

**Phase 1 Cultural Heritage Impact Assessment:**

**THE PROPOSED WILDEALSKLOOF MIXED USE DEVELOPMENT, BLOEMFONTEIN REGION,  
MANGAUNG METROPOLITAN MUNICIPALITY, FREE STATE PROVINCE**

**Prepared for:**

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**Specialist competency:**

Johan A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 40 years. Originally based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape Province, Northern Cape Province, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 70 papers, most in scientifically accredited journals. During this period, he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, roads, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments. A complete *curriculum vitae* can be supplied on request.

**Declaration:**

I, J A van Schalkwyk, declare that:

- I am suitably qualified and accredited to act as independent specialist in this application.
- I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services, for which a fair remuneration is charged.
- The work was conducted in an objective manner and any circumstances that might have compromised this have been reported.



J A van Schalkwyk  
Heritage Consultant  
March 2018

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## EXECUTIVE SUMMARY

### Phase 1 Cultural Heritage Impact Assessment: THE PROPOSED WILDEALSKLOOF MIXED USE DEVELOPMENT, BLOEMFONTEIN REGION, MANGAUNG METROPOLITAN MUNICIPALITY, FREE STATE PROVINCE

*Ideal Consuting (Pty) Ltd* proposes the development of a mixed use development as well as associated infrastructure on a section of land located to the north-west of Bloemfontein, Free State Province.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by *Envirolution Consulting* to conduct a cultural heritage assessment to determine if the proposed mixed use development would have an impact on any sites, features or objects of cultural heritage significance.

This report describes the methodology used, the limitations encountered, the heritage features that were identified and the recommendations and mitigation measures proposed relevant to this. The HIA consisted of a desktop study (archival sources, database survey, maps and aerial imagery) and a physical survey that included the interviewing of relevant people. It should be noted that the implementation of the mitigation measures is subject to SAHRA/PHRA's approval.

The cultural landscape qualities of the region are made up of a pre-colonial element consisting of very limited Stone Age and Iron Age occupation, as well as a much later colonial (farmer) component, which eventually gave rise to an urban component.

During the physical survey, a number of heritage sites and features were identified:

- 7.1.1 A low density scatter of MSA stone tools and flakes was identified at the eastern foot of the hill located in the south-western corner of the study area.
- 7.3.1 At least twenty structures identified as sangars occur on the western side of the hill, with a few located on the eastern side. In one area on the western side of the hill, a well-built, straight stone wall occurs in front of some of the sangars. A few metres further west, a section of a narrow, paved road was identified. The stonework is similar to that of the stone wall.
- 7.3.2 An informal burial place containing approximately 10 graves marked by stone cairns. Bennyworth (2004) makes a compelling argument for a similar scenario of the farm Lilyvale 2123, southwest of the study area, that these graves might be linked to the British forced that occupied the sangars.

### Impact assessment

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
Stone Age					
7.1.1	Surface site	Section 35	Generally protected C: Low significance	36 8	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating:	Proposed mitigation

				Before/After	(Refer to definitions in Section 8.4)
Built environment					
7.3.1	Sangar sites	Section 34	Local/Grade 3B: High significance	36 8	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
Burial Site					
7.3.2	Burial sites	Section 36	Local/Grade 3B: High significance	36 8	(1) Avoid/preserve; (2) Relocation of graves

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view, it is recommended that the proposed development be allowed to continue on acceptance of the proposed conditions below.

Conditions for inclusion in the environmental authorisation:

- A site management plan should be developed to protect the various identified features (sangars and burial site) on and at the base of the hill in the south-western section of the study area. This should include, *inter alia*, fencing off the area by creating a buffer zone of at least 50 metres calculated from the foot of the hill; controlling access to the area; and informing residents and their visitors about the legal aspects regarding the destruction of the features or the removal of any artefacts from the site.
- Should archaeological sites or graves be exposed in other areas during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk  
Heritage Consultant  
March 2018

**TECHNICAL SUMMARY**

<b>Project description</b>	
Description	Proposed mixed Use Development
Project name	Wildealskloof Mixed Use Development

<b>Applicant</b>
Ideal Consulting (Pty) Ltd

<b>Environmental assessors</b>
Envirovolution Consulting
Ms J Bubala

<b>Property details</b>						
Province	Free State					
Magisterial district	Bloemfontein					
District municipality	Mangaung Metropolitan Municipality					
Topo-cadastral map	2926AA					
Farm name	Remaining Extent of Orlig 1710 & Portion 4 of Wildealskloof 1205					
Closest town	Bloemfontein					
Coordinates	Centre point (approximate)					
	No	Latitude	Longitude	No	Latitude	Longitude
	1	S 29,02323	E 26,22941			

<b>Development criteria in terms of Section 38(1) of the NHR Act</b>	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	No
Any other development category, public open space, squares, parks, recreation grounds	No

<b>Land use</b>	
Previous land use	Farming
Current land use	Farming

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**TABLE OF CONTENTS**


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	Page
EXECUTIVE SUMMARY.....	II
TECHNICAL SUMMARY .....	IV
GLOSSARY OF TERMS AND ABBREVIATIONS .....	VI
1. INTRODUCTION .....	1
2. LEGISLATIVE FRAMEWORK.....	2
3. HERITAGE RESOURCES.....	3
4. STUDY APPROACH AND METHODOLOGY .....	4
5. PROJECT DESCRIPTION .....	8
6. DESCRIPTION OF THE AFFECTED ENVIRONMENT.....	9
7. SURVEY RESULTS .....	12
8. RESULTS: STATEMENT OF SIGNIFICANCE AND IMPACT RATINGS .....	13
9. MANAGEMENT AND MITIGATION MEASURES.....	14
10. CONCLUSIONS AND RECOMMENDATIONS .....	16
11. REFERENCES .....	18
12. ADDENDUM.....	20
1. Indemnity and terms of use of this report.....	20
2. Assessing the significance of heritage resources and potential impacts .....	21
3. Mitigation measures .....	24
4. Relocation of graves.....	26
5. Inventory of identified cultural heritage sites.....	27

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**LIST OF FIGURES**


---

	Page
Figure 1. Location of known heritage sites and features in the larger region.....	6
Figure 2. Map indicating the track log of the field survey.....	7
Figure 3. The vegetation cover encountered on the site. ....	7
Figure 4. Location of the study area in regional context.....	8
Figure 5. Layout of the proposed development. ....	9
Figure 6. Views over the study area. ....	10
Figure 7. The study area on the 1951 version of the topocadastral map. ....	12
Figure 8. Location of heritage sites in the study area. ....	13

## **GLOSSARY OF TERMS AND ABBREVIATIONS**

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### **TERMS**

**Bioturbation:** The burrowing by small mammals, insects and termites that disturb archaeological deposits.

**Cumulative impacts:** “Cumulative Impact”, in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

**Debitage:** Stone chips discarded during the manufacture of stone tools.

**Factory site:** A specialised archaeological site where a specific set of technological activities has taken place – usually used to describe a place where stone tools were made.

**Historic Period:** Since the arrival of the white settlers - c. AD 1830 - in this part of the country.

**Holocene:** The most recent time period, which commenced c. 10 000 years ago.

**Iron Age** (also referred to as **Early Farming Communities**): Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Later Iron Age	AD 1300 - AD 1830

**Midden:** The accumulated debris resulting from human occupation of a site.

**Mitigation,** means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

**National Estate:** The collective heritage assets of the Nation.

**Pleistocene:** Geological time period of 3 000 000 to 20 000 years ago.

**Stone Age:** The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 500 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Later Stone Age	30 000 - until c. AD 200

**Tradition:** As used in archaeology, it is a seriated sequence of artefact assemblages, particularly ceramics.

### **ACRONYMS and ABBREVIATIONS**

ASAPA	Association of Southern African Professional Archaeologists
BCE	Before the Common Era (the year 0)

BP	Before Present (calculated from 1950 when radio-carbon dating was established)
CE	Common Era (the year 0)
ESA	Early Stone Age
EIA	Early Iron Age
HIA	Heritage Impact Assessment
I & AP's	Interested and Affected Parties
LIA	Late Iron Age
LSA	Later Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System



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## 1. INTRODUCTION

### 1.1 Background

*Ideal Consuting (Pty) Ltd* proposes the development of a mixed use development as well as associated infrastructure on a section of land located to the north-west of Bloemfontein, Free State Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. However, according to Section 27(18) of the National Heritage Resources Act (NHRA), No. 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by *Enviolution Consulting (Pty) Ltd* to conduct a cultural heritage assessment to determine if the proposed development of the mixed use facility would have an impact on any sites, features or objects of cultural heritage significance.

This report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended and is intended for submission to the South African Heritage Resources Agency (SAHRA).

### 1.2 Terms and references

*The aim of a full HIA investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to identify heritage resources (involving site inspections, existing heritage data and additional heritage specialists if necessary); assess their significances; assess alternatives in order to promote heritage conservation issues; and to assess the acceptability of the proposed development from a heritage perspective.*

*The result of this investigation is a heritage impact assessment report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed development.*

*Depending on SAHRA's acceptance of this report, the developer will receive permission to proceed with the proposed development, on condition of successful implementation of proposed mitigation measures.*

#### 1.2.1 Scope of work

The aim of this study is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development of the mixed use facility is to take place. This included:

- Conducting a desk-top investigation of the area;
- A visit to the proposed development site.

The objectives were to:

- Identify possible archaeological, cultural and historic sites within the proposed development areas;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

### 1.2.2 Assumptions and Limitations

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- No subsurface investigation (i.e. excavations or sampling) were undertaken, since a permit from SAHRA is required for such activities.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that it does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of buried archaeological remains.
- This report does not consider the palaeontological potential of the site.

## 2. LEGISLATIVE FRAMEWORK

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### 2.1 Background

Heritage Impact Assessments are governed by national legislation and standards and International Best Practise. These include:

- South African Legislation
  - National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA);
  - Mineral and Petroleum Resources Development Act, 2002 (Act No. 22 of 2002) (MPRDA);
  - National Environmental Management Act 1998 (Act No. 107 of 1998) (NEMA); and
  - National Water Act, 1998 (Act No. 36 of 1998) (NWA).
- Standards and Regulations
  - South African Heritage Resources Agency (SAHRA) Minimum Standards;
  - Association of Southern African Professional Archaeologists (ASAPA) Constitution and Code of Ethics;
  - Anthropological Association of Southern Africa Constitution and Code of Ethics.
- International Best Practise and Guidelines
  - ICOMOS Standards (Guidance on Heritage Impact Assessments for Cultural World Heritage Properties); and
  - The UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (1972).

### 2.2 Heritage Impact Assessment Studies

South Africa's unique and non-renewable archaeological and palaeontological heritage sites are 'generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, Section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority.

The National Heritage Resources Act (Act No. 25 of 1999, Section 38) provides guidelines for Cultural Resources Management and prospective developments:

*“38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as:*

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of a site:*
  - (i) exceeding 5 000 m<sup>2</sup> in extent; or*
  - (ii) involving three or more existing erven or subdivisions thereof; or*
  - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.”*

And:

*“38 (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:*

- (a) The identification and mapping of all heritage resources in the area affected;*
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (c) an assessment of the impact of the development on such heritage resources;*
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.”*

### **3. HERITAGE RESOURCES**

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#### **3.1 The National Estate**

The National Heritage Resources Act (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
  - ancestral graves;
  - royal graves and graves of traditional leaders;
  - graves of victims of conflict;

- graves of individuals designated by the Minister by notice in the Gazette;
- historical graves and cemeteries; and
- other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
  - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - objects to which oral traditions are attached or which are associated with living heritage;
  - ethnographic art and objects;
  - military objects;
  - objects of decorative or fine art;
  - objects of scientific or technological interest; and
  - 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).

### 3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) 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

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- 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
- sites of significance relating to the history of slavery in South Africa.

A matrix (see Section 2 of Addendum) was developed whereby the above criteria were applied for the determination of the significance of each identified site. This allowed some form of control over the application of similar values for similar identified sites.

## 4. STUDY APPROACH AND METHODOLOGY

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### 4.1 Extent of the Study

This survey and impact assessment covers all facets of cultural heritage located in the study area as presented in Section 5 below and illustrated in Figures 3 & 4.

## 4.2 Methodology

### 4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted – see list of references in Section 11.

- Information on events, sites and features in the larger region were obtained from these sources.

### 4.2.1.2 Data bases

The *Heritage Atlas Database*, various SAHRA databases, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development.

### 4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature were obtained from these sources

The results of the above investigation are presented in Table 1 below – see list of references in Section 11 – and can be summarised as follows:

- Stone Age tools, dating to the MSA and LSA occur as low-density scatters on some outcrops in the larger region;
- Historic structures, inclusive of buildings, monuments and bridges, occur mostly in an urban environment (Bloemfontein), although they also occur sporadically on farms;
- Stone walled fortifications dating to the South African War (1899-1902) occur sporadically across the landscape;
- Informal burial sites occur sporadically throughout the country side.

*Based on the above assessment, the probability of cultural heritage sites, features and objects occurring in the study area is deemed to be **probable, but low**.*

**Table 1: Pre-Feasibility Assessment**

Category	Period	Probability	Reference
Early hominin	Pliocene – Lower Pleistocene		
	Early hominin	None	
Stone Age	Lower Pleistocene – Holocene		
	Early Stone Age	None	
	Middle Stone Age	Low	Dreyer (2004a, 2005b)
	Later Stone Age	None	Dreyer (2004a, 2005b)
	Rock Art	Low	Heritage Database
Iron Age	Holocene		
	Early Iron Age	None	
	Middle Iron Age	None	
	Later Iron Age	Low	Henderson <i>et al</i> (2008)
Colonial period	Holocene		

	Contact period	Low	
	Recent history	Medium	Bennyworth (2004); Dreyer (2004a, 2005b, 2006); Henderson (2004, 2006); Henderson <i>et al</i> (2008); Rossouw (2012, 2017)
	Industrial heritage	Medium	Heritage Database

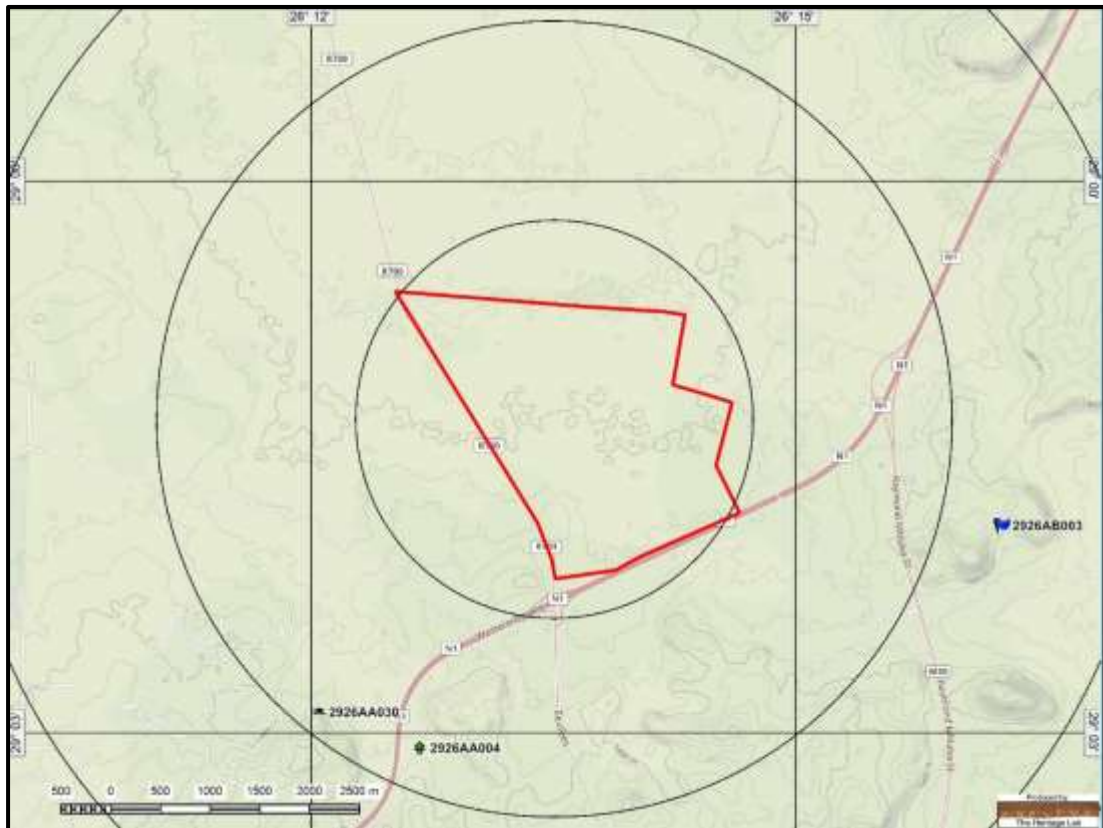


Figure 1. Location of known heritage sites and features in the larger region.  
(Circles are spaced at a distance of 2km apart)

#### 4.2.2 Interviews

Mr O le Roux, the current land-owner was met on site. He explained the layout of the study area as well as indicating the locality of some of the heritage features.

#### 4.2.3 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by the *Envirovolution Consulting* by means of maps and .kml files indicating the development area. This was loaded onto an ASUS digital device and used in Google Earth during the field survey to access the areas.

The site was visited on 7 March 2018 and was investigated by accessing tracks criss-crossing the site, from which a number of transects were then walked – see Fig. 2 below.

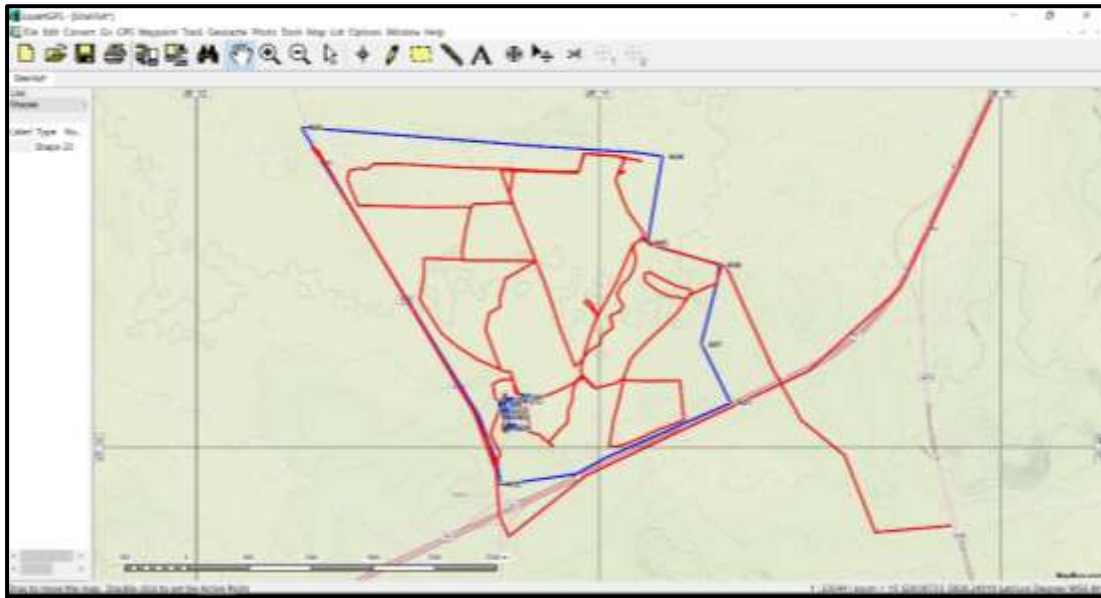


Figure 2. Map indicating the track log of the field survey.  
(Study area = blue polygon)

#### 4.2.3.1 Factors influencing the field survey

During the site visit, the vegetation encountered on sections of the study area was very high and dense, consisting of tall grass and shrubs. This impacted negatively on archaeological visibility (Fig. 3).

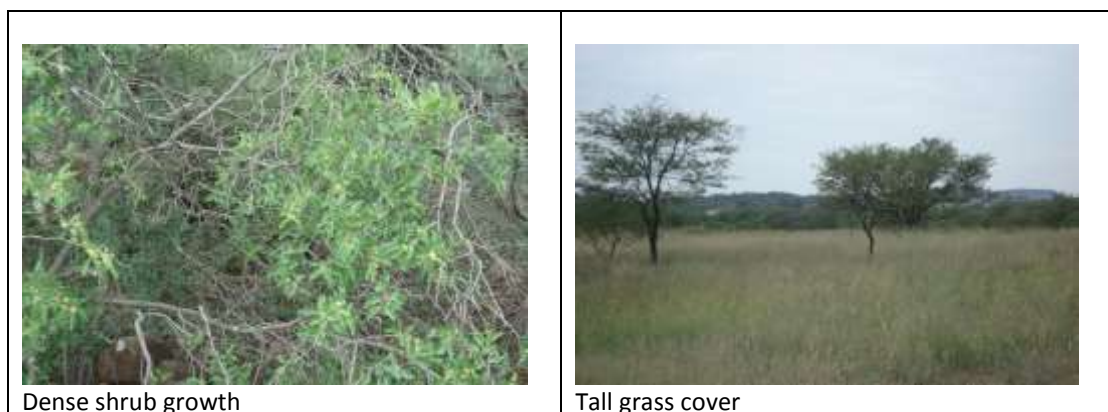


Figure 3. The vegetation cover encountered on the site.

#### 4.2.3 Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities are determined by means of the *Global Positioning System* (GPS) and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

The track log and identified sites were recorded by means of a Garmin Oregon 550 handheld GPS device. Photographic recording was done by means of a Canon EOS 550D digital camera.

Map datum used: Hartebeeshoek 94 (WGS84).

## 5. PROJECT DESCRIPTION

### 5.1 Site location

The project is located on the remaining extent of the Farm Orlig 1710 and Portion 4 of the Farm Wildealskloof 1205, Bloemfontein. Free State. The site is adjacent to the Provincial Road R700 and the National Road N1 and is approximately 10km north of the Bloemfontein CBD. The site falls in the jurisdiction of the Mangaung Metropolitan Municipality (Fig. 4). For more information, see the Technical Summary on p. IV above.

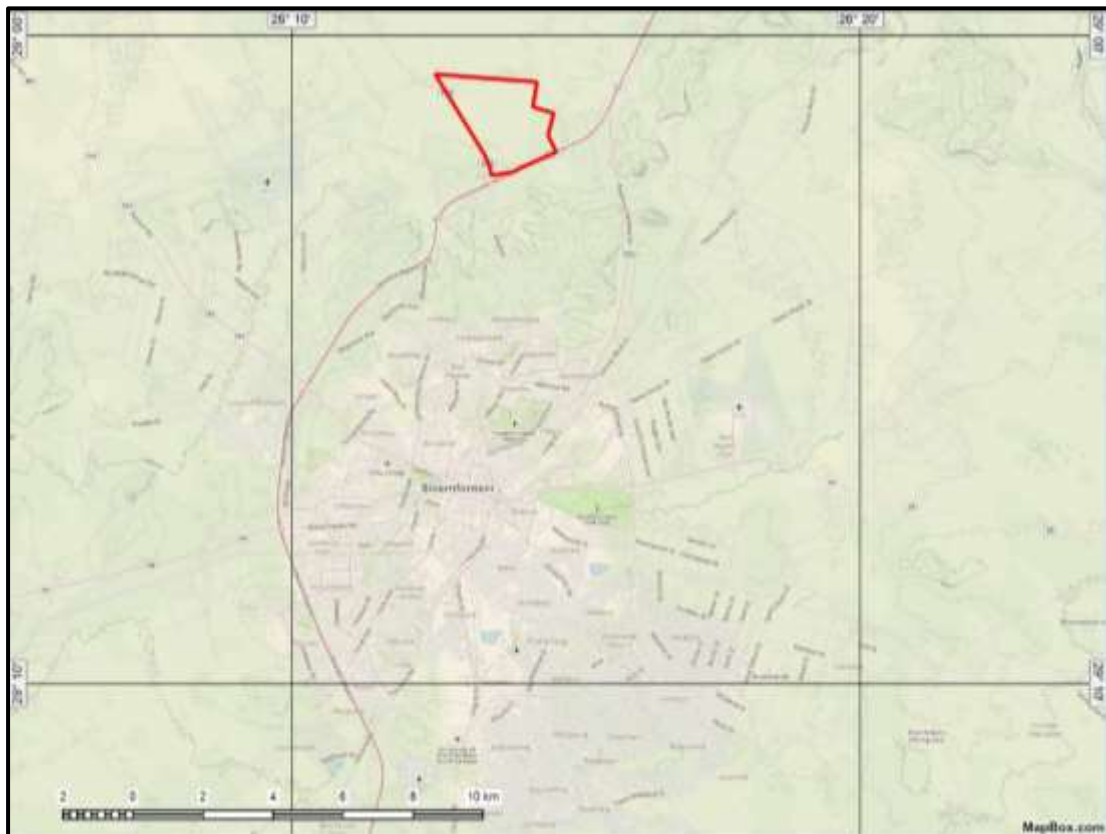


Figure 4. Location of the study area in regional context.  
(Base map: ExpertGPS)

### 5.2 Development proposal

The Wildealskloof Mixed Use Development entails the construction of the following land uses: Single Residential Units, Apartments and "flat" Units (9000 Units in total) Retirement facility, School Housing (Boarding Houses), Offices, a Regional Shopping Centre, Industrial Land Uses, Memorial Park







Figure 6. Views over the study area.

### 6.3 Cultural Landscape

*The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the study area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity.*

The cultural landscape qualities of the region is made up of a pre-colonial element consisting of very limited Stone Age and Iron Age occupation, as well as a much later colonial (farmer) component, which eventually gave rise to an urban component.

### 6.3.1 Stone Age

Little is known about the Stone Age of the Bloemfontein region, as it was all destroyed by the rapid urban development in the region (Henderson 2004). Most sources indicate the presence of low density surface scatters of MSA and LSA stone tools, mostly occurring on hills and outcrops surrounding the city.

### 6.3.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area. Because of their specific technology and economy, Iron Age people preferred to settle on the alluvial soils near rivers for agricultural purposes, but also for firewood and water.

The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating conditions that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the Witwatersrand and the treeless plains of the Free State.

Similar to the Stone Age, information on Iron Age settlement in the larger Bloemfontein region is lacking due to the urbanisation process.

### 6.3.3 Historic period

When Major H D Warden was commissioned to serve as British Resident in the region between the Orange and Vaal Rivers, he bought the farm Bloemfontein from J N Brits in 1846 and established himself there. When the British government annexed the territory in 1848, Bloemfontein became the seat of the new administration. When the republic of the Orange Free State was established in 1854, the seat of government was moved from Winburg to Bloemfontein. The rise of Bloemfontein coincided with the discovery of diamonds in the decade 1860-1870 and the later discovery of gold in the ZAR (SESA 1970:366-372).

During the Second South African War (1899-1902), the town housed a large contingent of British troops. Most of their activities centred around what was to become known as Naval Hill. A concentration camp for women and children was set up on the western side of town, at the Tempe military base. Soldiers built long walls across the landscape, probably for defence, but also to keep busy and as a relieve of boredom. Numerous lookout posts, also referred to as *sangars*<sup>1</sup> were constructed of hills and outcrops around the area where they kept watch over the landscape, fearing attacks from the Republicans (see Bennyworth 2004; Henderson 2004, 2006).

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<sup>1</sup> A term originally used in Persia to refer to a small, temporary fortified position on the perimeter of a base, and mostly used by sentries while on watch. The term was taken over by the British army and used all over the world.



Figure 7. The study area on the 1951 version of the topocadastral map.  
(Map 2926AA: Chief Surveyor-General)

## 7. SURVEY RESULTS

During the physical survey, the following sites, features and objects of cultural significance were identified in the study area (Fig. 8):

### 7.1 Stone Age

- 7.1.1 A low density scatter of MSA stone tools and flakes was identified at the eastern foot of the hill located in the south-western corner of the study area.

### 7.2 Iron Age

- No sites, features or objects of cultural significance dating to the Iron Age were identified in the study area.

### 7.3 Historic period

- 7.3.1 At least twenty structures identified as sangars occur on the western side of the hill, with a few located on the eastern side. In one area on the western side of the hill, a well-built, straight stone wall occurs in front of some of the sangars. A few metres further west, a section of a narrow, paved road was identified. The stonework is similar to that of the stone wall.
- 7.3.2 An informal burial place containing approximately 10 graves marked by stone cairns. Bennyworth (2004) makes a compelling argument for a similar scenario of the farm Lilyvale 2123,



southwest of the study area, that these graves might be linked to the British forced that occupied the sangars.

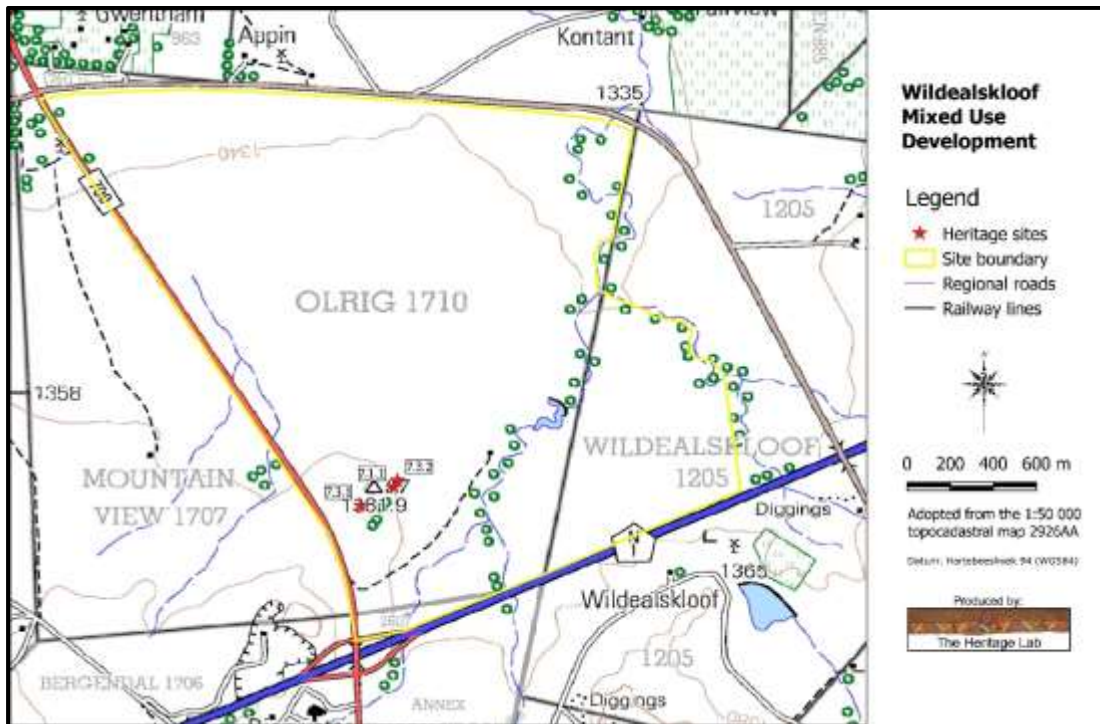


Figure 8. Location of heritage sites in the study area.

**8. RESULTS: STATEMENT OF SIGNIFICANCE AND IMPACT RATINGS**

**8.1 Impact assessment**

Heritage impacts are categorised as:

- Direct or physical impacts, implying alteration or destruction of heritage features within the project boundaries;
- Indirect impacts, e.g. restriction of access or visual intrusion concerning the broader environment;
- Cumulative impacts that are combinations of the above.

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development and its significance is calculated and presented below:

**Table 2: Impact assessment**

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 9.3)
Stone Age					
7.1.1	Surface site	Section 35	Generally protected C:	36	(1) Avoid/preserve

			Low significance	8	
IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 9.3)
Built environment					
7.3.1	Sangar sites	Section 34	Local/Grade 3B: High significance	36 8	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 9.3)
Burial Site					
7.3.2	Burial site	Section 36	Local/Grade 3B: High significance	36 8	(1) Avoid/preserve; (2) Relocation of graves

## 9. MANAGEMENT AND MITIGATION MEASURES

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

Sources of risk were considered with regards to development activities defined in Section 2(viii) of the NHRA that may be triggered and are summarised in Table 3A and 3B below. These issues formed the basis of the impact assessment described. The potential risks are discussed according to the various phases of the project below.

### 9.1 Objectives

- Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.
- The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities.

The following shall apply:

- Known sites should be clearly marked in order that they can be avoided during construction activities.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

## 9.2 Control

In order to achieve this, the following should be in place:

- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

**Table 3A: Construction Phase: Environmental Management Programme for the project**

<b>Action required</b>	Protection of heritage sites, features and objects		
<b>Potential Impact</b>	The identified risk is damage or changes to resources that are generally protected in terms of Sections 27, 28, 31, 32, 34, 35, 36 and 37 of the NHRA that may occur in the proposed project area.		
<b>Risk if impact is not mitigated</b>	Loss or damage to sites, features or objects of cultural heritage significance		
<b>Activity / issue</b>	<b>Mitigation: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>
1. Removal of Vegetation 2. Construction of required infrastructure, e.g. access roads, water pipelines	See discussion in Section 9.1 above	Environmental Control Officer	During construction only
<b>Monitoring</b>	See discussion in Section 9.2 above		

**Table 3B: Operation Phase: Environmental Management Programme for the project**

<b>Action required</b>	Protection of heritage sites, features and objects		
<b>Potential Impact</b>	It is unlikely that the negative impacts identified for pre-mitigation will occur if the recommendations are followed.		
<b>Risk if impact is not mitigated</b>	Loss or damage to sites, features or objects of cultural heritage significance		
<b>Activity / issue</b>	<b>Mitigation: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>
1. Removal of Vegetation 2. Construction of required infrastructure, e.g. access roads, water pipelines	See discussion in Section 9.1 above	Environmental Control Officer	During construction only
<b>Monitoring</b>	See discussion in Section 9.2 above		

## 9.3 Mitigation measures

*Mitigation: means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.*

For the current study, two alternative mitigation measures are posed, ranked in order of preference (see Section 4 of the Addendum for a discussion of all mitigation measures):

- (1) Avoidance/Preserve: This is viewed to be the primary form of mitigation. The site should be retained *in situ* and a buffer zone should be created around it, either temporary (by means of

danger tape) or permanently (wire fence or built wall). Depending on the type of site, the buffer zone can vary from

- 10 metres for a single grave or a built structure, to
  - 50 metres where the boundaries are less obvious, e.g. a Late Iron Age site.
- (2) Archaeological investigation/Relocation of graves: This option can be implemented with additional design and construction inputs. Mitigation is to excavate the site by archaeological techniques, document the site (map and photograph) and analyse the recovered material to acceptable standards. This can only be done by a suitably qualified archaeologist.
    - This option should be implemented when it is impossible to avoid impacting on an identified site or feature.
      - Impacts can be beneficial – e.g. mitigation contribute to knowledge

## 10. CONCLUSIONS AND RECOMMENDATIONS

*Ideal Consulting (Pty) Ltd* proposes the development of a mixed use development as well as associated infrastructure on a section of land located to the north-west of Bloemfontein, Free State Province.

This report describes the methodology used, the limitations encountered, the heritage features that were identified and the recommendations and mitigation measures proposed relevant to this. The HIA consisted of a desktop study (archival sources, database survey, maps and aerial imagery) and a physical survey that included the interviewing of relevant people. It should be noted that the implementation of the mitigation measures is subject to SAHRA/PHRA's approval.

The cultural landscape qualities of the region are made up of a pre-colonial element consisting of very limited Stone Age and Iron Age occupation, as well as a much later colonial (farmer) component, which eventually gave rise to an urban component.

During the physical survey, a number of heritage sites and features were identified:

- 7.1.1 A low density scatter of MSA stone tools and flakes was identified at the eastern foot of the hill located in the south-western corner of the study area.
- 7.3.1 At least twenty structures identified as sangars occur on the western side of the hill, with a few located on the eastern side. In one area on the western side of the hill, a well-built, straight stone wall occurs in front of some of the sangars. A few metres further west, a section of a narrow, paved road was identified. The stonework is similar to that of the stone wall.
- 7.3.2 An informal burial place containing approximately 10 graves marked by stone cairns. Bennyworth (2004) makes a compelling argument for a similar scenario of the farm Lilyvale 2123, southwest of the study area, that these graves might be linked to the British forced that occupied the sangars.

### Impact assessment

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
Stone Age					
7.1.1	Surface site	Section 35	Generally protected C: Low significance	36 8	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating:	Proposed mitigation



				Before/After	(Refer to definitions in Section 8.4)
Built environment					
7.3.1	Sangar sites	Section 34	Local/Grade 3B: High significance	36 8	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
Burial Site					
7.3.2	Burial sites	Section 36	Local/Grade 3B: High significance	36 8	(1) Avoid/preserve; (2) Relocation of graves

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view, it is recommended that the proposed development be allowed to continue on acceptance of the proposed conditions below.

Conditions for inclusion in the environmental authorisation:

- A site management plan should be developed to protect the various identified features (sangars and burial site) on and at the base of the hill in the south-western section of the study area. This should include, *inter alia*, fencing off the area by creating a buffer zone of at least 50 metres calculated from the foot of the hill; controlling access to the area; and informing residents and their visitors about the legal aspects regarding the destruction of the features or the removal of any artefacts from the site.
- Should archaeological sites or graves be exposed in other areas during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

## 11. REFERENCES

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### 11.1 Data bases

Chief Surveyor General  
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.  
Heritage Atlas Database, Pretoria  
National Archives of South Africa  
SAHRA Archaeology and Palaeontology Report Mapping Project (2009)  
SAHRIS Database

### 11.2 Literature

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*Standard Encyclopaedia of Southern Africa* 1970. Cape Town: Nasou Limited. Vol. 2.

**11.3 Maps and aerial photographs**

1: 50 000 Topocadastral maps

Google Earth

## **12. ADDENDUM**

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### **1. Indemnity and terms of use of this report**

The findings, results, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information. The report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken and the author reserve the right to modify aspects of the report including the recommendations if and when new information may become available from ongoing research or further work in this field, or pertaining to this investigation.

Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. The author of this report will not be held liable for such oversights or for costs incurred as a result of such oversights.

Although the author exercises due care and diligence in rendering services and preparing documents, he accepts no liability and the client, by receiving this document, indemnifies the author against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by the author and by the use of the information contained in this document.

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of this report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

## 2. Assessing the significance of heritage resources and potential impacts

A system for site grading was established by the NHRA and further developed by the South African Heritage Resources Agency (SAHRA 2007) and has been approved by ASAPA for use in southern Africa and was utilised during this assessment.

### 2.1 Significance of the identified heritage resources

According to the NHRA, Section 2(vi) the **significance** of a heritage sites and artefacts is determined by it aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

### Matrix used for assessing the significance of each identified site/feature

1. SITE EVALUATION				
<b>1.1 Historic value</b>				
Is it important in the community, or pattern of history				
Does it have strong or special association with the life or work of a person, group or organisation of importance in history				
Does it have significance relating to the history of slavery				
<b>1.2 Aesthetic value</b>				
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
<b>1.3 Scientific value</b>				
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage				
Is it important in demonstrating a high degree of creative or technical achievement at a particular period				
<b>1.4 Social value</b>				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
<b>1.5 Rarity</b>				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
<b>1.6 Representivity</b>				
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects				
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class				
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.				
<b>2. Sphere of Significance</b>		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
<b>3. Field Register Rating</b>				
1.	National/Grade 1: High significance - No alteration whatsoever without permit from SAHRA			
2.	Provincial/Grade 2: High significance - No alteration whatsoever without permit from provincial heritage authority.			
3.	Local/Grade 3A: High significance - Mitigation as part of development process not advised.			
4.	Local/Grade 3B: High significance - Could be mitigated and (part) retained as heritage			

	register site	
5.	Generally protected A: High/medium significance - Should be mitigated before destruction	
6.	Generally protected B: Medium significance - Should be recorded before destruction	
7.	Generally protected C: Low significance - Requires no further recording before destruction	

## 2.2 Significance of the anticipated impact on heritage resources

All impacts identified during the HIA stage of the study will be classified in terms of their significance. Issues would be assessed in terms of the following criteria:

### Nature of the impact

A description of what causes the effect, what will be affected and how it will be affected.

### Extent

The physical **extent**, wherein it is indicated whether:

- 1 - The impact will be limited to the site;
- 2 - The impact will be limited to the local area;
- 3 - The impact will be limited to the region;
- 4 - The impact will be national; or
- 5 - The impact will be international.

### Duration

Here it should be indicated whether the lifespan of the impact will be:

- 1 - Of a very short duration (0–1 years);
- 2 - Of a short duration (2-5 years);
- 3 - Medium-term (5–15 years);
- 4 - Long term (where the impact will persist possibly beyond the operational life of the activity);  
or
- 5 - Permanent (where the impact will persist indefinitely).

### Magnitude (Intensity)

The magnitude of impact, quantified on a scale from 0-10, where a score is assigned:

- 0 - Small and will have no effect;
- 2 - Minor and will not result in an impact;
- 4 - Low and will cause a slight impact;
- 6 - Moderate and will result in processes continuing but in a modified way;
- 8 - High, (processes are altered to the extent that they temporarily cease); or
- 10 - Very high and results in complete destruction of patterns and permanent cessation of processes.

### Probability

This describes the likelihood of the impact actually occurring and is estimated on a scale where:

- 1 - Very improbable (probably will not happen);
- 2 - Improbable (some possibility, but low likelihood);
- 3 - Probable (distinct possibility);
- 4 - Highly probable (most likely); or
- 5 - Definite (impact will occur regardless of any prevention measures).

### Significance

The significance is determined through a synthesis of the characteristics described above (refer to the formula below) and can be assessed as low, medium or high:

$S = (E+D+M) \times P$ ; where

S = Significance weighting

E = Extent

D = Duration  
M = Magnitude  
P = Probability

Significance of impact		
Points	Significant Weighting	Discussion
< 30 points	Low	Where this impact would not have a direct influence on the decision to develop in the area.
31-60 points	Medium	Where the impact could influence the decision to develop in the area unless it is effectively mitigated.
> 60 points	High	Where the impact must have an influence on the decision process to develop in the area.

### Confidence

This should relate to the level of confidence that the specialist has in establishing the nature and degree of impacts. It relates to the level and reliability of information, the nature and degree of consultation with I&AP's and the dynamic of the broader socio-political context.

- High, where the information is comprehensive and accurate, where there has been a high degree of consultation and the socio-political context is relatively stable.
- Medium, where the information is sufficient but is based mainly on secondary sources, where there has been a limited targeted consultation and socio-political context is fluid.
- Low, where the information is poor, a high degree of contestation is evident and there is a state of socio-political flux.

### Status

- The status, which is described as either positive, negative or neutral.

### Reversibility

- The degree to which the impact can be reversed.

### Mitigation

- The degree to which the impact can be mitigated.

Nature:		
	Without mitigation	With mitigation
<b>Construction Phase</b>		
Probability		
Duration		
Extent		
Magnitude		
Significance		
Status (positive or negative)		
<b>Operation Phase</b>		
Probability		
Duration		
Extent		
Magnitude		
Significance		
Status (positive or negative)		
Reversibility		
Irreplaceable loss of resources?		
Can impacts be mitigated		

### 3. Mitigation measures

- *Mitigation: means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.*

Impacts can be managed through one or a combination of the following mitigation measures:

- Avoidance
- Investigation (archaeological)
- Rehabilitation
- Interpretation
- Memorialisation
- Enhancement (positive impacts)

For the current study, the following mitigation measures are proposed, to be implemented only if any of the identified sites or features are to be impacted on by the proposed development activities:

- (1) Avoidance/Preserve: This is viewed to be the primary form of mitigation and applies where any type of development occurs within a formally protected or significant or sensitive heritage context and is likely to have a high negative impact. This measure often includes the change / alteration of development planning and therefore impact zones in order not to impact on resources. The site should be retained *in situ* and a buffer zone should be created around it, either temporary (by means of danger tape) or permanently (wire fence or built wall). Depending on the type of site, the buffer zone can vary from
  - 10 metres for a single grave, or a built structure, to
  - 50 metres where the boundaries are less obvious, e.g. a Late Iron Age site.
- (2) Archaeological investigation/Relocation of graves: This option can be implemented with additional design and construction inputs. This is appropriate where development occurs in a context of heritage significance and where the impact is such that it can be mitigated. Mitigation is to excavate the site by archaeological techniques, document the site (map and photograph) and analyse the recovered material to acceptable standards. This can only be done by a suitably qualified archaeologist.
  - This option should be implemented when it is impossible to avoid impacting on an identified site or feature.
  - This also applies for graves older than 60 years that are to be relocated. For graves younger than 60 years a permit from SAHRA is not required. However, all other legal requirements must be adhered to.
    - Impacts can be beneficial – e.g. mitigation contribute to knowledge
- (3) Rehabilitation: When features, e.g. buildings or other structures are to be re-used. Rehabilitation is considered in heritage management terms as an intervention typically involving the adding of a new heritage layer to enable a new sustainable use.
  - The heritage resource is degraded or in the process of degradation and would benefit from rehabilitation.
  - Where rehabilitation implies appropriate conservation interventions, i.e. adaptive reuse, repair and maintenance, consolidation and minimal loss of historical fabric.
    - Conservation measures would be to record the buildings/structures as they are (at a particular point in time). The records and recordings would then become the ‘artefacts’ to be preserved and managed as heritage features or (movable) objects.
    - This approach automatically also leads to the enhancement of the sites or features that are re-used.



- (4) Mitigation is also possible with additional design and construction inputs. Although linked to the previous measure (rehabilitation) a secondary though 'indirect' conservation measure would be to use the existing architectural 'vocabulary' of the structure as guideline for any new designs.
  - The following principle should be considered: **heritage informs design**.
    - This approach automatically also leads to the enhancement of the sites or features that are re-used.
  
- (5) No further action required: This is applicable only where sites or features have been rated to be of such low significance that it does not warrant further documentation, as it is viewed to be fully documented after inclusion in this report.
  - Site monitoring during development, by an ECO or the heritage specialist are often added to this recommendation in order to ensure that no undetected heritage/remains are destroyed.

#### 4. Relocation of graves

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.

#### Information needed for the SAHRA permit application

- The permit application needs to be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- If graves have not been identified and there are no headstones to indicate the grave, these are then unknown graves and should be handled as if they are older than 60 years. This information also needs to be given to SAHRA.
- A letter from the landowner giving permission to the developer to exhume and relocate the graves.
- A letter from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

**5. Inventory of identified cultural heritage sites**

<b>NHRA Category</b>	<b>Archaeological Site or Material - Section 35</b>
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<b>7.1.1</b>	<b>Farm: Olig 1710; Coordinates: S 29,03001, E 26,22709</b>
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<b>Description</b>
A low density scatter (1/5m <sup>2</sup> ) of MSA stone tools (blades and scrapers) and flakes was identified at the eastern foot of the hill located in the south-western corner of the study area. The material used is hornfels (much weathered). Unfortunately, this area has been disturbed by old borrow pit activities, which would have had a negative impact on the distribution of the tools and flakes.



<b>Significance of sites/features:</b>	Generally protected C: Low significance - Requires no further recording before destruction
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<b>Reasoned opinion:</b> Due to the fact that the material is found on the surface, as well as the fact that it has been disturbed because the area was used as a borrow pit.
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<b>Impact assessment</b>
As the area where the stone tools were found is located at the foot of the small hill, which has been set aside as a conservation (park, entertainment area and reservoir) area, this site can easily be included in it and thereby be retained.

<b>Mitigation</b>
(1) Avoidance/Preserve: A buffer zone of at least 50 metres (calculated from the foot of the hill) should be maintained.

<b>Significance of impact: before/after mitigation</b>					
Extent	Duration	Intensity	Probability	Significance	Weight
2	4	6	3	36	Medium
1	1	2	2	8	Low







<b>Requirements</b>
No further action required.

<b>References</b>
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<b>NHRA Category</b>	<b>Structures older than 60 years - Section 34</b>
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<b>7.3.1</b>	<b>Farm: Olrig 1710; Coordinates: S 29,02997, 26,22577</b>
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<b>Description</b>
<p>At least twenty structures which have been interpreted as sangars: small, temporary fortified position on the perimeter of a base, and mostly used by sentries while on watch. Although most of the sangars occur on the western side of the hill, a few were located on the eastern side. In one area on the western side of the hill, a well-built, straight stone wall occurs in front of some of the sangars. A few metres further west, a section of a narrow, paved road was identified. The stonework is similar to that of the stone wall. The sangars all conform to the same pattern: stone was excavated at the foot of the hill and stacked in a half-circle in front of the excavated area. This gave a type of trench in which the soldiers could hide from approaching enemy. Lookouts were probably station on top of the hill, which could have given advance warning.</p>

	
Sangar walling	Sangar excavation
	
Sangar walling	Sangar walling
	
Stone wall	Paved road

<b>Significance of site/feature</b>	Local/Grade 3B: High significance - Could be mitigated and (part) retained as heritage register site.
<b>Reasoned opinion:</b> - These features are older than 60 years and reflect an event that took place at	

a specific point in time, which resulted in far-reaching consequence for the country as a whole.

#### Impact assessment

As the area where the sangars were found is located at the foot of the small hill, which has been set aside as a conservation (park, entertainment area and reservoir) area, they can easily be included in it and thereby be retained.

#### Mitigation

(1) Avoidance/Preserve: These sites should be retained and avoided. A buffer zone of at least 50 metres (calculated from the foot of the hill) should be maintained (it is estimated that the total area would be approximately 300 x 200 metres in size). If that is not possible, it should be investigated archaeologically (documented and excavated) in full prior to development taking place. In that case, a permit for its destruction would be required from PHRA/SAHRA.

#### Significance of impact: before/after mitigation

Extent	Duration	Intensity	Probability	Significance	Weight
2	4	6	3	36	Medium
1	1	2	2	8	Low

#### Requirements

Conservation by local authority. Site should be mitigated before impact. Permit required from provincial heritage authority.

#### References

Bennyworth (2004)

<b>NHRA Category</b>	<b>Graves, Cemeteries and Burial Grounds - Section 36</b>
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<b>7.3.2</b>	<b>Farm:</b> Olig 1710; <b>Coordinates:</b> S 29,02969, E 26,22727
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<b>Description</b>
<p>A small informal burial place with probably 10 graves (visibility poor due to the vegetation cover), all of which do not have formal headstones and are only marked with stone cairns. Bennyworth (2004) makes a compelling argument for a similar scenario of the farm Lilyvale 2123, southwest of the study area, that these graves might be linked to the British forced that occupied the sangars surrounding the hill (see above). They are most probably graves of black people that were used as labourers at the camps:</p> <p style="padding-left: 20px;">Records reflect that many of the Boer concentration camps set up by British forces retained black labour force to provide labour in the running of these camps and they were incarcerated usually within the defensive cordon around these places. As for the British garrisons, the same would have been true. Living areas for black labourers, accommodated in the labour camps would have been established within the defensive cordon and the men compelled to remain within the cordon, due to martial law and a state of war (Bennyworth 2004:4)</p>



<b>Significance of site/feature</b>	Local/Grade 3B: High significance - Could be mitigated and retained as heritage register site.
<b>Reasoned opinion:</b> Burial sites are viewed as having high emotional and sentimental value. However, mitigation is possible if proper procedures have been followed.	

<b>Impact assessment</b>
As the area where the graves were found is located at the foot of the small hill, which has been set aside as a conservation (park, entertainment area and reservoir) area, this site can easily be included in it and thereby be retained.

<b>Mitigation</b>
(1) Avoidance/Preserve: This burial site should be retained and avoided. A buffer zone of at least 50 metres (calculated from the foot of the hill) should be maintained. If that is not possible, it should be documented in full prior to the relocation of the graves. In that case, a permit would be required from PHRA/SAHRA, as well as other institution – see Section 5 of Addendum.

<b>Significance of impact: before/after mitigation</b>					
Extent	Duration	Intensity	Probability	Significance	Weight
1	1	2	2	8	Low
1	1	2	2	8	Low

<b>Requirements</b>
Conservation by local authority. Sites should be mitigated before impact. Permit required from

provincial heritage authority, as well as other institutions – see Section 5 of the Addendum.
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<b>References</b>
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Bennyworth (2004)
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