



**Digby Wells &
Associates**

**Archaeological
Impact Assessment**

**Northern Coal
Portion 15 and 16 of
the farm Weltevreden
381 JT, Belfast,
Mpumalanga**

Version 1.0

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EXECUTIVE SUMMARY

As we know from legislation the surveying, capturing and management of heritage resources is an integral part of the greater management plan laid down for any major development or historic existing operation. With the proclamation of the National Heritage Resources Act 1999 (Act 25 of 1999) this process has been laid down clearly. This legislation aims to underpin the existing legislation, which only addresses this issue at a glance, and gives guidance to developers and existing industries to the management of their Heritage Resources.

The importance of working with and following the guidelines laid down by the South African Heritage Resources Agency cannot be overemphasised. This document forms part of the Environmental Assessment for the Northern Coal Weltevreden Project Portions 15 and 16 of the farm Weltevreden 381 JT, Belfast, Mpumalanga.

No sites of heritage significance were found during the survey.

There is from a Heritage point of view no reason why the development can not commence.

General

If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.

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1. INTRODUCTION

PGS Heritage Unit was contracted by Digby Wells & Associates to conduct a Heritage Scoping Study for the Environmental Assessment for the proposed Northern Coal Weltevreden Project Portions 15 and 16 of the farm Weltevreden 381 JT, Belfast, Mpumalanga.

The aim of the study is to identify all heritage sites, document, and assess their importance within Local, Provincial and national context. From this we aim to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilised before and during the survey, which includes in Phase 1: Information collection from various sources and public consultations; Phase 2: Physical surveying of the area on foot and by vehicle; and Phase 3: Reporting the outcome of the study.

During the survey, no cultural heritage site was identified.

General site conditions and features on site were recorded by means of photos, GPS location, and description. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to SAHRA provincial office for scrutiny.

2. APPROACH AND METHODOLOGY

The aim of the study is to extensively cover all data available to compile a background history of the study area; this was accomplished by means of the following phases.

2.1. PROJECT DESCRIPTION

The operation will be the opencast mining of the No.2 Coal Seam of the Witbank Coal Field. The seam thickness increases from 1,2 metre in the north to 3.62 metres towards the centre of the area and reaches a maximum 4,15 metres in the south western portion. 219ha will be mined opencast via truck and shovel method at a strip ratio of 5:1. The total ROM coal is estimated at 7.512Mt. The project will be the opencast mining of one pit that will cross over two portions of the farm. There will be no processing plant on site and coal will be transported off site. Refer to Figure 1 for layout plan.

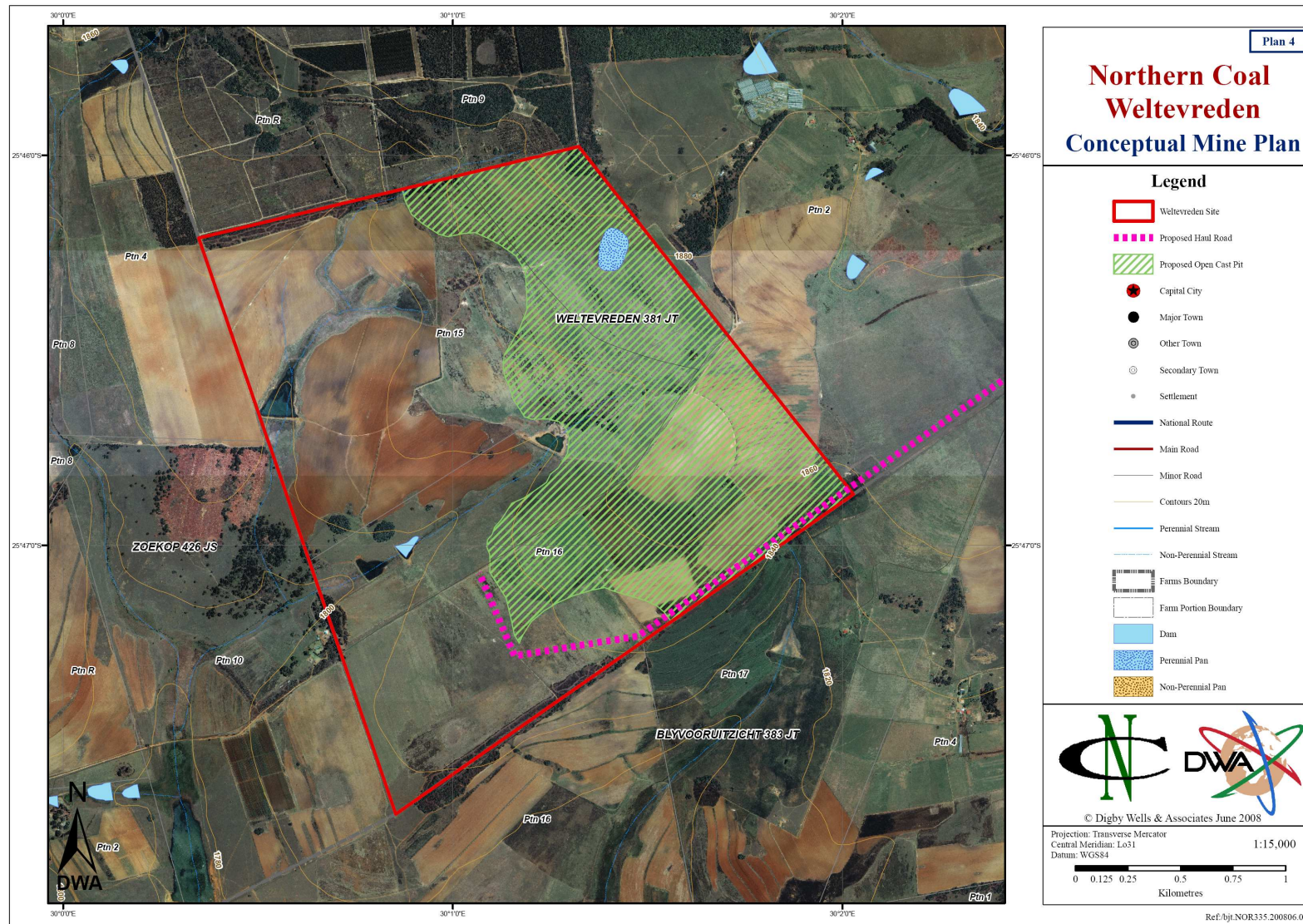


Figure 1 – Proposed mining Layout and project plan

2.2 PHYSICAL SURVEYING

Due to the nature of cultural remains, the majority that occur below surface, a physical walk through of the study area was conducted. PGS was appointed to conduct a survey of the proposed development area. The total area of impact comprised an area of approximately 219 ha in total. The study area was surveyed over one day, by means of vehicle and extensive surveys on foot by PGS.

Aerial photographs and 1:50 000 maps of the area were consulted and literature of the area were studied before undertaking the survey. The purpose of this was to identify topographical areas of possible historic and pre-historic activity. All sites discovered both inside and bordering the proposed development area was plotted on 1:50 000 maps and their GPS co-ordinates noted. 35mm photographs on digital film were taken at all the sites.

3. WORKING WITH LEGISLATION

It is very important that cultural resources be evaluated according to the National Heritage Recourse Act. In accordance with the Act, we have found the following:

These sites are classified as important based on evaluation of the National Heritage Recourses Act 1999 (Act No 25 of 1999) section 3 (3).

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.

(Refer to Section 9 of this document for assessment).

These sites should be managed through using the National Heritage Recourses Act 1999 (Act No 25 of 1999) sections 4, 5 and 6 and sections 39-47.

Section 39(3)(b) of Minerals and Petroleum Resources Development Act specifically refer to the evaluation, assessment and identification of impacts on all heritage resources as identified in Section 3(2) of the National Heritage Resources Act that is to be impacted on by activities governed by the MPRDA. While Section 40 of the same Act requires the consultation with any State Department administering any law that has relevance on such an application through Section 39 of the MPRDA. This implies the evaluation of Heritage Assessment Reports in Environmental Management Plans or Programmes by the relevant heritage authorities.

Please refer to Section 9 for Management Guidelines.

4. ASSESSMENT CRITERIA

This chapter describes the evaluation criteria used for the sites listed below.

The significance of archaeological sites was based on four main criteria:

- **site integrity** (i.e. primary vs. secondary context),
- **amount of deposit, range of features** (e.g., stonewalling, stone tools and enclosures),
- **uniqueness** and
- **potential** to answer present research questions.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

A - No further action necessary;

B - Mapping of the site and controlled sampling required;

C - Preserve site, or extensive data collection and mapping of the site; and

D - Preserve site

Impacts on these sites by the development will be evaluated as follows

4.1 IMPACT

The potential environmental impacts that may result from the proposed development activities.

4.1.1 Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate against impacts.

4.2 EVALUATION

4.2.1 Site Significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development

Community (SADC) region, were used for the purpose of this report.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	-	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	-	Low Significance	Destruction

4.2.2 Impact Rating

VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in **severe** or **very severe** effects, or **beneficial** or **very beneficial** effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with a VERY HIGH significance.

HIGH

These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural

and/or social) environment. Society would probably view these impacts in a serious light.

Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.

Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary change in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.

Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.

Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

4.2.3 Certainty

DEFINITE: More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

PROBABLE: Over 70% sure of a particular fact, or of the likelihood of impact occurring.

POSSIBLE: Only over 40% sure of a particular fact or of the likelihood of an impact occurring.

UNSURE: Less than 40% sure of a particular fact or likelihood of an impact occurring.

4.2.4 Duration

SHORT TERM: 0 to 5 years

MEDIUM: 6 to 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

Example

Evaluation

Impact	Impact Significance	Heritage Significance	Certainty	Duration	Mitigation
Negative	Moderate	Grade GP.B	Possible	Short term	B

5. HISTORICAL BACKGROUND OF AREA

The Stone Age is divided in Earlier; Middle and Later Stone Age and refers to the earliest people of South Africa who mainly relied on stone for their tools.

Earlier Stone Age: The period from \pm 2.5 million yrs - \pm 250 000 yrs ago. Acheulean stone tools are dominant.

Middle Stone Age: Various lithic industries in SA dating from \pm 250 000 yrs – 22 000 yrs before present.

Later Stone Age: The period from \pm 22 000-yrs before present to the period of contact with either Iron Age farmers or European colonists.

The Iron Age as a whole represents the spread of Bantu speaking people and includes both the Pre-Historic and Historic periods. Similar to the Stone Age it can be divided into three periods:

The Early Iron Age: Most of the first millennium AD.

The Middle Iron Age: 10th to 13th centuries AD

The Late Iron Age: 14th century to colonial period.

The greater Belfast area further to the west of the study area is known for its Later Iron Age stonewalling.

5.1 ANGLO BOER WAR HISTORY

The area of Belfast was very active during the Anglo Boer War (1899-1902) with numerous skirmishes, railway sabotage and battle sites occurring in the Mpumalanga Highveld area. The Anglo-Boer War or South African War was waged between Great Britain and the two Boer Republics, the ZAR and the Oranje Vrystaat, from 1899 to 1902.

The Battle of Bergendal

The Battle of Bergendal, also known as the Battle of Belfast and the Battle of Dalmanutha, is called the "last set-piece battle of any size in the [Anglo-Boer] war" by Pakenham (1979).

By May 1900 most of the battles as part of the organized phase of the Anglo-Boer War were fought, such as Magersfontein (December 1899), Spioenkop, (January 1900) and Paardeberg (February 1900).

Pretoria was captured on 5 June 1900, but this did not result in the end of the war as was anticipated. British forces then embarked upon the defeat of the Boer forces still occupying the then Eastern ZAR. Various British forces advanced towards the ridge of the eastern Highveld, where the Battle of Bergendal would eventually take place (Jooste, 2001).

The British Forces under the command of Generals Roberts, Buller, French and Pole-Carew converged from Natal and Pretoria on the Belfast area (Refer to Figure 2 for a depiction of their movement to Belfast).

'After the ZAR leadership decided not to defend Pretoria, the Boer commandos leaving the capital moved along the Delgoa Bay railway line in an eastern and north-eastern direction gathering to the west of Machadodorp. By the beginning of August 1900 General Botha established a defence line that stretched for more than 80 km (50 miles) from Bothasberg northwest of Belfast to the farm Frischgewaagd in the Komati River valley.' Jooste (2001).

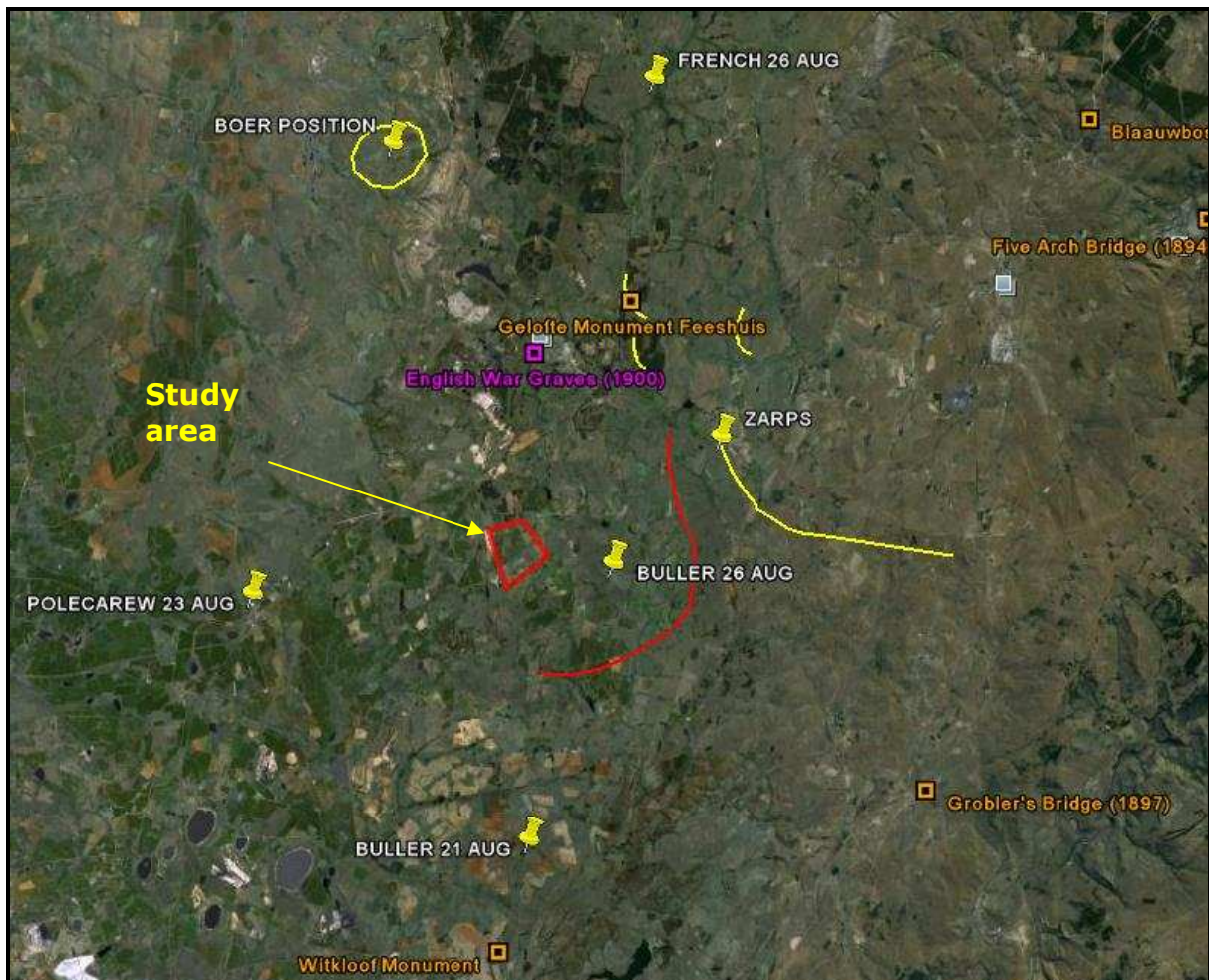


Figure 2 - Positions of British and Boer forces with the Battle of Bergendal

In August 1900 it was decided by the Boer forces that the line must be defended at all cost, as Machadodorp the then seat of the ZAR government was to be protected to safeguard a retreat toward Lydenburg and Barberton.

The defensive line was setup with the central part occupied by the Zuid Afrikaansche Republiek Politie (ZARP) under command of Commandant G.M.J. van Dam on a rocky outcrop on the farm Bergendal.

On 26 August 1900, the Battle of Bergendal commenced and the British forces advanced on the Boer Lines. The Boer lines were breach I certain sections but main resistance was coming from the ZARP position.

On 27 August a major offensive was concentrated on the ZARP position, with a three hour bombardment of the ZARP kopje commencing at 11 am.

'After three hours the ZARPS still held their positions on the kopje. Buller then ordered the infantry onslaught on the kopje. General Kitchener directed Lieut. Colonel Metcalfe to take up a position across the main east and west ridge of the kopje under cover of gunfire: his men were to attack from the west. ... The brave ZARPS never considered fleeing or surrendering; they just hoped that they could hold out until nightfall. But eventually even they realised that they had to leave their positions. As some of them rushed to their horses, one destroyed their artillery piece, refusing to allow the possibility that it would fall into enemy hands. Lieutenant Pohlman and 19 others were killed, while Commandant Oosthuizen, who was wounded, was taken prisoner together with 18 others. The rest of the ZARPS who had initially occupied the kopje escaped and joined the other retreating commandos.' (Jooste, 2001).

The Boer defences was breached on 28 August and Buller's troops marched into Machadodorp.

Five days later, on 1 September 1900, Lord Roberts proclaimed the annexation of the ZAR as the Transvaal Colony.



Figure 3 - Bergendal Battle Monument

6. SITES OF SIGNIFICANCE

The study area, located on topographical sheet 2530CC, is currently utilised for grazing and planting. Large sections of the area are currently covered by mealies.

No evidence of cultural remains was found on site.



Figure 4 - General photo of the site with mealie fields in foreground



Figure 5 - Open grassland

7. ASSUMPTIONS AND LIMITATIONS

Due to the nature of cultural remains that occur, in most cases, below surface, the possibility remains that some cultural remains may not have been discovered during the survey. Although PGS surveyed the area as thorough as possible, it is incumbent upon the developer to inform the relevant heritage agency should further cultural remains be unearthed or laid open during the process of development.

8. LEGAL AND POLICY REQUIREMENTS

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the new legislation, permits are required to damage, destroy, alter, or disturb them. People who already possess material are required to register it.

The management of heritage resources are integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have interest in the graves: they may be consulted before any disturbance takes place.

The graves of victims of conflict and those associated with the liberation struggle will be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the developer's cost.

Thus developers will be able to proceed without uncertainty about whether work will have to be stopped if a heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:

An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including –

- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;
- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video 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), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

Under the National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection, to all historic and pre-historic cultural remains, including graves and human remains.

- Graves younger than 60 years fall under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning, or in some

cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

- Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above SAHRA authorisation. If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws set by the cemetery authority must be adhered to.

9. ASSESSMENT AND RECOMMENDATIONS

*A locality map is provided in **Annexure A***

No sites of heritage significance were found on site.

There is from a Heritage point of view no reason why the development can not commence.

General

If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.

10. LIST OF PREPARES

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ANNEXURE A: Locality Map

