

**A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED BATTERY STORAGE PROJECT AT MELKHOUT SUBSTATION, NEAR HUMANSDORP, KOUGA LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.**

**Prepared for:** SRK Consulting (South Africa) (Pty) Ltd.  
Ground Floor, Bay Suites,  
1a Humewood Rd,  
Humerail,  
Port Elizabeth, 6001  
P O Box 21842, Port Elizabeth, 6000  
Tel: +27-(0)41-509-4800  
Fax: +27-(0)41-509-4850  
Email: TSpeyers@srk.co.za  
Contact person: Ms Tanya Speyers

**Compiled by:** Ms Celeste Booth  
t/a Booth Heritage Consulting  
8 Frances Street  
Oatlands  
Grahamstown  
6140  
Tel: 082 062 4655  
Email: cbooth670@gmail.com  
Contact person: Ms Celeste Booth

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**NOTE:** An archaeological impact assessment is required as a requisite of the National Heritage Resources Act 25 of 1999, Section 38 (c)(i):

- (c) any development or other activity which will change the character of the site –  
(i) exceeding 5 000 m<sup>2</sup> in extent,

This report follows the minimum standard guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for compiling a Phase 1 Archaeological Impact Assessment. (See Appendix A for further heritage legislation)

### **1. EXECUTIVE SUMMARY**

#### **1.1. Purpose of the Study**

The purpose of the study was to conduct a phase 1 archaeological impact assessment (AIA) for the proposed battery storage project at Melkhout Substation, near Humansdorp, Kouga Local Municipality, Eastern Cape Province.

The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological heritage material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimize possible damage to the archaeological heritage.

#### **1.2. Brief Summary of Findings**

No archaeological / historical or other heritage resources were identified within the proposed development area. However, one stone artefact was encountered, *ex situ*, outside the boundary of the proposed development along the gravel access road to the adjacent wind farm.

#### **1.3. Recommendations**

The overall area is considered as having a *low archaeological heritage significance*. Development may proceed as planned however the following recommendations must be considered during the course of development:

1. If concentrations of pre-colonial archaeological heritage material (such as shell middens and associated material) and/or human remains (including graves and burials) are

uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the archaeological / heritage site will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue.

2. A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

#### **1.4. Declaration of Independence and Qualifications**

This section confirms a declaration of independence that archaeological heritage specialist, Ms Celeste Booth, has no financial or any other personal interests in the project for the proposed battery storage project at Melkhout Substation, near Humansdorp, Kouga Local Municipality, Eastern Cape Province.

Ms Celeste Booth was appointed on a strictly professional basis to conduct a Phase 1 Archaeological Impact Assessment in line with the South African national heritage legislation, the National Heritage Resources Act 25 of 1999 (NHRA 25 of 1999) and in response to the recommendations provided by the Department of Environmental Affairs and according to the environmental impact assessment regulations.

Ms Celeste Booth (BSc Honours: Archaeology) is an archaeologist who has had ten years of full-time experience in Cultural Resource Management in the Eastern Cape and sections of the Northern Cape and Western Cape. Ms Booth has conducted several Archaeological Desktop Studies and Phase 1 Archaeological Impact Assessments within the Eastern Cape and in the Karoo region across the Eastern Cape, Northern Cape and Western Cape.

## **2. BACKGROUND INFORMATION**

### **2.1. Type of Development**

Eskom is proposing to build Battery storage facilities to optimise excess IPP in-feeds on Distribution network. The battery storage (project) is a new technology to Eskom. The project will provide capacity for the existing and future developments in the area.

The proposed battery storage facility is estimated to be more than 1 hectare in size.

## **2.2. Applicant**

ESKOM

## **2.3. Environmental Assessment Practitioner (EAP)**

SRK Consulting (South Africa) (Pty) Ltd.

Ground Floor, Bay Suites,

1a Humewood Rd,

Humerail,

Port Elizabeth, 6001

P O Box 21842, Port Elizabeth, 6000

Tel: +27-(0)41-509-4800

Fax: +27-(0)41-509-4850

Email: TSpeyers@srk.co.za

Contact person: Ms Tanya Speyers

## **2.4. Terms of reference**

The purpose of the study was to conduct a phase 1 archaeological impact assessment (AIA) for the proposed battery storage project at Melkhout Substation, near Humansdorp, Kouga Local Municipality, Eastern Cape Province.

The survey was conducted to:

- Identify and map all heritage resources in the area affected;
- Assess of the significance of such resources in terms of the heritage assessment criteria;
- Assess the impact of development on such heritage resources;
- Evaluate the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- Make recommendations to minimize possible damage to the archaeological heritage.

## **3. ARCHAEOLOGICAL BACKGROUND**

The Albany Museum Database of archaeological sites showed sites occurring along the coastline, as well as caves and rock shelters containing rock paintings to the north within the mountainous areas. Several relevant archaeological and heritage impact assessments have been conducted within the immediate vicinity, as well as the within wider region towards Humansdorp, Hankey and Patensie and along the coastal areas of Oyster Bay, St Francis, and Jeffreys Bay. These impact assessments have identified palaeo-landscapes as well as several Early, Middle, and Later Stone Age stone artefacts, faunal material, as well

as more recent cultural material distributed within the regions as well as evidence of Khoekhoen pastoralist occupation and/or interaction by the presence of broken earthenware pot sherds.

In Nilssen (2003a) it was noted that the Cape St Francis region contains remnants of ancient landscapes with associated fossilized remains of animals that died around waterholes. Such remains are important to inform scientists about ancient and altered environments and ecosystems.

Binneman (2010d; see also Binneman 2001) in compiling a desktop assessment for the Oyster Bay Wind Energy Facility highlighted that adjacent to coast are small dune areas, remnants of far larger system in the past. These include the well-known Geelhoutboom dunes above the Klasies River Caves, Brandewynkop and the large dune field of parallel longitudinal dunes which run in the direction of the prevailing winds (west to east), and are referred to as hairpin dunes (Tinley 1985). These large shifting sand dunes are underlain by ferricretes, calcretes and fossilized dune sands which are situated on top of Table Mountain Sandstones. Due to the continuous movement of the dunes, many archaeological and palaeontological sites are exposed all the time while simultaneously other are covered. The deflation bays are often waterlogged in winter.

Binneman (2011d) remarked that the surrounding coastal areas and Sand River / Goedgeloof dune field, are very rich in archaeological heritage sites dating between the ESA periods to recent times (Binneman 2001, 2005). Of special interests the MSA stone tool manufacturing sites and associated fossil bone accumulations. There are also many hunter-gatherer shell middens in the dunes dating from some 5 000 years old and a few Khoi pastoralists shell middens. The pastoralist middens are very important and rate among the richest in South Africa and yielded a large number of sheep, goat and cattle.

### **3.1. Early Stone Age (ESA) - 1.5 million to 250 000 years ago**

The Early Stone from between 1.5 million and 250 000 years ago refers to the earliest that *Homo sapiens sapiens* predecessors began making stone tools. The earliest stone tool industry was referred to as the Olduvan Industry originating from stone artefacts recorded at Olduvai Gorge, Tanzania. The Acheulian Industry, the predominant southern African Early Stone Age Industry, replaced the Olduvan Industry approximately 1.5 million years ago, is attested to in diverse environments and over wide geographical areas. The hallmark of the Acheulian Industry is its large cutting tools (LCTs or bifaces), primarily handaxes and cleavers. Bifaces emerged in East Africa more than 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 Iberian coast. The end products were similar across the geographical and chronological distribution of the Acheulian techno-complex: large flakes that were suitable in size and morphology for the production of handaxes and cleavers perfectly suited to the available raw materials (Sharon 2009).

One of the most well-known Early Stone Age sites in southern Africa is Amanzi Springs, situated about 10km north-east of Uitenhage, near Port Elizabeth (Deacon 1970). In a series of spring deposits, a large number of stone tools were found *in situ* to a depth of 3-4m. Wood and seed material preserved remarkably very well within the spring deposits, and possibly date to between 800 000 to 250 000 years old. Other Early Stone Age sites that contained preserved bone and plant material include Wonderwerk Cave in the Northern Province, near Kimberly and Montagu Cave in the Western Cape, near the small town of Montagu (Mitchell 2007). Early Stone Age sites have also been reported in the foothills of the Sneeuberge Mountains (in Prins 2011).

Early Stone Age tools is the earliest evidence for human ancestors occupying this area and occur throughout the coastal region in river gravels that cap hilltops and slopes and on the palaeosols / calcrete floors in the dune systems like those at Geelhoutboom and Brandewynkop (Butzer 1978; Deacon & Geleijnse 1988). One of the largest Early Stone Age sites in the region is situated next to the Kromme River. Hand axes and cleavers are common in the dunes immediately east of Thysbaai, but only few have been observed in the dune system between Oyster Bay and St Francis Bay (Binneman 1996, 2001, 2005). Early Stone Age tools are generally found in secondary context with no associated organic or other cultural material and are most often mixed with Middle and Later Stone Age stone artefacts.

Early Stone Age stone artefacts have been documented along the coastline between Oyster Bay and Van Stadens and it is anticipated that these artefacts occur within this region between the coastline and mountainous areas. Several Heritage and Archaeological Impact Assessments have recorded the occurrence of Early Stone Age stone artefacts between the coast and the mountainous region including Hankey and Patensie (Anderson 2011; Binneman 2006d, 2009b, 2010a, 2011a/d/g/j, 2012a/c, 2013; Nilssen 2013; Van Ryneveld 2010, 2012, 2014).

Binneman (2010d) noted that ESA stone tools can be found scattered throughout the coastal region in the river gravels that cap the hill tops and slopes in the Humansdorp and Kareedouw regions and on the calcrete floors exposed in the dune systems (e.g., on the Farm Geelhoutboom) (Laidler 1947; Butzer 1978; Deacon & Geleijnse 1988). These ESA stone tools are in secondary context and most often mixed with MSA and LSA material.

Just north of the dune fields close to Oyster Bay a large ESA, MSA and LSA site is situated in a palaeo watercourse (Van Ryneveld 2010), while a range of mostly deflated EAS, MSA and LSA scatters seem to be associated with quartzitic outcrops north of the dune system (Anderson 2011; Van Ryneveld 2012a).

Halkett (2010) also reported on ESA occurrences at Thyspunt near Oyster Bay.

### 3.2. Middle Stone Age (MSA) – 250 000 – 30 000 years ago

The Middle Stone Age spans a period from 250 000 - 30 000 years ago and focuses on the emergence of modern humans through the change in technology, behaviour, physical appearance, art and symbolism. Various stone artefact industries occur during this time 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). The large handaxes and cleavers were replaced by smaller stone artefacts called the Middle Stone Age flake and blade industries. 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 artefacts to be found between the surface and approximately 50-80cm below ground. Fossil bone may in rare cases be associated with Middle Stone Age occurrences (Gess 1969). These stone artefacts, like the Earlier Stone Age handaxes are usually observed in secondary context with no other associated archaeological material.

The Middle Stone Age is distinguished from the Early Stone Age by the smaller-sized and distinctly different stone artefacts and *chaîne opératoire* (method) used in manufacture, the introduction of other types of artefacts and evidence of symbolic behaviour. The prepared core technique was used for the manufacture of the stone artefacts which display a characteristic faceted striking platform and includes mainly unifacial and bifacial flake blades and points. The Howiesons Poort Industry (80 000 - 55 000 years ago) is distinguished from the other Middle Stone Age stone artefacts: the size of tools is generally smaller, the range of raw materials include finer-grained rocks such as silcrete, chalcedony, quartz and hornfels, and include segments, backed blades and trapezoids in the stone toolkit which were sometimes hafted (set or glued) onto handles. In addition to stone artefacts, bone was worked into points, possibly hafted, and used as tools for hunting (Deacon & Deacon 1999).

Other types of artefacts that have been encountered in archaeological excavations include tick shell (*Nassarius kraussianus*) beads, the rim pieces of ostrich eggshell (OES) water flasks, ochre-stained pieces of ostrich eggshell and engraved and scratched ochre pieces, as well as the collection of materials for purely aesthetic reasons. Although Middle Stone Age artefacts occur throughout the Eastern Cape, the most well-known Middle Stone Age sites include the type-site for the Howiesons Poort stone tool industry, Howiesons Poort (HP) rock shelter, situated close to Grahamstown and Klasies River Mouth Cave (KRM), situated along the Tsitsikamma coast. Middle Stone Age sites are located both at the coast and in the interior across southern Africa.

The Klasies River Cave complex (caves 1-5), situated 25 km west of Oyster Bay, is the most significant archaeological site with evidence of occupation and human development over the last 120 000 years. Previous excavations at the Klasies River main site exposed anatomically modern human remains dating to about 110 000 years old (Singer & Wymer

1982; Rightmire & Deacon 1991; Deacon 1992, 1993, 1995, 2001; Deacon, H.J. & Shuurman, R. 1992; Henderson 1992; Deacon & Deacon 1999). The Klasies River Cave Complex was declared a National Heritage Site by SAHRA in 2016. In addition, an application has been made to the United Nations Educational, Scientific and Cultural Organization (UNESCO) to declare a series of Middle Stone Age Sites including Klasies River (KR), Blombos Cave (BBC), Border Cave (BC), Diepkloof (DKF), Pinnacle Point (PP), Sibudu Cave (SC) and comparable sites relating to the emergence of modern humans as World Heritage Sites.

Scatters of Middle Stone Age stone artefacts are known to occur within the surrounding area where these have been recorded in archaeological and heritage impact assessments between the coastline and Hankey (Anderson 2011; Binneman 2002, 2009b-c, 2010 a-c, 2011a/d/g, 2012a, 2013; Nilssen 2003a-b, 2013; Van Ryneveld 2010, 2012, 2014)

Webley 2002 noted that there are a number of MSA stone artefacts in the Sand River Dune Fields. Some of these scatters are associated with fossilized bone remains. It is conceivable that some of the bones associated with the above-mentioned MSA sites may include fragments from early modern humans. Such remains are critical to research into the origins of modern humans.

Nilssen (2003a) recorded MSA occurrences during the study conducted for The Links Golf Estate near St. Francis Bay. He recorded a Middle Stone Age flake, a classic upper grindstone, a large core, a small blade in silcrete with Howiesons Poort features and a few fossilized fragments of humerus bone from a size III/IV bovid at Site 1, situated in an exposed and deflated area approximately 150 m x 20 m in extent. At Site 5 he recorded a low-density scatter of MSA and LSA stone artefacts and fossilized as well as non-fossilized bone. Two teeth of large carnivore and two small bladelet cores in quartz. The latter measured about 2 cm in maximum dimension and was situated on an exposed and deflated surface approximate 50 m x 20 m in extent. Some of these sites would later be included as part of the Phase 2 mitigation / rescue excavations.

Binneman (2010d) notes that the MSA sites in the dune field between Oyster Bay and St Francis Bay, however, are also associated with faunal remains. One such site is situated some two kilometres east of Oyster Bay. Here is a large assemblage of fossilized bone and brown hyena coprolites were found in association with Howiesons Poort stone tools dating between ca 60 – 70 000 years old (Carrion et al. 2000). According the maps it seems that the area where the assemblage was found is located about 1 km south of the quarry site. At the eastern end of the dune field are most remarkable MSA 'factory' sites which consisted of large circular piles of flakes and cores. Most of the flake piles represent unique 'moments in time' where large numbers of flakes were produced from a single core.

Halkett (2010) also reported on MSA occurrences at Thyspunt near Oyster Bay.

### 3.3. Later Stone Age (LSA) – 30 000 years ago – recent (100 years ago)

The Later Stone Age (LSA) spans the period from about 20 000 years ago until the colonial era, although some communities continue making stone tools today. The period between 30 000 and 20 000 years ago is referred to as the transition from the Middle Stone Age to Later Stone Age; although there is a lack of crucial sites and evidence that represent this change. By the time of the Later Stone Age the genus *Homo*, in southern Africa, had developed into *Homo sapiens sapiens*, and in Europe, had already replaced *Homo neanderthalensis*.

The period between 20 000 and 14 000 years ago experienced extremely cold climatic conditions (LGM –the last Ice Age). Archaeological and palaeo-environmental evidence from the wider Oyster Bay coast indicate that the cold temperatures created favourable conditions for grassland expansion, which in turn gave rise to large herd of grazing animals. The mammal remains from archaeological sites indicate that there were several large grazing animal species living on the grassland, e.g. giant buffalo, giant hartebeest and the Cape horse. After 14 000 years ago, the temperature started to warm up again and caused the previously exposed grassland to disappear, causing the extinction of many grassland animal species including the giant buffalo, hartebeests and Cape Horse (Klein 1976).

Between 10 000 and 8 000 years ago the terrestrial environment became more closed (bushier) giving rise to small browsing territorial animals that lived in small groups or pairs. Recently the remains of an extinct goat-like bovid dating from this period, was identified from several archaeological sites in the area. This was the last of the remaining Last Glacial grazing animals to disappear from the archaeological deposits in the Kouga region.

The Later Stone Age is marked by a series of technological innovations, new tools and artefacts, the development of economic, political and social systems, and core symbolic beliefs and rituals. The stone toolkits changed over time according to time-specific needs and raw material availability, from smaller microlithic Robberg (20/18 000-14 000ya), Wilton (8 000-the last 500 years) Industries and in between, the larger Albany/Oakhurst (14 000-8 000ya) and the Kabeljous (4 500-the last 500 years) Industries. Bored stones used as part of digging sticks, grooved stones for sharpening and grinding and stone tools fixed to handles with mastic also become more common. Fishing equipment such as hooks, gorges and sinkers also appear within archaeological excavations. Polished bone tools such as eyed needles, awls, linkshafts and arrowheads also become a more common occurrence. Most importantly bows and arrows revolutionized the hunting economy. It was only within the last 2000 years that earthenware pottery was introduced, before then tortoiseshell bowls were used for cooking and ostrich eggshell (OES) flasks were used for storing water. Decorative items like ostrich eggshell and marine/fresh water shell beads and pendants were made.

Hunting and gathering made up the economic way of life of these communities; therefore, they are normally referred to as hunter-gatherers. Hunter-gatherers hunted both small and large game and gathered edible plantfoods from the veld. For those that lived at or close to the coast, marine shellfish and seals and other edible marine resources were available for the gathering. The political system was mainly egalitarian, and socially, hunter-gatherers lived in bands of up to twenty people during the scarce resource availability dispersal seasons and aggregated according to kinship relations during the abundant resource availability seasons. Symbolic beliefs and rituals are evidenced by the deliberate burial of the dead and in the rock art paintings and engravings scattered across the southern African landscape.

The majority of archaeological sites found in the area would date from the past 10 000 years where San hunter-gatherers inhabited the landscape living in rock shelters and caves as well as on the open landscape. These latter sites are difficult to find because they are in the open veld and often covered by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone. The preservation of these sites is poor and it is not always possible to date them (Deacon and Deacon 1999). Caves and rock shelters, however, in most cases, provide a more substantial preservation record of pre-colonial human occupation.

Later Stone Age sites occur both at the coast (caves, rock shelters, open sites and shell middens) and in the interior (caves, rock shelters and open sites) across southern Africa. There are more than a few significant Later Stone Age sites in the Eastern Cape. The most popular are the type sites for the above-mentioned stone artefact industries, namely Wilton (for the Wilton Industry), Melkhoutboom (for the Albany Industry), both rock shelters situated to the west of Grahamstown, and Kabeljous Rock Shelter (for the Kabeljous Industry) situated just north of Jeffreys Bay. There are many San hunter-gatherers' sites in the interior mountainous region north of the study site. Here, caves and rock shelters were occupied by the San during the Later Stone Age and contain numerous paintings along the walls.

The majority of archaeological sites and material were located within a few hundred metres from the high-water mark, but a large number of shell middens were also situated some five kilometres from the coast in the shifting dune bypass system between Oyster Bay and St Francis Bay.

Later Stone Age stone artefact scatters and sites are known to occur within the along the coast and surrounding area where these have been recorded in archaeological and heritage impact assessments between the coastline and (Anderson 2011; Binneman, 2002, 2009c; Kaplan 1991; Nilssen 2003a-b, 2013; Van Ryneveld 2012, 2014).

During Binneman's research from the 1980's within the area (Binneman 2001), he identified a variety of different material signatures within the dunes and divided the coastal shell middens into groups that are most common in the St Francis / Oyster Bay area:

1. Shell middens with pottery and domesticated fauna and those with pottery only.
2. Shell middens, without pottery, associated with a quartzite stone industry (referred to as the Kabeljous Industry)
3. Shell middens, without pottery, associated with a silcrete or quartz microlithic Wilton Industry.

Nilssen (2003a) noted that in addition to middens, a number of graves were found in the Sand River Dune Field area adjacent to the proposed site for the St Francis Golf Estate. "These generally represent Khoisan individuals who are frequently buried in a flexed (fetal) position. They may be buried with grave goods such as grindstones or OES bead necklaces. Of importance is the discovery of the remains of a Negroid individual just north of the Kromme River some years ago. This individual was buried some 700 years ago and this is the earliest Negroid found this far south on the South African coast."

Hart (2010) commented that the pre-colonial heritage within the Eskom Thyspunt Nuclear Power Station study site is extraordinarily prolific. He noted that the area is highly significant in terms of Late Stone pre-colonial archaeology, in particular the large quantity, variety and size of shell middens which are very well preserved (among the best ever seen by himself) referring to them as archives of information about the identity and behaviour of precolonial people, as well as the environment in which they lived.

### **3.4. Last 2 000 years – Khoekhoen Pastoralism**

Until 2 000 years ago, hunter-gatherer communities traded, exchanged goods, encountered and interacted with other hunter-gatherer communities. From about 2000 years ago the social dynamics of the southern African landscape started changing with the immigration of two 'other' groups of people, different in physique, political, economic and social systems, beliefs and rituals. Relevant to the study area, one of these groups, the Khoekhoen pastoralists or herders entered southern Africa with domestic animals, namely fat-tailed sheep and goats, travelling through the south towards the coast. They also introduced thin-walled pottery common in the interior and along the coastal regions of southern Africa. Their economic systems were directed by the accumulation of wealth in domestic stock numbers and their political make-up was more hierarchical than that of the hunter-gatherers.

The most significant Khoekhoen pastoralist sites in the Eastern Cape include Scott's Cave near Patensie (Deacon 1967), Goedgeloof shell midden along the St. Francis coast (Binneman 2007) and Oakleigh rock shelter near Queenstown (Derricourt 1977). Often, these archaeological sites are found close to the banks of large streams and rivers.

Many sites were found along the adjacent Cape St Francis coast, with the oldest dating to 1 500 years old (Binneman 1996, 2001, 2005).

Binneman excavated an open-air shell midden in a deflation hollow in the Sand River Dune Fields that was named Goedgeloof (after the adjoining farm). This pastoralist site represents the oldest dates for sheep and pottery in the Eastern Cape. The pottery has been dated to 1 770 BP (AD180) and the sheep to (1560 BP) (AD 390). Interestingly, the most common shellfish utilized by these peoples was pencil bait (*Solen capensis*) and these were almost certainly collected from the Kromme River estuary which has the highest population of pencil bait in the Eastern Cape. The site of Goedgeloof is situated 5 km from the St Francis Bay coast showing that the occupants of the site were travelling considerable distances to collect their food.

Hart (2010) also noted that the pottery of the Cape Coastal variety is common and that some had been elaborately decorated.

### **3.5. Human Remains**

It difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through erosion or construction activities for development. Several human remains have been rescued eroding out of the dunes along this coastline. In some instances, packed stones or rocks may indicate the presence of informal pre-colonial burials.

The Albany Museum Database holds records of human remains that have been exposed and collected for conservation and curation. Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments have also recorded formal historical cemeteries and informal burials (Binneman 2006a – Hankey, Binneman 2008 – Papiessfontein; Sealy 2006 – Jeffreys Bay). Human remains had been found during the mining operations for the Sand Quarry on the Farm Welgelegen 735, it is highly likely that more human remains would be buried with the dune to be mined.

### **3.6. Rock Art (Paintings and Engravings)**

Rock art is generally associated with the Later Stone Age period mostly dating from the last 5000 years to the historical period. It is difficult to accurately date the rock art without destructive practices. The southern African landscape is exceptionally rich in the distribution of rock art which is determined between paintings and engravings. Rock paintings occur on the walls of caves and rock shelters across southern Africa. Rock engravings, however, are generally distributed on the semi-arid central plateau, with most of the engravings found in the Orange-Vaal basin, the Karoo stretching from the Eastern Cape (Cradock area) into the Northern Cape as well as the Western Cape, and Namibia.

At some sites both paintings and engravings occur in close proximity to one another especially in the Karoo and Northern Cape. The greatest concentrations of engravings occur on the andesite basement rocks and the intrusive Karoo dolerites, but sites are also found on about nine other rock types including dolomite, granite, gneiss, and in a few cases on sandstone (Morris 1988). Substantial research has also been conducted in the Western Cape Karoo area around Beaufort West (Parkington 2008). Rock paintings are prolific in the inland mountainous regions situated north of the site.

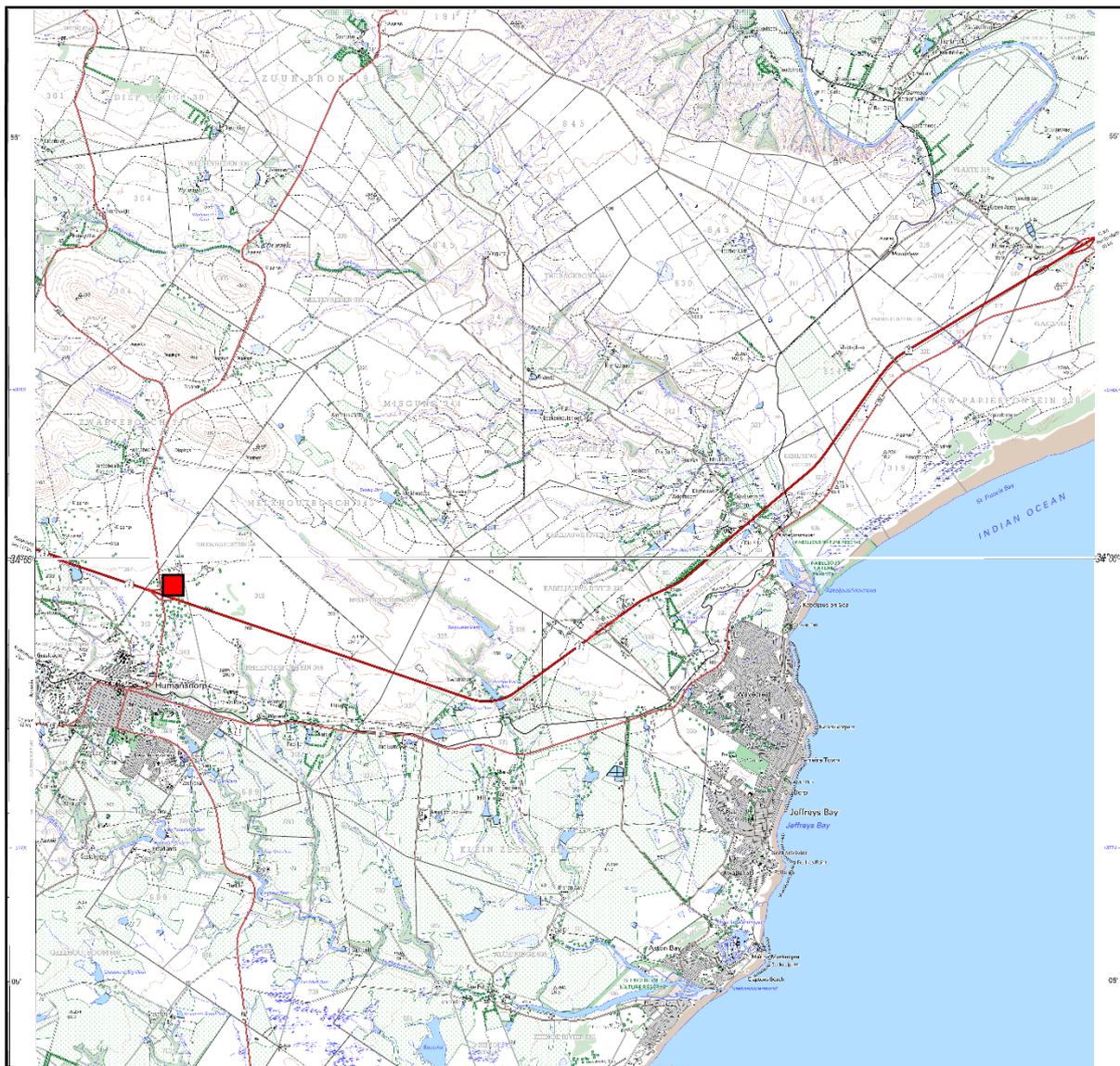
#### **4. DESCRIPTION OF THE PROPERTY**

##### **4.1. Location data**

The proposed extension the Melkhout Substation and establishment of additional battery storage is located on Erf 499, Humansdorp. The site can be accessed east off the R330 Regional Road north N2 National Road. The site is situated immediately adjacent to the existing Melkhout Substation.

##### **4.2. Map**

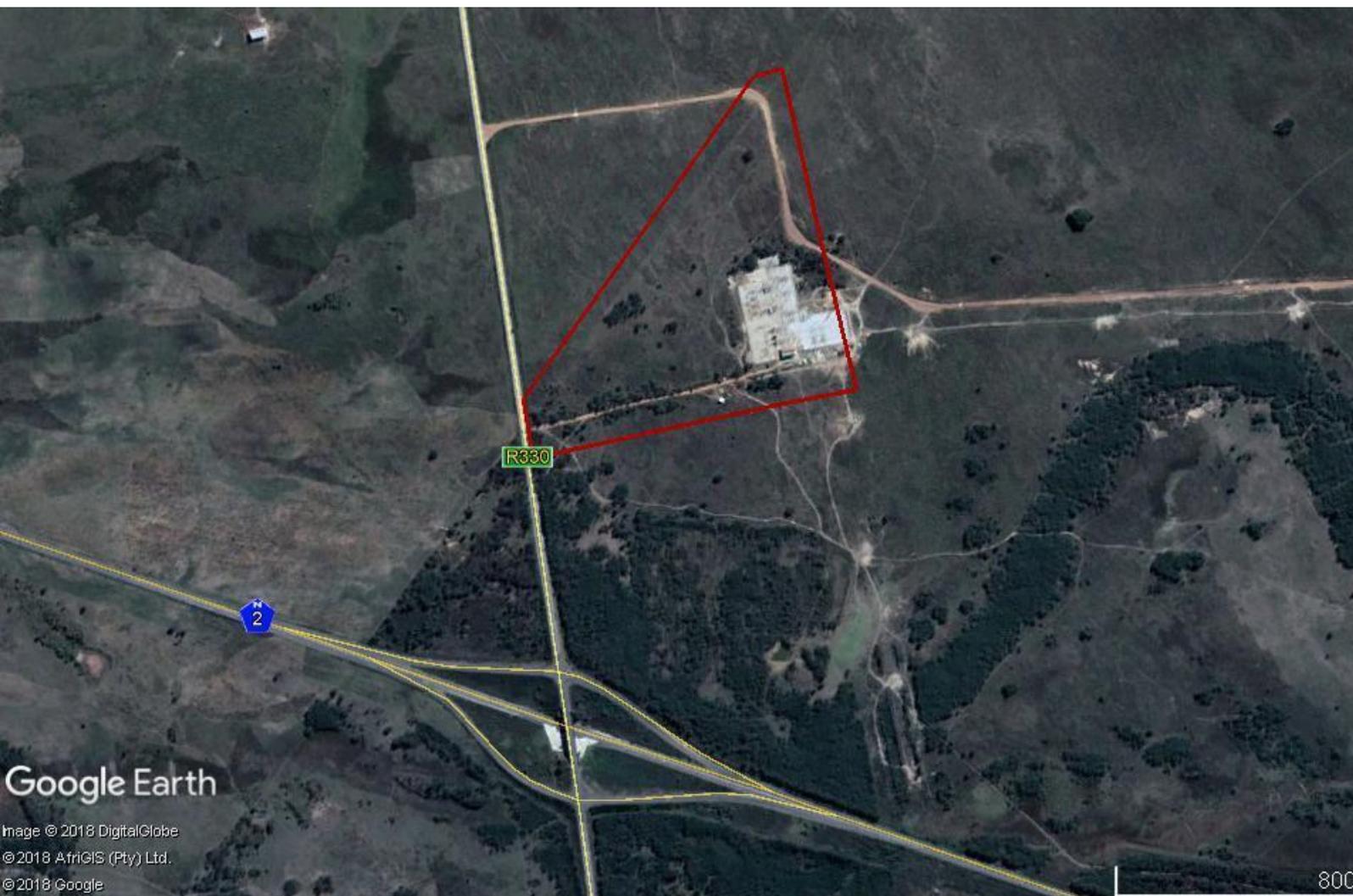
1:50 000 topographic maps: 3324 DD HANKEY (2002) and 3424 BB HUMANSDORP (2002) (Figure 1).



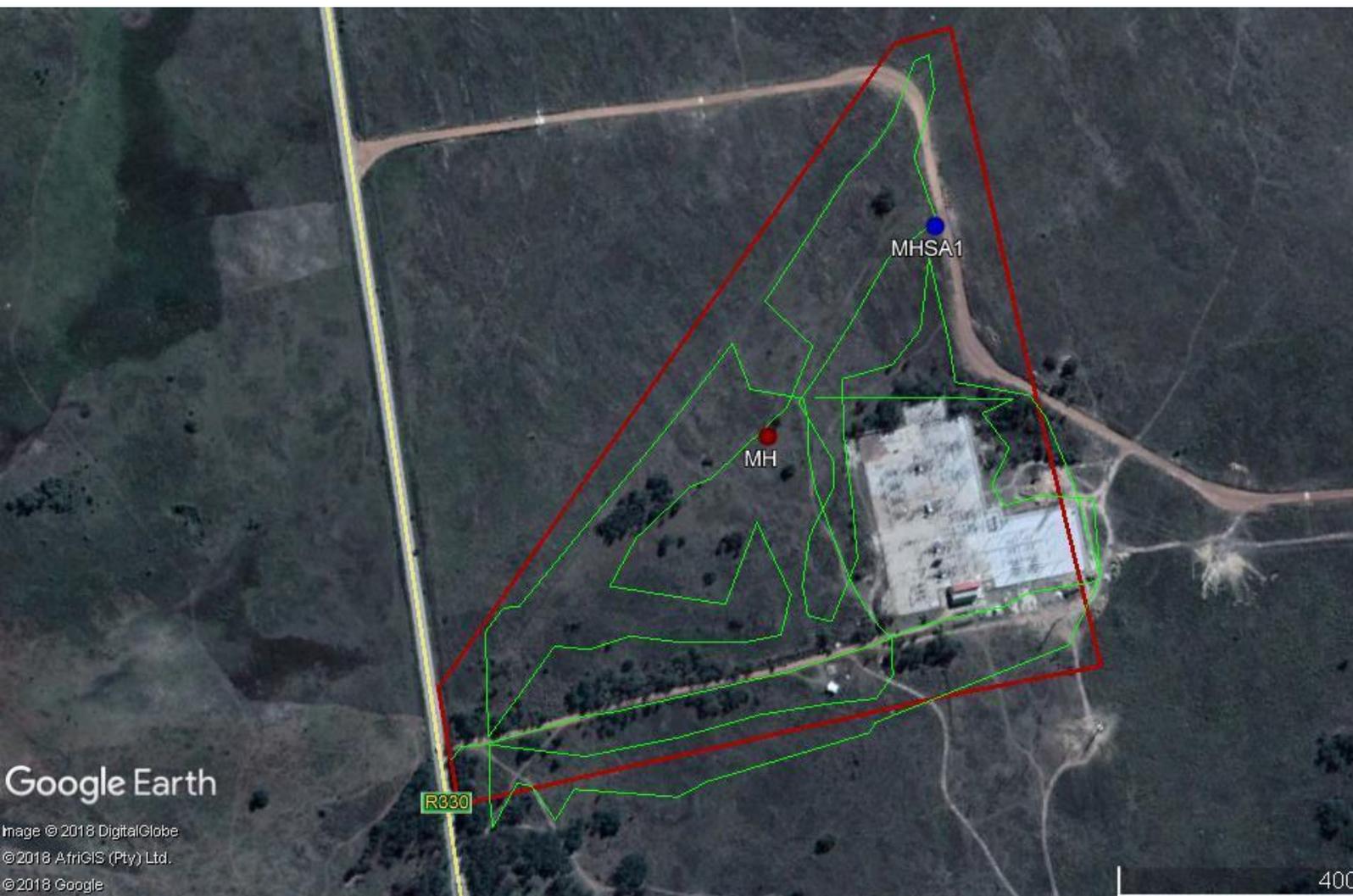
**Figure 1. 1:50 000 topographic maps 3324 DD HANKEY (2002) and 3424 BB HUMANSDORP (2002) showing the location of the proposed battery storage project at Melkhout Substation, near Humansdorp (red block).**



**Figure 2. Google Earth Pro generated aerial map showing the location of the proposed battery storage project in Humansdorp (red block).**



**Figure 3. Aerial view showing the extent of the survey area for the proposed battery storage project in Humansdorp (red block).**



**Figure 4. Aerial view showing the extent of the survey area for the proposed battery storage project in Humansdorp (red block).**

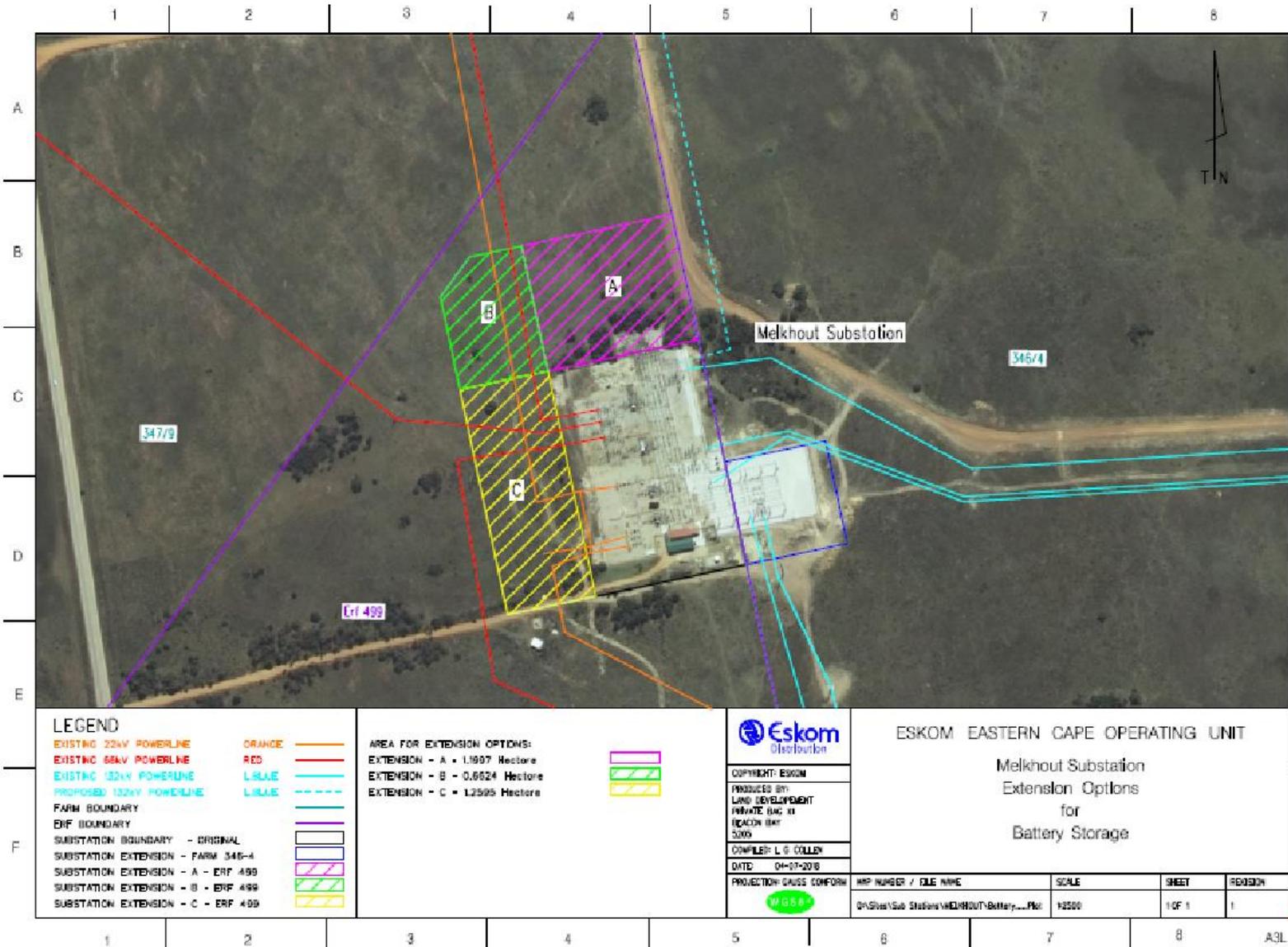


Figure 4. Map showing the actual proposed footprint for the extension of the Melkhout Substation (ESKOM Consulting).

## **5. ARCHAEOLOGICAL INVESTIGATION**

### **5.1. Methodology**

A brief overview of archaeological research within the wider region and relevant archaeological, heritage, and cultural impact assessments have been included as an overview to the possible archaeological, historical and other heritage resources that may occur within the proposed mining permit application area. The landowner was also consulted.

The survey was conducted on foot. A 50 m boundary around the footprint of the proposed extension of the substation was included as part of the survey area. Photographs and the GPS co-ordinates were taken using a Garmin Oregon 650. The relevant GPS coordinates have been plotted on Google Earth generated maps.

Archaeological visibility was obscured over most of the area owing to the dense vegetation cover. Burrow holes and surface disturbed and erosion areas were investigated and followed for possibility of any archaeological material.

### **5.2. Results of the Archaeological Survey**

The general landscape for the proposed extension of the substation as well as the extended 50 m survey area is mainly of dense grass vegetation cover (Figures 5-11). This obscured archaeological visibility. No archaeological heritage remains were observed within the surface disturbed areas such as the dug-out burrow holes and eroded areas.

One stone artefact was encountered, *ex situ*, outside the boundary of the proposed development along the gravel access road to the adjacent wind farm (Figure 12). It is, however, possible that stone artefacts may occur below the vegetation cover between the surface and 50 – 80 cm below the ground.



**Figure 5. View of the substation and a portion of the proposed extension area.**



**Figure 6. View of the substation and a portion of the proposed extension area..**



**Figure 7. View of the substation and a portion of the proposed extension area.**



**Figure 8. View of the general landscape for the extension of the Melkhout Substation.**



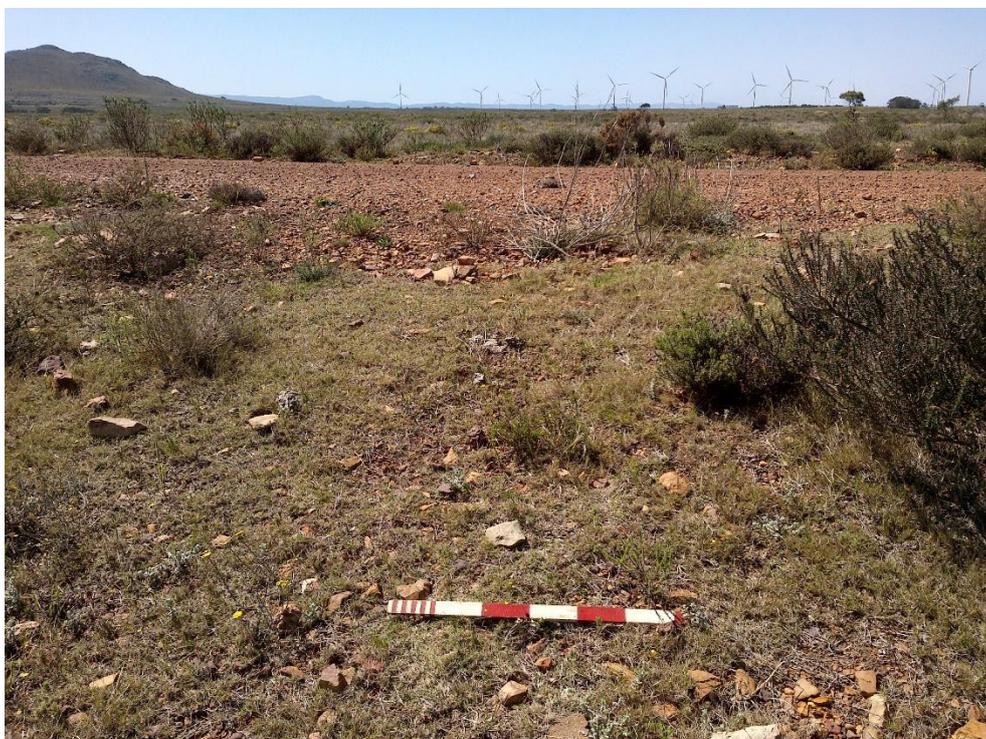
**Figure 9. View of the general landscape for the extension of the Melkhout Substation.**



**Figure 10. View of the general landscape for the extension of the Melkhout Substation.**



**Figure 11. View of the general landscape for the extension of the Melkhout Substation.**



**Figure 12. View of the location of the stone artefact outside the proposed extension area.**

## 6. DESCRIPTION AND GRADING OF SITES

### 6.1. Stone Artefact Occurrences (MHSA1)

No archaeological / historical or other heritage resources were identified within the proposed development area. However, one stone artefact was encountered, *ex situ*, outside the boundary of the proposed development along the gravel access road to the adjacent wind farm.

The stone artefact occurrence is considered as having a *low archaeological significance* and has been allocated a heritage grading of:

'General' Protection C (Field Rating IV C): This site has been sufficiently recorded (in the Phase 1). It requires no further recording before destruction (*Low significance*).

## 7. COORDINATES AND SITES FOR THE PROPOSED BATTERY STORAGE PROJECT AT MELKHOUT SUBSTATION, NEAR HUMANSDORP, KOUGA LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.

**Table 1: Coordinates and Sites for the proposed battery storage project at Melkhout Substation, near Humansdorp, Kouga Local Municipality, Eastern Cape Province.**

REFERENCE	DESCRIPTION	COORDINATE	HERITAGE GRADING
MH	Proposed development area	33°59'59.53"S; 24°46'55.74"E	N/A
KSSA2	Isolated stone artefact occurring outside the boundary of the development area	33°59'53.72"S; 24°47'01.34"E	N/A

## 8. CULTURAL LANDSCAPE

Cultural landscapes are increasingly becoming a significant considering factor when conducting various heritage impact assessments for proposed developments. The area proposed for proposed battery storage project at Melkhout Substation, near Humansdorp, Kouga Local Municipality, Eastern Cape Province, is considered as having low archaeological significance.

This section gives a brief introduction to the concept of cultural landscape and its relation for various aspects of the dynamic interaction of humans as cultural agents and the

landscape as a medium. A description of the interwoven relationships of humans with the landscape over time will be given including the archaeological, historical, and contemporary connections.

### **8.1. Concept of Cultural Landscape**

Cultural landscapes can be interpreted as complex and rich extended historical records conceptualised as organisations of space, time, meaning, and communication moulded through cultural process. The connections between landscape and identity and, hence, memory are fundamental to understanding of landscape and human sense of place. Cultural landscapes are the interface of culture and nature, tangible and intangible heritage, biological and cultural diversity. They represent a closely woven net of relationships, the essence of culture and people's identity. They are symbol of the growing recognition of the fundamental links between local communities and their heritage, human kind, and its natural environment. In contemporary society, particular landscapes can be understood by taking into consideration the way in which they have been settled and modified including overall spatial organisation, settlement patterns, land uses, circulation networks, field layout, fencing, buildings, topography, vegetation, and structures. The dynamics and complex nature of cultural landscapes can be regarded as text, written and read by individuals and groups for very different purposes and with very many interpretations. The messages embedded in the landscape can be read as signs about values, beliefs, and practices from various perspectives. Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes.

The impact of human action on the landscape occurs over time so that a cultural landscape is the result of a complex history and creates the significance of place in shaping historical identities by examining a community's presence or sense of place. The deeply social nature of relationships to place has always mediated people's understanding of their environment and their movements within it, and is a process which continues to inform the construction of people's social identity today. Social and spatial relationships are dialectically interactive and interdependent. Cultural landscape reflects social relations and institutions and they shape subsequent social relations.

Cultural landscapes tell the story of people, events, and places through time, offering a sense of continuity, a sense of the stream of time. Landscapes reflect human activity and are imbued with cultural values. They combine elements of space and time, and represent political as well as social and cultural constructs. Culture shapes the landscape through day-to-day routine and these practices become traditions incorporated with a collective memory the ultimate embodiments of memorial consciousness', examples such as monuments, annual events and, archives. As they have evolved over time, and as human

activity has changed, they have acquired many layers of meaning that can be analysed through archaeological, historical, geographical, and sociological study.

Indigenous people, European explorers, missionaries, pastoralists, international and domestic travellers all looked or look at similar landscapes and experience different versions of reality. Regardless of the power of different cultural groups, however, all groups create cultural landscape and interpret them from their own perspectives. This gives rise to tensions and contradictions between groups, invariably expressed in landscape forms as well.

The dynamics and complex nature of cultural landscapes can be regarded as text, written and read by individuals and groups for very different purposes and with very many interpretations. The messages embedded in the landscape can be read as signs about values, beliefs, and practices from various perspectives.

Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes. A common theme underpinning the concept of ideology of landscape itself is the setting for everything we do is that of the landscape as a repository of intangible values and human meaning that nurture our very existence. Intangible elements are the foundation of the existence of cultural landscapes, and that are still occupied by contemporary communities, Landscape, culture and collective memory of a social group are intertwined and that this binds the individuals to their community. Culture shapes their everyday life, the values bind gradually, change slowly, and transfer from generation to generation – culture is a form of memory. We see landscapes as a result of our shared system of beliefs and ideologies. In this way landscape is a cultural construct, a mirror of our memories and myths encoded with meanings which can be read and interpreted. Pivotal to the significance of cultural landscapes and the ideas of the ordinarily sacred is the realisation that it is the places, traditions, and activities of ordinary people that create a rich cultural tapestry of life, particularly through our recognition of the values people attach to their everyday places and concomitant sense of place and identity.

Living heritage means cultural expressions and practices that form a body of knowledge and provide for continuity, dynamism, and meaning of social life to generations of people as individuals, social groups, and communities. It also allows for identity and sense of belonging for people as well as an accumulation of intellectual capital current and future generation in the context of mutual respect for human, social and cultural rights.

Protection of these cultural landscapes involves some management issues such as successful conservation is based on the continuing vital link between people and their landscapes. This link can be disrupted or affected by for instance economic reasons. Other threats can also be attributed to urban expansion and development, tourism, war and

looting and something beyond our human intervention: natural disasters and climate change.

Cultural landscape management and conservation processes bring people together in caring for their collective identity and heritage, and provide a shared local vision within a global context. Local communities need, therefore, to be involved in every aspect of identification, planning and management of the areas as they are the most effective guardians of landscape heritage.

Most elements of living heritage are under threat of extinction due to neglect, modernisation, urbanisation, globalisation, and environmental degradation. Living heritage is at the centre of people's culture and identity, it is importance to provide space for its continued existence. Living heritage must not be seen as merely safeguarding the past, but it must be seen as safeguarding the logic of continuity of what all communities or social groups regard as their valuable heritage, shared or exclusive.

In some instances, villages may capitalise on local landscape assets in order to promote tourism. Travel and tourism activities are built around the quest for experience, and the experience of place and landscape is a core element of that quest. It is a constant desire for new experiences that drives tourism, rather than a quest for authenticity. It is, therefore, important to engage actively with the tourism industry so that aspects of life and landscape important to cultural identity, including connection with place are maintained.

## **8.2. Archaeological Landscape**

The archaeological landscape presents a challenge to interpretation as the landscape is wholly read by encountering pre-colonial artefacts on the landscape. As no pre-colonial archaeological heritage resources were encountered during the survey it is difficult to determine what exactly happened on the area proposed for the mining right application, archaeologically. This however does not intend that no pre-colonial activity took place within the area. Owing to the interaction of later population with the landscape and the historical establishment of the area as conducive to farming activities, these disturbance in addition to climate change and natural weathering effects, changes to the organic layout once inhabited by the pre-colonial populations may have 'hidden' the material and organic material remains. Therefore, it is necessary to find and use the archaeological evidence available from the wider region to piece together and predict the possible movements and dynamics of the particular cultural landscape.

## **8.3. Contemporary Landscape**

The archaeological interpretation of the cultural landscape relies solely on the presence and surface visibility of artefacts left behind on the landscape by the populations who

occupied and migrated through the area. A more comprehensive historical layer is able to be fitted onto the cultural landscape owing to the availability of written documents and the continuing existence of the traces left behind by European Settlers and the moulding of these traces used to shape the contemporary communities that occupies and regards itself attached to its present cultural landscape.

The contemporary cultural landscape is the product of millennia and centuries of human interaction, more so when the European Settlers entered the area. Remnants of these cultural interactions remain on the landscape, such as the built environment, features, artefacts, and marked and unmarked graves / burials with only oral histories and stories handed down from one generation to the next to remain in the collective memory of the community/ies living on the landscape. The agricultural practice of dairy farming dominates the contemporary landscape from 2 km behind the dune fields extending all through the Tsitsikamma / Jeffery's Bay areas inland towards the mountains. The Dunefields and coastal region is considered of high natural relevant unspoilt scenic beauty, therefore, the popularity of the coastal villages such as St. Francis Bay and Oyster which is dominated by holiday homes and inhabited by retirees.

The impact of the several wind energy facilities and their associated infrastructure requirements such as additional substations and power lines developed over on the visual landscape of the area is immense, however, it speaks to the changing of the cultural landscape over time and adds to dynamism and development and the needs of contemporary society. However, these developments as well as residential and recreational development if following due process have attempted to assist in the positive management and successful conservation of the cultural landscape.

## **9. RECOMMENDATIONS**

The overall area is considered as having a *low archaeological heritage significance*. Development may proceed as planned however the following recommendations must be considered during the course of development:

1. If concentrations of pre-colonial archaeological heritage material (such as shell middens and associated material) and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the archaeological / heritage site will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue.

2. A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

## **10. CONCLUSION**

The phase 1 archaeological impact assessment was conducted in as a requirement according to the National Heritage Resources Act 25 of 1999, Section 38. The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimise the possible damage to the archaeological heritage. The report follows the minimum standards guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA).

The Albany Museum Database of archaeological sites and archaeological and heritage assessment reports showed sites occurring within the wider region of the proposed development area. Several relevant archaeological and heritage impact assessments have been conducted within the immediate vicinity, as well as within the wider region. These impact assessments have identified several Early, Middle, and Later Stone Age stone artefacts distributed within the region.

No archaeological / historical or other heritage resources were identified within the proposed development area. However, one stone artefact was encountered, *ex situ*, outside the boundary of the proposed development along the gravel access road to the adjacent wind farm. The survey was limited to surface and exposed area observations and does not eliminate the possibility that archaeological heritage remains may occur below the surface. It is possible that stone artefacts may occur below the vegetation cover between the surface and 50 – 80 cm below the ground. The potential impact of the proposed extension of the existing substation on the archaeological heritage remains, sites, and features is regarded as low; however, the recommendations and mitigation measures must be taken into consideration before the commencement of the proposed development activities.

The recommendations must be considered as appropriate mitigation measures to protect and conserve the heritage resources observed within the proposed development area and further archaeological remains that may occur and are not immediately visible on the surface.

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### **13. GENERAL REMARKS AND CONDITIONS**

**NOTE:** This report is a phase 1 archaeological impact assessment (AIA) only and does not include or exempt other required specialist assessments as part of the heritage impact assessments (HIAs).

The National Heritage Resources Act (Act No. 25 of 1999, Section 35 [Brief Legislative Requirements]) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources including all places or objects of aesthetics, architectural, historic, scientific, social, spiritual, linguistic, or technological value or significance are protected. Thus, any assessment should make provision for the protection of all these heritage components including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

It must be emphasized that the conclusions and recommendations expressed in this phase 1 archaeological impact assessment (AIA) are based on the visibility of archaeological remains, features and, sites and may not reflect the true state of affairs. Many archaeological remains, features and, sites may be covered by soil and vegetation and will only be located once this has been removed. In the event of such archaeological heritage being uncovered (such as during any phase of construction activities), archaeologists or the relevant heritage authority must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed. The onus is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Resources Act No. 25 of 1999 (NHRA 25 of 1999).

Archaeological Specialist Reports (desktops and AIA's) will be assessed by the relevant heritage resources authority. The final comment/decision rests with the heritage resources authority that may confirm the recommendations in the archaeological specialist report and grant a permit or a formal letter of permission for the destruction of any cultural sites.

## APPENDIX A: HERITAGE LEGISLATIVE REQUIREMENTS

Sections 3, 34, 35, 36, 38, 48, 49 and 51 of the National Heritage Resources Act 25 of 1999 apply:

### **S3. National estate**

(1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.

(2) Without limiting the generality of subsection (1), the national estate may include –

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

(3) Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of national estate if it has cultural significance or other special value because of –

- (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 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.

**S34. Structures**

- (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.
- (2) Within three months of the refusal of the provincial heritage resources authority to issue a permit, consideration must be given to the protection of the place concerned in terms of one of the formal designations provided for in Part 1 of this Chapter.
- (3) The provincial heritage resources authority may at its discretion, by notice in the Provincial Gazette, make an exemption from the requirements of subsection (1) within a defined geographical area, provided that it is satisfied that heritage resources falling into the defined area or category have been identified and adequately provided for in terms of the provisions of Part 1 of this Chapter.
- (4) Should the provincial heritage resources authority believe it to be necessary if by, following a three-month notice period published in the Provincial Gazette, withdraw or amend a notice under subsection (3).

**S35. Archaeology, palaeontology and meteorites**

- (1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and maritime cultural zone shall be the responsibility of SAHRA.
- (2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collation policy acceptable to the heritage resources authority and may in doing so establish such terms and conditions as it sees fit for the conservation of such objects.
- (3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority or museum, which must immediately notify such heritage resources authority.
- (4) No person may, without a permit issued by the responsible heritage resources authority—
  - (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
  - (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
  - (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
  - (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- (5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and not heritage resources management procedure in terms of section 38 has been followed, it may –
  - (a) 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;
  - (b) Carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
  - (c) 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
  - (d) Recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological 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.

- (5) The responsible heritage resources authority may, after consultation with the owner of the land on which archaeological or palaeontological site or a 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.
- (6)(a) Within a period of two years from the commencement of this Act, any person in possession of any archaeological or palaeontological material or object or any meteorite which was acquired other than in terms of a permit issued in terms of this Act, equivalent provincial legislation or the National Monuments Act, 1969 (Act No. 28 of 1969), must lodge with the responsible heritage resources authority lists of such objects and other information prescribed period shall be deemed to have been recovered after the date on which this Act came into effect.
  - (b) Paragraph (a) does not apply to any public museum or university.
  - (c) The responsible authority may at its discretion, by notice in the Gazette or the Provincial Gazette, as the case may be, exempt any institution from the requirements of paragraph (a) subject to such conditions as may be specified in the notice, and may by similar notice withdraw or amend such exemption.
- (8) and object or collection listed under subsection (7) –
  - (a) remains in the ownership of the possessor for the duration of his or her lifetime, and SAHRA must be notified who the successor is; and
- (9) must be regularly monitored in accordance with regulations by the responsible heritage authority.

### **S36. Burial grounds and graves**

- (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
- (3)(a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—
  - (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
  - (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
  - (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- (3) SAHRA or provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- (4) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority -
  - (a) Made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
  - (b) Reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- (5) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
  - (a) Carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

- (b) If such grave is protected or is of significance, assist any person who or community which is the direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.
- (6)(a) SAHRA must, over a period of five years from the commencement of this Act, submit to Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.
- (c) The Minister must publish such lists as he or she approved in the Gazette.
- (6) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.
- (7) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may reinter the remains of that person in a prominent place in the capital of the Republic.

### **S.37 Public monuments and memorials**

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

### **S38. Heritage resources management**

- (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –
  - (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
  - (b) the construction of a bridge or similar structure exceeding 50 m in length;
  - (c) any development or other activity which will change the character of the site –
    - (i) exceeding 5 000 m<sup>2</sup> in extent, or
    - (ii) involving three or more 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 resources authority;
  - (d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or
  - (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as 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.
- (2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1) –
  - (a) if there is a reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
  - (b) notify the person concerned that this section does not apply.
- (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:
  - (a) The identification and mapping of all heritage resources in the area affected;
  - (b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
  - (c) An assessment of the impact of development on such heritage resources;

- (d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
  - (e) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
  - (f) If heritage resources will be adversely affected by the proposed development, the consideration of alternative; and
  - (g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.
- (4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide –
- (a) whether or not the development may proceed;
  - (b) any limitations or conditions to be applied to the development;
  - (c) what the general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
  - (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of development; and
  - (e) whether the appointment of specialists is required as a condition of approval of the proposal.
- (5) A provincial heritage resources authority may not make any decision under subsection (4) with respect to any development with impacts on a heritage resource protected at national level unless it has consulted SAHRA.
- (6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who –
- (a) must consider the views of both parties; and
  - (b) may at his or her discretion –
    - (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage resources authority;

And

    - (ii) consult SAHRA; and
  - (c) must uphold, amend or overturn such decision.
- (7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.
- (8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the impact of such development of heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environmental Affairs and Tourism, or the Mineral Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regards to such development have been taken into account prior to the granting of the consent.
- (9) The provincial heritage resources authority, with the approval of the MEC, may, by the notice in the Provincial Gazette, exempt from the requirements of this section any place specified in the notice.
- (10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this part, but any existing heritage agreements made in terms of section 42 continue to apply.

#### **S48. Permits**

- (1) A heritage resources authority may prescribe the manner in which an application is made to it for any permit in terms of this Act and other requirements for permit applications, including –
- (a) any particulars or information to be furnished in the application and any documents, drawings, plans, photographs and fees which should accompany the application;

- (b) minimum qualifications and standards of practice required of persons making application for a permit to perform specified actions in relation to particular categories of protected heritage resources;
  - (c) standards and conditions for the excavation and curation of archaeological and palaeontological objects and material and meteorites recovered by authority of a permit;
  - (d) the conditions under which, bore a permit is issued, a financial deposit must be lodged and held in trust for the duration of the permit or such period as the heritage resources authority may specify, and conditions of forfeiture of such deposit;
  - (e) conditions for the temporary export and return of objects under section 32 or section 35;
  - (f) the submission of reports on work done under authority of a permit; and
  - (g) the responsibilities of the heritage resources authority regarding monitoring of work done under authority of a permit.
- (2) On application by any person in the manner prescribed under subsection (1), a heritage resources authority may in its discretion issue to such person a permit to perform such actions at such time and subject to such terms, conditions and restrictions or directions as may be specified in the permit, including a condition –
- (a) that the applicant give security in such form and such amount determined by the heritage resources authority concerned, having regard to the nature and extent of the work referred to in the permit, to ensure the satisfactory completion of such work or the curation of objects and material recovered during the course of the work; or
  - (b) providing for the recycling or deposit in a materials bank of historical building materials; or
  - (c) stipulating that design proposals be revised; or
  - (d) regarding the qualifications and expertise required to perform that actions for which the permit is issued.
- (3) A heritage resources authority may at its discretion, in respect of any heritage resource protected by it in terms of the provisions of Chapter II, by notice in the Gazette or the Provincial Gazette, as the case may be, grant an exemption from the requirement to obtain a permit from it for such activities or class of activities by such persons or class of persons in such circumstances as are specified in the notice.

#### **S49. Appeals**

- (1) Regulations by the Minister and the MEC must provide for a system of appeal to the SAHRA Council for a provincial heritage resources council against a decision of a committee or other delegated representative of SAHRA or a provincial heritage resources body authority.
- (2) Anybody wishing to appeal against a decision of the SAHRA Council or the council of a provincial heritage resources authority must notify the Minister or MEC in writing within 30 days. The Minister or MEC, must have due regards to –
- (a) the cultural significance of the heritage resources in question;
  - (b) heritage conservation principles; and
  - (c) any other relevant factor which is brought to its attention by the appellant or the heritage resources authority.

#### **S51. Offences and penalties**

- (1) Notwithstanding the provisions of any other law, any person who contravenes –
- (a) sections 27(18), 29(10), 32(13) OR 32(19) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 1 of the Schedule;
  - (b) sections 33(2), 35(4) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 2 of the Schedule;
  - (c) sections 28(3) or 34(1) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 3 of the Schedule;
  - (d) sections 27(22), 32(15), 35(6), or 44(3) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 4 of the Schedule;
  - (e) sections 27(23)(b), 32(17), 35(3) or 51(8) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 5 of the Schedule;
  - (f) sections 32(13), 32(16), 32(20), 35(7)(a), 44(2), 50(5) or 50(12) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 6 of the Schedule.

(2) The Minister, with the concurrence of the relevant MEC, may prescribe a penalty of a fine or of imprisonment for a period not exceeding six months for any contravention or failure to comply with regulations by heritage resources authorities or by-laws by local authorities.

(3) The Minister or the MEC, as the case may be, may make regulations in terms of which the magistrate of the district concerned may –

- (a) levy admission of guild fines up to a maximum amount of R10 000 for infringement of the terms of this Act for which such heritage resources authority is responsible; and
- (b) serve a notice upon a person who is contravening a specified provision of this Act or has not complied with the terms of a permit issued by such authority, imposing a daily fine of R50 for the duration of the contravention, subject to a maximum period of 365 days.

(4) The Minister may from time to time by regulation adjust the amounts referred to in subsection (3) in order to account for the effect of inflation.

(5) Any person who-

- (a) fails to provide any information that is required to be given, whether or not on the request of a heritage resources authority, in terms of this Act;
- (b) for the purpose of obtaining, whether for himself or herself or for any other person, any permit, consent or authority in terms of this Act, makes any statement or representation knowing it to be false or not knowing or believing it to be true;
- (c) fails to comply with or perform any act contrary to the terms, conditions, restrictions or directions subject to which any permit, consent or authority has been issued to him or her in terms of this Act;
- (d) obstructs the holder of a permit in terms of this Act in exercising a right granted to him or her by means of such a permit;
- (e) damages, takes, or removes, or causes to be damaged, taken or removed from a place protected in terms of this Act any badge or sign erected by a heritage authority or a local authority under section 25(2)(j) or section 27(17), any interpretive display or any other property or thing.
- (f) receives any badge, emblem or any other property or thing unlawfully taken or removed from a place protected in terms of this Act; and
- (g) within the terms of this Act, commits or attempts to commit any other unlawful act, violates any prohibition or fails to perform any obligation imposed upon him or by its terms, or who counsels, procures, solicits or employs any other person to do so.

shall be guilty of an offence and upon conviction shall be liable to such maximum penalties, in the form of a fine or imprisonment or both such fine and such imprisonment, as shall be specified in the regulations under subsection (3).

(6) Any person who believes that there has been an infringement of any provision of this Act, may lay a charge with the South African Police Service or notify a heritage resources authority.

(7) A magistrate's court shall, notwithstanding the provisions of any other law, be competent to impose any penalty under this Act.

(8) When any person has been convicted of any contravention of this Act which has resulted in damage or to alteration of a protected heritage resource the court may –

- (a) order such person to put right the result of the act of which he or she was guilty, in the manner so specified and within such period as may be so specified, and upon failure of such person to comply with the terms of such order, order such person to pay to the heritage resources authority responsible for the protection of such resource a sum equivalent to the cost of making good; or
- (b) when it is of the opinion that such a person is not in a position to make good damage done to a heritage resources by virtue of the offender not being the owner or occupier of a heritage resources or for any other reason, or when it is advised by the heritage resources authority responsible for the protection of such resource that it is unrealistic or undesirable to require that the results of the act be made good, order such person to pay the heritage resources authority a sum equivalent to the cost of making good.

(9) In addition to other penalties, if the owner of a place has been convicted of an offence in terms of this Act involving the destruction of, or damage to, the place, the Minister on the advice of SAHRA or the MEC on the advice of a provincial heritage resources authority, may serve on the owner an order that no development of such place may be undertaken, except when making good the damage and maintaining the cultural value of the place, or for a period not exceeding 10 years specified in the order.

(10) Before making the order, the local authority and any person with a registered interest in the land must be given a reasonable period to make submissions on whether the order should be made and for how long.

(11) An order of no development under subsection (9) attaches to the land and is binding not only on the owner as at the date of the order, but also on any person who becomes an owner of the place while the order remains in force.

(12) The Minister on the advice of SAHRA, may reconsider an order of no development and may in writing amend or repeal such order.

(13) In any case involving vandalism, and whenever else a court deems it appropriate, community service involving conservation of heritage resources may be substituted for, or instituted in addition to, a fine or imprisonment.

(14) Where a court convicts a person of an offence in terms of this Act, it may order for forfeiture to SAHRA or the provincial heritage resources authority concerned, as the case may be, of a vehicle, craft, equipment or any other thing used or otherwise involved in the committing of the offence.

(15) A vehicle, craft, equipment or other thing forfeited under subsection (14) may be sold or otherwise disposed of as the heritage resources authority concerned deems fit.

## **APPENDIX B: GRADING SYSTEM**

The National Heritage Resources Act 25 of 1999 stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act and the South African Heritage Resources Agency:

- National: This site is suggested to be considered of Grade 1 significance and should be nominated as such. Heritage resources with qualities so exceptional that they are of special national significance.
- Provincial: This site is suggested to be considered of Grade II significance and should be nominated as such. Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region
- Local: This site is suggested to be Grade IIIA significance. This site should be retained as a heritage register site (High significance) and so mitigation as part of the development process is not advised.
- Local: This site is suggested to be Grade IIIB significance. It could be mitigated and (part) retained as a heritage register site (High significance).
- 'General' Protection A (Field Rating IV A): This site should be mitigated before destruction (usually High/Medium significance).
- 'General' Protection B (Field Rating IV B): This site should be recorded before destruction (usually Medium significance).
- 'General' Protection C (Field Rating IV C): This site has been sufficiently recorded (in the Phase 1). It requires no further recording before destruction (usually Low significance).

## APPENDIX C: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM COASTAL AND INLAND AREAS: guidelines and procedures for developers

### 1. Stone artefacts

Stone artefacts are the most common and identifiable precolonial artefacts occurring on the South Africa landscape. Early Stone Age, Middle Stone Age and Later Stone Age stone artefacts occur in various concentrations on the South Africa landscape. Stone artefacts are very commonly found occurring on flat floodplains in a mostly secondary or disturbed context. However, they can be also be found in an *in situ* or undisturbed context in areas where little human or animal impact happens such as open sites mostly near rocky outcrops, amongst boulders and caves.

These may be difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified.



Early Stone Age (ESA) stone artefact  
(1.5 million years ago – 250 000 years ago)



Middle Stone Age stone artefacts  
(250 000 – 30 000 years ago)



Later Stone Age stone artefacts  
(30 000 years ago – historical times)



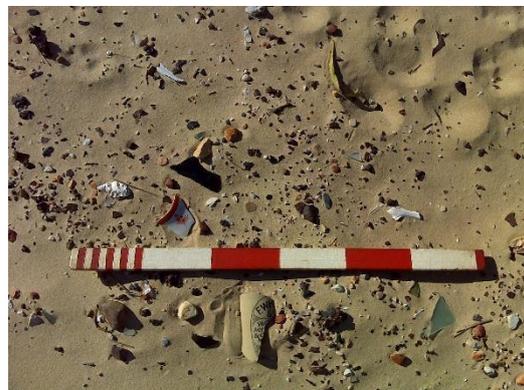
## 2. Pottery scatters

Pottery scatters can be associated with either Khoekhoen pastoralists, the Nguni first farming communities (referred to as the South African Iron Age) or colonial settlement and can be dated to within the last 2 000 years which occur both at the coast and inland. Pottery associated with Bushmen / hunter-gatherers is generally thought to occur in the Karoo region. The most obvious difference between Khoekhoen and Nguni pottery are the decorations, shapes, sizes and wall thickness. Khoekhoen pottery is generally thinner than the thicker walled and robust Nguni pottery. Colonial ceramics ranges from earthenware, stoneware, porcelain and European glazed and unglazed ceramics.

Precolonial pottery and Colonial ceramics are more easily identifiable by the layman and should be reported.



**Khoekhoen earthenware pottery  
(last 2 000 years)**



**Iron Age earthenware pottery  
(last 2 000 years)**



## 3. Historical artefacts and features

These are easy to identify and include colonial artefacts (such as ceramics, glass, metal, etc.), foundations of buildings or other construction features and items from domestic and military activities associated with early travellers' encounters on the landscape and European settlement.



**Example of a Fortified Structure  
(Fort Double Drift)**



**Ruin of stone packed dwelling**



**Glass artefacts**

#### 4. Shell middens (marine and freshwater)

Shell middens can be defined as an accumulation of marine or freshwater shell deposited by past human populations rather than the result of natural or animal activity. Marine shell middens occur all along the coast and may extend within 5 km of the coastline. This area is generally regarded as being archaeologically sensitive. The shells are concentrated in a specific locality above the high-water mark and frequently contain various edible and sometimes inedible marine shells, stone tools, pottery, bone (fish and animal) and occasionally also human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m<sup>2</sup> in extent, should be reported to an archaeologist. Freshwater shell middens occur along river banks and comprise freshwater shell, fish and animal bone, stone tools, pottery, and sometimes human remains.



Various examples of coastal shell middens

## 5. Large stone features

They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning is not fully understood, however, some are thought to represent burial cairns while others may have symbolic value.



**Examples of stone packed features**  
6. Graves, Burials and Human Skeletal material

Formal historical graves are easily identifiable as they are in most cases fenced off or marked with engraved headstones. Informal stone packed graves in several instances also occur within these fenced off areas.

It is difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through erosion or construction activities for development. Several human remains have been rescued eroding out of the dunes along this coastline and dongas in inland areas. In some instances packed stones or rocks may indicate the presence of informal pre-colonial burials.

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping and developers are requested to be on the alert for this.



Exposed human remains eroding out a coastal shell midden.



Exposed human remains eroding out an inland donga

#### /. Identification of Precolonial and Historical Iron Age Occupation

- 7.1. Circular hollows / sunken soil: may indicate storage pits and possible hut floors.
- 7.2. Ash heaps / middens that contain cultural material and food waste.
- 7.3. Khaki green soils / dung accumulations that would indicate the kraal area.
- 7.4. Baked clay blocks that would indicate the remains of hut structures.
- 7.5. Pitted upper and lower grindstones that show evidence of utilisation. These artefacts may be whole or broken.
- 7.6. Thick walled decorated and undecorated pot sherds.
- 7.7. Iron slag / blow pipes (tuyeres) that would indicate iron working.
- 7.8. Metal artefacts and ornaments.