

Heritage impact assessment report for the
**PROPOSED ESKOM TAUNUS-DIEPKLOOF 132KV POWER
LINE PROJECT, CITY OF JOHANNESBURG,
GAUTENG PROVINCE**



**HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED ESKOM
TAUNUS-DIEPKLOOF 132KV POWER LINE PROJECT, CITY OF
JOHANNESBURG, GAUTENG 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.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
July 2010

EXECUTIVE SUMMARY

HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED ESKOM TAUNUS-DIEPKLOOF 132KV POWER LINE PROJECT, CITY OF JOHANNESBURG, GAUTENG PROVINCE

Due to an increased demand for electricity in the Gauteng region, Eskom propose the development of a 132kV transmission line between the Taunus substation, located to the west of Soweto and the Diepkloof substation located in the eastern section of Soweto. The total length of the line is 40 km.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Enviroolution** to conduct a Heritage Impact Assessment (HIA).

This survey has revealed that some heritage resources occur in the region and, as the exact coordinates for the power line servitude are not available, there is a small likelihood that the power line development activities might have an impact on them. Heritage resources manifest in a wide variety of forms, ranging from stone tools found as surface scatters, rock shelters, some of which may contain rock art, to stratified sites showing long sequences of occupation, and sites containing structures such as stone walling or buildings, cemeteries and places to which cultural significance is attached.

Based on present information and understanding of the project, any of the alternatives would be suitable for the development of the proposed power line:

It is therefore recommended that any of the routes can be used, but that a “walk down” is done. This latter study would determine the level of significance of the identified resources as well as proposing mitigation measures for those resources that may be affected by the proposed development. The mitigation of heritage resources is referred to as Phase II studies and, depending on the type of resource, may include in depth studies before the impact may take place, or alternatively, that a resource must be avoided and protected.



J A van Schalkwyk
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July 2010

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GLOSSARY OF TERMS AND ABBREVIATIONS

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
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 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

LIST OF ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
C S-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

HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED ESKOM JUPITER-SEBENZA 400KV STRENGTHENING PROJECT, GAUTENG PROVINCE

1. INTRODUCTION

Due to an increased demand for electricity in the Gauteng region, Eskom propose the development of a 132kV transmission line between the Taunus substation, located to the west of Soweto and the Diepkloof substation located in the eastern section of Soweto. The total length of the line is 40 km.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and believes. However, 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 **Enviroolution** to conduct a Heritage Impact Assessment (HIA) of the region where the power line is to be developed.

2. TERMS OF REFERENCE

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;
- 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;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

3. HERITAGE RESOURCES

3.1 The National Estate

The National Heritage Resources Act (Act 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.

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 Figures 1 - 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 and historical sources were consulted.

- A few publications detailing archaeological investigations in the region were identified. These range deal with the historic period and include works such as (Praagh 1906, Bergh 1998, Cloete 2000, Richardson 2001, De Jong 2004).

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 region of the proposed development.
- Deeds of Transfer for some of the farms were found in the records of the Chief Surveyor General's records, but contributed little with regard to heritage sites.

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** by means of maps. As this is a linear development, the survey was done by travelling the route as far as possible.

4.2 Limitations

As the coordinates for the power line and the alternative sections are not available, it was impossible to follow the different alternative routes exactly.

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Site location

The study area is located to the west and south of Soweto, southeast of the city of Johannesburg. The route with two short alternatives was selected by ESKOM (Fig. 1). For

approximately 50% the area is still used for agricultural purposes, whereas for the rest of the route it passes through highly urbanised areas.



Fig. 1. Location of the study area (coloured lines) in regional context. (Map 2626: Chief Surveyor-General)

5.2 Regional overview

5.3.1 Stone Age

No record of occupation of the region during the Stone Age exists, although records indicate that stone tools dating to the Early and Middle Stone Age occur for example in the Klipriviersberg area to the east, as well as to the south at Henly-On-Klip. Tools dating to this period are mostly found in the vicinity of watercourses, and no sealed, stratified sites (i.e. rock shelter or cave) are known from the region.

5.3.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had

cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area.

The occupation of the larger geographical area (including the study area) did not start much before the 1500s. 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, for example the Witwatersrand in the region of Klipriviersberg. Here, a large number of settlements dating to the Later Iron Age occur.

5.3.3 Historic period

Up until the discovery of gold, the area was largely a farming community, with a low density of human population. All of this changed with the discovery of gold during the early 1880s. Although the history of mining activities and ownership is very complex, most of what happened in the region of the study area can be associated with Rand Mines. Mining activities changed the natural landscape into a cultural landscape, with buildings, headgear, slimes dams and infra-structural support. As the mines closed down, these structures were left behind, falling into disrepair, and are vandalised. What most people do not realise is the interrelatedness of all of these. If there were not any mines in the region, the population density in the region might have been quite different from what it is today.

The history of larger Soweto has already been covered in a number of publications written from different perspectives, e.g. Kane-Berman (1981), Magubane (1990) and need not be repeated here.

5.3 Identified sites

The following cultural heritage resources are known to exist or are expected to exist in the study area:

5.3.1 Stone Age

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

5.3.2 Iron Age

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

5.3.3 Historic period

- Although no sites, features or objects dating to the historic period were identified in the study area, some do occur in its close proximity. These are formal as well as informal cemeteries, the Zuurbekom Water supply facilities and a number of heritage sites dealing with people and events in the larger Soweto area, such as the Oppenheimer Memorial, the Hector Pieterse Memorial, and houses occupied by famous persons such as Nelson Mandela and Archbishop Desmond Tutu.

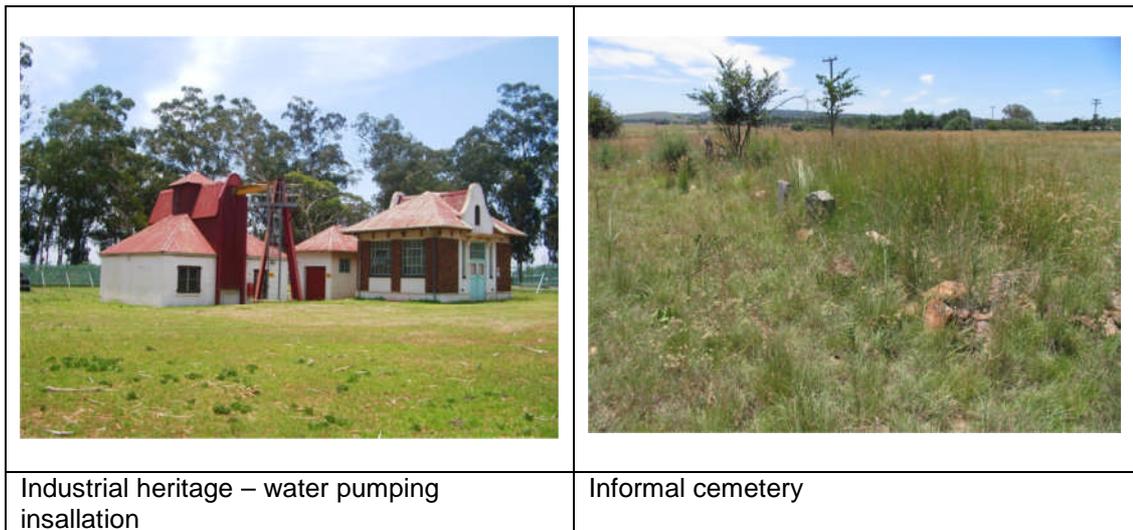


Fig. 3. Types of heritage features found in the region of the study area.

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 which are expected to occur in the study area are evaluated to have Grade III significance.

6.3 Impact assessment

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

- As there is a small possibility that some heritage sites might occur in the servitude and would therefore be impacted on by the proposed construction of the power line and the next step would be to conduct a “walk down” of the selected route.

7. CONCLUSIONS

This survey has revealed that some heritage resources occur in the region and, as the exact coordinates for the power line servitude are not available, there is a small likelihood that the power line development activities might have an impact on them. Heritage resources manifest in a wide variety of forms, ranging from stone tools found as surface scatters, rock shelters, some of which may contain rock art, to stratified sites showing long sequences of occupation, and sites containing structures such as stone walling or buildings, cemeteries and places to which cultural significance is attached.

Based on present information and understanding of the project, any of the alternatives would be suitable for the development of the proposed power line:

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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.

Bergh, J.S. (red.). 1998. *Geskiedenisatlas van Suid-Afrika: die vier noordelike provinsies*. Pretoria: J.L. Schaik.

Cloete, P.G. 2000. *The Anglo-Boer War: a Chronology*. Pretoria: JP van der Walt

De Jong, R.C. 2004. *Heritage Scoping Report: Proposed New Brickworks for African Brick, Farm Zuurbekom 297 IQ*. Unpublished report. Pretoria: Cultmatrix.

Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik.

Kane-Berman, J. 1981. *Soweto. Black Revolt, White Reaction*. Johannesburg: Raven Press.

Magubane, P. & Motzwadi, S. 1990. *Soweto: a portrait of a City*. Cape Town: Struik.

Mason, R. 1968. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Oberholzer, J.J. 1972. *The historical Monuments of South Africa*. Cape Town: Rembrand van Rijn Foundation for Culture.

Praagh, L.V. (ed.) 1906. *The Transvaal and its mines*. London: Praagh & Lloyd.

Richardson, D. 2001. *Historic sites of South Africa*. Cape Town: Struik Publishers

9.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2627BB, 2627BD

Google Earth

APPENDIX 1. 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 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:

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- (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.

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APPENDIX 3: SURVEY RESULTS

See Appendix 1 for an explanation of the conventions used in assessing the significance of the cultural remains.

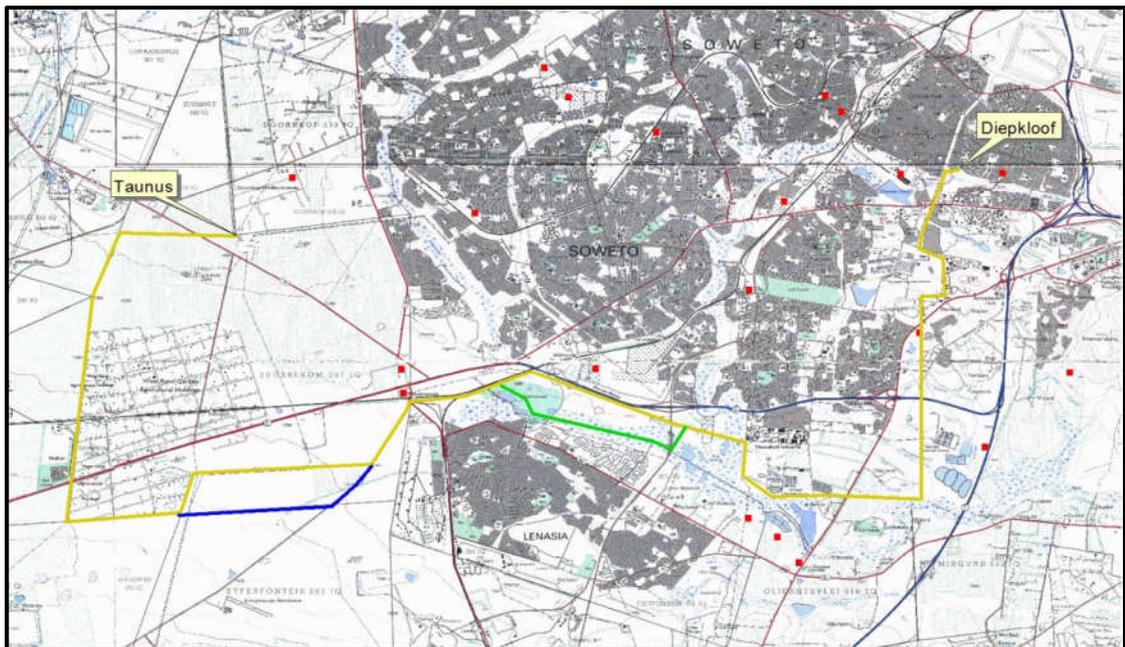


Fig. 2. Location of known sites of heritage significance in the vicinity of the study area.
(Map 2627BB, 2627BD: Chief Surveyor-General)