

**Basic heritage assessment report for the
PROPOSED WINTERVELD 132KV POWER LINE, GARANKUWA REGION,
NORTH WEST AND GAUTENG PROVINCES**

BASIC HERITAGE ASSESSMENT REPORT FOR THE PROPOSED WINTERVELD 132KV POWER LINE, GARANKUWA REGION, NORTH WEST AND GAUTENG PROVINCES

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Prepared for:
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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.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
April 2013

EXECUTIVE SUMMARY

BASIC HERITAGE ASSESSMENT REPORT FOR THE PROPOSED WINTERVELD 132KV POWER LINE, GARANKUWA REGION, NORTH WEST AND GAUTENG PROVINCES

Eskom propose to construct a new 132kV power line and two substations in the Winterveld region of Garankuwa, north of Pretoria in the Odi and Moretele magisterial districts of North West and Gauteng Provinces.

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 the proposed power lines and substations would have an impact on any sites, features or objects of cultural heritage significance.

Large sections of the region were subjected to urbanization and industrial activities, which would have destroyed any pre-colonial or early colonial heritage features that might have occurred here in the past.

A number of formal and informal burial places were identified. In the latter case, these are located in the vicinity of abandoned homesteads.

Based on the above review of existing information and the site visit, it is our opinion that there are no fatal flaws that would prevent the proposed development from continuing. However, the following is recommended:

- It is recommended that a walk-down of the route is done in order to determine if the individual pole structures will have an impact on any sites, features or objects of cultural heritage significance.
- This walk-down should be done during winter when the vegetation cover is down, resulting in increased archaeological visibility.

Therefore, from a heritage point of view we recommend that the proposed development can continue on condition of acceptance of the above mitigation measure. We also recommend that if archaeological sites or graves are exposed during development activities, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk
Heritage Consultant
April 2013

TECHNICAL SUMMARY

| Property details | |
|-------------------------|---------------------------------------|
| Province | North West Province, Gauteng Province |
| Magisterial district | Odi, Moretele |
| District municipality | Madibeng, Moretele, City of Tshwane |
| Topo-cadastral map | 2527BD, 2528AC |
| Closest town | Soshanguve |
| Farm name & no. | Various |
| Portions/Holdings | Various |

| Development criteria in terms of Section 38(1) of the NHR Act | Yes/No |
|---|--------|
| 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 | |
| Development exceeding 5000 sq m | Yes |
| Development involving three or more existing erven or subdivisions | |
| Development involving three or more erven or divisions that have been consolidated within past five years | |
| Rezoning of site exceeding 10 000 sq m | |
| Any other development category, public open space, squares, parks, recreation grounds | |

| Development | |
|--------------------|--|
| Description | Development of a 132kV distribution line |
| Project name | |

| Land use | |
|-------------------|--------------|
| 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 - 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 |
| Later 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 HERITAGE ASSESSMENT REPORT FOR THE PROPOSED WINTERVELD 132KV POWER LINE, GARANKUWA REGION, NORTH WEST AND GAUTENG PROVINCES

1. INTRODUCTION

Eskom propose to construct a new 132kV power line and two substations in the Winterveld region of Garankuwa, north of Pretoria in the Odi and Moretele magisterial districts of North West and Gauteng Provinces.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. However, according to Section 27(18) of the National Heritage Resources Act (NHRA), No. 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 the proposed power lines and substations would have an impact on any sites, features or objects of cultural heritage significance.

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) 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 assessment, 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 develop the power lines and substations that would prevent the project from going to the next level of investigation.

This includes:

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

The objectives were to

- 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;
- 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:

- The unpredictability of archaeological remains occurring below the surface.
- Dense vegetation growth encountered during the survey.
- The power line routes were only accessed where it intersected with roads. In contrast, the various substation alternatives were visited.

2.3 Assumptions

- It is assumed that the Social Impact Assessment and Public Participation Process might also result in the identification of sites, features and objects, including sites of intangible heritage potential in the development area and that these then will also have to be considered in the selection of the preferred routes.
- It is assumed that a Paleontological Review will be done by a suitably qualified specialist.

Table 1: Applicable category of heritage impact assessment study and report.

| Type of study | Aim | SAHRA involved | SAHRA response |
|----------------------------|--|--|--|
| Heritage Impact Assessment | The aim of a full HIA investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to identify heritage resources (involving site inspections, existing heritage data and additional heritage specialists if necessary); assess their significances; assess alternatives in order to promote heritage conservation issues; and to assess the acceptability of the proposed development from a heritage perspective. | Provincial Heritage Resources Authority | Comments on built environment and decision to approve or not |
| | The result of this investigation is a heritage impact assessment report indicating the presence/ absence of heritage resources and how to manage them in the context of the proposed development. Depending on SAHRA's acceptance of this report, the developer will receive permission to proceed with the proposed development, on condition of successful implementation of proposed mitigation measures. | SAHRA Archaeology, Palaeontology and Meteorites Unit | Comments and decision to approve or not |

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 as presented in Section 5 and as illustrated in Figure 1 - 3.

4.2 Methodology

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 and historical sources were consulted – Huffman 2001; Van Schalkwyk 1994, 2010, 2012a, 2012b.

- Information on events, sites and features in the larger region were 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 the larger region of the proposed development.

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 were obtained from these sources

4.2.2 Field survey

The area that had to be investigated was identified by **Envirolution Consulting** by means of maps and during a site visit (Fig. 2 & 3). The power line routes were only accessed where it intersected with existing roads. In contrast, the various substation alternatives were visited.

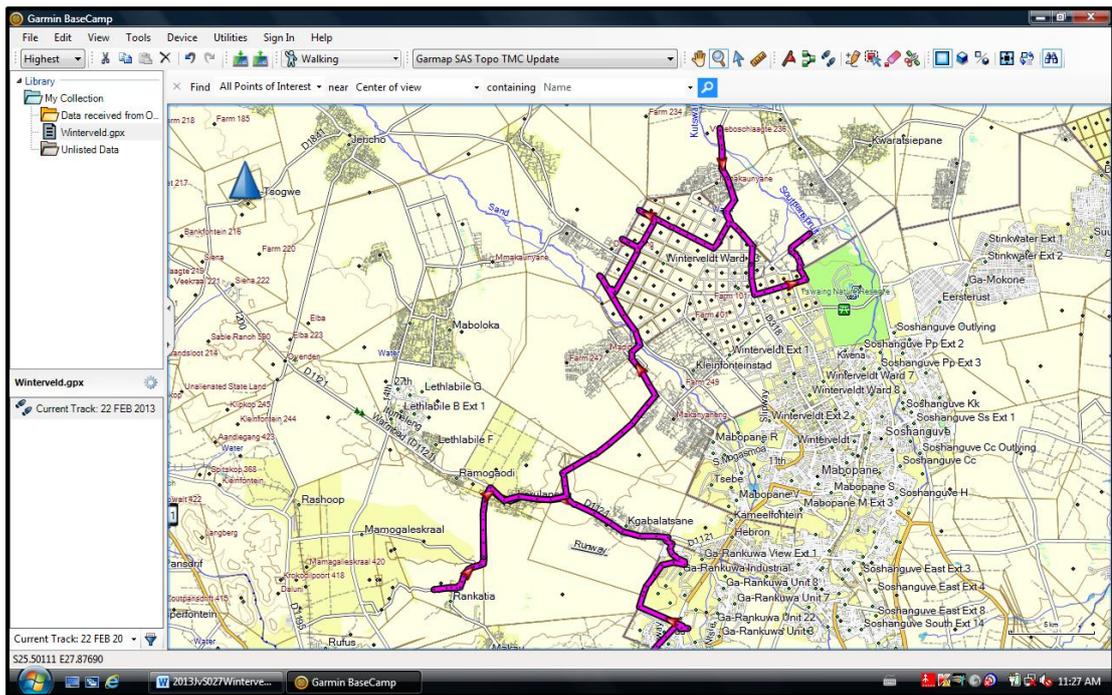


Fig. 1. Map indicating the track log of the field survey.

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.

Map datum used: Hartebeeshoek 94 (WGS84).

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Site location

Eskom propose to construct a new distribution power line in the Winterveld region of North West and Gauteng Provinces. For more information, please see the Technical Summary presented above (p. iii).

The geology is made up of granite in the southern section, with mudstone to the north. The topography of the area is described as slightly undulating plains and the original vegetation is classified a Mixed Bushveld.

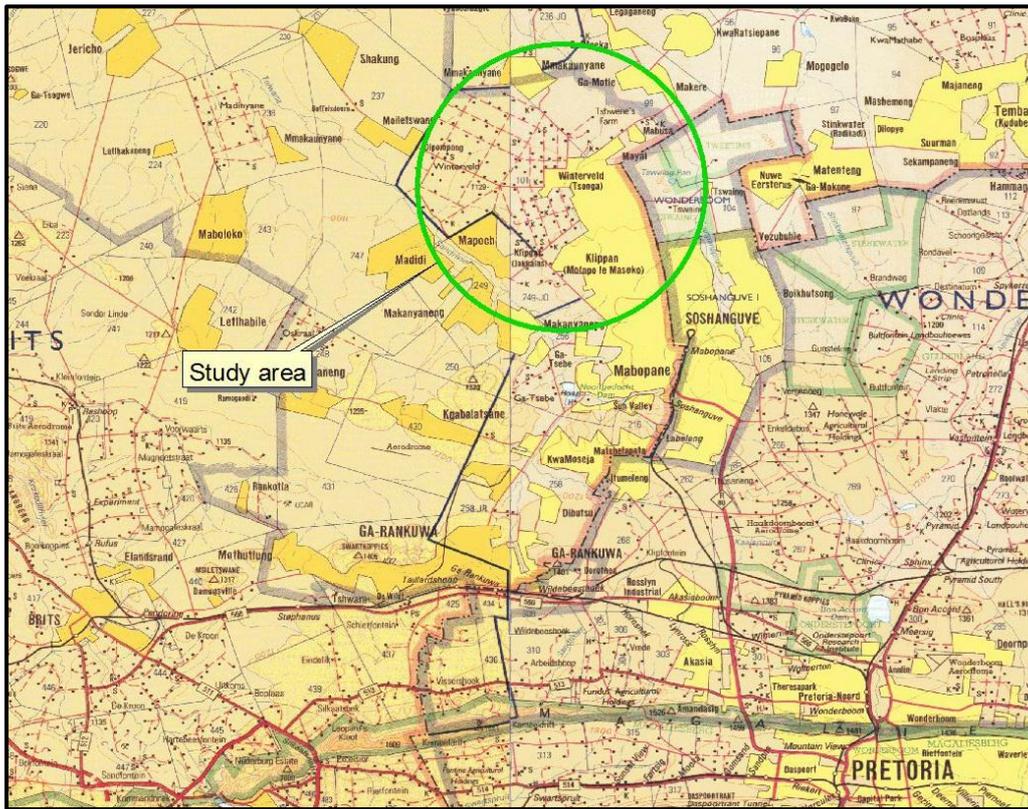


Fig. 2. Location of the study area (green outline) in regional context. (Map 2526, 2528: Chief Surveyor-General)

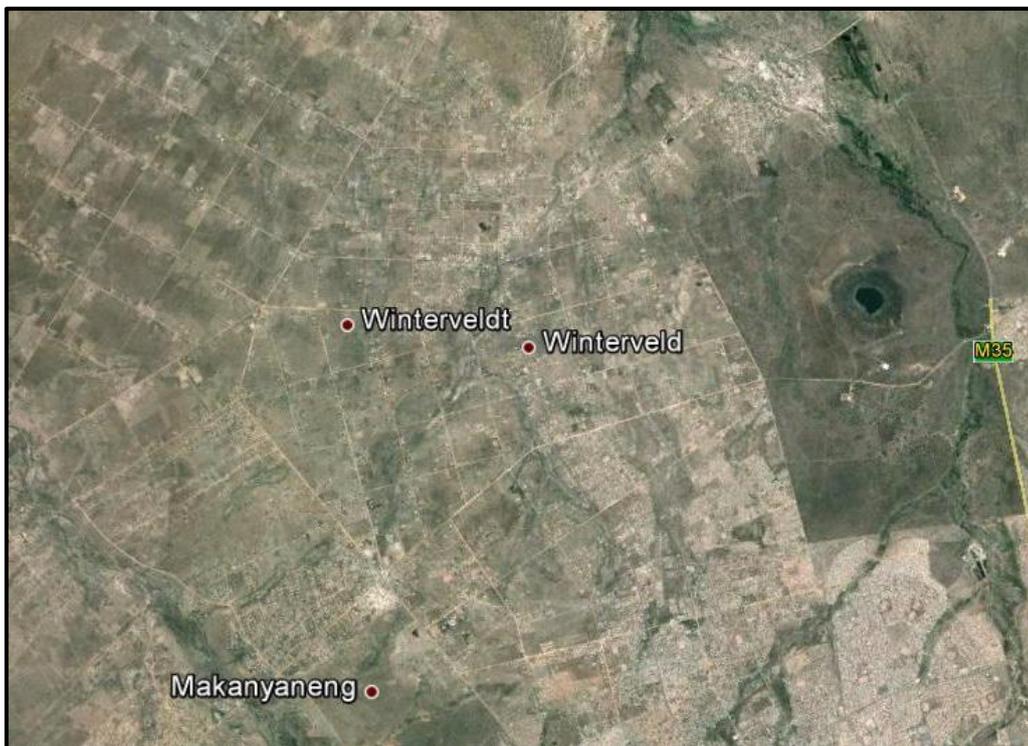


Fig. 3. Aerial view of the study area, showing the power line route (red line). (Photo: Google Earth)

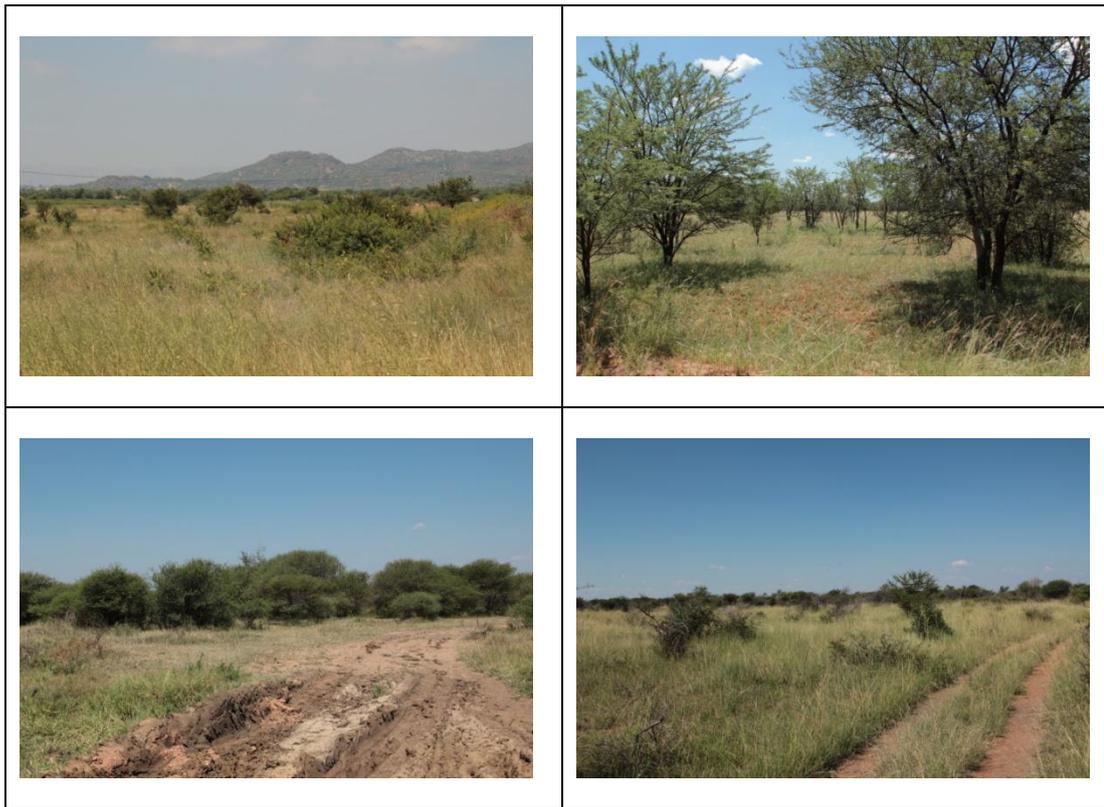


Fig. 4. Views over the study area.

5.2 Development proposal

The proposed development involves the construction of a 132kV power line (approximately 20km long) linking the existing Garankuwa and Dinaledi substations to the proposed Dipompong and Tswaing substations. For each of the latter two substations an alternative has been proposed (Fig. 5).

For large sections of the route the power line would follow existing power line servitudes.

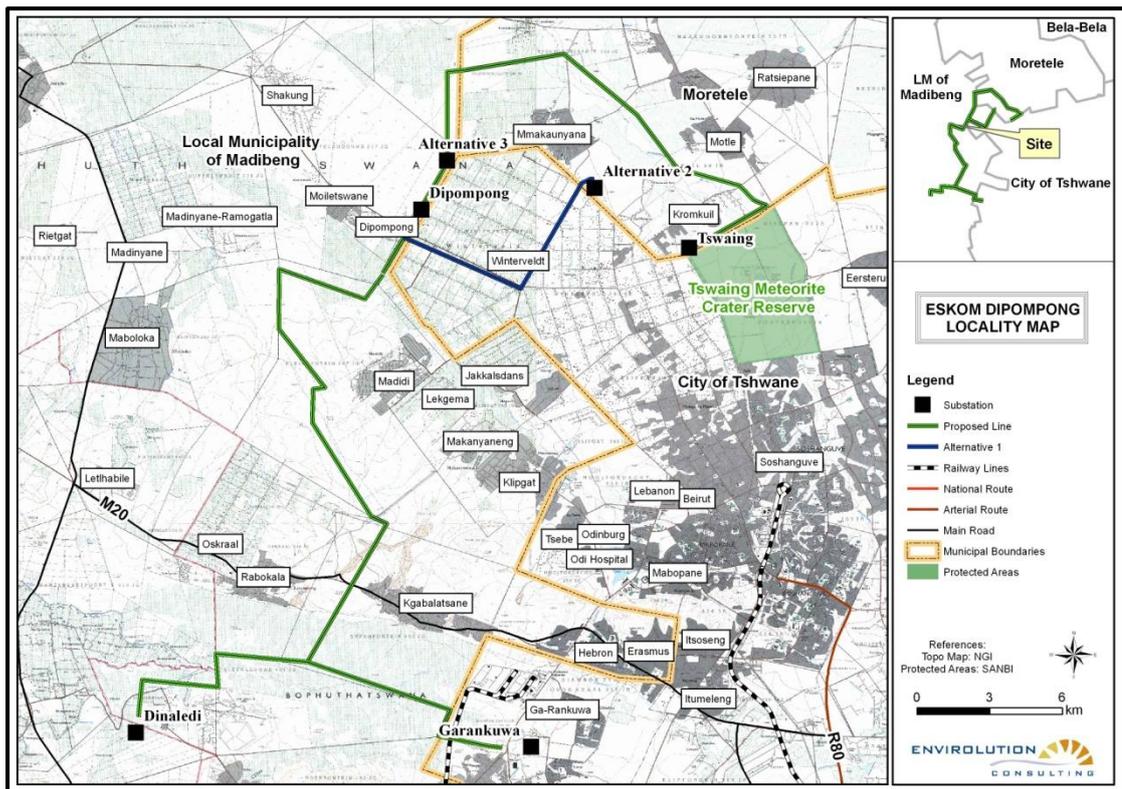


Fig. 5. Layout of the proposed development.
(Map supplied by Envirolution Consulting)

5.3 Overview of the region

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 eastern 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 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.

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.

5.4 Identified sites

The following sites, features and objects of cultural significance were identified in the study area (Fig. 6 below):

5.4.1 Stone Age

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

5.4.2 Iron Age

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

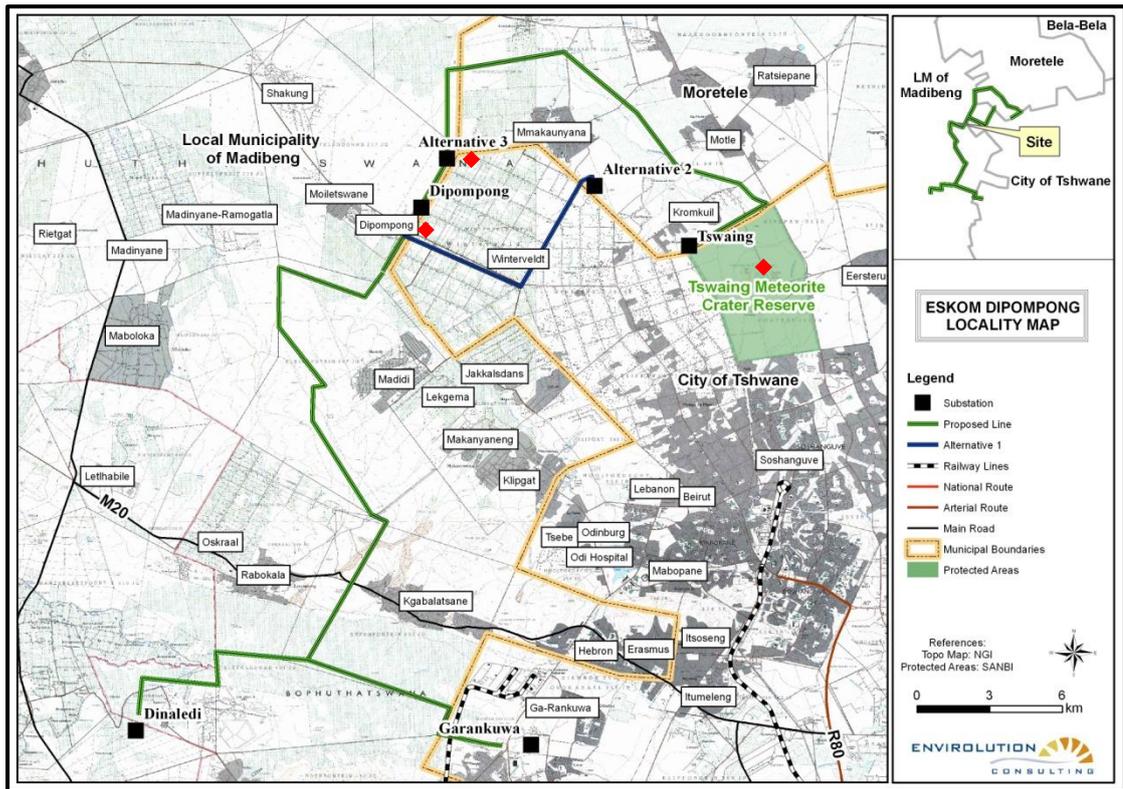


Fig. 6. Layout of the development, showing known heritage sites (red dots). (Map supplied by Envirolution)

5.4.3 Historic period

- Graves & Cemeteries

| | | | |
|---|-----------------------------------|------------|------------|
| Location | 1 | S 25.38498 | E 27.95762 |
| | 2 | S 25.37121 | E 27.97144 |
| | 3 | S 25.37136 | E 27.97151 |
| | Description | | |
| A number of burial places were identified. These range from very large formal cemeteries, to individual graves located in the vicinity of abandoned homesteads. Most graves have headstones and overall the graves are of recent origin, i.e. the last 20 years. | | | |
| Significance | High on a local level – Grade III | | |
| Mitigation | | | |
| All the identified burial places are well demarcated and visible and would therefore be easily avoided. At present it is difficult to determine the exact impact the proposed development would have on these sites. | | | |
| Recommendation: | | | |
| It is doubtful if the power line or substation would have an impact on any of these sites. However, it is recommended that the power lines are routed to by-pass the various burial places and that they are demarcated with danger tape for the duration of the power line construction. | | | |



Fig. 7. Some of the cemeteries and burial places.

- Homesteads

A number of farm labourer homesteads have been identified in the study area.

| | | | |
|---|-------------------------------------|------------|------------|
| Location | 1 | S 25.37136 | E 27.97151 |
| | 2 | S 25.36874 | E 27.96645 |
| Description | | | |
| As can be expected, the various structures and features date to different time periods and show an eclectic mix of traditional as well as modern styles and materials used in their construction. | | | |
| Significance | Low on a regional level – Grade III | | |
| Mitigation | | | |
| Although these features are located in close proximity of a section of the proposed power line, it is unsure if the power line would have an impact on these features. | | | |
| Recommendation: It is recommended that these sites are identified during the walk down and that mitigation measures are then developed for each individual site specifically. | | | |

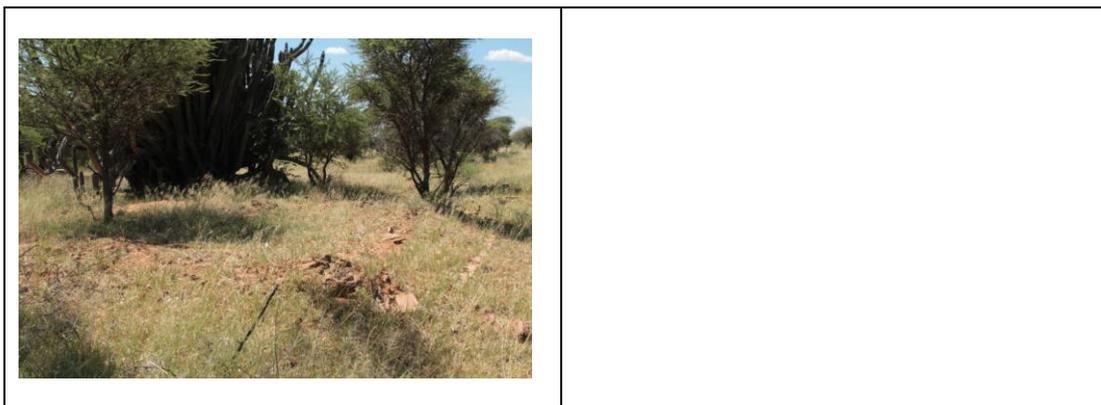


Fig. 8. View of one of the homesteads.

6. SITE SIGNIFICANCE AND ASSESSMENT

6.1 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.

6.2 Statement of significance

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 Grade III significance.

7. RECOMMENDATIONS

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 it is proposed to develop 132kV distribution power lines and substations.

Large sections of the region were subjected to urbanization and industrial activities, which would have destroyed any pre-colonial or early colonial heritage features that might have occurred here in the past.

A number of formal and informal burial places were identified. In the latter case, these are located in the vicinity of abandoned homesteads.

Based on the above review of existing information and the site visit, it is our opinion that there are no fatal flaws that would prevent the proposed development from continuing. However, the following is recommended:

- It is recommended that a walk-down of the route is done in order to determine if the individual pole structures will have an impact on any sites, features or objects of cultural heritage significance.
- This walk-down should be done during winter when the vegetation cover is down, resulting in increased archaeological visibility.

Therefore, from a heritage point of view we recommend that the proposed development can continue on condition of acceptance of the above mitigation measure. We also recommend that if archaeological sites or graves are exposed during development activities, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

8. REFERENCES

8.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa

8.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

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Mason, R.J. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

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Van Schalkwyk, J.A. 2010. *Heritage impact assessment for the proposed Rooiwal sewer pipeline, Wonderboom magisterial district, Gauteng Province*. Unpublished report 2010/JvS/045.

Van Schalkwyk, J.A. 2012a. *Heritage impact assessment for the proposed installation of sewer pipelines in Winterveld Extensions 3 and 5, City of Tshwane region*. Unpublished report 2012/JvS/021.

Van Schalkwyk, J.A. 2012b. *Heritage impact assessment for the proposed installation of sewer pipelines in Winterveld Extension 4, City of Tshwane region*. Unpublished report 2012/JvS/027.

8.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2627DB
Google Earth

APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of a heritage sites and artefacts is determined by it 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

| | | | | |
|---|--------|------|--------|-----|
| 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 | | | | |
| It is 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 | | | |

Significance of impact:

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

Recommended management action:

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs

Legal requirements:

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

APPENDIX 2. 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.

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.

Presenting archaeological sites as part of tourism attraction requires, in terms 44 of the Act, a Conservation Management Plan as well as a permit from SAHRA.

(1) Heritage resources authorities and local authorities must, wherever appropriate, co-ordinate and promote the presentation and use of places of cultural significance and heritage resources which form part of the national estate and for which they are responsible in terms of section 5 for public enjoyment, education, research and tourism, including-

- (a) the erection of explanatory plaques and interpretive facilities, including interpretive centres and visitor facilities;
- (b) the training and provision of guides;
- (c) the mounting of exhibitions;
- (d) the erection of memorials; and
- (e) any other means necessary for the effective presentation of the national estate.

(2) Where a heritage resource which is formally protected in terms of Part I of this Chapter is to be presented, the person wishing to undertake such presentation must, at least 60 days prior to the institution of interpretive measures or manufacture of associated material, consult with the heritage resources authority which is responsible for the protection of such heritage resource regarding the contents of interpretive material or programmes.

(3) A person may only erect a plaque or other permanent display or structure associated with such presentation in the vicinity of a place protected in terms of this Act in consultation with the heritage resources authority responsible for the protection of the place.