A PHASE 1 HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED JOHANDEO PHASE 2 TOWNSHIP ESTABLISHMENT SITUATED ON THE REMAINDER OF PORTION 8 OF THE FARM RIETKUIL 554 IQ, EMFULENI LOCAL MUNICIPALITY IN GAUTENG PROVINCE.

HIA

#### **INTEGRATED SPECIALIST SERVICES (PTY) LTD**

February 1, 2022

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# DOCUMENT SYNOPSIS (EXECUTIVE SUMMARY)

Item	Description
Proposed development	Johandeo Township Establishment - Phase 2, situated on the Remainder of
and location	Portion 8 of the Farm Rietkuil 554 IQ, eMfuleni Local Municipality in Gauteng
	Province
Purpose of the study	Phase 1 Archaeological Impact Assessment to determine the presence of
	cultural heritage sites and the impact of the proposed project on these
	resources within the area developed for the Macadamia Plantation
Coordinates	26°36'41.53"S
	27°47'52.36"E
Municipalities	eMfuleni Local Municipality
Predominant land use of	Residential, commerciall, powerlines, road, and transport
surrounding area	
Developer/Applicant	Gauteng Department of Human Settlement
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Date of Report	02 March 2022

This document serves to inform and guide the developer, and contractors about the possible impacts that the proposed township development may have on heritage resources (if any) located in the study area. In the same light, the document must also inform South African heritage authorities about the presence, absence and significance of heritage resources located in the study area. As required by South African heritage legislation, developments such as this require pre-development assessment by a competent heritage practitioner in order to identify record and if necessary, salvage the irreplaceable heritage resources that may be impacted upon by the development. In compliance with these laws Bashan Corporation (Pty) Ltd appointed Integrated Specialist Services on behalf of the Gauteng Department of Human Settlements to conduct a Phase 1 Heritage Impact Assessment (HIA) of the proposed Johandeo Township Establishment -Phase 2 situated at the remainder of Portion 8 of the Farm Rietkuil 554 IQ, eMfuleni Local Municipality in the Gauteng Province. Desktop studies, drive-throughs, and fieldwalking were conducted in order to identify heritage landmarks on and around the study site. The study area is not on pristine ground, having seen significant transformations owing to mainly agriculture, road, and residential infrastructure. Although the area is known for historical and archaeological occurrences, no archaeological resources were identifiable on the surface, even though this may be due to the tall grass cover that inhibits ground surface visibility. In terms of the built environment of the area, no structures that are older than 60 years were recorded within the proposed development site. In terms of the archaeology of the area under study, no mitigation will be required. Nonetheless, sub-surface archaeological material and unmarked graves may still exist and when encountered during sub-surface work, work must be stopped forth-with, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must also be submitted to the SAHRA or PHRA-G for review.

# Copyright

**Authorship**: This A/HIA Report has been prepared by Mr Trust Mlilo (Professional Archaeologist). The report is for the review of the Heritage Resources Agency (PHRA-G).

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**Geographic Co-ordinate Information**: Geographic coordinates in this report were obtained using a handheld Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

Maps: Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

**Disclaimer**: The Author is not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the authorisation of the proposed township establishment.

Signed by

02 March 2022

# Acknowledgements

tollo

The author acknowledges Bashan Corporation (Pty) Ltd for their assistance with project information, and the associated project BID as well as responding to technical queries related to the project.

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#### 1 Abbreviations

AIA Archaeological Impact Assessment

ASAPA Association of South African Professional Archaeologists

EIA Environmental Impact Assessment

EIA Early Iron Age (EIA refers to both Environmental Impact Assessment and the Early Iron Age

but in both cases the acronym is internationally accepted. This means that it must be read

and interpreted within the context in which it is used.)

EIAR Environmental Impact Assessment Report

ESA Early Stone Age

GPS Global Positioning System

HIA Heritage Impact Assessment

ISS Integrated Specialist Services (Pty) Ltd

ICOMOS International Council of Monuments and Sites

LIA Late Iron Age

LFC Late Farming Community

LSA Late Stone Age

MIA Middle Iron Age

MSA Middle Stone Age

NEMA National Environmental Management Act 107 of 1998

NHRA National Heritage Resources Act 25 of 1999

PHRA-G Provincial Heritage Resource Agency Gauteng

SAHRA South African Heritage Resources Agency

## 2 KEY CONCEPTS AND TERMS

#### Periodization

**Periodization** Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodization is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodization of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below;

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

#### **Definitions**

**Definitions** Just like periodization, it is also critical to define key terms employed in this study. Most of these terms derive from South African heritage legislation and its ancillary laws, as well as international regulations and norms of best-practice. The following aspects have a direct bearing on the investigation and the resulting report:

**Cultural (heritage) resources** are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, ecofacts and artefacts of importance associated with the history, architecture or archaeology of human development.

*Cultural significance* is determined by means of aesthetic, historic, scientific, social or spiritual values for past, present or future generations.

**Value** is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

**Isolated finds** are occurrences of artefacts or other remains that are not in-situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

*In-situ* refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Archaeological site/materials are remains or traces of human activity that are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures. According to the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the South African Heritage Resources Agency (SAHRA) or a provincial heritage resources authority.

*Historic material* are remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

**Chance finds** means archaeological artefacts, features, structures or historical remains accidentally found during development.

A grave is a place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).

A site is a distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

Heritage Impact Assessment (HIA) refers to the process of identifying, predicting, and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project which requires authorisation of permission by law, and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

*Impact* is the positive or negative effects on human well-being and / or on the environment.

*Mitigation* is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

*Mining heritage sites* refer to old, abandoned mining activities, underground or on the surface, which may date from the prehistorical, historical or the relatively recent past.

**Study area** or 'project area' refers to the area where the developer wants to focus its development activities (refer to plan).

**Phase I studies** refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

## Assumptions and disclaimer

The investigation has been influenced by the unpredictability of buried archaeological remains (absence of evidence does not mean evidence of absence) and the difficulty in establishing intangible heritage values. It should be remembered that archaeological deposits (including graves and traces of cultural heritage) usually occur below the ground level. Should artefacts or skeletal material be revealed at the site during excavation for building foundations and earth moving activities, such activities should be halted immediately, and a competent heritage practitioner, SAHRA or PHRA-G must be notified in order for an investigation and evaluation of the find(s) to take place (see NHRA (Act No. 25 of 1999), Section 36 (6). Recommendations contained in this document do not exempt the developer from complying with any national, provincial, and municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA. Integrated Specialist Services (Pty) Ltd assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.

## 3 TERMS OF REFERENCE (TOR)

Bashan Corporation (Pty) Ltd requested the author on to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the proposed township establishment site including any known data on affected areas.
- Provide details on methods of study; potential and recommendations to guide the SAHRA to make an informed decision in respect of authorisation of the proposed township establishment.
- Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located within the project site;
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
- Describe the possible impact of the proposed township establishment on these cultural remains, according to a standard set of conventions;
- Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
- Review applicable legislative requirements.

## 4 INTRODUCTION

Bashan Corporation (Pty) Ltd appointed Integrated Specialist Services (Pty) Ltd to carry out a Phase 1 Archaeological and Heritage Impact Assessment for the proposed Johandeo Township Establishment - Phase 2 situated on the remainder of Portion 8 of the Farm Rietkuil 554 IQ, eMfuleni Local Municipality in the Gauteng Province. The proposed development site is predominantly agriculture and residential. However, as prescribed by SAHRA and stipulated by legislation, an HIA is a pre-requisite for a development exceeding 5ha in extent. The overall purpose of this heritage report is to identify, assess any heritage resources that may be in the study area and evaluate the positive and negative impacts of the proposed development on these resources in order to make recommendations for their appropriate management. To achieve this, we conducted background research of published literature, maps and databases (desktop studies) which was then followed by ground-truthing by means of drive-through surveys and field walking. Desktop studies had shown that Iron Age and historical sites were a possibility in the study area, but no such sites were recorded during ground-truthing. While heritage resources may have been located in the study area, subsequent developments such as agriculture and infrastructure developments have either obliterated these materials or reduced them to isolated finds that can only be identified as chance finds during construction. If the recommendations of this report are adopted, there is no archaeological reason the Township Establishment cannot proceed, taking full cognizance of clear procedures to follow in the event of chance findings.

#### 5 PROJECT LOCATION

The project site is located on the Remainder of Portion 8 of the Farm Rietkuil 554 IQ, eMfuleni Local Municipality in the Gauteng Province

## 6 PROJECT BACKGROUND AND DESCRIPTION

The proposed project is for the development of 1000 housing stands which will be in the form of RDP houses with the total size of the land measuring at 61.47 ha, the below listed activities will be installed in the development. The proposed activities include the installation of the following services:

- Sewage
- Electricity
- Road
- Water Supply
- Storm water management systems
- Solid waste collection



Figure 1: Locality Map of project area (Bashan 2022)

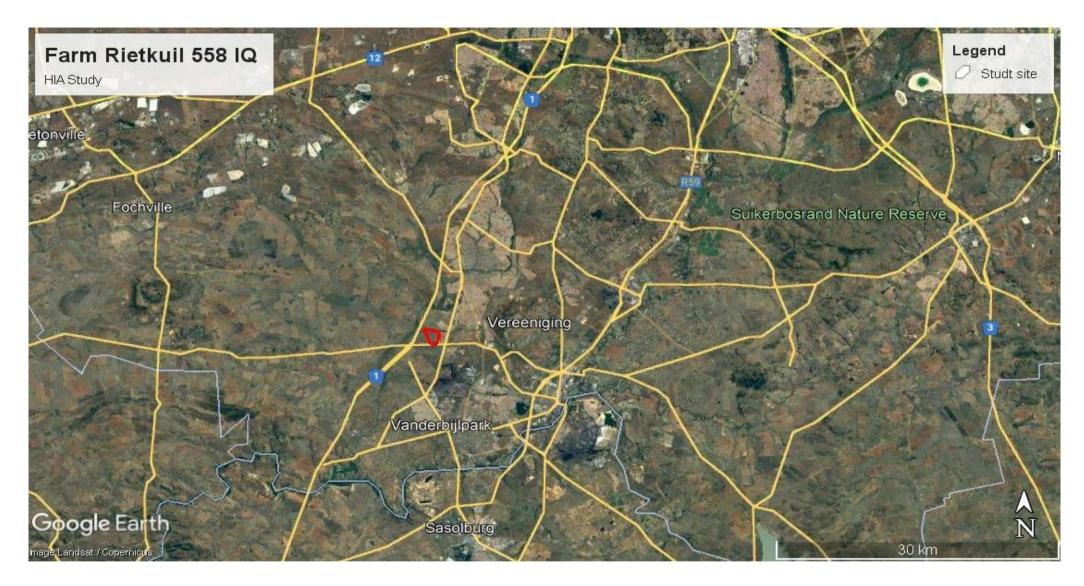


Figure 2: Location showing the project area (ISS 2022)

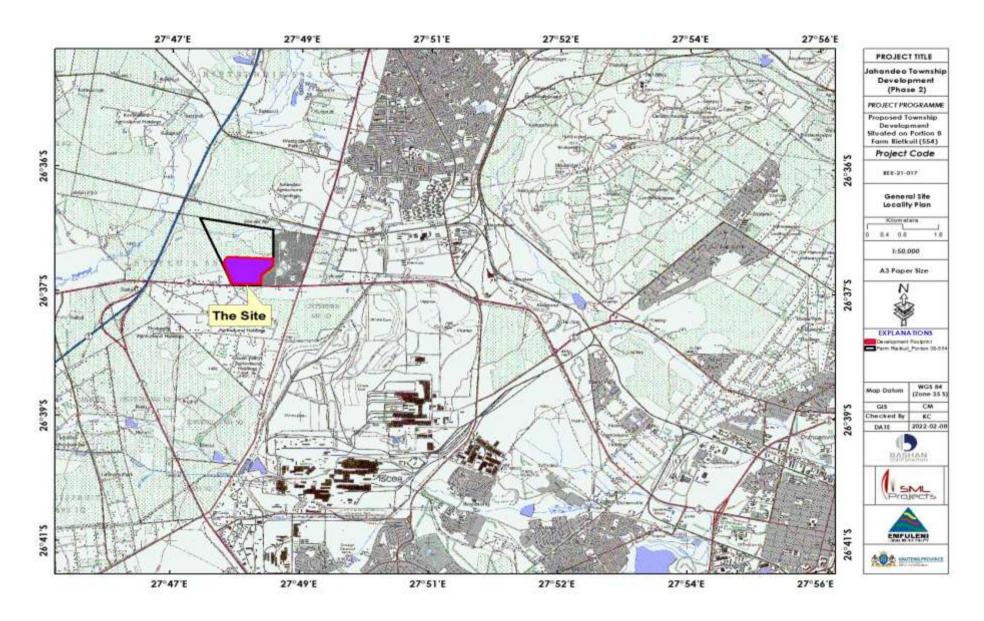


Figure 3: Location showing the project area

## 7 LEGISLATIVE CONTEXT

Two main pieces of legislations are relevant to the present study and there are presented here. Under the National Heritage Resources Act (Act 25 of 1999) (NHRA) and the National Environmental Management Act (NEMA), an AIA or HIA is required as a specialist sub-section of the EIA. Heritage management and conservation in South Africa is governed by the NHRA and falls under the overall jurisdiction of the SAHRA and its PHRAs. There are different sections of the NHRA that are relevant to this study. The present proposed township establishment is a listed activity in terms of Section 38 of the NHRA which stipulates that the following development categories require an HIA to be conducted by an independent heritage management consultant:

- Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length
- Construction of bridge or similar structure exceeding 50m in length
- Development or other activity that will change the character of a site -
  - ❖ Exceeding 5000 sq m
  - Involving three or more existing erven or subdivisions
  - Involving three or more erven or divisions that have been consolidated within past five years
  - Rezoning of site exceeding 10 000 sq m
  - The costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority
- Any other development category, public open space, squares, parks, recreation grounds

Thus, any person undertaking any development in the above categories, 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. Section 38 (2) (a) of the same act also requires the submission of a heritage impact assessment report for authorization purposes to the responsible heritage resources agencies (SAHRA/PHRAs). Because the proposed shopping mall development will change the character of a site exceeding 5000 sq m, then an HIA is required according to this section of act.

Related to Section 38 of the NHRA are Sections 34, 35, 36 and 37. Section 34 stipulates that no person may alter damage, destroy, relocate etc any building or structure older than 60 years, without a permit issued by SAHRA or a provincial heritage resources authority. This section may not apply to present study since none were identified. Section 35 (4) of the NHRA stipulates that no person may, without a permit issued by SAHRA, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object. This section may apply to any significant archaeological sites that may be discovered before or during construction. This means

that any chance find must be reported to the heritage practitioner or SAHRA, who will assist in investigating the extent and significance of the finds and inform about further actions. Such actions may entail the removal of material after documenting the find site or mapping of larger sections before destruction. Section 36 (3) of the NHRA also stipulates that no person may, without a permit issued by the South African Heritage Resources Agency (SAHRA), destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority. This section may apply in case of the discovery of chance burials, which is unlikely. The procedure for reporting chance finds also applies to the unlikely discovery of burials or graves by the developer or his contractors. Section 37 of the NHRA deals with public monuments and memorials but this may not apply to this study because no protected monument will be physically affected by the proposed project.

In addition, the new EIA Regulations (04 December 2014) promulgated in terms of NEMA (Act 107 of 1998) determine that any environmental reports will include cultural (heritage) issues. The new regulations in terms of Chapter 5 of the NEMA provide for an assessment of development impacts on the cultural (heritage) and social environment and for Specialist Studies in this regard. The end purpose of such a report is to alert the developer, the environmental consultant (EAP), SAHRA and interested and affected parties about existing heritage resources that may be affected by the proposed township establishment, and to recommend mitigatory measures aimed at reducing the risks of any adverse impacts on these heritage resources.

Table 1: Evaluation of the proposed development as guided by the criteria in NHRA and NEMA

ACT	Stipulation for developments	Requirement details
NHRA Section 38	Construction of road, wall, power line, pipeline, canal or	No
	other linear form of development or barrier exceeding	
	300m in length	
	Construction of bridge or similar structure exceeding	No
	50m in length	
	Development exceeding 5000 sq m	Yes
	Development involving three or more existing erven or	No
	subdivisions	
	Development involving three or more erven or divisions	No
	that have been consolidated within past five years	
	Rezoning of site exceeding 10 000 sq m	Not available
	Any other development category, public open space,	No
	squares, parks, recreation grounds	
NHRA Section 34	Impacts on buildings and structures older than 60 years	Subject to identification
		during Phase 1
NHRA Section 35	Impacts on archaeological and palaeontological	Subject to identification
	heritage resources	during Phase 1
NHRA Section 36	Impacts on graves	Subject to identification
		during Phase 1
NHRA Section 37	Impacts on public monuments	Subject to identification
		during Phase 1
Chapter 5	HIA is required as part of an EIA	Yes
(21/04/2006) NEMA		

#### 8 METHODOLOGY

This document falls under the screening and basic assessment phase of the HIA and therefore aims at providing an informed heritage-related opinion about the proposed township establishment. This is usually achieved through a combination of a review of any existing literature and a basic site inspection. As part of the desktop study, published literature and cartographic data, as well as archival data on heritage legislation, the history and archaeology of the area were studied. The desktop study was followed by field surveys. The field assessment was conducted according to generally accepted AIA/HIA practices and aimed at locating all possible objects, sites, and features of cultural significance on the development footprint. Initially a drive-through was undertaken around the proposed development site as a way of acquiring the archaeological impression of the general area. This was then followed by a walk down survey in the study area, with a handheld Global Positioning System (GPS) for recording the location/position of each possible site. Detailed photographic recording was also undertaken where relevant. The findings were then analysed in view of the proposed development in order to suggest further action. The result of this investigation is a report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed township development.

## The Fieldwork survey

The fieldwork survey was undertaken on the 31<sup>st</sup> of January 2022. The main focus of the survey involved a pedestrian survey which was conducted within the proposed development site. The pedestrian survey focused on parts of the project area where it seemed as if disturbances may have occurred in the past, for example, bald spots in the grass veld; stands of grass which are taller that the surrounding grass veld; the presence of exotic trees; evidence for building rubble, existing buildings and ecological indicators such as invader weeds.

The literature survey suggests that prior to the 20th century modern developments; the general area where the proposed township establishment is located would have been a rewarding region to locate heritage resources related to Iron Age and historical sites (Bergh 1999, Huffman 2007). However, the situation today is completely different. The study area now lies on a clearly modified landscape that is dominated by past and ongoing developments

## Visibility and Constraints

The site was accessible using access roads It is conceded that due to the subterranean nature of cultural remains this report should not be construed as a record of all archaeological and historic sites in the area

#### Consultation

In terms of Chapter 6, Regulations 40 – 44 of the EIA Regulations, 2014 (as amended), The Project EAP is required to consult with interested and Affected Parties (I&APs). Comments received from the I&APs will be recorded and included in the Public Participation Report which will be submitted to the PRHA in the Gauteng Province. The public

participation process aims to enable landowners, lawful occupiers, directly affected individuals and or Interested and Affected Parties (I&APs) to raise any issues, comments and or concerns regarding the proposed township establishment.

The project will be announced in the locally distributed newspaper and notices will be placed in the project area to inform the public about the proposed township establishment. Notifications will request I&APs to contribute to the identification of potential environmental impacts. Stakeholders will be notified in writing of the project via email, fax or hand delivered letters. Public meetings will be undertaken as part of the consultation process to discuss any issues and concerns.

The Scoping and EIA Public Participation process is conducted by the EAP. The study team consulted residents about the heritage character of the proposed township establishment. The BA Public Participation Process will also invite and address comments from affected communities and any registered heritage bodies on any matter related to the proposed development including heritage concerns that may arise as a result of the project. Heritage issues raised by the public with respect to the proposed township establishment will also be included in the Final Basic Assessment Report.

## The following photographs illuminate the nature and character of the Project Area.



Plate 1: Photo A. showing the road R54 marking the southern boundary of the proposed development site.



Plate 2: Photo **B**. showing the proposed development site.



Plate 3: Photo  ${\bf C}$ . showing bulkwater sewer pipeline and powerlines in the backround.



Plate 4: Photo **D**. showing grass cover that might have inhibited surface visibility of archaeological remains.



Plate 5: Photo **E** showing proposed development site.



Plate 6: Photo **F**, showing bulkwater infrastructure within the project site.



Plate 7: Photo **G**, showing the proposed development site.



Plate 8: Photo **H**, showing the proposed development site.



Plate 9: Photo I, showing project development site



Plate 10: Photo  ${\bf J}$  showing section of proposed development site.



Plate 11: Photo **K** showing the edge of the development site



Plate 12: Photo L showing active commercial plantation on the development site



Plate 13: Photo  ${\bf M}$  showing the proposed development boundary with exisitng residential development



Plate 14: Photo  ${\bf N}$  showing high grass veld within the development site



Plate 15: Photo **O** showing the proposed development site



Plate 16: Photo **P** showing proposed developmentg site



Plate 17: Photo  ${\bf Q}$  showing a soccer field on the proposed development site.

#### 9 ARCHAEOLOGICAL CONTEXT

Vanderbijlpark is located in Vaal area of Gauteng Province, and its neighbours are Vereeniging (to the South) Mayerton (to the southeast), Three Rivers (east) and Sasolburg (south). Vereeniging is the major town in the Vaal Triangle. The Vaal is currently one of the most important industrial manufacturing centres in South Africa, with its main products being iron, steel, pipes, bricks, tiles and processed lime. Several coal, fire clay, silica and quarry stone mines are operational in the Vaal area. There are several Eskom thermal power plants that supply electricity to the nearby gold mines in the vicinity of Vereeniging. Water supply to Gauteng has its history in the Vaal region.

Vereeniging was established in 1892 on the farm Leeuwkuil as a result of rapid coal mining development in the area. The farm Leeuwkuil was bought by Samuel Marks who established the De Zuid Afrikaanshe en Oranje Vrystaatsche Kolen and Mineralen Vereeniging (South African and Orange Free State Coal and Mineral Association). The Coal mines in Vereeniging supplied coal to Kimberley by ox drawn wagons. The town experienced rapid growth as a mining town and later as the steel manufacturing hub of South Africa.

The city witnessed the Anglo -Boer war and a concentration camp was established at Vereeniging in September 1900. Many blood battles were fought in the Vereeniging area. A well-preserved British blockhouse still testifies to the Anglo-Boer War of 1899- 1902 (see Plate 11). It is located at Witkop, 10 kilometres to the north of Meyerton on the main road to Johannesburg (R59). By October 1901, the concentration camp housed 185 men, 330 women, and 452 children. Today, the Maccauvlei Golf Course is on the site of the concentration camp. The Vereeniging concentration camp cemetery is located in the old municipal cemetery, off Beaconsfield Avenue near the abattoir. A garden of remembrance also exists on the Makauvlei golf course, near the clubhouse.

The town of Vereeniging played a most significant role in the history of South Africa especially the ending of the Anglo-Boer war. The Treaty of Vereeniging (also called the Peace of Vereeniging) was signed on the 31st of May 1902 and saw the end of a protracted and miserable conflict between the British Crown and the Boer Settlers for sovereignty of the resource-rich land of South Africa. The Treaty of Vereeniging which ended the Second Boer war (1899-1902) was negotiated and signed by the South African Republic, Orange Free State and the British Empire. The Peace of Vereeniging Monument was erected to commemorate the Peace of Vereeniging that ended the Anglo-Boer War in 1902.



Plate 18: View Of the blockhouse in Vereeniging built by the British during the Second Boer War.

During the Apartheid era, the city of Vereeniging experienced one of the worst massacres in the history of the struggle against apartheid. In 1960 a group of anti-pass law protesters were massacred at the Sharpeville Police Station which is now a museum. The Sharpeville Massacre is known around the world as one of the most tragic and significant events in South Africa's Apartheid history. On the 21st of March 1960, a demonstration against South Africa's draconian pass laws, held outside the Sharpeville police station, became catastrophic. The apartheid police fired on the demonstrators, killing 69 people and injuring hundreds more. This event is commemorated in this memorial in Sharpeville, as well as in Human Rights Day – an annual public holiday, marked by many memorial events around South Africa. The Sharpeville Massacre site and the Pelandaba Cemetery where the victims are buried are National Heritage Sites managed by SAHRA. The sites have been nominated to be included into the prestigious UNESCO World Heritage list. There are also monuments commemorating the fallen soldiers and victors of the Anglo Boer War, to the women and children who died in the English run concentration camps, and monuments to the victors and loser in various tribal wars. There are monuments and tributes to the incidents, heroes and martyrs in the struggle against Apartheid.

There are pre-historic archaeological discoveries and curiosities, from plant fossils to dinosaur bones to the fossilised remains of hominids and early humans which were discovered in the Vereeniging area. Since the late 19th century, quarrying operations in Vereeniging have revealed some fossiliferous sandstone outcrops in the area. The discoveries were made during mining operations at places such as Leeuwkuil and the Central Colliery Mine as well as at other localities near to the Vaal River. Specimens are displayed at the Bernard Price Institute for Palaeontological Research (Leslie Collection), the Geological Museum in Johannesburg and in the Vereeniging Museum. The most common genera present are Noeggarathiopsis, Gangamopteris and

Glassopteris. The quarrying operations also unearthed numerous Stone Age sites along earlier or ancient banks of the Vaal River and the Klip River. Early and Middle Stone Age sites were discovered at several localities, such as Klipplaatdrift, the Klip River Quarry site, the Duncanville Archaeological Reserve (also known as the Van Riet Louw Archaeological Reserve). These sites contain thousands of stone tools. 14 A rock engraving site that was declared a national monument was also discovered at Redan on the farm Macuvlei near Vereeniging. The Redan Rock Engraving site contains as many as 244 rock engravings done on an outcrop of rocks. Some of the engravings depicts animals, while others illustrate KhoiSan weapons. A large number of the engravings are geometric designs, such as circles and other symbolic figures. The Redan Rock art site is very significant site testifying that the Vaal area has long been inhabited by prehistoric communities such as the KhoiSan. Some of the remains are housed at the Vaal Teknorama Museum in Vereeniging.



Plate 19: View of the Sharpeville Memorial and The Peace of Vereeniging - Monument at Vereeniging City Library



Plate 20: View of the Concentration Camp Graveyard and Memorial and The George William Stow Memorial – Bedworth Farm, Free State, Vaal.

The first railway line over the Vaal River linking the Orange Free State Republic (OFS) and the Zuid-Afrikaanse or Transvaal Republic was officially opened on 21 May 1892 by President Reitz of the OFS and President Kruger of the ZAR. Pillars of the bridge carrying the old railway line can still be seen in the Vaal River (www.joburg.org.za). A feature was built to commemorate British soldiers who died during the Anglo-Boer War near the railway line

that crosses the Vaal River. The small Voortrekker Monument celebrating the 100-year anniversary of the Ossewatrek was erected in 1938 in the middle of Voortrekker Road in Vereeniging, between Mark laan and Merriman laan. Several coal mines were established on both sides of the Vaal River, such as the Cornelia and Springfield coal mines. A memorial for five miners who died in South Africa's first mining disaster in 1905 was erected at the Vereeniging Cemetery. The previous National Monuments Council unveiled a bronze plaque to commemorate the 100-year anniversary of the discovery of coal at Dickinson Park.

#### **Prehistoric Culture**

Gauteng area has yielded evidence of human settlement extending into hundreds of thousands of years of prehistory that include the Stone Age, Iron Age, Historical period and contemporary communities. Further northwest of the site, there is evidence of the use of the larger area by Stone Age communities for example along the Kliprivier where ESA and MSA tools were recorded. LSA material is recorded along ridges to the south of the current study area (Huffman 2008). Petroglyphs occur at Redan as well as along the Vaal River (Berg 1999).

Iron Age sites associated with the ancestors of the modern Sotho-Tswana and Ndebele speaking communities are widespread in the region. In recent colonial history, the area played host to different competing local settler communities. The area was a scene of series of colonial wars. By the end of the 19th century, the region was placed under British rule and the local people displaced. Today most of the land is used for commercial, mining, agricultural and industrial activities. It is within this cultural landscape that the project area is located. Archaeologically, the Gauteng (Randfontein area) is associated with Late Iron Age Sotho-Tswana communities and has yielded four ceramic sequences of the Urehwe tradition: Ntsuanatsatsi (1450-1650), Olifantspoort (AD 1500 -1700), Uitkomst (AD 1700-1850) and Buispoort (1700-1840) [Huffman 2007: 443). This area was historically occupied by predominantly Sotho-Tswana -speaking groups before Mzilikazi's Ndebele briefly dominated during the Mfecane. Around the 1830s, the region also witnessed the massive movements associated with the Mfecane ('wandering hordes'). The causes and consequences of the Mfecane are well documented elsewhere (e.g. Hamilton 1995; Cobbing 1988). The area was partitioned into commercial settler farms during the colonial period.

Melville Koppies is the most well documented site in the project area. The site was excavated by Professor Mason from the Department of Archaeology of the Witwatersrand University in the 1980's. Extensive Stone walled sites are also recorded at Klipriviers Berg Nature reserve belonging to the Late Iron Age period. A large body of research is available on this area. These sites (Taylor's Type N, Mason's Class 2 & 5) are now collectively referred to as Klipriviersberg (Huffman 2007). These settlements are complex in that aggregated settlements are common, the outer wall sometimes includes scallops to mark back courtyards, there are more small stock kraals, and straight walls separate households in the residential zone. These sites date back to the 18th and 19th centuries and were built by people in the Fokeng cluster.

In this area, the Klipriviersberg walling probably ended around AD 1823, when Mzilikazi entered the area

(Rasmussen 1978). This settlement type may have lasted longer in other areas because of the positive interaction between Fokeng and Mzilikazi. Prior to the Gauteng region being incorporated into the colonial administration of the Transvaal, the region experienced several episodes of white settler migration and settler settlements as well as the associated colonial wars such as the Anglo-Boer War, which ended in 1902. Today the project area is predominantly residential and commercial.

## Intangible Heritage

As defined in terms of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) intangible heritage includes oral traditions, knowledge and practices concerning nature, traditional craftsmanship and rituals and festive events, as well as the instruments, objects, artefacts and cultural spaces associated with group(s) of people. Thus, intangible heritage is better defined and understood by the particular group of people that uphold it. In the present study area, very little intangible heritage because no historically known groups occupied the study area and most of the original settler descendants moved away from the area.

#### SAHRIS DATABASE AND IMPACT ASSESSMENT REPORTS IN THE PROJECT AREA

Several heritage sites are on record in the Vaal area covered by the 2627DB 1: 50 000 sheet. These sites consist of Stone Age (Redan Rock Engraving site), Late Iron Age, Anglo Boer War remains, and Historic mining remains. More than ten Heritage Impact Studies were conducted in the general vicinity of the study area. The studies include powerline projects completed by Van Schalkwyk (2007,2013) the report mentions that structures older than 60 years occur in the area. Pelser and Vollenhoven (2009) for powerline development, the study also mentions several archaeological and heritage sites in the project area. Pistorius (2008) noted the historic mining archaeological sites and several historical structures which were national monuments under the National Monuments Act of 1969. Kusel (2014) noted several historical buildings and structures. Coetzee (2009) completed a study in Luipaardsvlei and recorded no sites of significance. Birkholtz (2008) noted existence of prehistoric sites, sites associated with Anglo Boer war as well as sites associated with the recent struggle against apartheid. Fourie (2011a & 2011b) and Milio 2018 a, b, c, d and e and 2019) study for pipeline developments in the Vaal also noted rich cultural history of Vereeniging.

#### 10 RESULTS OF THE FIELD STUDY

# Archaeological and Heritage Site

The proposed township establishment site did not yield any confirmable archaeological sites or material. The proposed development site has mainly been affected by agriculture activities; it is evident from the topographic map of the site that the site was used for agriculture (see plate 1 to 12). This limited the chances of encountering significant in *situ* archaeological sites. As such the proposed township establishment and associated activities will not introduce new impacts from a heritage perspective. It is the considered opinion of the author that the chances of recovering significant archaeological materials were seriously compromised and limited due to agriculture and other destructive land use patterns such as deep ploughing, bulk water pipeline, road works and residential areas that already exist on the eastern side of the project site (see Plates 1 to 12).

Based on the field study results and field observations, the author concluded that the receiving environment for the proposed development is low to medium potential to yield previously unidentified archaeological sites during subsurface excavations and construction work associated with the proposed development. This observation is supported by the fact that no Iron Age sites are indicated in a historical atlas around the development area; however, this may be an indication of a lack of research. Literature review also revealed that no Stone Age sites are shown on a map contained in a historical atlas of this area (Bergh 1999: 4).

## Burial grounds and graves

The field survey did not record any burial site within the proposed township establishment site it is very unlikely to find informal burial sites within the proposed development site. It should be noted that burial grounds and gravesites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. Wherever they exist or not, they may not be tampered with or interfered with during any proposed development. It is also important to note that the possibility of encountering human remains during subsurface earth moving works anywhere on the landscape is ever present. Although the possibility of encountering previously unidentified burial sites is low within the development site, should such sites be identified during subsurface construction work, they are still protected by applicable legislations, and they should be protected.

## Historical Monuments and plaques

The study did not record any listed monument or public memorial within the proposed township establishment development site.

## Buildings and structures older than 60 years

The study did not record any buildings and structures older than 60 years. In terms of Section 34 of the NHRA, the proposed development may be approved without any further investigation or mitigation.

Table 2: Summary of findings

Heritage resource	Status/Findings
Buildings, structures, places and equipment	None exists with the development footprint
of cultural significance	
Areas to which oral traditions are attached or which are	None exists
associated with intangible heritage	
Historical settlements and townscapes	None survives in the proposed study site
Landscapes and natural features of cultural significance	None
Archaeological and palaeontological sites	None
Graves and burial grounds	None exists or are identifiable on the basis of a surface survey
Movable objects	None
Other cultural sites	None exist within the development site
Overall comment	The surveyed area has no identifiable heritage resources on the surface but sub-surface
	chance finds are still possible.

## Methodology Adapted in Assessing the Impacts

An impact can be defined as any change in the physical-chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities related to the project site under study for meeting a project need. The significance of the impacts of the process will be rated by using a matrix derived from Plomp (2004) and adapted to some extent to fit this process. These matrixes use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts. The significance of the impacts will be assessed considering the following descriptors:

Table 3: Criteria Used for Rating of Impacts

Nature of the impact (N)			
Positive	+	Impact will be beneficial to the environment (a benefit).	
Negative	-	Impact will not be beneficial to the environment (a cost).	
Neutral	0	Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect.	
`Magnitude(M)			
Minor	2	Negligible effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*).	
Low	4	Minimal effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*).	
Moderate	6	Notable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*).	
High	8	Considerable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been slightly modified and have a high conservation importance (high sensitivity*).	
Very high	10	Severe effects on biophysical or social functions / processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).	
Extent (E)	•		
Site only	1	Effect limited to the site and its immediate surroundings.	
Local	2	Effect limited to within 3-5 km of the site.	
Regional	3	Activity will have an impact on a regional scale.	
National	4	Activity will have an impact on a national scale.	
International	5	Activity will have an impact on an international scale.	
Duration (D)			
Immediate	1	Effect occurs periodically throughout the life of the activity.	
Short term	2	Effect lasts for a period 0 to 5 years.	
Medium term	3	Effect continues for a period between 5 and 15 years.	
Long term	4	Effect will cease after the operational life of the activity either because of natural process or by human intervention.	

Permanent	5	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.				
Probability of occurrence (P)						
Improbable	1	Less than 30% chance of occurrence.				
Low	2	Between 30 and 50% chance of occurrence.				
Medium	3	Between 50 and 70% chance of occurrence.				
High	4	Greater than 70% chance of occurrence.				
Definite	5	Will occur, or where applicable has occurred, regardless or in spite of any mitigation measures.				

Once the impact criteria have been ranked for each impact, the significance of the impacts will be calculated using the following formula:

# Significance Points (SP) = (Magnitude + Duration + Extent) x Probability

The significance of the ecological impact is therefore calculated by multiplying the severity rating with the probability rating. The maximum value that can be reached through this impact evaluation process is 100 SP (points). The significance for each impact is rated as High ( $SP \ge 60$ ), Medium (SP = 31-60) and Low (SP < 30) significance as shown in the below.

Table 4: Criteria for Rating of Classified Impacts

Significance of predicted NEGATIVE impacts						
Low	0-30	Where the impact will have a relatively small effect on the environment and will require minimum or no mitigation and as such have a limited influence on the decision				
Medium	31-60	Where the impact can have an influence on the environment and should be mitigated and as such could have an influence on the decision unless it is mitigated.				
High	61-100	Where the impact will definitely have an influence on the environment and must be mitigated, where possible. This impact will influence the decision regardless of any possible mitigation.				
Significance of predicted POSITIVE impacts						
Low	0-30	Where the impact will have a relatively small positive effect on the environment.				
Medium	31-60	Where the positive impact will counteract an existing negative impact and result in an overall neutral effect on the environment.				
High	61-100	Where the positive impact will improve the environment relative to baseline conditions.				

Table 5: Operational Phase

Impacts and Mitigation measures relating to the proposed project during Operational Phase											
Activity/Aspect	Impact /	Aspect	Nature	Magnitude	Extent	Duration	Probability	Impacts before mitigation	Magnitude Extent Duration Probability Probability Probability		
Clearing and construction	Destruction of archaeological remains	Cultural heritage	-	6	2	2	2	20	Use chance find procedure to cater for accidental finds		
	Disturbance of graves	Cultural heritage	-	2	1	1	1	4	Chance finds procedure and heritage induction for workers,     1 1 1 4		
	Disturbance of buildings and structures older than 60 years old	Operational	-	2	1	1	1	4	Mitigation is not required because there are no historical buildings within the proposed development site		
Haulage	Destruction public monuments and plaques	Operational	-	2	1	1	1	4	Mitigation is not required because there are no public monuments within the proposed development site		

# **Cumulative Impacts**

Cumulative are impacts that result from incremental changes caused by other past, present, or reasonably foreseeable actions together with the project. Therefore, the assessment of cumulative impacts for the proposed development is considered the total impact associated with the proposed development when combined with other past, present, and reasonably foreseeable future developments projects. An examination of the potential for other projects to contribute cumulatively to the impacts on heritage resources from this proposed development was undertaken during the preparation of this report. The total impact arising from the proposed project (under the control of the applicant), other activities (that may be under the control of others, including other developers, local communities, government) and other background pressures and trends which may be unregulated.

The impacts of the proposed development were assessed by comparing the post-project situation to a preexisting baseline. Where projects can be considered in isolation, this provides a good method of assessing
a project's impact. However, in this case there are several infrastructure developments, including residential,
road networks, commercial infrastructure where baselines have already been affected, the proposed
development will add to the existing impacts in the project area. As such increased development in the project
area will have additional cumulative impacts on heritage resource whether known or covered in the ground.
For example, during construction phase they will be increase in human activity and movement of heavy
construction equipment and vehicles that could change, alter or destroy heritage resources within and outside
the development site given that archaeological remains occur on the surface. Cumulative impacts that could
result from a combination of the proposed development and other actual or proposed future developments in
the broader study area include site clearance and the removal of topsoil could result in damage to or the
destruction of heritage resources that have not previously been recorded for example abandoned and
unmarked graves.

Heritage resources such as burial grounds and graves, archaeological as well as historical sites are common occurrences within the greater study area. These sites are often not visible and as a result, can be easily affected or lost. Furthermore, many heritage resources in the greater study area are informal, unmarked and may not be visible, particularly during the wet season when grass cover is dense. As such, construction workers may not see these resources, which results in increased risk of resource damage and/or loss. Earth moving and extraction of gravel have the potential to interact with archaeology, architectural and cultural heritage.

No specific paleontological resources were found in the project area during the time of this study; however, this does not preclude the fact that paleontological resources may exist within the greater study area. As such, the proposed development has the potential to impact on possible paleontological resources in the area. Sites of archaeological, paleontological, or architectural significance were not specifically identified, and cumulative effects are not applicable. The nature and severity of the possible cumulative effects may differ from site to site depending on the characteristics of the sites and variables.

Cumulative impacts that need attention are related to the impacts of clearances, digging foundations, access roads and impacts to buried heritage resources. Allowing the impact of the proposed development to go beyond the surveyed area would result in a significant negative cumulative impact on sites outside the surveyed area. A significant cumulative impact that needs attention is related to stamping by especially construction vehicles during clearance and excavation within the development site. Movement of heavy construction vehicles must be monitored to ensure they do not drive beyond the approved sites. No significant cumulative impacts, over and above those already considered in the impact assessment, are foreseen at this stage of the assessment process. Cumulative impacts can be significant, if construction vehicles are not monitored to avoid driving through undetected heritage resources.

### Mitigation

Given that no significant heritage resources were recorded within the proposed development site, mitigation is not required. The proposed project may be approved without further investigation or monitoring.

### **Assessing Significance**

The appropriate management of cultural heritage resources is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Cultural significance is defined in the Burra Charter as meaning aesthetic, historic, scientific, or social value for past, present, or future generations (Article 1.2). Social, religious, cultural, and public significance are currently identified as baseline elements of this assessment, and it is through the combination of these elements that the overall cultural heritage values of the site of interest, associated place or area are resolved.

Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a place is not fixed for all time, and what is considered of significance at the time of assessment may change as similar items are located, more research is undertaken, and community values change. This does not lessen the value of the heritage approach but enriches both the process and the long-term outcomes

for future generations as the nature of what is conserved and why, also changes over time (Pearson and Sullivan 1995:7). This assessment of the Indigenous cultural heritage significance of the Site of Interest is based on the views expressed by the claimant and his community representatives consulted documentary review and physical integrity.

African indigenous cultural heritage significance is not limited to items, places or landscapes associated with pre-European contact. Indigenous cultural heritage significance is understood to encompass more than ancient archaeological sites and deposits, broad landscapes, and environments. It also refers to sacred places and story sites, as well as historic sites, including mission sites, memorials, and contact sites. This can also refer to modern sites with resonance to the indigenous community. The site of interest considered in this project falls within this realm of broad significance.

The Guidelines to the SAHRA Guidelines and the Burra Charter define the following criterion for the assessment of cultural significance:

### Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture, and material of the fabric; sense of place, the smells and sounds associated with the place and its use.

### Historic Value

Historic value encompasses the history of aesthetics, science, and society, and therefore to a large extent underlies all the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase, or activity. It may also have historic value as the site of an important event. For any given place, the significance will be greater where evidence of the association or event survives *in situ*, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

### Scientific value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality, or representativeness, and on the degree to which the place may contribute further substantial

information. Scientific value is also enshrined in natural resources that have significant social value. For example, pockets of forests and bushvelds have high ethnobotany value.

### Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, religious, political, local, national, or other cultural sentiment to a majority or minority group. Social value also extends to natural resources such as bushes, trees and herbs that are collected and harvested from nature for herbal and medicinal purposes.

### 9 DISCUSSION

Several archaeologists and heritage specialists conducted Phase 1 studies since 2002. The studies were conducted for various infrastructure developments such as power lines and substations, water supply pipelines and residential developments. These studies noted that project area is a rich cultural landscape. Although now altered significantly several significant archaeological sites were recorded in the area and there are several colonial and post-apartheid monuments in the area for example Birkholtz (2010), Coetzee (2009, 2013), Fourie (2011), Kusel (2014), Pistorius (2008) and Van der Schalkwyk (2013). Therefore, the current study should be read in conjunction with previous Phase 1 Impact Studies conducted in the proposed project area. The lack of confirmable archaeological sites recorded during the current survey is thought to be a result of three primary interrelated factors:

- 1. That proposed development site is situated within a heavily degraded area and has reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical, or burial sites, due to previous earth moving disturbances resulting from developments and other land uses in the project area.
- 2. That the survey focused on sample sections that had high potential to yield possible archaeological sites. Due to the size of the proposed development site, it was impractical to cover every inch of the project site. As such, there is the possibility that low to medium archaeological sites exist in the project area whereas the sampled sections fell outside sections with potential distinct archaeological sites.
- 3. Limited ground surface visibility on sections of the project area that were not cleared at the time of the study may have impended the detection of other physical cultural heritage site remains, or archaeological

signatures immediately associated with the proposed development site. The absence of confirmable and significant archaeological cultural heritage site is not evidence in itself that such sites do not exist in the project area. It may be that, given the dense development in most sections of the development site, if such sites existed before, changing earth-moving activities may have destroyed their evidence on the surface. Significance of the Site of Interest is not limited to presence or absence of physical archaeological sites. The findings of previous HIA studies testify to the significance of the project area as a cultural landscape of note, which has discernible links to local oral history and folk stories, environmental and ethnobotanical aesthetics, popular memories etc. associated with significance emanating from intangible heritage of the region.

### 10 RECOMMENDATIONS

- 1. From a heritage perspective supported by the findings of this study, the proposed township establishment should be approved to proceed without further investigations or mitigation.
- 2. The footprint impact of the proposed development and associated infrastructure should be kept to minimal to limit the possibility of encountering chance finds.
- 3. Should chance archaeological materials or human burials remains be exposed during subsurface construction work on any section of the proposed development laydown sites, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
- 4. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, other than buildings older than 60 years, there are no other significant cultural heritage resources barriers to the proposed development. The Heritage authority may approve the proposed township establishment development with special commendations to implement the recommendations here in made

### 11 CONCLUSION

Bashan Corporation (Pty) Ltd appointed Integrated Specialist Services (Pty) Ltd to carry out a scoping and Phase 1 AIA/ HIA of the proposed Johandeo Township Establishment - Phase 2 situated on the remainder of Portion 8 of the Farm Rietkuil 554 IQ, eMfuleni Local Municipality in the Gauteng Province. The proposed development site lies within a previously cleared and ploughed piece of land. In spite of the rich history and archaeology of the general area prior to several agricultural and residential developments after the mid-20<sup>th</sup>

century, field surveys on and around the proposed area did not yield any archaeological material. In terms of the archaeology and heritage in respect of the proposed development site, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, still remains and the developer and his contractors are advised to be diligent and observant during construction of the land site. The procedure for reporting chance finds has clearly been laid out and if this report is adopted by SAHRA, then there are no archaeological reasons why construction cannot proceed.

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# 13 APPENDIX 1: CHANCE FIND PROCEDURE FOR THE PROPOSED TOWNSHIP ESTABLISHMENT INTRODUCTION

An Archaeological Chance Find Procedure (CFP) is a tool for the protection of previously unidentified cultural heritage resources during construction. The main purpose of a CFP is to raise awareness of all construction workers and management on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources. Chance Finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of construction monitoring. Chance Finds may be made by any member of the project team who may not necessarily be an archaeologist or even visitors. Appropriate application of a CFP on development projects has led to discovery of cultural heritage resources that were not identified during archaeological and heritage impact assessments. As such, it is considered to be a valuable instrument when properly implemented. For the CFP to be effective, the site manager must ensure that all personnel on the proposed development site understand the CFP and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction on cultural heritage resources that might potentially be found on site should be provided. In short, the Chance find procedure details the necessary steps to be taken if any culturally significant artefacts are found during construction.

### **Definitions**

In short, the term 'heritage resource' includes structures, archaeology, meteors, and public monuments as defined in the South African National Heritage Resources Act (Act No. 25 of 1999) (NHRA) Sections 34, 35, and 37. Procedures specific to burial grounds and graves (BGG) as defined under NHRA Section 36 will be discussed separately as this require the implementation of separate criteria for CFPs.

### Background

The proposed Johandeo Township Establishment - Phase 2 situated at the remainder of Portion 8 of the Farm Rietkuil 554 IQ, eMfuleni Local Municipality in the Gauteng Province development site is subject to heritage survey and assessment at planning stage in accordance with the NHRA. These surveys are based on surface indications alone and it is therefore possible that sites or significant archaeological remains can be missed during surveys because they occur beneath the surface. These are often accidentally exposed in the course of construction or any associated construction work and hence the need for a Chance Find Procedure to deal with accidental finds. In this case an extensive Archaeological Impact Assessment was

completed by T. Millo (2022) on the proposed development site. The AIA/HIA conducted was very comprehensive covering the entire site.

### Purpose

The purpose of this Chance Find Procedure is to ensure the protection of previously unrecorded heritage resources along the proposed project site. This Chance Find Procedure intends to provide the applicant and contractors with appropriate response in accordance with the NHRA and international best practice. The aim of this CFP is to avoid or reduce project risks that may occur as a result of accidental finds whilst considering international best practice. In addition, this document seeks to address the probability of archaeological remains finds and features becoming accidentally exposed during digging of foundations and movement of construction equipment. The proposed construction activities have the potential to cause severe impacts on significant tangible and intangible cultural heritage resources buried beneath the surface or concealed by tall grass cover. Integrated Specialists Services (Pty) Ltd developed this Chance Find Procedure to define the process which govern the management of Chance Finds during construction. This ensures that appropriate treatment of chance finds while also minimizing disruption of the construction schedule. It also enables compliance with the NHRA and all relevant regulations. Archaeological Chance Find Procedures are to promote preservation of archaeological remains while minimizing disruption of construction scheduling. It is recommended that due to the low to moderate archaeological potential of the project area, all site personnel and contractors be informed of the Archaeological Chance Find procedure and have access to a copy while on site. This document has been prepared to define the avoidance, minimization, and mitigation measures necessary to ensure that negative impacts to known and unknown archaeological remains as a result of project activities and are prevented or where this is not possible, reduced to as low as reasonably practical during construction.

Thus, this Chance Finds Procedure covers the actions to be taken from the discovering of a heritage site or item to its investigation and assessment by a professional archaeologist or other appropriately qualified person to its rescue or salvage.

### CHANCE FIND PROCEDURE

### General

The following procedure is to be executed in the event that archaeological material is discovered:

- All construction/clearance activities in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site.
- Briefly note the type of archaeological materials you think you have encountered, and their location, including, if possible, the depth below surface of the find
- Report your discovery to your supervisor or if they are unavailable, report to the project ECO who will provide further instructions.
- If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to the Site Manager who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide 25m buffer zone from all sides of the find.
- Record the find GPS location, if able.
- All remains are to be stabilised in situ.
- Secure the area to prevent any damage or loss of removable objects.
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under direction of the Health and Safety Officer.
- Finds rescue strategy: All investigation of archaeological soils will be undertaken by hand, all finds, remains and samples will be kept and submitted to a museum as required by the heritage legislation.
   In the event that any artefacts need to be conserved, the relevant permit will be sought from the SAHRA.
- An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process.
- In the case of human remains, in addition to the above, the SAHRA Burial Ground Unit will be contacted and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeological will be available to examine the remains.
- The project archaeologist will complete a report on the findings as part of the permit application process.
- Once authorisation has been given by SAHRA, the Applicant will be informed when construction activities can resume.

# Management of chance finds

Should the Heritage specialist conclude that the find is a heritage resource protected in terms of the NRHA (1999) Sections 34, 36, 37 and NHRA (1999) Regulations (Regulation 38, 39, 40), Integrated Specialists Services (Pty) Ltd will notify SAHRA and/or PHRA on behalf of the applicant. SAHRA/PHRA may require that a search and rescue exercise be conducted in terms of NHRA Section 38, this may include rescue excavations, for which ISS (Pty) Ltd will submit a rescue permit application having fulfilled all requirements of the permit application process.

In the event that human remains are accidently exposed, SAHRA Burial Ground Unit or ISS (Pty) Ltd Heritage Specialist must immediately be notified of the discovery in order to take the required further steps:

- a. Heritage Specialist to inspect, evaluate and document the exposed burial or skeletal remains and determine further action in consultation with the SAPS and Traditional authorities:
- b. Heritage specialist will investigate the age of the accidental exposure in order to determine whether the find is a burial older than 60 years under the jurisdiction of SAHRA or that the exposed burial is younger than 60 years under the jurisdiction of the Department of Health in terms of the Human Tissue Act.
- c. The local SAPS will be notified to inspect the accidental exposure in order to determine where the site is a scene of crime or not.
- d. Having inspected and evaluated the accidental exposure of human remains, the project Archaeologist will then track and consult the potential descendants or custodians of the affected burial.
- e. The project archaeologist will consult with the traditional authorities, local municipality, and SAPS to seek endorsement for the rescue of the remains. Consultation must be done in terms of NHRA (1999) Regulations 39, 40, 42.
- f. Having obtained consent from affected families and stakeholders, the project archaeologist will then compile a Rescue Permit application and submit to SAHRA Burial Ground and Graves Unit.

- g. As soon as the project archaeologist receives the rescue permit from SAHRA he will in collaboration with the company/contractor arrange for the relocation in terms of logistics and appointing of an experienced undertaker to conduct the relocation process.
- h. The rescue process will be done under the supervision of the archaeologist, the site representative and affected family members. Retrieval of the remains shall be undertaken in such a manner as to reveal the stratigraphic and spatial relationship of the human skeletal remains with other archaeological features in the excavation (e.g., grave goods, hearths, burial pits, etc.). A catalogue and bagging system shall be utilised that will allow ready reassembly and relational analysis of all elements in a laboratory. The remains will not be touched with the naked hand; all Contractor personnel working on the excavation must wear clean cotton or non-powdered latex gloves when handling remains in order to minimise contamination of the remains with modern human DNA. The project archaeologist will document the process from exhumation to reburial.
- i. Having fulfilled the requirements of the rescue/burial permit, the project archaeologist will compile a mitigation report which details the whole process from discovery to relocation. The report will be submitted to SAHRA and to the company.

Note that the relocation process will be informed by SAHRA Regulations and the wishes of the descendants of the affected burial.

# 14 APPENDIX 2: Heritage Management Plan input into the Proposed Township Establishment project EMP

- Protection of archaeological sites and land considered to be of cultural value;
- Protection of known physical cultural property sites against vandalism, destruction and theft; and

  The preservation and appropriate management of new archaeological finds should these be discovered during construction.

රි	•	The preservation and appropriate management of new archaeological finds should these be discovered during construction.												
No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed						
Pre-C	re-Construction Phase													
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan, and marked as no-go areas.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM						
Const	Construction Phase													
		Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM						
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a registered heritage specialist or PHRA official must be called to site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM						
1		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed form site;		Throughout	C CECO	SM	ECO	EA EM PM						
	Emergency Response	Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform PHRA.		When necessary	C CECO	SM	ECO	EA EM PM						
	Emergen	Should any remains be found on site that is potentially human remains, the PHRA-G and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM						
Rehab	oilitation Ph													
		Same as construction phase.												
Opera	itional Phas													
		Same as construction phase.												

# 16 APPENDIX 4: Legal Principles of Heritage Resources Management in South Africa

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):

General principles for heritage resources management

- 5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:
- (a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;
- (b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans;
- (c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and
- (d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.
- (2) To ensure that heritage resources are effectively managed—
- (a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and
- (b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.
- (3) Laws, procedures and administrative practices must—
- (a) be clear and generally available to those affected thereby;
- (b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and
- (c) give further content to the fundamental rights set out in the Constitution.
- (4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.
- (5) Heritage resources contribute significantly to research, education and tourism and they must be

developed and presented for these purposes in a way that ensures dignity and respect for cultural values.

- (6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.
- (7) The identification, assessment and management of the heritage resources of South Africa must—
- (a) take account of all relevant cultural values and indigenous knowledge systems;
- (b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;
- (c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
- (d) contribute to social and economic development;
- (e) safeguard the options of present and future generations; and
- (f) be fully researched, documented and recorded.

### **Burial grounds and graves**

- 36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
- (3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—
- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- (4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- (5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under

- subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority—
- (a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
- (b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- (6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority—
- (a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
- (b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.
- (7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.
- (b) The Minister must publish such lists as he or she approves in the Gazette.
- (8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.
- (9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

### **General policy**

- 47. (1) SAHRA and a provincial heritage resources authority—
- (a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

- (b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and
- (c) must review any such statement within 10 years after its adoption.
- (2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.
- (3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.
- (4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.
- (5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.
- (6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.