

**Environmental Impact Assessment for the
proposed Ubuntu Wind Energy Project near
Jeffrey's Bay, Eastern Cape:
Draft Environmental Impact Assessment Report**

Chapter 11: Impact on Archaeology



Contents

CHAPTER 11. IMPACT ON ARCHAEOLOGY	11-3
11.1 INTRODUCTION	11-3
11.1.1 <i>Approach to the study</i>	11-3
11.1.2 <i>Terms of Reference</i>	11-3
11.1.3 <i>Method of survey</i>	11-3
11.1.4 <i>Assumptions, constraints and limitations</i>	11-3
11.1.5 <i>Information sources</i>	11-4
11.1.6 <i>Declaration of Independence</i>	11-4
11.2 DESCRIPTION OF AFFECTED ENVIRONMENT	11-4
11.2.1 <i>Cultural sensitivity of the Kabeljous River estuary and adjacent coastal areas</i>	11-5
11.3 PERMIT AND LEGISLATIVE REQUIREMENTS	11-6
11.4 RESULTS OF THE ARCHAEOLOGICAL STUDY	11-6
11.4.1 <i>Findings of the Archaeological study</i>	11-6
11.5 ASSESSMENT OF IMPACTS AND IDENTIFICATION OF MANAGEMENT ACTIONS	11-10
11.6 RECOMMENDATIONS	11-10
11.7 CONCLUSIONS	11-11
11.7.1 <i>General remarks and conditions</i>	11-11

Appendices

Appendix 11.1:	Disclaimer Identification of Archaeological Features and Material from Inland Areas: Guidelines and Procedures for Developers	11-12
Appendix 11.2:	Brief legal requirements	11-13

Chapter 11 : Impact on Archaeology

Tables

Table 11.1:	Impact Assessment summary table	11-10
-------------	---------------------------------	-------

Figures

Figures 11.1a-h:	Views of the proposed Ubuntu Wind Energy site. One of the stone piles is visible in the bottom right. Note the dense low grass cover throughout the entire site.	11-7
Figure 11.2:	1:50 000 map of the location of the proposed Ubuntu Wind Energy Project. The red oval indicates the approximate size of the development, the red dot marks the Kabeljous River Shelters, the yellow dot Sara Baartman's grave site and the pink broken line the coastal sites.	11-8
Figure 11. 3:	Aerial photograph indicating the location and turbine positions of the proposed Ubuntu Wind Energy Project. The red dots mark the Kabeljous River Shelters, the yellow dot Sara Baartman's grave site and the pink solid line the coastal sites.	11-9

CHAPTER 11. IMPACT ON ARCHAEOLOGY

This Chapter presents the Archaeological Impact Assessment conducted by Jonathan Kaplan of the Agency for Cultural Resource Management for the Ubuntu wind energy EIA

Note: This report follows the minimum standard guidelines required by the South African Heritage Resources Agency for compiling Archaeological Heritage Phase 1 Impact Assessment (AHIA) reports.

11.1 INTRODUCTION

11.1.1 Approach to the study

Note: This report is a phase 1 archaeological heritage impact assessment/investigation only and does not include or exempt other required heritage impact assessments (see below).

11.1.2 Terms of Reference

Terms of Reference for the archaeological assessment were to conduct a survey of possible archaeological heritage sites for the proposed Ubuntu Wind Energy Facility to be constructed near Jeffrey's Bay, Kouga Local Municipality, Humansdorp District, Eastern Cape Province. The survey was conducted to establish the possible range and importance of exposed and in situ archaeological heritage features, the potential impact of the development and, to make recommendations to minimize possible damage to these sites.

11.1.3 Method of survey

The proposed Ubuntu Wind Energy site was investigated by two people from vehicle and on foot. It was not feasible to do a complete survey because of the very large size of the property and the dense vegetation cover. A layout map for the proposed locations of 33 turbines was available at the start of the survey (see Figure 2.1 in Chapter 2). This enabled the well-developed network of farm tracks throughout the area to be followed in a vehicle and to survey on foot transects leading from the farm tracks. In this way most of the area and proposed locations were investigated. GPS readings were taken and all important features were digitally recorded. Consultation was conducted with the local Gamtkwa KhoiSan community regarding the archaeological heritage of the area.

11.1.4 Assumptions, constraints and limitations

The archaeological study is based on background information supplied by the CSIR regarding the proposed development, and all that information is assumed to be correct.

There were no constraints or limitations associated with the field work.

Chapter 11 : Impact on Archaeology

11.1.5 Information sources

Museum/University databases and collections

The Albany Museum in Grahamstown houses collections and information from the wider region.

Community consultation

Consultation with the Gamtkwa KhoiSan First Nation was conducted as required by the National Heritage Resources Act No. 25 of 1999, Section 38(3e).

11.1.6 Declaration of Independence

BOX 10.1: DECLARATION OF INDEPENDENCE FOR NOISE IMPACT ASSESSMENT

I **Johan Binneman** declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed Ubuntu Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Johan Binneman

11.2 DESCRIPTION OF AFFECTED ENVIRONMENT

The adjacent coastline between Gamtoos River and Jeffrey's Bay once housed large numbers of archaeological sites including the remains of indigenous people (Rudner 1968). Unfortunately, in a few decades virtually all of these important archaeological features have been destroyed by the development of the coastal towns and many were covered with dune sand and vegetation (Binneman 1985, 2001, 2005).

Little is known of the very early prehistory of the region. The oldest evidence of the early inhabitants are large stone tools, called hand axes and cleavers, which can be found in the river gravels which capped the hill slopes in the region (Laidler 1947). These large stone tools are from a time period called the Earlier Stone Age and may date between 1.5 million and 250 000 years old. These large stone tools are often found associated with the gravels in the area, and were later replaced by smaller stone tools called the Middle Stone Age (MSA) flake and blades industries. Evidence of MSA sites occur throughout the region and date between 120 000 and 30 000 years old. Fossil bone in rare cases may be associated with MSA occurrences along the

Chapter 11 : Impact on Archaeology

coast.

The most common archaeological sites found in the area are shell middens (Binneman 1996, 2001, 2005; Rudner 1968). They are relatively large piles of marine shell and are popularly referred to as 'strandloper middens'. In general these shell middens date from the past 6 000 years. They are found mainly opposite rocky coasts, but also occur along sandy beaches if there was a large enough source of white mussels. These concentrations of shell represent the campsites of San hunter-gatherers (dating from as much as 6 000 years ago), Khoi pastoralists and KhoiSan (dating from the past 1 800 years in the region) peoples who lived along the immediate coast and collected marine foods on a daily basis. The Khoi people were the first food producers in South Africa and introduced domesticated animals (sheep, goat and cattle) and ceramic vessels to southern Africa as early as 2 000 years ago. The oldest sheep remains recovered from the middens near the Kabeljous River Mouth were radiocarbon dated to 1 560 years old - the oldest date for the presence of sheep in the Eastern Cape (Binneman 1996, 2001).

Shell middens are usually within 300m of the high water mark, but may be found up to 5 km inland. Mixed with the shell and other marine food waste are other terrestrial food remains, cultural material and often human remains are found buried in the middens. Also associated with middens are large stone floors which were probably used as cooking platforms.

Other archaeological sites may consist of concentrations of stone artefacts and/or bone remains. Some of the stone tools may date back to 100 000 years old, and the fossil bone occurrences along the coast may also date this old (See Appendix 11.1 for a list of possible archaeological sites that maybe found in the area).

11.2.1 Cultural sensitivity of the Kabeljous River estuary and adjacent coastal areas

Archaeological research conducted, and observations made, in the region indicate that places like the Kabeljous River estuary were popular areas for the hunter-gatherers and pastoralists to live because of the wide variety of food resources within easy walking distance, i.e., shellfish along the beach, fish in the estuary and game in the nearby hills.

Research at Kabeljous River Shelter some four kilometres upstream from the estuary mouth (close to the proposed development) indicated that this part of the valley was well utilised by pre-colonial groups from 6 000 years ago (research report available on request) (Binneman 1996, 2007). Two KhoiSan skeletons were also found on the nearby New Papiessfontein farm during the past few years, indicating that such remains may also be buried on the property in question (*Die Burger* 27-09-2005). One of the skeletons was re-buried in 2008 by the Gamtkwa KhoiSan Tribe according to Khoi tradition (*The Herald* 24-03-2008). During 1983 several middens were badly damaged and eventually demolished by a bulldozer when houses were being built near the present day caravan park. These were found to be extremely rich in archaeological material (Binneman 1985, 1996, 2001, 2005). The following results were obtained from the limited research project.

1. Two of the shell middens were occupied by San hunter-gatherers ('Bushmen') and one was radiocarbon dated to 2 570 years old. Although the middens were situated along a sandy beach, the hunter-gatherers preferred to collect brown mussel from the rocky shore almost a kilometre away, rather than the white mussel which could be collected 50 metres away.

Chapter 11 : Impact on Archaeology

2. Two shell middens were of Khoi pastoralist origin. A similar shellfish collecting pattern was followed by the Khoi.
3. The Khoi were the first food producers in South Africa and the sheep remains recovered from the middens were radiocarbon dated to 1 560 years old - the oldest date for the presence of sheep in the Eastern Cape.
4. These middens yielded more fish remains than any other open-air shell midden along the Eastern Cape coast. The remains were mainly from mullet species and taken from the nearby estuary. The method of capture is unknown because it is known from historical records that the indigenous groups did not process nets of any kind.
5. The Kabeljous River Shelters provide a history of hunter-gatherer-fishers of the past 6000 years for the area. Several burials were also found in the shelters. The archaeological deposits are extremely important and sensitive to any disturbances.

11.3 PERMIT AND LEGISLATIVE REQUIREMENTS

The National Heritage Resources Act (Act No. 25 of 1999, section 35) (see Appendix 11.2) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources, that is, 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.

11.4 RESULTS OF THE ARCHAEOLOGICAL STUDY

11.4.1 Findings of the Archaeological study

Virtually the entire area for the proposed development has been disturbed by ploughing in the past and is covered by dense low grass which is used for grazing. The dense grass cover made it difficult to find archaeological sites/materials and no visible in situ archaeological sites were found during the investigation (Figures 11.1a-11.1g). Mole heaps and a number of the large stone piles (large stones removed from the ploughed fields) were investigated for evidence of archaeological materials (Figure 11.1h). Only a few weathered quartzite Middle Stone Age stone tools were observed where the pebble/cobble gravels were exposed by ploughing. These stone tools date between 30 000 and 250 000 years old. They were mainly thick, small 'informal' flakes and chunks manufactured from quartzite. All stone tools were in secondary context and not associated with any other remains. Although none was found, one would also expected to find occasional Earlier Stone Age stone tools (1,5 million – 250 000 years old) in the gravels as well.

The nearest important cultural sites to the proposed development are the Kabeljous Rock Shelters (2,5 kilometres south of the closest turbine), a large number of sites along the coastline (7 kilometres south of the closest turbine) and Sara Baartman's grave site at Hankey (8 kilometres north of the closest turbine) (Figure 11.2 and Figure 11.3). The turbines will have little or no visual impact on the Kabeljous Rock Shelters because the shelters face south and are situated in the Kabeljous River valley along the eastern embankment. The turbines will be visible from the coastal sites and possibly also from Sara Baartman's grave.



Figures 11.1a-h: Views of the proposed Ubuntu Wind Energy site. One of the stone piles is visible in the bottom right. Note the dense low grass cover throughout the entire site.

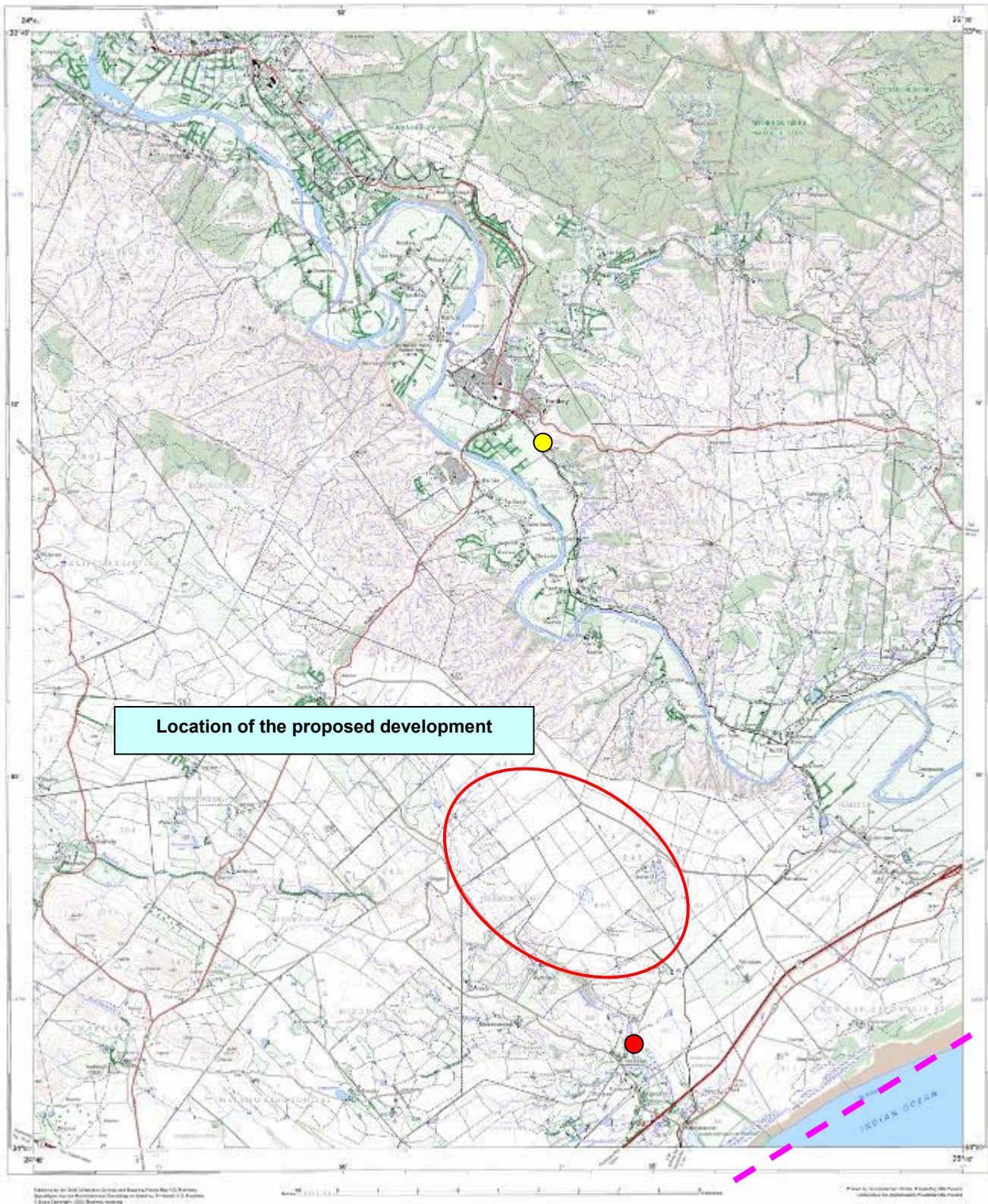


Figure 11.2: 1:50 000 map of the location of the proposed Ubuntu Wind Energy Project. The red oval indicates the approximate size of the development, the red dot marks the Kabeljous River Shelters, the yellow dot Sara Baartman's grave site and the pink broken line the coastal sites.



Figure 11. 3: Aerial photograph indicating the location and turbine positions of the proposed Ubuntu Wind Energy Project. The red dots mark the Kabeljous River Shelters, the yellow dot Sara Baartman's grave site and the pink solid line the coastal sites.

Chapter 11 : Impact on Archaeology

11.5 ASSESSMENT OF IMPACTS AND IDENTIFICATION OF MANAGEMENT ACTIONS

The proposed area for the construction of the Ubuntu Wind Energy Facility, apart from the presence of a few Middle Stone Age stone tools, appears to be of low archaeological sensitivity. It is also highly unlikely that any archaeological heritage remains of any value will be found in situ or of any contextual value. The impact of the development on archaeological sites/materials will be limited. The area is also situated more than five kilometres from the coast which is further than the maximum distance shell middens are expected to be found inland. No such features were observed. However, there is always a possibility that human remains and/or other archaeological and historical material may be uncovered during the development. Should such material be exposed then it must be reported to the nearest museum, archaeologist or to the South African Heritage Resources Agency (see general remarks and conditions in the conclusions section below). There are sensitive cultural sites in the wider area and the development may have a visual impact on these. Visual image reconstructions should take this into account and images should be included/presented as part of the community/public consultation process.

Table 11.1: Impact Assessment summary table

Impact	Status	Extent	Duration	Intensity	Probability	Significance Without mitigation	Mitigation	Significance with mitigation	Confidence
Destruction or disturbance of archaeological sites	Negative	Local	Permanent	Low	Improbable	Low	Notify the Albany Museum or SAHRA	Low	High

11.6 RECOMMENDATIONS

1. In the unlikely event that any concentrations of archaeological material are uncovered during further development of the site, it should be reported to the Albany Museum and/or the South African Heritage Resources Agency immediately so that systematic and professional investigation/excavations can be undertaken. Sufficient time should be allowed to remove/collect such material (See Appendix 11.1 for a list of possible archaeological sites that maybe found in the area).
2. The visual effect of the development on important cultural sites in the wider area, such as Sara Baartman's grave and archaeological sites along the nearby coast must be included in the visual investigation for community/public consultation. The development will have little or no effect on the Kabeljous River Rock Shelters due to their location in the Kabeljous River valley.
3. Construction managers/foremen 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. It is suggested that a person be trained to be on site to report to the site manager if sites are found.

Chapter 11 : Impact on Archaeology

11.7 CONCLUSIONS

The area investigated appears to be of **low** archaeological sensitivity and the impact of construction will be **insignificant**. Apart from the nearby coastline which is rich in archaeological sites, there are also two other important cultural sites in the wider vicinity of the development, namely, Kabeljous River Shelter and the grave site of Sara Baartman. There is concern from the Gamtkwa KhoiSan Council that the development may have a visual impact on these sites.

11.7.1 General remarks and conditions

It must be emphasised that the conclusions and recommendations expressed in this archaeological heritage sensitivity investigation are based on the visibility of archaeological sites/features and may not therefore, reflect the true state of affairs. Many sites/features may be covered by soil and vegetation and will only be located once this has been removed. In the event of such finds being uncovered, (such as during any phase of construction work), archaeologists 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 Act No. 25 of 1999.

It must also be clear that Archaeological Specialist Reports (AIA's) will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which should grant a permit or a formal letter of permission for the destruction of any cultural sites.

Appendix 11.1: Disclaimer Identification of Archaeological Features and Material from Inland Areas: Guidelines and Procedures for Developers

Human Skeletal material

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.

Stone artefacts

These are 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

Fossil bone

Fossil bones may be found embedded in geological deposits. Any concentrations of bones, whether fossilized or not, should be reported.

Large stone features

Large stone features may be present in various 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.

Historical artefacts or features

These are easy to identified and include foundations of buildings or other construction features and items from domestic and military activities.

Appendix 11.2: Brief legal requirements

Parts of sections 35(4), 36(3) and 38(1) (8) of the National Heritage Resources Act 25 of 1999 apply:

Archaeology, palaeontology and meteorites

35 (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;*
- (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.*

Burial grounds and graves

36. (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.*

Heritage resources management

38. (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, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of the site –*
 - (i) exceeding 5000m² 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*

Chapter 11 : Impact on Archaeology

- (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 000m² 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.*