

**Basic cultural heritage assessment for  
THE CONSTRUCTION OF A NUMBER OF PROPOSED NEW ELECTRICITY  
SUBSTATIONS AND DISTRIBUTION POWER LINES IN THE  
MORETELE LOCAL MUNICIPALITY, NORTH WEST PROVINCE**

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**Declaration:**

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services, for which a fair numeration is charged.



J A van Schalkwyk (D Litt et Phil)  
Heritage Consultant  
November 2015

## **EXECUTIVE SUMMARY**

### **BASIC CULTURAL HERITAGE ASSESSMENT FOR THE CONSTRUCTION OF A NUMBER OF PROPOSED NEW ELECTRICITY SUBSTATIONS AND DISTRIBUTION POWER LINES IN THE MORETELE LOCAL MUNICIPALITY, NORTH WEST PROVINCE**

Due to rapid urban sprawl, Eskom propose to construct a number of new substations and 132kV electricity power lines north of Pretoria in the Moretele Local Municipality of North West Province. The development is made up of three different though interlinked components.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Enviolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

#### **New Mathibestad Substation – Nchaupe Substation:**

- As no heritage sites occur in the study area, there would be no impact resulting from the proposed development.

#### **Reasoned opinion as to whether the proposed activity should be authorised:**

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the proposed mitigation measures.

#### **Conditions for inclusion in the environmental authorisation:**

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

#### **Tswaing Substation – Ratsiepane Substation:**

- Two informal burial places, each with c. 100 graves were identified. It is located in close proximity of one of the proposed power line alternative routes.
  - These features are viewed to have high significance on a local level.
  - It is recommended that these two features should be isolated by fencing it off with danger tape during construction of the power line.

#### **Reasoned opinion as to whether the proposed activity should be authorised:**

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the proposed mitigation measures.

#### **Conditions for inclusion in the environmental authorisation:**

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

**Ratsiepane Substation – Nchaupe Substation:**

- As no heritage sites occur in the study area, there would be no impact resulting from the proposed development.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the proposed mitigation measures.

Conditions for inclusion in the environmental authorisation:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk  
Heritage Consultant  
November 2015

**TECHNICAL SUMMARY**

<b>Property details</b>	
Province	Gauteng
Magisterial district	Odi 1; Moretele 1
Local municipality	Moretele
Topo-cadastral map	2528AA, 2528AC
Closest town	Pretoria
Farm name	-

<b>Development criteria in terms of Section 38(1) of the NHR Act</b>	<b>Yes/No</b>
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	No
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	No
Any other development category, public open space, squares, parks, recreation grounds	No

<b>Development</b>	
Description	Construction of new substations and linking 132kV electricity distribution power lines
Project name	Moretele

<b>Land use</b>	
Previous land use	Vacant/Urban
Current land use	Vacant/Urban

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## **GLOSSARY OF TERMS AND ABBREVIATIONS**

### **TERMS**

**Study area:** Refers to the entire study area as indicated by the client in the accompanying Fig. 1 and 2.

**Stone Age:** The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

**Iron Age:** Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

**Historical Period:** Since the arrival of the white settlers - c. AD 1840 - in this part of the country

### **ABBREVIATIONS**

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

# **BASIC CULTURAL HERITAGE ASSESSMENT FOR THE CONSTRUCTION OF A NUMBER OF PROPOSED NEW ELECTRICITY SUBSTATIONS AND DISTRIBUTION POWER LINES IN THE MORETELE LOCAL MUNICIPALITY, NORTH WEST PROVINCE**

## **1. INTRODUCTION**

Due to rapid urban sprawl, Eskom propose to construct a number of new substations and 132kV electricity power lines north of Pretoria in the Moretele Local Municipality of North West Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Enviolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended in 2014 and is intended for submission to the South African Heritage Resources Agency (SAHRA).

## **2. TERMS OF REFERENCE**

This report does not deal with development projects outside of or even adjacent to the study area as is presented in Section 5 of this report. The same holds true for heritage sites, except in a generalised sense where it is used to create an overview of the heritage potential in the larger region.

### **2.1 Scope of work**

The aim of this HIA, broadly speaking, is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to construct the power lines and substations.

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied; and
- A visit to the proposed development area.



The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources; and
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

## 2.2 Limitations

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- No subsurface investigation (i.e. excavations or sampling) were undertaken, since a permit from SAHRA is required for such activities.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that it does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of buried archaeological remains.
- This report does not consider the palaeontological potential of the site.

## 3. HERITAGE RESOURCES

### 3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
  - ancestral graves;
  - royal graves and graves of traditional leaders;
  - graves of victims of conflict;
  - graves of individuals designated by the Minister by notice in the Gazette;
  - historical graves and cemeteries; and
  - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
  - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - objects to which oral traditions are attached or which are associated with living heritage;
  - ethnographic art and objects;
  - military objects;

- objects of decorative or fine art;
- objects of scientific or technological interest; and
- books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

### 3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- 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
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar identified sites.

## 4. STUDY APPROACH AND METHODOLOGY

### 4.1 Extent of the Study

This survey and impact assessment covers the area presented in Section 5 and illustrated in Figure 2.

### 4.2 Methodology

#### 4.2.1 Preliminary investigation

##### 4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted.

- Information of a very general nature was obtained from these sources.

#### 4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in adjacent areas.

#### 4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

#### 4.2.2 Field survey

The area that had to be investigated was identified by **Envirovolution Consulting** by means of maps. The site was visited on 28 November 2015 (see Fig. 1). The site information supplied by Envirovolution was converted into a *kml* file indicating the alignment of the proposed power line. This was loaded onto a Nexus 7 tablet and used in Google Earth during the field survey to access the area.

Overall archaeological visibility was good as there was very little vegetation growth as no rain has fallen yet.

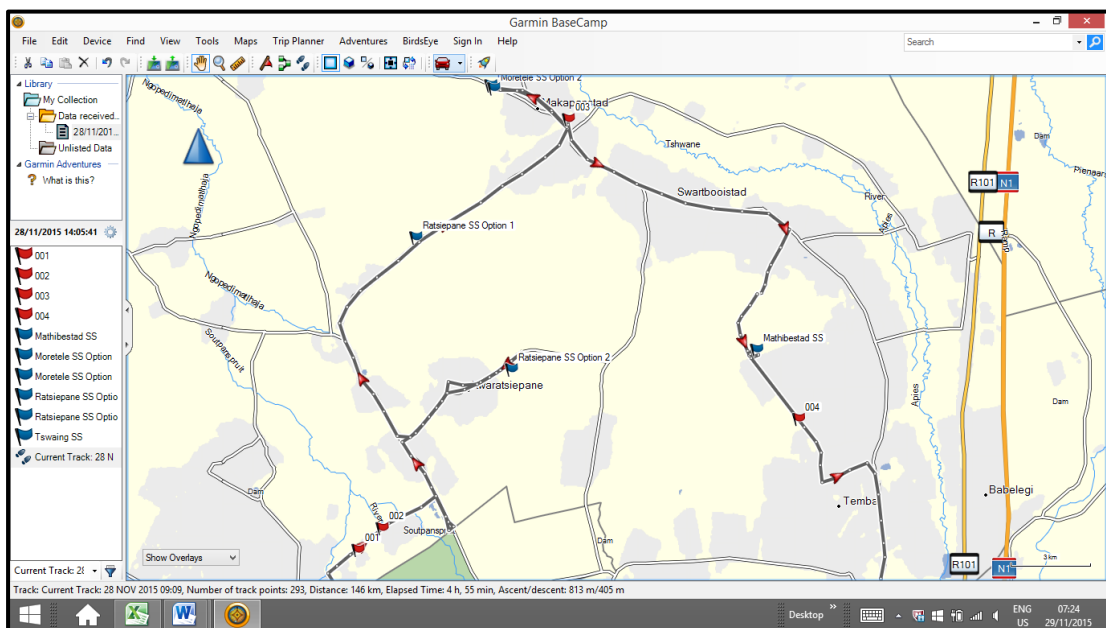


Fig. 1. Track log of the field survey.

#### 4.2.3 Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities are determined by means of the *Global Positioning System* (GPS) and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

The track log and identified sites were recorded by means of a Garmin Oregon 550 handheld GPS device. Photographic recording was done by means of a Canon EOS 550D digital camera.

Map datum used: Hartebeeshoek 94 (WGS84).

## 5. SITE SIGNIFICANCE AND ASSESSMENT

### 5.1 Heritage assessment criteria and grading

The National Heritage Resources Act, Act no. 25 of 1999, stipulates the assessment criteria and grading of heritage sites. The following grading categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation on a local authority level.

A matrix was developed whereby the criteria, as set out in Sections 3(3) and 7 of the NHRA, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

### 5.2 Methodology for the assessment of potential impacts

All impacts identified during the EIA stage of the study will be classified in terms of their significance. Issues were assessed in terms of the following criteria:

- The **nature**, a description of what causes the effect, what will be affected and how it will be affected;
- The physical **extent**, wherein it is indicated whether:
  - 1 - the impact will be limited to the site;
  - 2 - the impact will be limited to the local area;
  - 3 - the impact will be limited to the region;
  - 4 - the impact will be national; or
  - 5 - the impact will be international;
- The **duration**, wherein it is indicated whether the lifetime of the impact will be:
  - 1 - of a very short duration (0–1 years);
  - 2 - of a short duration (2-5 years);

- 3 - medium-term (5–15 years);
- 4 - long term (> 15 years); or
- 5 - permanent;
- The **magnitude** of impact, quantified on a scale from 0-10, where a score is assigned:
  - 0 - small and will have no effect;
  - 2 - minor and will not result in an impact;
  - 4 - low and will cause a slight impact;
  - 6 - moderate and will result in processes continuing but in a modified way;
  - 8 - high, (processes are altered to the extent that they temporarily cease); or
  - 10 - very high and results in complete destruction of patterns and permanent cessation of processes;
- The **probability** of occurrence, which describes the likelihood of the impact actually occurring and is estimated on a scale where:
  - 1 - very improbable (probably will not happen);
  - 2 - improbable (some possibility, but low likelihood);
  - 3 - probable (distinct possibility);
  - 4 - highly probable (most likely); or
  - 5 - definite (impact will occur regardless of any prevention measures);
- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- The **status**, which is described as either positive, negative or neutral;
- The degree to which the impact can be reversed;
- The degree to which the impact may cause irreplaceable loss of resources; and
- The degree to which the impact can be mitigated.

The **significance** is determined by combining the criteria in the following formula:

$$S = (E+D+M) \times P; \text{ where}$$

S = Significance weighting  
E = Extent  
D = Duration  
M = Magnitude  
P = Probability

The **significance weightings** for each potential impact are calculated as follows:

**Table 1: Significance ranking**

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
-	-	-	-	-	-
Significance	1-4 minor	5-15 low	16-35 moderate	36-64 high	65-100 very high

## 6. PROJECT LOCATION AND DESCRIPTION

### 6.1 Site location

The proposed development is to take place north of Pretoria in the Moretele Local Municipality of North West Province. This area is located north of the larger Soshanguve Township and west of the N1. For more information, please see the Technical Summary presented above (p. v).

### 6.2 Development proposal

The development is made up of three different though interlinked components (see Fig. 2 below):

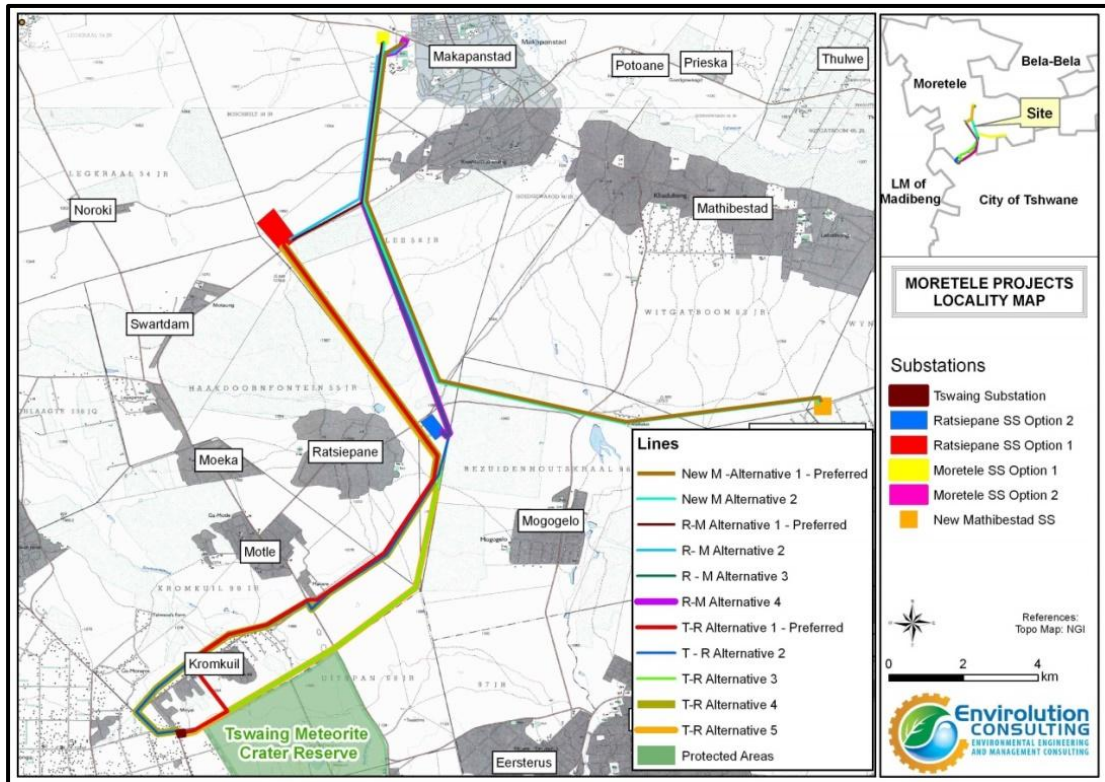


Fig. 2. Layout of the proposed development (Map supplied by Envirolution)

- New Mathibestad Substation to Nchaupe Substation
  - Consists of a new substation at Mathibestad, with two Alternative lines to towards a new substation at Nchaupe, for which two alternative Options have been identified.

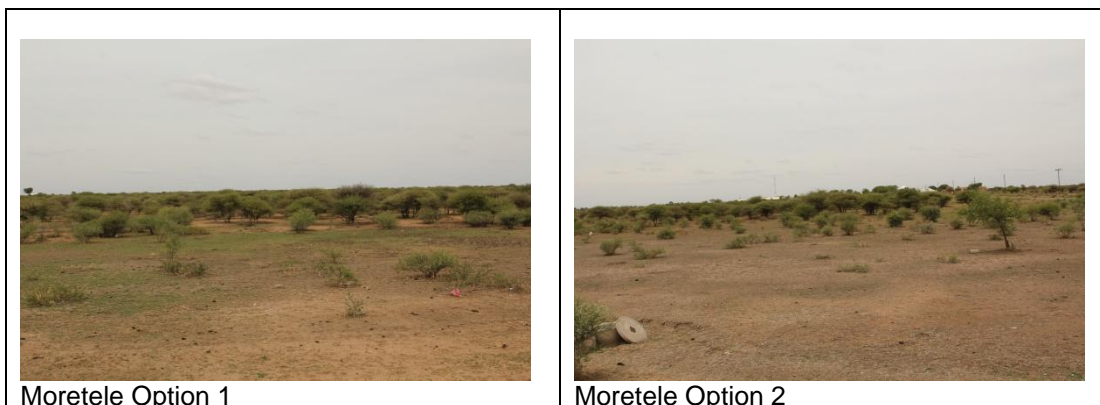




Fig. 3. Site of the proposed substation.

- Tswaing Substation to Ratsiepane Substation
  - Consists of five Alternatives from the proposed Tswaing substation to the proposed Ratsiepane substation, for which two Options have been identified.

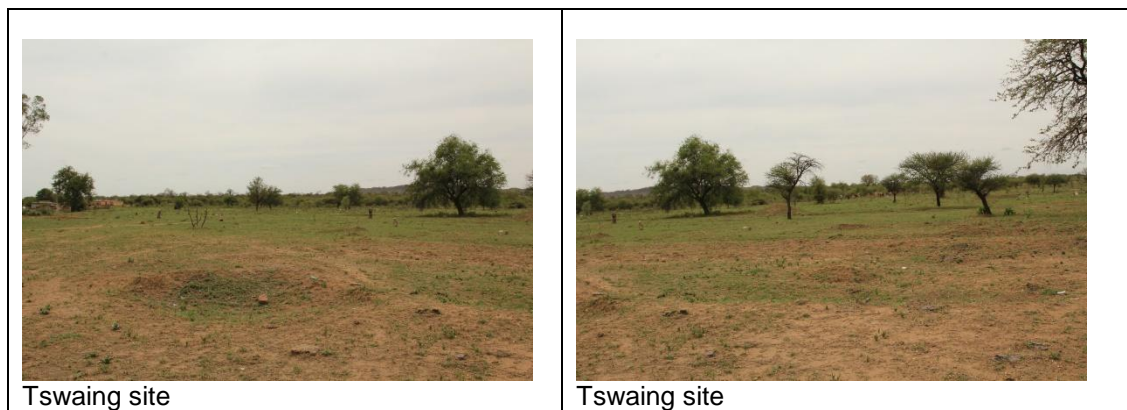


Fig. 4. Site of the proposed substation

- Ratsiepane Substation to Nchaupe Substation
  - Consists of four Alternative, two from each of the proposed Options for the Ratsiepane substations, northwards to either of the two proposed Options for the Moretele substations.

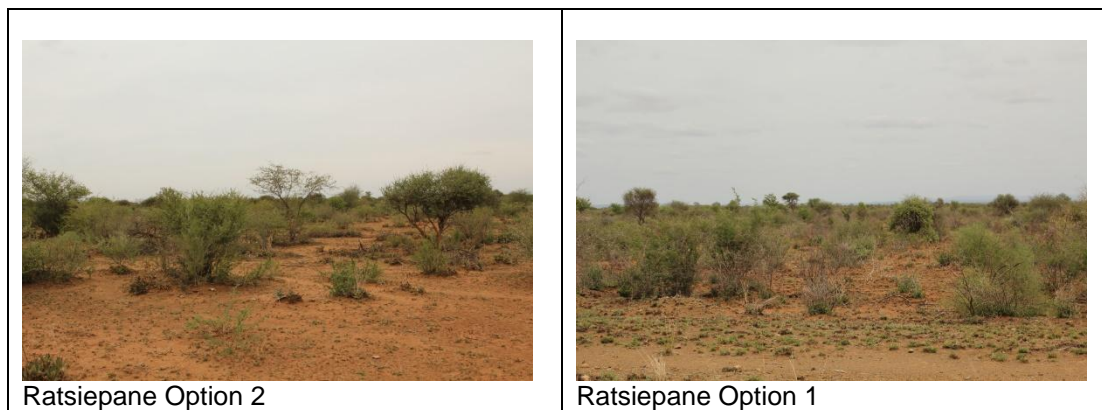


Fig. 5. Site of the proposed substation

## 7. DESCRIPTION OF THE AFFECTED ENVIRONMENT

### 7.1 Site description

The geology of the region is made up of mudstone, changing to shale in the southern part of the study area. The original vegetation is classified as Mixed Bushveld, but has been changed in large sections due to overgrazing, agricultural activities and urban sprawl. The topography of the region is indicated as slightly undulating plains. The Stinkwaterspruit crosses the larger study area from south to north.



Fig. 6. Views over the study area.



## 7.2 Regional overview

The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the study area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity – see Section 3.2 and Appendix 1 for more information.

### *Geology*

The Tswaing meteorite crater occurs on the southern side of the study area. Here, c. 220 000 years ago a meteorite crashed into the earth, causing the dish shaped crater. As there is no outlet for rain water, evaporation causes the natural salts occurring in the soil to leach out. The salt has been collected and used by humans since the Early Stone Age, through the Iron Age and right up to modern times.

### *Stone Age*

Stone Age people occupied the larger area since earliest times. This, for example, is evidenced by the site they used to occupy in the Wonderboom neck, probably dating back as much as 200 000 years ago. Tools derived from these people's habitation of the area are found all over, as well as in the streambed of the Apies River.

Middle and Late Stone Age people also roamed over the area, sheltering close to the river banks, with the latter group usually settling in caves and rock shelters. Similarly, stone tools dating to this period are found all over.

### *Iron Age*

Iron Age occupation of the area did not start much before the 1500s. By that time, groups of Tswana and Ndebele speaking people were moving into the area, occupying the different hills and outcrops, using the ample resources such as grazing, game and metal ores.

During the early decades of the 19th century, the Tswana- and Ndebele-speakers were dislodged by the Matabele of Mzilikazi. Internal strife caused Mzilikazi, a general of King Shaka, and his followers to move away from the area between the Thukela and Mfolozi River (KwaZulu-Natal). Eventually, after a sojourn in the Sekhukhuneland area, followed by a short stay in the middle reaches of the Vaal River, they settled north of the Magaliesberg. One of three main settlements established by them, eKungwini, was on the banks of the Apies River, just north of Wonderboompoort (Carruthers 1990). However, no remains of this settlement have ever been identified.

It was during the Matabele's stay along the Apies River that the first white people entered the area: travelers and hunters such as Cornwallis Harris and Andrew Smith, traders Robert Schoon and Andrew McLuckie, and missionaries James Archbell and Robert Moffat. It is known from oral history the Robert Schoon sent Mzilikazi huge quantities of glass trade beads, rather than the guns that the latter coveted so much (Becker 1972).

### *Historic period*

White settlers started to occupy huge tracts of land, claiming it as farms since the late 1840s. Of these, some of the earliest were Lucas Bronkhorst (Groenkloof), David Botha (Hartebeestpoort – Silverton) and Doors Erasmus (Wonderboom). With the establishment of

Pretoria (1850) services such as roads, started to develop. An increase in population also demanded more food, which stimulated development of farming on the alluvial soils on the banks of the Apies River, close to the water. German missionaries settled in the region, establishing congregations that still are active in the region, e.g. at Makapanstad.

During the past 40 years, this area has been part of the former Bophuthastwana, where large numbers of so-called “surplus” people were resettled after being removed from “white” areas. This led to the rapid increase in urban development in the region.

**7.3 Identified sites**

The following cultural heritage resources were identified in the study area:

**7.3.1 New Mathibestad Substation – Nchaupe Substation:**

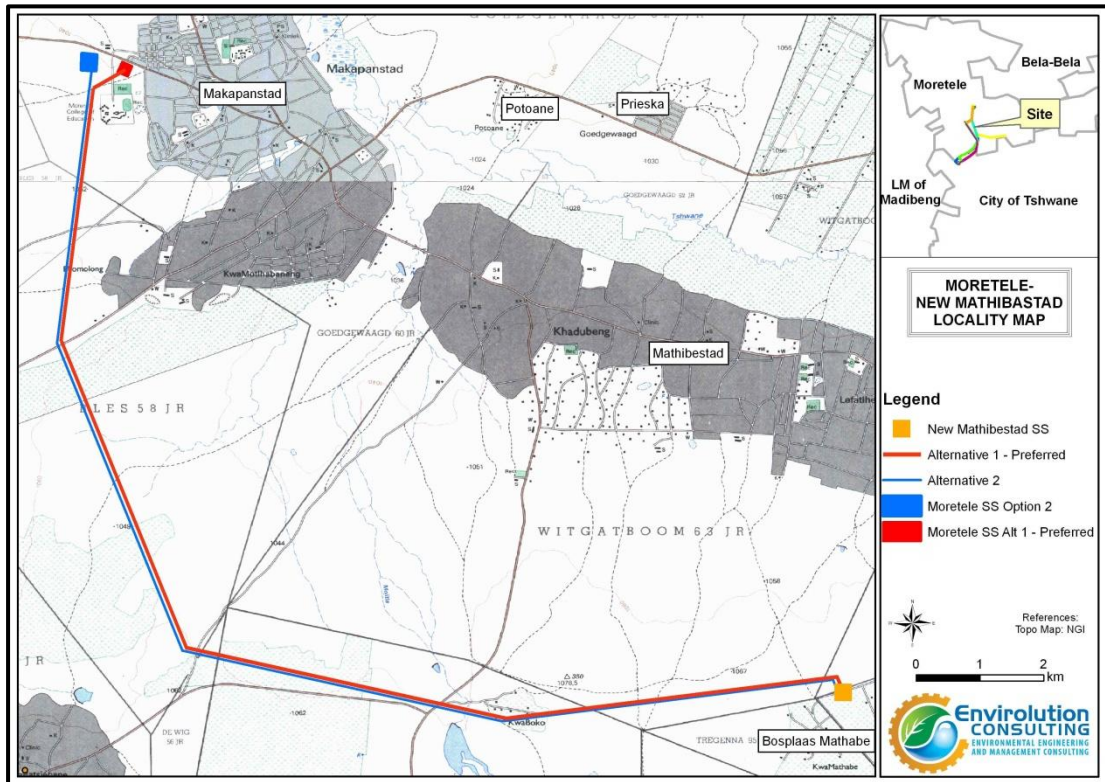


Fig. 7. The study area – New Mathibestad – Nachaupe Substations

*Stone Age*

- No sites, features or objects dating to the Stone Age were identified in the study area.

*Iron Age*

- No sites, features or objects dating to the Iron Age were identified in the study area.

*Historic period*

- No sites, features or objects dating to the historic period were identified in the study area.

7.3.2 Tswaing Substation – Ratsiepane Substation:

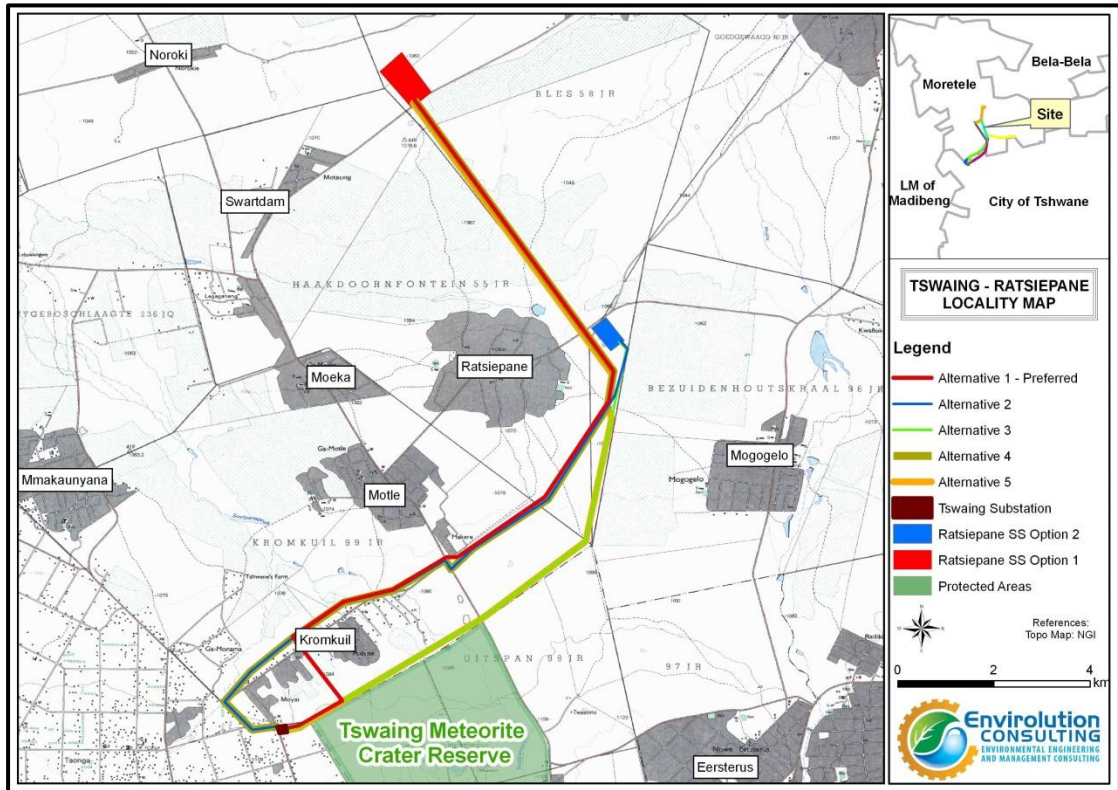


Fig. 8. The study area – Tswaing – Ratsiepane Substations

*Stone Age*

- No sites, features or objects dating to the Stone Age were identified in the study area.

*Iron Age*

- No sites, features or objects dating to the Iron Age were identified in the study area.

*Historic period*

- The following sites dating to the historic period were identified in the study area.

<b>Location</b>	No. 1 No. 2	Kromkuil 99JR	S 25.38841, E 28.05157 S 25.38114, E 28.06078
<b>Description</b>	Two informal community cemeteries, each containing approximately 100 graves. The one is located on the southern side of the road and the other on the northern side. Most of the		

<p>graves are identified by means of formal headstones. Both burial places are currently fenced off.</p>	
<p><b>Significance of site/feature</b></p>	<p>High on a local level – Grade III</p>
<p><b>Impact assessment</b></p> <p>At present it is difficult to determine how close the proposed power line Alternative would pass to the burial places.</p>	
<p><b>Mitigation</b></p> <p>If at all possible, the burial sites should be avoided and demarcated with danger tape during construction taking place in its vicinity. If the area cannot be avoided, it is recommended that graves are relocated after the proper procedure has been followed – see Appendix 3.</p>	
<p><b>Requirements</b></p> <p>A valid permit for the relocation of the graves must be obtained from SAHRA, etc.</p>	
<p><b>References</b></p> <p>1:50 000 topocadastral map</p>	

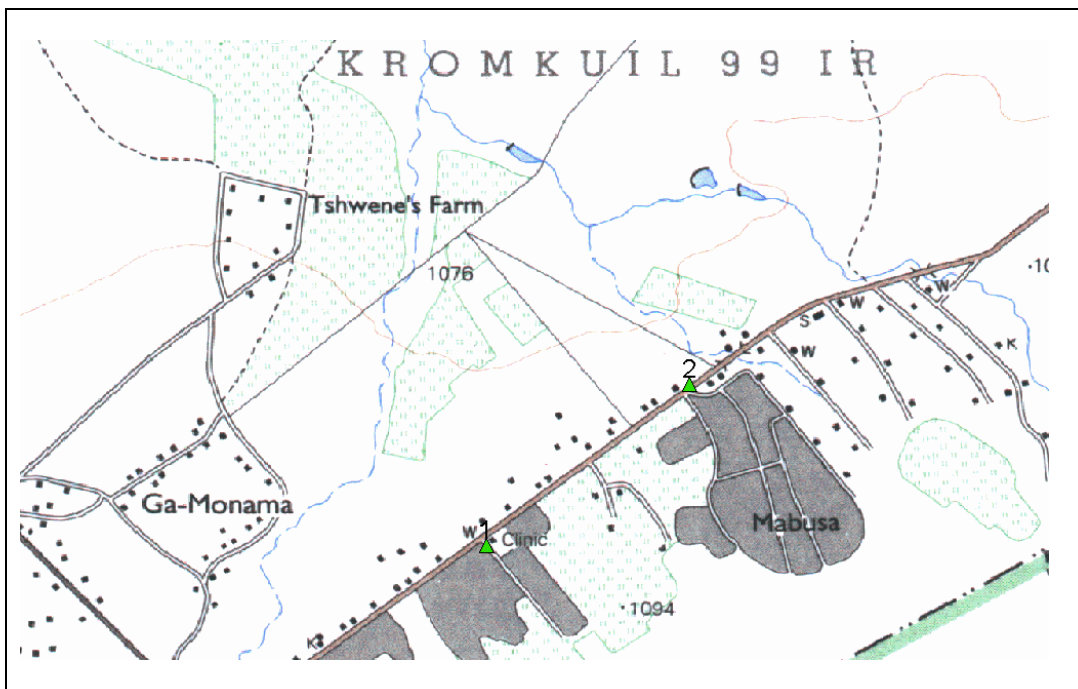


Fig. 9. Location of the identified burial places.

## 7.3.3 Ratsiepane Substation – Nchaupe Substation:

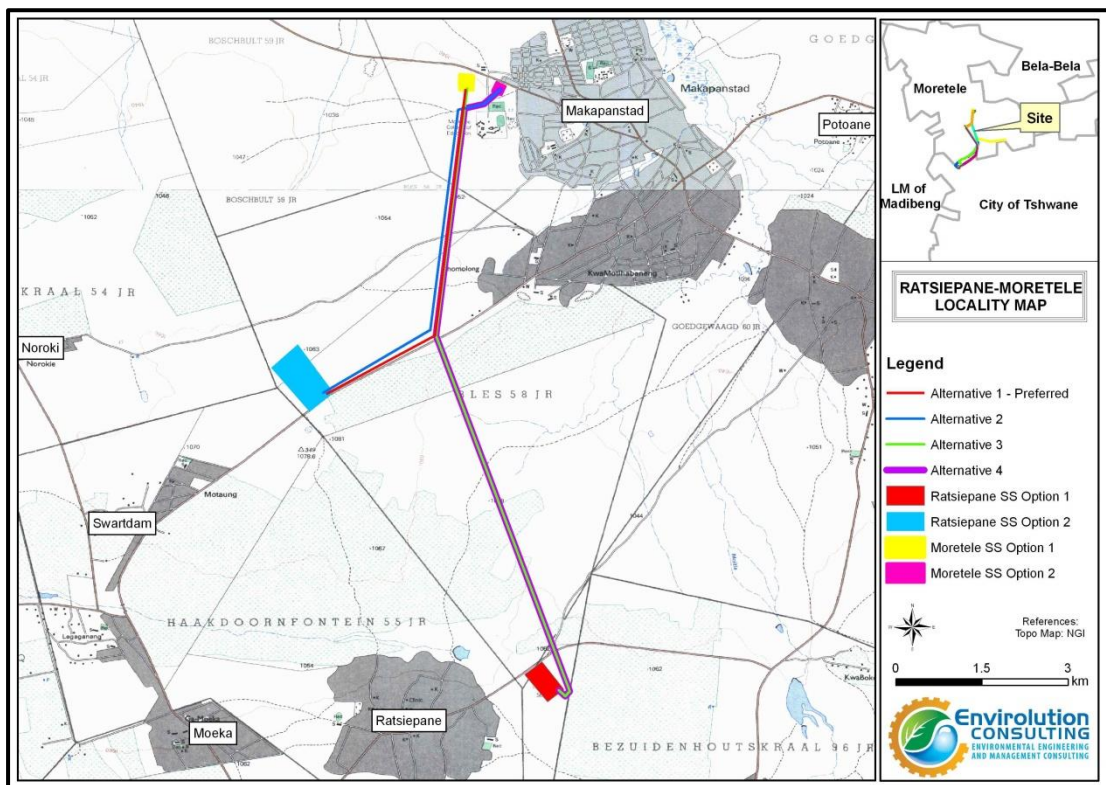


Fig. 10. The study area – Ratsiepane – Moretele Substations

*Stone Age*

- No sites, features or objects dating to the Stone Age were identified in the study area.

*Iron Age*

- No sites, features or objects dating to the Iron Age were identified in the study area.

*Historic period*

- No sites, features or objects dating to the historic period were identified in the study area.

**8. SITE SIGNIFICANCE AND ASSESSMENT****8.1 Heritage assessment criteria and grading**

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

## 8.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

Table 1. Summary of identified heritage resources in the study area.

<b>Identified heritage resources</b>	
<i>Category, according to NHRA</i>	<i>Identification/Description</i>
<b>Formal protections (NHRA)</b>	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
<b>General protections (NHRA)</b>	
structures older than 60 years (Section 34)	None
archaeological site or material (Section 35)	None
palaeontological site or material (Section 35)	None
graves or burial grounds (Section 36)	Yes
public monuments or memorials (Section 37)	None
<b>Other</b>	
Any other heritage resources (describe)	None

## 8.3 Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

### **New Mathibestad Substation – Nchaupe Substation:**

- As no heritage sites occur in the Alternatives for the lines or the Options for the substations, there would be no impact resulting from the proposed development.

**Tswaing Substation – Ratsiepane Substation:**

- Two informal burial places, each with c. 100 graves were identified in close proximity of Alternatives 1, 2 and 3 of the proposed power line.
  - At present it is difficult to determine how close the proposed power line Alternatives would pass to the burial places. It is recommended that these two features should be isolated by fencing it off with danger tape during construction of the power line.

**Ratsiepane Substation – Nchaupe Substation:**

- As no heritage sites occur in the Alternatives for the lines or the Options for the substations, there would be no impact resulting from the proposed development.

**9. CONCLUSIONS**

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which the development is proposed.

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

**New Mathibestad Substation – Nchaupe Substation:**

- No heritage sites were identified to occur in either of the power line Alternatives or the Substation options. Therefore there would be no impact resulting from the proposed development and the Heritage Specialist Study shows no preference for any of the Alternatives or site Options.

**Reasoned opinion as to whether the proposed activity should be authorised:**

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the proposed mitigation measures.

**Conditions for inclusion in the environmental authorisation:**

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

**Tswaing Substation – Ratsiepane Substation:**

- Two informal burial places, each with c. 100 graves were identified in close proximity of Alternatives 1, 2 and 3.
  - These features are viewed to have high significance on a local level.

- At present it is difficult to determine how close the proposed power line Alternative would pass to the burial places. It is recommended that these two features should be isolated by fencing it off with danger tape during construction of the power line.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the proposed mitigation measures.

Conditions for inclusion in the environmental authorisation:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

**Ratsiepane Substation – Nchaupe Substation:**

- No heritage sites were identified to occur in any of the power line Alternatives or the Substation options. Therefore there would be no impact resulting from the proposed development and the Heritage Specialist Study shows no preference for any of the Alternatives or site Options.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the proposed mitigation measures.

Conditions for inclusion in the environmental authorisation:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



## 10. REFERENCES

### 10.1 Data bases

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### 10.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2528AA, 2528AC  
Google Earth

**APPENDIX 1: INDEMNITY AND TERMS OF USE OF THIS REPORT**

The findings, results, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information. The report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken and the author reserve the right to modify aspects of the report including the recommendations if and when new information may become available from ongoing research or further work in this field, or pertaining to this investigation.

Although all possible care is taken to identify all 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. The author of this report will not be held liable for such oversights or for costs incurred as a result of such oversights.

Although the author exercises due care and diligence in rendering services and preparing documents, he accepts no liability and the client, by receiving this document, indemnifies the author against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by the author and by the use of the information contained in this document.

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of this report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

## APPENDIX 2: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES

### Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

<b>1. Historic value</b>				
Is it important in the community, or pattern of history				
Does it have strong or special association with the life or work of a person, group or organisation of importance in history				
Does it have significance relating to the history of slavery				
<b>2. Aesthetic value</b>				
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
<b>3. Scientific value</b>				
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage				
Is it important in demonstrating a high degree of creative or technical achievement at a particular period				
<b>4. Social value</b>				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
<b>5. Rarity</b>				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
<b>6. Representivity</b>				
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects				
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class				
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.				
<b>7. Sphere of Significance</b>		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
<b>8. Significance rating of feature</b>				
1.	Low			
2.	Medium			
3.	High			

### APPENDIX 3. RELEVANT LEGISLATION

All archaeological and palaeontological sites and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) No person may, without a permit issued by the responsible heritage resources authority-

(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;

(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

(c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or

(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

#### **APPENDIX 4. RELOCATION OF GRAVES**

If the graves are younger than 60 years, an undertaker can be contracted to deal with the exhumation and reburial. This will include public participation, organising cemeteries, coffins, etc. They need permits and have their own requirements that must be adhered to.

If the graves are older than 60 years old or of undetermined age, an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. This is a requirement by law.

Once it has been decided to relocate particular graves, the following steps should be taken:

- Notices of the intention to relocate the graves need to be put up at the burial site for a period of 60 days. This should contain information where communities and family members can contact the developer/archaeologist/public-relations officer/undertaker. All information pertaining to the identification of the graves needs to be documented for the application of a SAHRA permit. The notices need to be in at least 3 languages, English, and two other languages. This is a requirement by law.
- Notices of the intention needs to be placed in at least two local newspapers and have the same information as the above point. This is a requirement by law.
- Local radio stations can also be used to try contact family members. This is not required by law, but is helpful in trying to contact family members.
- During this time (60 days) a suitable cemetery need to be identified close to the development area or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account. This is a requirement by law.
- Once the 60 days has passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.
- Once the permit has been received, the graves may be exhumed and relocated.
- All headstones must be relocated with the graves as well as any items found in the grave.

#### **Information needed for the SAHRA permit application**

- The permit application needs to be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- If graves have not been identified and there are no headstones to indicate the grave, these are then unknown graves and should be handled as if they are older than 60 years. This information also needs to be given to SAHRA.
- A letter from the landowner giving permission to the developer to exhume and relocate the graves.
- A letter from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

**APPENDIX 5. SPECIALIST COMPETENCY**Johan (Johnny) van Schalkwyk

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 30 years. Based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 60 papers, many in scientifically accredited journals. During this period he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, road-, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.