

**CULTURAL HERITAGE IMPACT ASSESSMENT OF  
THE PROPOSED EXTENSION OF THE EMONDLO.  
ST JAMES AND LEKSAND SUBSTATION YARDS,  
INCLUDING THE RECONSTRUCTION OF THE  
EXISTING LEKSAND-ST JAMES 88/22kV  
POWERLINE AND THE CONSTRUCTION OF THE  
NEW EMONDLO-ST JAMES 88/22kV POWERLINE**



**ACTIVE HERITAGE CC**

**Frans E Prins, MA (Archaeology)  
P.O. Box 947  
Howick  
3290**

**26 April 2012**

**Tel: 033 3307729  
Cell: 0834739657  
Fax: 0867636380  
E-mail: feprins@gmail.com**

## TABLE OF CONTENTS

<b>1</b>	<b>BACKGROUND INFORMATION ON THE PROJECT.....</b>	<b>1</b>
<b>2</b>	<b>BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA .....</b>	<b>6</b>
<b>3</b>	<b>BACKGROUND INFORMATION OF THE SURVEY .....</b>	<b>7</b>
3.1	Methodology .....	7
3.2	Restrictions encountered during the survey .....	7
3.2.1	<i>Visibility</i> .....	7
3.2.2	<i>Disturbance</i> .....	8
3.3	Details of equipment used in the survey.....	8
<b>4</b>	<b>DESCRIPTION OF SITES AND MATERIAL OBSERVED.....</b>	<b>8</b>
4.1	Locational data .....	8
4.2	Description of the general area surveyed.....	8
4.3	Description of sites.....	8
4.4	Summary of findings .....	17
<b>5</b>	<b>STATEMENT OF SIGNIFICANCE (HERITAGE VALUE) .....</b>	<b>17</b>
5.1	Field Rating.....	18
<b>6</b>	<b>RECOMMENDATIONS .....</b>	<b>19</b>
<b>7</b>	<b>MAPS AND PHOTOGRAPHS.....</b>	<b>20</b>
<b>8</b>	<b>REFERENCES .....</b>	<b>32</b>

## LIST OF TABLES

Table 1. Background information.....	5
Table 2. Heritage sites located within the broader study area.....	9
Table 3. Field rating and recommended grading of sites (SAHRA 2005) .....	18

**LIST OF ABBREVIATIONS AND ACRONYMS**

EIA	Early Iron Age
ESA	Early Stone Age
HISTORIC PERIOD	Since the arrival of the white settlers - c. AD 1836 in this part of the country
IRON AGE	Early Iron Age AD 200 - AD 1000 Late Iron Age AD 1000 - AD 1830
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998 and associated regulations (2010).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2008)
SAHRA	South African Heritage Resources Agency
STONE AGE	Early Stone Age 2 000 000 - 250 000 BP Middle Stone Age 250 000 - 25 000 BP Late Stone Age 30 000 - until c. AD 200

## EXECUTIVE SUMMARY

A cultural heritage ground survey of the proposed extension of the Emondlo, St James and Leksand Substation yards, including the reconstruction of the existing Leksand-St James 88/22kV powerline and the construction of the new Emondlo-St James 88/22kV powerline, identified forty eight heritage features in the general study area. Most of these are relatively modern grave sites. None of the identified heritage sites are situated in the direct path of the proposed powerlines and the various alternative routes. However, heritage site no 21 (a cemetery) is situated approximately 2m from the proposed red powerline route, whilst heritage site no 37 (a cemetery) is situated approximately 5m from the proposed yellow powerline route. A buffer of at least 20m must be maintained around each identified heritage site and it is strongly recommended to shift the trajectory of the proposed powerlines to accommodate a 20m buffer zone. Although the greater study area contains many heritage sites none of these are threatened by the proposed development as they are all situated more than 20m from the proposed powerlines. However, attention is drawn to the South African National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) and the KwaZulu-Natal Heritage Act (Act No. 4 of 2008) which requires that operations that expose archaeological or historical remains should cease immediately, pending evaluation by the provincial heritage agency.

## 1 BACKGROUND INFORMATION ON THE PROJECT

The consultants were approached by “Kerry Seppings Environmental Management” to conduct a heritage impact assessment (HIA) of the study area.

According to the National Heritage Resources Act, 1999 (NHRA) (Act No. 25 of 1999), the heritage resources of South Africa include:

- 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, 1983 (Act No. 65 of 1983);
- h. sites of significance relating to the history of slavery in South Africa;
- i. movable objects, including-
  - i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and 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, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

The newly promulgated KwaZulu-Natal Heritage Act (Act No. 4 of 2008) also makes specific mention to rock art and archaeological sites.

It is furthermore stated that:

—(1) No person may destroy, damage, excavate, alter, write or draw upon, or otherwise disturb any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the KwaZulu-Natal Heritage Council.

(2) Upon discovery of archaeological or palaeontological material or a meteorite by any person, all activity or operations in the general vicinity of such material or meteorite must cease forthwith and a person who made the discovery must submit a written report to the Council without delay.

(3) The Council may, after consultation with an owner or controlling authority, by way of written notice served on the owner or controlling authority, prohibit any activity considered by the Council to be inappropriate within 50 metres of a rock art site.

(4) No person may exhume, remove from its original position or otherwise disturb, damage, destroy, own or collect any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.

(5) No person may bring any equipment which assists in the detection of metals and archaeological and palaeontological objects and material, or excavation equipment onto any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, or meteorite impact site, or use similar detection or excavation equipment for the recovery of meteorites, without the prior written approval of the Council having been obtained on written application to the Council.

(6) (a) The ownership of any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site, on discovery, vest in the Provincial Government and the Council is regarded as the custodian on behalf of the Provincial Government.

(b) The Council may establish and maintain a provincial repository or repositories for the safekeeping or display of—

(i)

archaeological objects;

(ii)

palaeontological material;

(iii)

ecofacts;

(iv)

objects related to battlefield sites;

(v)

material cultural artefacts; or

(vi)

meteorites.

(7) The Council may, subject to such conditions as the Council may determine, loan any object or material referred to in subsection (6) to a national or provincial museum or institution.

(8) No person may, without the prior written approval of the Council having been obtained on written application to the Council, trade in, export or attempt to export from the Province—

(a)

any category of archaeological object;

(b)

any palaeontological material;

(c)

any ecofact;

(d)

any object which may reasonably be regarded as having been recovered from a battlefield site;

(e)

any material cultural artefact; or

(f)

any meteorite.

(9) (a) A person or institution in possession of an object or material referred to in paragraphs (a) – (f) of subsection (8), must submit full particulars of such object or material, including such information as may be prescribed, to the Council.

(b) An object or material referred to in paragraph (a) must, subject to paragraph (c) and the directives of the Council, remain under the control of the person or institution submitting the particulars thereof.

(c) The ownership of any object or material referred to in paragraph (a) vest in the Provincial Government and the Council is regarded as the custodian on behalf of the Provincial Government.

This study aims to identify and assess the significance of any heritage and archaeological resources occurring on the site. Based on the significance, the impact of the development on the heritage resources would be determined. Then appropriate actions to reduce the impact on the heritage resources would be put forward. In terms of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of:

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
- i. sites of significance relating to the history of slavery in South Africa.

**Table 1. Background information**

Consultant:	Frans Prins
Type of development:	The proposed extension of the Emondlo, St James and Leksand Substation yards, including the reconstruction of the existing Leksand-St James 88/22kV powerline and the construction of the new Emondlo-St James 88/22kV powerline
Rezoning or subdivision:	Rezoning
Terms of reference	To carry out a Heritage Impact Assessment
Legislative requirements:	The Heritage Impact Assessment was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) and the KwaZulu Natal Heritage Act (Act No. 4 of 2008)

### 1.1. Details of the area surveyed:

**Footprint:** The proposed footprint can be accessed by travelling east out of Dundee on the R68 towards Nqutu. The Leksand Substation is situated approximately 20km



from Nqutu on the R68 between Dundee and Nqutu (Figs 1 & 2). The powerline joins the St James substation in Nqutu and then runs north for approximately 35km to join the Emondla Substation at Mondlo (Figs 1 & 2). The preferred route is indicated in blue. The alternative routes are indicated in blue and yellow in order of significance (Fig 2). The GPS coordinates of the various substations is as follows: a) Emondla Substation- 27°57'50.10"S 30°41'15.31"E b) St James Substation- 28°12'50.30"S 30°40'0.91"E c) Leksand Substation- 28°14'10.30"S 30°29'19.70"E

**Current land use:** The greatest portion of the footprint is located in communal land interspersed with small rural villages in peri-urban context. The St James Substation is situated in the town of Nqutu. Land use within the study area includes agriculture, rural building block manufacturing, and small scale subsistence farming.

## 2 BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

Portions of the greater Nqutu and Vryheid areas have been systematically surveyed for archaeological heritage sites in the past. These were mostly conducted by archaeologists attached to the then Natal Museum as well as by Amafa staff. Sixty sites are recorded in the data base of the KwaZulu-Natal Museum. These include fourteen Early Stone Age sites, eight Middle Stone Age sites, ten Later Stone Age sites, three rock painting sites, and forty Later Iron Age sites. The majority of the Early Stone Age sites occur in open air context in large dongas. Middle and Later Stone Age sites occur in context in four rock shelters. Two of these shelters also contain typical San fineline paintings. The majority of the known Later Iron Age sites are situated to the south east of Nqutu. They were located during a large scale survey of the area by archaeologists who were interested in the Later Iron Age ecology of Zululand (Hall 1980). They are demarcated by characteristic stone walling. Three stone walling typologies have been identified in the area namely Type A, C, and D (ibid).

The San were the owners of the land for almost 30 000 years but the local demography started to change soon after 2000 years ago when the first Bantu-speaking farmers crossed the Limpopo River and arrived in South Africa. Around 800 years ago, if not earlier, Bantu-speaking farmers also settled in the greater Nqutu area. Although some of the sites constructed by these African farmers consisted of stone

walling not all of them were made from stone. Sites located elsewhere in the KwaZulu-Natal show that many settlements just consisted of wattle and daub structures. These Later Iron Age sites were most probably inhabited by Nguni-speaking groups who were the direct ancestors of the Zulu (Bryant 1965). However after 1840 some Southern Sotho-speaking Tlokwe people also settled in the area. With the expansion of the Zulu kingdom of King Shaka in the early 1820's the study area became firmly incorporated into this pre-capitalist kingdom. It is not surprising that this area played such a central part in the colonial period history of KwaZulu-Natal. The Battle of Blood River, between Boer and Zulu, took place to the immediate west of the study area in 1838 (Derwent 2006). In addition, the Anglo-Zulu War of 1879 was also acted out in large areas adjacent to the study area (ibid). These battle field sites as well as associated graves and buildings of the era are proclaimed heritage sites and are protected by provincial heritage legislation (ibid).

### **3 BACKGROUND INFORMATION OF THE SURVEY**

#### **3.1 Methodology**

A desktop study was conducted of the SAHRA inventory of heritage sites. Unfortunately this database is incomplete and of only limited use. In addition, the archaeological database of the KwaZulu-Natal Museum was consulted. This data base indicated more than 80 heritage sites in the greater Nqutu area.

A ground survey of the proposed developments following standard and accepted archaeological procedures was conducted. The ground survey followed the available roads in the project area. However, there are many mountainous areas with no road access that transverse the project area. The ground survey was therefore complimented with a desktop survey of available aerial photographs of the project area.

#### **3.2 Restrictions encountered during the survey**

##### **3.2.1 Visibility**

Visibility during the site visit was good.

### **3.2.2 Disturbance.**

No overt disturbance or vandalism of any heritage features or archaeological sites was noted. However, most of the Early Stone Age and some Middle Stone Age occurrences are situated in dongas. These features are constantly eroding and exposing more stone tools and flakes.

### **3.3 Details of equipment used in the survey**

GPS: Garmin Etrek

Digital cameras: Canon Powershot A460

All readings were taken using the GPS. Accuracy was to a level of 5 m.

## **4 DESCRIPTION OF SITES AND MATERIAL OBSERVED**

### **4.1 Locational data**

Province: KwaZulu-Natal

Towns: Nqutu and Vryheid

### **4.2 Description of the general area surveyed**

The greatest portion of the footprint is located in communal land interspersed with small rural villages in peri-urban context. The St James Substation is situated in the town of Nqutu. The Leksand Substation is situated approximately 20km to the east of Nqutu near the R68 surrounded by rural homesteads. The Emondla Substation is located at the village of Mondlo approximately 32km north of Nqutu. The land use within the study area includes agriculture, rural building block manufacturing, and small scale subsistence farming.

### **4.3 Description of sites**

Fourty eight heritage sites were identified along the proposed powerline routes. These include one Early Stone Age occurrence, two Later Iron Age sites, one historical period bridge, one old trading store building, thirteen grave yards, twenty four

cemeteries (defined as grave yards with more than eight individual graves), and three living heritage sites used by members of the Shembe religious movement. A description, GPS coordinates, and assessment of each site is provided in Table 2. The distribution and context of these heritage sites is indicated on Figures 3 - 16.

No heritage sites occur in the direct path of the Leksand Substation and St James powerline routes. Two heritage sites, however, occur very close to the preferred route (indicated in blue on Figs 2 and 3). These are heritage sites no's 20 and 21. Both of these are rural cemeteries. Site no 20 occur within 25m from the proposed route and site no 21 occur within 2m from the proposed powerline route. Heritage site no 37, another cemetery, occur within 5m from the first choice alternative route (indicated in red on Figs 13 & 14). No heritage sites occur closer than 40m from the second choice alternative route (indicated in yellow on Figs 3 & 6). No heritage sites were identified in the immediate environs of the various substations.

**Table 2. Heritage sites located during the ground survey in close association with proposed power-lines.**

No	Heritage category	Description	Significance	Type of Mitigation	GPS coordinates	Survey method
1	ESA site (1)	A large donga to the left of the R68 travelling east. Some stone flakes were observed during this survey. Oliver Davies, an archaeologist from the Natal Museum, located typical Early Stone Age artefacts here in the 1970's. However, this site is situated more than 40m from the proposed powerline	Medium to high	Not applicable - but maintain 20m buffer zone around site	S 28° 13' 12.68" E 30° 34' 56.52 "	Desktop aerial photograph and ground survey
2	Living heritage site (Shembe religious)	Single stone walled circle. Approximately 12m diameter. Stones painted in white. Site is situated more than	Medium to high	Not applicable - but maintain 20m buffer	S 28° 13' 21.34" E 30° 35' 1.20"	Desktop aerial photograph and ground survey

	movement stone circle)	40m from proposed powerline.		zone around site		
3	Old bridge (see photograph on front cover)	Old bridge older than 60 years. Approximately 30m x 20m. It is situated on old road that runs parallel to the R68. The bridge is situated more than 40m from the proposed powerlines.	Medium to high	Not applicable - but maintain 20m buffer zone around site	S 28° 13' 0.54" E 30° 37' 55.34"	Desktop aerial photograph and ground survey
4	Cemetery	Large modern cemetery that serves the town of Nquto. It contains more than 200 individual graves. The cemetery is situated directly adjacent to the R68 about 2 km from Nquto CBD. However, the cemetery is situated more than 40m to the south of the proposed powerline route.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer zone around site	S 28° 12' 55.06" E 30° 39' 32.14"	Desktop aerial photograph and ground survey.
5	Cemetery	Large modern cemetery that serves the town of Nquto. It contains more than 300 individual graves. The cemetery is situated approximately 1.5km to the north of the Nquto CBD near the R68. However, the cemetery is situated more than 40m to the west of the proposed alternative powerline route.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer zone around site	S 28° 11' 58.74" E 30° 39' 54.98"	Desktop study aerial photograph and ground survey.
6	Cemetery	Small rural cemetery (approximately 20 graves) situated directly adjacent to R68. The cemetery is situated approximately 350m to the east of the	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 10' 52.15" E 30° 39' 26.49"	Desktop study aerial photograph and ground survey

		proposed powerline route.				
7	Graves	Eight rural grave sites. Situated more than 650m from proposed powerline routes.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 9' 32.97" E 30° 38' 49.47"	Desktop study aerial photograph and ground survey
8	LIA site	One stone circle with a diameter of approximately 20m. Situated ore than 100m from any of the proposed powerline routes.	Medium to high	Not applicable - but maintain 20m buffer around site	S 28° 8' 44.45" E 30° 37' 57.11"	Desktop study aerial photograph
9	Cemetery	Rural cemetery composed of approximately 20 graves. Situated more than 200m from proposed powerline routes.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 8' 10.81" E 30° 38' 0.08"	Desktop study aerial photograph
10	Cemetery	Rural cemetery composed of approximately 20 graves. Situated more than 200m from proposed powerline routes	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 8' 10.56" E 30° 38' 3.18"	Desktop study aerial photograph
11	Cemetery	Rural cemetery composed of approximately 20 graves. Situated more than 200m from proposed powerline routes	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 8' 8.07" E 30° 37' 58.39"	Desktop study aerial photograph
12	Cemetery	Rural cemetery composed of approximately 22 graves. Situated more than 200m from proposed powerline routes	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 8' 7.10" E 30° 37' 56.46"	Desktop study aerial photograph
13	Graves	Six rural graves. Situated more than 200m from proposed powerline routes.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 7' 38.93" E 30° 37' 52.59"	Desktop study aerial photograph

14	Graves	Four rural graves. Situated more than 250m from proposed powerline routes.	Medium to high (locally significant).	Not applicable - but maintain 20m buffer around site	S 28° 7' 38.33" E 30° 38' 5.97"	Desktop study aerial photograph and ground survey
15	Graves	Six rural graves. Situated more than 250m from proposed powerline routes.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 7' 23.20" E 30° 38' 13.38"	Desktop study aerial photograph and ground survey
16	Old trading store	Trading store with features of the early 20 <sup>th</sup> century. Situated directly adjacent to R68 but more than 150m from any proposed powerline routes.	Medium to high	Not applicable - but maintain 20m buffer around site	S 28° 7' 22.36" E 30° 38' 16.74"	Desktop study aerial photograph and ground survey
17	Cemetery	Rural cemetery composed of approximately 28 graves. Situated more than 200m from proposed powerline routes	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 7' 5.60" E 30° 38' 12.84"	Desktop study aerial photograph and ground survey
18	Cemetery	Rural cemetery composed of approximately 25 graves. Situated more than 200m from proposed powerline routes	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 7' 1.85" E 30° 38' 20.47"	Desktop study aerial photograph and ground survey
19	Graves	Six rural graves adjacent to R68. Situated more than 300m from proposed powerline routes.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 6' 48.17" E 30° 38' 17.26"	Desktop study aerial photograph and ground survey
20	Cemetery	Rural cemetery composed of approximately 40 graves. Situated about 25m to the west of the preferred powerline route (Figs 9 & 10) .	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 5' 36.58" E 30° 38' 9.21"	Desktop study aerial photograph and ground survey
21	Cemetery	Rural cemetery composed of	Medium to high	Yes, powerline	S 28° 2' 35.83" E 30° 37'	Desktop study aerial

		approximately 90 graves. Situated about 5m to the west of the preferred powerline route (Figs 11 & 12).	(locally significant)	route needs to be altered to allow for a - 20m buffer around site. Alternatively, conduct a second phase AIA by a grave relocation expert (see Appendix 1)	59.77"	photograph and ground survey
22	Living heritage site (Shembe religious movement stone circle)	Stone circle with a diameter of approximately 30m. The stones are painted white. This feature is used by members of the Shembe religious movement during worship. It is situated approximately 120m to the east of the proposed powerline route.	Medium (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 1' 56.44" E 30° 38' 4.62"	Desktop study aerial photograph and ground survey
23	Living heritage site (Shembe religious movement stone circle)	Stone circle with a diameter of approximately 26m. The stones are painted white. This feature is used by members of the Shembe religious movement during worship. It is situated approximately 400m from the proposed powerline route	Medium (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 0' 25.07" E 30° 37' 35.98"	Desktop study aerial photograph
24	Graves	Six rural graves adjacent to R68. Situated more than 250m from proposed powerline routes	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 59' 13.07" E 30° 37' 0.41"	Desktop study aerial photograph and ground survey
25	Cemetery	Rural cemetery	Medium to	Not	S 27° 59' 6.10"	Desktop



		composed of approximately 25 graves. Situated more than 500m to the north from the proposed powerlines.	high (locally significant)	applicable - but maintain 20m buffer around site	E 30° 37' 6.86"	study aerial photograph and ground survey
26	Graves	Four rural graves adjacent to R68. Situated more than 500m to the north from proposed powerline routes	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 58' 30.43" E 30° 37' 4.24"	Desktop study aerial photograph and ground survey
27	Graves	Five rural graves adjacent to R68. Situated more than 500m to the north from proposed powerline routes.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 58' 1.87" E 30° 37' 6.52"	Desktop study aerial photograph and ground survey
28	Cemetery	Rural cemetery composed of approximately 30 graves. Situated more than 500m to the north from the proposed powerlines.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 55' 59.24" E 30° 36' 50.38"	Desktop study aerial photograph and ground survey
29	Cemetery	Rural cemetery composed of approximately 26 graves. Situated more than 550m to the north from the proposed powerlines.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 57' 6.34" E 30° 37' 54.76"	Desktop study aerial photograph and ground survey
30	Cemetery	Rural cemetery composed of approximately 26 graves. Situated more than 50m from the nearest proposed powerline	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 9' 40.29" E 30° 39' 15.62"	Desktop study aerial photograph
31	Graves	Four rural graves. Situated more than 100m from nearest proposed powerline route	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 9' 18.29" E 30° 39' 42.70"	Desktop study aerial photograph
32	Graves	Four rural graves. Situated more than 100m from nearest proposed powerline	Medium to high (locally significant)	Not applicable - but maintain	S 28° 9' 12.95" E 30° 39' 57.41"	Desktop study aerial photograph

		route		20m buffer around site		
33	Graves	Four rural graves. Situated more than 300m from nearest proposed powerline route	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 9' 3.36" E 30° 39' 59.24"	Desktop study aerial photograph
34	Graves	Six rural graves. Situated more than 300m from nearest proposed powerline route	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 8' 55.84" E 30° 40' 16.23"	Desktop study aerial photograph
35	LIA site	One isolated stone circle. Situated more than 200m to the west of proposed powerline route	Medium to high	Not applicable - but maintain 20m buffer around site	S 28° 6' 45.73" E 30° 41' 8.40"	Desktop study aerial photograph
36	Graves	Nine rural graves situated approximately 40m to the east from nearest proposed powerline route	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 2' 1.40" E 30° 42' 53.19"	Desktop study aerial photograph
37	Cemetery	Rural cemetery composed of approximately 20 graves. Situated approximately 5m to west of nearest proposed powerline (Figs 13 & 14).	Medium to high (locally significant)	Maintain 20m buffer around site, The trajectory of the proposed pipeline route must be altered slightly to allow for a 20m buffer zone around this cemetery	S 28° 6' 16.37" E 30° 36' 44.32"	Desktop study aerial photograph
38	Cemetery	Rural cemetery of approximately 13 graves. Situated approximately 65m to the west of the proposed powerline route.	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 5' 58.60" E 30° 36' 35.69"	Desktop study aerial photograph and ground survey

39	Cemetery	Rural cemetery consisting of three clusters of approximately 60 graves. Situated approximately 35m to the north of the proposed powerline route (Figs 15 & 16).	Medium to high (locally significant)	Not applicable - but strictly maintain 20m buffer around site	S 28° 3' 55.73" E 30° 36' 47.69"	Desktop study aerial photograph
40	Cemetery	Rural cemetery of approximately 32 graves. Situated approximately 70m to the east of the proposed powerline route	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 3' 39.28" E 30° 37' 16.23"	Desktop study aerial photograph
41	Cemetery	Rural cemetery of approximately 26 graves. Situated approximately 120m to the east of the proposed powerline route	Medium to low (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 3' 35.58" E 30° 37' 18.21"	Desktop study aerial photograph
42	Cemetery	Rural cemetery of approximately 25 graves. Situated approximately 130m to the east of the proposed powerline route	Medium to low (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 3' 34.99" E 30° 37' 21.34"	Desktop study aerial photograph
43	Cemetery	Rural cemetery of approximately 20 graves. Situated approximately 250m to the east of the proposed powerline route	Medium to low (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 0' 41.12" E 30° 39' 22.07"	Desktop study aerial photograph
44	Cemetery	Rural cemetery of approximately 22 graves. Situated approximately 240m from the nearest powerline route	Medium to low (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 0' 0.91" E 30° 40' 39.58"	Desktop study aerial photograph
45	Graves	Rural graves (six individual graves) situated approximately 220m from the nearest powerline route	Medium to low (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 59' 59.67" E 30° 40' 43.91"	Desktop study aerial photograph

46	Living heritage site (Shembe stone circle)	Shembe stone circle with a diameter of approximately 22m). Situated approximately 200m from nearest powerline route.	Medium to low (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 59' 59.98" E 30° 40' 35.83"	Desktop study aerial photograph
47	Graves	Rural graves (4 grave sites) situated approximately 200m from the nearest powerline route	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 27° 59' 57.43" E 30° 40' 45.06"	Desktop study aerial photograph
48	Cemetery	Rural cemetery of approximately 12 graves. Situated approximately 80m to the west of the nearest powerline route	Medium to high (locally significant)	Not applicable - but maintain 20m buffer around site	S 28° 8' 9.91" E 30° 37' 27.63"	Desktop study aerial photograph

#### 4.4 Summary of findings

Fourty eight heritage sites have been located in the project area. The majority of these are cemeteries and grave sites that are clearly visible on aerial photographs. None of these are situated directly on the path of the proposed powerlines. However, heritage sites no's 20, 21, 34, 36, 37, and 39 are situated within 45m from the proposed routes. It is especially site no's 21 and 37 that are situated closer than 20m from the proposed routes. These sites are at risk of being damaged during the construction phase. A buffer zone of at least 20m must be maintained around all heritage sites. Ideally the trajectory of the proposed route should be altered in order to allow for a buffer zone of at least 20m around each site. Alternatively, a phase two heritage impact assessment, by a grave relocation expert, should be conducted in order to relocate the relevant graves. The procedures involving grave relocation is summarised in Appendix 1.

## 5 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

The known heritage sites in the general area of the proposed power lines have been rated according to SAHRA standards (Table 3 & Table 4). The majority of these have been rated as high to medium significance. In other words mitigation will be necessary before a site may be altered or destroyed. A second phase heritage impact

assessment, by a grave relocation expert, will be called for and the provincial heritage agency Amafa will have to issue a relevant permit.

## 5.1 Field Rating

Table 2 provides a rating for each and every site with reference to the criteria as outlined in Table 3. It is important that the developer takes cognisance of the fact that all these sites are protected by national and provincial heritage legislation and that a buffer of at least 20m diameter must be maintained around each site. No destruction or alteration of any of these sites is allowed.

**Table 3. Field rating and recommended grading of sites (SAHRA 2005)**

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

## 6 RECOMMENDATIONS

The construction of the proposed powerlines along the preferred routes as identified by the developer may proceed in terms of heritage values under the following conditions:

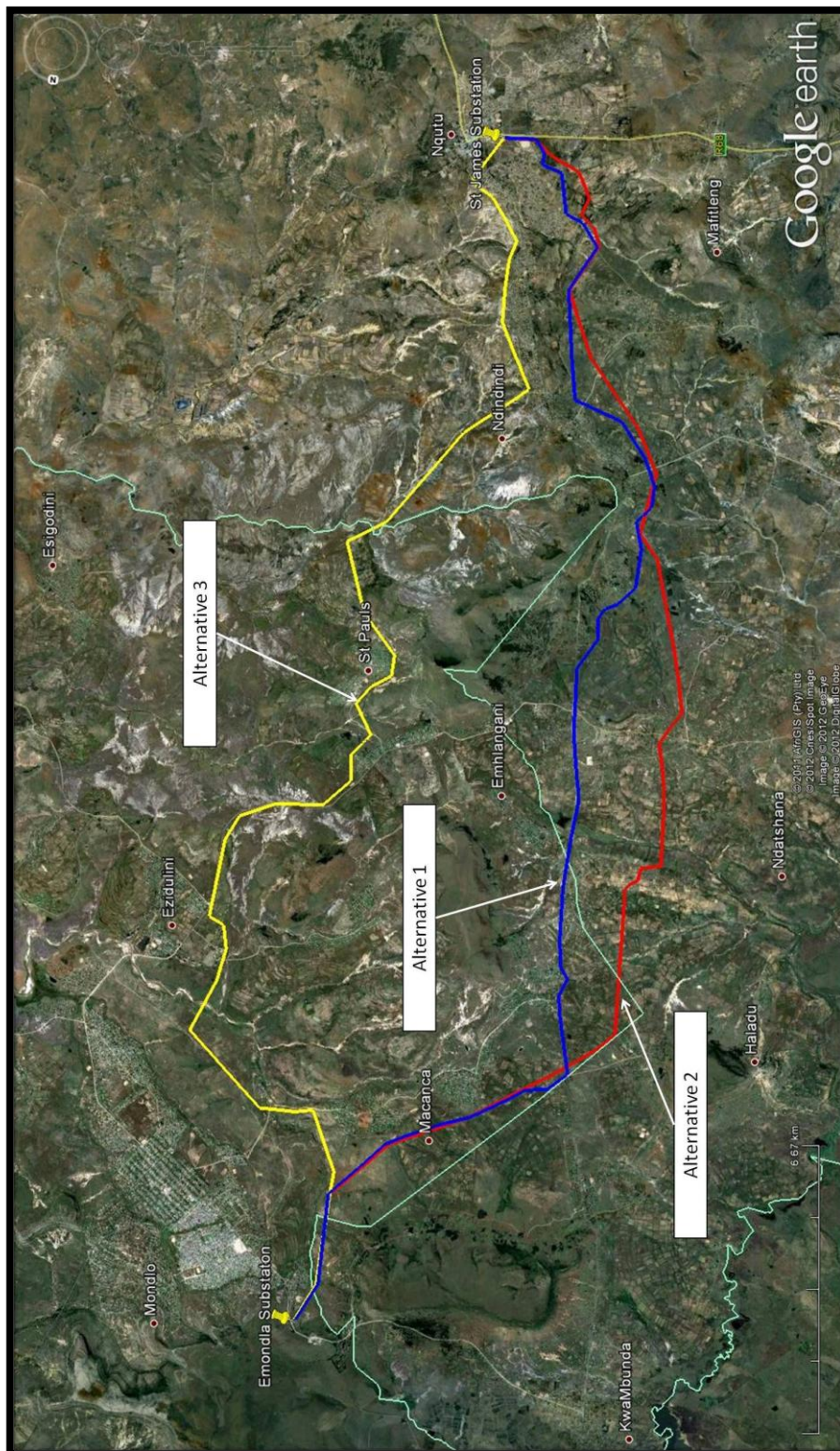
- Avoid all heritage sites, including modern graves, during the construction phase. Strictly maintain a buffer zone of at least 20m around all sites.
- Sites no 20, 21, and 37 are situated very close to the proposed powerlines. The trajectory of the proposed routes must be altered slightly in order to allow for a buffer zone of at least 20m around these sites. Alternatively a second phase heritage impact assessment, by a grave relocation expert, must be conducted of these grave sites.
- Avoid sandstone outcrops and rock faces, where possible, as these areas may harbour unknown rock art sites and shelters with Later Stone Age archaeological deposits.
- Only use established roads during the construction process. All secondary access roads planned need to be surveyed for heritage sites before construction may commence.
- Should the developer decide to move any of the proposed power-lines closer than 20m to any of the identified heritage sites then a second phase heritage impact assessment should be initiated.
- Should any heritage material or artefacts be located during the construction process then all activities should stop in the immediate vicinity of the site and the local heritage agency Amafa contacted for further evaluation.

## 7 MAPS AND PHOTOGRAPHS



**Figure 1. Google aerial photograph of the south western section of the project area. The purple line indicates the Leksand-St James servitude**





**Figure 2. Google aerial photograph of the project area. The blue line indicates the preferred route for the power line. The red line indicates alternative route 2, the yellow line indicates alternative route 3.**



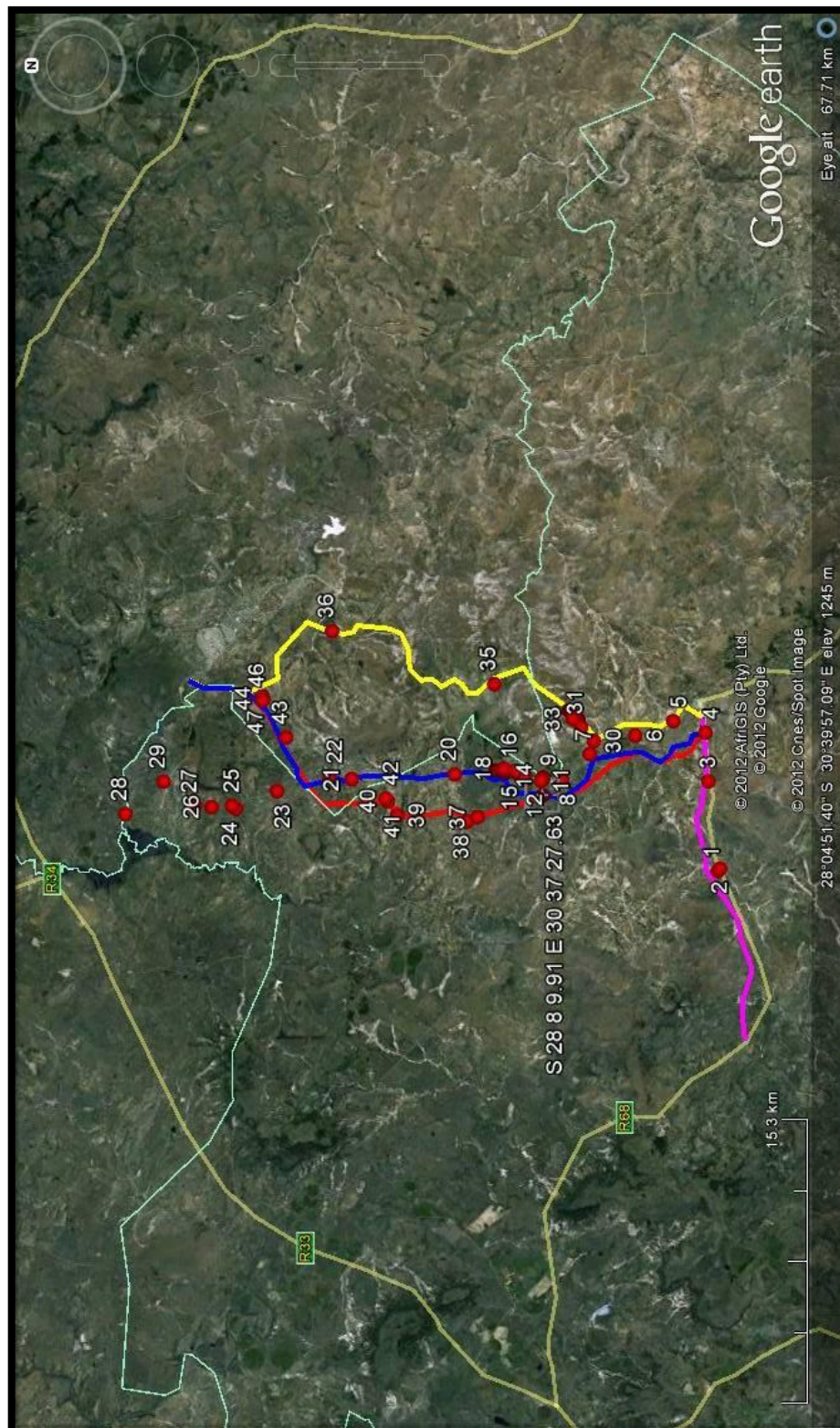
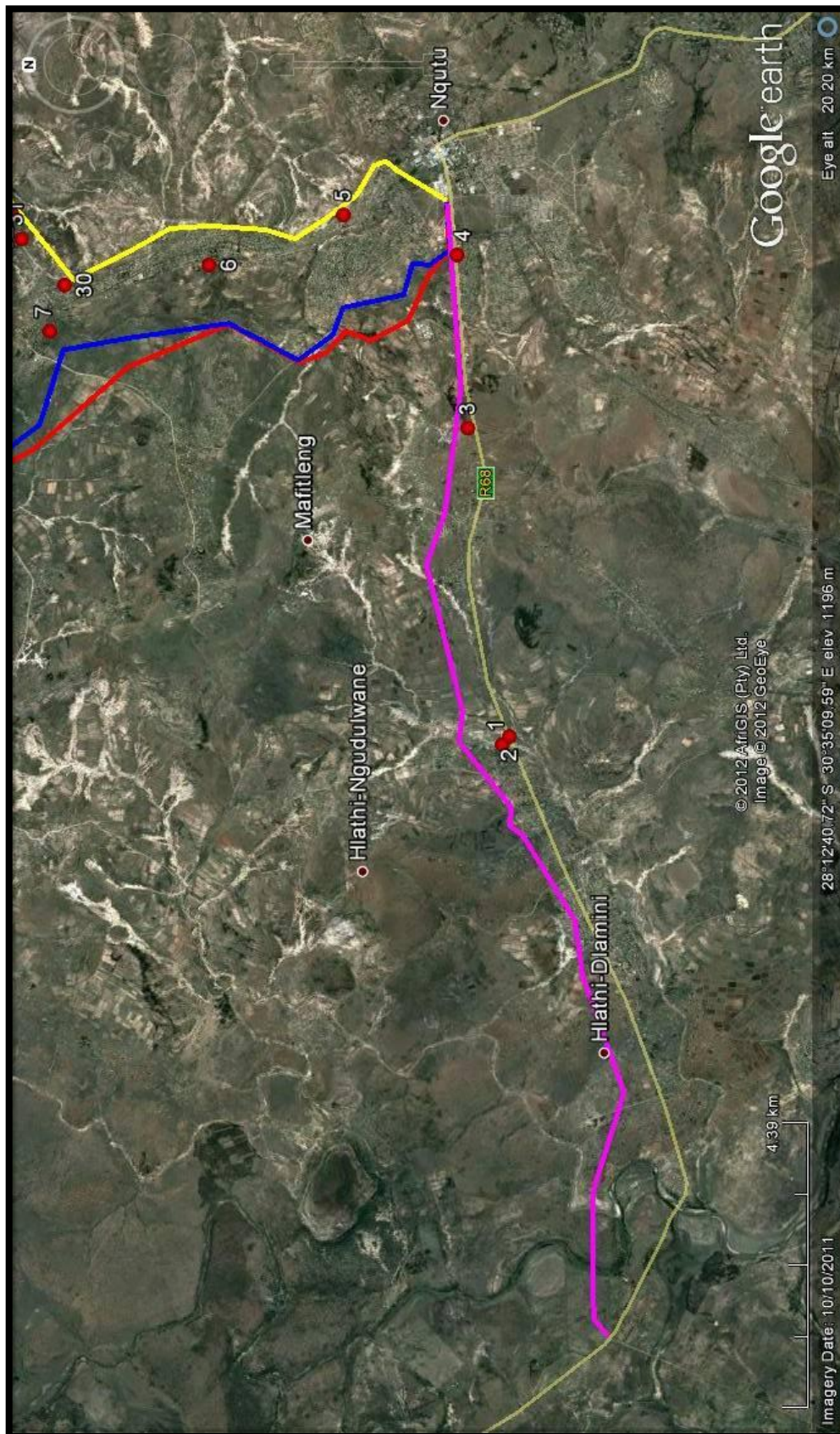


Figure 3. Google aerial photograph showing distribution of all known heritage sites in the project area.



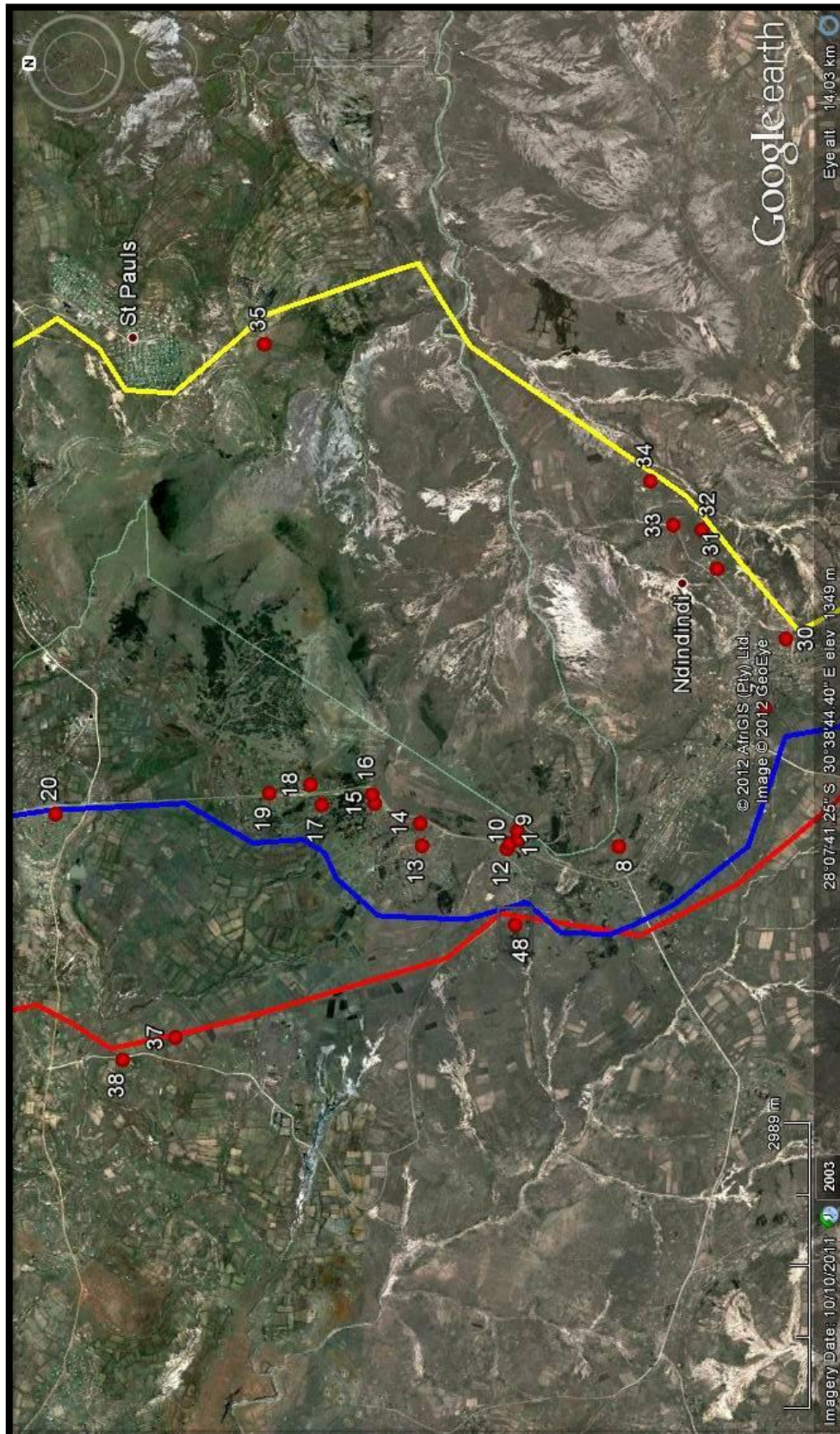


**Figure 4.** Google aerial photograph showing the distribution of heritage sites along the R68 in the south-western section of the study area.



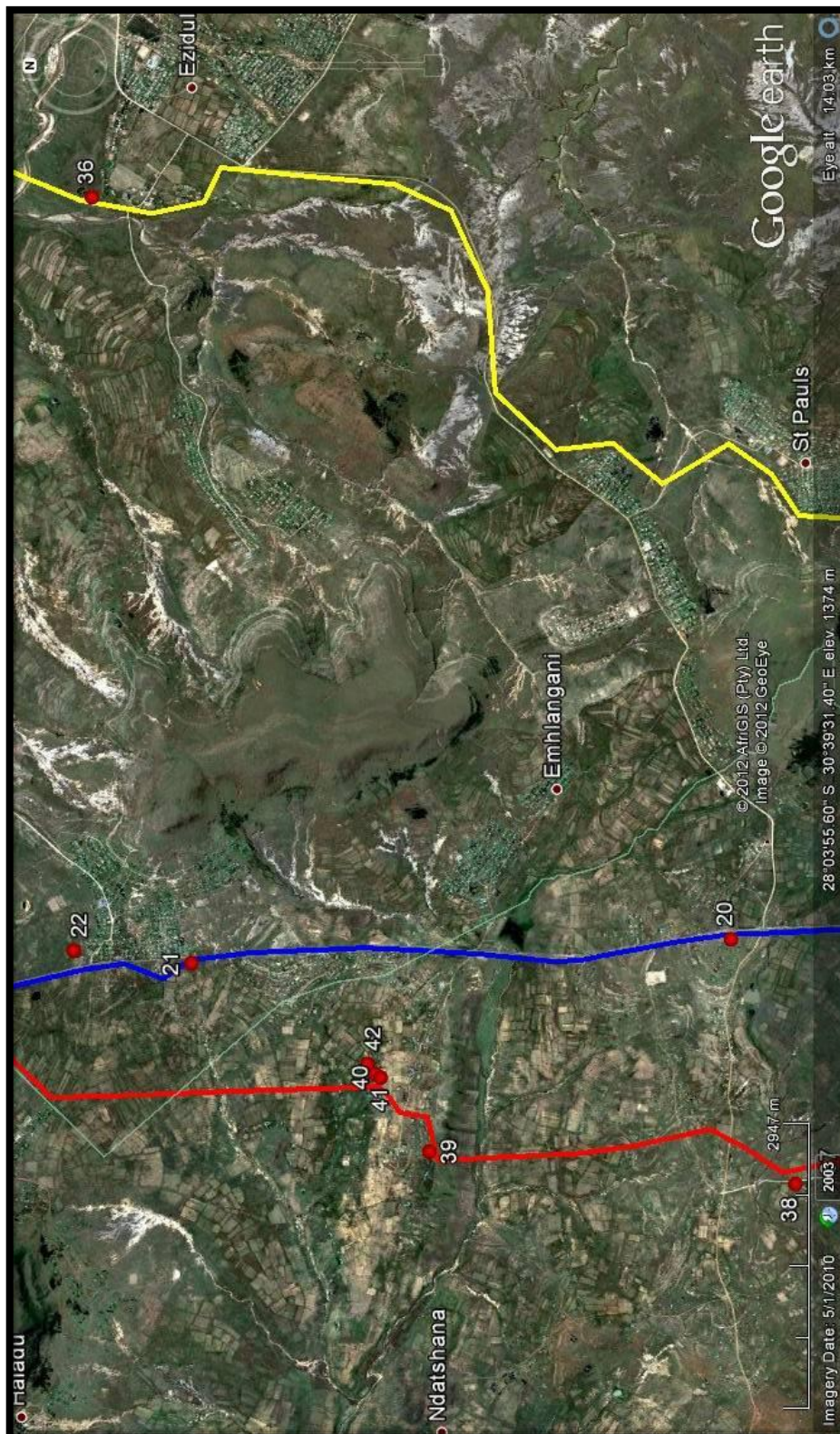






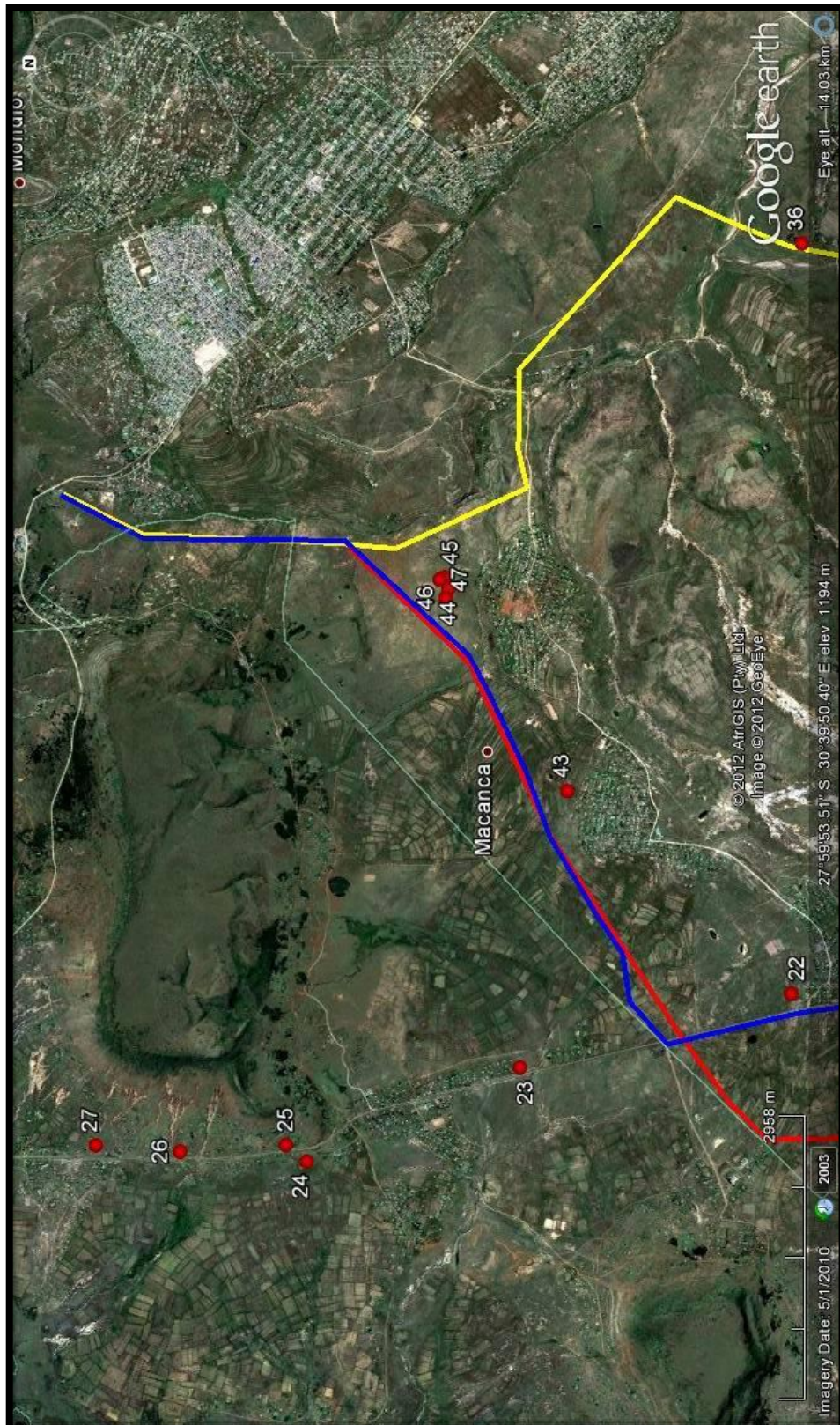
**Figure 6. Google aerial photograph showing the distribution of heritage sites in the vicinity of Ndindini and St Pauls in the study area.**





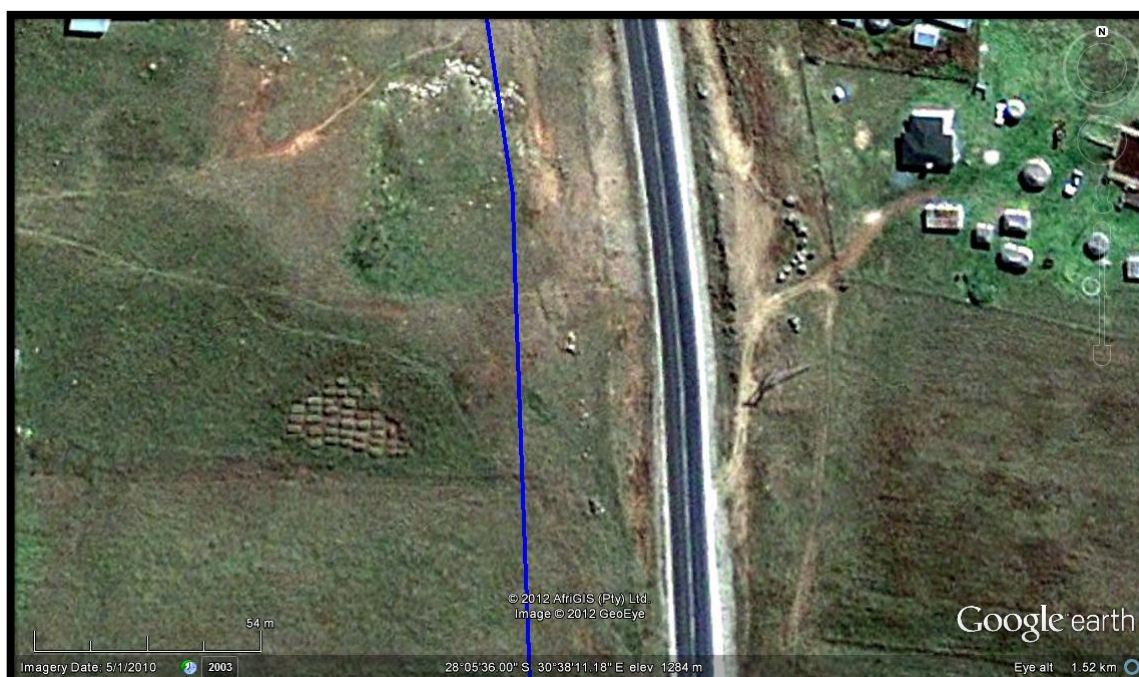
**Figure 7.** Google aerial photograph showing the distribution of heritage sites in the vicinity of Emhlangeni in the study area.





**Figure 8.** Google aerial photograph showing the distribution of heritage sites in the northern section of the study area.



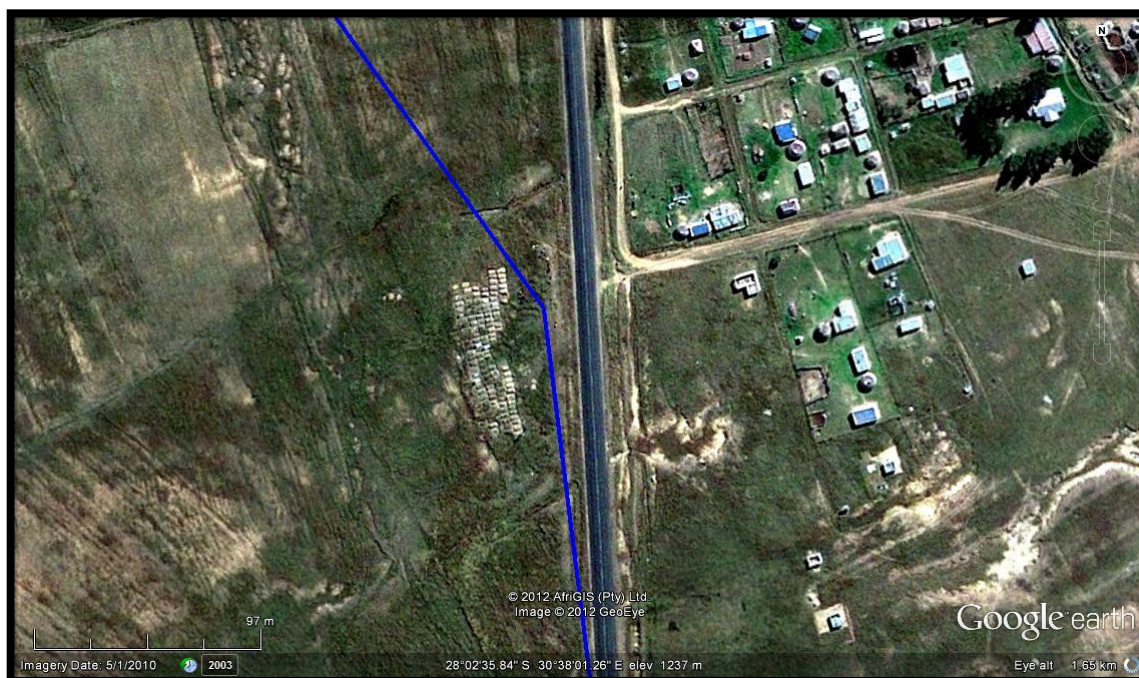


**Figure 9. Google aerial photograph. Heritage site no 20 (a modern cemetery) situated approximately 25m to the east of the preferred powerline trajectory.**



**Figure 10. Heritage site no 20 (a modern cemetery).**



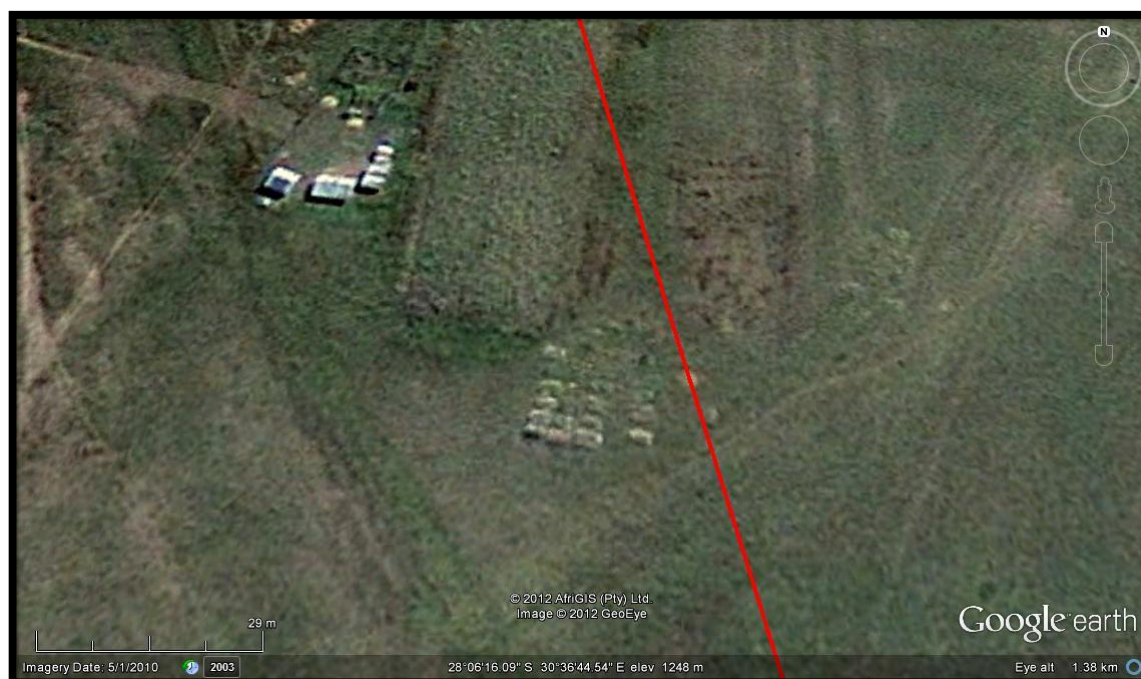


**Figure 11. Google aerial photograph. Heritage site no 21 (a modern cemetery) situated approximately 2m to the east of the preferred powerline trajectory.**



**Figure 12. Heritage site no 21 (a modern cemetery).**



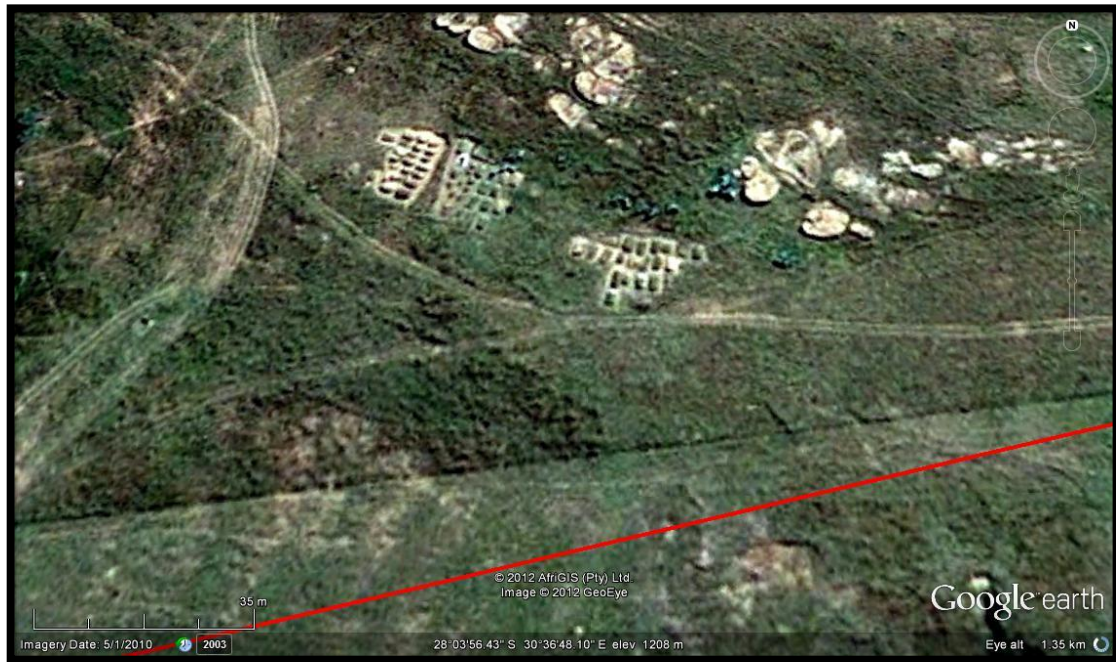


**Figure 13. Google aerial photograph. Heritage site no 37 (a rural cemetery) situated approximately 5m to the east of the proposed powerline trajectory.**



**Figure 14. Heritage site no 37 – a rural cemetery.**





**Figure 15. Google aerial photograph. Heritage site no 39 (rural cemetery) situated approximately 35 to the north of the proposed powerline trajectory.**



**Figure 16. Heritage site no 39 – a rural cemetery.**

## 8 REFERENCES

- Bryant, A. T. 1965. *Olden times in Zululand and Natal*. Cape Town: C. Struik.
- Derwent, S. 2006. *KwaZulu-Natal Heritage Sites: a Guide to Some Great Places*. David Phillip: Claremont.
- Huffman, T. N. 2007. *Handbook to the Iron Age: The Archaeology of Pre-colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press. Pietermaritzburg
- Mazel, A. 1989. People making history, the last ten thousand years of hunter-gatherer communities in the Thukela Basin. *Natal Museum Journal of Humanities*. 1: 1-168
- McCarthy, T. & Rubidge, B. 2005. *The Story of Earth and Life: A Southern African Perspective on a 4.6 billion year journey*. Struik Publishers: Cape Town
- Mitchell, P. 2002. *The Archaeology of Southern Africa*. University Press: Cambridge
- SAHRA, 2005. Minimum Standards for the Archaeological and the Palaeontological Components of Impact Assessment Reports, Draft version 1.4.

## APPENDIX 1 RELOCATION OF GRAVES

Burial grounds and graves are dealt with in Article 36 of the NHR Act, no 25 of 1999. Below follows a broad summary of how to deal with grave in the event of proposed development.

- If the graves are younger than 60 years, an undertaker can be contracted to deal with the exhumation and reburial. This will include public participation, organising cemeteries, coffins, etc. They need permits and have their own requirements that must be adhered to.
- If the graves are older than 60 years old or of undetermined age, an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. This is a requirement by law.

Once it has been decided to relocate particular graves, the following steps should be taken:

- Notices of the intention to relocate the graves need to be put up at the burial site for a period of 60 days. This should contain information where communities and family members can contact the developer/archaeologist/public-relations officer/undertaker. All information pertaining to the identification of the graves needs to be documented for the application of a SAHRA permit. The notices need to be in at least 3 languages, English, and two other languages. This is a requirement by law.
- Notices of the intention needs to be placed in at least two local newspapers and have the same information as the above point. This is a requirement by law.
- Local radio stations can also be used to try contact family members. This is not required by law, but is helpful in trying to contact family members.
- During this time (60 days) a suitable cemetery need to be identified close to the development area or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account. This is a requirement by law.
- Once the 60 days has passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.
- Once the permit has been received, the graves may be exhumed and



relocated.

- All headstones must be relocated with the graves as well as any items found in the grave