Prepared for:

ESKOM

A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR THE PROPOSED NEW 88kV POWER LINE RUNNING FROM THE MAJUBA POWER STATION NEAR AMERSFOORT TO THE CAMDEN POWER STATION NEAR ERMELO IN THE MPUMALANGA PROVINCE OF SOUTH AFRICA

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EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999) was done for a proposed new 88 kV power line to be established between the Majuba and Camden Power Stations in the Mpumalanga Province of South Africa. The aims with the Phase I HIA study were to establish whether any of the types and ranges of heritage resources ('national estate') as outlined in Section 3 of the National Heritage Resources Act (Act 25 of 1999) do occur in or near the proposed new power line corridor (project area) (Box 1).

The Phase I HIA study for the proposed new Majuba to Camden power line revealed the following types and ranges of heritage resources near the Eskom Project Area, namely:

- Homesteads for farm workers and stone walled kraals (enclosures) for livestock.
- Graveyards that were used by farm workers.

These remains were geo-referenced, mapped and tabulated (Figure 6, Tables 1 & 2). All these remains occur some distance from Eskom's proposed new power line corridor where they need not to be affected by the power line. Notwithstanding, the significance of the heritage resources are indicated.

- All buildings and structures older than sixty years are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). These remains also qualify as archaeological remains and are protected by Section 35 of the National Heritage Resources Act (No 25 of 1999).
- All graveyards and graves can be considered to be of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

If any of the historical farmsteads and associated remains or the graveyards may be affected by the construction of the proposed new 88kV Majuba-Camden power line, the following mitigation measures have to be applied to the heritage resources:

- The historical farm homes and associated remains may only be affected (altered, demolished, removed) after an archaeologist accredited with the Association for Southern African Professional Archaeologists (ASAPA) has obtained a permit from the Mpumalanga Provincial Heritage Resources Authority (Mpumalanga PHRA) which authorises any changes to these heritage resources.
- Graveyards can be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

CONTENTS

1 INTRODUCTION

This document contains the report on a Phase I Heritage Impact Assessment (HIA) study done for Eskom's proposed new 88kV power line running between the Majuba Power Station near Amersfoort and the Camden Power Station near Ermelo in the Mpumalanga Province of South Africa.

The Mpumalanga Province of South Africa has a rich heritage comprised of remains dating from the pre-historic and from the historical (or colonial) periods of South Africa. Pre-historic and historical remains in the Mpumalanga Provinces present a record of the heritage of most groups living in South Africa today. Various types and ranges of heritage resources that qualify as part of South Africa's 'national estate' (outlined in Section 3 of the National Heritage Resources Act, Act No 25 of 1999) occur in this province (see Box 1).

Box 1: Types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999).

The National Heritage Resources Act (Act 25 of 1999, Section 3) outlines the following types and ranges of heritage resources that qualify as part of the national estate:

(a) places, buildings structures and equipment of cultural significance;

(b) places to which oral traditions are attached or which are associated with living heritage;

(c) historical settlements and townscapes;

(d) landscapes and natural features of cultural significance;

(e) geological sites of scientific or cultural importance;

(f) archaeological and palaeontological sites;

(g) graves and burial grounds including-

(i) ancestral graves;

(ii) royal graves and graves of traditional leaders;

(iii) graves of victims of conflict;

(iv) graves of individuals designated by the Minister by notice in the Gazette;

(v) historical graves and cemeteries; and

(vi) other human remains which are not covered in terms of the Human Tissue Act (Act 65 of 1983);

(h) sites of significance relating to the history of slavery in South Africa;

(i) moveable objects, including -

(i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, material, meteorites and rare geological specimens;

(ii) objects to which oral traditions are attached or which are associated with living heritage;

(iii) ethnographic art and objects;

(iv) military objects;

(v) objects of decorative or fine art;

(vi) objects of scientific or technological interest; and

(vii) books, records, documents, photographs, positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act (Act 43 of 1996).

The National Heritage Resources Act (Act 25 of 1999, Sec 3) also distinguishes nine criteria for a place and/or object to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

(a) its importance in the community, or pattern of South Africa's history;

(b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;

(c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;

(d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;

(e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;

(f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;

(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;

(h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and/or

(i) its significance relating to the history of slavery in South Africa.

2 AIMS WITH THIS REPORT

Eskom intends to construct a new 88kV power line between the Majuba Power Station near Amersfoort and the Camden Power Station near Ermelo as well as seven tract stations along this route in the Mpumalanga Province of South Africa. This power line corridor and the various track stations along the corridor are hereafter referred to as the Eskom Project Area.

The proposed new 88kV Majuba/Camden power line will supply electricity to a new railway line carrying coal from the existing Saldanha Bay railway line to the Majuba Power Station.

In order to comply with legislation, Eskom requires knowledge of the presence, relevance and the significance of any heritage resources that may occur in or near the proposed new power line corridor. Eskom needs this information in order to take pro-active measures with regard to any heritage resources that may be affected by the proposed new development. Eskom therefore commissioned the author to undertake a Phase I HIA study for the proposed new power line corridor. The aims with the Phase I HIA study were the following:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) do occur in or near the proposed new power line corridor and, if so, to determine what the nature, the extent and the significance of these remains are.
- To determine whether such heritage resources will be affected by the proposed new development project and if so to evaluate what appropriate mitigation measures could be taken if any of the types and ranges of heritage resources will be affected by the proposed new development project.

3 METHODOLOGY

3.1 Approach to this project

This Phase I HIA study was conducted by means of the following:

- Travelling the length of the proposed power line with a vehicle where accessible roads existed and surveying accessible stretches of the proposed new power line corridor on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Eskom Project Area.
- Consulting maps of the Eskom Project Area.
- Consulting archaeological (heritage) data bases.
- Synthesising all information obtained from the data bases, fieldwork, maps and literature survey into this report.

3.2 Assumptions and limitations

It must be pointed out that heritage resources can be found in the most unexpected places. It must also be borne in mind that surveys may not detect all the heritage resources in a given project area. While some remains may simply be missed during surveys (observations), others may occur below the surface of the earth and may only be exposed once development (such as the construction of the new pipe lines) commences.

3.3 Chance finds

If any heritage resources of significance is exposed during this development project the South African Heritage Resources Authority (ASAPA) should be notified immediately, all construction activities must be seized and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notify in order to determine appropriate mitigation measures for

the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the mitigation measures.

3.4 Some remarks on terminology

Terms that may be used in this report are briefly outlined in Box 2.

Box 2- Terminology relevant to this report

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act , Act 25 of 1999 (see Box 1).

Heritage resources include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

The term 'pre-historic' refers to the time before any historical documents were written or any written language developed in a particular area or region of the world. The historical period and historical remains refer, for the Eskom Project Area, to the first appearance or use of 'modern' Western writing brought to the Eastern Transvaal Highveld by the first colonists who settled in this area after c. 1839.

The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains may, however, be almost sixty years old and these may qualify as heritage resources in the near future.

It is not always possible, based on observations alone, to distinguish clearly between archaeological remains and historical remains, or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or, when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floor plans (a historical feature) may serve as a guideline. However, circular and square floors may occur together on the same site.

The term 'sensitive remains' is sometimes used to distinguish graves and cemeteries, as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves in particular are not necessarily heritage resources if they date from the recent past and do not have headstones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important, as different cultural groups may uphold different traditions and values with regard to their ancestors. These values have to be recognised and honoured whenever graveyards are exhumed and relocated.

The term 'Stone Age' refers to the prehistoric past, although Late Stone Age peoples lived in South Africa well into the historical period. The Stone Age is divided into an Earlier Stone Age (3 million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years to 40 000 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term 'Iron Age' refers to the last two millennia and 'Early Iron Age' to the first thousand years AD. 'Late Iron Age' refers to the period between the 16th century and the 19th century and can therefore include the historical period.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the pre-historic, historical or the relatively recent past.

The term 'mining area' ('critical area') refers to the area where the developer wants to focus development activities. The term 'peripheral area' refers to the area that will not be affected by the proposed new development activities.

The 'South Shaft 3 Project Area' refers to both the mining and peripheral areas.

Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types of heritage resources in any given area.

Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of bodies and the relocation of graveyards, etc. Phase II work may require the input of specialists and requires the cooperation and approval of SAHRA.

4 THE ESKOM PROJECT AREA

4.1 Location

The Eskom Project Area stretches between Ermelo in the north and Amersfoort in the south and is therefore located on the Eastern Highveld of Mpumalanga. This region was occupied by humans from an early period. However, the vast coal deposits of the region which is mined for more than a century is leading to the gradual disappearance of a local farming economy which is being replaced by mega coal mining ventures. The coal which is mined is either used in local power stations or transported by railway line to Saldanah Bay from where it is exported.

A large part of the Project Area is covered with agricultural fields. Few trees occur, the majority of which are exotics such as blue gum lots, poplar-groves on the banks of rivers and streams and the odd Oak tree which is usually located near a historical farm homestead. These trees are anthropogenic in nature as they have been introduced by early human activities in the area (2629DB Ermelo; 2630CA Camden and 2629DD Uitspanning; 1: 50 000 topographical maps [Figure 1]).

4.2 Contextualising the Eskom Project Area

The pre-historical and historical context of the Eskom Project Area is briefly reviewed. This information is incorporated in this report in order to help to determine the significance of any heritage resources that occur in and near the Project Area.

Contextual evidence that serves as background to the Eskom Project Area includes the following: the Stone Age; the earliest farmers and stone builders; the arrival of the colonists; early coal mining and farm homesteads with graveyards from the recent past.

4.2.1 Stone Age sites

Stone Age sites are marked by stone artefacts that are found scattered on the surface of the earth or as parts of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age (covers the period from 2.5 million years ago to 250 000 years ago), the Middle Stone Age (refers to the period from 250 000 years ago to 22 000 years ago) and the Late Stone Age (the period from 22 000 years ago to 200 years ago).

The Later Stone Age is also associated with rock paintings and engravings which were done by the San, Khoi Khoi and in more recent times by Iron Age farmers.

Heritage surveys up to now have recorded few outstanding Stone Age sites, rock paintings and engravings in the Eastern Highveld - primarily as a result of limited extensive archaeological surveys.

Stone tools have been recorded around some of the pans which occur on the Eastern Highveld.

4.2.2 The earliest farmers

The Iron Age is associated with the first agro-pastoralists who lived in semi-permanent villages and who practised metal working during the last two millennia. The Iron Age is usually divided into the Early Iron Age (covers the 1st millennium AD) and the Later Iron Age (covers the first 880 years of the 2nd millennium AD).

The Eastern Highveld has probably not been occupied by Early Iron Age communities but was occupied by Late Iron Age farming communities such as the Sotho, Swazi and Ndebele who established settlement complexes that were built with stone walls. It seems as if these sites are more common towards the

eastern perimeters of the Eastern Highveld. Small, inconspicuous stone walled sites have been observed along the Olifants River but are an exception and not the rule.

4.2.3 The colonists and the historical period

Historical towns closest to the Eskom Project Area include Ermelo and Amersfoort Hendrina and Carolina.

Amersfoort was established when two farmers donated 426 hectares of land on Schulpspruit for a new Dutch Reformed parish. Reverend Lion Cachet named the parish Amersfoort for the city in The Netherlands. When the town expanded an additional 850 hectares of land was bought from N. Grobbelaar, one of the original donors. Amersfoort was proclaimed a town in 1888. The main economic activities are sheep farming while modest quantities of maize are planted in the area.

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 Highveldt coal fields and the bulk export harbour of Richards Bay on

Kwa Zulu-Natal's north coast. Heritage sites in Ermelo include: a memorial near the Dutch Reformed Church in honour of the men from the town and district who fought and died in the Anglo Boer War; rock paintings in caves and rock shelters and the Paul Kruger Bridge across the Vaal River which was built in 1897 by the celebrated architect, Sytze Wierda.

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 ('barley spring') 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.

4.2.4 A coal mining heritage

Coal mining on the Eastern Highveld is older than one century. This region has become the most important coal mining centre in South Africa. Whilst millions of tons of high-grade coal are annually exported overseas more than 80% of the country's electricity is generated on low-grade coal in Eskom's power stations such as Majuba, Camden, Matla and Arnot situated near coalmines on the Eastern Highveld.

The earliest use of coal (charcoal) in South Africa was during the Iron Age (AD300-1880) when metal workers used charcoal, iron and copper ores and fluxes (quartzite stone and bone) to smelt iron and copper in clay furnaces.

Colonists are said to have discovered coal in the French Hoek Valley near Stellenbosch in the Cape Province in 1699. The first reported discovery of coal in the interior of South Africa was in the mid-1830 when coal was mined in Kwa Zulu/Natal.

The first exploitation for coal was probably in Kwa Zulu/Natal as documentary evidence refers to a wagon load of coal brought to Pietermaritzburg to be sold in 1842. In 1860 the coal trade started in Dundee when a certain Pieter Smith charged ten shillings for a load of coal dug by the buyer from a coal outcrop in a stream. In 1864 a coal mine was opened in Molteno. The explorer, Thomas Baines mentioned that farmers worked coal deposits in the neighbourhood of Bethal (Transvaal) in 1868. Until the discovery of diamonds in 1867 and gold on the Witwatersrand in 1886, coal mining only satisfied a very small domestic demand.

With the discovery of gold in the Southern Transvaal and the development of the gold mining industry around Johannesburg came the exploitation of the Boksburg-Spring coal fields, which is now largely worked out. By 1899, at least four collieries were operating in the Middelburg-Witbank district, also supplying the gold mining industry. At this time coal mining also has started in Vereeniging. The Natal Collieries importance was boosted by the need to find an alternative for imported Welsh anthracite used by the Natal Government Railways.

By 1920 the output of all operating collieries in South Africa attained an annual figure of 9,5million tonnes. Total in-situ reserves were estimated to be 23 billion tonnes in Witbank-Springs, Natal and Vereeniging. The total *in situ* reserves today

are calculated to be 121 billion tonnes. The largest consumers of coal are Sasol, Iscor (Mittal) and Eskom.

4.2.5 A vernacular stone architecture

A unique stone architectural heritage was established in the Eastern Highveld during the second half of the 19th century well into the early 20th century. During this time period stone was used to build farmsteads and dwellings, both in urban and in rural areas. Although a contemporary stone architecture also existed in the Karoo and in the Eastern Free State Province of South Africa a wider variety of stone types were used on the Eastern Highveld. These included sandstone, ferricrete ('ouklip'), dolerite ('blouklip'), granite, shale and slate.

The origins of a vernacular stone architecture in the Eastern Highveld may be ascribed to various reasons of which the ecological characteristics of the region may be the most important. The Eastern Highveld is generally devoid of any natural trees which could be used as timber in the construction of farmsteads, outbuildings, cattle enclosures and other structures while the scarcity of fire wood also prevented the manufacture (firing) of baked clay bricks. Stone therefore served as the most important building material on the Eastern Highveld.

Late Iron Age communities who contributed to the Eastern Highveld's stone walled architecture were the Sotho, Ndebele and Swazi. The tradition set by these indigenous groups may have influenced the first settlers from Natal and the Cape Colony to utilize the same resources that their predecessors. Many farmers from Scottish, Irish, Dutch, German and Scandinavian descend, settled and farmed on the Eastern Highveld. They brought the knowledge of stone masonry from Europe which compensated for the lack of fire-wood which was necessary to fire clay bricks.

4.2.6 Farm homesteads and graveyards from the recent past

Farm homesteads with outbuildings that date from the more recent past occur throughout the Eastern Highveld. Many of these farm homesteads hold little historical significance. However, buildings and other infrastructure which are part of these farm homesteads may be older than sixty years and therefore qualify as historical structures.

Many of these farm homesteads are associated with formal and informal graveyards. Dwellings which have been used by farm labourers and which have disintegrated over time are in many instances associated with informal graves and sometimes with informal cemeteries. These informal graves and cemeteries may occur in the most unexpected places - such as in maize fields where they have not been ploughed under over time.

5 THE PHASE I HERITAGE IMPACT ASSESSMENT

The proposed new 88kV Majuba-Cambden power line can be divided into the following two main sections, namely:

- A power line running from Track Station 1 to the Majuba Power Station.
- A power line running from Track Station 1 to the Camden Power Station.

5.1 From Track Station 1 to the Majuba Power Station

This section of the 88kV power line between the Majuba Power Station and the Camden Power Station run from Track Station 1 in the north to the Majuba Power Station in the south. This section of the power line was divided into the following stretches:

- Stretch AB: From Track Station 1 to the sharp bend in the Amsterdam dirt road
- Stretch BC: Along the Amsterdam dirt road to the Morgenzon T- junction.
- Stretch CD: From the Morgenzon T-junction to a connecting road.
- Stretch DE: From the connecting road to the Morgenzon dirt road.
- Stretch EF: From the Morgenzon dirt road to the Morgenzon-Amersfoort road (R53)
- Stretch FG: From the Morgenzon-Amersfoort road (R53) to the 7 Track Station

The Phase I HIA survey for the section of the power line running between Track Station 1 and the Majuba Power Station revealed the following observations:

5.1.1 Stretch AB: From Track Station 1 to the sharp bend in the Amsterdam dirt road

This stretch runs from Track Station 1 (on the northern shoulder of the Ermelo-Morgenzon road) southwards following a S-curve across Uitgezocht 436, Kromdraai 441 and De Vereeniging 448 to a sharp bend in the dirt road running to Amsterdam.

Stretch AB runs southwards from Track Station 1 across the Rietspruit followed by agricultural fields as well as two tributaries of the Rietspruit. This stretch mainly runs across agricultural fields and converges with the sharp bend in the Amsterdam dirt road further to the south.

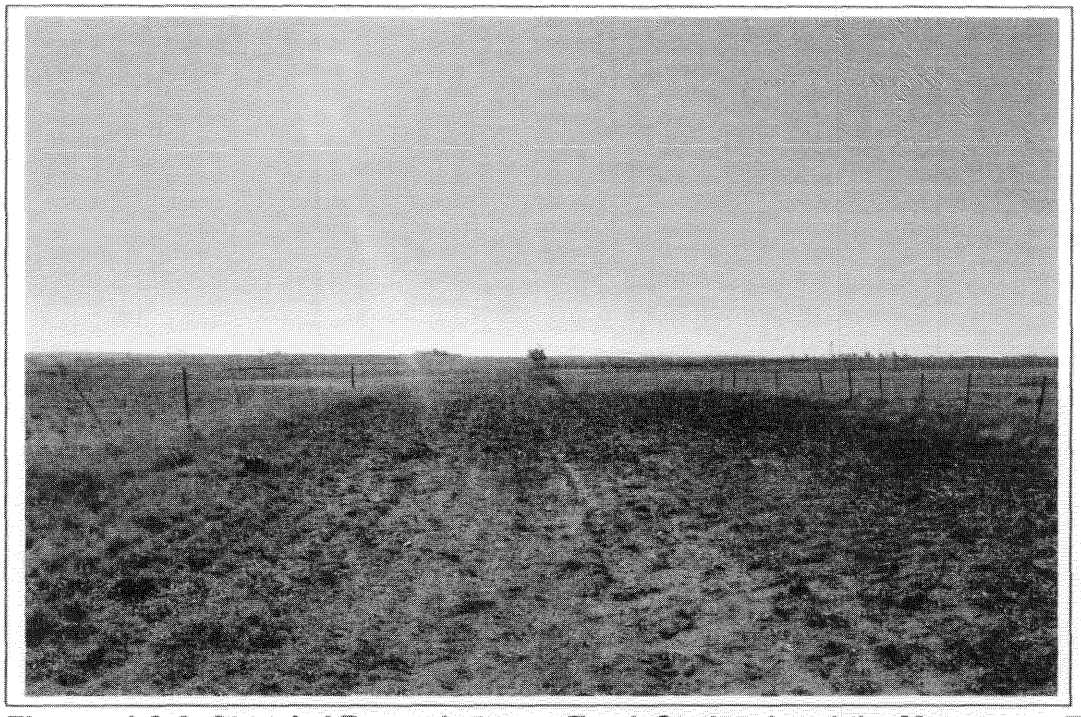
5.1.1.1 Heritage remains

A farm workers residence and a cattle enclosure with possible historical affinities occur some distance to the west of the proposed new power line (Table 1).

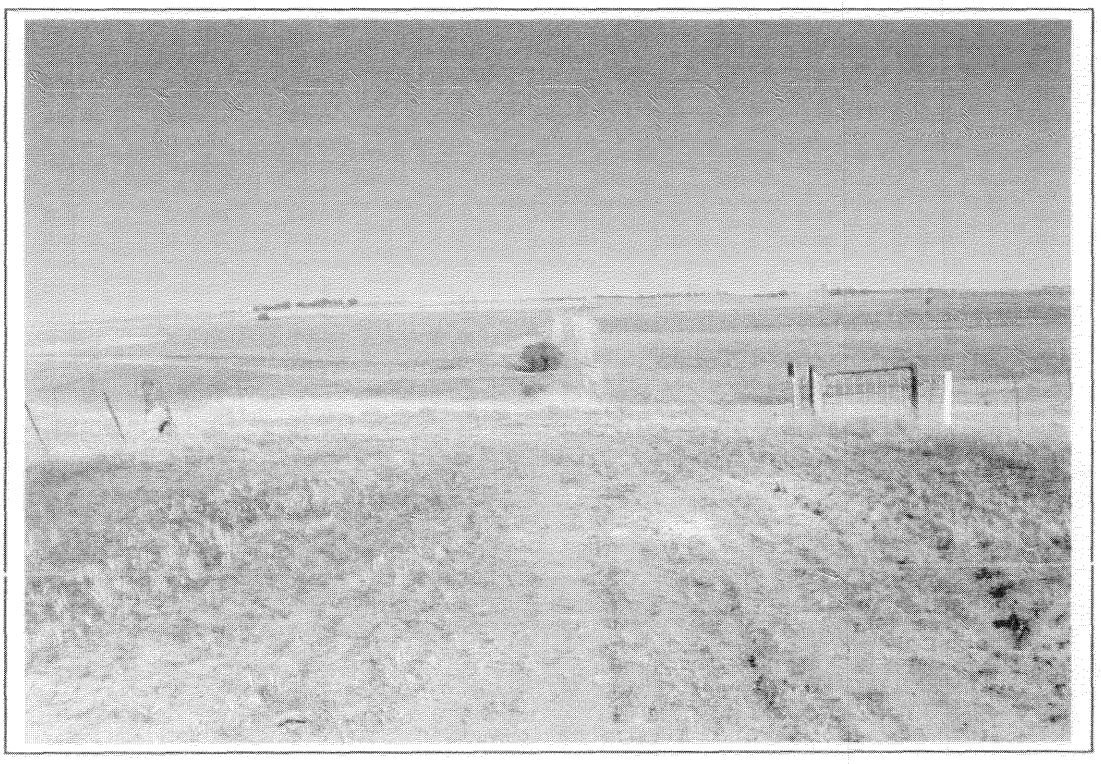
5.1.2 Stretch BC: Along the Amsterdam dirt road to the Morgenzon T-junction

Stretch BC runs southwards along the western shoulder of the Amsterdam dirt road across Dorpsplaats 470 to the Morgenzon T-junction. This stretch initially crosses the Kromdraailoop and then runs across consecutive agricultural fields and patches with grass veldt.

At least two lots with Blue Gum trees are located along this stretch. Both (or one) these clumps with Blue Gum trees are associated with dwellings that are occupied by farm labourers.



Figures 1 & 2- Stretch AB runs between Track Station 1 and the Morgenzon T-junction (above and below).



5.1.3 Stretch CD: From the Morgenzon T-junction to a connecting road

Stretch CD runs along the border fence between Holland 471 and Tweefontein 479 southwards and then curls south-westwards in order to avoid a number of winds in the Vaal River and therefore only crossing this river once further to the south on Tweefontein 479.

Stretch CD runs further to the south across Grabe's Rust 495 to a dirt road connecting two other dirt roads running between farms in this area.

GY01 is located some distance to the west of the connecting road (Table 1).

5.1.4 Stretch DE: From the connecting road to the Morgenzon dirt road

Stretch DE runs southwards across Kroonstad 494. It initially runs close to a pan and then swirls to the south-west while crossing several patches with agricultural fields.

Stretch DE then turns back to the south running across a two track road and agricultural fields to the Morgenzon dirt road.

5.1.4.1 Heritage remains

The remains of two homesteads of farm workers with possible historical significance occur to the west of the proposed new power line (Table 1).

A graveyard with as many as fifteen graves are located a considerable distance to the west of the proposed new power line (GY01) (Table 2).

5.1.5 Stretch EF: From the Morgenzon dirt road to the Morgenzon-Amersfoort road (R53)

Stretch EF runs southwards across Sterkspruit 508 and then further southwards along the border of Brakfontein 529 and Platberg 518 followed by Vlakplaats 58 before crossing the Morgenzon-Amersfoort (R53) road.

5.1.5.1 Heritage remains

Two graveyards are located to the west of Stretch EF. They include an unidentified number of graves in an enclosure (G01) and another two graves in a cattle enclosure (G02) (Table 2).

5.1.6 Stretch FG: From the Morgenzon-Amersfoort road (R53) to Track Station 7

Stretch FG runs from the R53 southwards across Koppieskraal 56 and then crosses the Paardekop-Amersfoort road south-westwards across Roodekoppies 67 closing following the eastern shoulder of a dirt road. It then crosses this dirt road in order to follow its western shoulder before crossing it again while turning to the south-east to stop at Track Station 7.

A historical farm homestead complex is located near Stretch FG but will not be affected by the proposed new power line.

5.1.6.1 Heritage remains

A circular stone wall with historical affinities is located slightly to the east of the proposed new power line (Table 1)

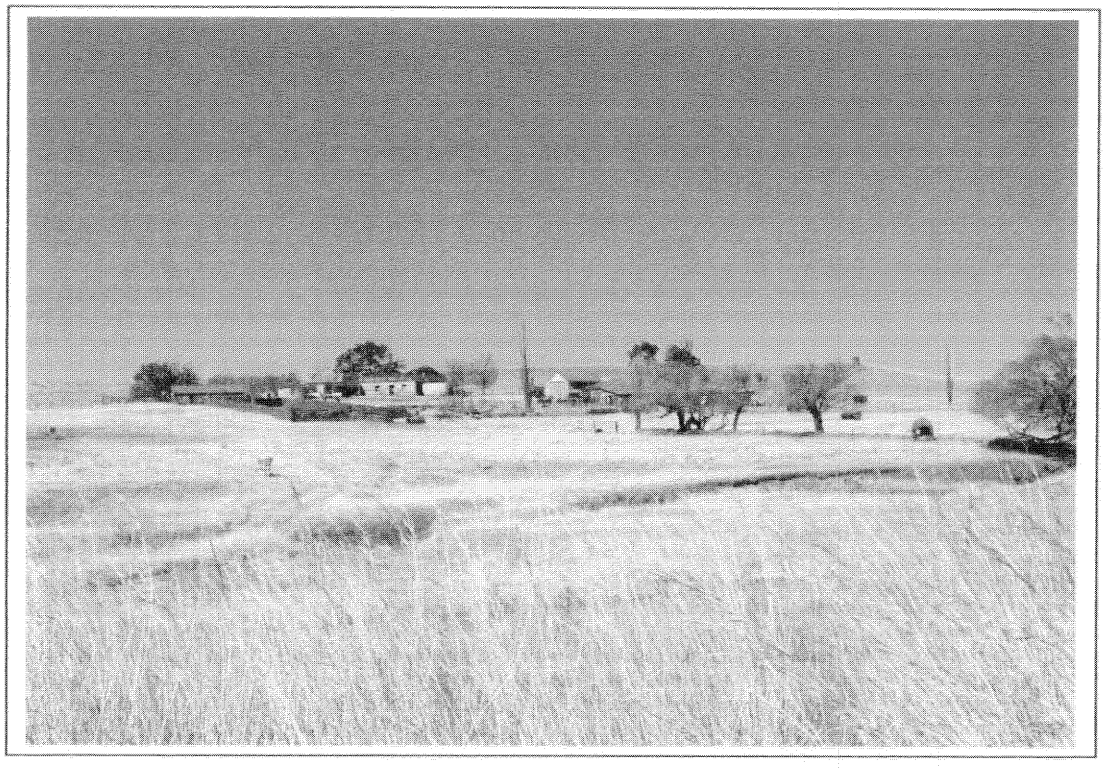


Figure 3- Stretch FG runs close to a historical farm homestead complex consisting of farm homes, sheds and cattle enclosures. However, this complex will not be affected by the proposed new power lines (above).

5.2 From Track Station 1 to the Camden Power Station

The section of the 88kV power line which runs between the Majuba and Camden Power Stations run from Track Station 1 in the west to the Camden Power Station in the east. This section of the power line was divided into the following stretches:

- Stretch AB: From Track Station 1 to Eskom's existing power lines.
- Stretch BC: Along Eskom's existing power lines.

5.2.1 Stretch AB: From Track Station 1 to Eskom's existing power lines

Stretch AB runs from Track Station 1 to the east across Uitgezocht 436 and Rietspruit 487 before joining Eskom's existing 400kV and 275kV power lines.

This stretch runs eastwards across the Amersfoort dirt road and then across agricultural fields, across open stretches with grass veld and then next to a quarry. Stretch AB then runs through the neck of a long narrow ridge before joining Eskom's existing power lines.

5.2.2 Stretch BC: Along Eskom's existing power lines

Stretch BC runs eastwards across Rietspruit 437, Witbank 262, Langverwacht 293 and Uitkomst 292 to the Camden Power Station.

Stretch BC initially runs across grass veldt and then across the Amersfoort road. Stretch BC then runs across agricultural fields followed by a railway line. Stretch BC hereafter bends towards the south-east and again runs across agricultural fields before bending further to the south-east after which the power line enters the Camden Power Station.

Figures 4 & 5- Stretch AB runs through the neck of a long narrow ridge before joining Eskom's existing power lines (above). Stretch BC runs across agricultural fields before entering the Camden Power Station (below).

Figure 6- The Eskom Project Area incorporating Eskom's proposed new power lines between the Majuba and Camden Power Stations. Note the remains of historical farmsteads and associated remains as well as graves and graveyards along the proposed 88kV power line between the Majuba and Camden Power Stations.

5.3 Types and ranges of heritage resources in and near the Project Area

The Phase I HIA study for the proposed new Majuba to Camden power line revealed the following types and ranges of heritage resources near the Eskom Project Area, namely:

- Homesteads for farm workers and stone walled kraals (enclosures) for livestock.
- Graveyards that were used by farm workers.

5.3.1 Remains of homesteads with historical affinities

At least six structures that relate to farm worker dwellings (homesteads) and enclosures for stock were observed near the Eskom Project Area. These remains are tabulated below and briefly described (Table 1).

According to the remains of the homesteads these structures were constructed with stone and brick and plastered with mud. The enclosures were circular and constructed with stone.

5.3.2 Graveyards and graves

At least three graveyards were observed near the Eskom Project Area. These remains are tabulated below and briefly described (Table 2).

According to the remains of the homesteads these structures were constructed with stone and brick and plastered with mud. The enclosures were circular and constructed with stone.

Heritage resource	Coordinates	Significance	Level of impact
Farm worker's homestead. Stone foundations and brick and mud walls. Associated with middens.	S26°35'36.3" E29°52'59.9"	**LOW**	Low
Cow shed constructed with stone	S26°35'55.9" E29°52'51.5"	**LOW**	Low
Farm workers homestead. Clay foundation and part of one wall.	S26°53'42.2" E29°48'49.0"	**LOW**	Low
Farm workers homestead. Clay foundation.	S26°54'13.2" E29°48'51.8"	**LOW**	Low
Enclosure constructed with stone walls	S26°56'05.7" E29°48'49.1"	**LOW**	Low
Circular stone wall, probably part of an enclosure used for stock	S27°02'35.5" E29°48'56.4"	**LOW**	Low

Table 1- Coordinates for historical farm homes and associated remains near the Eskom Project Area (above).

Heritage resource	Coordinates	Significance	Level of impact
(GY01). A graveyard with at least 15 graves of farm workers near an old farm house.	S26°52'21.3" E29°49'06.3"	**HIGH**	Low
(G01). An unidentified number of graves in a stone enclosure.	S26°55'59.7" E29°48'47.8"	**HIGH**	Low
(G02). Two graves in a stone enclosure.	S26°58'10.0" E29°48'38.1"	**HIGH**	Low

Table 2- Coordinates for graveyards near the Eskom Project Area (above)

5.4 The significance of the heritage resources

All these remains occur some distance from Eskom's proposed new power line corridor where they need not to be affected by the power line. Notwithstanding, the significance of the heritage resources are indicated.

5.4.1 Historical farm homes and associated remains

All buildings and structures older than sixty years are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). These remains also qualify as archaeological remains and are protected by Section 35 of the National Heritage Resources Act (No 25 of 1999).

5.4.2 Graveyards and graves

All graveyards and graves can be considered to be of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

5.5 Mitigating the heritage resources

If any of the historical farmsteads and associated remains or the graveyards may be affected by the construction of the proposed new 88kV Majuba-Camden power line, the following mitigation measures have to be applied to the heritage resources.

5.5.1 Historical farm homes and associated remains

The historical farm homes and associated remains may only be affected (altered, demolished, removed) after an archaeologist accredited with the Association for Southern African Professional Archaeologists (ASAPA) has been obtained from the Mpumalanga Provincial Heritage Resources Authority (Mpumalanga PHRA).

5.5.2 Graveyards and graves

Graveyards can be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

6 CONCLUSION AND RECOMMENDATIONS

The Phase I HIA study for the proposed new Majuba to Camden power line revealed the following types and ranges of heritage resources near the Eskom Project Area, namely:

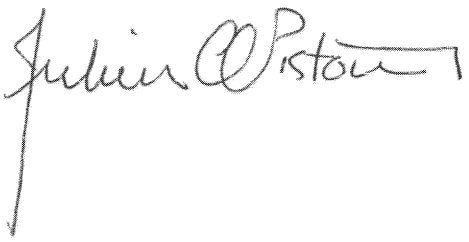
- Homesteads for farm workers and stone walled kraals (enclosures) for livestock.
- Graveyards that were used by farm workers.

These remains were geo-referenced, mapped and tabulated (Figure 6, Tables 1 & 2). All these remains occur some distance from Eskom's proposed new power line corridor where they need not to be affected by the power line. Notwithstanding, the significance of the heritage resources are indicated.

- All buildings and structures older than sixty years are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). These remains also qualify as archaeological remains and are protected by Section 35 of the National Heritage Resources Act (No 25 of 1999).
- All graveyards and graves can be considered to be of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

If any of the historical farmsteads and associated remains or the graveyards may be affected by the construction of the proposed new 88kV Majuba-Camden power line, the following mitigation measures have to be applied to the heritage resources:

- The historical farm homes and associated remains may only be affected (altered, demolished, removed) after an archaeologist accredited with the Association for Southern African Professional Archaeologists (ASAPA) has obtained a permit from the Mpumalanga Provincial Heritage Resources Authority (Mpumalanga PHRA) which authorises any changes to these heritage resources.
- Graveyards can be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.



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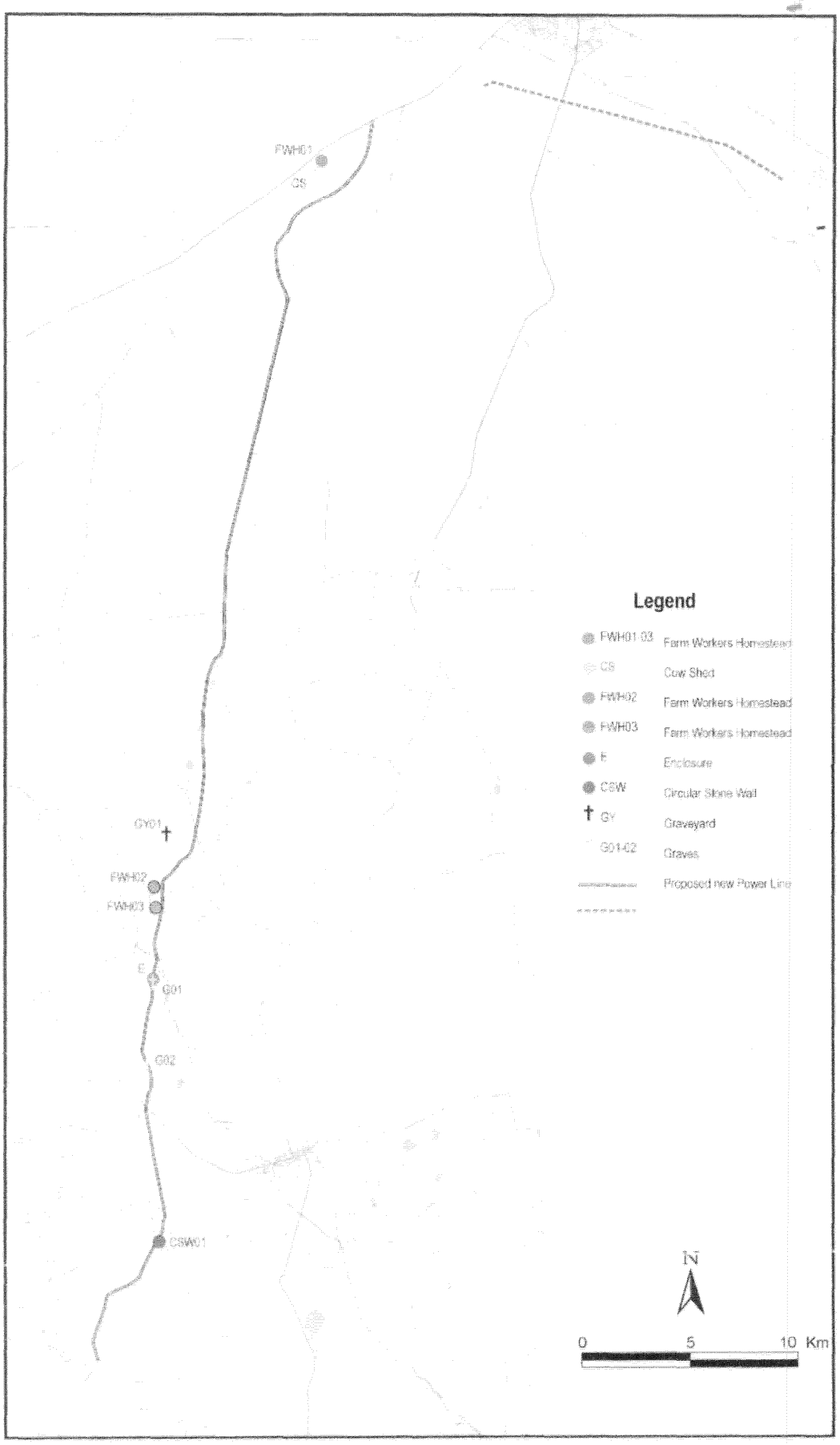

Figure 6- Remains of historical farmsteads and associated remains as well as graves and graveyards along the proposed 88kV power line between the Majuba and Camden Power Stations. None of these heritage resources need to be affected by the proposed new power lines as they do not occur in the Eskom Project Area.