# Archaeological Impact Assessment

# ON REMAINDER OF THE FARM HATHERLEY 311 JR, MAMELODI, GAUTENG PROVINCE.

# Prepared For

# **Dudula Environmental Consulting**

By



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# **Executive summary**

**Site name and location:** Proposed Township development on remainder of the farm Hatherley 311JR, Mamelodi, Gauteng Province.

**Local Authority:** City of Tswane Metropolitan Municipality, Gauteng.

**Developer:** Gauteng Department of Housing

**Consultant:** Wits Heritage Contracts Unit. University of the Witwatersrand, School of Geography, Archaeology and Environmental Studies, Private Bag 3, P.O Wits 2050,Tel: +27 82 373 8491. E –mail jaco.heritage@gmail.com.

Date of field work: 15 August 2008

Date of Report: 16 August 2008

**Findings of the Assessment:** Three sites of heritage significance were found during the site visit. These sites consist of Late Iron Age stone walled sites linked to Southern Ndebele speaking people with a occupation date ranging between the 1600's up to the 1800's. Due to the negative impact of the proposed development on the sites several recommendations are made in Section 9 of this report before development can commence.

**Disclaimer:** 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. Wits Heritage Contracts Unit and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.

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- The technology described in any report
- Recommendations delivered to the Client.

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#### .1. INTRODUCTION

Wits Heritage Contracts Unit was sub-contracted by Archaetnos Cultural Consultants to assess the significance of a "stone walled settlement" identified by Dudula Environmental Consultants for the proposed Township development on remainder of the farm Hatherley 311JR, Mamelodi, Gauteng Province. The report forms part of the EIA for the proposed project.

The aim of the study is to identify all heritage sites, document, and assess their importance within Local, Provincial and national context. To assess the impact of the proposed project on non renewable heritage resources and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

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

During the survey, 3 cultural heritage sites of significance were identified. General site conditions and features on sites were recorded by means of photos, GPS location, and description. Possible impacts were identified and mitigation measures are proposed in the following report.

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

#### 1.2 TERMS OF REFERENCE

#### Conduct brief desktop study to:

Review available literature, previous heritage studies and other relevant information sources. Gather data and compile a background history of the area. Identify all known and recorded archaeological and cultural sites; and determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.

#### Conduct a field study to:

Assess the significance of a "stone walled settlement" identified by Dudula Environmental Consultants for the proposed Township development.

#### Reporting

Identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project activity on the identified heritage resources. Consider alternatives should any significant sites be impacted adversely by the proposed project. Ensure that all requirements of the local South African Heritage Resources Agency (SAHRA) are met. To assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

# 1.3 Nature of the development

The development consists of mixed land use ranging from commercial, residential and educational.

# 1.4 Description of study area

The geology of the area consists of shale of the Magaliesberg Formation of the Pretoria group of the Transvaal Sequence. Later intrusions of diabase occur in the area. The original vegetation is classified by Acocks 1975 as Bankeveld. Refer to main EIA report for geographical, environmental and demographic issues.

#### 2. APPROACH AND METHODOLOGY

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

### 2.1 PHYSICAL SURVEYING

Wits Heritage Contract Unit was sub-contracted to assess the significance of a "stone walled settlement" identified by Dudula Environmental Consultants for the proposed Township development of the farm Hatherley. The proposed development area consists of 600ha.

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

# 3. Abbreviations and definitions

# 3.1 Abbreviations

ASAPA: Association of South African	BPEO: Best Practicable Environmental		
Professional Archaeologists	Option		
CRM: Cultural Resource Management	DEA&DP: Department of Environmental		
	Affairs and Development Planning		
DEAT: Department of Environmental Affairs	DWAF: Department of Water Affairs and		
and Tourism	Forestry		
EIA practitioner: Environmental Impact	EIA: Environmental Impact Assessment		
Assessment Practitioner			
EIA: Early Iron Age	ESA: Early Stone Age		
GPS: Global Positioning System	HIA: Heritage Impact Assessment		
I&AP: Interested & Affected Party	IDP: Integrated Development Plan		
LSA: Late Stone Age	LIA: Late Iron Age		
MSA: Middle Stone Age	MIA: Middle Iron Age		
NEMA: National Environmental Management	nt NHR Act: National Heritage Resources Act		
Act			
PHRA: Provincial Heritage Resources	PSSA: Palaeontological Society of South		
Agency	Africa		
ROD: Record of Decision	SACLAP: South African Council for the		
	Landscape Architect Profession		
SAHRA: South African Heritage Resources	SAIA: South African Institute of Architects		
Agency			
SAPI: South African Planning Institute	SDF: Spatial Development Framework		

# 3.2 Definitions

#### **Archaeological resources:**

This includes material remains resulting from human activity which 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;

#### Rock art:

Being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;

#### Wrecks:

Being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;

#### Military:

Features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

#### **Cultural significance:**

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

#### **Development:**

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in the change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- •construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- carrying out any works on or over or under a place;
- •subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- constructing or putting up for display signs or hoardings;
- •any change to the natural or existing condition or topography

of land;

• any removal or destruction of trees, or removal or vegetation

or topsoil

#### **Heritage resources:**

This means any place or object of cultural significance

#### Stakeholders:

A subgroup of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term includes the proponent, authorities and all interested and affected parties. (Fransen 2004)

# 4. ARCHAEOLOGICAL LEGISLATION AND BEST PRACTICE

Phase 1 Archaeological Impact Assessments or Heritage Impact Assessments are a prerequisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of a heritage specialist input is to:

- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources;
- Make recommendations for the appropriate heritage management of these impacts.

The AIA or HIA, as a specialist sub-section of the Environmental Impact Assessment [EIA] is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999)., Section 38(1), Section 38(8) the National Environmental Management Act (NEMA) and the Mineral and Petroleum Resources Development Act (MPRDA).

The AIA should be submitted, as part of the EIA, BIA or Environmental Management Plan [EMP], to the PHRA if established in the province or to SAHRA. SAHRA will be ultimately responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and required additional development information, as per the EIA, BIA / EMP, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA. Minimum accreditation requirements

include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).

Minimum standards for reports, site documentation and descriptions are set by the Association of Southern African Professional Archaeologists [ASAPA] in collaboration with SAHRA. ASAPA is a legal body, based in South Africa, representing professional archaeology in the Southern African Development Community [SADC] region. ASAPA is primarily involved in the overseeing of archaeological ethical practice and standards. Membership is based on proposal and secondment by other professional members.

Phase 1 AIA's are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidance in the developer's decision making process:

Phase 2 archaeological projects are primarily based on salvage / mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations should be done under a permit issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes as minimum requirements reporting back strategies to SAHRA and deposition of excavated material at a accredited repository.

In the event of a site conservation option being preferred by the developer a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation is conducted on a site, a destruction permit must be applied for from SAHRA before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above SAHRA

authorisation. If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws set by the cemetery authority must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning, or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

### .5. ASSESSMENT CRITERIA

# 5.1 Evaluation of Heritage sites

This chapter describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- · Uniqueness of the site and
- potential to answer present research questions.

# **5.1.1** Heritage Site Significance and Mitigation Measures

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report. *It must be noted* that the recommendation listed below must be read in conjunction with section 9 of this report.

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

# .5. Archaeological Context of study area

The historical background and timeframe of the study area can be divided into the Stone Age, Iron Age and Historical timeframe. These can be divided as follows:

#### Stone Age

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

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

Middle Stone Age: Various lithic industries in SA dating from ± 250 000 yrs – 25 000 yrs before present. This period is first associated with archaic *Homo sapiens* and later *Homo sapiens* sapiens. Material culture includes stone tools with prepared platforms and stone tools attached to handles.

Late Stone Age: The period from ± 25 000-yrs before present to the period of contact with either Iron Age farmers or European colonists. This period is associated with *Homo sapiens sapiens*. Material culture from this period includes: microlithic stone tools; ostrich eggshell beads and rock art.

#### Iron Age

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

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

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

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

#### Historic Timeframe

17th Century to present AD (1600 – 2000)

The historic timeframe intermingles with the later parts of the Stone and Iron Age, and can loosely be regarded as times when written and oral recounts of incidents became available.

# 5.1 Brief background study

The National Cultural History Museum conducted a thorough cultural historical assessment of Iron Age sites found on the farm Hahterley 113 JR as part of an EIA for the new land fill site. The area their efforts were concentrated on is located opposite the road of the current area under discussion where the current refuse dump is located.

Their investigation consisted of four elements. A survey of relevant literature including archaeological, anthropological and historical literature. An ethno historical investigation that included on site consultation with Ndebele informants. Comparison of the stone walled settlements with other known Ndebele sites in the area and lastly archaeological excavations.

They concluded that the sites were occupied by Southern Ndebele-speaking people from the late 1600's up to the mid 1800's. They recommended that more investigations on Ndebele sites around Pretoria be undertaken to investigate and document these sites that are in danger of disappearing from the record through the rapid urban expansion of Pretoria.

For a detailed record of their finds refer to "Investigation of Late Iron Age Sites on the farm Hatherley 331 JR, Pretoria District published in volume 5 of the journal Navorsing deur die Nasionale Kultuurhistoriese Museum. 1996.

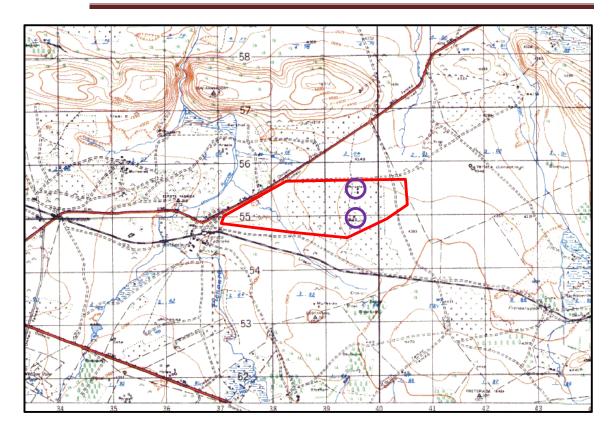


Figure 1: The depicted map represents an enlarged section of the 2627BB 1:50 000 topographical Map. The map was drawn by the Trigonometrical Survey Office in 1943.

The approximate location of the study area is marked in red. Note that most of the area is ploughed and the two ruins marked by circles.

# 5.2 Probability of occurrence of sites

From the above information it is clear that a medium possibility of the occurrence of cultural heritage sites could be expected in the study area.

#### A. PALAEONTOLOGICAL LANDSCAPE

#### CONTEXT

Fossil remains. Such resources are typically found in specific geographical areas, e.g. the Karoo and are embedded in ancient rock and limestone/calcrete formations. Exposed by road cuttings and quarry excavation: *Low Probability* 

#### **B. ARCHAEOLOGICAL LANDSCAPE**

#### **CONTEXT**

NOTE: Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface.

Archaeological remains dating to the following periods can be expected with in the study area:

#### Stone Age finds

ESA: Low Probability

MSA: Medium Probability

• LSA: Medium Probability

• LSA –Herder: Low Probability

#### Iron Age Finds

• EIA: Low Probability

• MIA: Low Probability

• LIA: High Probability

#### **Historical finds**

• Historical period: Medium Probability

• Historical dumps: Medium Probability

• Structural remains: Medium Probability

#### **Military Finds**

• Battle and military sites: Low Probability

#### **Burial/Cemeteries**

• Burials over 100 years: Medium Probability

• Burials younger than 60 years: Medium Probability

Subsurface excavations including ground levelling, landscaping, and foundation preparation can expose any number of these.

# .6. SITES OF SIGNIFICANCE

# 6.1 Site.1

This is the location of a highly overgrown Late Iron Age stone walled site. Cultural material consists of a few undecorated ceramics and a lower grinding stone. The walling is constructed of loosely packed diabase rocks using two rows of large stones filled in with smaller rocks. The walls are low (approximately 50cm) and it is concluded that together with the low amount of loose stones that the original walls wasn't much higher.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected A (GP.A)	-	High / Medium Significance	Mitigation before destruction.



Figure 2: Low stone walling



Figure 3: Lower grinder



Figure 4: General site conditions

# 6.2 Site.2

This is the location of another Late Iron Age stone walled site. The site is relatively small and consists of approximately 3 – 4 enclosures. The site is associated with the much larger site 1. A Recently constructed dirt road impacted negatively on the perimeter of the site. How ever enough of the site is preserved for research. The most notable feature at this site is a possible hut enclosure. The walling is constructed of loosely packed diabase rocks using two rows of large stones filled in with smaller rocks. The walls are low (approximately 50cm) and it is concluded that together with the low amount of loose stones that the original walls wasn't much higher.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected A (GP.A)	-	High / Medium Significance	Mitigation before destruction.



Figure 5: Road through site



Figure 6: General site conditions

# 6.3 Site.3

This is the location of another Late Iron Age stone walled site on a small ridge. The site is overgrown and it therefore not possible to deduct settlement layout or to determine the extend of the site. At least 4 stone cairns are found possibly associated with the stone walling. The stone walling is constructed of loosely packed diabase rocks using two rows of large stones filled in with smaller rocks. The walls are low (approximately 50cm) and it is concluded that together with the low amount of loose stones that the original walls wasn't much higher.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally	-	High / Medium	Mitigation before destruction.
Protected A (GP.A)		Significance	

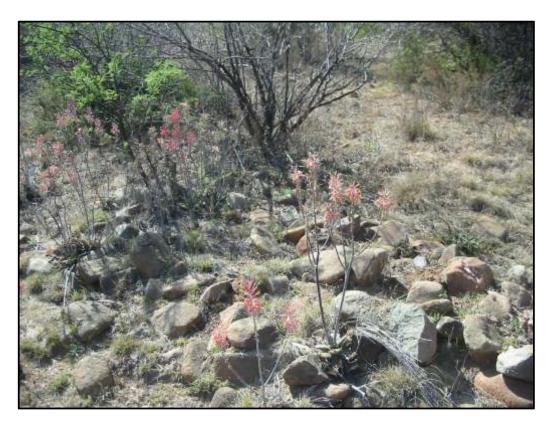


Figure 7: Low stone walling



Figure 8: Stone cairn

#### .7. ASSUMPTIONS AND LIMITATIONS

Due to the nature of cultural remains that occur, in most cases, below surface, the possibility remains that some cultural remains may not have been discovered during the survey. Low ground visibility is present on site due to exceptional high vegetation growth and the possibility of the occurrence of unmarked graves can not be excluded. Although Wits Heritage Contracts unit surveyed the area as thorough as possible, it is incumbent upon the developer to inform the relevant heritage agency should further cultural remains be unearthed or laid open during the process of development.

### .9. ASSESSMENT AND RECOMMENDATIONS

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

Three sites of heritage significance were found with in the study area. The following assessment and recommendations are applicable for the sites:

The stone walled sites found show several similarities with the Late Iron Age stone walled sites documented by the National Cultural History Museum across the road from the present study area. Because of these strong links the stone walled sites found on the remainder of the farm Hatherley is also linked to Southern Ndebele speaking people with a occupation date ranging between the 1600's up to the 1800's.

The sites found are not as extensive or as well preserved as other Ndebele sites of the same period and lack significant cultural material in the form of deep archaeological deposit associated with these sites. Van Schalkwyk *et al* postulate several reasons for this ranging from short occupations of the site to seasonal habitation of the sites. Because a extensive contemporaneous site have been fenced off for preservation on the landfill site no permanent protection status is attributed to the sites found through this study. Because the proposed development will have a negative impact on the non renewable resources of the area it is recommended that the sites found through this study be documented in the form of scaled layout sketches and sampled through test excavations. It is further recommended that the whole study area of 600ha be surveyed since more sites are expected to be found and the scope of the present study did not cover this aspect. Before development can start on this project these recommendations must be adhered by after which a destruction permit

for the destruction of the sites must be applied for from SAHRA. A watching brief must also be agreed upon to monitor the significant areas during construction.

If these recommendations are adhered by there is from a Heritage point of view no reason why the development can not commence.

#### General

Low ground visibility is present on portions of the site due to high vegetation growth and the possibility of the occurrence of unmarked graves and subsurface finds can not be excluded. If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.

## .10. LIST OF PREPARES

Jaco van der Walt, BA (Hon) Archaeology (Wits)

#### .11. REFERENCES

#### 11.1 ARCHAEOLOGICAL PAPERS

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# ANNEXURE A: Locality Map & Site Co-ordinates

	S25.740416	
Site 1	E028.393264	
	S25.739399	
Site 1	E028.393951	
	S25.740114	
Site 2	E028.395501	
	S25.745649	
Site 3	E028.405865	

