
HERITAGE IMPACT ASSESSMENT FOR THE PLANNED TABOR- WITKOP POWERLINE, LIMPOPO PROVINCE

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EXECUTIVE SUMMARY

HERITAGE IMPACT ASSESSMENT FOR THE PLANNED TABOR-WITKOP POWERLINE, LIMPOPO PROVINCE

The aim of the survey was to evaluate the heritage potential of an area through which it is proposed to construct a new electricity powerline. For this purpose, three alternative corridors were identified.

The study was negatively influenced by a number of factors:

- Very little information exists on the area.
- Access to areas was not always possible.
- The uncertainty of the exact location of the identified corridors.

Despite this, it could be determined that a variety of cultural heritage sites occur in the area and that if a detailed survey is done, many more would be identified. Therefore, from a heritage point of view, it is anticipated that both of the identified corridors would, at least for shorter sections, have an impact on heritage sites. Selection of the preferred corridor is based on the criteria of the absence of Grade I sites as well as the least number of sites that would be impacted on. This would seem to point in the direction of the eastern corridor.

Based on the above, it is anticipated that if the development takes place, it would be on condition of acceptance of the management measures as set out in Section 7 of this report. The most important of this would be the conducting of a full Phase 1 archaeological survey of the selected corridor in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999).

In the case where resources do occur, assessment of the potential impact of the development can only be done once a final corridor has been selected and tower positions determined. Mitigation of heritage sites implies first of all total avoidance, or, secondly, the recovery of sufficient data from the site in order that it can be studied and understood at a later stage. This latter scenario is not necessarily negative as science stands to benefit from such actions.

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GLOSSARY OF TERMS

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

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. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 1000
Late Iron Age	AD 1000 - AD 1830

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

LIST OF ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

HERITAGE IMPACT ASSESSMENT FOR THE PLANNED TABOR-WITKOP POWERLINE, LIMPOPO PROVINCE

1. INTRODUCTION

The National Cultural History Museum¹ was contracted by **Strategic Environmental Focus** to review an area in which it is proposed to develop a new 400 kV powerline. For this purpose, three alternative corridors were identified by ESKOM, with the third only a short change on the southern side of the study area. The aim of the survey was to determine the nature and potential of cultural heritage resources found within the boundaries of the area that is to be impacted by the developed. Based on this, a selection is to be made on the most viable route in which the development can take place. This will largely be determined by:

- The significance of identified heritage sites – Grade I sites (see Section 5 below), are of national significance and should be avoided.
- The area where the least number of heritage sites will be impacted on.

Cultural heritage resources are broadly defined as all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.

2. BACKGROUND AND BRIEF

The scope of work consisted of reviewing an area, in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999), to determine the potential of heritage resources that might occur in the area.

This include:

- Conducting a desk-top investigation of the area;
- A visit to the proposed development site.

The objectives were to

¹ The National Cultural History Museum is affiliated to the Northern Flagship Institution, which act as parent body for a number of museums, all of which resorts under the Department of Arts and Culture.

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

3. STUDY APPROACH

3.1 Information base (sources)

Only a few documentary sources are known to exist about the area specifically, and most of these deal with the larger region on a very generalised basis, e.g. Botha (1983). On a personal level, some fieldwork has been carried out in various sectors of the study area for the purpose of other research projects – see list of references below.

3.2 Methodology

3.2.1 Preliminary investigation

3.2.1.1 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 reports, anthropological, archaeological and historical sources were consulted - see the list of references below.

3.2.1.2 Data bases

The *Heritage Sites Database* and the *Environmental Potential Atlas* was consulted.

3.2.1.3 Other sources

Topocadastral and other maps as well as aerial photographs were also studied - see the list of references below.

3.2.2 Field survey

The area was divided into blocks by using natural (e.g. streams) as well as manmade (e.g. roads, fences) boundaries, and each block was surveyed by driving across it in a number of transects. Fences and rivers obviously necessitated a deviation from this strategy.

3.2.3 Documentation

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)² and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

Map datum used: Hartebeeshoek 94 (WGS84).

3.3 Limitations

The following played an important role in determining the potential in the area:

- Almost nothing is known of the area as very little previous research has been done here.
- Dense vegetation encountered during the survey period, made it difficult to identify sites, as well as to establish their extent (size).
- Not all areas are accessible, for example game ranches and some farms.
- Not sufficient oral traditions are available for the rural areas to have insight into the existence of possible heritage sites

4. STUDY AREA

4.1 Location of the study area

The location and extent of the study area can be determined from the map in Figure 1. It stretches from south west of the city of Polokwane, in a north eastern direction for approximately 80km. It straddles the N1 route and at its widest point it is approximately 20 km across.

4.2 Description of region

The area under discussion has never been subjected to a detailed heritage survey. It is only smaller sections that have been surveyed, usually for specific purposes (e.g. Loubser 1991, Van Schalkwyk, 2001a, 2001b, 2006a, 2006b).

² According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.

Sections of the area have been in white ownership for some decades. These are currently used as farms or game reserves. The rest of the area can be classified as tribal area and, in the past, formed part of the old Lebowa homeland, which was to be developed as a national state for Sotho-speakers.

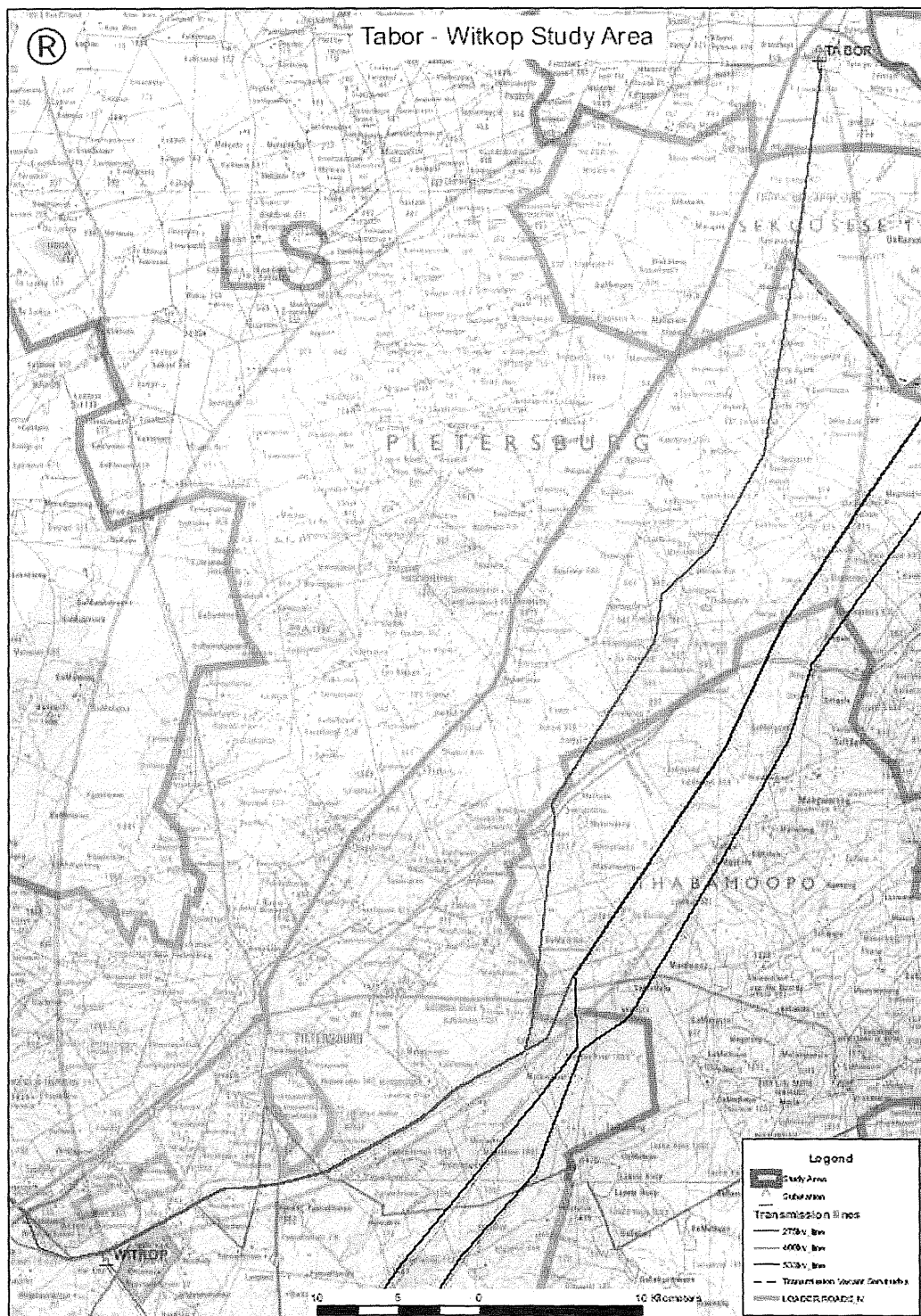


Figure 1. Location of the study area in regional context.

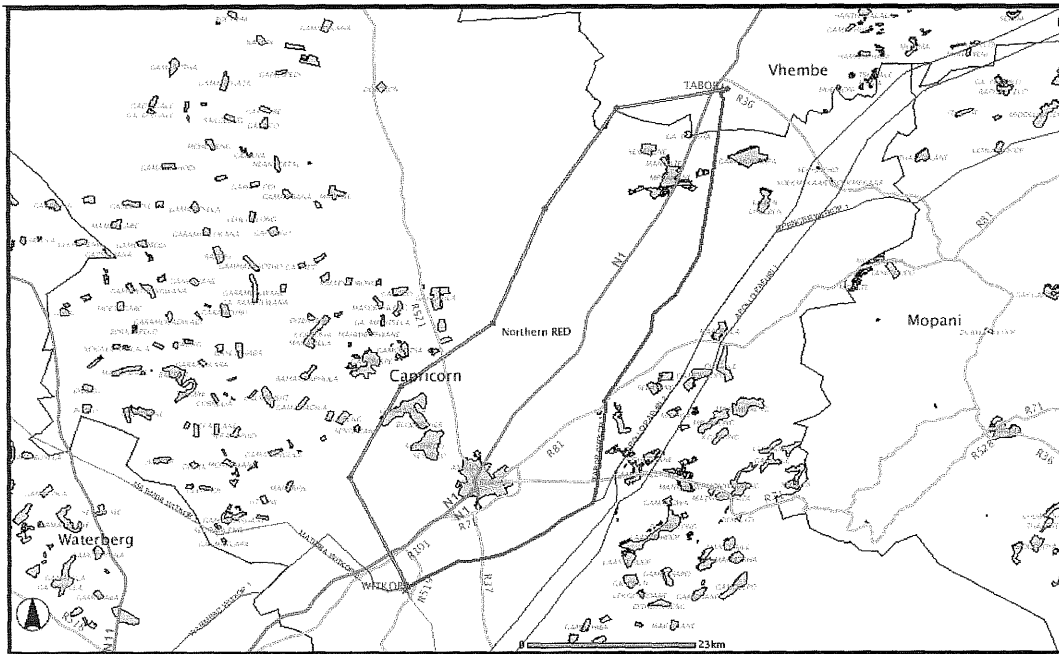


Fig. 2. Location of the alternative routes.

The study area forms part of the so-called Pietersburg Plateau. This is a rather flat area, on average 1100m above sea level, with a few small hills spaced irregularly over the plains. Only a few smaller rivers pass through the area. The original vegetation is classified as Mixed Bushveld in the south and Sweet Bushveld in the north. However, this has been degraded over large sections due to overgrazing.

4.3 Chronological overview

4.2.1 Stone Age

Occupation of the larger geographical region took place since at least Early Stone Age times. Tools dating to this and the later Middle Stone Age period, identified by archaeologists as the Pietersburg Industrial Complex, are commonly found in the proximity of most rivers, outcrops and such. However, as these are surface finds, they are generally viewed to have a low significance.

It was only during the Late Stone Age, that people started to occupy sites on a recurring basis. These are rock shelters and caves, occurring in suitable geological environments, e.g. in the Soutpansberg self and the broken environment of the Limpopo river. Very few such sites are known to occur in the study area, although no detailed survey has ever been done here. For the first time we now get evidence of people's activities derived from material other than stone tools. Ostrich eggshell beads,

ground bone arrowheads, small bored stones and wood fragments with incised markings are traditionally linked with the LSA. They were also well known for giving expression to their complex religious beliefs in rock art, which can be found in any number of sites in the area.

4.2.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites east of Tzaneen at Silver Leaves. By AD 800 people were occupying a number of village in the Limpopo River valley and, with the East Coast trade, populations rapidly expanded. This resulted in the development of kingdoms that ruled over large tracts of land. However, drought and changes in the trade patterns, forced these people by AD 1250 to abandon these areas, some moving north, other south.

The occupation of the larger geographical area (including the study area) started at least during the first millennium AD, for example in the Sekgoses district. However, it was only after the beginning of the 16th century that large-scale occupation of the area started to take place. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable. Population movements, competition for resources, etc. created tensions amongst different groups and people were forced to congregate into large towns for defensive purposes. These stone-walled settlement were almost always located on hilltops, though near cultivatable soil and a source of water.

4.2.3 Historic period

Whites moved into the area during the first half of the 19th century, first as hunters, traders and missionaries, with settlers following closely on their heels. One of the first white settlements, Schoemansdal, was located to the west of Makhado (Louis Trichardt). Over time, farms were surveyed and new towns were laid out. The gold mining industry in South Africa took off with the discovery of gold at Eersteling, south of Polokwane. During the Anglo Boer War, a number of skirmishes were fought in the region, e.g. at Rhenosterpoort (north) and Fort Marabastad (south).

4.2.4 Ethno-historical sequence

The northern section of the study area is almost exclusively inhabited by people of Tlokwa origin. It is said that the origin of all Tlokwa people can be traced to Tlokwenk on the Mooi River near Potchefstroom, where they had the *thakadu* (ant-bear) as their totem. From here can be traced the Tlokwa tribes of North West Province, Free State, Lesotho, KwaZulu-Natal, Botswana and Northern Province. Exactly when this segregation took place, can no longer be determined with any clarity. It is

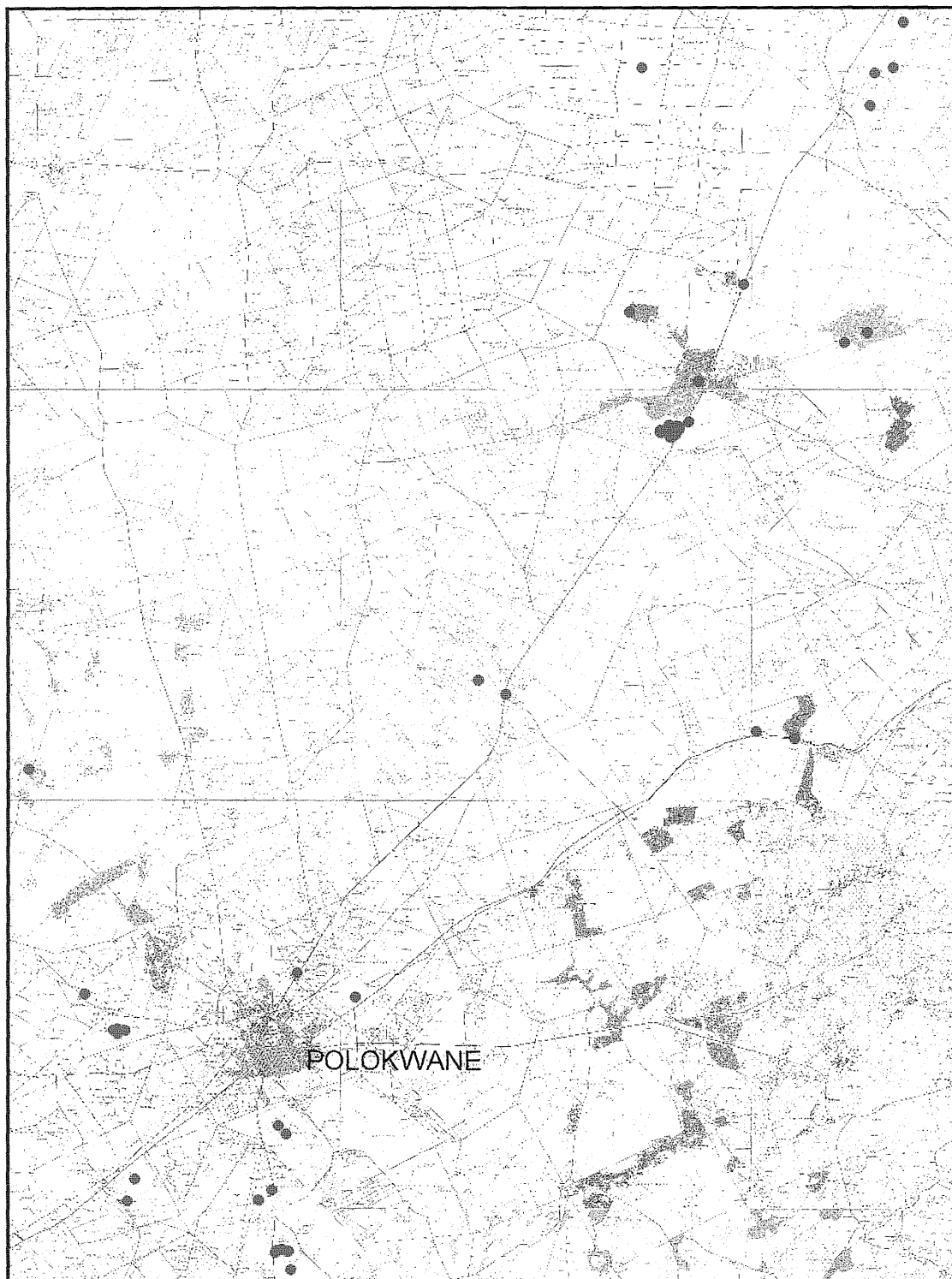


Fig. 3. Location of known sites of cultural significance in the study area – n = 85. These do not include sites located in urban areas, where it is taken that the powerlines would not cross.

however justifiable to estimate that the northward movement of the Tlokwa took place before the year 1700.³ According to tradition, they first settled at Moletane in the Potgietersrus district, but early in the eighteenth century they moved further northward (Botha 1983:163; Krige 1937:350; Van Warmelo 1953; Transvaal Native Affairs Department 1905).

The southern part of the study area is occupied by a number of different Ndebele-speaking (e.g. Moletlane, Maune) and Sotho-speaking (Moletše and Koni) groups. These groups are very diverse in origin and history. Some entered the area from the north, others from the south east and, others from the direction of Botswana. As such this gave rise to complex history, which is still largely under-researched.

From the middle of the 1800s, the Berlin Mission Society had a number of mission stations in the then Northern Transvaal. The results of their missionary labours were, according to their own reporting, not as successful as they had hoped. It was in matters outside the church that they contributed much to the creation of the 'Sotho' as a social, political and cultural entity. They established the first schools and hospitals. They played an important role in political matters on a number of occasions, in some cases taking the side of the local people (e.g. the Hananwa in 1894), or the government of the day (e.g. Sekhukhune in 1876). They also documented much of the life of the Sotho-speakers in early colonial times. The Berlin Mission Society was active in the area until 1962.

5. SITE SIGNIFICANCE AND ASSESSMENT

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

The **significance** of a heritage site and artefacts is determined by its historical, social, aesthetic, technological and scientific 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.

Sites regarded as having low significance are viewed as being recorded in full after identification and would require no further mitigation. Impact from the development would therefore be judged to be low. Sites with a medium to high significance would therefore require mitigation. Mitigation, in most cases the excavation of a site, is in essence destructive and therefore the impact can be viewed as high and as permanent.

³ Some people would have it that they are an off shoot of the Tlokwa of Mmantatisi who, with her followers, roamed across the Free State and North West Province during the early 1800s as a result of the internecine warfare brought on by the activities of Shaka and others in the KwaZuluNatal area. This would put the arrival of the Tlokwa in their present area in Northern Province approximately 100 years later, which is not acceptable if all other evidence is considered.

The National Heritage Resources Act (Act no 25 of 1999) 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, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.

Based on current knowledge and understanding of the area, one can evaluate the heritage sites in the area as follows:

- Stone tools dating from all periods of the Stone Age are known to occur all over the study area. As these objects are open finds and not in their original position anymore, they are viewed as having a low significance. A few 'sealed' sites, i.e. in a cave or rock shelter are known in the area, some of them containing rock art. These occur in the vicinity on Moletše.

All the known Stone Age sites in the study area are currently viewed as being of Grade III significance.

- On the farm De Gladde Klipkop, Iron Age settlement goes back to as early as AD 700. These sites are usually found at the bottom of hills, close to rivers as the people preferred to exploit the alluvial soils to cultivate their crops on. It is expected that many such sites can be found in similar locations. On some of these sites, occupation also occurred during the Late Iron Age, continuing even up to historic times. However, in this area, the granite hills provided suitable settlement for people wanting to protect themselves, e.g. on the farm Ramagoep. This occurred from the 1600s onwards, which was a period marked by strife and resultant population movements. Sites dating to the Late Iron Age (Fig. 4 & 5) forms a much larger number than the early Iron Age sites. They are easier to identify, as they usually have stone walling, as well as the fact that they exist in the living memory of the people.

All the Early and Late Iron Age sites currently known in the area are viewed to be of Grade III significance.

- Sites dating to the historic period can be related to early farming, gold mining and missionary activities. Included with these are also a number of sites of "ethno-historical" significance, such as the tribal capitals of the different groups of Sotho- and Ndebele speakers living in the area.

All the sites dating to historic times currently known in the area are viewed to be of Grade III significance. The exception might possibly be the first gold mining sites that can be viewed to be of Grade II significance.

6. IDENTIFICATION OF RISK RESOURCES

An Environmental Impact Assessment is focused on two phases of a proposed development: **the construction and operation phases**. However, from a cultural heritage perspective, this distinction does not apply. Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted, can be written into the management plan, whence they can be avoided or cared for in the future.

Construction phase:

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Construction work
Anticipated risks	
- looting of sites	Curios workers

Operation phase:

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Not keeping to management plans
Anticipated risks	
- damage to sites	Unscheduled construction/developments

7. RECOMMENDED MANAGEMENT MEASURES

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the development can be excavated/recorded and a management plan can be

developed for future action. Those sites that are not impacted on, can be written into the management plan, whence they can be avoided or cared for in the future.

7.1 Objectives

Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.

The preservation and appropriate management of new discoveries in accordance with the National Heritage Resources Act (Act No. 25 of 1999), should these be discovered during construction.

7.2.1 Construction phase

General management objectives and commitments:

- To avoid disturbing sites of heritage importance; and
- To avoid disturbing burial sites.

The following shall apply:

- The contractors and workers should be notified that archaeological sites might be exposed during the construction work.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

7.2.2 Operation phase

General management objectives and commitments:

- To avoid disturbing sites of heritage importance.

The following shall apply:

- Continued care should be taken to observe discovery of any sites of heritage significance during operation. Should any archaeological artefacts and palaeontological remains be exposed during operations, work on the area where the artefacts were found, shall cease immediately and the appropriate person shall be notified as soon as possible;

- Upon receipt of such notification, an Archaeologist or Palaeontologist shall investigate the site as soon as practicable. Acting upon advice from these specialists, the necessary actions shall be taken;
- Under no circumstances shall archaeological or palaeontological artefacts be removed, destroyed or interfered with by anyone on the site during operations; and
- The powerline operator shall advise its workers of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51(1).

7.2.3 Impact minimization

Impact analysis and resultant management of cultural resources under threat of the proposed development, are based on the present understanding of the construction and operation of a transmission line. The following objectives and design standards, if adhered to, can eliminate, minimize or enhance potential impacts.

- The developer must ensure that an archaeologist inspects each site selected for the erection of a pole structure. If a particular pole structure impacts on a heritage site but cannot be shifted, mitigation measures, i.e. the controlled excavation of the site prior to development, can be implemented. This can only be done by a qualified archaeologist after obtaining a valid permit from SAHRA.
- The same action holds true for any infrastructure development such as access routes, construction campsites, etc.
- In the past, people used to settle near water sources. Therefore riverbanks, rims of pans and smaller watercourses should be avoided as far as possible.
- In this particular part of the country, Iron Age people also preferred to settle on the saddle (or neck) between mountains (hills/outcrops). These areas should also be avoided.
- Avoid all patches bare of vegetation unless previously inspected by an archaeologist. These might be old settlement sites.
- Rock outcrops might contain rock shelters, engravings or stone walled settlements, and should therefore be avoided unless previously inspected by an archaeologist.
- Communities living close to the proposed corridor should be consulted as to the existence of sites of cultural significance, e.g. graves, as well as sites that do not show any structures but have emotional significance, such as battlefields, etc.
- All graves or cemeteries should be avoided, unless when totally impossible. The correct procedure, i.e. notification of intent to relocate them, consultation with descendants and permit application, should then be followed in relocating the graves. If any of the graves are older than 60 years, they can only be exhumed by an archaeologist. Graves of victims of conflict requires additional permits from SAHRA before they can be relocated.
- Archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the construction work. If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to a museum, preferably one at which an archaeologist is available. The archaeologist should then investigate and evaluate the find.

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- Any mitigation measures applied by an archaeologist, in the sense of excavation and documentation, should be published in order to bring this information into the public domain.

8. CONCLUSION

The aim of the survey was to evaluate the heritage potential of an area through which it is proposed to construct a new electricity powerline. For this purpose, three alternative corridors were identified.

The study was negatively influenced by a number of factors:

- Very little information exists on the area.
- Access to areas was not always possible.
- The uncertainty of the exact location of the identified corridors.

Despite this, it could be determined that a variety of cultural heritage sites occur in the area and that if a detailed survey is done, many more would be identified. Therefore, from a heritage point of view, it is anticipated that both of the identified corridors would, at least for shorter sections, have an impact on heritage sites. Selection of the preferred corridor is based on the criteria of the absence of Grade I sites as well as the least number of sites that would be impacted on. This would seem to point in the direction of the eastern corridor.

Based on the above, it is anticipated that if the development takes place, it would be on condition of acceptance of the management measures as set out in Section 7 of this report. The most important of this would be the conducting of a full Phase 1 archaeological survey of the selected corridor in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999).

In the case where resources do occur, assessment of the potential impact of the development can only be done once a final corridor has been selected and tower positions determined. Mitigation of heritage sites implies first of all total avoidance, or, secondly, the recovery of sufficient data from the site in order that it can be studied and understood at a later stage. This latter scenario is not necessarily negative as science stands to benefit from such actions.

9. REFERENCES

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10. PROJECT TEAM

J van Schalkwyk: principal investigator

APPENDIX 1: MATRIX USED FOR ASSESSING THE SIGNIFICANCE OF EACH IDENTIFIED SITE/FEATURE

Significance

The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their 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.

1. Historic value				
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				
2. Aesthetic value				
Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
3. Scientific value				
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				
4. Social value				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
5. Rarity				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
6. Representivity				
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.				
7. Sphere of Significance		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
8. Significance rating of feature				
1.	Low			
2.	Medium			
3.	High			

APPENDIX 1: ILLUSTRATIONS

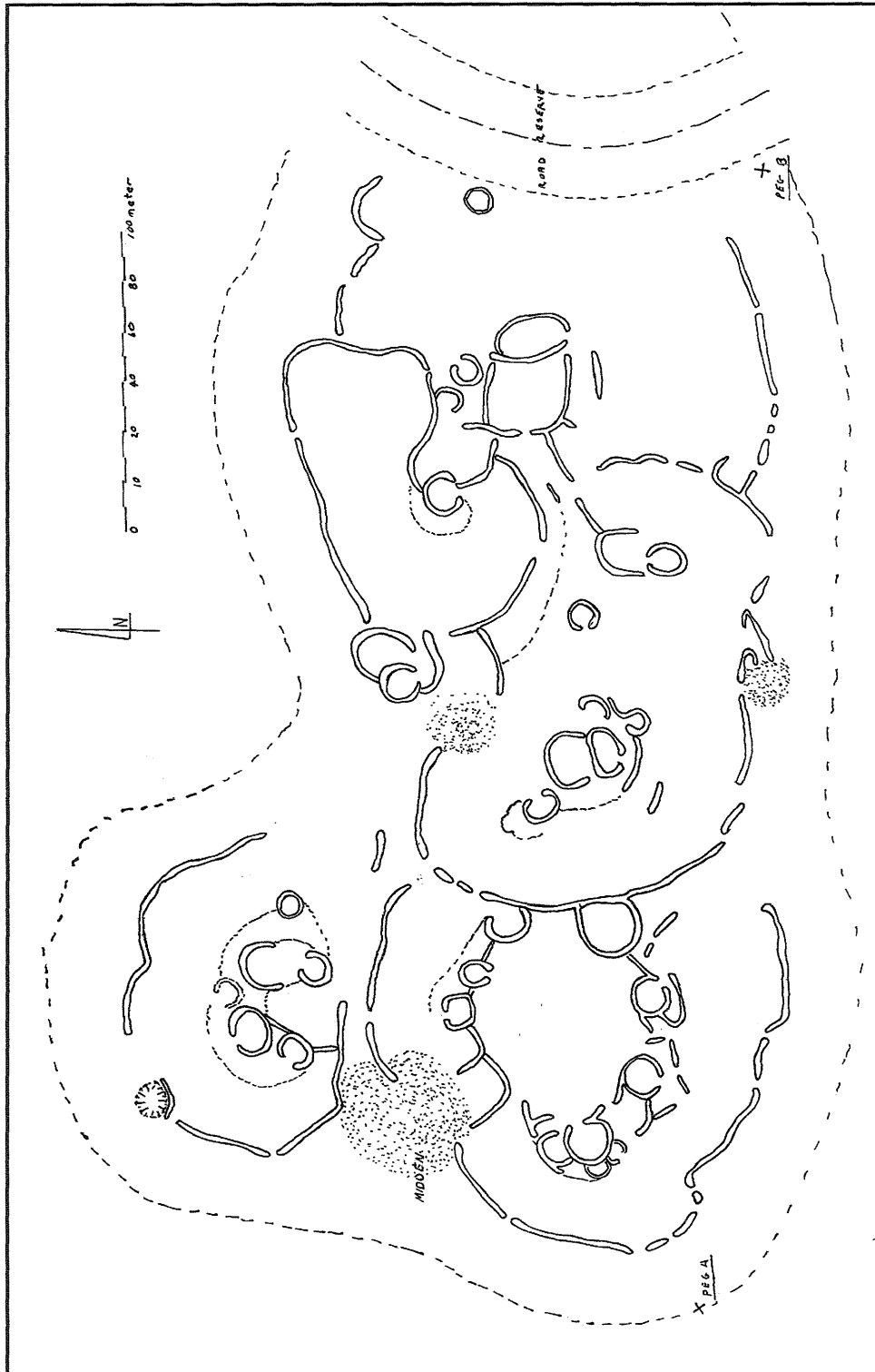


Fig. 4. Typical site layout of one on the fortified hills in the Polokwane area (after Van Schalkwyk 2006c).



Fig. 5. A typical stone walled site located on a small hill.