies. According to the Squatters' Law of 1895, no more than five families of "natives" could live on any farm or divided portion of a farm, without special permission of the Government in the Transvaal. (Massie 1905: 97)

Black and white relations were however at times also interdependent in nature. After the Great Trek, when white farmers had settled at various areas in the northern provinces, wealthier farmers were often willing to lodge needy white families on their property in exchange for odd jobs and commando service. This bywoner often arrived with a family and a few cows. He would till the soil and pay a minimal rent to the farmer from the crops he grew. The farmer did not consider him a laborer, but mostly kept black workers for hard labour on the farm. After the Anglo-Boer War, many families were left destitute. Post war years of severe droughts and locust plagues did not ameliorate this state of affairs. All of these factors resulted in what became known as the 'poor white problem'. On the advent of commercial farming in South Africa, white landowners soon found bywoners to be a financial burden, and many were evicted from farms. In many cases, wealthier landlords found it far

more profitable to rent their land to blacks than to bywoners. This enabled them to create reservoirs of black labour (for which mine recruiting agencies were prepared to pay handsome commissions), while it was also possible to draw more rent from their black tenants. This practice was outlawed by the 1913 Natives Land Act, which forbade more than five black families from living on white farms as peasant squatters. (Readers Digest 1992: 329-332)

The discovery of diamonds and gold in the northern provinces had very important consequences for South Africa. After the discovery of these resources, the British, who at the time had colonized the Cape and Natal, had intensions of expanding their territory into the northern Boer republics. This eventually led to the Anglo-Boer War, which took place between 1899 and 1902 in South Africa, and which was one of the most turbulent times in South Africa's history. Even before the outbreak of war in October 1899 British politicians, including Sir Alfred Milner and Mr. Chamberlain, had declared that should Britain's differences with the Z.A.R. result in violence, it would mean the end of republican independence. This decision was not immediately publicized, and as a consequence republican leaders based their assessment of British intentions on the more moderate public utterances of British leaders. Consequently, in March 1900, they asked Lord Salisbury to agree to peace on the basis of the status quo ante bellum. Salisbury's reply was, however, a clear statement of British war aims. (Du Preez 1977)

During the British march into the Transvaal between February and September 1900, several troop passed by the area where Witbank is situated today. The battalions of Lieutenant Generals J. French, R. Pole-Carew and F. Roberts all travelled close by the Witbank area and through Middelburg. A railway line ran along this route at the time. (Geskiedenisatlas van Suid-Afrika 1999: 51)

During the Anglo-Boer War, two railway stations were located in the vicinity of the Witbank area, and close to each a black concentration camp had been established. At Middelburg, about 20 kilometres to the east of Witbank, one white and one black concentration camp was also set up.During the Anglo Boer War the highveld areas saw much action consisting of various skirmishes between Boer and Brit.

5. PROBABILITY OF OCCURRENCE OF SITES

Based on the above information, it is possible to determine the probability of finding archaeological and cultural heritage sites within the study area to a certain degree. For the purposes of this section of the report the following terms are used – low, medium and high probability. Low indicates that no known occurrences of sites have been found previously in the general study area, medium probability indicates some known occurrences in the general study area are documented and can therefore be expected in the study area and a high probability indicates that occurrences have been documented close to or in the study area and that the environment of the study area has a high degree of probability having sites.

» Palaeontological landscape

Fossil remains*. Medium - High probability.*

» Archaeological And Cultural Heritage Landscape

NOTE: *Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface*.

Archaeological remains dating to the following periods can be expected within the study area:

» Stone Age finds

ESA: *Low-Medium Probability*
MSA*: Low-Medium Probability*
LSA: Low-Medium Probability
LSA –Herder: Low Probability

» Iron Age finds

EIA: *Low Probability*
MIA*: Low Probability*
LIA: Low -Medium Probability

» Historical finds

Historical period: *Low-Medium Probability*
Historical dumps: *Low-Medium Probability*
Structural remains: *Low-Medium Probability*
Cultural Landscape*: low probability*

» Living Heritage
For example rainmaking sites: *Low Probability*

» Burial/Cemeteries

Burials over 100 years: *Low-Medium Probability*
Burials younger than 60 years*: Medium Probability*

Subsurface excavations including ground levelling, landscaping, and foundation preparation can expose any number of these.

6. ASSUMPTIONS AND LIMITATIONS

The study area was not subjected to a field survey as this will be done in the EIA phase. It is assumed that information obtained for the wider area is applicable to the study area.

7. FINDINGS

The heritage scoping study revealed that the following heritage sites, features and objects that can be expected within the study area.

7.1. Palaeontological

Any construction or servitude operations for this site must be done taking the recommendations made by Dr Millsteed in Annexure A into account to ensure that it does not impact on the fossil record of South Africa.

7.2. Archaeology

7.2.1 Archaeological finds

Almost no archaeological sites are on record close to the study area. Dis does not mean that there are no sites but can be attributed to the lack of systematic research in the area. There is a low - medium likelihood of finding MSA material scattered over the study area.

7.2.2 Nature of Impact

The construction phase of the project could directly impact on surface and subsurface archaeological sites.

7.2.3 Extent of impact

The project could have a low to medium impact on a local scale.

7.3. Historical period

7.3.1 Historical finds: I

Historical finds include middens, structural remains and cultural landscape. No homesteads/structures are visible on Google earth in the study area. Without a field survey it is not possible to determine if there are remnants of demolished buildings. Studies in the area recorded structures older than 60 years.

7.3.2 Nature of Impact

The construction of the project can directly impact on both the visual context and sense of place of historical sites.

7.3.3 Extent of impact

The construction phase of the project could have a low – medium impact on a local scale.

7.4. Burials and Cemeteries

7.4.1 Burials and Cemeteries

Graves and informal cemeteries can be expected anywhere on the landscape and the location of any graves will have to be confirmed during a field visit. Studies in the area recorded informal cemeteries.

7.4.2 Nature of Impact

The construction and operation of the proposed project could directly impact on marked and unmarked graves.

7.4.3 Extent of impact

The project could have a low to medium impact on a local scale.

8. POTENTIAL SIGNIFICANCE OF HERITAGE RESOURCES

Based on the current information obtained for the area at a desktop level it is anticipated that any archaeological sites that occur within the proposed development area will have a

Generally Protected B (GP.B) field rating and all sites should be mitigatable and no red flags are identified. Graves are of high social significance and can be expected anywhere in the landscape.

9. CONCLUSIONS AND RECOMMENDATIONS

This scoping study revealed that very few known heritage sites occur in the larger region but this can be attributed to a lack of research in the area. Every site is relevant to the Heritage Landscape, but it is anticipated that no site in the study area could have conservation value. The following conclusions are applicable to the following sites:

» Archaeological sites

If any sites occur in the study area they could be mitigated either in the form of conservation of the sites with in the development or by a Phase 2 study where the sites will be recorded and sampled before the client can apply for a destruction permit for these sites prior to development.

» Historical finds and Cultural landscape

No structures occur in the study area however this assumption will have to be verified in the field.

» Burials and cemeteries

Formal and informal cemeteries as well as pre-colonial graves occur widely across Southern Africa. It is generally recommended that these sites are preserved with in a development. These sites can how ever be relocated if avoidance is not possible, but this option must be seen as a last resort and is not advisable. The presence of any grave sites must be confirmed during the field survey and the public consultation process.

» General

It is recommended that as part of the public consultation process the presence of graves, archaeological and historical sites should be determined.

9. PLAN OF STUDY FOR EIA

This scoping study underlined the lack of systematic research in the area and no sites of significance are on record for the study area. However historic homesteads and graves was recorded in the general area and similar sites could occur in the proposed development footprint. Therefor in order to comply with the National Heritage Resources Act (Act 25 of 1999) it is recommended that a Phase 1 Archaeological Impact Assessment must be undertaken. During this study sites of archaeological, historical or places of cultural interest must be located, identified, recorded, photographed and described. During this study the levels of significance of recorded heritage resources must be determined and mitigation proposed should any significant sites be impacted upon, ensuring that all the requirements of SAHRA are met.

Dr Barry Millsteed completed a desktop paleontological assessment of the area and did not record any reasons why the development cannot continue if the recommendations in his report are adhered to. His letter is included as Annexure A. It is incumbent upon the developer to ensure that these recommendations are implemented before construction starts.

10. LIST OF PREPARERS

Jaco van der Walt (Archaeologist and project manager)

Dr Barry Millsteed (Palaeontology Specialist)

Liesl Bester (Archival Specialist)

11. STATEMENT OF COMPETENCY

The author of the report is a member of the Association of Southern African Professional Archaeologists and is also accredited in the following fields of the Cultural Resource Management (CRM) Section, member number 159: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. Jaco is also an accredited CRM Archaeologist with SAHRA and AMAFA.

Jaco has been involved in research and contract work in South Africa, Botswana, Mozambique, Zimbabwe, Tanzania and the DRC and conducted well over 300 AIAs since he started his career in CRM in 2000. This involved several mining operations, Eskom transmission and distribution projects and infrastructure developments. The results of several of these projects were presented at international and local conferences.

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