

# HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED MTHOMBOWESIZWE SECONDARY SCHOOL, NONGOMA LOCAL MUNICIPALITY, ZULU LAND DISTRICT



**MAY 2021**

Prepared for



Mashize Investments (Pty) Ltd



Planet Development Systems

# EXECUTIVE SUMMARY

Mashize Investments (Pty) Ltd has appointed Planet Development Systems to undertake palaeontological heritage assessment for the proposed alterations of Mthombowesizwe Secondary School, in Nongoma Local Municipality within KwaZulu Natal. The study aims to identify and document geological sites of cultural importance, palaeontological objects and material, meteorites and rare geological specimens. With regards to the heritage aspect, the study will explore archaeological sites, cultural resources, sites associated with oral histories (intangible heritage), graves, cultural landscapes, and any structures of historical significance (tangible heritage) that may be affected within the footprint of the proposed upgrades to the school.

The appointment of Planet Development Systems is in terms of the National Heritage Resources Act (NHRA), No. 25 of 1999. The Heritage Impact Assessment (HIA) is completed in accordance with requirements of Section 38 (1) (a, b, c) of the NHRA, No. 25 of 1999. The palaeontological assessment is undertaken in accordance with Sections 35 and 38 (Heritage Resources Management) of the South African Heritage Resources Act (Act No. 25 of 1999). This is due to the nature of the proposed development which involves:

The HIA for the above-mentioned development comprises a:

- Phase 1 Archaeological Impact Assessment (AIA)
- Desktop Palaeontological Impact Assessment (PIA)

## **Archaeological Impact Assessment Conclusion**

From a heritage point of view, the current project is acceptable. Due to the lack of substantial heritage resources in the study area, the effect of the proposed project on heritage resources is considered to be poor and it is recommended that the proposed project should start on the condition that the following chance-finding procedures (CFPs) are enforced as part of the Environmental Management Programme (EMPR) and based on the approval of South African Heritage Resources Agency (SAHRA).

## **Palaeontological Impact Assessment Conclusion**

The specialist recommends that the applicant be granted environmental authorisation. However, if significant fossil remains (especially articulated vertebrate skeletons or skulls) are exposed during development, Environmental Control Officer (ECO) should protect the in-situ where possible. SAHRA and/or a trained palaeontologist should be alerted as quickly as possible so that appropriate mitigation measures can be implemented.

Informal graves were found scattered within the proposed site. It is therefore recommended that based on the findings of the survey the construction may not proceed until the mitigation measures provided to protect the graves are taken into consideration prior to commencement of the construction. Graves may either be relocated; this process includes social consultation of the affected relatives or, a 10m buffer fence should be placed around each grave or group of graves to protect them during and after the construction phase. It should be noted that no construction is allowed beyond the allocated buffer.

## DECLARATION OF INDEPENDENCE

Planet Development Systems is an independent service provider and apart from their fair remuneration for services rendered, the company has no financial interest in the proposed development. We have disclosed any material information that have or may have the potential to influence the objectivity of any report or decisions based thereon. The specialists are very much aware that a false declaration is misleading and constitutes an offence in terms of regulation 71 of GN No. R. 543.

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# TABLE OF CONTENTS

## Contents

EXECUTIVE SUMMARY .....	ii
DECLARATION OF INDEPENDENCE.....	iv
TABLE OF CONTENTS.....	vi
LIST OF FIGURES.....	viii
LIST OF TABLES.....	viii
LIST OF ABBREVIATIONS.....	ix
1. INTRODUCTION AND BACKGROUND.....	1
1.1. Project Background .....	1
1.2. Terms of Reference .....	2
2. DESCRIPTION OF THE STUDY AREA.....	3
2.1. Locality.....	3
2.2. Physical Environment.....	4
3. LEGISLATIVE CONTEXT .....	7
4. METHODOLOGY .....	8
4.1. Archaeological Assessment .....	8
4.2. Oral Histories .....	9
4.3. Palaeontological assessment.....	10
4.3. Field Survey.....	11
4.5. Data Consolidation and Report Writing.....	12
4.6. Archaeological and Cultural Heritage Mitigation Methodology.....	12
5. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND .....	13
5.1. SAHRA Provincial Heritage Site Database.....	14
5.2. Historical Background Of The Study Area.....	16
5.3. HISTORICAL background of mthombowesizwe school.....	17
6. DESCRIPTION AND DOCUMENTATION OF THE CULTURAL HERITAGE RESOURCES.....	18
6.1. Built Environment.....	19
6.2. Archaeological and palaeontological resources .....	19
6.3. Cultural Landscapes, Intangible and Living Heritage .....	19
6.4. Burial Grounds and Graves .....	20

6.5. Public monuments and memorials .....	20
7. POTENTIAL IMPACTS AND SITE SIGNIFICANCE .....	20
7.1. Potential Impact During Pre-Construction .....	20
7.2. Potential Impacts During Construction.....	21
7.2.1. Socio-economic Impacts.....	21
7.3. Potential Impacts During Operational Phase.....	21
7.4. Significance of Impacts .....	22
8. CONCLUSION AND RECOMMENDATIONS.....	22
REFERENCES .....	23

PLANET DEVELOPMENT SYSTEMS

## LIST OF FIGURES

Figure 1: The layout map of the proposed development .....	3
Figure 2: Locality map .....	4
Figure 3: General view of the site .....	13
Figure 4: General view of the site .....	21
Figure 5: Entrance to the school .....	22
Figure 6: Map showing location of graves .....	26
Figure 7: Figure 7: Heritage Sites within 50 kilometers radius from the proposed development site .....	26
Figure 8: Extract from 1:50 000 fossil sensitivity map .....	29
Figure 10: Vegetation cover.....	18
Figure 11: Proof of grazing within the area.....	19

## LIST OF TABLES

Table 1: SAHRA archaeological and cultural heritage site significance assessment ratings and associated mitigation recommendations.....	11
Table 2: Archaeological time periods and their descriptions.....	12



## LIST OF ABBREVIATIONS

<b>AAC</b>	All African Convention
<b>ADP</b>	African Democratic Party
<b>AIA</b>	Archaeological Impact Assessment
<b>ANC</b>	African National Congress
<b>ANCYL</b>	ANC Youth League
<b>APO</b>	African Peoples Organisation
<b>BMSC</b>	Bantu Men's Social Centre
<b>CFP</b>	Chance-finding procedures
<b>ESA</b>	Earlier Stone Age
<b>HIA</b>	Heritage Impact Assessment
<b>ICOMOS</b>	International Council on Monuments and Sites
<b>LIA</b>	Later Iron Age
<b>LM</b>	Local Municipality
<b>LSA</b>	Later Stone Age
<b>MSA</b>	Middle Stone Age
<b>NEUM</b>	Non-European Unity Movement
<b>NHRA</b>	National Heritage Resources Act
<b>OBS</b>	Orlando Brotherly Society
<b>OCA</b>	Orlando Civic Association
<b>PIA</b>	Palaeontological Impact Assessment
<b>SACP</b>	South African Communist Party
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SAIC</b>	South African Indian Congress
<b>UN</b>	United Nations
<b>WWII</b>	World War II

# 1. INTRODUCTION AND BACKGROUND

## 1.1. PROJECT BACKGROUND

Planet Development Systems (Pty) Ltd has been appointed by Mashize Investments (Pty) Ltd on the behalf of Delta Systems (Pty)ltd to undertake the paleontological and cultural Heritage Impact Assessment for the proposed development at Mthombowesizwe Secondary School in Nongoma Local Municipality.

Mthombowesizwe was name after one of Khumalo family members who donated the land for school construction. The nature of the proposed projects involves upgrades and additions to Mthombowesizwe Secondary School in Nongoma Local Municipality.

The proposed development will entail:

- o Natural underground work method
- o Associated infrastructure:
- o The construction of structures, internal roads,
- o Parking area, fencing and Security wall, and
- o Civil engineering services etc.



Figure 1: Layout of the proposed development

## 1.2. TERMS OF REFERENCE

Undertake a desktop study and field assessment to identify important palaeontological, archaeological and cultural heritage resources in the area. In particular, to identify:

- Potential sites of palaeontological, archaeological and cultural heritage significance (GPS co-ordinates to be provided for planning purposes).
- Desktop palaeontological Assessment.
- Identify any potential 'fatal flaws' linked to the proposed development.
- Describe the findings of the study and their potential implications for the proposed project. This should include a description and assessment of the significance of the impacts of the proposed activities on heritage resources.
- Provide detailed guideline measures to manage any impacts, particularly during the construction phase but including the implementation phase, and an assessment of their likely effectiveness.
- Documentation of the findings of the study in a report.

## 2. DESCRIPTION OF THE STUDY AREA

### 2.1. LOCALITY

The site is located in the Nongoma Local Municipality area within the Zululand District Municipality. Turn into R66 at the N2 Exit 277. Continue to Nongoma. Turn left on R618 (P235), approximately 15.2km to the site.

The subject site is located at Majomela area under the USuthu Tribal Authority within in the Nongoma LM area, which falls under the jurisdiction of the Zulu Land District Municipality in KwaZulu Natal. The proposed development is located on 1 hectare portion of the Reserve 12 No. 15632 15832 HU of Nongoma farm. The property has an existing structure zone as social area designated for a high school. The project area is surrounded by rural residential settlements and large land of potential agricultural production. The site is neighbored by residential housing area and a highway on one side. The site coordinates are 27.834S, 31.55793E



Figure 2: Project site area/Locality

## 2.2. PHYSICAL ENVIRONMENT



Figure 3: View of the general landscape



Figure 4: View of the general landscape



Figure 5: Entrance to the school



Figure 6: Location of graves

## GRAVES LOCATION

- A gravel path outside the perimeter fence for access to the grave site behind the Sports Field. The perimeter fence has been diverted to ensure that access to the grave site is not through the school property and will be accessed from the undeveloped erven adjacent to the school site.

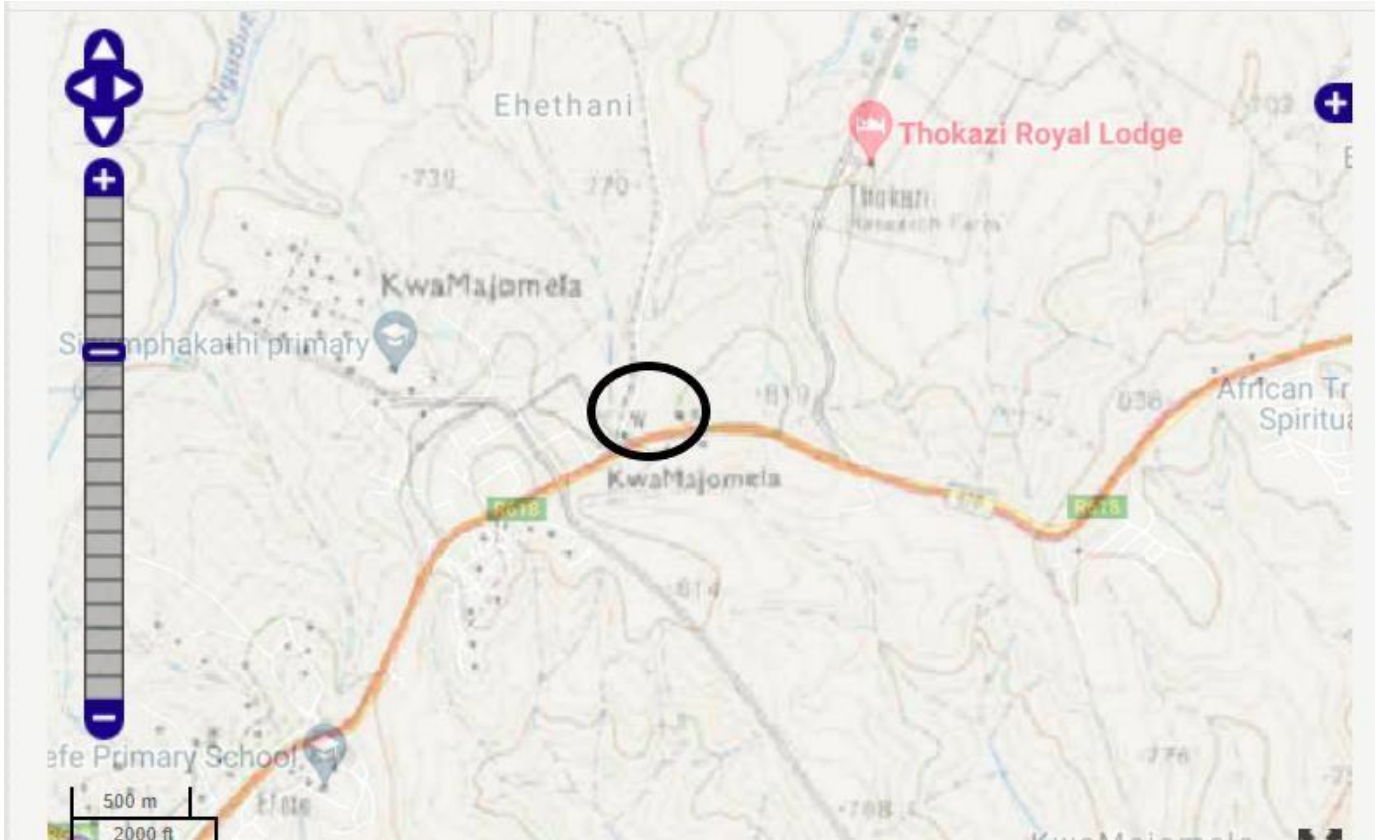


Figure 7; Section of 1:50 000 map indicating project area in black



### 3. LEGISLATIVE CONTEXT

The proposed development is over 1 hectare (10 000 m<sup>2</sup>) in size hence it triggers section 38 (1)(c)(i) of the National Heritage Resources Act (NHRA), 1999 (Act No 25 of 1999). The relevant section of the NHRA states that:

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

- (c) any development or other activity which will change the character of a site —
  - (i) exceeding 5 000 m<sup>2</sup> in extent; must notify the responsible heritage authority and furnish it with details regarding the location, nature and extent of the proposed development.

The development may also impact on graves, structures, archaeological and palaeontological resources that are protected in terms of sections 33, 34, 35, and 36 of the KwaZulu-Natal Heritage Act (No. 4 of 2008) as well as sections 34, 35, and 36 of the NHRA.

In terms of Section 3 of the NHRA, heritage resources are described as follows:

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds, including—
  - (i) ancestral graves;
  - (ii) royal graves and graves of traditional leaders;
  - (iii) graves of victims of conflict;

- (iv) graves of individuals designated by the Minister by notice in the Gazette;
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including:
    - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
    - (ii) objects to which oral traditions are attached or which are associated with living heritage;
    - (iii) ethnographic art and objects;
    - (iv) military objects;
    - (v) objects of decorative or fine art;
    - (vi) objects of scientific or technological interest; and
    - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

The Phase I HIA was undertaken to assess whether any heritage resources will be impacted by the proposed school

## 4. METHODOLOGY

### 4.1. ARCHAEOLOGICAL ASSESSMENT

A desktop study was used to assess archaeological features in the development site. The background information search of the proposed development area was conducted following the site maps from the client. Sources used in this study included:

- Published academic papers and HIA studies conducted in and around the region where the proposed infrastructure development will take place;
- Available archaeological literature covering the Nongoma LM area was also consulted;
- The South African Heritage Resources Information System (SAHRIS) website was consulted to obtain background information on previous heritage surveys and assessments in the area; and
- Map Archives - Historical maps of the proposed area of development and its surrounds were assessed to aid information gathering of the proposed area of development and its surrounds.

## 4.2. ORAL HISTORIES

People from local communities were interviewed to collect information on heritage resources. The local community helped gather information on the location of graves within the framework of the project. The evaluation of the old buildings listed also required input from the local community. The Khumalo elders met with the heritage impact specialist onsite and provided information regarding the location of the graves.

People from the nearby local community were interviewed to collect information on heritage resources. The local community helped gather information on the location of graves within the framework of the project. The evaluation of the old buildings listed also required input from the local community.

They further indicated that to their knowledge there were no sites of heritage significance to the surrounding the subject area. The development will not impose upon any of the mentioned graves. They said that they could remember that the area was used many years ago for the growing of maize but there is little evidence of this. The South African Heritage Resources Agency's Fossil Sensitivity Map indicates that the project area is situated in an area colored in grey that indicates an area of no insignificant paleontological/fossil sensitivity and does not require any field assessment.

### 4.3. PALAEOLOGICAL ASSESSMENT

The South African Heritage Resources Agency’s Fossil Sensitivity Map indicates that the project area is situated in an area coloured in grey that indicates an area of insignificant palaeontological/fossil sensitivity (see below). As indicated in the fossil sensitivity map, an area of zero fossil sensitivity does not require any on-site field assessment.

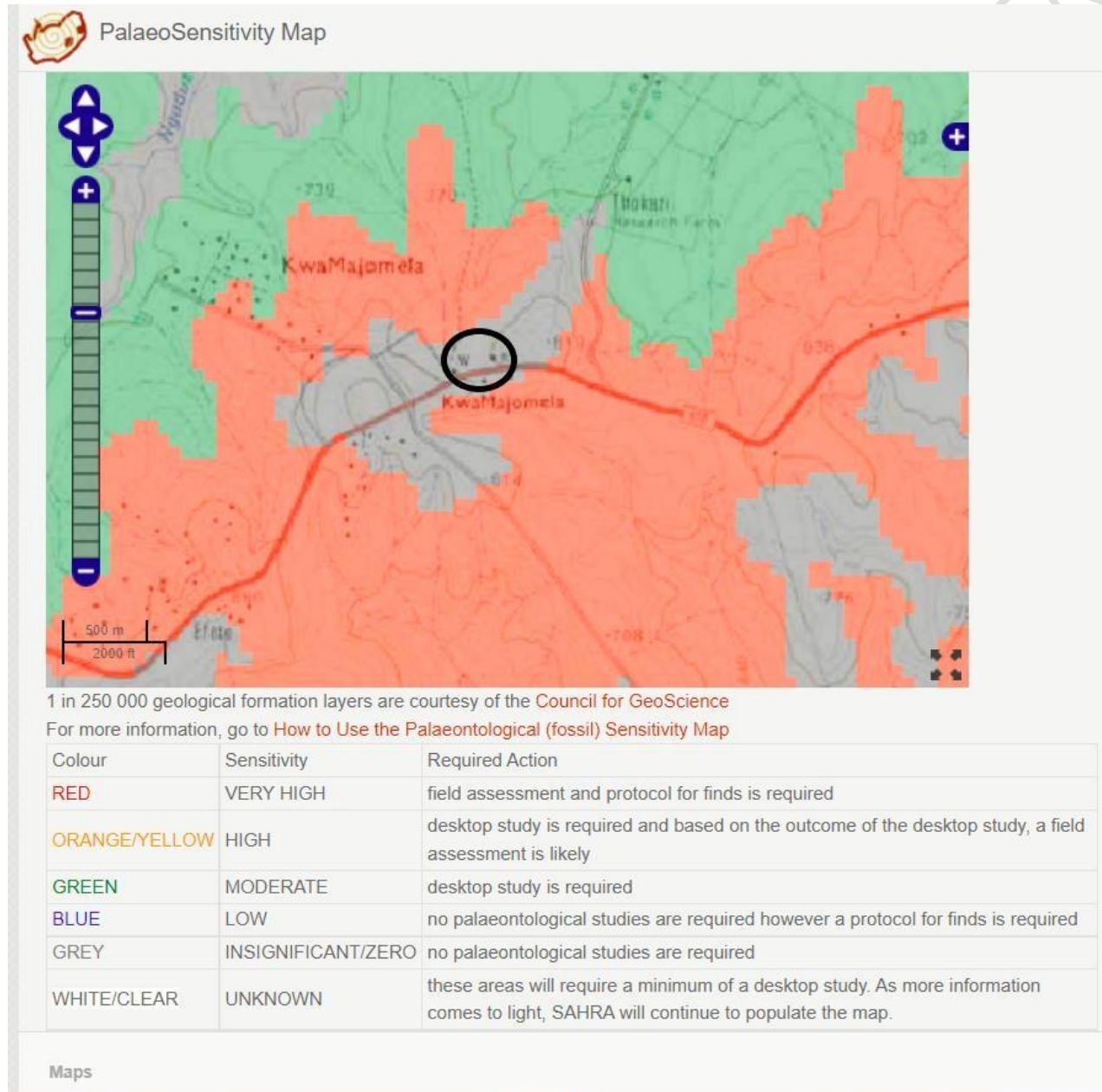


Figure 8: Fossil sensitivity of project area indicated with black circle

### 4.3. FIELD SURVEY

The field survey was conducted on the March 2021. It was conducted by an archaeologist and palaeontologist from Planet Development Systems. A field survey was done following accepted archaeological procedures and standards.

The survey paid special attention to disturbed and exposed layers of soils such as eroded surfaces. These areas are likely to be exposed or yield archaeological and other heritage resources that may be buried underneath the soil and be brought to the surface by animal and human activities including animal barrow pits and human excavated grounds. The surface was also inspected for possible Stone Age scatters as well as exposed Iron Age implements and other archaeological resources.

The survey found that based on the geology of the area and the palaeontological record, it could be assumed that the formation and layout of the basement rocks, dolomites, sandstones, shales, coals, quartzites, basalts and volcanic rocks in the project area are typical for the country and do not contain any fossil material. The shales of the Vryheid Formation could contain impression fossils of plants of the *Glossopteris flora*, however, these fossil plants are present in the shales and mudstones between coal seams but seldom within coal seams. Their distribution is also extremely sporadic and unpredictable. Furthermore, coal flora plant species are not rare as they have been recovered from other sites.

The assessment therefore recommended that it was unlikely that many fossils would occur in the proposed building and infrastructure site. Furthermore, no fossils have been recorded from the area therefore from a palaeontology perspective the proposed development can go ahead. Nonetheless, rocks of this type and age are potentially fossiliferous therefore if there are chance finds of fossils, a monitoring protocol was provided in the palaeontological report. Any further palaeontological assessment would only be required after excavations and drilling have commenced and if fossils are found by the geologist or environmental personnel. The monitoring protocol is to be included in the Environmental Management Programme (EMPr).

## 4.5. DATA CONSOLIDATION AND REPORT WRITING

The data for this study was collected through desktop analysis and a field survey. The obtained data was used to determine any potential impacts within the construction footprint. This includes the following:

- Assessment of the significance of the cultural resources in terms of their archaeological, built environment and landscape, historical, scientific, social, religious, aesthetic and tourism value;
- A description of possible impacts of the proposed development, especially during the construction phase, following the standards and conventions for the management of cultural environments;
- Review of applicable legislative requirements that is the NEMA (together with the 2014 EIA Regulations), the NHRA of 1999 and the KwaZulu-Natal Heritage Act, 1997 (Act No. 4 of 2008);
- The consolidation of the data collected using the various sources as described above;
- Acknowledgement of impacts on heritage resources (such as unearthed graves) predicted to occur during construction;
- Geological Information Systems mapping of known archaeological sites and maps in the region;
- A discussion of the results of this study with conclusions and recommendations based on the available data and study findings

## 4.6. ARCHAEOLOGICAL AND CULTURAL HERITAGE MITIGATION METHODOLOGY

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2007).

**Table 1: SAHRA archaeological and cultural heritage site significance assessment ratings and associated mitigation recommendations**

SAHRA Archaeological and Cultural Heritage Site Significance Assessment			
Site Significance	Field Rating	Grade	Recommended mitigation
High Significance	National Significance	Grade I	Site conservation / Site development
High Significance	Provincial Significance	Grade II	Site conservation / Site development
High Significance	Local Significance	Grade III- A	Site conservation or extensive mitigation prior to development/

			destruction
High Significance	Local Significance	Grade III- B	Site conservation or extensive mitigation prior to development / destruction
High/ Medium Significance	Generally protected A	Grade IV- A	Site conservation or mitigation prior to development / destruction
Medium Significance	Generally protected B	Grade IV-B	Site conservation or mitigation/ test excavation/ systematic sampling/ monitoring prior to or during development/ destruction
Low Significance	Generally protected C	Grade IV-C	On-site sampling, monitoring or no archaeological mitigation required prior to or during development / destruction

## 5. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

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

**Table 2: Archaeological time periods and their descriptions**

ARCHAEOLOGICAL PERIOD	APPROXIMATE DATES <for less than and > for greater than
<b>Earlier Stone Age</b>  Tools = Handaxes and cleavers	More than 2 million years ago to >200 000 years ago

ARCHAEOLOGICAL PERIOD	APPROXIMATE DATES <for less than and > for greater than
<b>Middle Stone Age</b> Tools =Stone flakes such as scrapers, points and blades	<300 000 years ago to >20 000 years ago
<b>Later Stone Age</b> (Includes gatherer rock art) Tools = Wood, bone, hearths, ostrich eggshell beads and even bedding material	<40 000 years ago up to historical times in certain areas
<b>Early Iron Age</b>	c. AD 200 - c. AD 900
<b>Middle Iron Age</b>	c. AD 900 – c. AD 1300
<b>Late Iron Age</b> (Stonewalled sites) Tools = iron or steel	c. AD 1640 – c. AD 1840 (c. AD 1640 – c. AD 1840)

The Nongoma municipal area is rich in history particularly in the Zulu culture; thus, it has a number of cultural heritage assets. These are of historical importance and should be held to advance celebration, preservation, tourism, and cultural education and is used for economic gain.

### 5.1. SAHRA PROVINCIAL HERITAGE SITE DATABASE

The following map depicts Georeferenced Provincial Heritage Sites recorded in SAHRA Kwa Zulu Natal database. The author only included sites that are situated within 50 kilometers radius from the proposed development sites.



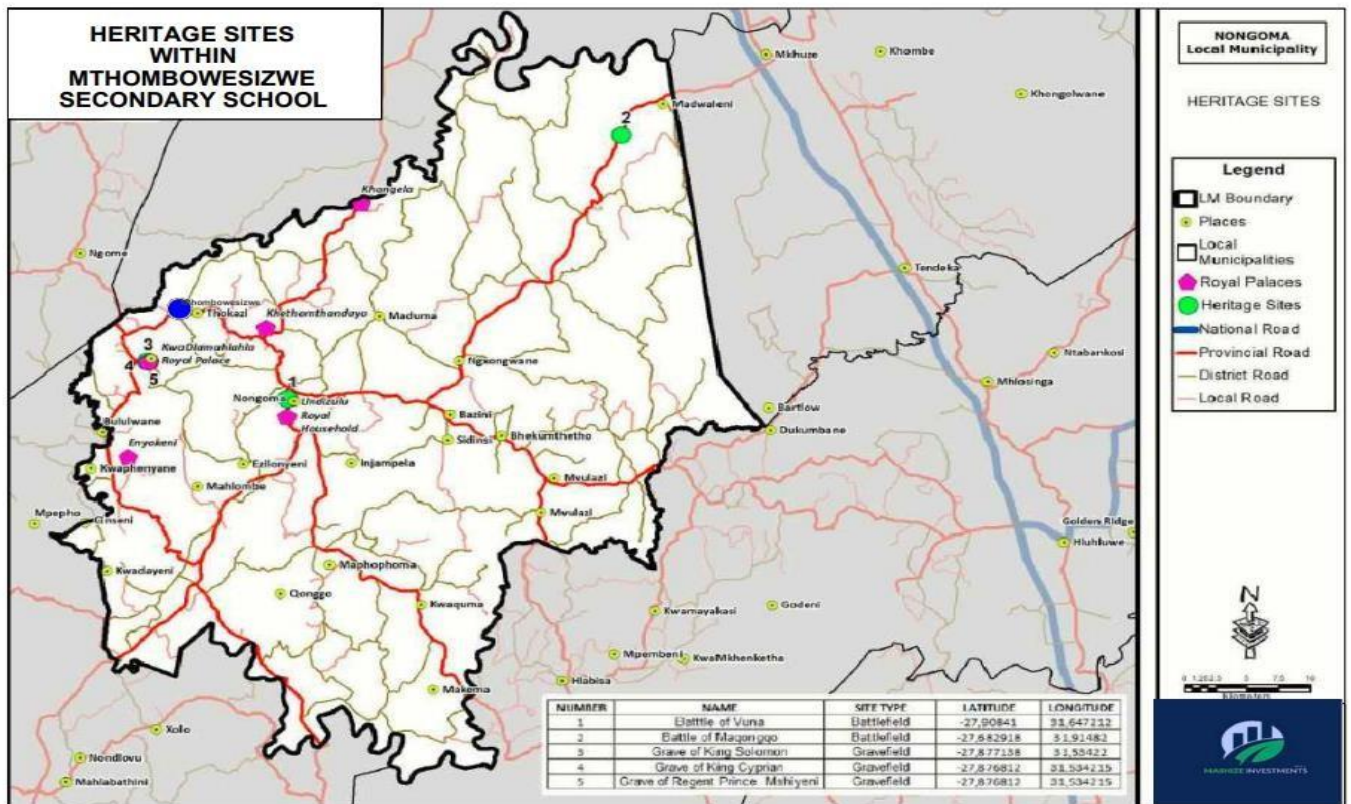


Figure 9: Heritage Sites within 50 kilometers radius from the proposed development site

Based on the data obtained from SAHRA database, there is no heritage site present within 200 meters of the proposed development site. Figure 3 shows that two cultural heritage sites are located at most 50 kilometers from the development site. The heritage sites are, namely,

**a) LinduZulu Royal Household**

This royal residence is one of the official homes of the Royal family and stands at a distance of 18,2 km from the project site. In 2014 The Lindizulu palace has had its roads repaired, storm water drainage system and car ports constructed, as well as installation of a generator.

**b) KwaDhlamhlala Royal Residence**

KwaDlamadhlala Royal Palace is one of at least six royal palaces in the Nongoma area and though it is not open to the public, visitors can get a clear view of the old colonial veranda house from the entrance gate. Adjacent to the palace grounds is a small cemetery in which the present king's grandfather, King Cyprian Bhekuzulu Nyangayezizwe kaSolomon (1924-1968), and great grandfather, King Solomon Nkayishana kaDinuzulu (1893-1933), are buried.

## 5.2. HISTORICAL BACKGROUND OF THE STUDY AREA

The greater Nongoma area has been sporadically surveyed for archaeological heritage sites by archaeologists previously employed by the Natal Museum, the Ondini Cultural Museum and Amafa with the most systematic surveys having occurred in the Umfolozi-Hluhluwe Nature Reserve. The available evidence indicates that there are six Early Stone Age sites have been recorded that date back to between 300 000 and 1.5 million years ago. Most of these are situated in dongas close to water with little in-situ material (Prins 2014:2). Fifty nine Middle Stone Age sites have been recorded in the Umhfolozi-Hluhluwe Nature Reserve and thirty five Later Stone Age sites have been recorded (Prins 2014:3).

According to Prins (2014:3), early Stone Age tools have been recorded in the greater Ulundi district. Two Early Stone Age Sites have been recorded near the town of Nongoma. Later Stone Age tools, belonging to the San and their immediate ancestors, occur in various localities in Zululand but none has been recorded close to Nongoma as yet. Around 1 700 years ago an initial wave of Early Iron Age people settled along the coast at the foot of sand dunes. These early people produced a characteristic pottery style known as Matola. The Matola people exploited the wild plant and animal resources of the forest and adjacent seashore. By 1500 years ago another wave of Iron Age migrants entered the area. Their distinct ceramic pottery is classified to styles known as “Msuluzi” (AD 500-700), Ndongondwane (AD 700-800) and Ntshokane (AD 800-900).

The majority of recorded sites belonging to this period occur in the Tugela River Basin below the 1000m contour (Prins 2014:3), south of the project area. There is evidence that shows by 1593, a mercantile trade, presumed to have come from Delagoa Bay had penetrated as far south as the Transkei and as far inland as the Nongoma area. Ivory was the main export, while beads and copper were the main imports (Maggs 1989:42). The project area is situated between Nongoma and Ulundi. Ulundi (oNdini) was the seat of the Zulu King Cetshwayo kaMpande (Laband & Thompson 1989:194) and during the Anglo-Zulu War of 1879, Ulundi was attacked by the British. The Battle of Ulundi was the decisive battle that took place on the 4th July 1879 and marked the end of the Anglo-Zulu War, as well as the breakup of the Zulu nation/ Cetshwayo was forced to flee but was captured in the Ngome forest in August and exiled to Robben Island (SAHO 2014:1) The emaKhosini valley (Valley of the Kings) is situated in the immediate environs of Ulundi. This area also contains the military capital of King Dingane – the half-brother and successor of Shaka. Sites associated with Zwide, the leader of the Ndwandwe clan who initially opposed Shaka, occurs closer to the project area not far from Nongoma. Historical era sites relating to the AngloZulu War of 1879 also occur in the general area. Most of these sites are situated closer to Ulundi (Prins 2014:4). The history of Benedictine hospital goes way back to 1926 when the Benedictines founded Nongoma. They started a mission east of Nongoma-Vryheid road, about 1 km north of Nongoma village. In 1935, the station was moved to a new and much larger property west of the main road. Over the next 40 years Nongoma became by far the biggest

mission institute in Zululand and the mission hospital was at the centre of the whole complex. It was officially started in 1937 (KZN Department of Health 2001:1)

### 5.3. HISTORICAL BACKGROUND OF MTHOMBOWESIZWE SCHOOL

The Mthombowesizwe School was established in 1989. The school was named after Mthombowesizwe Khumalo who donated land where school is built. The school was built by the community who put rand for rand to ensure it is built. It is located at Majomela area under Usuthu Tribal Authority. When the school was established the enrollment was 400. The first principal of the school was Mr Mthembu who introduced the first class of grade 12 in 1996 who then retired in 2016. Mr Mathe is the current school principal. 60% of the community members are unemployed and rely on government support grant. Many learners stay with their grandparents and some don't have parents and stay alone. The school infrastructure is very poor hence the proposed development.



Figure 10; Existing classrooms block

## 6. DESCRIPTION AND DOCUMENTATION OF THE CULTURAL HERITAGE RESOURCES

The development site was easily accessible and it is dominated by grass vegetation. There were no archaeological features observed during the fieldwork, however, as with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resumes. The site is currently having the presence of a school of which the development involves alterations and upgrades to the existing school.



Figure 10: Vegetation cover in the development site and beyond the school boundary



Figure 11: Proof of grazing within the area

In terms of the national estate as defined by the NHRA, no sites of significance were found during the survey as described below.

### **6.1. BUILT ENVIRONMENT**

*Section 34(1) of the NHRA of 1999 protects these structures against any altering.*

- No standing structures older than 60 years occur in the study area.

### **6.2. ARCHAEOLOGICAL AND PALAEOLOGICAL RESOURCES**

*Section 35 (4) No person may, without a permit issued by the responsible heritage resources authority*

- During the survey, no archaeological sites were recorded.

### **6.3. CULTURAL LANDSCAPES, INTANGIBLE AND LIVING HERITAGE**

*Section 3 (3) of the NHRA, No. 25 of 1999 makes provisions of such places of spiritual significance to individuals.*

- Long term impact on the cultural landscape is considered to be negligible as the surrounding area consists of a residential area. Visual impacts to scenic routes and sense of place are also considered to be low and there is a lack of significant sites.

## 6.4. BURIAL GROUNDS AND GRAVES

36(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority.

- The study area has 3 existing graves of which the development will not impose upon or result in the exhumation of the graves. One of the graves is located inside the school and the other one just outside the school but still within school property . Graves will not be relocated or exhumed for the purpose of the development.

## 6.5. PUBLIC MONUMENTS AND MEMORIALS

37. Public monuments and memorials must, without the need to publish a notice to this effect be protected in the same manner as places which are entered in a heritage register referred to in section 30.

- There are no public monuments and memorials in the study area

# 7. POTENTIAL IMPACTS AND SITE SIGNIFICANCE

## 7.1. POTENTIAL IMPACT DURING PRE-CONSTRUCTION

It is assumed that the pre-construction phase involves the removal of topsoil and vegetation as well as the establishment of infrastructure needed for the construction phase. These activities can have a negative and irreversible impact on heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources. If heritage resources are identified on-site during the pre-construction phase, the contractor must inform the archaeologist and that the construction must be suspended until the necessary permit has been obtained.

## 7.2. POTENTIAL IMPACTS DURING CONSTRUCTION

Possible direct impacts may occur during the construction phase. The impacts would however be of very low significance. During this phase, the impacts and effects are similar in nature but more extensive than the pre-construction phase. These activities can have a negative and irreversible impact on heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources. Social- Economic Impacts are also expected during the construction phase. These are expected to be largely positive.

### 7.2.1. SOCIO-ECONOMIC IMPACTS

Impact	Direction	Extent	Intensity	Duration	Probability	Significance
<b>General Public</b>						
Employment	+ve	Regional	High	Short-term	Definite	Very high
Income	+ve	Regional	High	Medium	Highly Probable	Very high
Economic growth	+ve	Regional	Medium	Medium	Highly Probable	High

## 7.3. POTENTIAL IMPACTS DURING OPERATIONAL PHASE

From a heritage perspective, no impacts will be envisaged during the operational phase.

## 7.4. SIGNIFICANCE OF IMPACTS

**Nature:** During the construction phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological material or objects.

	Without mitigation	With mitigation
<b>Extent</b>	Local	Local
<b>Duration</b>	Permanent	Permanent
<b>Magnitude</b>	Low	Low
<b>Probability</b>	Not probable	Not probable
<b>Significance</b>	Low	Low
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Irreversible	Irreversible
<b>Irreversible loss of resources</b>	No resources were recorded	No resources were recorded
<b>Can impacts be mitigated?</b>	Yes, a chance find procedure should be implemented.	Yes

**Mitigation:** Due to the lack of apparent significant heritage resources no further mitigation is required before construction. A Chance Find Procedure should be implemented for the project should any sites be identified during the construction process.

## 8. CONCLUSION AND RECOMMENDATIONS



From a heritage perspective, the proposed project is acceptable. Due to the lack of significant heritage resources in the study area, the impact of the proposed project on heritage resources is considered low and it is recommended that the proposed project can commence. However, there is a possibility that excavation and construction work may expose archaeological material. Should archaeological material be exposed during construction then all development work should stop immediately and a heritage specialist and KZN Amafa must be contacted for further evaluation.

The graves should be monitored weekly during the operation phase to ensure that the graves remain intact and dry. The developer indicated that they will fence the graves and have a management plan. And this is usually the best option to preserve the graves *in situ*. Apart from fencing the graves the developer will have to manage and maintain the graves and a management plan will be required which should be drafted by a heritage expert. An access gate for the family members is required and a buffer zone of to be complied with. Until such time as SAHRA approval has been granted, a buffer zone of at least 30m on all graves needs to be complied with. The management plans to be written for all three graves, should be approved by KZNHRA.

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