

**Archaeological and Heritage
Impact Assessment Report
for Proposed Thuli –Estancia
+/-13km 132kv Option 1
amended route in
Mpumalanga Province.**

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Final Report

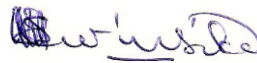
Archaeological and Heritage Impact Assessment (A/HIA) for Proposed Thuli-Estancia +/-13km 132kv Option 1 amended route in Chief Albert Lithuli, Steve Tshwete and Msukaligwa Local Municipalities of the Mpumalanga Province

May 2013

*For and on behalf of
Eskom Distribution*

Approved by: Dr. McEdward Murimbika

Signed:



Position: Principal Investigator

Date: 30 May 2013

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Document information

TITLE: ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENT REPORT FOR: PROPOSED THULI –ESTANCIA +/-13km 132KV OPTION 1 AMENDED ROUTE IN CHIEF ALBERT LITHULI,STEVE TSHWETE AND MSUKALIGWA LOCAL MUNICIPALITIES IN MPUMALANGA PROVINCE	
PURPOSE OF SCOPE: The purpose of this document is to describe the cultural values and heritage factors that may be impacted on by the proposed construction of the proposed development. The proposed powerline development is located in Mpumalanga Province.	
DOCUMENT VERIFICATION	
Signature:	Position:
Name:	Date:
Consulted: Miriam of Eskom to review the document. The document also went through Nzumbululo Heritage Solutions Quality Assurance Department for internal review.	
ENDORSED Client Project Responsible Officer to sign off.	
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Issue	Date	Reason For Issue	Responsible	Accountable
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Caveat

This HIA Report has been prepared for Eskom Distribution by Nzumbululo Heritage Solutions for the expressed purpose of fulfilling the requirements of the National Heritage Resources Act, Act 25 of 1999 and SAHRA regulations in terms of Sec. 38 of the Act.

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

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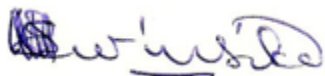
Geographic Co-ordinate Information: Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

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 (Limpopo Province).

Signed by Principle Investigator:



McEdward Murimbika (Ph.D.), 30 May 2013.

TABLE OF CONTENTS

DOCUMENT INFORMATION.....	- 2 -
TABLE OF CONTENTS	- 4 -
LIST OF FIGURES	- 4 -
LIST OF PLATES	- 5 -
LIST OF TABLES	- 5 -
1. EXECUTIVE SUMMARY	- 6 -
ABBREVIATIONS	- 9 -
DEFINITIONS	- 10 -
1. INTRODUCTION	- 13 -
2. METHODOLOGY	- 20 -
3. BRIEF CULTURE HISTORY BACKGROUND OF THE PROJECT AREA	- 22 -
4. RESULTS OF THE ARCHAEOLOGICAL/HERITAGE ASSESSMENT STUDY.....	- 26 -
4.1. DESCRIPTION OF PROJECT AREA AND SERVITUDES.....	- 26 -
4.1.1. The ±10 Thuli- Estancia Option 1 amended route Servitude.....	- 26 -
5. DISCUSSION.....	- 32 -
6. CULTURAL HERITAGE SITE ASSESSMENT OF SIGNIFICANCE	- 32 -
6.1.1. Aesthetic Value.....	- 33 -
6.1.2. Historic Value.....	- 34 -
6.1.3. Scientific value.....	- 34 -
6.1.4. Social Value.....	- 34 -
7. STATEMENT OF SIGNIFICANCE	- 35 -
8. RECOMMENDATIONS.....	- 38 -
8.1.1. Community Advisory.....	- 39 -
Recommendation.....	- 39 -
8.1.2. Interpretation & Active Management Recommendations.....	- 40 -
Recommendation.....	- 40 -
9. CONCLUDING REMARKS	- 40 -
10. BIBLIOGRAPHY	- 42 -
11. APPENDIX 1: HUMAN REMAINS AND BURIALS IN DEVELOPMENT CONTEXT	- 45 -
12. APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO THE POWERLINES PROJECT LIMPOPO PROVINCE EMP	52
13. APPENDIX 3: HERITAGE MITIGATION MEASURE TABLE.....	54
14. APPENDIX 4: LEGAL BACK GROUND AND PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA.....	55

LIST OF FIGURES

Figure 1: Image showing the study area (After Eskom Distribution 2012).....	- 19 -
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LIST OF PLATES

Plate 2: Photo 3 (left) and 4 (right) Shows cultivated cornfields and established farm settlements along the proposed powerline route (Author 2013). - 27 -

LIST OF TABLES

Table 1: Table 1: Coordinates for +/-13km 132kv Thuli-Estancia Option 1 amended route... - 26 -

Table 4: Table below showing characteristics and significances of the sites found. - 28 -

Table 5: Significance assessment of heritage resources based on ICOMOS and NHRA criteria.-
35 -

Table 6: Assessment of impacts to Aesthetic Values related to the scenic routes and sense of place..... - 36 -

Table 7: Assessment of impacts to Historic Values related to the project area..... - 36 -

Table 8: Assessment of impacts to Archaeological Scientific Values related to the project area..... - 37 -

1. EXECUTIVE SUMMARY

1.1. Background

This Archaeological and Heritage Impact Assessment (AIA/HIA) Study was commissioned by Nzumbululo Heritage Solutions as part of the proposed Thuli-Estancia Amended Powerline Route Impact Assessment study in the Mpumalanga Province. This report is an additional impact study on potential archaeological and cultural heritage resources that may be associated with the +/-13km option 1 amended route.

1.2. Method Statement

The findings of this report have been informed by desktop data review, field survey and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed project. This study was conducted as part of the specialist input for the Environmental Impact Assessment exercise.

1.3. Nature of Proposed Development

This study is part of an EIA exercise triggered by Eskom SOC Limited's proposed:

- Construction of a new +/-52km 132kv powerline.

1.4. Project Area

The proposed development is situated in the Chief Albert Lithuli, Steve Tshwete and Msukaligwa Local Municipalities in the Mpumalanga Province.

1.5. The Heritage Impact Assessment Process

This HIA study report is segmented into sections as follows:

1. Executive Summary,
2. Project Background,

3. HIA on the Project Receiving Cultural Landscape project area in line with the NHRA (*Act 25 Section 38*), and
4. Heritage Management Recommendations for immediate project receiving area covering the development, operation to closure phases of the project.

The impact assessment study also includes detailed recommendations on how to mitigate and manage negative impacts while enhancing positive effects on the project area.

1.6. The Legal Framework and Guidelines

This HIA study is a specialist study to the EIA process and it is guided by the:

- National Heritage Resources Act, (*Section 38 of Act 25 of 1999*)
- SAHRA AMP HIA Guideline
- Terms of Reference provided to Eskom Distribution (*2013*).

All South African heritage assets are protected by the National Heritage Resources Act of 1999, which makes it an offence to destroy heritage resources without permission from the relevant authority. In terms of the provisions of the NHRA Act of 1999, individual sites within the project area enjoy the varying levels of protection in the country.

1.7. Results of the Study

Analysis of the archaeological, cultural heritage, environmental and historic contexts of the study area predicted that archaeological sites (Stone Age and Historic Archaeological), cultural heritage sites, burial grounds or isolated artifacts were likely to be present on the affected cultural landscape. The field survey was conducted to test this hypothesis and verify this prediction within the proposed powerline servitude. The project receiving areas are situated on previously disturbed land parcels. Signatures of archeological artifacts were found across the landscape. Visual impacts to the sense of a place within the receiving environment was assessed and

was deemed to be limited given the level of existing built-up areas in the immediate project receiving area and the general landscape.

1.8. Final Recommendations

The following recommendations are made in this report:

- The project area has considerable existing built-up areas and as such no impacts are anticipated on the cultural built environment given the existence of contemporary built-infrastructure or structures already in the project area.
- High visibility emanating from the proposed powerline development is anticipated. However, the project area has existing linear and structural developments in place, which will absorb the proposed developments in situ. Therefore the visual impact of the powerline is considered to be low across the receiving cultural landscape. No mitigation is proposed because the receiving environment is currently cultivated area and coal mining area, close to powerline network, main and access roads, Eskom minor reticulation powerlines and commercial farming infrastructure and other infrastructures.
- Overall, impacts to heritage resources are not considered to be significant for the project-receiving environment. It is thus concluded that the project may be cleared to proceed as planned subject to the Heritage Authority ensuring that a detailed heritage monitoring procedures are included in the project EMP for the construction phase, include chance archaeological finds mitigation procedure in the project EMP.
- The chance finds process will be implemented when necessary especially when archaeological materials and burials are encountered during subsurface construction activities.
- If archaeological materials are uncovered, work should cease immediately and the SAHRA be notified and activity should not resume until appropriate management provisions are in place.
- In the event that human remains are uncovered during development then work in the immediate vicinity should be halted and the finds protected and reported to SAHRA.

- The findings of this report, with approval of the PHRA/SAHRA, may be classified as accessible to any interested and affected parties within the limits of the laws.

ABBREVIATIONS

AIA	Archaeological Impact Assessment
APPA	Atmospheric Pollution Prevention Act 45 of 1965
BID	Background Information Document
C	Contractor
CARA	Conservation of Agricultural Resources Act, 1983 (Act No 43
CECO	Construction Environmental Conservation Officer
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DSR	Draft Scoping Report
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act
ECO	Environmental Conservation Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EM	Environmental Manager
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
EMPR	Environmental Management Programme Report
EMS	Environmental Management System
FC	Farming Community
GN	General Notice
GNR	General Notice Regulation
Ha	Hectares
HIA	Heritage Impact Assessment
HMP	Heritage Management Plan
I&AP's	Interested and Affected Parties
IDP	Integrated Development Plan
IRR	Issues and Responses Report
IWULA	Integrated Water Use Licence Application
LEDET	Mpumalanga Department of Economic Development,
LIA	Late Iron Age

LFC	Late Farming Community
LSA	Late Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act 107 of 1998
NEMAQA	National Environmental Management: Air Quality Act 39 of 2004
NEMPAA	National Environmental Management Protected Areas Act
NEMWA	National Environmental Management: Waste Act 59 of 2008
NGO	Non-Governmental Organisation
NHRA	Nation Heritage Resources Act, Act 25 of 1999
PM	Project Manager
SAHRA	South African Heritage Resources Agency
SM	Site Manager
ToR	Terms of Reference

DEFINITIONS

The following terms used in this Archaeological /Heritage Impact Assessment are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [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, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures.

Chance Finds means 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.

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

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

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

Cultural Significance also encompasses 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.

Environment The surroundings within which humans exist and that are made up of: i. the land, water and atmosphere of the earth;

ii. micro-organisms, plant and animal life;

iii. any part or combination of (i) and (ii) and the interrelationships among and between them; and,

iv. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being. This includes the economic, social, cultural, historical and political circumstances, conditions and objects that affect the existence and development of an individual, organism or group.

Environmental impact assessment An Environmental Impact Assessment (EIA) refers to the process of identifying, predicting and assessing the potential positive and negative social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the environment. The EIA includes an evaluation of alternatives. As well as recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and environmental management and monitoring measures.

Expansion means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased;

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

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 (*contemporary*) or **Burial Ground**(*historic*).

Heritage impact assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

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

Impact The positive or negative effects on human well-being and / or on the environment.

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

Interested and affected parties Individuals, communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

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

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

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

Mitigate The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

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

Protected area means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers;

Public participation process A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters

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

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (*i.e. intensity, duration and likelihood*). Impact significance is the value placed on the change by different affected parties (*i.e. level of significance and acceptability*). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (*i.e. biophysical, physical cultural, social and economic*).

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

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

1. INTRODUCTION

1.1. Background

The authors were requested by Nzumbululo Heritage Solutions, acting on behalf of Eskom Distribution (Mpumalanga) to investigate the +/-13km Thuli-Estancia amended route as part of heritage specialist input for environmental assessment for the proposed development. This report details the desktop study, review of previous heritage assessment studies conducted during the EIA specialist studies, field study and present results of the study as well as discussion on the anticipated impacts of the proposed development as is required by the National Heritage Resources Act, Act 25 of 1999 Section 38. It focuses on identifying and assessing potential impacts on archaeological, as well as on other physical cultural properties including historical heritage and intangible resources in relation to the proposed powerline development. A Professional archaeologist and a heritage management and risk specialist undertook the assessments, research and consultations required for the preparation of the report for the purpose of ensuring that the cultural environmental values are taken into consideration and reported into the EIA authorisations and EMP processes spanning the proposed life span of the proposed powerline development.

The study was designed to ensure that any significant cultural, physical property or sites and related intangible heritage resources are located and recorded, and site significance is evaluated to assess the nature and extent of expected impacts from the proposed development. The assessment includes recommendations to manage the expected impact of the development servitude. The report includes recommendations to guide heritage authorities in making appropriate decision with regards to Heritage Management Planning.

Dr M Murimbika assisted by T Mlilo conducted the assessment; research and consultations required for the preparation of this HIA report in a manner consistent with its obligations set in Section 38 of the NHRA, Act 25 of 1999, SAHRA regulations and guidelines as well as the environmental management legislations. In line with SAHRA guidelines, this report, not necessarily in that order, provides:

- 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.

1.2. NATURE OF PROPOSED DEVELOPMENT

The study covers the servitude of the proposed +/-13km 132kv Thuli Estancia Option 1 amended route in the Carolina and Hendrina area of the Mpumalanga Province (Figure 1).

1.3. STATUTORY REQUIREMENTS

This HIA report is a component of a broader EIA Study and addresses the requirements of the NHRA Act 25 of 1999 Section 38 and EIA Terms of Reference in relation to the assessment of impacts of the proposed development on the cultural and heritage resources associated with the receiving environment. The legislations requires that when constructing a linear development exceeding 300m in length or developing an area exceeding 5000 m² in extent, the developer must notify the responsible heritage authority of the proposed development and they in turn must indicate 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 auxiliary regulations. The National Heritage Resources Act (NHRA) No. 25 of 1999 protects all defined heritage resources including palaeontological, prehistoric and historical material (including ruin) more than 100 years old (*under Section 35*), human remains older than 60 years and located outside of a formal cemetery administered by a local authority (*under Section 36*) and non-ruined structures older than 60 years (*under Section 34*). A broader protection is also offered to Landscapes with cultural significance, which are also protected under the definition of the National Estate (*Section 3 [3.2d]*).

Specific to this study, Section 38 (2a) emphasises that if there is reason to believe that heritage resources will be affected by any proposal to change the status quo, and then an impact assessment report must be submitted. This study is therefore conducted in pursuit of this requirement. Given the fact that this study is subject to the issued EIA and EMP authorisations, the heritage authorities are required to provide comments on the proposed project.

1.4. HIA STUDY TERMS OF REFERENCE

Nzumbululo Heritage Solutions were asked to conduct an HIA study under the guidance of the requirements of Section 38(3) of the NHRA. As outlined in the introduction section, the activities would include:

1. Hypothesising and Conducting a detailed desk-top level investigation to identify all archaeological, cultural and historic sites in the proposed powerline project receiving areas;
2. Conduct appropriate physical cultural properties field work and survey to verify results of desktop investigation;

3. During the field survey, document (*GPS coordinates and map*) all archaeological and heritage sites, objects and structures and physical cultural properties identified within the project's receiving environment;
4. Compile a Heritage Impact Assessment report which would include:
 - a. Identification of archaeological, cultural and historic sites within the affected development areas;
 - b. Assess the sensitivity and significance of archaeological remains within the affected development areas;
 - c. Estimate and evaluation of the potential impacts of the proposed construction, operation and maintenance of the proposed development on archaeological, cultural and historic sites in the proposed project receiving areas;
 - d. Measure the impacts in terms of the scale of impact
 - e. Provide appropriate Recommendation of mitigation measures that may add positive impacts while reducing the identified negative impacts on archaeological, cultural and historic sites in the proposed project receiving areas;
 - f. The recommendations should be applicable enough to effectively guide the compliance authorities in issuing a decision regarding the authorisation of the proposed development.
 - g. Consideration of relevant PHRA and SAHRA as well and international best practices guidelines; and,
 - h. Development Heritage Management Planning guideline: "Guideline for involving heritage stakeholders in the processes".

In essence, both the national heritage and environmental legislations provide protection for the following categories of heritage resources:

- o Landscapes, cultural or natural;
- o Buildings or structures older than 60 years;
- o Archaeological Sites, palaeontological material and meteorites;
- o 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).

1.5. LOCATION OF ACTIVITY AREA AND IMPACT AREA

The proposed development is situated in the south west of Carolina in the Chief Albert Lithuli Local Municipality of the Mpumalanga Province (see Figure 1).

The affected project area is situated in a contemporary cultural landscape with areas where commercial agriculture (crop and animal husbandry) and coal mining are the main activities. The project area is characterized by commercial agriculture infrastructure which includes cultivated corn fields, irrigation infrastructure, boundary fence lines small dams, and farmhouses. The proposed amended route will run along existing powerlines and in the vicinity of the previously studied servitude. In addition agriculture activities and access roads have resulted in the degradation of the environment.

Figure 1: Topographic map 2629 BA showing project area.

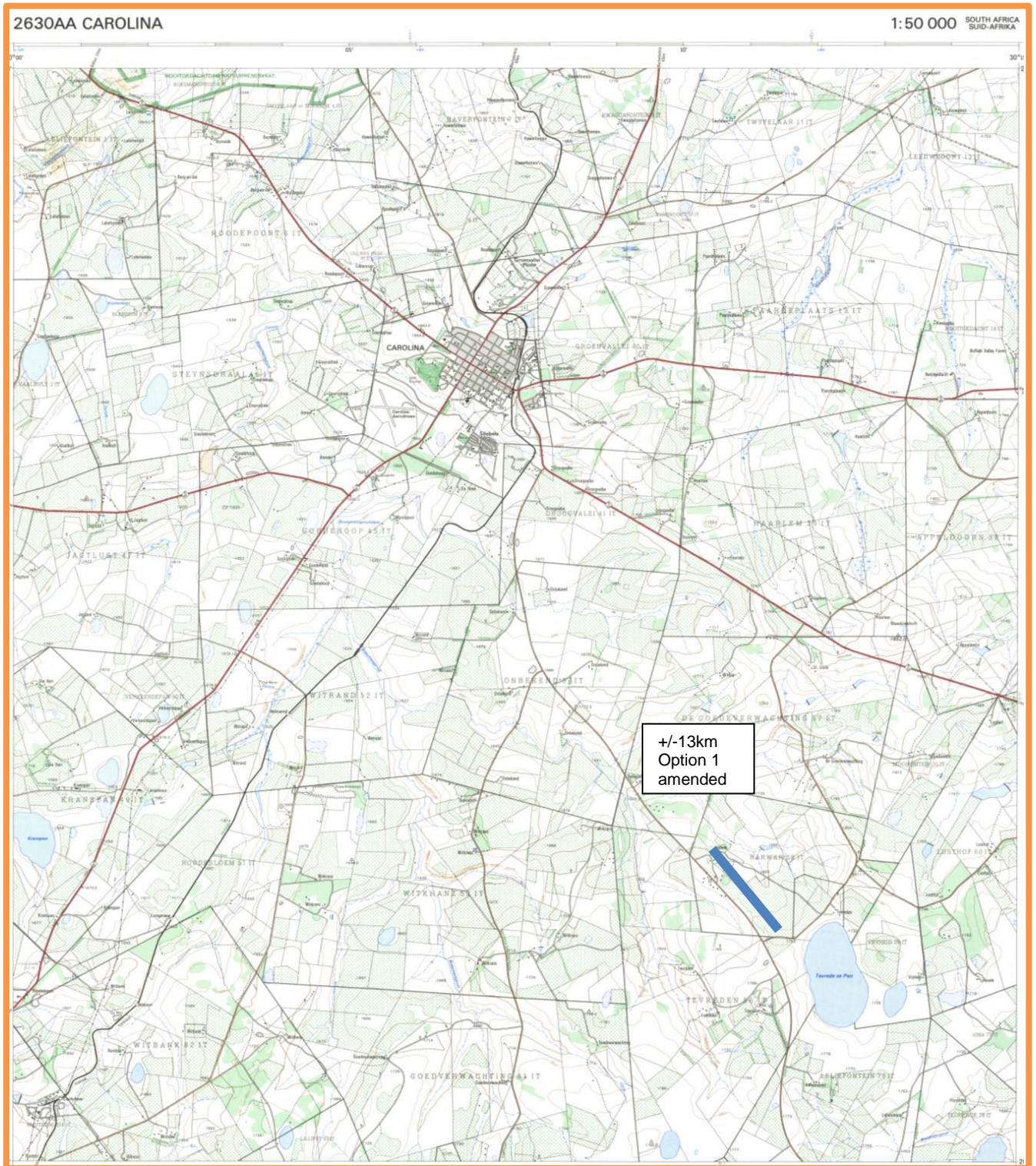


Figure 2: Image showing the study area (After Eskom Distribution 2012).

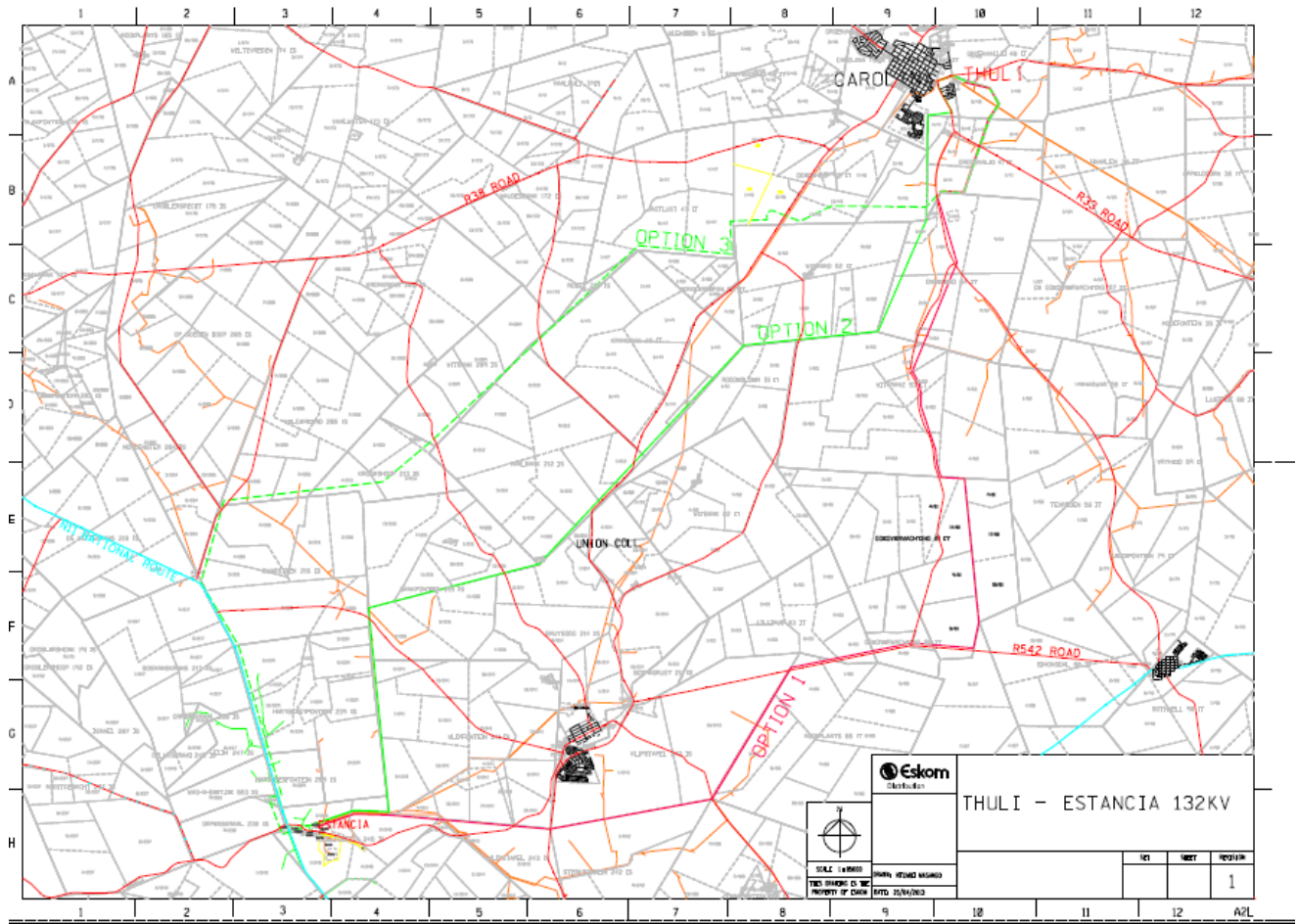


Figure 3: Image showing the study area (After Nzumbululo Heritage Solutions 2013).



2. METHODOLOGY

The proposed project development requires clearance and authorisation from government compliance agencies including the heritage authority of SAHRA. Key HIA objectives for this section of the study are to fulfil the statutory requirements of the National Heritage Resources Act, Act 25 of 1999. In order to meet the objectives of the HIA Phase 1 study, the following tasks were conducted: 1) site file search, 2) literature review, 3) consultations with key stakeholders, 4) completion of a field survey and assessment and 5) analysis of the acquired data and report production.

The following tasks were undertaken:

- Preparation of a predictive model for archaeological heritage resources in the study area.
- A review and gap analysis of archaeological, historical and cultural background information, including possible previous heritage consultant reports specific to the affected project area, the context of the study area and previous land use history as well as a site search;
- Field survey of the powerline route;
- Physical cultural property recording of any identified sites or cultural heritage places;
- Identification of heritage significance; and
- Preparation of HIA report with recommendation, planning constraints and opportunities associated with the proposed development.

The project area is part of an existing and previously developed and disturbed landscape with cultivated areas, main roads (R542), D1020, coal mining operations, access roads, bulk and bulk water reticulation pipelines and infrastructure, agricultural farms and other auxiliary infrastructures dominate the affected project area.

Geographic coordinates were obtained with a handheld Garmin GPS global positioning unit. Photographs were taken as part of the documentation process during field study.

2.1. Assumptions and Limitations

The field survey did not include any form of subsurface inspection beyond the inspection of burrows, road cut sections, and the sections exposed by erosion or earth moving disturbances. Some assumptions were made as part of the study and therefore some limitations, uncertainties and gaps in information would apply. It should however, be noted that these do not invalidate the findings of this study in any significant way:

1. The proposed amended route will be limited to specific right of way sites and laydown areas as detailed in the powerline development layout.
2. The construction teams to work at the development site and service sites will use the existing access roads and there will be no major amended routes into undisturbed sections.
3. Given the extensive degraded nature on most affected project area and the level of high existing developments within the affected landscape, most sections of the project area have low potential to yield high significant in situ archaeological or physical cultural properties.
4. No excavations or sampling was undertaken, since a permit from heritage authorities is required to disturb a heritage resource. As such the results herein discussed are based on surface indicators. However, these surface observations concentrated on areas accessible.
5. No Paleontological study was conducted as part of this HIA.
6. This study did not include any ethnographic and oral interviews. The existing studies from current and historic researches are accepted as adequate for the purposes of this HIA.

2.2. Consultation

No independent community consultation was conducted during this phase of the A/HIA study. However, the EIA Public Participation Process invited comments from affected municipality and other interested parties on any matter related to the proposed powerline development including heritage concerns that may arise as a result of the proposed development.

3. BRIEF CULTURE HISTORY BACKGROUND OF THE PROJECT AREA

BIOPHYSICAL AND GENERAL DESCRIPTION OF THE PROJECT AREA

The study area occurs within the Eastern Highveld Grassland. The area associated with the proposed powerline route deviation can be described as gently undulating terrain, with fairly broad to narrowly incised valleys. The area is characteristic of the post-African erosion surface back-working into the African surface, which remains preserved in places on the higher lying interfluvies (Partridge and Maud, 1987).

There are a number of marshy areas in the upper parts of the valleys, as well as a number of pans, which vary from insignificant vegetated depressions to large deeply etched features with bare clayey floors, all of which are characteristically present on African surface remnants. In the case of the Vaal head-streams, valley side-slopes are generally gentle with gradients ranging from 1:20 to 1:100. Resistant sandstone and dolerite ridges occasionally flank the flat, marshy valley floors which have gentle downstream gradients. Similar conditions apply to the Umpulusi head-stream valleys, although resistant rock ridges are not as conspicuous. In contrast, the Komati head-streams display narrower valleys with steeper flank and channel gradients which indicate a more virile erosional regime. The Boesmanspruit has cut down through resistant sandstones of the Ecca Group in some areas, resulting in the exposure of granite of the Basement Complex. Land in the region along the proposed powerline routes is used for a variety of activities, including cultivation, mines, dams and urbanisation. Locally, land is used for arable farming and grazing, with some coal mining taking place in the surrounding area. The land is predominantly used mainly for agriculture (including cultivation of maize and soya beans as well as rearing of

livestock). There is an open cast coal mine in the vicinity of the powerline deviation route. Highveld Grassland, a vegetation type included in the Mesic Highveld Grassland Bioregion of the Grassland Biome. Eastern Highveld Grassland is mostly confined to Mpumalanga and Gauteng Provinces.

Stone Age

The Steve Tshwete and Chief Albert Lithuli Local Municipality area, like most of Mpumalanga 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 valley lands of the modern day Mpumalanga Province 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 shell ash midden, stone tools, rock art (usually on rock shelter and cave walls and as well as cliff faces that today are some of the most unique prehistoric paintings on the continent) (Deacon and Deacon 1999).

Iron Age

The Iron Age of the Mpumalanga region dates back to the 5th 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 Mzonjani facies of the Urewe EIA Tradition (Huffman, 2007: 127-9). They occupied the foot-hills and valley lands along the general Indian Ocean coastland introducing settled life, domesticated livestock, crop production and the use of iron (also see Maggs 1984a; 1984b; Huffman 2007). Alongside the Urewe Tradition was the Kalundu Tradition whose EIA archaeological sites have been recorded along the Mpumalanga areas. From AD 650 to 750 the EIA sites in the region are classified as the Msuluzi facies which was replaced by the Ndondondwane and Ntsekane facies from AD 750 to 950 and AD 950 to 1050 respectively (Huffman, 2007).

By 1050 AD proto-Nguni Bantu-speaking groups associated with the Late Iron Age (LIA) called the Blackburn sub-branch of the Urewe Tradition had arrived in the

eastern regions of South Africa, including modern day Mpumalanga, migrating from the central African region of the Lakes Tanganyika and Victoria (Huffman 2007: 154-5). The according to archaeological data available, the Blackburn facies ranged from AD 1050 to 1500 (ibid. p.155). The Mpumalanga and the Natal inland regions saw the development of the LIA Moor Park facies between AD 1350 and 1750. This archaeological facies is interpreted as representing inland migration by LIA Nguni speaking groups (Huffman 2007). Moor Park is associated with settlements marked by stonewalling. The period from AD 1300 to 1750 saw multiple Nguni dispersal from the coastland into the hinterland and eventually across the Drakensberg Escapement into central and eastern South Africa (ibid).

Historical Background

The Late Iron Age Nguni communities engaged in the Indian Ocean Trade exporting ivory and importing consumables such as cloth and glass beads. The exporting point was Delagoa. This brought the Nguni speaking community in touch with the Indo-Asian and first Europeans (Portuguese). It was the arrival of the Dutch and the English traders that opened up Delagoa Bay to more trade did the Nguni engaged in extensive trade with the international traders (Huffman 2007). From the late 1700s, trade in supply of meat to passing ship had increased substantially to an extent that by 1800 meat trade is estimated to have surpassed ivory trade. 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. The KwaZulu Natal coastal region has a special place in the history of the region and country at large. This relates to the most referenced mfecane (wandering hordes) period of tremendous insecurity and military stress which eventually affected the entire Southern Africa including the modern day Mpumalanga area. Around the 1830s, the region also witnessed the massive movements associated with the mfecane. The causes and consequences of the mfecane are well documented elsewhere (e.g. Hamilton 1995; Cobbing 1988). In this context new African kingdoms imaged such as the Zulu Kingdom under Shaka in the second quarter of the 1800s AD.

From 1835 the Voortrekker with horses and wagons arrived in the flat lands foothills in the regions east of the Drakensberg Range of Mountains. They spread establishing settlements which came to be settler towns across modern day Mpumalanga. The Voortrekkers arrived in Natal and Mpumalanga regions in the shadow of the weakened Zulu and Swazi kingdoms and chiefdoms as a result of the mfecane. This effectively ushered in new era of colonial occupation by succeeding Afrikaans and British authorities which eventually ended with the establishment of the new South Africa in 1994.

Contemporary History

Historical towns closest to the Project Area include Breyton, Hendrina, Carolina and Ermelo. The town of Breyton lies at the foot of the mountain Klipstapel'(stone pile). The town was founded on the farm Bothasrus. The farm was first allocated to Lucas Potgieter in 1888 as compensation for the leg he lost in the battle of Schuinshoogte towards the end of the Transvaal Anglo Boer War. He sold a portion of the farm to Nicolaas Breytenbach, field cornet for part of the Ermelo District during the Anglo Boer War. The railway from Springs via Bethal reached the farm on 22 August 1905. On 25 October 1906 a new village was surveyed and named Breytenbach. Hendrina is best known as the village nearest to two of Eskom's large power stations, namely the Arnot and Hendrina power stations. Hendrina's history can be traced to 1924 when the farm Garsfontein was purchased from Gert Beukes. The new town was named for his wife. Apart from the power stations and coal mines, the local economy of the district is based on dairy farming, vegetables and maize.

The area where the town of Carolina was proclaimed on 16 June 1886 served as a popular stop-over for transport riders for several years – especially after a gold reef was discovered in what was to become Barberton in 1884. Traffic increased to such an extent that a trading and staging post was soon established. However, there is uncertainty about the origins of Carolina. A notice in the Transvaal government gazette stated that it was laid out on the farms Groenvlei and Goede Hoop. According to another sources Cornelis Coetzee made available part of his farm

Steynsdraai for a village provided it was given the name of his wife, Carolina. Long before Ermelo came into being the area was frequented by travellers moving between Lydenburg and Natal. The area was well watered and dotted with lakelets and attracted settlers from Lydenburg and elsewhere. The reverend Lion Cachet of Utrecht began to hold regular services on several of the new farms. In 1880 a village was proclaimed on the farm Nooitgedacht. The town was named for Ermelo in Gelderland, Holland and was managed by the Dutch Reformed Church until 1895 when the Transvaal government took over. In 1901, during the Anglo-Boer War, the town was completely destroyed by the British. The town was rebuilt from scratch after 1903. Today Ermelo is the educational, communications, industrial and commercial centre for an intensely farmed district. Coal is mined by several large mines and Ermelo lies on the railway line between the Highveld coal fields and the bulk export harbour of Richards Bay on Kwa Zulu-Natal's north coast.

4. RESULTS OF THE ARCHAEOLOGICAL/HERITAGE ASSESSMENT STUDY

4.1. Description of Project Area and Servitudes

4.1.1. The ±10 132kv Thuli- Estancia Option 1 amended route

The study involved covering the proposed +/-13km 132kv Thuli-Estancia Option 1 amended route (Plates 1-4 and Table 1).

Table 1: Table 1: Coordinates for ±+/-13km 132kv Thuli-Estancia Option 1 amended route

Site	Y	X	Latitude	Longitude
Estancia Substation	+	-	26°20'01.8"	29°52'19.0"
Point on D1020 where new route will deviate from the original route	+	-	26°12'47.7"	30°07'28.0"
Point near Nsovo Coal mine	+	-	26°15'28.4"	30°09'05.7"
Point on Thuli-Estancia amended route at the mine	+	-	26°15'35.4"	30°07'03.4"
Point on Thuli-Estancia amended route at the mine	+	-	26°15'45.4"	30°06'59.9"
Point on Option 1 amended route	+	-	26°15'.12.0"	30°06'48.8"

Site	Y	X	Latitude	Longitude
Patch of gum trees along Option 1 amended route	+	-	26°16'23.3"	30°07'06.8"
Point on Option 1 amended route	+	-	26°20'19.1"	29°53'29.4"



Plate 1: Photo 1 (left) and 2 (right) shows coal mining operations within the proposed amended powerline route (Author 2013).



Plate 1: Photo 3 (left) and 4 (right) Shows cultivated cornfields and established farm settlements along the proposed amended route (Author 2013).

4.2. Archaeological finds

Two disfigured potsherds were recorded on areas in close proximity to the proposed Option 1 powerline (Plates 9 – 11). The potsherds occurred in densities between 0-1 per square meter on the open gravel sections. The recorded potsherd scatters lacked definable provenance. As such, none of the recorded scatters were attributed to a discernable in situ archaeological site and their source of origin was

most probably elsewhere. However, their existence confirms the presence of archaeological sites in the project receiving environment.



Plate 4: Photos 7 (left) and 8 (right): Some farm infrastructure near the amended route (L) and a network of high and low voltage powerlines along the amended route (Author 2013).

Table 2: Table below showing characteristics and significances of the sites found.

Site	Characteristic	Significance
A	Two potsherds were recorded on an open section of the amended route.	Class 3 Local Archeological category

Although some sections of the powerline development are heavily degraded from previous and current agricultural land use and from powerline and access road developments the site has potential to yield archaeological resources. However, there exist powerlines, grazing land and roads and other associated infrastructures across the entire project area. As such the proposed powerline will be additional to in situ developments already on project area. However, the chances of recovering significant archaeological materials in situ are possible.

4.3. Historical and Built Environment

Generically speaking, historic sites are associated with colonial era white settlers, colonial wars, industrialization; recent and contemporary African population settlements, contemporary ritual sites dating to the last hundred years. However, recent historic period sites and features associated with the, African communities,

settler and commercial farming communities are on record in the general project area environment. Although the affected general landscape is associated with historical events such as white settler migration, colonial wars and the recent African peopling of the region, no listed specific historical sites are on the proposed development sites. The more common functions of places of cultural historical significance may include:

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

There are no historical archaeological sites or relics recorded on proposed development site. However, the general farmland is considered part of the Mpumalanga Cultural landscape associated with broader historical events such as white settler migration, colonial wars and the indigenous African peopling of the region. No historic architectural structures are situated within the project-receiving environment.



Plate 5: Plate 9: showing a pan in the vicinity of the powerline route (Author 2013).

4.4. Burial grounds and graves

The field survey did not identify any burial site within the affected development site. However, 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. It is important to note that the possibility of encountering human remains during subsurface earth moving works anywhere on the landscape is ever present. Although the possibility of encountering previously unidentified burial sites is low on the powerline route, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected (also see Appendixes for more details).

4.5. Historical Monuments

There are currently no places within the HIA Area that are listed on the National Heritage List.

4.6. Cultural landscapes

The project area has established commercial farming settlements associated with the agriculture industry in Carolina area. However, none of these built up areas are affected by the proposed development. The powerline infrastructure will merely add to several modern built-up areas within the general cultural landscape around Carolina and the landscape in general.



Plate 6: Photo 10: Stretch of amended route along R542 Route (Author 2013).

4.7. Scenic Routes, Sense of Place and Visual Concerns

The site can be accessed via the N1, N11, R38 and D1020 from Polokwane to Carolina. The road traverses in an area that is generally scenic in that one

experiences the typical vast northeastern Mpumalanga biosphere, with both developed and undeveloped open space while driving along it. The study area is visible from the regional and local main roads and it is an altered environment dominated by residential developments and associated infrastructure. This represents a pre-existing visual detracting from the sense of place and scenic value from the road. However, it should be borne in mind that the proposed development is an in situ development adding to existing developments within the area. Therefore any possible visual impacts to the project area is less significant and would be of reduced concern given the observation that this concern is already overridden by existing impact.

5. DISCUSSION

Although isolated potsherds were recorded within the imminent impact zone of the current project area. These potsherds are of low significance. The following observations are worthy emphasizing in this discussion prior to making final recommendations:

- Limited ground surface visibility on sections of the project area that had thick vegetation cover at the time of the study may have impeded the detection of archaeological sites. This factor is exacerbated by the fact that the study was limited to general survey without necessarily conducting any detailed inspection of specific localities that will be affected by the powerline establishments. The absence of confirmable and significant archaeological cultural heritage sites is not evidence in itself that such in situ sites did not exist in the project area.

6. CULTURAL HERITAGE SITE ASSESSMENT OF SIGNIFICANCE

The appropriate management of cultural heritage resources is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Cultural significance is defined in the Burra Charter as meaning aesthetic, historic, scientific or social value for past, present and future generations (Article 1.2). Social, religious, cultural and public significance are currently identified as baseline elements of this assessment, and it is through the combination of these

elements that the overall cultural heritage values of the site of interest, associated place or area are resolved. Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a place is not fixed for all time, and what is considered of significance at the time of assessment may change as similar items are located, more research is undertaken and community values change.

The above observation does not lessen the value of the heritage approach, but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why, also changes over time (Pearson and Sullivan 1995:7). This assessment of the Indigenous cultural heritage significance of the Site of Interest as its environments of the study area is based on the views expressed by the Claimant and his community representatives consulted documentary review and physical integrity.

African indigenous cultural heritage significance is not limited to items, places or landscapes associated with pre-European contact. Indigenous cultural heritage significance is understood to encompass more than ancient archaeological sites and deposits, broad landscapes and environments. It also refers to sacred places and story sites, as well as historic sites, including mission sites, memorials, and contact sites. This can also refer to modern sites with particular resonance to the indigenous community. The site of interest considered in this project falls within this realm of broad significance.

6.1. Assessment Criteria

The Guidelines to the SAHRA Guidelines and the Burra Charter define the following criterion for the assessment of cultural significance:

6.1.1. Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour,

texture and material of the fabric; sense of place, the smells and sounds associated with the place and its use.

6.1.2. Historic Value

Historic value encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. The overall Mpumalanga Province region as a place has historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

6.1.3. Scientific value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information. Scientific value is also enshrined in natural resources that have significant social value. For example, patches of forests and bushvelds have high ethnobotany value.

6.1.4. Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, religious, political, local, national or other cultural sentiment to a majority or minority group. Social value also extend to natural resources such as bushes, trees and herbs that are collected and harvested from nature for herbal and medicinal purposes.

6.2. Evaluation of Heritage Resource

Based on the information from the national South African Heritage Resources Agency standards of best practice and minimum standards, data capture forms were used to collect information from the field through site condition surveys and observations.

(Table 5) After the data was gathered from the field was combined with information from other sources it was deemed essential to establish the value and significance of individual sites as well as to identify any threats to the heritage. The South African National Heritage Resources Act 25 of 1999 grading scale was used to assess significance.

Table 3: Significance assessment of heritage resources based on ICOMOS and NHRA criteria.

ICOMOS Ranking	South African Legislation (National Heritage Resources Act Ranking)
<ul style="list-style-type: none"> • Very high (World Heritage Sites) 	National Heritage Sites (Grade 1)
<ul style="list-style-type: none"> • High (Nationally significant sites) 	National Heritage Sites (Grade 1), Grade 2 (Provincial Heritage Sites), burials
<ul style="list-style-type: none"> • Medium (regionally significant sites) 	Grade 3a
<ul style="list-style-type: none"> • Low (locally significant sites) 	Grade 3b
<ul style="list-style-type: none"> • Negligible 	Grade 3c
<ul style="list-style-type: none"> • Unknown 	Grade 3a

7. STATEMENT OF SIGNIFICANCE

7.1. Aesthetic Value

The aesthetic values of the HIA Study Area (powerline and the overall project area) are contained in the valley bushveld environment and landscape typical of this part of the Mpumalanga Province. The visual and physical relationship between HIA study area and the surrounding cultural Landscape demonstrates the connection of place to the local and oral historical stories of the African communities who populated this region going back into prehistory.

The proposed powerline will be situated within an environment and associated cultural landscape, which, although developed by existing farm settlements, remains representative of the original historical environment and cultural landscape of this part of Mpumalanga Region. The local communities consider the project area a cultural landscape linked to their ancestors and history. However, the proposed developments will not alter this aesthetic value in any radical way since it will add to the constantly changing and developing settlements (Table below).

Table 4: Assessment of impacts to Aesthetic Values related to the scenic routes and sense of place

	Before Mitigation	After Mitigation
Magnitude	Low	NA
Extent Local -	Local	NA
Duration Long term -	Long term	NA
Significance	Low -	NA
Probability	Definite -	NA
Status	Negative -	NA
Reversible	Yes (with rehabilitation after powerline decommissioned)	NA is
Cumulative	A number of powerline and agricultural facilities planned for the area that may lead to cumulative visual impacts to the landscape if they were to be constructed. This may be of concern and will detract from peoples' experience of the general regional sense of place.	

7.2. Historic Value

There are no such historic relics on the site affected with development; however, such history goes back to the pre-colonial period, through the colonial era, the colonial wars and subsequent colonial rule up to modern day Mpumalanga Province.

Table 5: Assessment of impacts to Historic Values related to the project area.

	Before Mitigation	After Mitigation
Magnitude	Low	Low
Extent Local -	Specific Site	Specific Site
Duration Long term -	Long term	Long term
Significance	Low -	Low -
Probability	Definite -	Probable
Status	Negative -	Negative -
Reversible	Yes (with rehabilitation after plant is	No

	decommissioned)
Cumulative	No historic or historic archaeology sites will be affected by this development. However, there are similar developments in the region that may be affected highly significant sites which will lead to permanent loss of physical cultural property record of the region.

7.3. Scientific value

Past settlements and associated roads, and other auxiliary infrastructure developments and disturbance within the HIA study area associated with the proposed powerline have resulted in limited intact significant cultural landscapes with the potential to retain intact large scale or highly significant open archaeological site deposits. However, should intact archaeological sites be recorded within the powerline servitude and immediate surrounding areas, they may retain scientific evidence that may add value to the local and regional history.

Table 6: Assessment of impacts to Archaeological Scientific Values related to the project area.

	Before Mitigation	After Mitigation
Magnitude	Low	NA
Extent Local -	Specific Site	NA
Duration Long term -	Long term	NA
Significance	Low -	NA
Probability	Definite -	NA
Status	Negative -	NA
Reversible	Yes (with rehabilitation after plant is decommissioned)	NA
Cumulative	The archaeological resources falling within the project area are not significant since they do not constitute distinct sites. Since no significant pre-colonial resources occur, cumulative impacts are thus not of concern on this site. There are other significant archaeological sites in the region that may be protected for archaeological and scientific reasons.	

7.4. Social Value

The project sites fall within a larger and an extensive Mpumalanga cultural landscape. The overall area has social value for the local community, as is the case with any populated landscape. The land provides the canvas upon which daily socio-cultural activities are painted. The remains of historic homesteads that are found around the project area testify to the fact of generational homes and settlements. All these factors put together confirm the social significance of the

project area. However, this social significance is not going to be negatively impacted by the proposed powerline development especially given the fact that the development will add value to the human settlements and activities already taking place. In addition the area is already affected by development and this project is an addition to what already existing infrastructure such as roads, and agricultural fields and high voltage poweline infrastructure.

Sections of the project area are covered in thick bushes. Vegetation retains social value as sources of important herbs and traditional medicines as such, they must be considered as medium significant social value sites.

8. RECOMMENDATIONS

1. Reminders of undefined potsherds were recorded within the proposed development footprints. This site is marked by very low density scatters of low significant archaeological potsherd remains. The sites were classified as Grade 3c sites of low Local Significance. The fabric of the sites is no longer intact and has been compromised. However, these scatters point to the possibility of the existence of archaeological sites in the project area. Overall, the archeological remains are of no discernable significance and they do not retain intact archaeological provenances to warrant their further protection.
2. From a heritage point of view the +/-13km Option 1 amended route is feasible because it runs along previously approved route and farm access roads are available.
3. Should chance archaeological materials or human burials remains be exposed during subsurface construction work on any section of the powerline laydown sites, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. 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 PHRA and NHRA regulations.

4. A professional archaeologist should be retained to monitor all significant earth moving activities that may be implemented as part of the proposed Powerline development.
5. The construction monitoring process would ensure that should any archaeological or human remains be disturbed during subsurface construction work at the Sites of Interest, immediate remedial rescue and salvage work would be actioned without delay.
6. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed powerline development in the Mpumalanga Province. The Heritage authority may approve the proposed development to proceed as planned with special commendations to implement the recommendations here in made.

8.1. Management & Policy Recommendations

8.1.1. Community Advisory

Should community consultations being held through the project EIA PPP refer to any cultural issues associated with the project area, such matters should be addressed adequately. The proposed powerline is associated with existing communities in the landscape and their heritage or cultural aspirations that may potentially be affected by the development should be acknowledged in the event that they are identified during the course of the implementation of the proposed development. To date, the PPP consultation process has not identified cultural heritage contestation to the project.

Recommendation

The Project Public Participation Process should ensure that any cultural heritage related matter for this project is given due attention whenever it arises and is communicated to PHRA throughout the proposed project development. This form of extended community involvement would pre-empt any potential disruptions that may arise from previously unknown cultural heritage matter that may have escaped the attention of this study.

8.1.2. Interpretation & Active Management Recommendations

The local communities have a long and significant connection with project area. Like any other generational society, there are several other cultural activities that take place within the affected settlement areas associated with the proposed power line servitudes.

Recommendation

Although the possibility of conflict between the community and the proposed development related to cultural heritage is unlikely, PHRA should acknowledge on behalf of the community, that the project area is situated in a culturally significant landscape associated with local history and cultural activities. PHRA may also acknowledge that such significance is not tied to physical sites or archaeological sites only, but to intangible heritage such as popular memories, oral history, ancestral remembrance, religious rituals, aesthetic appreciations, living experiences and folklores. As such, the community retains the right to have their constitutionally guaranteed cultural heritage rights respected and protected without being limited to existence of physical evidence such as archaeological sites. Should such issues arise in association with this proposed development have to be adequately addressed by PHRA and community.

9. CONCLUDING REMARKS

The literature review, field research and subsequent impact assessment confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements that have long local history. Field survey was conducted during which it was established that the affected project area is degraded by existing and previous land use activities and developments. Although the area is degraded, there are archeological remains that confirm that the Site of Interest is part of a wider cultural landscape as confirmed by existence of isolated potsherds. Although historical and contemporary cultural sites exist in the neighboring farmlands, none were recorded within the amended route area that retained high significance that may be affected by implementation of the proposed powerline development. This report concludes that the proposed powerline may be approved by Heritage

Authority to proceed as planned subject conditional inclusion of heritage monitoring measures in the project EMP (also see Appendices) and chance finds procedures for the construction phase.

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11. APPENDIX 1: HUMAN REMAINS AND BURIALS IN DEVELOPMENT CONTEXT

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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.

12. APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO the POWERLINES PROJECT LIMPOPO PROVINCE EMP

Objective

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.

No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-Construction Phase								
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
Construction Phase								
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		Throughout	C CECO	SM	ECO	EA EM PM

No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
		heritage specialist or PHRA official must be called to site for inspection.						
		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 Heritage Authority/SAHRA.		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
Rehabilitation Phase								
		Same as construction phase.						
Operational Phase								
		Same as construction phase.						

13. Appendix 3: heritage mitigation measure table

Site Ref	HERITAGE Aspect	POTENTIAL IMPACT	Mitigation measures	Responsible PARTY	Penalty	Method Statement required
Chance Archaeological and Burial Sites	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.	Possible damage to previously unidentified archaeological and burial sites during construction phase. Unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites. Loss of historic cultural landscape; Destruction of burial sites and associated graves Loss of aesthetic value due to construction work Loss of sense of place Loss of intangible heritage value due to change in land use	In situations where unpredicted impacts occur construction activities must be stopped and the heritage authority should be notified immediately. Where remedial action is warranted, minimize disruption in construction scheduling while recovering archaeological data. Where necessary, implement emergency measures to mitigate. 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. 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.	Contractor / Project Manager Archaeologist Project EO	Fine and or imprisonment under the PHRA Act & NHRA	Monitoring measures should be issued as instruction within the project EMP. PM/EO/Archaeologists Monitor construction work on sites where such development projects commences within the farm.

14. 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.



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