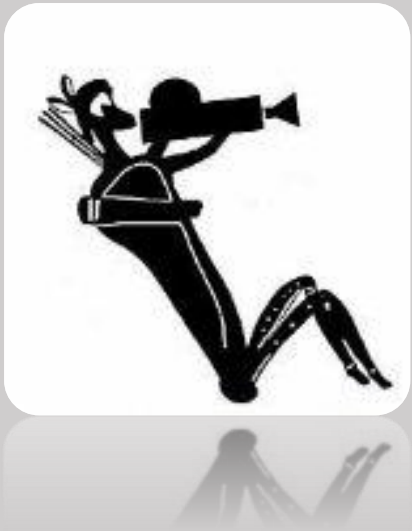
# HERITAGE IMPACT ASSESSMENT OF THE PROPOSED AMATIKULU 132kV SWITCHING STATION AND ASSOCIATED 132kV POWERLINES, KWAZULU-NATAL



## ACTIVE HERITAGE cc.

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## LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| EIA | Early Iron Age |
| ESA | Early Stone Age |
| HISTORIC PERIOD | Since the arrival of the white settlers - c. AD 1820 in this part of the country |
| IRON AGE | Early Iron Age AD 200 - AD 1000<br>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 (2006). |
| NHRA | National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2000) |
| SAHRA | South African Heritage Resources Agency |
| STONE AGE | Early Stone Age 2 000 000 - 250 000 BP<br>Middle Stone Age 250 000 - 25 000 BP<br>Late Stone Age 30 000 - until c. AD 200 |

## EXECUTIVE SUMMARY

A heritage survey of the proposed Amatikulu 1332kV Switching Station and associated powerlines identified three heritage site adjacent to the proposed powerlines. The relevant powerline will have to move at least 50m from its current trajectory to allow for a buffer zone of at least 20m around each site. However, should the developer consider mitigation then a second phase heritage impact assessment must be conducted on the footprint. This second phase may entail the application of a permit from Amafa to allow rescue excavation of the relevant sites. Various other heritage sites occur in the greater Amatikulu area but none of these are threatened by the proposed development. There is no archaeological reason why the development may not proceed on the remainder of the project area as planned. Attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) 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

**Table 1. Background information**

| | |
|---|---|
| Consultant: | Frans Prins (Active Heritage cc) for Ludloku Developments |
| Type of development: | Refurbishment of Amatikulu substation and establishment of a 132kV Switching Station with its associated short power lines.<br>Scope of work also includes:<br>• Construction of 132kV power line from the Ging/Mandini 132 kV power line to the Amatikulu Substation<br>• Reconstruct powerline parallel to existing 88kV Amatikulu traction line to 132kV and connect it to Amatikulu switching station |
| 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, 1997 (Act No. 4 of 2008) |

### 1.1. Details of the area surveyed:

The proposed refurbishment of Amatikulu substation will take place at the old substation at the Amatikulu Sugar Mill. Amatikulu is one of the small villages under the jurisdiction of the Umlalazi Local Municipality. Umlalazi Local Municipality is one of the six local municipalities under uThungulu District Municipality in the province of KwaZulu Natal. The municipality is situated adjacent to the villages of Gingindlovu and Eshowe further north. The village of Mandeni lies on the south side of the study area (Fig 1). A double circuit 132kV power line will be linked to the existing Gingindlovu Mandini 132kV power line (Fig 2). The power line will then traverse as much as possible along the boundary to the substation at Amatikulu Sugar Mill. The study area begins from a connection to the Gingindlovu Mandini 132kV power line and stretches to the Amatikulu Sugar Mill substation. The study area comprises of sugar cane fields intercepted by indigenous trees and shrubs particularly in valleys and farm boundaries. The power line also traverses past and across secondary roads, District road P224 and R102. The power line will also cross Spoornet's Railway line, vleis, water ways and streams as well as Amatikulu River.

## BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

The greater Amatikulu and Gingindlovu areas have been relatively well surveyed for archaeological and heritage sites by the KwaZulu-Natal Museum, post-graduate students from the Universities of Cape Town and the Witwatersrand, local subsequently by private heritage consultants in the last few years.

The available evidence, as captured in the Amafa and the KwaZulu-Natal Museum heritage site inventories, indicates that this area contains a wide spectrum of archaeological sites covering different time-periods and cultural traditions. Twenty one heritage sites occur within this area. These range from Early Stone Age, Middle Stone Age, and Later Stone Age to Early Iron Age, Middle and Later Iron Age sites as well as historical sites relating to the rise of the Zulu Kingdom and the subsequent colonial period. One notable Middle Stone Age site, i.e. Segubudu, to the south of Amatikulu near Stanger, have been excavated in the last two decades by the University of the Witwatersrand and yielded impressive archaeological stratigraphy's relating to the period associated with the origins of anatomically modern people (Mitchell 2002). Closer

to the coast archaeologists have also identified two Early Iron Age sites, and middens with Later Iron Age material. Heritage Impact Assessment surveys conducted by Umlando located various Later Iron Age sites in the close vicinity of the study area. These sites are all indicated by small surface scatters of undecorated pottery and are not particularly highly rated in terms of heritage significance. However, they are protected by heritage legislation. The well-known Ndondakusuka and Gingindlovu Battle Sites occur to the north of the study area and will not be effected by the proposed development.

Around 1 700 years ago an initial wave of Early Iron Age People settled along the inland foot of the sand dunes on sandy but humus rich soils which would have ensured good crops for the first year or two after they had been cleared. These early agro-pastoralists produced a characteristic pottery style known as Matola. The Matola people also exploited the wild plant and animal resources of the forest and adjacent sea-shore. The communities seems to been small groups of perhaps a few dozen slash-and burn cultivators, moving into a landscape sparsely inhabited by Later Stone Age San hunter-gatherers.

By 1500 years ago another wave of Iron Age migrants entered the area. Their distinct ceramic pottery is classified to styles known as “Msuluzi” (AD 500-700), Ndondondwane (AD 700-800) and Ntshekane (AD 800-900). Some sites belonging to these periods occur along the banks of the Tugela Rive. Some of these, such as the Ndondondwane and Mamba sites have been excavated by archaeologists (Maggs 1989:31; Huffman 2007:325-462). Some Early Iron Age potsherds have been located by archaeologists from the then Natal Museum closer to Gingindlovu but these sites have not been thoroughly investigated.

The greater Amatikulu area is also intimately associated with the rise of the Zulu Kingdom of Shaka in the early 1820’s. King Shaka had his capital Kwa Dukuza to the immediate south of Gingindlovu at Stanger. The exact spot of Shaka’s death is thought to be where an old mahogany tree now grows in the grounds of the Stanger/Kwa Dukuza municipal offices. The grain pit where Dingane is thought to have secretly buried Shaka is marked by a large rock in the King Shaka Memorial Garden in the town. The Zulu people erected this memorial during the reign of King Solomon (1913-1932). An interpretative centre has since been added. Also in Stanger near King Shaka’s

memorial, is a small river known as Shaka's spring. From here, unpolluted water was collected for the king's use. Nearby on the Imbozamo River, was Shaka's Bathing Pool and Shaka's Cave where he would rest after swimming. Not much further off is the famous Execution Cliff where executions were carried out on Shaka's orders (Derwent 2006). The battle of Ndondakusuka, which saw the rise of power of king Cetswayo in 1856, took place near the mouth of the Tugela River about 30 km to the south of the study area.

The colonial history of the area starts around 1820 when early English ivory traders established themselves at Port Natal (Durban). Dutch descendants (i.e. Voortrekkers) moved into the area soon after 1834 and established a short lived Boer republic called Natalia. The battle site of Ndonakusuka took place on the northern bank of the Tugela River about 30 km south of the study area. Here Zulu warriors under Mpande attacked and decimated a force of settlers from Port Natal and several thousand black levies in April 1838. The force had been raised to assist the beleaguered Voortrekker laagers, then under systematic attack by the Zulu. Some years later Ndonakusuka again became the scene of a great battle between Prince Cetshwayo and his brother, Mbuyazi – the bloodiest battle ever fought on South African soil (Derwent 2006). By 1845 Natal became a British colony. The area to the north of the Tugela River remained independent Zulu territory.

However, in 1879 Zulu-land was invaded by British forces and the area annexed soon thereafter. The Battle of Gingindlovu took place approximately 10 km to the north of the study area shortly after the Battle of Kambula and Rorkes drift. During this battle, King Cetshwayo's 10 000 strong army was defeated and his military kraal destroyed by British troops. In this battle British troops were supported by 2800 Zulu troops. This battle was crucial for the British because victory would give them the opportunity to relieve the small town of Eshowe close to the Zulu capital Ulundi and guarantee victory against the Zulu kingdom. Defeat in this battle angered King Cetshwayo because it weakened the ability of his army to defend the Zulu kingdom against British raids that followed Gingindlovu victory. It also brought British troops closer to defeating King Cetshwayo.

***Gingindlovu Battle Site Memorial***

Two well-known British forts of this period occur within 40km from the study area, these are the twin forts of Pearson and Tenedos. They were built across from each other on either side of the mouth of the Tugela in 1878 and 1879 respectively. Fort Pearson is named after Colonel Charles Pearson, who led the invasion into Zululand in 1879. It is also the site of the Ultimatum Tree where King Chetshwayo was issued the ultimatum intended to spark war. These heritage sites, like the archaeological resources of the province, are also protected by heritage legislation.

## 2 BACKGROUND INFORMATION OF THE SURVEY

### 2.1 Methodology

A desktop study was conducted of the archaeological databases housed in the KwaZulu-Natal Museum. In addition, the available archaeological and heritage literature covering the greater Amatikulu and Gingindlovu areas was also consulted. The SAHRIS website was consulted in order to evaluate previous heritage surveys near the study area to locate relevant sites.

A ground survey, following standard and accepted archaeological procedures, was conducted.

## 2.2 Restrictions encountered during the survey

### *2.2.1 Visibility*

Visibility was good.

### *2.2.2 Disturbance*

No disturbance of any potential heritage features was noted.

## 2.3 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.

# 3 DESCRIPTION OF SITES AND MATERIAL OBSERVED

## 3.1 Locational data

Province: KwaZulu-Natal

Municipality: Umlalazi Local Municipality, uThungulu District Municipality

Town: Amatikulu

## 3.2 Description of the general area surveyed

The study area comprises of sugar cane fields intercepted by indigenous trees and shrubs particularly in valleys and farm boundaries. The proposed power line also traverses past and across secondary roads and district roads P224 and R102. The power line will also cross Spoornet's Railway line, vleis, water ways and streams as well as Amatikulu River.

### 3.3 Heritage sites identified

Three heritage sites were located during the survey. These are all Later Iron Age sites indicated by small surface scatters of potsherds. Although none of these sites are rated as particularly significant (Table 3) they are nevertheless protected by heritage legislation. A more detailed description regarding the context of each site is provided in Table 2.

**Table 2. Archaeological sites located during the ground survey.**

| | Heritage site category | Brief description | Significance (Table 3) | Mitigation | GPS Latitude and Longitude |
|---|---|---|---|---|---|
| | | | | | |
| 1 | Late Iron Age Site (Figs 3, 4, 7, 8). | The site is situated in a cultivated field approximately 40m to the west of the preferred powerline trajectory (Figs 3 & 4). It consists of a surface scatter of undecorated potsherds. The potsherds cover an area of roughly 30m². No structures are visible on the surface. | The site contains a surface scatter of non-diagnostic and undecorated potsherds (Figs 7 & 8). There are numerous sites like this one situated along the coastal zone of KZN. It is therefore rated as of medium significance. (Table 3). | Maintain a 40m buffer zone around the site. This can be done by shifting the powerline trajectory approximately 20m further east and further away from the Iron Age Site. Alternatively mitigation can be entered into by motivating for a second phase heritage impact assessment. This second phase may entail applying for a permit from Amafa in order to conduct a rescue excavation of the relevant site before destruction. | S 29º 03' 58" E 31º 32' 00" |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Later Iron Age Site (Figs 3 & 5). | This site is situated on a hill adjacent to an existing powerline. It is indicated by a potsherd scatter on the surface covering and area of approximately 30m². The potsherds are undecorated. There are no structures or other features visible on the surface. | The site contains a surface scatter of non-diagnostic and undecorated potsherds. There are numerous sites like this one situated along the coastal zone of KZN. It is therefore rated as of medium significance. (Table 3). However, it is protected by heritage legislation. | This site is situated adjacent to an existing 132 and 88kV doubler circuit line in the north eastern section of the footprint (Fig 3 & 5). It is not located adjacent to any of the preferred or suggested new powerline trajectories. No mitigation is necessary, however, it is important to maintain a buffer zone of 20m around the site. | S 29º 05' 08" E 31º 30' 37" |
| 3 | Later Iron Age Site (Figs 3 & 6). | This site is situated on a hill adjacent to an existing powerline. It is indicated by a potsherd scatter on the surface covering and area of approximately 60m². The potsherds are undecorated. There are no structures or other features visible on the surface. | The site contains a surface scatter of non-diagnostic and undecorated potsherds. There are numerous sites like this one situated along the coastal zone of KZN. It is therefore rated as of medium significance. (Table 3). However, it is protected by heritage legislation. | This site is situated adjacent to an existing 132 and 88kV doubler circuit line in the southern section of the footprint (Figs 3 & 6). It is not located adjacent to any of the preferred or suggested new powerline trajectories. No mitigation is necessary, however, it is important to maintain a buffer | S 29º 04' 15" E 31º 32' 34" |

| | | | | | |
|---|---|---|---|---|---|
| | | | | zone of 20m around the site. | |

# 4 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

## 4.1 Field Rating

- Iron Age Site 1 is rated as of medium significance. The site needs to be recorded before destruction (Table 3).
- Iron Age Site 2 is rated as of medium significance. The site needs to be recorded before destruction (Table 3).
- Iron Age Site 3 is rated as of medium significance. The site needs to be recorded before destruction (Table 3).

**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 |

## 5 RECOMMENDATIONS

- Iron Age Site 1 is situated 40m to the west of the preferred powerline route. It is important to maintain a buffer zone of at least 40m around this site. It is suggested that the developers shift the powerline trajectory 20m to the east. The powerline trajectory can also be shifted to the west but this should cover a distance of at least 80m.
- Should it be impossible to move the preferred powerline trajectory then it is suggested that a second phase heritage impact assessment be conducted in order to arrange for mitigation. Mitigation may include the application of a permit from Amafa in order to conduct a rescue excavation of the relevant site.
- Iron Age Sites 2 and 3 are not situated along any of the preferred or suggested powerline trajectories. However, they are situated in the footprint along existing powerlines. It is suggested that the developers strictly maintain a buffer zone of at least 40m around each site.
- There is no archaeological reason why development may not proceed along the remainder of the footprint as planned. However, aattention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) 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.

## 6 MAPS AND FIGURES

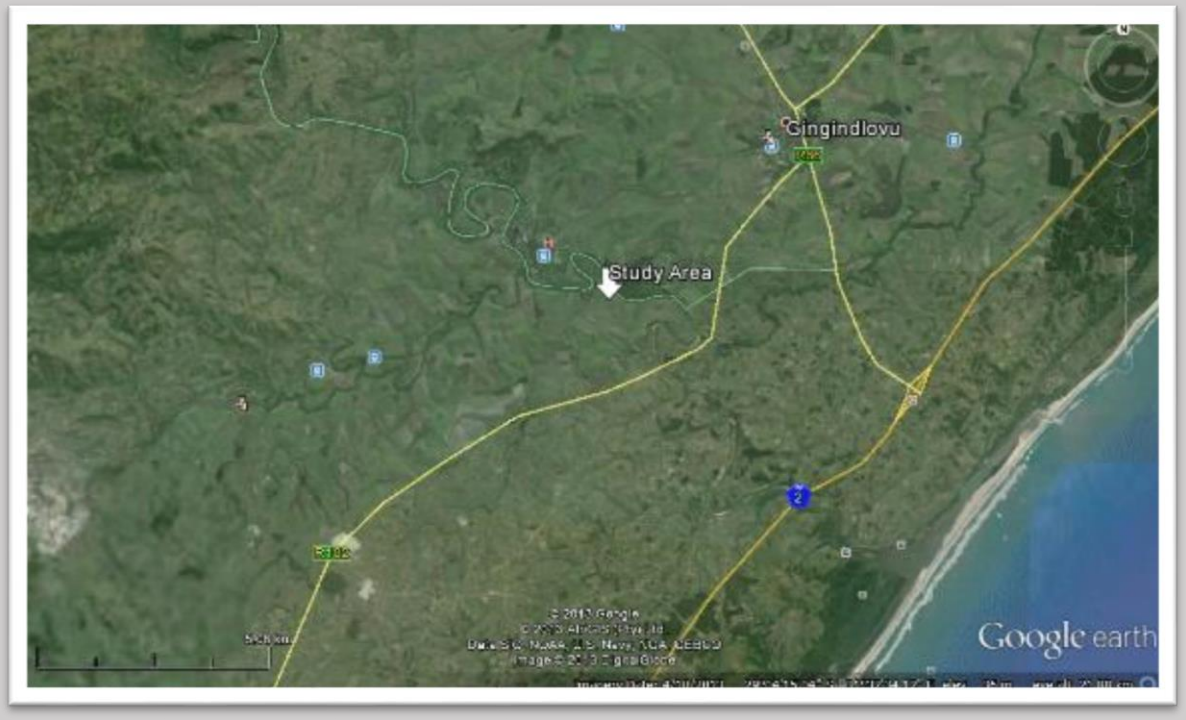


***Figure 1. Google aerial photograph showing the location of the study***

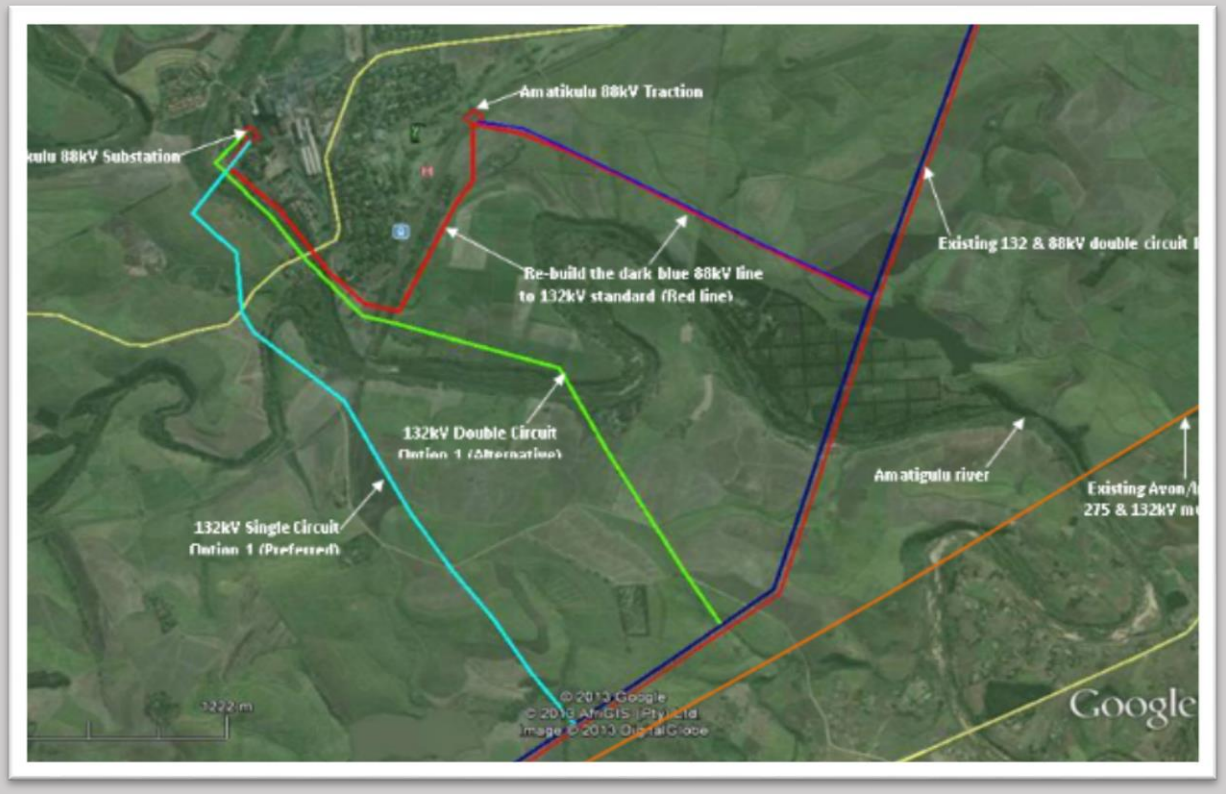


***Figure 2. Ortho-photograph showing the location of the Amatikulu substation and suggested poweline routes.***

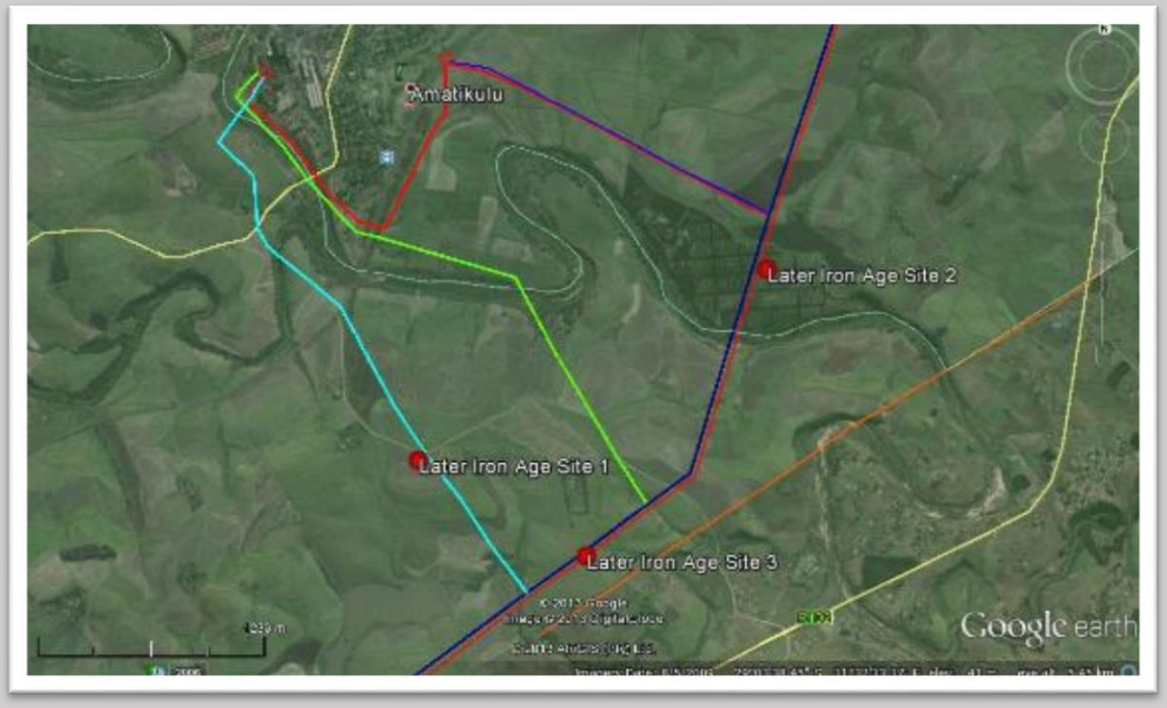


***Figure 3. Google aerial photograph showing the location of Later Iron Age Sites in the study area.***

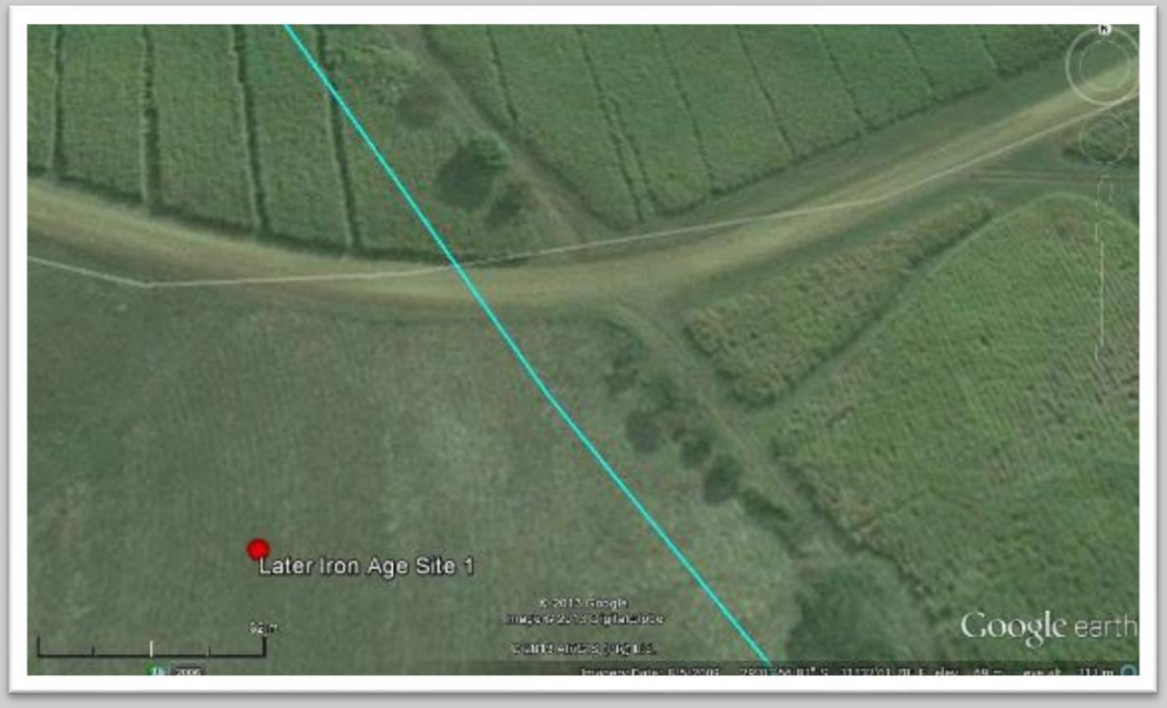


***Figure 4. Google aerial photograph showing the location of Iron Age Site 1 adjacent to the preferred powerline trajectory.***

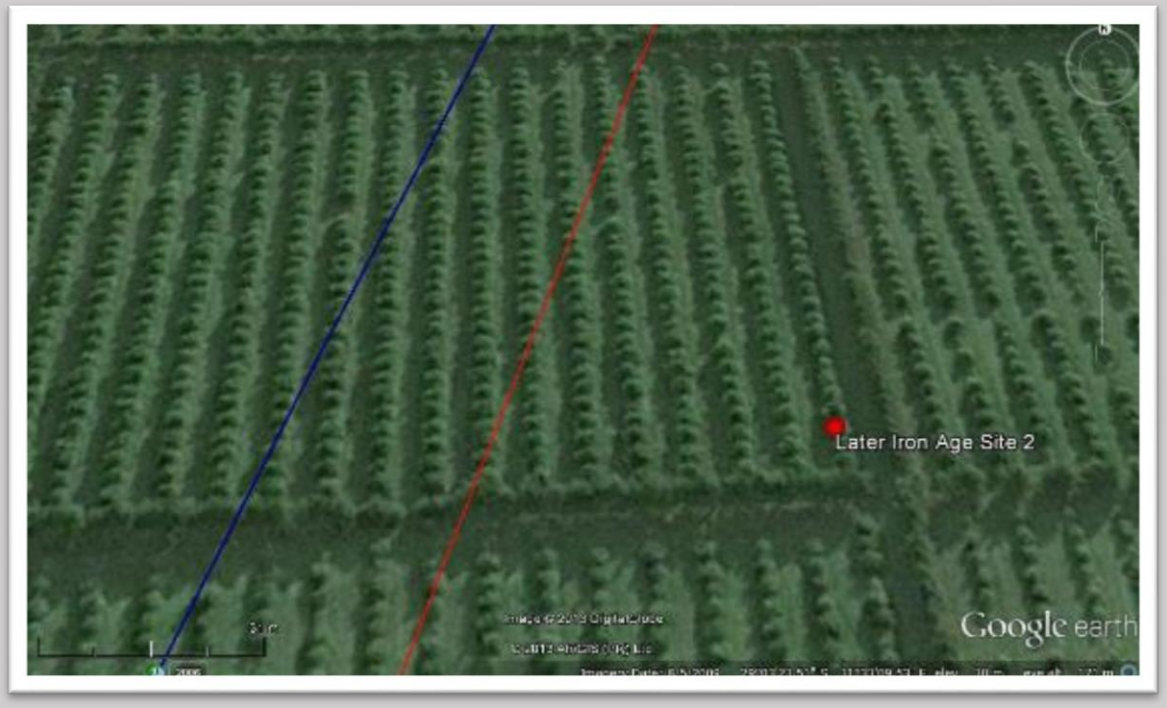


***Figure 5. Google aerial photograph showing the location of Iron Age Site 2 adjacent to the existing powerline.***


***Figure 6. Google aerial photograph showing the location of Iron Age Site 3 adjacent to the existing powerline.***

***Figure 7. Later Iron Age Site 1 indicated by a surface scatter of potsherds***

***Figure 8. All the potsherds on Later iron Age Site 1 are undecorated and non-diagnostic on***

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