MILLENIUM HERITAGE GROUP (PTY) LTD

PHASE 1:

ARCHAEOLOGICAL IMPACT ASSESSMENT RELATING TO THE PROPOSED POULTRY FARM (50000-CHICKEN BROILER HOUSES) ON PORTION 119 (PORTION OF PORTION 7) OF THE FARM DOORNKUIL 369 IQ NEAR ORANGE FARM WITHIN MIDVAAL LOCAL MUNICIPALITY OF THE SEDIBENG DISTRICT, GAUTENG PROVINCE, SOUTH AFRICA.

***Compiled** by:* Millennium Heritage Group (PTY) LTD

For: Plantago Lanceolata (PTY) LTD

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01/10/19- Report

i. Technical and Executive Summaries

Property details	
Province	Gauteng Province
Magisterial District	Sedibeng District Municipality
Topo-cadastral map	2627 BD
Co-ordinates	S26°.26. 51.07 “& E 27°.52. 55.06").
Closest town	Orange Farm/ Lenasia
Farm name	Portion 119 (Portion of portion 7) of the farm Doornkuil 369 IQ

Development criteria in terms of Section 38 (1) of the NHR Act 25 of 1999	Yes	No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length		No
Construction of bridge or similar structure exceeding 50m in length		No
Development exceeding 5000 sqm	yes	
Development involving three or more existing erven or subdivisions		No
Development involving three or more erven or divisions that have been consolidated within past five years		No
Rezoning of site exceeding 10 000 sqm		No
Any other development category, public open space, squares, parks, recreation grounds		No

Development	
Description of development	Poultry farm house development
Project name	Proposed 50000 Birds (Chicken Broiler houses) on portion 119-portion of portion 7 of the farm Doornkuil 369 IQ.
Developer	
Heritage Consultant	Mr. Ndivhuho Eric Mathoho, Millennium Heritage Pty Ltd

Purpose of the study	Heritage Impact Assessment to identity and assess significance of sites (if any) to be impacted by the proposed Broiler houses development on portion 119-portion of portion 7 of the farm Doornkuil 369 IQ.

Land use	
Previous land use	Vacant
Current land use	Undetermined as per the Town Planning Scheme

ii. EXECUTIVE SUMMARY

Plantago Lanceolata Consultants (Pty) Ltd requested Millennium Heritage Group (Pty) Ltd, an independent heritage consulting company to assess the heritage sensitivity of the proposed 8 hectares of land planned for Poultry farming on portion 119-Portion of Portion 7 of the farm Doornkuil 369 IQ near Orange farm, Midvaal Local Municipality of the Sedibeng District Municipality, City of Johannesburg Metropolitan Municipality, Gauteng Province. As part of this assessment, a multi-stepped methodology was used to address the terms of reference. This study form part of appendices report compiled as part of Environmental Authorization application conducted in term of Section 56 of the National Environmental Management Act (NEMA) (Act No 107 of 1998) read with Section 24 (5) Environmental Impact Assessment (EIA) Regulations of Government Notice No R.325 and 327 of April 2017 as amended. The proposed activities trigger activity 9 of listing 1 of GNR 327 and Activity 13 of Listing Notice 1 GNR 327. To begin with, a desktop study was carried out to identify any known heritage sites and their significance. This involved consulting contract archaeology reports filed on SAHRIS, research reports and academic publications. Finally, the study was guided by the National Heritage Resources Act (Act 25 of 1999) and SAHRA Minimum Standards for Impact Assessment. The desktop study was followed by the subsequent fieldwork.

The study reached the following conclusions and recommendations:

- Desktop surveys indicated the presence of dilapidated house buildings, farm homesteads surrounded by *Eucalyptus* plants, informal and formal burial grounds and stone walling site are common sites identified along the Rietspruit perennial stream.

- The proposed development is scheduled to take place on vacant, previously disturbed (Cultivated farmland) now covered by graminoids with isolated natural vegetation, however clustered Eucalyptus plants exist further towards the southern section of another farm portion.
- Ground truthing of the surrounding environment identified and document fragments of house structures well characterized by foundations and free standing walls, however, these remains of built environment are located on the nearby Portion, outside the proposed development footprint (8hactares). Therefore, will not be impacted by the proposed development. None of the ruins documented were in such a good condition that they could be appropriately evaluated for their heritage significance due to the absence of structures elements, ornaments, fittings and roofs. Fittings are the only features used to determines the age and the architectural style of the building. Grounded on the visual inspections of the ruins it was concluded that most of the ruins were remains of relatively recent past. The ruins do not qualify to be protected in terms of the National Heritage Resources Act (Act No 25 of 1999) because the remains are not older than 60 years.
- No archaeological materials or heritage remains.
- Although no archaeological remains were found, it is possible that some significant features may be buried beneath the ground. Should buried archaeological materials and burials be encountered during the process of development, the following must apply:
- Work must stop immediately

A professional archaeologist or nearest heritage authority must be contacted.

Based on this assessment which found no archaeological resources in the area, we recommend that the heritage authorities approve the project as planned.

iii. ACKNOWLEDGEMENTS:

CLIENT NAME: Plantago Lanceolata (PTY)LTD

Contact person: Inayeth Mustapha

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Declaration of Independence and CV

I Eric Mathoho declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed development, application or appeal in respect of which I am appointed other than fair remuneration for work performed about the activity, application or appeal. There are no circumstances that compromise the objectivity of me performing such work.

Signed:

Eric N. Mathoho, BA (Hons) in archaeology (Univen) MPhil. In Archaeology (UCT) PhD Candidate (UCT), ASAPA Member, Archaeologist and Heritage Expert

REPORT AUTHOR: Mr. Mathoho Ndivhuho Eric

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1. INTRODUCTION AND BACKGROUND INFORMATION

The proposed study area is situated on portion 119 (Portion of Portion 7) of the farm Doornkuil 369 IQ. The site is at the following Global Positioning System co-ordinates, (GPS S 26º, 26, 51.07 and E27º, 52'.55, 06. ¨) roughly 2,5 kilometers southeast of Ennerdale, approximately 2 kilometers west of Thuthukani- Tswelopele primary School. The area is located approximately 30 kilometers southwest of Johannesburg CBD, approximately 20 kilometers south of Lenasia, within the City of Johannesburg Metropolitan Municipality, Gauteng Province. The poultry industry is the largest segment of South African Agricultural sector. It provides employment for nearly 108000 of people throughout its value chain and related industries (DTI 2017). However South Africa is still unable to produce quantities of broilers meat to satisfy demand with the shortfall addressed through imports. Imports statistics show that south Africa imported 528 506 tons of chicken meat in 2016. Brazil is by far the largest source of poultry imported by South Africa, whilst United States of America was responsible for 19,5% of south African imports (DTI, 2017). The current domestic demand for chicken in South Africa is not yet resolved. It is against this background where the proposed development is aimed at addressing some of this issues while curbing unemployment. The strategic farm location and its observed climatic conditions are advantageous for broilers agri-business. The poultry farm development will provide work throughout the year and will help create job opportunities to the local community.

To ensure that the proposed development meets the environmental requirements in line with the National Environmental Management Act 107 of 1998 as amended in 2010, Nomcebo Primary Co-operative Limited appointed Plantago Lanceolata Environmental Consultants as an Independent Environmental Assessment Practitioner, who then appointed Millennium Heritage Group (PTY) LTD to undertake archaeological impact assessment of the proposed project.

The development triggers listed activities under the National Environmental Management Act (107 of 1998) (NEMA) EIA Regulations of 2014 (as amended in April 2017). Thus, Nomcebo Primary Co-operative Limited requires environmental Authorization subsequently the proposed development triggers Environmental Impact Assessment (EIA) Regulation GNR 327(Listing Notice 1) and GNR 324 (Listing Notice 3). This study is part of a Basic Assessment (BA) process undertaken to obtain Environmental Authorization and forms part of a series of reports prepared for Basic Assessment (BAR) to be submitted to the Gauteng Department: Agriculture and Rural Development (GDARD), in support of the application for development as provided by the National Environmental Management (NEMA) Act no 107 of 1998. In line with these statutory requirements, this report provides an assessment for archaeological resources to be impacted by the proposed design and construction of poultry farm houses. Below figure shows the location of the proposed study area adopted from Google Earth Program.

Figure 1: View of the study area

The applicant (Nomcebo Primary Co-operative Limited) requires information on the heritage resources that occur within or near the proposed area and their heritage significance. The objective of the study is to document the presence of archaeological and historical sites of significance to inform and provide guidance on the proposed development. Apart from contributing towards the preservation of the heritage resources, the studies provide information and awareness of the types of archaeological and heritage sites that occur within the proposed study area. The document enables the developer to align their functions and responsibilities to advance project activities and at the same time minimizing potential impact on archaeological and heritage sites. Heritage Impact Assessment is conducted in line with the National Heritage Resources Act of 1999 (Act No. 25 of 1999). The Act protects heritage resources through formal and general

protection. The Act provides that certain developmental activities require consents from relevant heritage resources authorities. In addition to heritage legislations, the South African Heritage Resources Agency (SAHRA) has developed minimum standards used in impact assessment, while these local standards, are operational they are strengthened by the International Council of Monuments and Sites (ICOMOS) published guideline for assessing impacts. The Burra Charter of 1999, requires a cautious approach to the management of sites; it sets out firmly that the cultural significance of heritage places must guide all decisions.

The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (Section, 34), archaeological sites and materials (Section 35) and graves and burial sites (Section, 36). To comply with the legislation, the applicant requires information on the heritage resources, that occur in the area proposed for development and their significance. This will enable the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources.

2. RELEVANT LEGISLATION

Two sets of legislation are relevant for the purposes of this study in as far as they contain provisions for the protection of tangible and intangible heritage resources including burials and burial grounds.

2.1. The National Heritage Resource Act (25 of 1999)

This Act established the South African Heritage Resource Agency (SAHRA) as the prime custodian of the heritage resources and makes provision for the undertaking of heritage resources impact assessment for various categories of development as determined by section 38. It also provides for the grading of heritage resources (Section, 7) and the implementation of a three-tier level of responsibly and functions from heritage resources to be undertaken by the State, Provincial and Local authorities, depending on the grade of heritage resources (Section, 8)

In terms of the National Heritage Resource Act 25, (1999) the following is of relevance:

Historical remains

Section 34 (1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant Provincial Heritage Resources Authority.

Archaeological remains

Section 35 (3) Any person who discovers archaeological and paleontological materials and meteorites during development or agricultural activity must immediately report the find to the responsible heritage resource authority or the nearest local authority or museum.

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

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;

- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- trade in, sell for private gain, export or attempt to export from republic any category of archaeological or paleontological material or object or any meteorite; or
- bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment which assist with the detection or recovery of metal or archaeological material or object or such equipment for the recovery of meteorites.

Section 35(5) When the responsible heritage resource authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or paleontological site is underway, and where no application for a permit has been submitted and no heritage resource management procedures in terms of section 38 has been followed, it may

- serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order
- carry out an investigation for obtaining information on whether an archaeological or paleontological site exists and whether mitigation is necessary;
- if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- recover the cost of such investigation from the owner or occupier of the land on which it is believed an archaeological or paleontological site is located or from the

person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) the responsible heritage resource authority may, after consultation with the owner of the land on which an archaeological or paleontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

Burial grounds and graves

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

(i) 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

(ii) bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36 (6) Subject to the provision of any person who during development or any other activity discover 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 resource authority which must, in co-operation with the South African Police service and in accordance with regulation of the responsible heritage resource authority-

(I) carry out an investigation for obtaining information on whether such grave is protected in terms of this act or is of significance to any community; and

if such grave is protected or is of significance, assist any person who or community which is a direct descendant to decide for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

Cultural Resource Management

Section **38(1)** Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development*.

- must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

development 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 a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including:

(i) Construction, alteration, demolition, removal or change of use of a place or a structure at a place;

(ii) Any change to the natural or existing condition or topography of land, and

(iii) Any removal or destruction of trees, or removal of vegetation or topsoil;

place means a site, area or region, a building or other structure

structure means any building, works, device or other facility made by people and which is fixed to the ground.

2.2. The Human Tissue Act (65 of 1983)

This act protects graves younger than 60 years, these falls under the jurisdiction of the National Department of Health and the Provincial Health Department. Approval for the exhumation and reburial must be obtained from the relevant provincial MEC as well as relevant Local Authorities.

3. TERMS OF REFERENCE

The terms of reference for the study were to undertake an Archaeological Impact Assessment for the proposed Poultry farming and submit a specialist report, which addresses the following:

- Executive summary
- Scope of work undertaken
- Methodology used to obtain supporting information
- Overview of relevant legislation
- Results of all investigations
- Interpretation of information
- Assessment of impact
- Recommendation on effective management measures
- References

4. TERMINOLOGY

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act, 1999(Act No25 of 1999) Heritage resources, (Cultural resources) include all human-made

phenomena and intangible products that are result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyle of the people or groups of people of South Africa.

The term 'pre – historical' refers to the time before any historical documents were written or any written language developed in a area or region of the world. The historical period and historical remains refer, for the project area, to the first appearance or use of 'modern' Western writing brought South Africa by the first colonist who settled in the Cape in the early 1652 and brought to the other different part of South Africa in the early 1800.
The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may soon, qualify as heritage resources.

It is not always possible, based on the observation alone, to distinguish clearly between archaeological remains and historical remains or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floors plan (a historical feature) may serve as a guideline. However circular and square floors may occur together on the same site.

The ‘term sensitive remains’ is sometimes used to distiqiushed graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves are not necessarily heritage resources if they date from the recent past and do not have head stones that are older than sixty years. The distinction between ‘formal’ and ‘informal’ graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important as different cultural groups may uphold different traditions and values regarding their ancestors. These values should be recognized and honored whenever graveyards are exhumed and relocated.

The term ‘Stone Age’ refers to the prehistoric past, although Late Stone Age people lived in South Africa well into the historical period. The Stone Age is divided into an Early Stone Age (3Million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years ago to 40 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term ‘Early Iron Age’ and Late Iron Age respectively refers to the periods between the first and second millenniums AD.

The ‘Late Iron Age’ refers to the period between the 17th and the 19th centuries and therefore includes the historical period.

Mining heritage sites refers to old, abandoned mining activities, underground or on the surface, which may date from the pre-historical, historical or relatively recent past.

The term ‘study area’ or ‘project area’ refers to the area where the developers wants to focus its development activities (refer to plan)

Phase I studies refer to survey using various sources of data to establish the presence of all possible types of heritage resources in each area.

Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include documenting of rock art, engravings or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavation of archaeological sites; the exhumation of bodies and the relocation of grave yards, etc. Phase II work may require the input of specialist and require the co-operation and the approval of SAHRA.

5. METHODOLOGY

Source of information

i. Desktop studies

A desktop study was performed to gain information on the heritage resources in the area. The study consulted existing Heritage Impact Assessment reports for the area including, Mathoho (2011 and 2017), Van Schalkwyk (2007), Digby Wells (2016), Van der Byl (1979) and Coetzee (2006). A heritage impact assessment for the Eskom walkthrough identified several sites of heritage significance alongside the Rietspruit perennial stream. These includes, dilapidated buildings, farm home steads, isolated informal burials sites and old cemeteries (Mathoho 2017). The study also identified a stone walling site with ash midden (Mathoho, 2011). The regional archaeology is indebted to the work of Revil Mason, who discovered Late Stone Age tools that falls within middle Smithfield tradition at the Hennops river Cave (Mason 1962). Mason's work identified a long history of human occupation in the study area stretching from the Stone Age, through the Iron Age to the recent past. Another investigation in the surrounding is associated with the iron age pottery uncovered in the upper layer attributed to the Uitkomst Tradition. This was followed by the presence of Sotho-Tswana settlement dating back to 15th century AD in the Province. Late Iron Age

sites occur across the entire region (Breutz 1953; Boeyens 1998, 2000, 2003; Boeyens & Hall 2009). The region was occupied by the Bakwena due to its availability of water and migrating game. Their presence is well attested by the presence of plastered walls, roundavel type of huts, and stone walled livestock enclosure scatted throughout the region. They were disrupted by Mzilikazi and his followers when they entered the Transvaal in about 1823. Records shows that in autumn of 1825 the Ndebele chased a crowed of Bakwena down the Hennops River and took refuge to the Hennops River Cave. Mzilikazi ordered fire to be made at the entrance of the cave, most of the unfortunate individual fell victims of asphyxiation while those who dared to emerged were killed. Mzilikazi destroyed the Tswana settlement and confiscated their livestock (van der Byl,1979).

ii. Field surveys

To identify sites on the ground and to assess their significance, a dedicated field visit was performed to the site of the proposed development. The fieldwork was performed on the 26 September 2019 by three individuals. The fieldwork followed systematic inspections of predetermined linear transects which resulted in the maximum coverage of the entire site. The sampling method selected was the stratified random technique. The proposed sites for development were taken as strata with random field walking around them. Standard archaeological observation practices were followed; visual inspection was supplemented by relevant written source, and oral communications with local communities from the surrounding area. Identified sites were recorded by hand held GPS and plotted on 1:50 000 topographical maps. Archaeological/historical material and the general condition of the terrain were photographed with a Canon 1000D Camera.

Assumption and Limitations

It must be pointed out that heritage resources can be found in the unexpected places, it must also be borne in mind that survey may not detect all the heritage resources in each project area. While some remains may simply be missed during surveys (observation) others may occur below the surface of the earth and may be exposed once development (such as the construction of the proposed facilities) commences.

6. ASSESSMENTS CRITERIA

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites was determined based on the following criteria:

- The unique nature of a site.
- The amount/depth of the archaeological deposit and the range of features (stone walls, activity areas etc.).
- The wider historic, archaeological and geographic context of the site.
- The preservation condition and integrity of the site.
- The potential to answer present research questions.

6.1 Site Significance

The site significance classification standards as prescribed in the guidelines and endorsed 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 in determining the site significance

for this report. The classification index is represented in the Table below that show grading and rating systems of heritage resources in South Africa.

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)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	Grade 4C	Low Significance	Destruction

6.2 Impact Rating

VERY HIGH

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

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

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

HIGH

These impacts will usually result in long term effects on the social and /or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long-term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

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

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (e.g. farmers) would be HIGH.

MODERATE

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

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

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

LOW

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

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

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

NO SIGNIFICANCE

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

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

6.3 Certainty

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

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

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

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

6.4 Duration

SHORT TERM : 0 – 5 years

MEDIUM: 6 – 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

6.5 Mitigation

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

- ✓ **A** – No further action necessary
- ✓ **B** – Mapping of the site and controlled sampling required
- ✓ **C** – Preserve site, or extensive data collection and mapping required; and
- ✓ **D** – Preserve site

7. Data Sources: Background to the Archaeology and History

According to the South African Heritage Resources Agency Minimum Standards for Specialist heritage studies: *"HIA reports must identify, assess and record current conditions and locations of all heritage resources in the area proposed for development and impact zone, the impact of the development on the identified heritage resources or*

landscapes and make recommendations for protection or mitigation to reduce the impact on the resources". The approach and methodology implemented in this report was meant to achieve this by conducting literature evaluation. Written documents show that the cultural heritage of the Gauteng Province has been shaped by almost continuous occupation of certain part of the province. This occupation stretched through from stone age over the Iron Age to colonial settlement.

7.1. Stone Age (Esa, Msa and Lsa)

The ESA period is associated with the period between 1.5 million and 250 000 years ago and is closely linked to the appearance of the earliest Homo predecessors. These earliest men introduce caches of tools made of stones. These stone tools found in South Africa were similar in appearance with tools found elsewhere in the African continent such as Tanzania at Olduvai Gorge. Because of the locality where these stone tools were found was referred to as the Oldwan Industry. Most of the stone artifacts recovered were not neatly made and they were very crude in makings.

The ESA tools were simple tools which, were among other things used to chop and butcher meat, de- skin animal and probably to smash bones to obtain marrow. The presence of cut marks from animal fossil bones dating to this period has led to the conclusion by researchers that human ancestors were scavengers and not hunters (Esteyhuysen, 2007). They may have preyed on a drowned or crippled animals or shared a kill by another predator, which explains why at some ESA sites occur high bone proportions of large, dangerous game (Wadley, 2007)

The industries were later replaced by the Acheulian stone tool Industry which is attested to in diverse environments and over wide geographical areas. The Industry is characterized by large cutting tools mostly dominated by hand axes and cleavers. Bifaces emerged in East Africa more that 1.5 million years ago (mya) but have been reported from a wide range of areas, from South Africa to northern Europe and from India to the Liberian Coast. The end products were astonishingly similar across the geographical and chronological distribution of the Acheulian techno-complex: large flakes that were suitable in size and morphology to produce hand axes and cleavers perfectly suited to the available raw materials (Sharon, 2009). Evidence presented from Sterkfontein cave shows that the first tool making hominids belong to either an early species of the Homo or an immediate ancestor which is yet to be discovered here in South Africa (Esteyhuysen, 2007). Both the Oldwan and Acheulian industries are well represented in the archaeology of the Cradle of Humankind from sites at Strekfontein and Kromdraai. These discoveries have made considerable contribution to the body of scientific knowledge in the subject of tool manufacturing in association with human evolutions. At Kromdraai site two definite Oldwan stone tools estimated to date to around 1.9 million years ago were discovered.

The Middle Stone Age dates to about 250 000 ago ending at around 25 000 years ago. In general, Middle Stone Age tools are smaller than those of the Early Stone Age period. They are characterized by smaller hand axes, cleavers, and flake and blade industries. The period is marked by the emergence of modern humans through the change in technology, behavior, physical appearance, art, and symbolism. Various stone artifact industries occur during this period, although less is known about the time prior to 120 000

years ago, extensive systemic archaeological research is being conducted on sites across southern Africa dating within the last 120 000 years (Thompson & Marean, 2008). Surface scatters of these flake and blade industries occur widespread across southern Africa although rarely with any associated botanical and faunal remains. It is also common for these stone artifacts to be found between the surface and approximately 50-80cm below ground. Fossil bone may be associated with MSA occurrences. These stone artifacts, like the Earlier Stone Age hand axes are usually observed in secondary context with no other associated archaeological material.

An early South African Middle Stone Age stone artifact industry referred to as the Mangosian had a very wide distribution stretching across Limpopo, the eastern Orange Free State, around Cape Point and Natal (Malan 1949). This stone artifact industry, may have represented the final development that the prepared core technique of the Middle Stone Age reached prior to its replacement by the micro lithic techniques of the Later Stone Age. Malan (1949) also made mention that there are variations of Middle Stone Age assemblages throughout South Africa (Binnerman *et al,* 2011).

A variety of MSA tools includes blades, flakes, scraper and pointed tools that may have been hafted onto shafts or handles and used as pear heads. Residue analyses on some of the stone tools indicate that these tools were certainly used as spear heads (Widely, 2007). The presence of spear heads on some of the MSA assemblages is an indication that these group of people were hunters who targeted middle sized game such as hartebeest, wildebeest and zebra (Wadley, 2007). Some assemblages show the presence of bone tools such as bone points. The last phase of stone tool development is associated

with Late Stone tools. The period is associated with the use of micro- lithic stone tools. LSA tool have been found in the Cradle of humankind, however the LSA sites in Gauteng has been poorly represented during the mid- Holocene. However, records show that there is evidence of late Stone Age painting along the Klip River bank where San communities left few sites with engravings paintings. Stone Age occurrence in the Gauteng Metropolitan Municipality has been obliterated by new development such as Agricultural activities, mining and demarcation of residential suites

7.2. IRON AGE / FIRST-FARMING COMMUNITIES

Records show that the earliest Iron Age settlement in the study area is well represented at Broederstroom with another settlement further northwest on the opposite side of the Magalies Valley at Strauss sites (Mason 1986:129). Numerus small Iron Age settlements have been recorded further to the west. These sites shared the same ceramic attributes with Early Iron Age sites documented in the Mpumalanga area. Before their arrival the area was occupied by Stone Age people (hunter gatherers). As metallurgists, farmers produced implements for clearing and tiling the soil. Radiocarbon dates suggest that these sites were occupied from circa AD 350-AD 650 (Huffman 2007). The largest metal producing precinct at Broederstroom covers about 75 X 50 meters of slag debris with two furnace structures. This production site also led to the conclusion that the site produced metal artefacts was not for local consumption but for trading purposes (Mason 1986:130).

The Early Iron Age sequence of Johannesburg was later followed by the advent of the Middle Iron Age communities. Most of the sites that represent this phase dated from circa

AD 1100-1500. Several sites that fit well within this period were identified at Melville Koppies and Bruma (Mason 1986; Bergh 1998). The Iron Age population did not change their basic technology; however, it remains stable through out to circa 1500AD.

Two iron smelting furnaces in association with slags and tuyères fragments were uncovered at Melvillekoppies the clay furnace has been recorded with radius of 1.2 meters. According to Mason (1986) corroborated by Maggs (1986) most areas were occupied on an increasingly extensive scale from the fifteen centuries onwards. It is now that the Late Iron Age brought significant changes in the patterns of land occupation, architectural style and building techniques marked by extensive use of stones for building fortified stone walls. Metal production played a dominant role in the region as shown by evidence of copper and iron production. South of Bruma, isolated traces of iron smelting slags were recorded while tuyère fragments were found in Klipriverberg. At Klipriverberg, a teenage girl burial with copper rings, and iron beads was recovered by Mason (1986). Another copper rod was uncovered at Suikerbosrand site. According to Mason (1986) copper was produced and functioned as an ornamental material for trading purposes. Ferecrete was used as the major source of iron ore for producing iron implements. Archaeological excavation at Lone Hill reflected that ferecrete was mined and carried to the furnace site (Mason 1986:92). There elliptical furnace structures constructed on the foundation of granite plated were uncovered. Both Panorama and Lone hill dated to the 18 century AD, contemporary with North Cliff Windsor Park Late Iron Age stone wall settlement and Klipriverberg. The Klipriverberg stone walling site seems to have been abandoned at about AD 1823 when Mzilikazi entered the area (Huffman, 2007). The panorama site is in the northernmost Witwatersrand was excavated and yielded 15

furnaces, the plan of furnaces varies from circular to roughly elliptical with diameters from 20cm to approximately 1m. Some of these sites are predicted to have been occupied by Sotho-Tswana cultural groups. The Late Iron Age (AD 1300-1820s) is mostly characterised by socio political complexity, higher population, environmental degradation, intensive hunting, overgrazing and extensive use of stones as construction materials (Maggs, 1976; Badenhorst, 2009). Before the arrival of the Late Iron Age farmers, there is little evidence suggesting the dominance of stone built settlements. Considerable number of late Iron Age sites indicated by stone walled settlements on mountain ridges and hill tops are scattered through the Gauteng region. This sites date from the 18th and 19th centuries. Some of these sites might have been occupied as early as the 16th centuries, potsherds and material items are common on these sites (Thorp, 1996). Linguistic and archaeological evidence suggest that the latter part of the Iron Age period is most likely associated with ancestors of Ba- Tswana and South- Sotho. Numerous ancestral to the Tswana and Nguni who occupied the region left remnants of thousands of stonewalled settlements until they were disrupted by the Ndebele and Mzilikazi before he moved with his followers across the Magaliesberg.

7.3. HISTORICAL / COLONIAL PERIOD

Appearance of the European in the Gauteng region is associated with the last 500 years when colonialism entered southern Africa. The driving force into the interior was closely connected with the change from agricultural farming produce to livestock farming. The movement of Boer into the interior got underway when Wilhelm Adrien van der Stel began to issue free grazing permits in 1703. The exoduses went hand in hand with hunting expeditions into the interior which not only provided the farmers with meat, but also enable

them to learn more about the resources of the hinterland. British government made its laws which undermine the freedom of the Boers. The mounting conflict between African and white stock farmers played the dominant part. This led to the general dissatisfaction and a feeling of insecurity among the Afrikaner. The frontier wars of 1834/35 caused the frontier farmers to suffer heavy losses. To aggravate matters, land prices rose sharply during the 1820 and 1830 and drought was a serious problem. These conditions threatened the pastoral lifestyle. There was no land for the younger generations. They opted to migration in search of land and grazing in the interior.

During the great trek into the interior they were already acquainted with conditions of the interior and with the main trek routes. They got available information from travelers, hunters and missionaries. The foremost Voortrekker, Louis Tregardt and Hans van Rensburg were the pioneer of the Transvaal Lowveld left in 1835. Andries Hendrik Potgieter, the conservative founder of the Transvaal, emigrated towards the end of 1835. By 1836 the vanguard of Potgieter trek had crossed the Vaal River. When the white entered the Transvaal, the plains were restricted by Africans for grazing purposes, while occupying the high altitude and mountains.

Mzilikazi, the powerful Ndebele regarded with growing suspicion the arrival of so many whites from the same direction. He then realized that such a large group of white constituted a threat to the survival of the Ndebele. The Ndebele attacked the Trekkers at Vegkop on the 16 October 1836. In January 1837 Potgieter captured Mzilikazi stronghold and drove the Ndebele far to the north. Potgieter was firmly convinced that they should seek the salvation of an independent Voortrekker state, far away from British influence.

The 18th century's period is marked by the presence of white, where land was taken from African chiefs and redistributed to the Boers; this was followed by demarcation, subdivision, surveyed and mapped of portions of land into farms in 1880s. The first white farms were established along the rivers and tributaries, close to springs consequently the banks of Kliprivers River were well populated at the early stage. This development was also associated with the development of gravel roads and later towns. Other towns that emanated from these settlements were Pretoria which was laid out in 1855. Many of these farms have been in the ownership of families for generations. Thus, they possess a large corpus of information with regarding to the area and its history (Van Schalkwyk, 2011). An important factor which determines the initial settlement pattern was the desire to have access to a harbor to break the economic isolation of the Transvaal.

8. DESCRIPTION OF THE PROPERTY OR AFFECTED ENVIRONMENT

The proposed study area is situated on portion 119 (Portion of Portion 7) of the farm Doornkuil 369, roughly (GPS S 26º, 26, 51.07 and E27º, 52'.55, 06. ¨). The farm is situated roughly 2,5 kilometers south east of Ennerdale, approximately 2 kilometers west of Thuthukani- Tswelopele primary School. The area is located approximately 30 kilometers southwest of Johannesburg CBD, approximately 20 kilometers south of Lenasia, within the City of Johannesburg Metropolitan Municipality, Gauteng Province. The proposed area is farmland with evidence of previous cultivation which interrupt continuous grass cover. The area is located further west and south west of an existing power station which is located on undulating ridge. However certain sections of the study area support short to dense

grassland, with Riet spruit perennial stream forming a western border to the proposed area where intense agricultural activities occurred, a dry wetland exist alongside the river.

The study area fall within the grassland biome, dominated entirely by *Themeda triandra,* accompanied by variety of other grasses such as *Ellionurus muticus, Eragrostis raremosa* and *Heteropogon contortus* these type of grassland falls within the Bankenveld subdivision (Acocks 1975, Mucina & Rutherford, 2003). Normally occurring trees and shrubs are limited to specialized niches such as riverine fringes and undulating areas. The dominant plant taxa identified includes: *Acacia species, Eucalyptus and black wattle species*, this vegetation occur in pockets and most of which occurred in small farm holding previously occupied by white farmers. These sites are well represented by building foundations, dilapidated structures with free standing walls. The proposed development entails:

- Construction of eight (8) Chickens houses of approximately 120 and 132 meters with 20meters spaces between the houses surrounded by electrical fence.
- Office/Kitchen and ablution with showering facilities.
- 15-ton capacity coal bunker houses.
- A 300kW coal fired heater

Figure 2: View of the study area dominated by graminoids and isolated bushes

Figure 3: Existing perennial stream that form a western border of the proposed site

Figure 4: Power line transverse the site

Figure 5: View of the Eucalyptus plantation

9. ASSESSMENT OF SITES AND FINDS

This section contains the results of the heritage sites/finds assessment. The phase 1 heritage scoping assessment program as required in terms of the Section 38 of the National Heritage Resource Act (Act 25 of 1999) done for the proposed Poultry farm houses identified dilapidated farm homestead buildings surrounded by *Eucalyptus* plantation (GPS S 26º, 26, 51.06 and E27º, 52'.56, 54. ¨). Some of these structures are well represented by foundations and free standing walls. None of the ruins investigated were in such a condition that they could be properly assessed in terms of buildings elements, ornaments, fixtures and fittings as they have been removed. This fixture could assist in determining building age and the style of the buildings. Based on the visual inspections of the ruins it was concluded that most of the ruins were remains of relatively recent past. The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may soon, qualify as heritage resources.

Figure 6: Free standing wall, outside the proposed development foot print

Figure 7: Garbage refusal area

Figure 8: View of the study area, with the identified ruins outside the footprint.

The proposed poultry farm houses will not impact these ruins because they occur outside the proposed development foot print, on another farm plot.
There are no primary or secondary effect at all that are important to scientist or the public that will be impacted by the proposed project activities.

Heritage Significance:	No significance
Impact:	Negative
Impact Significance:	High
Certainty:	Probable
Duration:	Permanent
Mitigation:	A

10. CONCLUSION AND RECOMMENDATIONS

The study reached the following conclusions and recommendations:

- Desktop surveys indicated the presence of dilapidated house buildings, farm homesteads surrounded by *Eucalyptus* plants, informal and formal burial grounds and stone walling site are common sites identified along the Rietspruit perennial stream.
- The proposed development is scheduled to take place on vacant, previously disturbed (Cultivated farmland) now covered by graminoids with isolated natural vegetation, however clustered Eucalyptus plants exist further towards the southern section of another farm portion.
- Ground truthing of the surrounding environment identified and document fragments of house structures well characterized by foundations and free standing walls, however, these remains of built environment are located on the nearby Portion, outside the proposed development footprint (8hactares).

Therefore, will not be impacted by the proposed development. None of the ruins documented were in such a good condition that they could be appropriately evaluated for their heritage significance due to the absence of structures elements, ornaments, fittings and roofs. Fittings are the only features used to determines the age and the architectural style of the building. Grounded on the visual inspections of the ruins it was concluded that most of the ruins were remains of relatively recent past. The ruins do not qualify to be protected in terms of the National Heritage Resources Act (Act No 25 of 1999) because the remains are not older than 60 years.

- No archaeological materials or heritage remains.

- Although no archaeological remains were found, it is possible that some significant features may be buried beneath the ground. Should buried archaeological materials and burials be encountered during the process of development, the following must apply:

- Work must stop immediately

A professional archaeologist or nearest heritage authority must be contacted.

Based on this assessment which found no archaeological resources in the area, we recommend that the heritage authorities approve the project as planned.

11. TOPOGRAPHICAL MAP AND GPS SITE SNAPSHORT

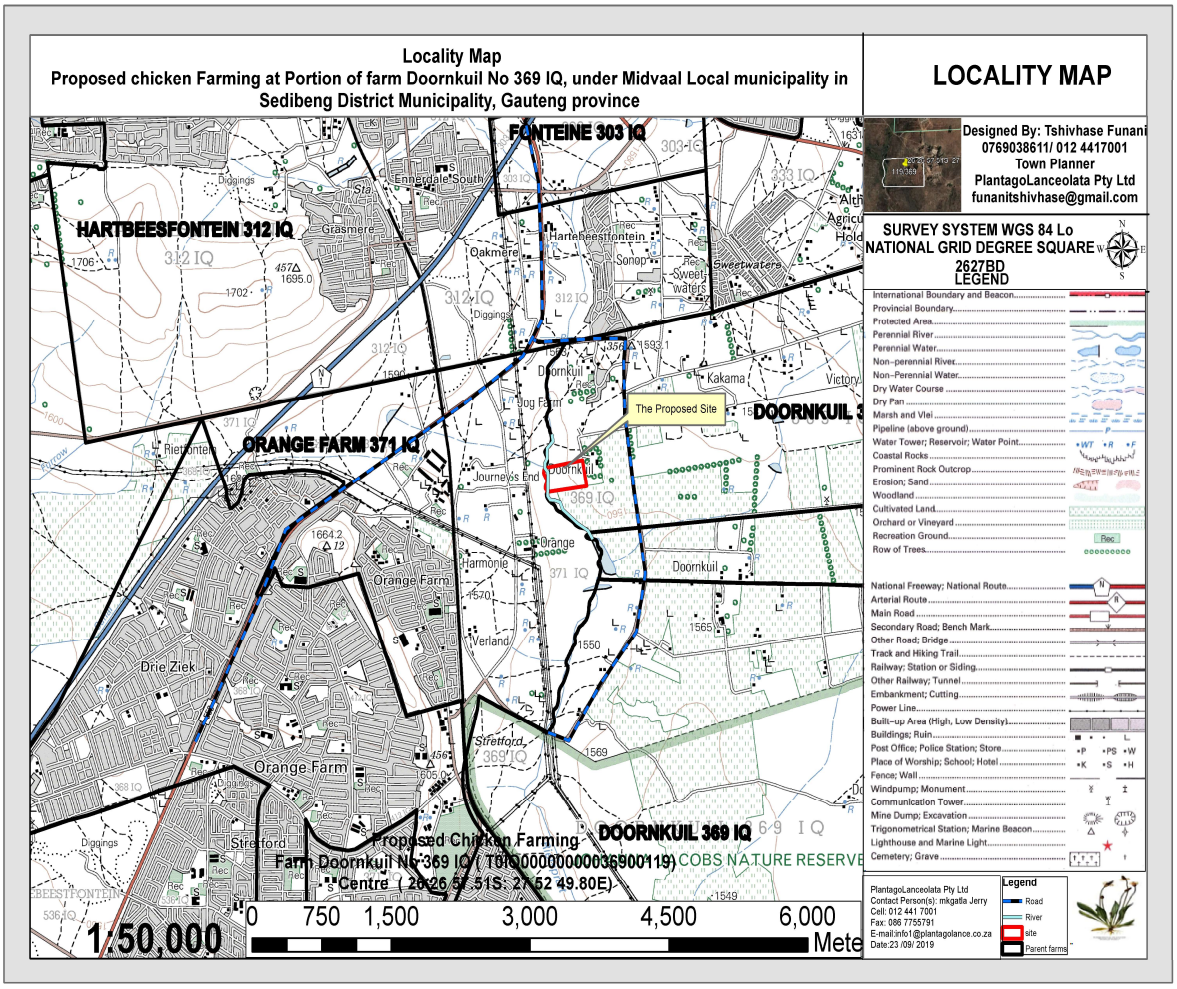

Figure 9: Locality map of the area

Figure 10: Snap short of the transverse route

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Addendum 1: Definitions and Acronyms

Archaeological Material remains resulting from human activities, 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.

Chance Finds Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Cultural Heritage Resources Same as Heritage Resources as defined and used in the South African Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and paleontological sites; historic and prehistoric places, buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or *graves* and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

Cultural Significance The complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

Grave A place of interment (variably referred to as burial), including 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.

Historic Material 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.

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

Late Iron Age this period is associated with the development of complex societies and state systems in southern Africa.

Material culture Buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

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

Acronyms:

AIA	Archaeological Impact Assesment
EIA	Environmental Impact Assesment
EIA	Early Iron Age
EMP	Environmental Management Plan
MHG	Millenium Heritage Group (PTY)LTD
NEMA	National Environmental Management Act, 1998 (Act No.107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No.25 of 1999)
SAHRA	South African Heritage Resources Agency
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
IA	Iron Age
LIA	Late Iron Age
UNESCO	United Nations Educational, Scientific and culturural Organization
WHC	World Heritage Conventions of 1972

ADDENDUM 2: Types and ranges as outlined by the National Heritage Resource Act (Act 25 of 1999)

The National Heritage Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of the heritage resources that qualify as part of the national estate, namely:

(a) Places, buildings structures and equipment of cultural significance;

(b) Places to which oral tradition are attached or which are associated with living heritage;

(c) Historical settlement and townscapes

(d) Landscape and natural features of cultural significance;

(e) Geological sites of scientific or cultural importance

(f) Archaeological and paleontological sites

(g) Graves and burial ground including-

(I) Ancestral graves

(II) Royal graves and graves of traditional leaders

(III) Graves of victim 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 by 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) object recovered from soil or waters of South Africa, including archaeological and paleontological 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) object of scientific or technological interest; and

(VII) books, records, documents, photographs, positive and negatives, graphic, film or video material or sound recording, excluding those that are public records as defined in section1(xiv) of the National Archives of South Africa Act,1996(Act No 43 of 1996).

The National Heritage Resource Act (Act No 25 of 1999,Art 3)also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value… these criteria are the following:

(a) its importance in the community, or pattern of South Africa's history;

(b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;

(c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;

(d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;

(e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;

(f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;

(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons

(h) Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa

(i) Sites of significance relating to the history of slavery in South Africa.