

Vhubvo Archaeo-Heritage Consultants Cc Registration No.: 2010/090598/23

Constantia Park, Suite No. 2

546, 16th Road Midrand, 1685

Cell: 082 535 6855 Phone: +27 (0) 11 312 2878

Fax: +27 (0) 11 312 7824 Fax2Email: +27 (0) 86 566 8079 Email: info@vhubvo.co.za

Margen Industrial Services

A CONSERVATION MANAGEMENT PLAN FOR CULTURAL HERITAGE SITES IDENTIFIED ON AREA PROPOSED FOR CONSTRUCTION OF APPROXIMATELY 30KM 132KV POWERLINE FROM ESKOM SORATA SUBSTATION TO WITSIESHOEK SUBSTATION LOCATED WITHIN THE JURISDICTION OF MALUTI A PHOFUNG LOCAL MUNICIPALITY IN THE THABO MOFUTSANYANA DISTRICT, FREE STATE PROVINCE.

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ABILITY TO CONDUCT THE PROJECT

Alvord Nhundu is a professional archaeologist. He completed his Bachelor of Science with honours degree in archaeology with the University of the Witwatersrand (Wits) and Masters in Archaeology with the University of Pretoria (UP). His research interest lies in old and new world archaeology, palaeoenvironmental and climatology, archaeological theory, Later Stone Age, rock art, huntergatherers, hunter-gatherer interactions, several aspects of Southern African Iron Age and Indigenous archaeologies. Alvord is an accredited member of the Association of southern African Professional Archaeologists (ASAPA #338). He has been practicing CRM for more than 5 years, and has completed over 50 Archaeological Impact Assessments (AIA) for developmental projects in the Limpopo, Mpumalanga, North-West, Eastern Cape, Free State and Kwa-Zulu Natal provinces of Africa. The projects include establishment and upgrade of power substations, road construction, and establishment and expansion of mines. He has also conducted the relocation of graves. His detailed CV is available on request.

Munyadziwa Magoma is a professional archaeologist, having obtained his BA degree in Archaeology and Anthropology at University of South Africa (UNISA), an Honours degree at the University of Venda (UNIVEN), and an Master's degree at the University of Pretoria (UP). He is an accredited Cultural Resource Management (CRM) member of the Association for southern African Professional Archaeologists (ASAPA) and Amafa KwaZulu-Natal. Munyadziwa is further affiliated to the South African Archaeological Society (SAAS), the Society of Africanist Archaeologists (SAfA), and the International Council of Archaeozoology (ICAZ). He has more than ten years' experience in heritage management, having worked for different CRM organisations and government heritage authorities. As a CRM specialist, Munyadziwa has completed well over hundred Archaeological Impact Assessments (AIA) for developmental projects situated in several provinces of the Republic of South Africa. The AIAs projects he has been involved with are diverse, and include the establishment of major substation, upgrade and establishment of roads, establishment and extension of mines. In addition, he has also conducted Heritage Impact Assessments (HIAs) for the alteration to heritage buildings and the relocation of graves. His detailed CV is available on request.

INDEPENDENCE

We, Alvord Nhundu and Munyadziwa Magoma declare that this report has been prepared independently of any influence as may be specified by all relevant department, institution and organization. We act as the independent specialist (s) in this application, and will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favorable to the applicant. We declare that there are no circumstances that may compromise my objectivity in performing such work, We vow to comply with all relevant Act, Regulations and applicable Legislation. Furthermore, Vhubvo Consultancy Cc, which is a company We represent in this application, is an independent service provider and apart from fair remuneration for services rendered, it has no financial interest or vested interest in the proposed project.

AUTHOR AND CONTACT DETAILS:

Cell: 082 535 6855/078 212 6740

Tel: 011 312 2878 Fax: 086 566 8079

E-mail: munyadziwa@vhubvo.co.za/alvord@vhubvo.co.za

Munvadziwa Magoma

Alvord Nhundu

CLIENT CONTACT DETAILS:

Margen Industrial Services

T Lepono

Cell: 083 339 9103 Tel: 011 022 1364



Fax: 086 6977 422/73

E-mail: tsepo@ecosolve.co.za



132kV powerline from Eskom Sorata Substation to Witsieshoek Substation

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EXECUTIVE SUMMARY

This report articulates a Conservation Management Plan (CMP) for sites which are located around the area proposed for construction of Eskom Sorata to Witsiehoek Substations in the Free State. This CMP is originated to offer management of eight sites which are located in the area of study, and it gives guidelines and principles for management of those sites. Although these sites are not directly impacted by the project, they are within the study area, and may be negatively affected, hence, monitoring by a heritage practitioner during construction is herein recommended. The recommendations presented herein are done within the parameters of the National Heritage Resources (Act 25 of 1999). It is important to note that the management plan is an open document meaning that it should be adapted, analysed and re-assessed from time to time. Monitoring and reporting thereof must be done by the ECO during the construction and maintenance phases. Once the construction phase is completed, monitoring should be done at least once per year. The monitoring reports must be submitted to SAHRA APM.



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ACRONYMS AND ABBREVIATIONS

AIA Archaeological Impact Assessment

CHMP Cultural Heritage Management Plan

EMP Environmental Management Plan

HIA Heritage Impact Assessment

LIA Late Iron Age

MIA Middle Iron Age

EIA Early Iron Age

HMP Heritage Management Plan

LSA Late Stone Age

MSA Middle Stone Age

ESA Early Stone Age

NASA National Archives of South Africa

NHRA National Heritage Resources Act

PHRA Provincial Heritage Resources Authority

SAHRA South African Heritage Resources Agency



GLOSSARY OF TERMS

The following terms used in this Archaeology are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (Burra Charter):

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 artifacts, human and hominid remains, and artificial features and structures.

Artefact: Any movable object that has been used, modified or manufactured by humans.

Conservation: All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeolontological sites, historic and prehistorical places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

Cultural landscape: "the combined works of nature and man" and demonstrate "the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external".

Cultural Resources Management (CRM): the conservation of cultural heritage resources, management, and sustainable utilization and present for present and for the future generations

Cultural Significance: is the aesthetic, historical, scientific and social value for past, present and future generations.



Chance Finds: means 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.

Compatible use: means a use, which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

Conservation means all the processes of looking after a place so as to retain its cultural significance.

Expansion: means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

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.

Heritage impact assessment (HIA): Refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorization of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimizing or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

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

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

In situ material: means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.



Interested and affected parties Individuals: communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

Interpretation: means all the ways of presenting the cultural significance of a place.

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

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

Mitigate: The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

Place: means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Protected area: means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers.

Public participation process: A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters.

Setting: means the area around a place, which may include the visual catchment.

Significance: can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and



acceptability). It is an anthropocentric concept, which makes use of value judgments and sciencebased criteria (i.e. biophysical, physical cultural, social and economic).

Site: a spatial cluster of artifact, structures, organic and environmental remains, as residues of past human activity.



1. INTRODUCTION

Vhubvo Consultancy Cc has been requested by Margen Industrial Services to compile a Conservation Management Plan (CMP) for the proposed approximately 30km 132kV powerline from Eskom Sorata Substation to Witsiehoek Substation within Maluti-A-Phofung Local Municipality of Thabo Mofutsanyana District Municipality, Free State Province. During a survey conducted at the proposed area of development by Magoma (2016), a number of heritage sites were identified. Subsequently, Eskom experienced challenges during landowner negotiations for the approved servitude and had to deviate the powerline route to accommodate landowner's needs. The deviation extends outside the approved corridor which necessitated the identification of heritage resources on the proposed deviation. The need to preserve these sites and to ensure that the project goes ahead is what has prompted the need to compile this Conservation Management Plan.

2. SITES LOCATION AND DESCRIPTION

As aforesaid, the proposed 132kV Powerline is located in Thabo Mofutsanyana District Municipality, which is a Category C municipality, and is found in the eastern part of the province of Free State, and borders Lesotho and KwaZulu-Natal. This municipality is named after Edwin Thabo Mofutsanyana, a stalwart of the South African Communist Party (SACP). It comprises six local municipalities, of which Maluti-A-Phofung is where this project is located. The proposed 132kV Powerline stretches for approximately 30 km from Eskom Sorata Substation and it crossways agricultural and rural landscape until it reaches its destination at Eskom Witsieshoek Substation. In short, this power line will traverse over a range of landscapes, including mountainous, flat and open plains, old and new agricultural fields and mixed bushveld. It also transverses over a major river, wetland features as well as perennial water stream. It is important to note that it will mostly transverse parallel other existing power lines. Most of these activities highlighted have impacted negatively on the area, and subsequently destroyed or disturbed archaeological and historical sites that might have existed in the past.

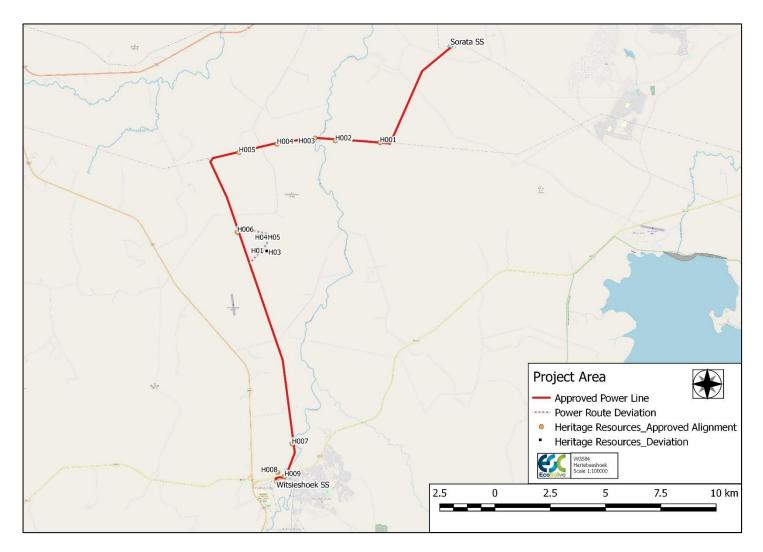


Figure 1: An overview of the area proposed for power line as indicated in the map.

3. NATURE OF THE PROPOSED PROJECT

Eskom Holdings SOC Limited (Eskom) proposes to strengthen power loads in the area around Sorata and Witsiehoek Substation. Hence, they are proposing to construct a power line. The proposed project will consists of the following:

- A 132kV power line between the existing Sorata and Witsiehoek substations;
- A 31 m Servitude; and,
- A 1000m Buffer including servitude.

4. OBJECTIVE

The main aim of this report is to provide a management plan for historical and archaeological sites identified in the study area. As part of the report, a detailed documentation of the sites is presented and these will inform decisions on the conservation worthiness of the sites.

5. METHODOLOGY AND APPROACH

The methodological approach is informed by the Burra Charter, the Venice Charter, the conservation plan of Kerr and the Getty Conservation Institute in conjunction with 2012 SAHRA Policy Guidelines for impact assessment. The following methods are utilised in this study (1) Literature review, and the management principles on the evaluation of heritage sites

5.1 Literature review

A review of literature for the study area was undertaken in order to obtain background information for the area. The University of Pretoria library was also utilised. Sources consulted in this regard are given in detail on the reference list.

5.2 The Management Principles

The Management plans utilised in this management plan are in accordance with those of the Burra Charter, The Venice Charter, the Getty Conservation Institute and have been utilised by Ndoro (1995). These principles include preservation for the context of management plans in line with NHRA. The SAHRA 2012 guidelines are also followed.

6. APPLICABLE HERITAGE LEGISLATION

Several legislations provide the legal basis for the protection and preservation of both cultural and natural resources. These include the National Environment Management Act (No. 107 of 1998); Mineral Amendment Act (No 103 of 1993); Tourism Act (No. 72 of 1993); Cultural Institution Act (No. 119 of 1998), and the National Heritage Resources Act (Act 25 of 1999). Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in case where a listed activity is triggered. Such activities include:

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50 m in length; and
- (c) any development or other activity which will change the character of an area of land, or water -
 - (i) exceeding 5 000 m² in extent;
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;
- (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Section 3 of the National Heritage Resources Act (25 of 1999) lists a wide range of national resources protected under the act as they are deemed to be national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (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 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) moveable objects, including -

- (i) objects recovered from the 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) 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 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Section 3 of the National Heritage Resources Act (No. 25 of 1999) 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 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 organisation of importance in the history of South Africa; and
- (i) Sites of significance relating to the history of slavery in South Africa.

Other sections of the Act with a direct relevance to the AIA are the following:

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.

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 palaeontological site or any meteorite

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

- 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 formal cemetery administered by a local authority; or
- bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

7. DEGREE OF SIGNIFICANCE

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance as it is unique for the region.

Significance rating of sites

(i) High (ii) Medium (iii) Low

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking, the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

High

- This is a 'do not touch' situation, alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele resided.
- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

• Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

These sites require minimum or no mitigation. Minimum mitigation recommended could be
a collection of all surface materials and/ or detailed site mapping and documentation.
No excavations would be considered to be necessary.

In all the above scenarios, permits will be required from the South African Heritage Resources Agency (SAHRA) or the appropriate PHRA as per the legislation (the National Heritage Resources Act, no. 25 of 1999). Destruction of any heritage site may only take place when a permit has been issued by the appropriate heritage authority. The following table is used to grade heritage resources.

Table 1: Grading systems for identified heritage resources in terms of National Heritage Resources Act (Act 25 of 1999).

Level	Significance	Possible action		
National (Grade I)	Site of National Value	Nominated to be declared by SAHRA		
Provincial (Grade II)	Site of Provincial Value	Nominated to be declared by PHRA		
Local Grade (IIIA)	Site of High Value Locally	Retained as heritage		
Local Grade (IIIB)	Site of High Value Locally	Mitigated and part retained as heritage		
General Protected Area A	Site of High to Medium	Mitigation necessary before destruction		
General Protected Area B	Medium Value	Recording before destruction		
General Protected Area C	Low Value	No action required before destruction		

8. DISCUSSION OF (PRE-) HISTORY OF THE SOUTH AFRICA

South Africa has one of the longest sequences of human development in the world. The prehistory and history of South Africa span the entire known life span of human on earth. It is thus difficult to determine exactly where to begin; a possible choice could be the development of genus *Homo* millions of years ago. South African scientists have been actively involved in the study of human origins since 1925 when Raymond Dart identified the Taung child as an infant halfway between apes and humans. Dart called the remains *Australopithecus africanus*, southern ape-man, and his work ultimately changed the focus of human evolution from Europe and Asia to Africa, and it is now

widely accepted that humankind originated in Africa (Robbins *et al.* 1998). In many ways this discovery marked the birth of palaeoanthropology as a discipline. Nonetheless, the earliest form of culture known in South Africa is the Stone Age. These prehistoric period during which humans widely used stone for tool-making, stone tools were made from a variety of different sorts of stone. For example, flint and chert were shaped for use as cutting tools and weapons, while basalt and sandstone were used for ground stone. Stone Age can be divided into Early, Middle and Late, it is argued that there are two transitional period. Noteworthy that the time frame used for Stone Age period is an approximate and differ from researcher to researcher (see Korsman and Meyer 1999, Mitchell 2002, Robbins *et al.* 1998).

Stone Age

Although a long history of research on the Early Stone Age period of southern Africa has been conducted (Mason 1962, Sampson 1974, Klein 2000, Chazan 2003), it still remains a period where little is known about. These may be due to many factors which include, though not limited to retrieval techniques used, reliance on secondary, at times unknown sources, and the fact that few fauna from this period has been analysed (Chazan 2003). According to Robbins *et al.* (1998) the Stone Age is the period in human history when stone was mainly used to produce tools. This period began approximately 2.5 million years ago and ended around 200 000 years ago. During this period human beings became the creators of culture and were basically hunters and gatherers, this era is identified by large stone artefacts. In the Free State, the earliest known Early Stone Age (ESA) phase is the 'Victoria West Industry' which had also been noted in Northern Cape. From as early as the 1900s stone artifacts which were of peculiar character had been recorded in the area by Reginald Smith and they included hand axes and what had been referred by Smith as '*Tortoise Cores*' (Smith 1919).

The Middle Stone Age overlap with the EIA and possibly began around 100 000 to about 200 000 years ago and extends up to around 35 000 years ago. This period is marked by smaller tools than in ESA. Many MSA sites have evidence for control of fire, prior to this, rock shelters and caves would have been dangerous for human habitation due to predators. MSA people made a wide range of stone tools from both coarse – and fine-grained rock types. Sometimes the rocks used for tools were transported considerable distances, presumably in bags or other containers; as such tool

assemblages from some MSA sites tend to lack some of the preliminary cores and contain predominantly finished products like flakes and retouched pieces.

Microlithic Later Stone Age period began around 35 000 and extend to the later 1800 AD. According to Deacon (1984), LSA is a period when human being refined small blade tools, conversely abandoning the prepared-core technique. Thus, refined artefacts such as convex-edge scrapers, borers and segments are associated with this period. Moreover, large quantity of art and ornaments were made during this period. Very few Stone Age sites are known to exist in the area. This might have been as a result of few researches that have been done on the larger region. As such, few published papers and studies are available. Most of the Stone Age sites known in the area dates to the Late Iron Age and vary from cave sites to open sites. An example will be rock painting which are located on the shelter of the hill in the region of the town of Warden. Scatters of Late Iron Age tools have also been noted by other AIA studies. Research into LSA ethnography (as KhoiSan history) has revolutionized our understanding of both painted and engraved (Deacon and Dowson 2001). Paintings are concentrated in the Maluti mountains, the eastern Free State, the Cape Fold Mountains, the Waterberg Plateau and the Soutpansberg mountains. Engravings on the other hand are found throughout the Karoo, the western Free State and North-West Province (Mitchell 2002).

Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce artefacts. Recently, they have been a debate about the use of the name. Other archaeologist have argued that the word "Iron Age" is problematic and does not precisely explain the event of what happen in southern Africa, as such, the word farming communities has been proposed (Segobye 1998). Nonetheless, in South Africa this period can be divided into two phases. Early (200 - 1000 A.D) and Late Iron Age (1000 - 1850 A.D). Huffman (2007) has indicated that a Middle Iron Age (900 - 1300 A.D) should be included. According to Huffman (2007:361), until the 1960s and 1970s most archaeologists had not yet recognised a Middle Iron age. Instead they began the Late Iron Age at AD 1000. The Middle Iron Age (AD 900–1300) is characterised by extensive trade between the Limpopo Confluence and the East Coast of Africa. This has been debated, with other researchers, arguing that the period should be restricted to Shashe-Limpopo Confluence.

Before the arrival of Europeans, the area was the home to Bantu-speaking peoples such as the Sotho-Tswana. During the Late Iron Age, farming was of significance in the region. These farming communities built numerous stone walled settlements throughout the Free State from the 17th century onwards. These sites are associated with the predecessors of the Sotho-Tswana, and are linked with the so-called N-, V-, R- and Z-Type of settlements which are respectively associated with Fokeng, Kwena, Kgatla and Rolong clans. According to Huffman (2007), Iron Age sites which are found in this part of the Free State are represented by Middle Iron Age sites of the Moloko branch - Urewe tradition. These sites date to AD 1500 - AD 1700. Conversely, Late Iron Age sites are represented by the Thabeng facies of the Moloko branch - Urewe tradition. These sites date to AD 1700 - AD 1840.

Historical Period

Since the arrival of the white settlers - c. AD 1840 - in this part of the country. These settlers were largely self-sufficient, relying on cattle/sheep farming and also hunting. Few towns were established and farming remains the most dominant economy. The Free State (Afrikaans: Vrystaat, Sotho: Foreistata; before 1995, the Orange Free State) is a province of South Africa. Europeans first crossed the Orange River northward to enter the area in the 18th century. Early in the 19th century the Tswana were dispersed by Zulu military campaigns, and their place was taken by the Sotho (Basotho) and Griqua peoples. At the same time, pastoral farmers of Dutch descent, called trekboers or Boers, began to settle the area. After 1836 came the Great Trek, a migratory movement in which larger numbers of Boer farmers seeking freedom from British rule moved north across the Orange River. In 1848 the British annexed the territory between the Orange and Vaal rivers, proclaiming it the Orange River Sovereignty over the resistance of the Boer general Andries Pretorius. The British proved unable to build an orderly administration, however, and conflicts with the Sotho convinced the British to withdraw in 1854. On February 23, 1854, under the Bloemfontein Convention, the British relinquished their sovereignty, and the local Boer settlers formed the independent Orange Free State.

9. DETAILED DESCRIPTION AND DOCUMENTATION OF THE HERITAGE SITES

The "walkdown" on the approved corridor was carried out in January 2016 identified several isolated tools as well as archaeological sites (Table 2). Another survey was undertaken on 15th of

December 2019 to identify heritage resources on the proposed deviation. Five (5) additional resources were identified within the environs of the proposed deviation (Table 3). However, none of these can be considered to be of such significance that can prevent the proposed development from proceeding. The noted sites can be mitigated by means of documentation. Findings, description and grading have been offered on Tables 2 and 3 below.

The area around pylon position number 31 is characterised as an area which according to Morris (2006) is Dwyka tillite. This kind of terrain is a preferred source of raw materials in the production of Stone Age materials. This site extends beyond a wider area and is given an A Grade (High to Medium) - Mitigation necessary before destruction. It must be noted that most of the area proposed for powerline is significantly disturbed (due to agriculture and other related activities) to yield any archaeological site of high significance. Despite that, several stone structures and historical objects were documented on the proposed line servitudes, none of these were documented on the exact site of the pylon. The noted structures and objects date to the Late Iron Age and historical era respectively and are thus the results of Iron Age and historical era. These sites have medium significance and are protected from any form of altering or demolition without a permit by Section 34 and 35 of the National Heritage Resources Act (No 25 of 1999). However, none of these structures can be considered to be of such significance that can prevent the proposed development from proceeding.

Phase I Archaeological and Cultural Heritage Impact Assessment for the proposed construction of a 132Kv powerline deviation from Sorata to Witsiehoek substationshas identified no significant impacts to archaeological or grave resources in the footprint of the proposed construction. However, it should be noted that there are five (5) sites (including isolated tools) that had been noted in a fairly immediate area of the proposed construction, with the closest being approximately 15m to the proposed area, and the furthest being approximately 600m (Figure 2). Although these sites are not in the footprint of the proposed construction, and will not be directly affected, it is possible that they may be impacted upon accidentally by circumlocutory construction activities.

The following heritage resources were identified on the original route:

Table 1: Attributes of noted materials and respective significance along the original corridor

Site	Description and Relation to line	Significance	Co-ordinates	
No				
H001	An old stone which was used in the past as a fence	Low	S 28.34057	
	panel. This stone (s) resembles the earliest use of farm demarcation (Fig 5).		E 28.87831	
H002	There are two stone structures, the first one is	Medium	S 28.33983	
	located between tower 26-27 and is an <i>ovis/capra</i> kraal, while the second one is a collapsed stone		E 28.85763	
	walling which extend for about 150m long and is		S 28.33887	
	between tower 27 and 28 (Fig 6 - 7).		E 28.84826	
H003	An oris/capra collapsed kraal was noted on the	Medium	S 28.34122	
	servitude, approximately 70m South East of Tower 28 (Fig 8).		E 28.83068	
H004	Historical water pump was identified between	Low	S 28.37694	
	towers 32 and 33.		E 28.81238	
H005	An old stone which was used in the past as a fence	Low	S 28.34459	
	panel. This stone (s) resemble the earliest use of farm demarcation (Fig 9) and is located between towers 36 and 37.		E 28.81313	
H006	A cattle kraal was noted on the servitudes (Fig 10).	Medium	S 28.46288	
			E 28.83766	
H007	A cattle or sheep kraal was identified approximately	Low	S 28.47454	
	210m North West of tower 89.		E 28.83156	
H008	Ovis/aries kraal was identified approximately 800m	High to	S 28.474422	
	north of Witsieshoek Substation (Fig 11).	Medium	E 28.830967	
H009	Ovis/aries kraal was documented, approximately	High	S 28.47606	
	170m north of tower 94 (Fig 12)	Medium	E 28.83413	

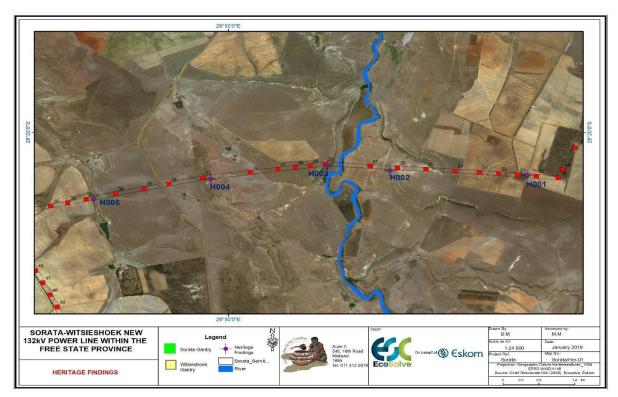


Figure 2: View of the noted sites in line with the pylon positions.



Figure 3: View of another noted site in line with the pylon positions.

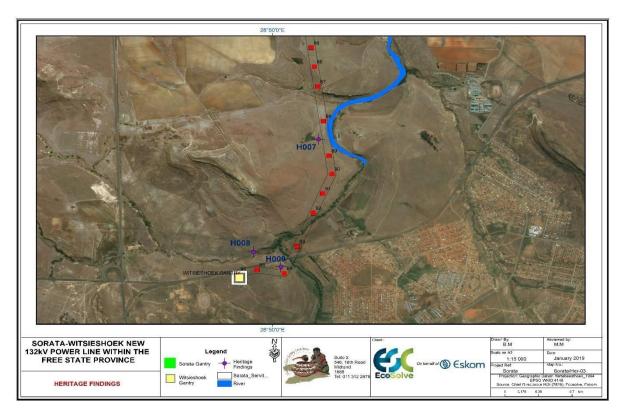


Figure 4: View of the noted sites in line with the pylon positions.

Portrait of Documented Stone Implements



Figure 5: View of an old stone which was used in the past as a fence panel.



Figure 6: View of stone structures made to host ovis/capra.



Figure 7: View of stone walling which extend for about 150m.



Figure 8: View of medium livestock kraal.



Figure 9: View of an old stone which was used in the past as a fence panel.



Figure 10: An overview of the abandoned cattle kraal.



Figure 11: View of the medium livestock kraal.



Figure 12: Another kraal noted opposite and about 100m from the one mentioned above.

Table 2: Attributes of noted materials and respective significance along the power line deviation

Site	Description and Relation to line	Significance	Co-ordinates	
No				
H01	A graveyard with approximately 42 graves was noted about 160m from the area of the proposed construction. These graves are clearly marked and visible (Figure 14).	High	S28° 23' 08.1" E28° 49' 28.3"	
H02	A grave site demarcated by stones was noted about 200m from the proposed area (figure 15).	High	S28° 23' 06.2" E28° 49' 35.4"	
H03	Collapsed stone walling with scattered stones that appears to have dislodge from the original walling was noted about 25m from the proposed area.	Medium-Low	S28° 23' 17.4" E28° 48' 43.8"	
H04	An oval-shaped stone walling was noted approximately 200m from the area earmarked for construction. Part of this wall is still intact.		S28° 23' 06.1" E28° 49' 35.9"	
H05	A collapsed stone wall was noted about 15m from the line with a possibility that this could have extended to the area proposed for construction of the line.	Medium-Low	S28° 22' 48.5" E28° 49' 35.3"	

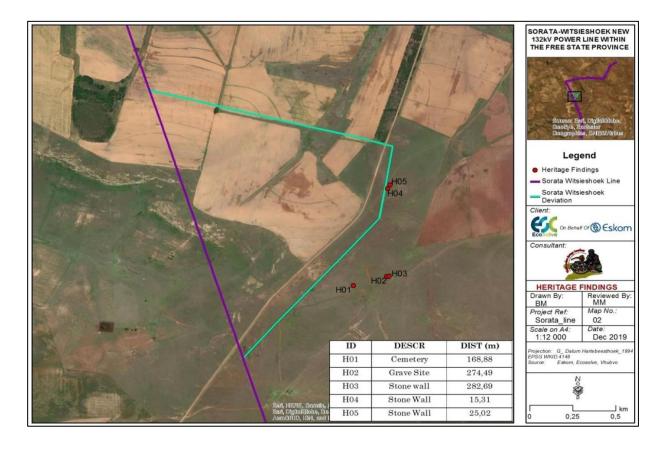


Figure 13: View of the archaeological sensitivity map depicting the findings in the proposed area



Figure 14: View of the graveyard noted on the adjacent of the proposed power line deviation



Figure 15: View of an isolated grave noted close to the area proposed power line deviation



Figure 16: View of the stone walling noted in the area adjacent to the proposed site.



Figure 17: View of the collapsed stone walling in the proposed area.

10. CONVENTIONS ON THE PROTECTION OF HERITAGE RESOURCES

10.1 The Venice charter

The Venice charter sees historical sites as the most important living witness of the past. The heritage is accordingly seen as the responsibility of today's generation and that it should be conserved in an authentic state (ICOMOS 1964: 1).

The articles of the Venice charter are more or less in agreement with those of the Burra charter. It means that the application of last mentioned supports the first and will contribute to the upkeep of international standards in the conservation, preservation and the restoration of historical places.

10.2 The Conservation plan of Kerr

The conservation plan of Kerr is closely associated with the Burra charter. It gives an explanation of the use of the charter and the steps to be followed in the implementation of the conservation of heritage sites. The process consists of two phases.

The first phase deals with establishing cultural significance. It includes the collection of information (documents and physical), the analysis of the importance thereof, the assessment of this importance and the stating of the said importance (Kerr 1985: 2).

Assessment consists of the establishing of criteria for the determination of cultural significance, whilst the stating of the cultural importance is only an explanation thereof (Kerr 1985: 8, 12). The second phase consists of the conservation plan. Firstly information should be collected. This includes four sectors namely:

- the needs of the client;
- external needs; and
- requirements for the maintenance of the cultural significance and the physical condition of the place.

Hereafter a conservation management plan is developed, a conservation policy is stated and a strategy for the implementation of the conservation plan is rolled out (Kerr 1985: 2).

11. PROPOSED MANAGEMENT AND MAINTENANCE GUIDELINES FOR SITES

In line with the recommendations of Phase 1 report, it is recommended here that the preservation and or conservation of the sites be carried out *in situ*.

11.1 Historical water pump

- Some stability must be done to the historical water pump as part of preservation; this can
 entail putting some stones at the bottom of it so that it becomes more stable; care must be
 taken not to interfere with its fabric. No modifications must be done in the process.
- A buffer zone must be erected so that no machine or the impacts of ground shaking could get to the pump.

11.2 Historical stone panels

These are important in that they symbolise the time when these stones were used to settle boundary disputes:

- A buffer zone of about 20m must be maintained to ensure that the panels are not susceptible to shaking that could take place during the process of construction; and
- No piece of the stone must ever be taken from the site.

11.3 Collapsed stone walling

These comprise of cattle kraal, sheep and goat kraal:

- A 20m buffer zone must be maintained;
- No stone should ever be taken from the sites, Eskom personnel need to be educated on that;
- Any change or modifications of the line, condition of the site should immediately be reported to SAHRA for guidance; and
- Access to the sites should be allowed to the descendants as some will feel spiritually connected to the place; however, they should adhere to Eskom's conditions regarding health and safety.

12. CONCLUSIONS

The Cultural Management Plan report is not a rigid document. The appropriate sections of it should be re-written if there are any changes in the project. The recommendations must be strictly adhered to and this document should be consulted continuously in order to preserve these sites. Eskom personnel should be inducted in this regard on the value of heritage resources and their vulnerability on sites. Monitoring and reporting must be done by the ECO during the construction and maintenance phases. Once the construction phase is completed, monitoring should be done at least once per year. The monitoring reports must be submitted to SAHRA APM.

REFERENCES

- 1. Bergh, J. S., and Bergh, A. P. 1984. Stamme and Stamryke. Don Nelson: Kaapstad.
- 2. Bishop, S. 1987. Early years at Thaba Nchu and friendship between the Rolong and the Voortrekkers. CULNA 32:3-4. Newsletter of the National Museum, Bloemfontein.
- 3. Bishop, S. 1988. Thaba Nchu's border promlems Relationships between the Rolong and the White governments of the area. CULNA 34:22-23. Newsletter of the National
- 4. Museum, Bloemfontein.
- 5. Dreyer, J. J. B. 1992. The Iron Age Archaeology of Doornpoort, Winburg, Orange Free State. Navorsinge van die Nasionale Museum, Bloemfontein, Vol.8(7):262-390.
- 6. Dreyer, J. 1996. Introduction to Free State Iron Age Archaeology. In: Guide to archaeological sites in the Free State and Lesotho. Southern African Association of Archaeologists (SA3), 14th Biennial Conference, Bloemfontein, Post-conference tour 5-8 July 1996. National Museum, Bloemfontein.
- 7. Dreyer, J. 2000. Mountains and Rivers of the Free State Manual for field research / Berge en Riviere van die Vrystaat Handleiding vir veldnavorsing. Bloemfontein: University of the Free State, Department of Anthropology, Occasional Paper No. 2.
- 8. Dunn, E. J. 1931. The Bushman. London: Griffin
- 9. Evers, T. M. 1988. The recognition of groups in the Iron Age of Southern Africa. D. Phil.University of the Witwatersrand, Johannesburg.
- 10. Hamilton, C. (ed.). The Mfecane Aftermath. Witwatersrand University Press.
- 11. Humphreys, A.J.B. 1986. Searching for the past. Cape Town: David Philip.
- 12. Inskeep, R. R. 1978. The Peopling of Southern Africa. David Philip, Cape Town.
- 13. Huffman, T. N. 2007. A handbook to the Iron Age: The archaeology of Precolonial Farming societies in southern Africa. University of Kwazulu-Natal Press: Pietermaritzburg.
- 14. ICOMOS, 1964. The conservation and restoration of monuments and sites. The Venice Charter.
- 15. Kerr, J.S. 1985. The conservation plan: A guide to the preparation of conservation plans for places of European cultural significance. Sydney: The National Trust of Australia.
- 16. Maggs, T. M. 1976. Iron Age Communities of the Southern Highveld. Pietermaritzburg:

Natal Museum.

- 17. Magoma M. 2012. Cultural Heritage Impact Assessment proposed Warden Bulk Water Supply on Farms Leeupoort 1795, Leeukop 1/1791, Leeukop 2/1791, Damaskus 1687, and Middelkop within Phumelela Local Municipality, which falls under the ThabaMofutsanyane District Municipality. Free State. *Unpublished report*: Vhubvo ArchaeoHeritage Consultant: Pretoria.
- 18. Magoma. M. 2013. Phase 1 Archaeological Impact Assessment for the Proposed Upgrade of Boshof Combined School on Portion of Erf 818, Tokolong Local Municipality, Lejweleputswa District in the Boshof administrative region, Free State Province. *Unpublished report*: Vhubvo Archaeo-Heritage Consultant: Pretoria.
- 19. Magoma M. 2013. Phase 1 archaeological impact assessment specialist study report for the proposed new Bohlokong substation and loop in loop out lines in Bohlokong Township of Dihlabeng local municipality within Thabo Mofutsanyana district municipality. Free State province. *Unpublished report*: Vhubvo Archaeo-Heritage Consultant: Pretoria.
- 20. Magoma, M.2016. Archaeological and Cultural heritage EMP walk down, specialist report for the proposed construction of approximately 30 km 32Kv powerline from Eskom Sorata Substation to Witsiehoek Substation located within the jurisdiction of Maluti a Phofung local municipality in the Thabo Mafutsanyana District, Free State Province. *Unpublished report:* Vhubvo Archaeo-Heritage Consultants CC: Pretoria 21.

Mason, R. J. 1962. *The Prehistory of the Transvaal*. Witwatersrand University Press, Johannesburg.

- 22. Mason, R. J. 1986. Origins of the Black People of Johannesburg and the Southern Western Central Transvaal AD 350-1880. (Occasional Paper 16). University of the Witwatersrand, Archaeological Research Unit, Johannesburg.
- 23. Mitchell, P. J. 2002. The archaeology of Southern Africa. Cambridge: Cambridge University.
- 24. Ndoro, W. 1995. The restoration of dry stone walls at Great Zimbabwe archaeological site. *Conservation and Management of archaeological sites* 1: 87-96.
- 25. Pistorius, J. C. C. 1994. Eskom Archaeological Site Identification Guide. Johannesburg: Eskom.

- 26. Randal, M & Avrami, E. 1995. Heritage values and challenges of conservation planning In: Getty Conservation Institute pp 13-38.
- 27. Tomose, N. 2013. A phase 1 heritage impact assessment study for the proposed 132kv lines sorata-witsieshoek, phuthaditjhaba, Free State province, South Africa.
- 28. Taruvinga, P & Ndoro, W.2003. The vandalism of the Domboshava rock painting site, Zimbabwe: Some reflections on approaches to heritage management. *Conservation and Management of Archaeological sites* 6 (1) 3-10.

National Heritage Resources Act (Act No 25 of 1999).

Policy Liaison Office of the South, African Council of Churches, 1999.

http://sagns.dac.gov.za/local authorities.asp

https://en.wikipedia.org/wiki/Pretoria

http://www.salanguages.com/munnames.htm

APPENDIX 1: SITE SIGNIFICANCE

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

(a) Historic value

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of
 - importance in history?
- Does it have significance relating to the history of slavery?

(b) Aesthetic value

• Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

(c) Scientific value

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

(d) Social value

• Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

(e) Rarity

 Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

(f) Representivity

• Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?

- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?

APPENDIX 2: DEFINITION OF TERMS USED IN THIS DOCUMENT

The terminology used in this document is based on two documents. The first is in line with the Venice Charter and gives guidelines and principles regarding the restoration and maintenance of physical historical structures. The second has to do with the scientific methodology as explained by the Getty Conservation Institute (1995). Some other sources were however also utilised. The following terms are used in this management plan:

A Artefact: Cultural object (made by humans).

B Buffer Zone: Means an area surrounding a cultural heritage which has restrictions placed on its use or where collaborative projects and programs are undertaken to afford additional protection to the site.

C Co-management: Managing in such a way as to take into account the needs and desires of stakeholders, neighbours and partners, and incorporating these into decision making through, amongst others, the promulgation of a local board.

Conservation: In relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance as defined. These processes include, but are not necessarily restricted to preservation, restoration, reconstruction and adaptation.

Contextual Paradigm: A scientific approach which places importance on the total context as catalyst for cultural change and which specifically studies the symbolic role of the individual and immediate historical context.

Cultural Resource: Any place or object of cultural significance (see Heritage Resource). Cultural Resource Management (CRM):

The utilization of management techniques to protect and develop cultural resources so that these become long term cultural heritage which are of value to the general public (see Heritage Management).

Cultural Significance: Means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance of a place or object for past, present and future generations. **F** Feature: A coincidental find of movable cultural objects (also see Knudson 1978: 20).

G Grade/Grading: The South African heritage resource management system is based on grading, which provides for assigning the appropriate level of management responsibility to a heritage resource.

Grading is a step in the process towards a formal declaration, such as a declaration as a National Heritage Site, Provincial Heritage Site, or in the case of Grade 3 heritage resources the placing of a resource on the Register. It is not an end in itself, but a means of establishing an appropriate level of management in the process of formal protection.

Grading may be carried out only by the responsible heritage resources authority or in the case of a Grade 3 heritage resource by the Local Authority. Any person may however make recommendations for grading. These are known as Field Ratings and usually accompany surveys and other reports

H Heritage resources (Cultural): Any place or object of cultural significance (see Cultural Resource).

Heritage Resources Management (Cultural): The utilization of management techniques to protect and develop cultural resources so that these become long term cultural heritage which are of value to the general public (see Cultural Resources Management).

A scientific approach based on the Contextual paradigm but placing the emphasis on the cultural importance of archaeological (and historical) sites for the community.

Heritage Site Management: The control of the elements that make up the physical and social environment of a site, its physical condition, land use, human visitors, interpretation etc. Management may be aimed at preservation or, if necessary at minimizing damage or destruction or at presentation of the site to the public. A site management plan is designed to retain the significance of the place. It ensures that the preservation, enhancement, presentation and maintenance of the place/site are deliberately and thoughtfully designed to protect the heritage values of the place.

Historic: Means significant in history, belonging to the past; of what is important or famous in the past.

Historical: Means belonging to the past or relating to the study of history.

M Maintenance: Means the continuous protective care of the fabric, contents and setting of a place. It does not involve physical alteration.

Management: With reference to cultural heritage resources it includes preservation, conservation, presentation and improvement of a place or object.

In relation to a protected area, it includes control, protection, conservation, maintenance and rehabilitation of the protected area with due regard to the use and extraction of biological resources, community-based practices and benefit sharing activities in the area in a manner consistent with the Biodiversity Act (Act 10 of 2004) as defined and required by the National Environmental Management: Protected Areas Act, (Act 57 of 2003).

O Object: Artefact (cultural object) (also see Knudson 1978: 20).

Preservation: Refers to protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change and may include stabilization where necessary. Preservation is appropriate where the existing state of the fabric itself constitutes evidence of specific cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.

Protection: With reference to cultural heritage resources this includes the conservation, maintenance, preservation and sustainable utilization of places or objects in order to maintain the cultural significance thereof.

R Restoration: To bring a place or object back as close as possible to a known state, without using any new materials.

S Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artefacts, found on a single location (also see Knudson 1978: 20). Also

means any area of land, including land covered by water, and including any structures or objects thereon.