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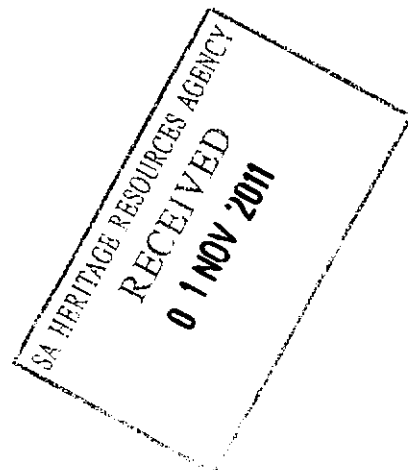
**PHASE 1 ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENT SPECIALIST STUDY REPORT FOR PROPOSED CONSTRUCTION OF THE NEW YABATHO SUBSTATION, 132KV 9.5KM LOOP IN AND OUT POWERLINES FROM THE PROPOSED YABATHU SUBSTATION TO THE EXISTING THEMBA MAIN-BABALEGI POWERLINE AND THE CONSTRUCTION OF TELECOMMUNICATION TOWER IN THE NORTH WEST AND GAUTENG PROVINCES.**

**Prepare by Dr. M Murimbika**


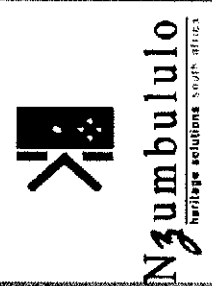
**For Eskom Distribution (Northern Region)**

Final A/HIA Report

September 2011



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## CAVEAT

### **PHASE 1 ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENT SPECIALIST STUDY REPORT FOR PROPOSED CONSTRUCTION OF THE NEW YABATHU SUBSTATION, 132KV 9.5KM LOOP IN AND OUT POWERLINES FROM THE PROPOSED YABATHO SUBSTATION TO THE EXISTING THEMBA MAIN-BABALEGI POWERLINE AND THE CONSTRUCTION OF TELECOMMUNICATION TOWER IN THE NORTH WEST AND GAUTENG PROVINCE.**

**Authorship:** This Report has been prepared by Dr. M. Murimbika (Principal Investigator & Professional Archaeologist) assisted by Mr. T Mlilo for Eskom Northern Region. The report is for the review of the Heritage Resources Agency (PHRA).

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**Geographic Co-ordinate Information:** Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

**Maps:** Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

**Disclaimer:** The Author is not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the authorisation proposed Powerline Project being by Eskom Distribution (Northern Region).

Signed by Principle Investigator:



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McEdward Murimbika (Ph.D.)

September 2011

## **AUTHOR IDENTIFICATION**

Dr. M. Murimbika (Principal Archaeologist & Heritage Consultant) prepared this Report. Mr Trust Mlilo assisted him during the research.

## **ACKNOWLEDGEMENTS**

The authors acknowledges Eskom Northern Region for their assistance with information, and the associated project site survey data as well as responding to technical queries related to the project.

## **ABSTRACT**

This report presents results of an archaeological and heritage impact assessment study for the proposed Eskom YaBatho Substation , Loop in and out powerline and telecommunication tower development in the North West and Gauteng Province. The study did not identify any archaeological or physical cultural property barriers on the substation sites, telecommunication tower and option 1 powerline route. A formal burial site was identified in the vicinity of option 2 powerline route. The report also give detailed recommendations to guide the heritage authority in making appropriate recommendations and approval for the proposed development in line with the National Heritage Resources Act (1999).

## EXECUTIVE SUMMARY

This archaeological and heritage impact assessment study (A/HIA) covers the proposed YaBatho Substation, Telecommunication tower and Loop in and out powerline construction in Tshwane Metropolitan Municipality and Morelete Local Municipality in Gauteng and North West Provinces respectively. Principal Investigator, Dr. M. Murimbika directed the study. The A/HIA focuses on potential impacts on:

- Archaeological,
- Physical cultural heritage resources
- Historical heritage associated with the proposed construction's receiving environment.

Although a number of sites dating to all periods of the past occur in the Gauteng region, none were identified along the proposed powerline route.

### **The report makes the following observations:**

- The project area is generally highly accessible for effective ground surveys
- The affected area has limited potential to yield archaeological sites given the level of high disturbances
- Although the possibility of encountering significant archaeological or historical sites associated with the specific powerline route is limited, a cautionary approach that include heritage monitoring in the context of development should be considered.
- By its design and development form and nature, the proposed powerline development will have limited foot print impact on the ground given the fact that it will involve installation of a series of individual powerline lattice towers located at considerable distance from each other. This means any directly or potential archaeological sites on the ground can completely be avoided during construction.

- The proposed substation and Telecommunication site and the powerline servitude are situated within a contemporary degraded landscape with low heritage potential. The powerline will be developed in existing road and powerline servitudes traversing through disturbed and developed areas. The powerline and substation construction works will have minor disturbance within the earmarked powerline servitude.

### **The Report makes the following recommendations:**

- The study did not identify any archaeological or heritage resources barrier to the proposed powerline developments. The proposed powerline developments may be approved by the PHRA to proceed as planned subject to cautionary heritage monitoring measures being incorporated into the project construction EMP.
- Should construction work commence for this project:
- The powerline teams should be inducted on the significance of the possible archaeological resources and grave sites that may be encountered during subsurface construction work before they work on the area in order to ensure appropriate treatment and course of action is afforded to any chance finds.
- If archaeological materials or previously unmarked gravesites are uncovered, work should cease immediately and the PHRA be notified and activity should not resume until appropriate management provisions are in place.

This study notes no objection to the proposed development. The powerline route may be approved for the proposed development subject to any conditions that the heritage authority may impose.

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## ABBREVIATIONS

<b>AIA</b>	Archaeological Impact Assessment
<b>C</b>	Contractor
<b>CECO</b>	Construction Environmental Conservation Officer
<b>EAP</b>	Environmental Assessment Practitioner
<b>EM</b>	Environmental Conservation Officer
<b>EMP</b>	Environmental Impact Assessment
<b>HIA</b>	Heritage Impact Assessment
<b>LIA</b>	Environmental Manager
<b>NHRA</b>	National Heritage Resources Act, Act 25 of 1999
<b>PM</b>	Project Manager
<b>SM</b>	Site Manager
<b>SAHRA</b>	South African Heritage Resources Agency

## DEFINITIONS

The following terms used in this HIA are defined in the NHRA, SAHRA Policies as well as the Australia ICOMOS Charter (Burra Charter):

**Archaeological** Material remains resulting from human activities, which are in a state of disuse and are in, on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures.

**Chance Finds** Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

**Cultural Heritage Resources** Same as Heritage Resources as defined and used in the National Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and palaeontological sites; historic and prehistoric places,

buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or *graves* and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

**Cultural Significance** The complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

**Grave** A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery.

**Historic Material** remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

**In Situ material** *Material culture* and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

**Late Iron Age** this period is associated with the development of complex societies and state systems in southern Africa.

**Material culture** Buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

**Site** A distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity

**Place** means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

**Cultural significance** means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

**Fabric** means all the physical material of the place including components, fixtures, contents and objects.

**Conservation** means all the processes of looking after a place so as to retain its cultural significance.

**Use** means the functions of a place, as well as the activities and practices that may occur at the place.

**Compatible use** means a use which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

**Setting** means the area around a place, which may include the visual catchment.

**Interpretation** means all the ways of presenting the cultural significance of a place.



## 1. INTRODUCTION

This Archaeological and Heritage Impact Assessment (HIA) applied research study was conducted to fulfil the requirements of the National Heritage Resources Act, Act 25 of 1999 Section 38 and associated auxiliary SAHRA and heritage policy regulations. It was conducted as part of the Environmental Impact Assessment (EIA) for the proposed YaBatho Substation, Telecommunication tower and Loop in and out powerline in the North West and Gauteng Provinces territories (see Map in Figure 1). The impact assessment study focused on identifying and assessing potential impacts on archaeological resources as well as on other physical cultural properties including historical heritage resources associated with the proposed powerline development project. The study was designed to ensure that any significant archaeological or cultural physical property or sites are located and recorded, and site significance is evaluated to assess the nature and extent of expected impacts from the powerline development. The assessment includes recommendations to manage the expected impact of development on the site.

## 2. OBJECTIVES AND SCOPE OF HERITAGE IMPACT ASSESSMENT

The objectives of a Heritage Impact Assessment are to assist in assessing the effect that development will have on the heritage value of a significant place in South Africa. Guidelines have been prepared by SAHRA for the preparation of Heritage Impact Assessments and these have been the basis of the preparation of this report. This Heritage Impact Assessment is specifically as a response to the proposals of the powerline development by Eskom (Distribution, Northern Region), and assesses the impact of the options provided in that proposal. The focus of this HIA is therefore the heritage value of the affected landscape and associated archaeological and other heritage sites that may be on the affected area. If alternative or additional developments proposed in the future, the extent of this HIA will need to be reconsidered.

This Heritage Impact Assessment will provide recommendations for the proposed development and will also address the conservation requirements of the areas that may have any heritage significance within the development area. Therefore, the objectives of this present study were to:

- Document any archaeological and historic sites relative to the proposed Eskom powerline development,
- Assess the potential for occurrence of additional currently unidentified heritage resource sites in the project area,
- Complete an impact assessment of any sites identified.

Specifically, the field program was designed to provide information on existing, disturbed and /or intact sites; determine site types, site nature and association; site context, and potential site values. These data were used to evaluate the impact of the proposed powerline development program on specific archaeological and other cultural heritage resource sites identified and on the regional database.

The study primarily seeks to address the applicable regulations in order to facilitate the approval process. In the legal compliance and heritage management contexts, this study seeks to:

- Fulfil the statutory requirements of the National Heritage Resources Act, Act 25 of 1999, section 38.
- To identify and describe, (in terms of their conservation and / or preservation importance) sites of cultural and archaeological importance that may be affected by the proposed powerline development project. This study should include the identification of gravesites.
- Assess the significance of the resources where they are identified.
- Evaluate the impact thereon with respect to the socio-economic opportunities and benefits that would be derived from the proposed development.
- Make recommendations on mitigation measures with the view to reduce specific adverse impacts and enhance specific positive impacts on the heritage resources.
- Take responsibility for communicating with the SAHRA and other authorities in order to obtain the relevant permits and authorization with reference to heritage aspects where applicable.

### 3. STUDY TERMS OF REFERENCE

The author was asked to conduct an AIA/HIA study for the proposed YaBatho Substation, Telecommunication tower and loop in and out powerline and telecommunication tower that would address the following issues:

- Archaeological and heritage potential of each of the alternative sites associated with the substation and powerline development proposal, including any known data on sites in the affected areas;
- Provide details on methods of study;
- Recommendations to guide the PHRA to make an informed with regards to authorisation of the proposed development.

In line with Provincial and SAHRA guidelines, this report addresses the following:

- 1) Management summary
- 2) Methodology
- 3) Information with reference to the desktop study
- 4) Map and relevant geodetic images and data
- 5) GPS co-ordinates
- 6) Directions to the site
- 7) Site description and interpretation of the cultural area where the project will take place
- 8) Management details, description of affected cultural environment, photographic records of the project area
- 9) Recommendations regarding the significance of the site and recommendations regarding further monitoring of the site
- 10) Conclusion.

### 4. STATUTORY REQUIREMENTS

The legislations requires that when constructing a linear development exceeding 300m in length or developing an area exceeding 5000 m<sup>2</sup> in extent, the developer must notify the responsible heritage authority of the

proposed development and they in turn must indicate within 14 days whether an impact assessment is required. The NHR Act notes that “any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent”, the heritage authority here being Provincial Authority (PHRA).

The statutory mandate of heritage impact assessment studies is to encourage and facilitate the protection and conservation of archaeological and cultural heritage sites, in accordance with the provisions of the National Heritage Resources Act, Act 25 of 1999 and the provincial auxiliary regulations. Therefore, in pre-development context, heritage impact assessment study is conducted to fulfil the requirements of Section 38 (1) of the National Heritage Resources Act (No 25 of 1999). Both the national legislations and provincial provisions provide protection for the following categories of heritage resources:

- Landscapes, cultural or natural;
- Buildings or structures older than 60 years;
- Archaeological Sites, palaeontological material and meteorites;
- Burial grounds and graves;
- Public monuments and memorials;
- Living heritage (defined as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) (Also see Appendix 4).

## 5. METHODOLOGY

The methodology of this Heritage Impact Assessment has been determined by the requirements of the NHRA following the Guideline of the SAHRA Policy. The report is also informed by the processes and standards for conservation of culturally significant resources such as the SAHRA Policies and the Burra Charter. In order to meet the objectives of the AIA, the following tasks were conducted: 1) site file search, 2) limited literature review, 3) completion of a field survey and assessment and 4) analysis of the acquired data and report production. The study activities included:

- Identify and describe sites of archaeological and other physical cultural properties including historical or cultural interest affected by the proposed powerline development.
- Identify, where possible, the gravesites affected by the powerline development.
- Liaise with the local communities (if applicable) with regards to the impact of the development on the heritage resources.
- Describe the importance or significance of these sites and whether these sites need to be conserved, protected or relocated.
- Describe the procedures for mitigation or relocation of sites and provide an indication of time required for these management measures to be implemented.
- Document findings and recommendations.

The field survey did not include any form of subsurface inspection beyond the inspection of burrows, road cut sections, ploughed agricultural land and the river banks exposed by natural erosion forces. Some assumptions were made as part of the study and therefore some limitations, uncertainties and gaps in information apply.

- Since substantial sections of the project area have been disturbed over several decades of changing land use, it was anticipated that no significant archaeological materials were likely to be situated *in situ*

within such previously disturbed area given the extensive nature of the disturbance to the vegetation and top soil layers or ground surface.

- No excavations or sampling were undertaken, since a permit from heritage authorities is required to disturb a heritage resource.

## **6. BACKGROUND SUMMARY**

The proposed substation, Telecommunication tower and powerline development are located in the boundary region between Morelete Local Municipality in the North West and Tshwane Metropolitan Municipality in Gauteng Province. Eskom Holdings Limited proposes to construct a 9.5km 132kV power line, that will loop-in loop-out of the proposed YaBatho Substation to the proposed Mathibestad Substation site (Fig. 2 and 3). The 132kv loop in and out line is proposed to tee off from the proposed YaBatho Substation site and feed into the proposed Mathibestad Substation, within the farm Tregenna 95 JR PTN 1. (Refer to Figures 1 and 2). The proposed project has one preferred substation site and one alternative substation site. (Refer to Figures 1 - 4).

## **7 CULTURE HISTORY CONTEXT**

### **ARCHAEOLOGICAL BACKGROUND**

The North West region trace the fabric of the country's heritage from all the way back to the dawn of humankind, sites such as the Cradle of Humankind World Heritage site signify the depth of the history represented in the North West and Gauteng Province. The Magaliesberg area, like most of North West region has a culture history that goes back to Stone Age periods (also see Deacon and Deacon, 1997). The San hunter-gather people have lived in the mountain, hills and hunted gathered from the valley lands of the modern day Gauteng for centuries long before the Bantu-speaking farmers arrived in southern Africa. The San hunter-gatherer left behind a large amount of archaeological evidence including hunting camps marked with stone tools and rock art (Deacon and Deacon 1999).

The Gauteng and North West boarder region are well known for the palaeontological heritage such as the Sterkfontein World Heritage site shared between the North West and Gauteng Province south of affected project area. In general the oldest archaeological evidence of early inhabitants of the Gauteng Province comprise of Early Stone Age (ESA) large stone tools called hand axes and cleavers found amongst riverbanks and in old spring deposits in the region.

In line with stone age cultural history chronology the ESA large hand axes and cleavers were replaced by smaller stone tools of the Middle Stone Age (MSA) which consists of flake and blade industries. Evidence of Middle Stone Age occur throughout the Gauteng and eastern North West Provinces and date between 250 000 and 30 000 years ago. These stone artefacts like the Early Stone Age tools are also found mainly in gravels in the main river banks. The Later Stone Age is characterised by campsites of San hunter-gatherers and Khoi

pastoralists. Despite their estimated ubiquitous, LSA sites pose bigger challenge to identify in situ because they are spread on open lands most of which are concealed by vegetation and buried underground. The preservation of these sites is poor and often not possible to date them. At most LSA sites are represented by a few stone tools and few fragments of bone (Deacon and Deacon 1999). However the most notable LSA sites that yielded most evidence are those that survived in rock shelters and caves associated with mountain ranges. Magaliesburg Mountains have yielded large collections of LSA sites. The caves and rock shelters exhibit occupational deposits left behind by generations of LSA San Hunter-gatherers. The deposits are well preserved consisting of living deposits and rock art paintings along the walls (*ibid*).

About 2000 years ago, evidence of pastoralism started emerging in LSA sites associated with the Khoi pastoralists. The Khoi pastoralists predate the Bantu farmers by centuries. They introduced domestic animals in southern Africa. They are credited for introducing the first domesticated animals (sheep, goats and cattle and the use of ceramics vessels in Southern Africa (Deacon and Deacon). Often archaeological sites are found close banks of large streams and rivers.

The Iron Age of the North West region dates back to the 4<sup>th</sup> Century AD when the Early Iron Age (EIA) proto-Bantu-speaking farming communities began arriving in this region, which was then occupied by hunter-gatherers. These EIA communities are archaeologically referred to as the Olifantspoort , Buispoort , Thabeng and Uitkomst facies of the Urewe EIA Tradition (Huffman, 2007: 127-9). The Iron Age communities occupied the foothills and valley lands introducing settled life, domesticated livestock, crop production and the use of iron (also see Huffman 2007). Alongside the Urewe Tradition was the Bambata facies and Benfica facies of the Kalundu Tradition whose EIA archaeological sites have been recorded in the north-western end of the Gauteng Province.

The area around North West is well known for its vast treasure of archaeological Iron Age Settlement that that are scattered between Brits and Rustenburg and to the Pilanesberg in the North. Bokfontein closer to Wolhuterskop yielded Uitkomst pottery from a stone walled sites (Birkholtz et al 2005 cited in Huffman 2007). The Wilhuterskop site in the North West also yielded historic Kwena homesteads with Uitkomst pottery.

By 1050 AD proto-Sotho-Tswana Bantu-speaking groups associated with the Late Iron Age (LIA) called the Blackburn sub-branch of the Urewe Tradition had arrived in the western regions of South Africa, including modern day North West, migrating from the central African region of the Lakes Tanganyika and Victoria (Huffman 2007: 154-5). According to archaeological data available, the Blackburn facies ranged from AD 1050 to 1500 (*ibid*. p.155). The North West regions saw the development of the LIA Ntsuanatsatsi, Uitkomst and Rooiberg facies between AD 1350 and 1750. This Iron Age archaeological facies represent North West migration by LIA Tswana speaking groups (Huffman 2007).

The Late Iron Age Tswana communities indirectly engaged in the Indian Ocean Trade exporting ivory and importing consumables such as cloth and glass beads by the 1700s. At the same time population was booming following the increased food production that came with the introduction of maize that became the staple food. Naturally, there were signs that population groups had to compete for resources especially along the east coastal regions. From the KwaZulu Natal coastal region the population boom led to the well known *mfecane* (wandering hordes) period of tremendous insecurity and military stress which eventually affected the entire Southern Africa including the modern day Gauteng and North West areas. Around the 1830s, the region witnessed the massive movements associated with the *mfecane* such as Mzilikazi and the Ndebele. The causes and consequences of the *mfecane* are beyond the scope of this HIA study. Nonetheless, they are well documented elsewhere (e.g. Hamilton 1995; Cobbing 1988).

From 1835 the Voortrekker with horses and wagons began arriving in the flat lands foothills in the regions east of the Magaliesberg Range of Mountains spread northwest into modern day Gauteng and North West. They spread establishing settlements that came to be settler towns such as Brits, Rustenburg, Pretoria, etc. across modern day Gauteng and North West. The Voortrekkers arrived in Gauteng-North West regions in the shadow of the weakened African kingdoms and chiefdoms in the aftermath of the *mfecane*. This effectively ushered in new era of colonial occupation by succeeding Afrikaans and British colonial administration authorities through the last half of the 1800s and into the last 1900s.

In the context of the modern day South Africa, the project area is situated in Morelete Local Municipality in the North West and Tshwane Metropolitan in Gauteng Province. The project area is situated in the vicinity of village settlements, mining area and farmlands and the urban areas.

## 7. RESULTS OF THE A/HIA STUDY

### 7.1. LOCATION DETAILS

**Province:** North West

**Local Municipalities:** Morelete Local Municipality in the North West and Tshwane Metropolitan Municipality in Gauteng Province.

**Name Properties affected:** Treginna 95 JR PTN 1, Leeuwkraal 92 JR, Bosch Plaas 91 JR

**Proposed development:** Construction of Yabathu Substation and Loop in and out powerline.

**Current land use:** Residential area.

**1:50 000 map name:** 2528 CD N.

**GPS Co-ordinates and description of proposed powerline route:**

Lat: 25° 20' 35.4" Long: 28° 13' 57.3" (Yabathu preferred Substation site)

Lat: 25° 20' 39.7" Long: 28° 13' 10.7" (Formal cemetery near the option 2 powerline route).

Lat: 25° 51' 06.5" Long: 28° 29' 43.9" (Point along powerline route)

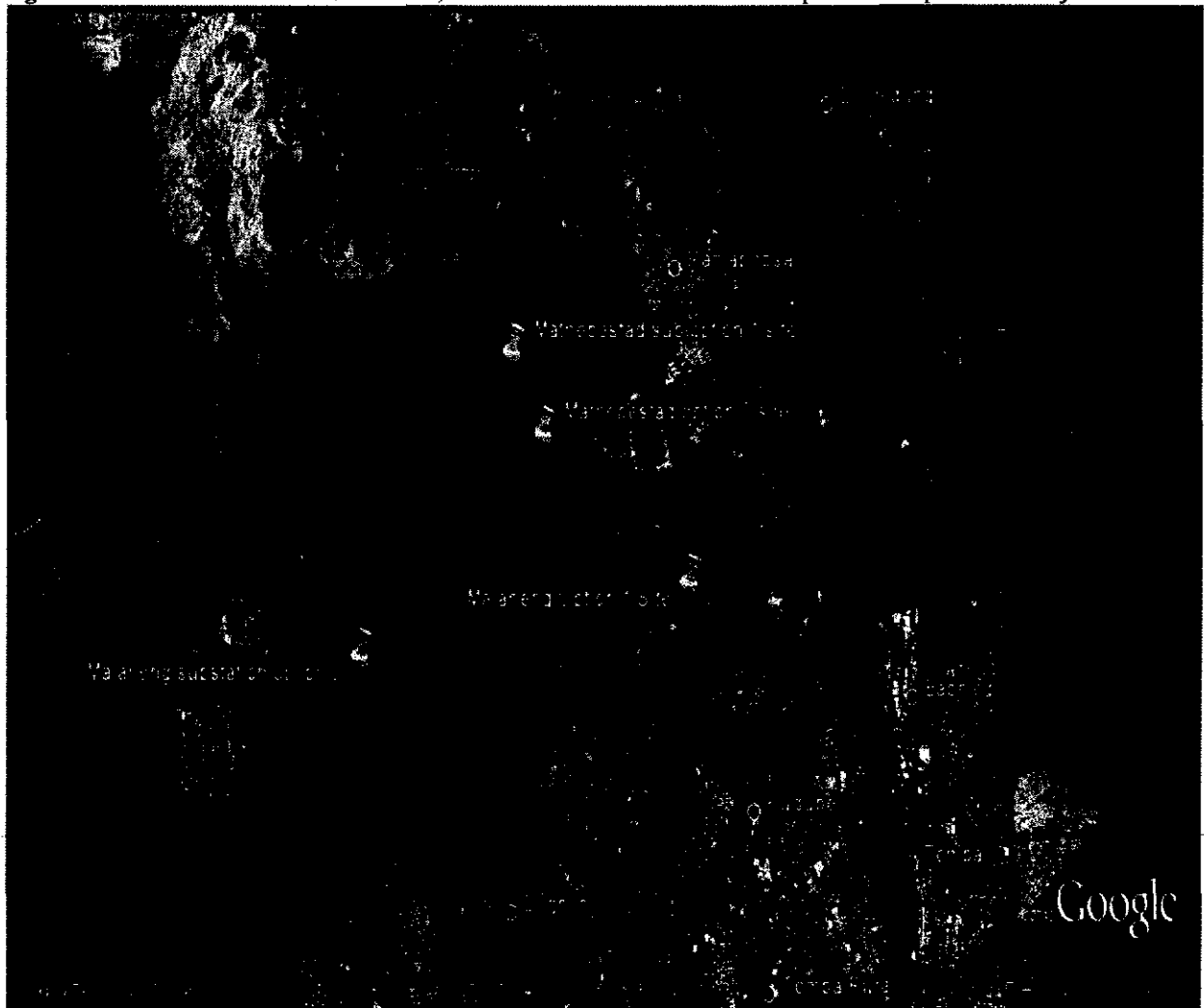
Lat: 25° 21' 09.6" Long: 28° 09' 53.6" (Yabathu Substation option 2 site)

Lat: 25° 21' 06.4" Long: 28° 14' 01.6" (Point at the option 2 site).

Lat: 25° 51' 06.5" Long: 28° 29' 43.9" (Point at the option 2 site)

Lat: 25° 50' 28.5" Long: 28° 28' 26.7" (Point at the option 2 site).

**Figure 1:** Areal view of Yabathu Substation , Telecommunication Tower and Loop in and out powerline Project area



**Figure 2: Proposed YaBathu Substation, Telecommunication tower and Loop in and out powerline Project area (Topographic Map 2528 AC and AD).**

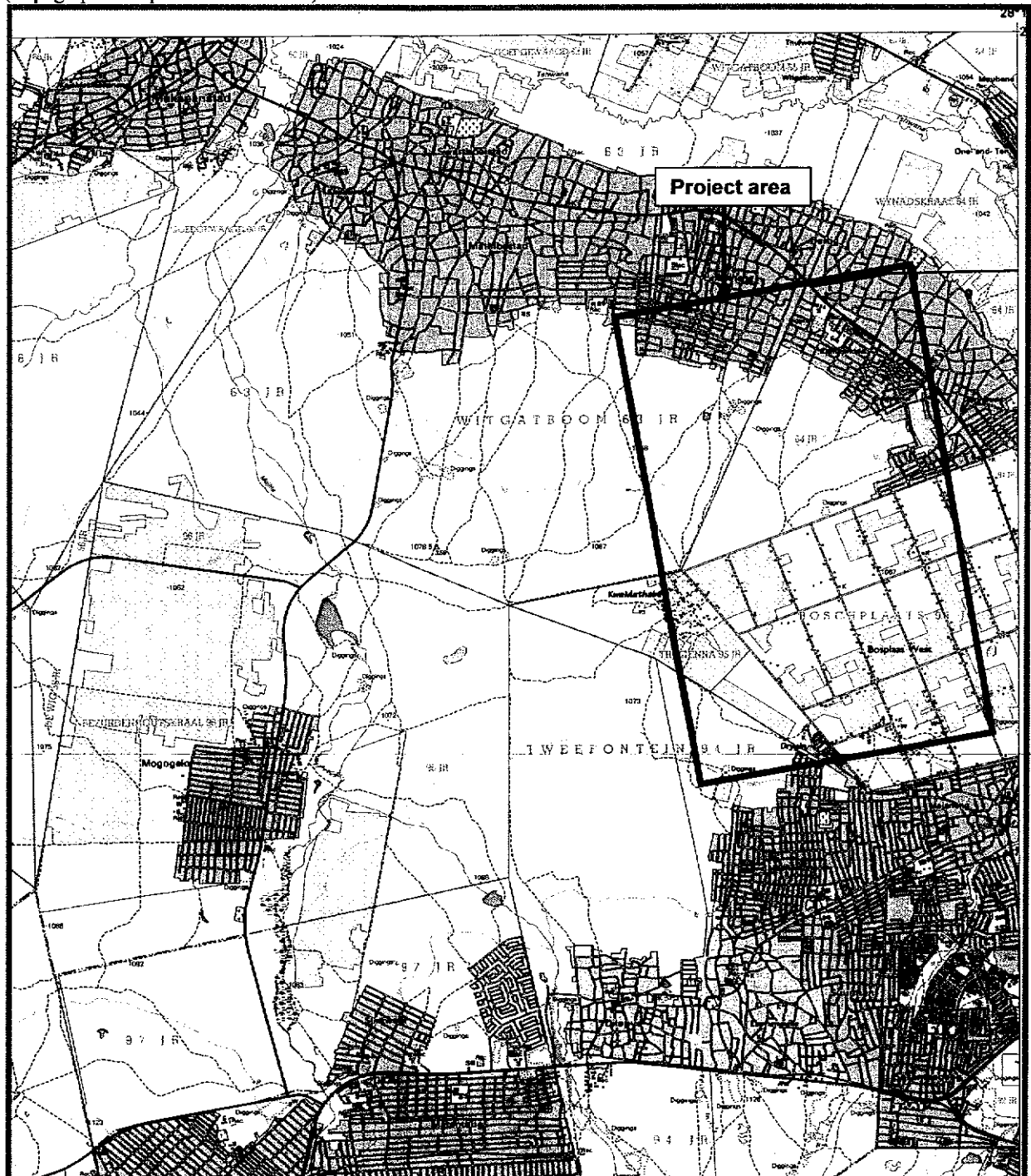
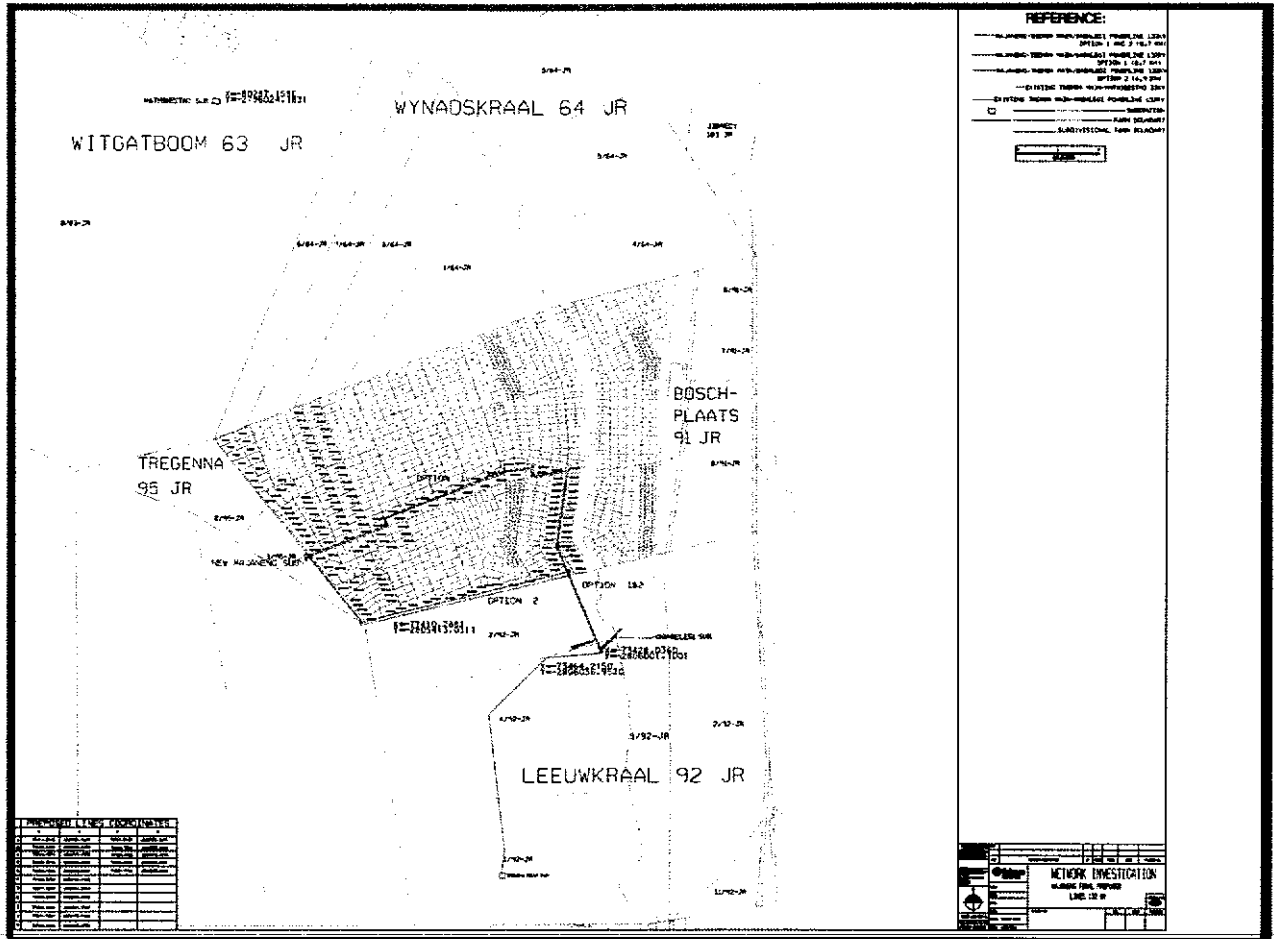
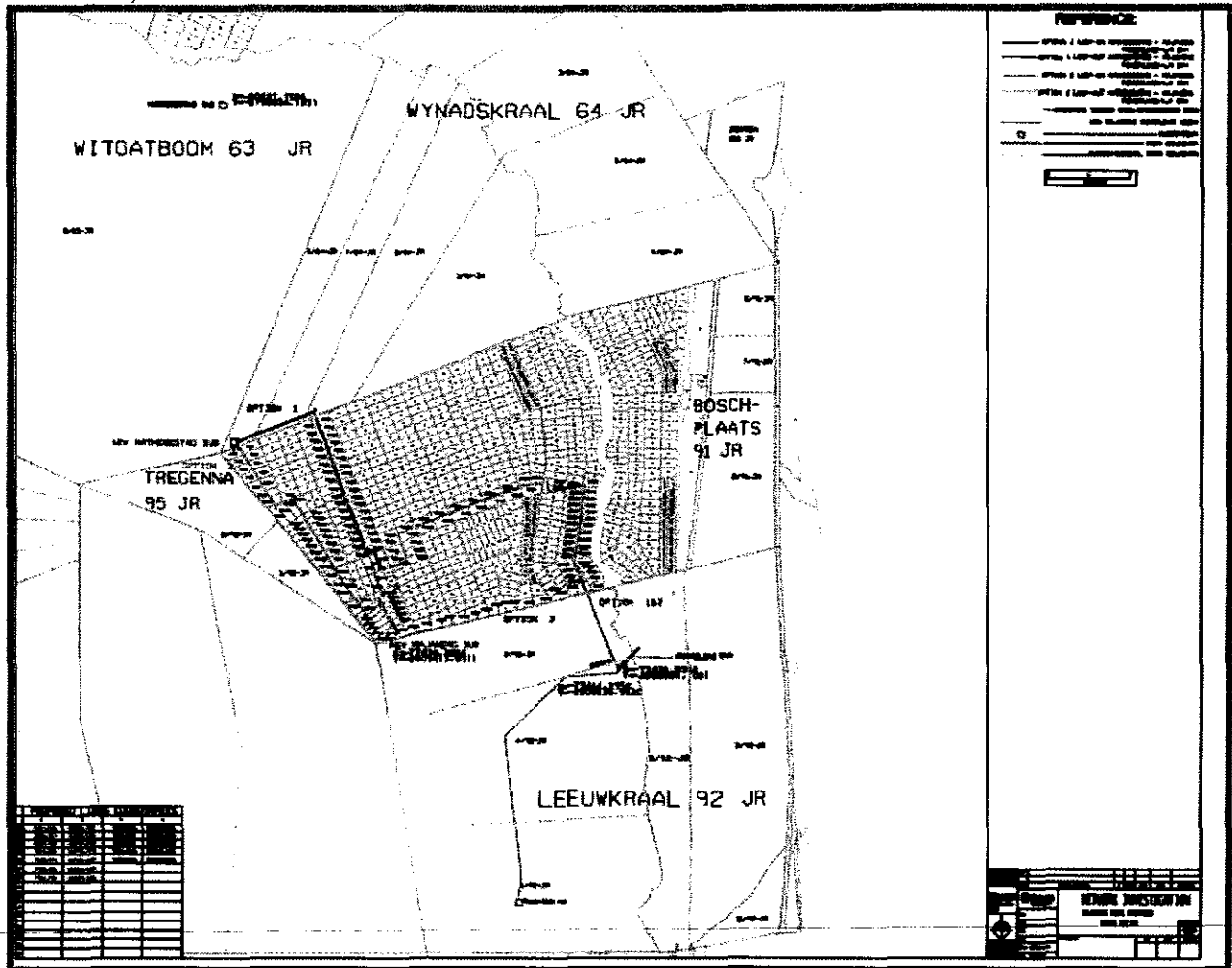




Figure 3: Proposed YaBatho Substation, Telecommunication Tower and Loop in and out powerline Project area (Source :Eskom 2011)



**Figure 4:** Proposed YaBatho Substation, Telecommunication Tower and Loop in and out powerline Project area (Source :Eskom 2011)

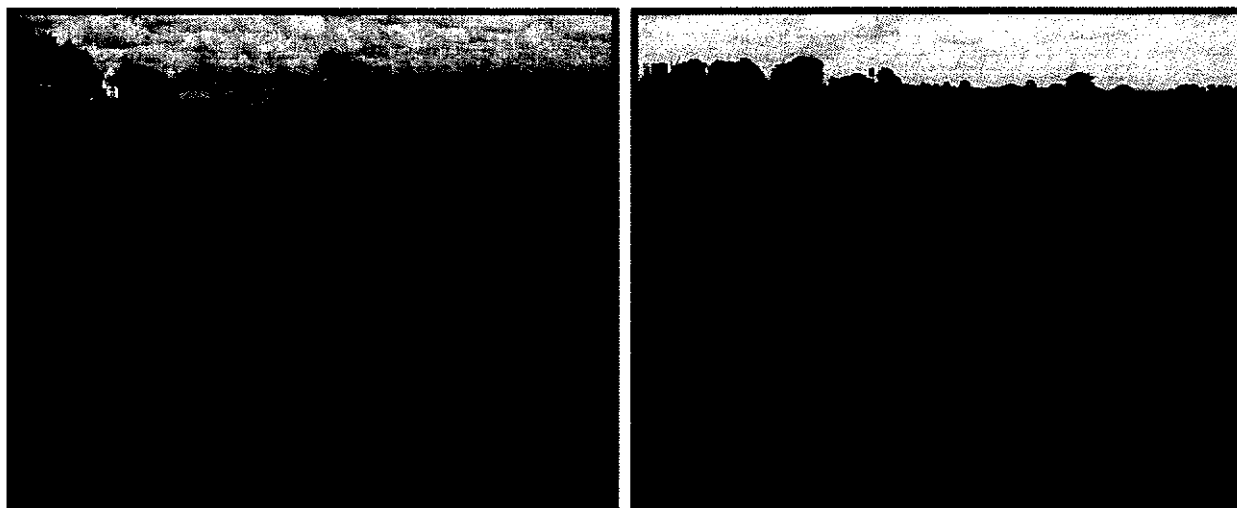


## 7.2. ARCHAEOLOGICAL AND CULTURAL SITES

The following observations were made during the field survey of the affected project areas:

- No section of the proposed Yabathu Substation Site yielded any archaeological heritage or physical cultural property sites during the course of this study.
- The affected landscaped is heavily degraded from previous and current agricultural land use for any significant *in situ* sites to be preserved on location.
- There in situ residential, townships, villages and associated roads, pipelines, public facilities, business centres and other infrastructures in the vicinity of and along the powerline project area. The proposed powerline installations will be additional to *in situ* developments already on project area (Figure 1; also see Plates 1 to 4).

- The chances of recovering significant archaeological materials *in situ*, particularly open settlement sites, were seriously compromised and limited. If such sites existed on this particular project area, they may have been destroyed over the land use history of development and other destructive land use patterns such as deep ploughing, road works, residential and agribusiness infrastructure construction that already exist on the project area.
- Based on the field study results and field observations, it is the considered opinion of the author that the affected landscape has low potential to yield previously unidentified archaeological sites during subsurface excavations and construction work associated with the proposed substation development.



**Plates 1 and 2:** View of option 1 YaBatho Substation and communication tower site (Left) and (Right).

### 7.3. HISTORICAL AND RECENT SITES

At the onset of this study, it was hypothesised that should historical heritage resources be found in the project area, they will be associated and related to the following heritage class categories:

- |                             |   |
|-----------------------------|---|
| • Domestic                  | • Religion  |
| • Recreation & culture      | • Designed landscape                              |
| • Commerce & trade          | • Funeral (cemeteries, graves and burial grounds) |
| • Agriculture & subsistence | • Civil and Structural Engineering                |
| • Social                    | • Education                                       |
| • Health care               | • Defence /Military                               |

None of these heritage resources were recorded. The affected project area may currently be disturbed, however, the cultural landscape does have a long history of historic settlements. Generically speaking, historic sites are associated with recent and contemporary African population settlements, contemporary ritual sites, white settlers, colonial wars, and modern mining industrialization dating to the last hundred years. Recent historic period sites and features associated with the African communities, settler and commercial farming communities may be on record in the general Tshwane environs, no significant archaeological, historical or physical cultural resources were identified nor are on record of the affected project area.

There is no listed monument on the project's receiving environment or its vicinity.

#### **7.4. BURIAL GROUNDS AND GRAVES**

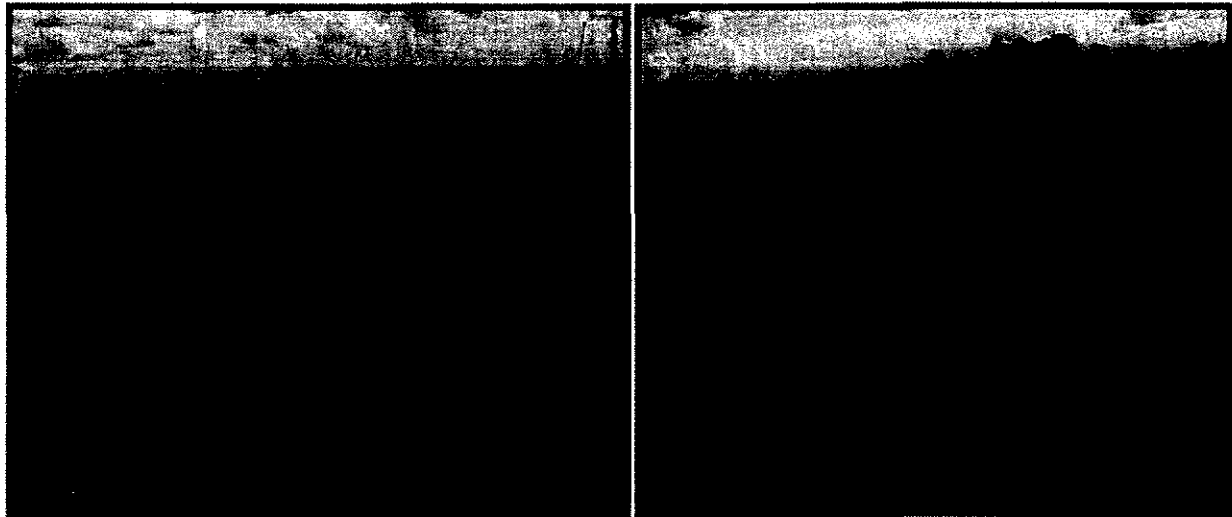
No burial sites were identified on the direct path of the proposed powerline and associated substation sites during the course of field investigations. However, the following observations are important in the context of this study:

- Whether they are known or not on record, from a heritage perspective, burial grounds and gravesites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. Wherever they exist they may not be tempered with or interfered with during any proposed development.
- In any development context, it is critical to note that there is always a possibility of encountering human remains anywhere on the landscape – finds are made on construction sites from time to time across the country particularly historical cultural landscape such the development project area.
- Although the possibility of encountering previously unidentified burial sites is limited on the project sites, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected (also see Appendixes 3 for more details).

#### **7.1. YABATHU SUBSTATION OPTION 2 SITE.**

##### **7.2. ARCHAEOLOGICAL AND CULTURAL SITES**

In line with the National Environmental Management Act (NEMA, 2002) EIA regulations, Eskom identified an alternative substation site. The alternative substation site 2 was also assessed alongside the preferred site. The presented substation site is located near the preferred substation site on generally similar landscape to that of the preferred site discussed above (also see Plates 5 & 6). The survey did not identify any archaeological sites or physical cultural resources such as graves, burial grounds and religious or sacred sites that may be affected by the proposed development of this alternative substation site.



**Plates 3 and 4:** View of option 2 YaBatho Substation and communication tower site (Left) and soccer pitch within option 2 site. (Right).

### 7.3. HISTORICAL AND RECENT SITES

Similar to the preferred development sites, no historically significant heritage resources were identified nor are on record of the affected alternative powerline and substation sites. There is no listed monument on the project's receiving environment or its vicinity.

### 7.4. BURIAL GROUNDS AND GRAVES

A contemporary cemetery was identified in the vicinity of the option 2 Yabathu powerline route. However, the site is more than a 100m from the proposed powerline servitude and is unlikely to be affected by the powerline development works.

No burial grounds or sites were recorded in the vicinity of the alternative site for the proposed substation development. Although the possibility of encountering previously unidentified burial sites is limited on the substation project sites, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected (also see Appendixes 3 for more details).

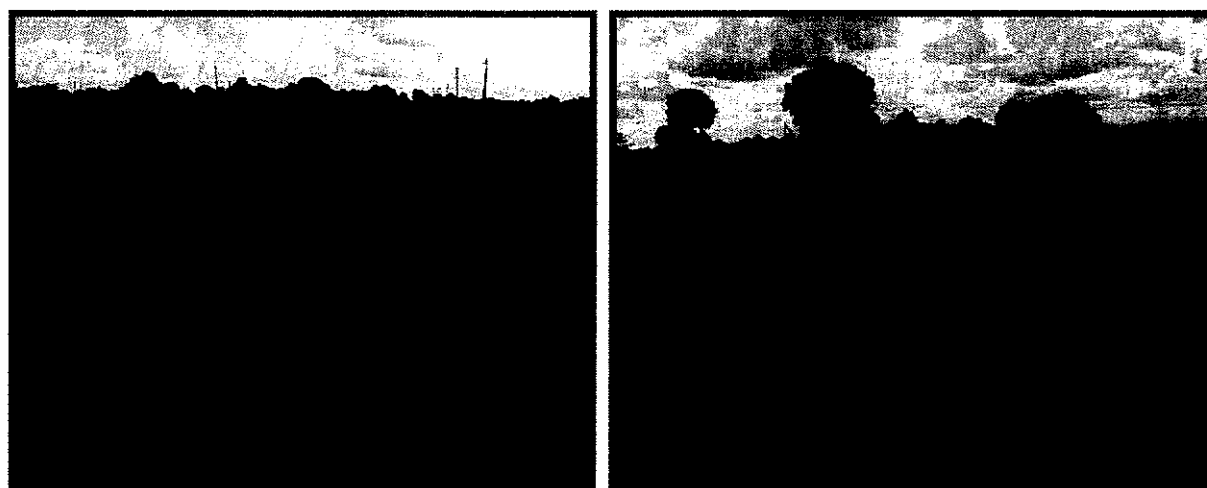
## 7.1. YABATHU OPTION 1 POWERLINE ROUTE

### 7.2. ARCHAEOLOGICAL AND CULTURAL SITES

No section of the proposed powerline corridor yielded any archaeological heritage or physical cultural property sites during the course of this study. The affected landscaped is heavily degraded from previous and current agricultural land use for any significant *in situ* sites to be preserved on location. The proposed powerline installations will be additional to *in situ* developments already on project area (Figure 1; also see Plates 1 to 4). As such the chances of recovering significant archaeological materials *in situ*, particularly open settlement sites, were seriously compromised and limited. If such sites existed on this particular project area, they may have been

destroyed over the land use history of development and other destructive land use patterns such as deep ploughing, road works, residential and agribusiness infrastructure construction that already exist on the project area.

Based on the field study results and field observations, this study concludes that the affected landscape has low potential to yield previously unidentified archaeological sites during subsurface excavations and construction work associated with the proposed powerline development. Furthermore, the installation of powerline poles and /or pylons has limited possibility to encounter chance finds during proposed development. This is opinion is supported by the fact that powerline pylons or poles are installed on limited spatial area and the affected landscape has long history physical disturbances.



**Plates 5 and 6:** (Left) Mid section of the powerline route along road servitude (Right) and pictorial views of selected sections of the powerline route

### **7.3. HISTORICAL AND RECENT SITES**

Although the affected cultural landscape does have a long history of historic settlements and related historical events such as recent African peopling of the region, white settler migration, colonial wars and the modern mining history, no listed specific historical sites are on the proposed development sites. There is no listed monument on the project's receiving environment or its vicinity.

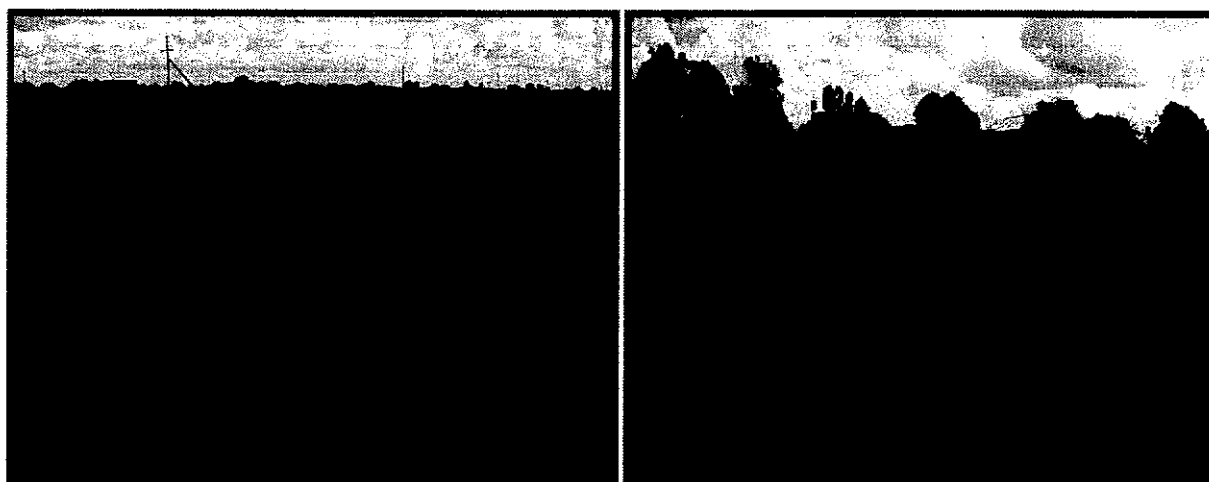
### **7.4. BURIAL GROUNDS AND GRAVES**

No burial sites were identified during the course of field investigations. In any development context, it is critical to note that there is always a possibility of encountering human remains anywhere on the landscape – finds are made on construction sites from time to time across the country particularly historical cultural landscape such as the development project area. Although the possibility of encountering previously unidentified burial sites is limited on the project sites, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected (also see Appendixes 3 for more details).

## 7.5. YABATHU OPTION 2 POWERLINE ROUTE.

### 7.6. ARCHAEOLOGICAL AND CULTURAL SITES

In line with the National Environmental Management Act (NEMA, 2002) EIA regulations, Eskom identified an alternative powerline route. The alternative powerline route 2 was also assessed alongside the preferred route. The presented powerline route is located adjacent to alternative powerline route 1 on generally similar landscape to that of the preferred powerline route, discussed above (also see Plates 5 & 6). The survey identified a formal grave site in the vicinity of the proposed powerline route. The affected landscape has low potential to yield previously unidentified archaeological sites during subsurface excavations and construction work associated with the proposed powerline development.



**Plates 7 and 8:** View of selected sections of option 2 powerline route(Left) and residential area near option 2 route (Right).

### 7.7. HISTORICAL AND RECENT SITES

There is no listed monument on the project's receiving environment or its vicinity.

### 7.8. BURIAL GROUNDS AND GRAVES

A formal burial site was recorded in the vicinity of the option 2 powerline route. The burial site is fenced off and well secured. Although the site is clearly visible and at least 100m off the course of the proposed powerline development, there is no possibility of the construction phase interfering with activities at this contemporary burial site.(also see Appendixes 3 for more details).

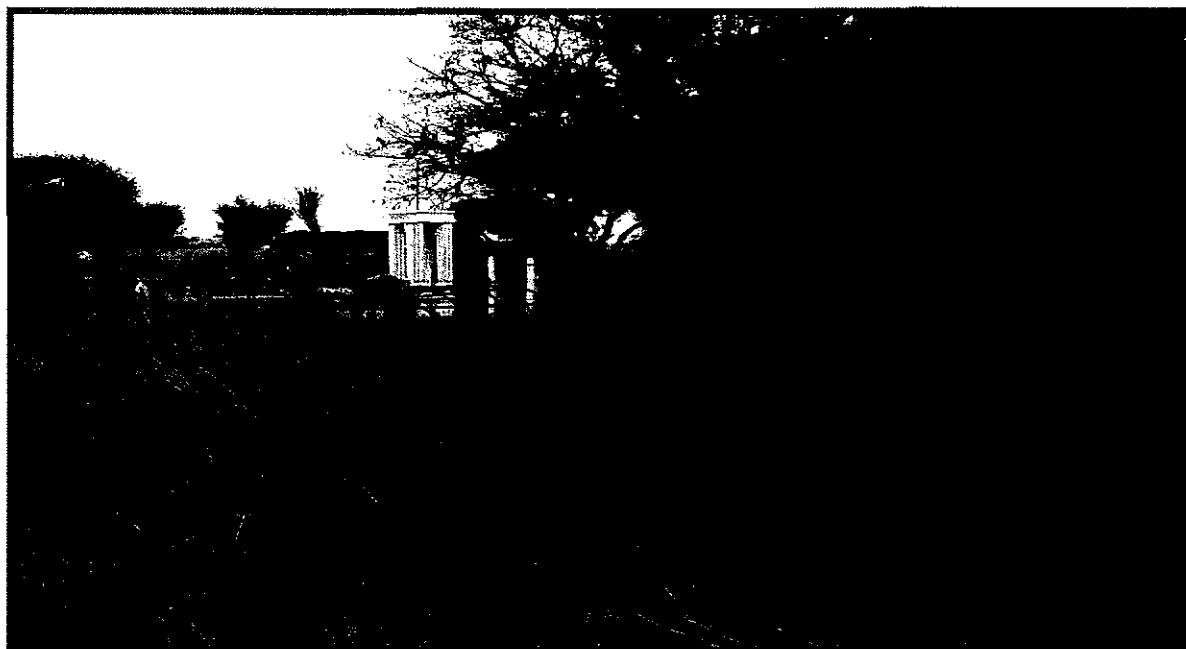


Plate 9: View of formal cemetery near option 2 powerline route. 100m from proposed powerline servitude

## 8. DISCUSSION

No archaeological sites were recorded on direct path for the proposed Option 1 Substation and Telecommunication Tower Site and powerline route. A contemporary cemetery was recorded in the vicinity of Option 2 Powerline servitude route. No physical cultural property were recorded on or near Option 2 substation site. The following observations are key to this result:

1. Options 1 and 2 sites for the substation, Telecommunication Tower and powerline servitude are situated within a heavily degraded areas running along main road reserves and within disturbed landscape, old agricultural land, etc. The areas have reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical or burial sites, due to previous earth moving disturbances resulting from developments and other land uses in the project area.
2. Limited ground surface visibility of the sections of both Options 1 and 2 powerline servitudes that were under tall grass at the time of the study may have impeded the detection of other physical cultural heritage site remains immediately associated with the powerline routes. Should such sites exist on direct path of powerline development on either the Option 1 or 2, they will most likely be subsurface and ? unlikely to be of high significance in relation to the project potential impact.
3. The proposed project will not introduce any new significant impact into the project area regardless of which Option is approved. The powerline development is incremental in the sense that there are already existing powerline developments in the area (see Plates 1 to 6).
4. The absence of confirmable archaeological cultural heritage site along Options 1 and 2 powerline servitudes and associated substation sites is not evidence in itself that such sites did not exist in the project area. It may be that given the dense development in most sections of the



proposed powerline routes, if such sites existed before, changing earth-moving activities may have destroyed their surficial evidence. Furthermore, some sections were not accessible due to thick vegetation cover.

5. Overall, both Options' sites and powerline servitudes are uniform in environmental nature and are unlikely going to yield high significant archaeological sites that may require protection or salvage.

## 9. STATEMENT OF OVERALL IMPACTS ON PLANNED DEVELOPMENT SITES

The general project area has low potential to yield archaeological sites. The survey did not identify any archaeological or physical cultural properties on the path of the proposed both Options 1 and 2 of the proposed YaBatho Substation, Telecommunication Tower sites and powerline routes, save for the contemporary servitude in vicinity of Option 2 Powerline route. Furthermore, the proposed development will be an *in situ* development situated on previously and currently disturbed or developed areas. In spite of this observation, it is important to note that in any given situation, archaeological resources are fixed in space and absence of archaeological evidence on the surface does not conclusively mean such sites are completely absent.

In the context of this study, the affected project area is heavily degraded by existing and previous land use activities. However, archaeological sites may exist subsurface without any visible signature on the surface unless exposed by land disturbances such as erosion and construction work. Therefore, any activity that threatens to alter the status quo of a given landscape should be considered as an immediate and direct threat to any potential archaeological resources in its direct path. Should archaeological materials be encountered particularly during the proposed substation construction work, the impact will be permanent in nature, extent and duration (Bickford and Sullivan, 1977). The potential of creating negative impacts to archaeological or physical cultural properties during the propose substation and powerline developments on either proposed sites and routes options, and the construction of associated auxiliary infrastructure is remote. Nonetheless, as a cautionary notation, there is always a possibility that chance archaeological artefacts may be unearthed during excavations associated with any subsurface development work.

With high degree of confidence and results and findings of this study, no archaeological or physical cultural property are likely to be affected by the proposed powerline ,substation and telecommunication tower developments on either Option 1 or Option 2 sites and routes. It is reasonable to conclude that the proposed development project will have no impact upon any known cultural heritage resources be they graves, historical or archaeological sites. It is highly unlikely that the powerline installation construction work will encounter chance archaeological sites. Although the development may alter the existing cultural landscape, the impact will be insignificant from a heritage perspective particularly given the observation that the project area is already altered and similar and more developments exist in the area.

## 10. RECOMMENDATIONS

The proposed YaBatho Substation, Telecommunication Tower and associated powerline developments are unlikely to be affected by any archaeological, significant historical sites, physical cultural remains or any known heritage resources associated with both Option 1 and 2 sites. Both Option 1 and 2 substation sites and powerline corridors have limited potential to affect any form of physical cultural properties and any known archaeological resources. No conflicts between archaeological and physical cultural heritage properties including burial grounds and the proposed development are anticipated when construction begins on Option 1 powerline route and substation sites. (see Appendixes 2 and 3 for detailed management inputs and mitigation measures). Although a contemporary cemetery was recorded in the vicinity of the Option 2 powerline route, the burial ground is safely off the course of the proposed powerline and is unlikely to be affected by the development should this option be selected.

It is the recommendation of this study that there are no archaeological or significant physical cultural property barriers that were recorded with regards to the project area of the proposed development. However, Option 1 substation site and powerline route are recommended as preferred sites from a heritage perspective. This recommendation is supported by the observation that Option 1 sites have more disturbances *in situ* and were thoroughly surveyed and more accessible in comparison to Option 2 sites even though no barriers were recorded on Option 2 sites. We recommend that the heritage authorities approve Option 1 and preferred site failure of which Option 2 should be acceptable subject to the further recommendations made below.

- Based on the results of this AIA/HIA study, we recommend that the option 1 substation and telecommunication tower site and option 1 powerline route for the proposed development be approved by heritage authorities.
- The foot print impact of the proposed powerline development and associated infrastructure should be kept to minimal to limit the possibility of encountering chance finds regardless of which Option is finally selected.
- All construction activities including construction campsites should be located within the surveyed project area on previously disturbed ground.
- In situations where unpredicted impacts occur (such as accidentally disturbing a previously unknown grave), construction activities should be stopped and the heritage authority notified immediately. In the unlikely event of chance archaeological material or previously unknown human remains being disturbed during subsurface construction, the finds should be left *in situ* subject to further instruction from the project archaeologist or heritage authorities (refer to Appendixes 1 - 3 for more details). The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA.

- It may be necessary to implement emergency measures to mitigate unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant chance archaeological sites (see Appendixes 1, 2 & 3).
- Furthermore, should the project receive all the necessary approvals and cleared to proceed, the powerline construction team should be briefed about the value of the cultural heritage resources in order to ensure that they do not destroy the chance archaeological sites they may encounter during subsurface construction working on sites.
- These recommendations should be included in the project EMP to ensure compliance during the proposed development.

### **11. CONCLUDING REMARKS**

Subject to the recommendations herein made, there are no cultural heritage resources barriers to the Option 1 YaBatho Substation and Telecommunication Tower site and Option 1 powerline route. The study did not find any barrier to the preferred substation site and powerline route 1. Option 2 substation and powerline route site may be approved subject to other environmental reason rendering Option 1 Sites not feasible. As such, it is recommended to the PHRA authority that the development be cleared to proceed subject to specified recommendations herein made.

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## APPENDIX 1: HUMAN REMAINS AND BURIALS IN DEVELOPMENT CONTEXT

*BY Dr Murimbika M. [2011]*

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Developers, land use planners and professional specialist service providers often encounter difficult situations with regards to burial grounds, cemeteries and graves that may be encountered in development contexts. This may be before or during a development project. There are different procedures that need to be followed when a development is considered on an area that will impact upon or destroy existing burial grounds, cemeteries or individual graves. In contexts where human remains are accidentally found during development work such as road construction or building construction, there are different sets of intervention regulations that should be instigated. This brief is an attempt to highlight the relevant regulations with emphasis on procedures to be followed when burial grounds, cemeteries and graves are found in development planning and development work contexts. The applicable regulations operate within the national heritage and local government legislations and ordinances passed in this regard. These guidelines assist you to follow the legal pathway.

### **1. First, establish the context of the burial:**

- A. Are the remains less than 60 years old? If so, they may be subject to provisions of the Human Tissue Act, Cemeteries Ordinance(s) and to local, regional, or municipal regulations, which vary from place to place. The finding of such remains must be reported to the police but are not automatically protected by the National Heritage Resources Act (Act 25 of 1999).
- B. Is this the grave of a victim of conflict? If so, it is protected by the National Heritage Resources Act (Section 36(3a)). (Relevant extracts from the Act and Regulations are included below).
- C. Is it a grave or burial ground older than 60 years which is situated outside a formal cemetery administered

by a local authority? If so, it is protected by the National Heritage Resources Act (Section 36(3b)).

D. Are the human or hominid remains older than 100 years? If so, they are protected by the National Heritage Resources Act (Section 35(4), see also definition of "archaeological" in Section 2).

### **2. Second, refer to the terms of the National Heritage Resources Act most appropriate to the situation, or to other Acts and Ordinances:**

- A. Human remains that are NOT protected in terms of the National Heritage Resources Act (i.e. less than 60 years old and not a grave of a victim of conflict or of cultural significance) are subject to provisions of the Human Tissue Act and to local and regional regulations, for example Cemeteries Ordinances applicable in different Provincial and local Authorities.
- B). All finds of human remains must be reported to the nearest police station to ascertain whether or not a crime has been committed.
- C). If there is no evidence for a crime having been committed, and if the person cannot be identified so that their relatives can be contacted, the remains may be kept in an institution where certain conditions are fulfilled. These conditions are laid down in the Human Tissue Act (Act No. 65 of 1983). In contexts where the local traditional authorities given their consent to the unknown remains to be re-buried in their area, such re-interment may be conducted under the same regulations as would apply for known human remains.

**3. In the event that a graveyard is to be moved or developed for another purpose, it is incumbent on the local authority to publish a list of the names of all the persons buried in the graveyard if there are gravestones or simply a notification that graves in the relevant graveyard are to be disturbed. Such a list would have to be compiled from the names on the gravestones or from parish or other records. The published list would call on the relatives of the deceased to react within a certain period to claim the remains for re-interment. If the relatives do not react to the advertisement, the remains may be re-interred at the discretion of the local authority.**

A. However, it is the responsibility of the developer to ensure that none of the affected graves within the cemetery are burials of victims of conflict. The applicant is also required in line with the heritage legislation to verify that the graves have no social significance to the local communities.

B. It is illegal in terms of the Human Tissue Act for individuals to keep human remains, even if they have a permit, and even if the material was found on their own land.

**4. The Exhumations Ordinance (Ordinance No. 12 of 1980 and as amended) is also relevant. Its purpose is "To prohibit the desecration, destruction and damaging of graves in cemeteries and receptacles containing bodies; to regulate the exhumation, disturbance, removal and re-interment of bodies, and to provide for matters incidental thereto". This ordinance is supplemented and support by local authorities regulations, municipality by-laws and ordinances.**

#### **DEFINITIONS AND APPLICABLE REGULATIONS**

1). A "Cemetery" is defined as any land, whether public or private, containing one or more graves.

2). A "grave" includes "(a) any place, whether wholly or partly above or below the level of ground and whether public or private, in which a body is permanently interred or intended to be permanently interred, whether in a coffin or other receptacle or not, and (b) any monument, tombstone, cross, inscription, rail, fence, chain, erection or other structure of whatsoever nature forming part of or appurtenant to a grave.

3). No person shall desecrate, destroy or damage any grave in a cemetery, or any coffin or urn without written approval of the Administrator.

4). No person shall exhume, disturb, remove or re-inter anybody in a cemetery, or any coffin or urn without written approval of the Administrator.

5). Application must be made for such approval in writing, together with:

- a). A statement of where the body is to be re-interred.
- b). Why it is to be exhumed.
- c). The methods proposed for exhumation.
- d). Written permission from local authorities, nearest available relatives and their religious body owning or managing the cemetery, and where all such permission cannot be obtained, the application must give reasons why not.

6). The Administrator has the power to vary any conditions and to impose additional conditions.

7). Anyone found guilty and convicted is liable for a maximum fine of R200 and maximum prison sentence of six months.

5. Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the National Heritage Resources Agency. They are administered by the Graves of Conflict Division at the SAHRA offices in Johannesburg.

"Victims of Conflict" are:

a). Those who died in this country as a result of any war or conflict ~~but excluding those covered by the Commonwealth War Graves Act, 1992 (Act No. 8 of 1992).~~

b). Members of the forces of Great Britain and the former British Empire who died in active service before 4 August 1914.

c). Those who, during the Anglo Boer War (1899-1902) were removed from South Africa as prisoners and died outside South Africa, and,

d). Those people, as defined in the regulations, who died in the "liberation struggle" both within and outside South Africa.

6. Any burial that is older than 60 years, which is outside a formal cemetery administered by a local authority, is protected in terms of Section 36(3b) of the National

Heritage Resources Act. No person shall destroy damage, alter, exhume or remove from its original position, remove from its original site or export from the Republic any such grave without a permit from the SAHRA.

There are some important new considerations applicable to B & C (above).

SAHRA may, for various reasons, issue a permit to disturb a burial that is known to be a grave of conflict or older than 65 years, or to use, at a burial ground, equipment for excavation or the detection or the recovery of metals.

(Permit applications must be made on the official form Application for Permit: Burial Grounds and Graves available from SAHRA or provincial heritage resources authorities.) Before doing so, however, SAHRA must be satisfied that the applicant:

- a). Has made satisfactory arrangements for the exhumation and re- interment of the contents of such a grave at the cost of the applicant.
- b). Has made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such a grave and,
- c). Has reached an agreement with these communities and individuals regarding the future of such a grave or burial ground.

#### **PROCEDURE FOR CONSULTATION**

The regulations in the schedule describe the procedure of consultation regarding the burial grounds and graves. These apply to anyone who intends to apply for a permit to destroy damage, alter, remove from its original position or otherwise disturb any grave or burial ground older than 60 years that is situated outside a formal cemetery administered by a local authority. The applicant must make a concerted effort to identify the descendants and family members of the persons buried in and/or any other person or community by tradition concerned with such grave or burial ground by:

- 1). Archival and documentary research regarding the origin of the grave or burial ground;
- 2). Direct consultation with local community organizations and/or members;
- 3). The erection for at least 60 days of a notice at the grave or burial ground, displaying in all the official languages of the province concerned, information about the proposals affecting the site, the telephone number and address at which the applicant can be contacted by any interested person and the date by which contact must be made, which must be at least 7 days after the end of the period of erection of the notice; and
- 4). Advertising in the local press.

The applicant must keep records of the actions undertaken, including the names and contact details of all persons and organizations contacted and their response, and a copy of such records must be submitted to the provincial heritage resources authority with the application.

Unless otherwise agreed by the interested parties, the applicant is responsible for the cost of any remedial action required.

If the consultation fails to reach an agreement, the applicant must submit records of the consultation and the comments of all interested parties as part of the application to the provincial heritage resources authority.

~~In the case of a burial discovered by accident, the regulations state that when a grave is discovered accidentally in the course of development or other activity:~~

- a). SAHRA or the provincial heritage resources authority (or delegated representative) must, in co-operation with the Police, inspect the grave and decide whether it is likely to be older than 60 years or otherwise protected in terms of the Act; and whether any further graves exist in the vicinity.
- b). If the grave is likely to be so protected, no activity may be resumed in the immediate vicinity of the grave, without due investigation approved by SAHRA or the provincial heritage resources authority; and

c). SAHRA or the provincial heritage resources authority may at its discretion modify these provisions in order to expedite the satisfactory resolution of the matter.

d. Archaeological material, which includes human and hominid remains that are older than 100 years (see definition in section 2 of the Act), is protected by the National Heritage Resources Act (Section 35(4)), which states that no person may, without a permit issued by the responsible heritage resources authority - destroy, damage, excavate, alter or remove from its original site any archaeological or palaeontological material.

The implications are that anyone who has removed human remains of this description from the original site must have a permit to do so. If they do not have a permit, and if they are convicted of an offence in terms of the National Heritage Resources Act as a result, they must be liable to a maximum fine of R100 000 or five years imprisonment, or both.

#### **TREAT HUMAN REMAINS WITH RESPECT**

a). Every attempt should be made to conserve graves in situ. Graves should not be moved unless this is the only means of ensuring their conservation.

b). The removal of any grave or graveyard or the exhumation of any remains should be preceded by an historical and archaeological report and a complete recording of original location, layout, appearance and inscriptions by means of measured drawings and photographs. The report and recording should be placed in a permanent archive.

c). Where the site is to be re-used, it is essential that all human and other remains be properly exhumed and the site left completely clear.

d). Exhumations should be done under the supervision of an archaeologist, who would assist with the identification, classification, recording and preservation of the remains.

e). No buried artifacts should be removed from any protected grave or graveyard without the prior approval of SAHRA. All artifacts should be re-buried with the

remains with which they are associated. If this is not possible, proper arrangements should be made for the storage of such relics with the approval of SAHRA.

f). The remains from each grave should be placed in individual caskets or other suitable containers, permanently marked for identification.

g). The site, layout and design of the area for re-interment should take into account the history and culture associated with, and the design of, the original grave or graveyard.

h). Re-burials in mass graves and the use of common vaults are not recommended.

i). Remains from each grave should be re-buried individually and marked with the original grave markers and surrounds.

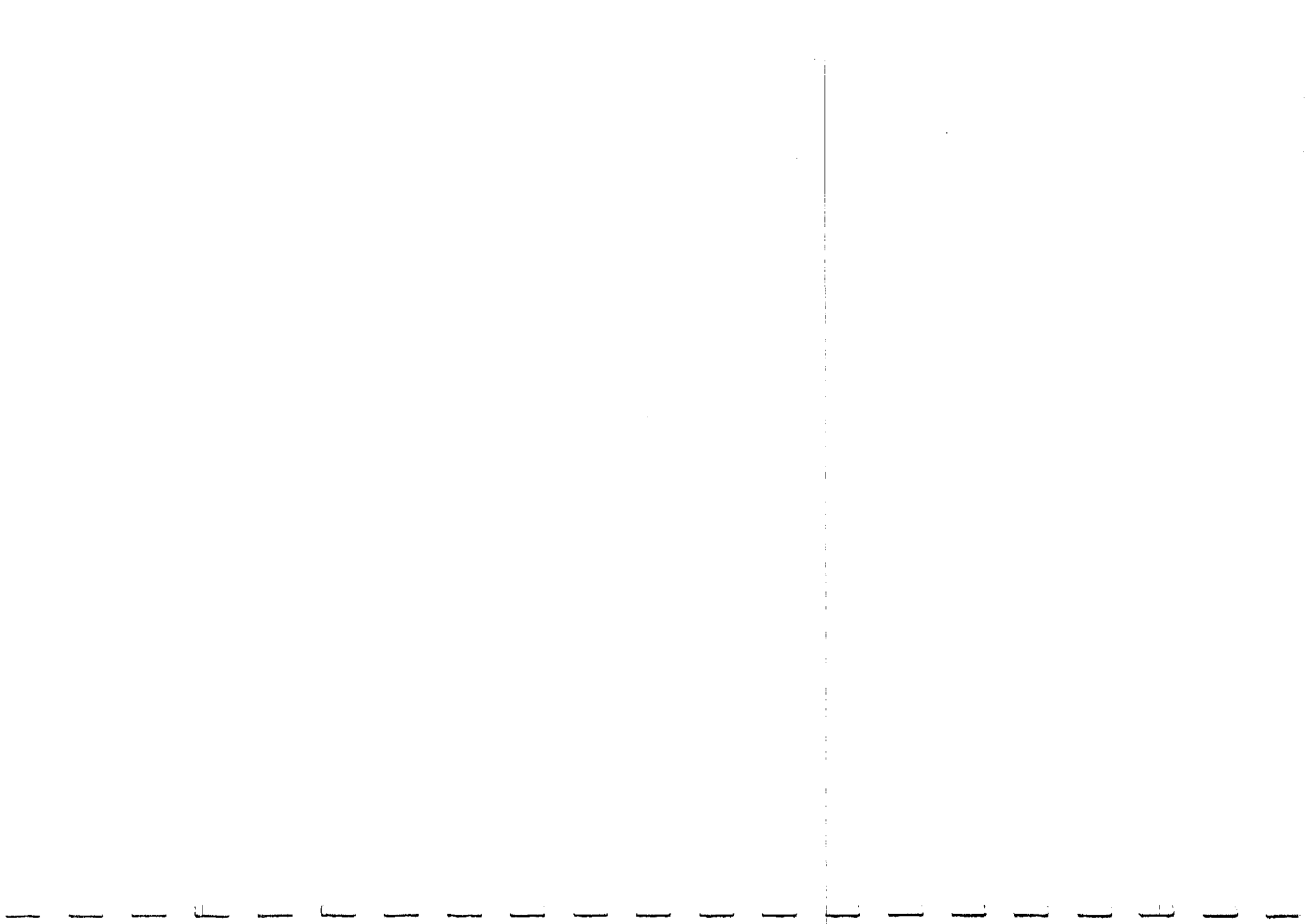
j). Grouping of graves, e.g. in families, should be retained in the new layout.

k). Material from the original grave or graveyard such as chains, kerbstones, railing and should be re-used at the new site wherever possible.

l). A plaque recording the origin of the graves should be erected at the site of re-burial.

m). Individuals or groups related to the deceased who claim the return of human remains in museums and other institutions should be assisted to obtain documentary proof of their ancestral linkages.





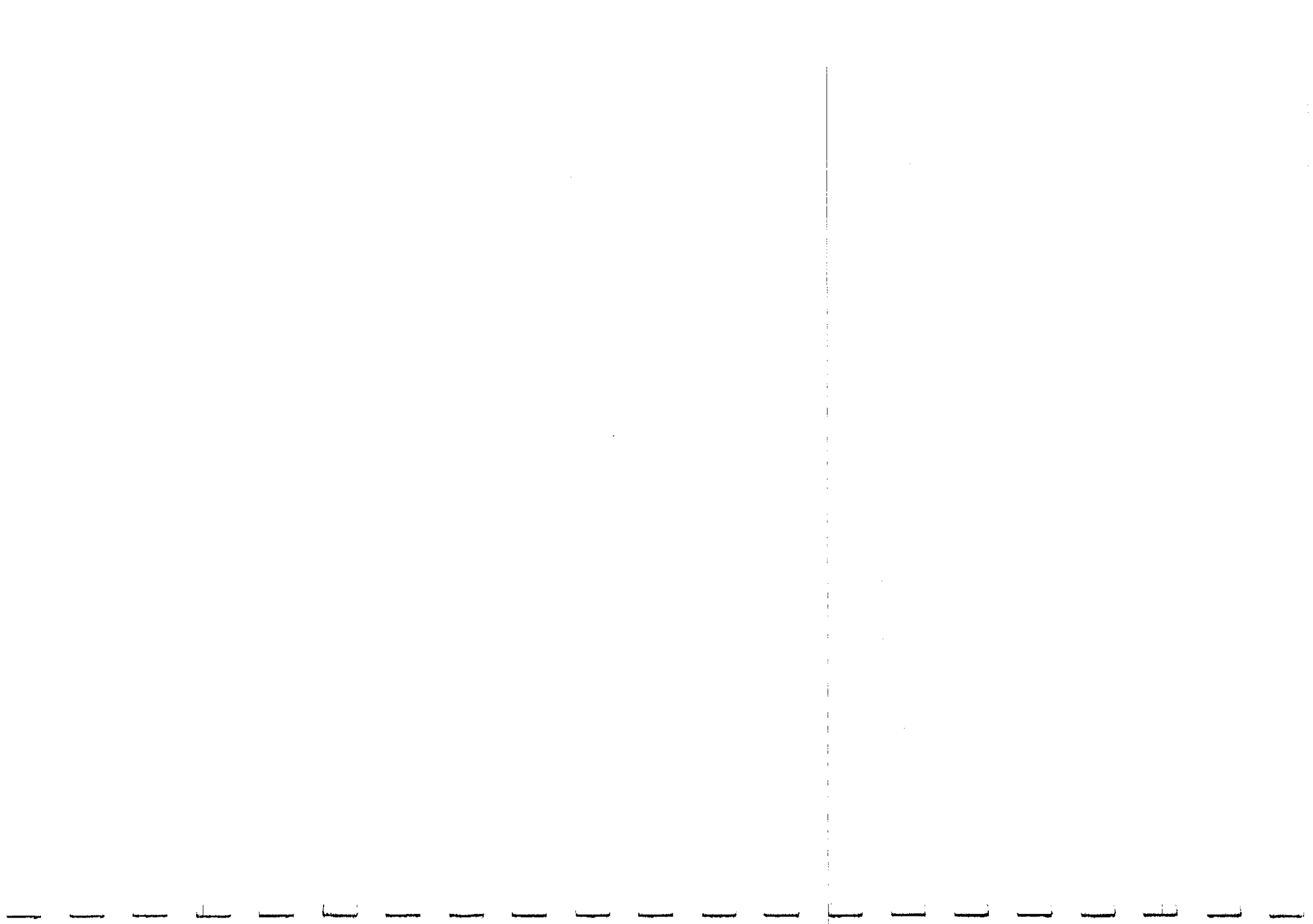
**APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO THE POWERLINE PROJECT EMP**

- Protection of archaeological sites and land considered to be of cultural value;
- Protection of known physical cultural property sites against vandalism, destruction and theft; and
- The preservation and appropriate management of new archaeological finds should these be discovered during construction.

1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan, and marked as no-go areas.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a registered heritage specialist or PHRA official must be called to site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM
		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed from site;		Throughout	C CECO	SM	ECO	EA EM PM
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform PHRA.		When necessary	C CECO	SM	ECO	EA EM PM
		Should any remains be found on site that is potentially human remains, the PHRA and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
		Same as construction phase.						
		Same as construction phase.						

**APPENDIX 3: HERITAGE MITIGATION MEASURE TABLE**

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD STATEMENT REQUIRED
<p><b>Chance Archaeological and Burial Sites</b></p>	<p>General area where the proposed project is situated is a historic landscape, which may yield archaeological, cultural property, remains. There are possibilities of encountering unknown archaeological sites during subsurface construction work which may disturb previously unidentified chance finds.</p>	<p>Possible damage to previously unidentified archaeological and burial sites during construction phase.</p> <ul style="list-style-type: none"> <li>• Unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites.</li> <li>• Loss of historic cultural landscape;</li> <li>• Destruction of burial sites and associated graves</li> <li>• Loss of aesthetic value due to construction work</li> <li>• Loss of sense of place</li> </ul> <p>Loss of intangible heritage value due to change in land use</p>	<p>In situations where unpredicted impacts occur construction activities must be stopped and the heritage authority should be notified immediately.</p> <p>Where remedial action is warranted, minimize disruption in construction scheduling while recovering archaeological data. Where necessary, implement emergency measures to mitigate.</p> <ul style="list-style-type: none"> <li>• Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as no-go zone by use of fencing during construction, and access thereto by the construction team must be denied.</li> <li>• Accidentally discovered burials in development context should be salvaged and rescued to safe sites as may be directed by relevant heritage authority. The heritage officer responsible should secure relevant heritage and health authorities permits for possible relocation of affected graves accidentally encountered during construction work.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor /</li> <li>• Project Manager</li> <li>• Archaeologist</li> <li>• Project EO</li> </ul>	<p>Fine and or imprisonment under the PHRA Act &amp; NHRA</p>	<p>Monitoring measures should be issued as instruction within the project EMP.</p> <p>PM/EO/Archaeologists Monitor construction work on sites where such development projects commences within the farm.</p>



## APPENDIX 4: LEGAL BACK GROUND AND PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

**Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):**

### **General principles for heritage resources management**

5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;

(b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans;

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed—

(a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must—

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and

(c) give further content to the fundamental rights set out in the Constitution.

(4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.

(5) Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.

(6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.

(7) The identification, assessment and management of the heritage resources of South Africa must—

(a) take account of all relevant cultural values and indigenous knowledge systems;

(b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;

(c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural

significance and conservation needs;

(d) contribute to social and economic development;

(e) safeguard the options of present and future generations; and

(f) be fully researched, documented and recorded.

### **Burial grounds and graves**

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) (a) 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.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority—

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority—

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or *agents provocateur* and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the *Gazette*.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

#### **General policy**

47. (1) SAHRA and a provincial heritage resources authority—

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.