



**PHASE 1 HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED  
DINALEDI-SUBSTATION TO ANDERSON-SUBSTATION 400kV  
TRANSMISSION POWERLINE**

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## **ACKNOWLEDGEMENTS**

### Primary Sources

The National Archives, in particular the “Transvaalse Argiefbewaarplek” database.

### Secondary Sources

Australia ICOMOS. *The Burra Charter*.

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van Tonder, J.J. *Verhale en Foto's van veertig Boommonuments in Suid-Afrika*. Krugersdorp 1973

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## **ABOUT THIS REPORT**

*The heritage report must reflect that consideration has been given to the history and heritage significance of the study area and that the proposed work is sensitive towards the heritage resources and does not alter or destroy the heritage significance of the study area.*

*The heritage report must refer to the heritage resources currently in the study area.*

*The opinion of an independent heritage consultant is required to evaluate if the proposed work generally follows a good approach that will ensure the conservation of the heritage resources.*

*The National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998) are the guideline documents for a report of this nature.*

*Leonie Marais-Botes was requested by Nema Consulting to carry out a Phase 1 Heritage Impact Assessment (HIA) for the proposed 400kV Transmission Powerline from the existing Dinaledi-Substation to the proposed new Anderson-Substation*

## **EXECUTIVE SUMMARY**

Eskom Holdings Limited is proposing the construction of a new 400kV Transmission Line, and a proposed new 400kV Substation as part of their Tshwane Strengthening Scheme Project. The proposed powerline will be approximately 40km in length and will run between the proposed new Anderson Substation, which will be located to the north of the Nuclear Energy Corporation of South Africa (NECSA), located in Broederstroom, to the existing Dinaledi Substation which is located approximately 8km North East of Brits.

The proposed powerline will be constructed in the following two Municipal Areas: Madibeng Local Municipality (North West) and the City of Tshwane Local Municipality (Gauteng). The proposed substation is earmarked for construction within the Madibeng Local Municipality. Please note that a separate Environmental Impact Assessment (EIA) process is being undertaken for the proposed Anderson-Dinaledi 400kV Powerline.

The project (as described above) may impact on any types and ranges of heritage resources that are outlined in Section 3 of the National Heritage Resources Act (Act 25 of 1999). Subsequently a Heritage Impact Assessment was commissioned by Nema Consulting and conducted by Leonie Marais-Botes (Heritage Foundation).

The main types and ranges of heritage resources that were identified in the greater study area were:

- Graves
- Structures
- Historic Trees

All graves and cemeteries are of high significance and are protected by various laws. Legislation with regard to graves included the National Heritage Resources Act (Act 25 of 1999) whenever graves are 60 years and older. Other legislation with regard to graves includes those when graves are exhumed and relocated, namely the Ordinance on Exhumations (no 12 of 1980) and the Human Tissues Act (Act 65 of 1983 as amended).

## INTRODUCTION

Electricity is generated, supplied and distributed by Eskom via a network called a “Grid”. The amount of electricity being fed into the grid must always match what the customers are taking out. The amount of electricity required by the customers varies not just from day to day, but from minute to minute. As electricity demand increases, and loads are connected, more power stations and associated substations and lines need to be built to meet the electricity demands.

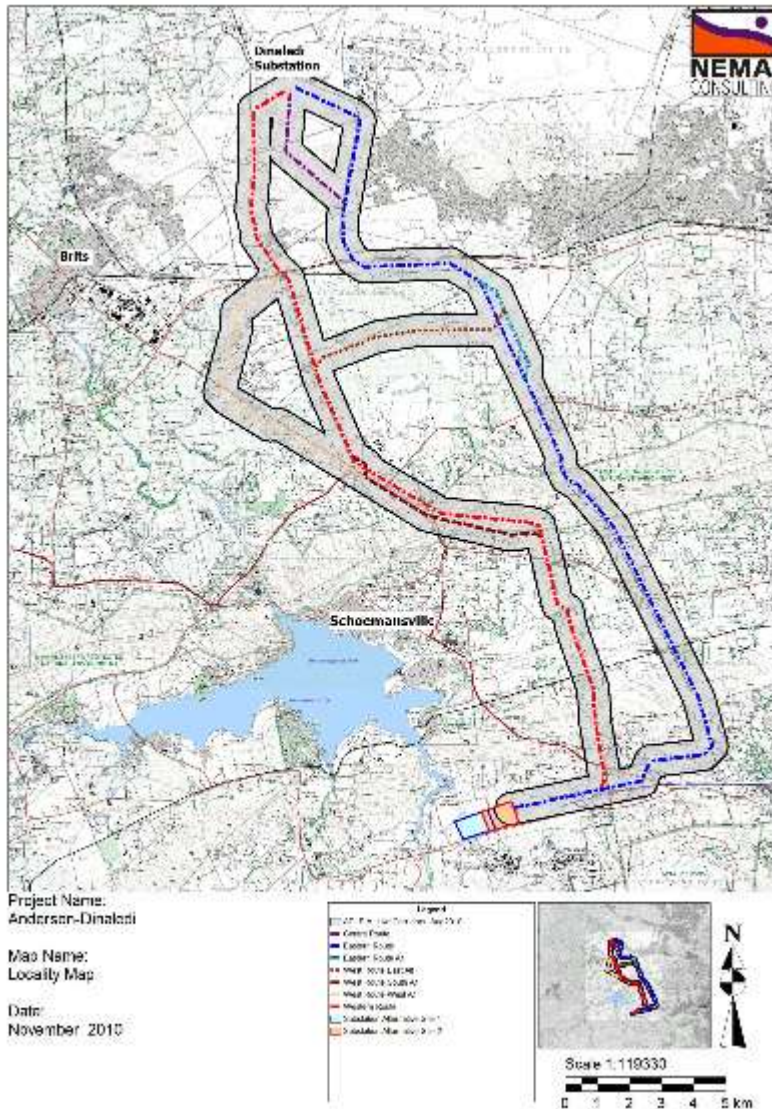
Eskom Holdings Limited is proposing the construction of a new 400kV Transmission Line, and a proposed new 400kV Substation as part of their Tshwane Strengthening Scheme Project. The proposed powerline will be approximately 40km in length and will run between the proposed new Anderson Substation, which will be located to the north of the Nuclear Energy Corporation of South Africa (NECSA), located in Broederstroom, to the existing Dinaledi Substation which is located approximately 8km North East of Brits.

The proposed powerline will be constructed in the following two Municipal Areas: Madibeng Local Municipality (North West) and the City of Tshwane Local Municipality (Gauteng). The proposed substation is earmarked for construction within the Madibeng Local Municipality. Please note that a separate Environmental Impact Assessment (EIA) process is being undertaken for the proposed Anderson-Dinaledi 400kV Powerline.

Activities in the greater study area include:

- Agricultural activities
- Tourism
- Commercial Activities
- Mining
- Formal and Informal Housing

## DESCRIPTION OF THE GREATER STUDY AREA



### Map indicating alternatives

The main town in the greater study area is Brits. The surrounds are well known for citrus, vegetable and grain production. Most farms in the area are irrigated by water from the Hartebeespoort Dam. The greater study area is close to Pretoria.

In addition to being a centre for agriculture, the town is home to several heavy industries, it is worth mentioning the presence of a factory of the Italian car manufacturer Alfa Romeo that produced cars for the domestic market and export to Asia from 1974 to 1985. The town also plays an important role in the South African mining industry: 94% of South Africa's platinum comes from the Rustenburg and Brits districts.

Near to the Eastern Route Garankuwa is situated. The Township of Ga-Rankuwa was founded on communal land in the 1960's as part of the forced removal of the black community from the City of Pretoria. The establishment of this settlement and several others was coupled with the start of the "Border Industrial Area" that was created in the independent state of Bophuthatswana.

## **METHOD**

The objective of this study was not to undertake a detailed heritage survey, but to gain an overall understanding of the heritage sensitivities of the area and indicate how they may be impacted on through development activities. The survey took place on 27 February and 1 March 2011.

The entire study area was covered with a vehicle. At certain pre-determined points foot surveys were conducted to establish an overall understanding of the study area and the sensitivities associated with it in heritage context. In extensive study areas as this it is difficult to do a foot survey of the entire area in the limited time available. 1:50 000 maps were studied to determine possible sensitive areas previously identified. The initial study took place in late summer, early autumn. Due to good rainfall the vegetation was dense and visibility limited.

After the field studies a literature and archival search were conducted to find additional and contextual information.

In order to establish heritage significance the following method was followed:

- Investigation of primary resources (archival information)
- Investigation of secondary resources (literature and maps)
- Physical evidence (site investigation)
- Determining Heritage Significance

## **PROPOSED 400kV Transmission Powerline from the existing Dinaledi-Substation to the proposed Anderson-Substation**

### **1. BRIEF BACKGROUND HISTORY OF THE GREATER STUDY AREA**

The greater study area is well known for its vast treasure of archaeological Iron Age settlements that are scattered between Brits and Rustenburg and to Pilanesberg in the north.

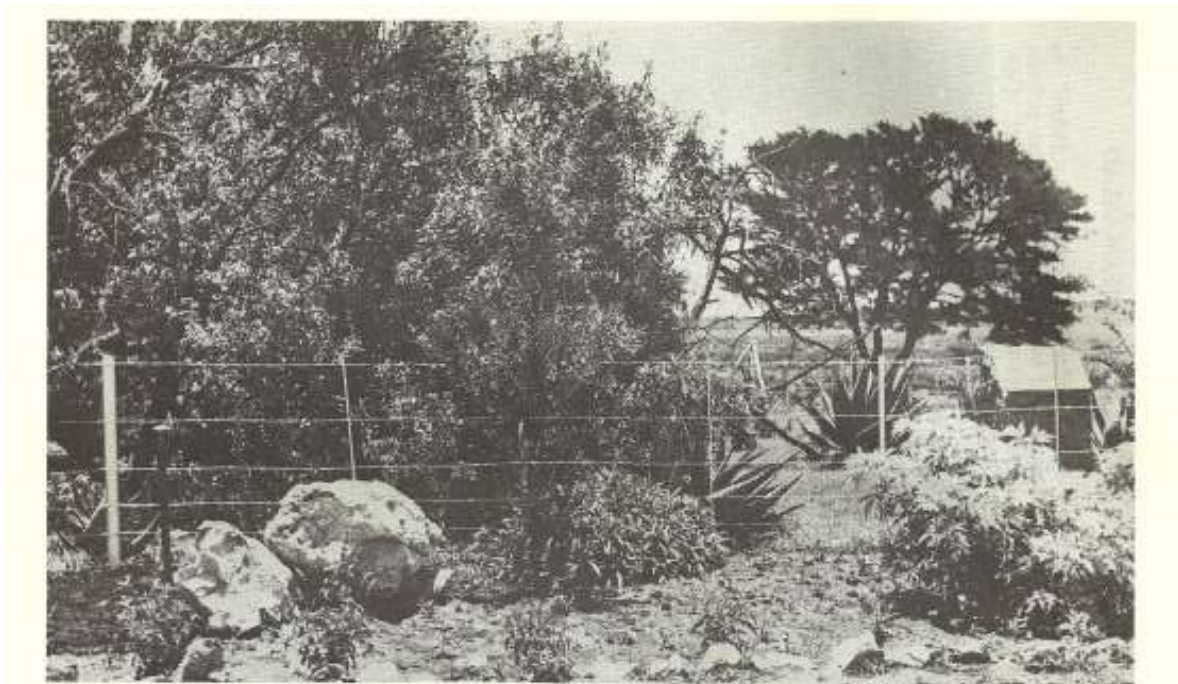
The Magaliesberg was named after a tribal chief called Mogalé. Most of Mogalé's tribe was killed by Silkaats who fled from the tyranny of the Zulu King Dingaan



and settled in the area. Silkaats was bloodthirsty, he murdered, plundered and left for dead.<sup>1</sup>

The first pioneers (Voortrekkers) moved into the area in the early 1840's and settled on the banks of the Crocodile River. The soil was rich and promised good harvests. The first farm was established in 1841 by the Voortrekker Albertus Venter on De Kroon. While in the beginning everyone fended for themselves by 1863 the collective development of farming in the area became important and seven furrows were taken out of the Crocodile River which combined almost 3000 morgen that could be irrigated.

During the 1860's Marthinus Wessel Pretorius was president of the Free State. When an election was held in the Transvaal he nominated himself as candidate. The burghers were not happy with this and Willem van Rensburg was elected President of the Transvaal. Another group of burghers were not happy about the election of van Rensburg and rebelled. The burghers held a peace meeting at the historical *Rhus Lancea* (Kareeboom) near Brits.<sup>2</sup>



**The Peace Tree at Silkaatsnek near Pretoria and Brits<sup>3</sup>**

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<sup>1</sup> Town Council of Brits, Souvenir Album Brits 1924-1974, p. 15

<sup>2</sup> Town Council of Brits, Souvenir Album Brits 1924-1974, p. 17

<sup>3</sup> J.J. van Tonder, Historiese Bome Radiopraatjies en 50 Foto's, p. 63

During the Anglo-Boer War (1899-1902) an important battle took place just south of Brits. This battle is referred to as the Battle of Silkaatsnek and took place on 11 July 1900.



**View of Silkaatsnek during the Anglo-Boer War (1899-1902)<sup>4</sup>**

Early in the 1900's the then "Transvaalse Irrigasië Departement" surveyed an area near the town Brits for an irrigation dam. The First World War (1914-1918) meant a delay, but in 1921 further surveys were done and the dam was completed in 1923. The dam is called Hartebeespoortdam.<sup>5</sup>



**Sunset at Hartebeespoortdam**

The town Brits was founded on the farm Roodekoppen of Gert Britz. During May 1923 land surveyor J.H. Fehrnsen measured 939 Erven which was on 23 October 1923 declared Brits townlands.<sup>6</sup>

On 7 Desember 1912 near the De Wildt Station General Hertzog (then Minister of Native Affairs) during a speech initiated the idea of the establishment of a Republic.

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<sup>4</sup> I.B. Copley, The Battle of Silkaatsnek 11 July 1900 in The Military History Journal Vol 9 No 3 June 1993

<sup>5</sup> Town Council of Brits, Souvenir Album Brits 1924-1974, p. 21

<sup>6</sup> Ibid, p.23



**The De Wildt Tree<sup>7</sup>**

## **2. FINDINGS**

### **2.1 PRE-COLONIAL HERITAGE SITES**

No pre-colonial heritage sites were observed in the study area. This can be attributed to large scale farming and mining activities in the area.



**Mining activities in the study area**

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<sup>7</sup> J.J. van Tonder, Verhale en Foto's van veertig Boommonumente in Suid-Afrika, pp. 110-111

## 2.2 HERITAGE FEATURES PROTECTED BY NATIONAL HERITAGE LEGISLATION

There are structures scattered in the study area older than 60 years. But none of these structures are of a particular cultural significance.



Graves were identified near Western Route (S 25° 37'12.9" E027° 50'05.3")



## 2.3 ORIGINAL LANDSCAPE

There are limited portions of the original landscape still evident in the study area



**Granite outcrop near eastern route**

## 2.4. INTANGIBLE HERITAGE

The intangible heritage of this area is embedded in the stories and experiences of past and present inhabitants.

### 3. CATEGORIES OF HERITAGE VALUE (ACT 25 OF 1999)

*The National Heritage Resources Act (Act 25 of 1999) identifies the following categories of value under section 3(1) and (2) of the Act under the heading “National Estate”:*

“3 (1) For the purpose of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.

(2) Without limiting the generality of subsection (1), the national estate may include-

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places 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 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 interests; 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 I (xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

(3) Without limiting the generality of the subsections (1) and (2), 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 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 and 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."

### **3.1 HERITAGE VALUE WEIGHED AGAINST CULTURAL SIGNIFICANCE CATEGORIES**

#### **3.1.1Spiritual value**

There is no indication of any spiritual activity other than in places of formal worship in any part of the study area.



### **3.1.2 Scientific value**

The structures and associated infrastructure in the specific study area does not contain any scientific value in terms of section 3(3)(d) of the Act. No natural feature or other infrastructure associated with scientific importance could be identified in the study area.

### **3.1.3 Historical value**

The structures older than 60 years scattered over the study area are protected by Section 34 of the National Heritage Resources Act, Act 25 of 1999.

Certain graves in the cemetery identified in the above are older than 60 years and protected by National Heritage Legislation.

The Peace Tree at Silkaatsnek and the De Wildt Tree near the De Wildt Station as discussed in the historical background of the greater study area is of historical significance and protected by the above mentioned act.

### **3.1.4 Aesthetic value**

No heritage item with exceptional aesthetic (architectural) value was identified in the study area.

### **3.1.5 Social value**

The study area does not contain sites that are associated with social value. These sites may include meeting places, parks ect.

## **3.2 SPECIFIC HERITAGE SIGNIFICANCE CATEGORIES INVESTIGATED AS PER SECTION 3 (1), (2) AND (3) OF THE NATIONAL HERITAGE LEGISLATION (ACT 25 OF 1999)**

### **3.2.1 Do the sites provide the context for a wider number of places, buildings, structures and equipment of cultural significance?**

The various sections earmarked for development do not provide context for a wider number of places, buildings, structures and equipment of cultural significance. The reason can be accredited to the relatively low number of heritage structures remaining in the study area.

**3.2.2 Do the sites contain places to which oral traditions are attached or which are associated with living heritage?**

Living heritage is usually associated with historic inhabitants of an area i.e. a certain tribe or clan. Due to the development of the area no evidence of living heritage could be found.

**3.2.3 Do the sites contain historical settlements?**

No historical settlement was identified in the study area as indicated on the study area map.

**3.2.4 Do the sites contain landscapes and natural features of cultural significance?**

The specific study area although situated in an area known for its geological formations contain no landscapes and natural features of cultural significance.

**3.2.5 Do the sites contain geological sites of cultural importance?**

Although the greater study area is known for its geological importance especially platinum and vanadium deposits the geological landscape associated with the specific study area contain no such features of cultural importance.

**3.2.6 Do the sites contain a wide range of archaeological sites?**

No surface archaeological deposits were observed. This can be attributed to the rapid development of the area with associated infra-structure.

There is a slight possibility of sub-surface archaeological material being uncovered during the construction phase and it is advised that an heritage practitioner be placed on stand-by if required.

**3.2.7 Do the sites contain any marked graves and burial grounds?**

The study area contains two sites with graves. A formal cemetery can be found on the grounds of the Xstrata Elands Platinum Mine and a site with graves can be found near the Western Route.



**Elands Mine cemetery**



**Graves near Western Route**

All graves and cemeteries are of high significance and are protected by various laws. Legislation with regard to graves included the National Heritage Resources Act (Act 25 of 1999) whenever graves are 60 years and older. Other legislation with regard to graves includes those when graves are exhumed and relocated, namely the Ordinance on Exhumations (no 12 of 1980) and the Human Tissues Act (Act 65 of 1983 as amended).

The possibility of the uncovering of sub-surface unmarked graves during the construction phase is a possibility and it is advised that a heritage practitioner be put on stand-by in order to manage such a situation if incurred.

**3.2.8 Do the sites contain aspects that relate to the history of slavery?**

This is not an area associated with the history of slavery.

**3.2.9 Can the place be considered as a place that is important to the community or in the pattern of South African history?**

Although the greater study area can be regarded as important to the community in terms of mining, farming and other activities, the specific study area can not be considered a place of this importance.

**3.2.10 Do the sites embody the quality of a place possessing uncommon or rare endangered aspects of South Africa's natural and cultural heritage?**

Although some isolated areas in the study area still contain limited natural and cultural aspects this is not an uncommon, rare or endangered aspect of South Africa's natural and cultural heritage.

**3.2.11 Do the sites demonstrate the principal characteristics of South Africa's natural or cultural places?**

Although some isolated areas in the study area still contain limited natural and cultural aspects this does not demonstrate the principal characteristics of South Africa's natural or cultural places. The fact that the proposed development is planned next to existing infrastructure will greatly reduce damage to this natural feature.

**3.2.12 Do the sites exhibit particular aesthetic characteristics valued by the community or cultural groups?**

This part of the greater study area does exhibit particular aesthetic characteristics valued by the community or cultural groups.

**3.2.13 Do the sites contain elements, which are important in demonstrating a high degree of creative technical achievement?**

The sites do not contain elements, which are important in demonstrating a high degree of creative technical achievement. No particular important technical achievement is evident in the study area.

**3.2.14 Do the sites have strong and special associations with particular communities and cultural groups for social, cultural and spiritual reasons?**

From primary and secondary sources it was established that the sites in question do not have strong and special associations with particular communities and cultural groups for social, cultural and spiritual reasons.

**3.2.15 Do the sites have a strong and special association with the life or work of a person, group or organisation?**

From primary and secondary sources it was established that the sites in question do not have strong and special association with the life or work of a person, group or organisation.

4. Table indicating known heritage resources in the vicinity of the proposed development

<b>Powerline Routes</b>	<b>Heritage Resource</b>	<b>Level of Significance</b>	<b>Magnitude of Impact</b>
Centre Route (violet line)	None	Low	Low
Eastern Route (royal blue line)	Graves at Elands Mine	High	Already mitigated by mine
	The De Wildt tree near De Wildt Station	High	If mitigated medium to low
Eastern Route Alt (light blue)	None	Low	Low
West Route-East Alt (Red)	None	Low	Low
West Route-South Alt (red dotted line)	The Peace Tree at Silkaatsnek	Low	Medium to Low if mitigated
West Route-West Alt (peach coloured line)	None	Low	Low
Western Route	The Peace Tree at Silkaatsnek	High	Medium to low if mitigated
	Graves	High	Medium to low if mitigated

5. OPPORTUNITIES, RESTRICTIONS, IMPACTS

- Due to the relatively low occurrence of heritage sites in the area any of the selected routes can be followed.
- It is advised that if graves or other historical features are located in the selected powerline route, the powerline be deviated slightly or pylon structures placed to avoid negative impact on these heritage items.

- It is also advised that heritage items be fenced for the duration of construction to safeguard these items from damage.
- Heritage practitioner to be put on stand by as prescribed in 3.2.6 and 3.2.7.
- Structures older than 60 years are protected by the National Heritage Resources Act, Act 25 of 1999, Section 34. If it is planned to demolish such structures an application to demolish must timeously be submitted to the relevant heritage authority in this case the Limpopo Heritage Resources Agency (LIHRA).

## **6. THE WAY FORWARD**

It is advised that this Phase 1 Heritage Impact Assessment (HIA) be submitted to the Gauteng and North West Heritage Resources Authorities as per section 38 of the National Heritage Resources Act, Act 25 of 1999, for comment/approval.