



SOUTH AFRICAN HERITAGE RESOURCES AGENCY
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FOR ATTENTION: **PHRA: Eastern Cape**

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REVIEW COMMENT ON ARCHAEOLOGICAL AND PALAEOLOGICAL IMPACT ASSESSMENTS

BY ARCHAEOLOGY/ PALAEOLOGY UNIT OF THE HERITAGE RESOURCES AGENCY

South Africa has a unique and non-renewable archaeological and palaeontological heritage. Archaeological and palaeontological sites are protected in terms of the National Heritage Resources Act (Act No 25 of 1999) and may not be disturbed without a permit. Archaeological Impact Assessments (AIAs) and Palaeontological Impact Assessments (PIAs) identify and assess the significance of the sites, assess the potential impact of developments upon such sites, and make recommendations concerning mitigation and management of these sites. On the basis of satisfactory specialist reports SAHRA or the relevant heritage resources agency can assess whether or not it has objection to a development and indicate the conditions upon which such development might proceed and assess whether or not to issue permission to destroy such sites. AIAs and PIAs often form part of the heritage component of an Environmental Impact Assessment or Environmental Management Plan. They may also form part of a Heritage Impact Assessment called for in terms of section 38 of the National Heritage Resources Act, Act No. 25, 1999. They may have other origins. In any event they should comply with basic minimum standards of reporting as indicated in SAHRA Regulations and Guidelines.

This form provides review comment from the Archaeologist of the relevant heritage resources authority for use by Heritage Managers, for example, when informing authorities that have applied to SAHRA for comment and for inclusion in documentation sent to environmental authorities. It may be used in conjunction with Form B, which provides relevant peer review comment.

- A. PROVINCIAL HERITAGE RESOURCES AUTHORITY: **Eastern Cape**.....
- B. AUTHOR(S) OF REPORT: **Dr J. Binneman, Ms C. Booth and Ms N. Higgitt**
- C. ARCHAEOLOGY CONTRACT GROUP: **Albany Museum, Department of Archaeology**
- D. CONTACT DETAILS: **Somerset St, Grahamstown, 6139, tel: 046 622 2312, email: celeste.booth@ru.ac.za**
- E. DATE OF REPORT: **August 2010**
- F. TITLE OF REPORT: **A Phase 1 AIA for the proposed Dorper Wind Energy Facility on a site near Molteno, CHDM, Eastern Cape Province**
- B. AUTHOR(S) OF REPORT: **Dr John Almond**
- C. PALAEOLOGY CONTRACT GROUP: **Natura Viva CC**
- D. CONTACT DETAILS: **PO Box 12410 Mill st, Cape Town 8010, email: naturaviva@universe.co.za**
- E. DATE OF REPORT: **July 2010**
- F. TITLE OF REPORT: **Dorper Wind Energy Facility near Molteno, Inkwanca Local Municipality, Eastern Cape Province**
- G. Please circle as relevant: Heritage component of **EIA / EMP / HIA / CMP/ Other**

(Specify).....

H. REPORT COMMISSIONED BY (**CONSULTANT** OR DEVELOPER): **Savannah Environmental (Pty) Ltd**

I. CONTACT DETAILS: **Mr John von Mayer, PO Box 148, Sunninghill, 2157, Gauteng, Tel: 011 234 6621, email: john@savannahsa.com**

J. COMMENTS:

Please see comment on next page

REVIEW COMMENT ON HERITAGE SCOPING ASSESSMENT

Dr J. Binneman, Ms C. Booth and Ms N. Higgitt

Dated: August 2010, received: November 2010

A Phase 1 AIA for the proposed Dorper Wind Energy Facility on a site near Molteno, CHDM, Eastern Cape Province

Dr J. Almond

Dated: July 2010, received: November 2010

Dorper Wind Energy Facility near Molteno, Inkwanca Local Municipality, Eastern Cape Province

INTRODUCTION

A wind energy facility is proposed by Dorper Wind Farm (Pty) Ltd in the Inkwanca Local Municipality over an area covering about 132km². If approved, the wind energy facility will be developed by Rainmaker Energy Project. The final EIA was released in October 2010 and the Environmental Authorization for the project was received in May 2011.

The project entails the establishment of a wind energy facility with up to 244 wind turbines, each of them will be up to 90m high with a rotor diameter of up to 100m. The concrete foundation for each turbine will be 20x20m for 2m depth. The cabling will be mostly underground and up to four different substations will be established for the facility. Distribution lines of 132kV will also be necessary along with access roads and a workshop area for maintenance (information from the EIA and the Environmental Authorization).

Both an Archaeological and a Palaeontological Impact Assessments were undertaken as part of the Environmental Impact Assessment process. While the Archaeological Impact Assessment included a field survey, the palaeontologist was requested to undertake only a desktop study.

The surveyed area included Spreeukloof portion 18, Paarde Kraal, portion 7, Cyphergat (portions 1 to 7, 9 and remaining extent), Topklop portions 1 and 4, post Houers Hoek, remaining extent, Highlands, remaining extent, Farm 68 portion 4, Uitekyk, portions 3 and remaining extent.

Archaeologically, very few studies have been previously undertaken in this area of the Eastern Cape and during the survey a series of heritage resources were identified. Thick vegetation hampered at times surface visibility and with it the identification of possible archaeological resources. Other sections of the properties were on the contrary already highly disturbed by farming activities and by the establishment of infrastructures, such as power lines, access roads and dams.

DISCUSSION

The presence of frequent dongas and road cuttings contributed to the understanding of the archaeology of the area and of the sites recorded. Identified sites included frequent scatters of Middle and Later Stone Age artefacts, mostly made of hornfels and shale, with a few of them in chalcedony, silcrete and quartzite. Most of these artefacts were considered by the authors as being in secondary context. However, it is highly possible that *in situ* material is preserved within the first 50cm below ground.

Besides Stone Age scatters and artefacts, few stone walling sites and stone kraals were recorded on Paarde Kraal portion 7 and Cyphergat portion 1. Abandoned old farm buildings are present on Tolkop and Uitekyk portion 1.

Six rock art sites recorded in the Albany Museum archive are known to be located on the properties where the wind energy facility is proposed. It is expected that these sites will not be impacted by the development, the same is valid for three other rock art sites which were newly identified during the survey.

Three cemeteries are also located on the properties. One of them, on Cyphergat Portion 1, comprises 30 graves and it is fenced off, it is within the footprint of the proposed wind energy facility, whereas the second one, comprising only 6 graves, is located outside the footprint. The third cemetery is found on Uitekyk and includes 36 graves dating from the

beginning of the 19th century onwards.

The geological formations underlying the proposed development area are the Molteno formation, intruded by Karoo Dolerite Suite, the Burgersdorp and the Elliot Formations. The Molteno Formation is one of the most fossiliferous strata in the Main Karoo Basin. Amongst the remains identified in it are silicified woods, megaflora (more than 100 species from 70 different localities), palynomorph assemblages, fossil fish and insects, conchostracans, bivalves and trace fossils. Bone and coprolites are absent, possibly because of the non favourable environmental conditions for their fossilisation.

SAHRA RECOMMENDATIONS

SAHRA Archaeology, Palaeontology and Meteorites and Burial Grounds and Graves Unit support the recommendations of the authors and require that:

- The final position of turbines and related infrastructures, including access roads, must be decided in consultation with an archaeologist and a palaeontologist. If deemed necessary, a micro-siting survey of the footprint of turbines and related infrastructure must be undertaken. After this survey a report must be sent to SAHRA for comments.
- Recording of the Stone Age scatters including the collection of an indicative sample must be undertaken for the identified sites. SAHRA will require that, in terms of s. 38 (4)(b&c) of the National Heritage Resources Act, the provisions of s. 35 apply, as appropriate. The specialist will require a collection permit from the relevant Heritage Resources Authority. On receipt of a satisfactory mitigation (Phase 2) permit report from the palaeontologist, the heritage authority will make further recommendations in terms of the site.
- Monitoring by an archaeologist must be undertaken for the sites where a higher concentration of stone tools was recorded. A monitoring report must be then submitted to SAHRA for further comments.
- Monitoring by an archaeologist must be undertaken during vegetation clearing of sections which could not be surveyed because of the thick vegetation cover. A monitoring report must be then submitted to SAHRA for further comments.
- Graves and burial grounds must be avoided by the proposed turbine sites. Any graves/burial grounds located close to the proposed sites must be properly fenced off, prior to development. The fence must be erected at least 5m from the graves and a buffer zone of 20-30m must be respected between the fence and the development.
- Where the identified graveyards are still in use, access must be allowed for communities to continue doing so, otherwise plans must be made to address their needs.
- A Phase 2 Impact Assessment needs to be undertaken for the historical graveyard (site 33). Recording and mapping of the graves including photographs should form part of the Phase 2 report, which should also give an indication of the state of the graves. A Heritage Management Plan should be included in this report.
- If any structure older than 60 years requires alteration or demolition a Conservation Architect must be contacted and a report sent to the Heritage Authority for comment. 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 heritage resources authority (s. 34 (1)).
- No development should occur within 50m from any stone walling sites. Stone walling sites should be fenced off if any development activities are meant to occur between 50 and 100m from the stone walling. If a buffer zone of 50m cannot be kept, a Phase 2 Impact Assessment must be undertaken. Where development occurs between 50 and 100m of a stone walling site, monitoring by an archaeologist is requested during construction and a report from monitoring activities must be submitted to SAHRA.
- A Palaeontological Impact Assessment including a field survey must be undertaken and submitted to SAHRA for comments. This assessment will identify where the Molteno Formations outcrops in the 132km² proposed for the development and

where turbines, access roads and other related associated infrastructure will affect the palaeontological resources potentially present. The assessment must be undertaken before construction commences. No construction must take place before SAHRA advises on findings of the palaeontological specialist report.

- Further mitigation measures may be necessary for the preservation of paleontological resources. Where the development involves disturbance of a palaeontological site of some significance, SAHRA will require that, in terms of s. 38 (4)(b&c) of the National Heritage Resources Act, the provisions of s. 35 apply, as appropriate. The specialist will require a mitigation permit from the relevant Heritage Resources Authority. On receipt of a satisfactory mitigation (Phase 2) permit report from the palaeontologist, the heritage authority will make further recommendations in terms of the site. Very often permission is given for the destruction of the remainder of the palaeontological sites. Very rarely, if a site has high heritage significance the authority may request that it be conserved and that mini-site management plans, interpretive material and possibly protective infrastructure be established.

CONCLUSION

The area earmarked for development has significant heritage resources in the form of Stone Age sites, Iron Age sites and burial grounds and graves that are likely to be affected by development activities. SAHRA notes that the nature and type of the proposed development can allow for *in situ* preservation of some sites, while others may have to be rescued to pave way for the proposed development. SAHRA does not object to the development, if all recommendations indicated above are adhered to, and:

- A Phase 1 PIA is undertaken, the report of which must be reviewed by SAHRA and a review comment issued before construction commences;
- The final position of the turbines must be finalised in consultation with the archaeologist and the palaeontologist;
- Monitoring must be undertaken for any activity occurring within 50 and 100m from the stone walling site;
- Monitoring is also necessary for areas where vegetation cover hampered visibility during the field survey and for earth disturbing activities at sites with higher concentration of stone tools;
- Further work (Phase 2) must be undertaken for site 33 and for a sample of Stone Age sites identified by the archaeologist. A report from each Phase 2 must be submitted to SAHRA for evaluation and counsel on management of these sites. The report from Phase 2 on site 33 should also include a management plan;
- It is recommended that where the identified graveyards are still in use, access must be allowed for communities to continue doing so;
- No development may occur within 20-30m from the fence erected around the graveyards;
- A Conservation Architect must be contacted, and a permit applied for with the Eastern Cape Provincial Heritage Resources Authority (attention of Mr Zote, mlzote@ecphra.org.za), for any alteration or demolition of structures older than 60 years.

SIGNATURE OF ARCHAEOLOGIST PROCESSING REPORT: 

EMAIL: mgalimberti@sahra.org.za

SIGNATURE OF SAHRA HEAD ARCHAEOLOGIST: 

EMAIL: nndobochani@sahra.org.za

NAME OF HERITAGE RESOURCES AGENCY: SAHRA

PLEASE NOTE THAT THE COMMENT (ABOVE OR APPENDED) CONSTITUTES THE COMMENT OF THE HERITAGE RESOURCES AGENCY ARCHAEOLOGIST AND THAT ANY DEVELOPMENT THAT INVOLVES DESTRUCTION OF ANY ARCHAEOLOGICAL/PALAEONTOLOGICAL SITE IS STILL SUBJECT TO A PERMIT/PERMISSION FOR DESTRUCTION OF SUCH SITE GIVEN TO THE DEVELOPER BY THE RELEVANT HERITAGE RESOURCES AGENCY ARCHAEOLOGICAL AND PALAEONTOLOGICAL PERMIT COMMITTEE (THIS WILL BE SUBJECT TO APPROVAL OF THE PHASE 2 OR ARCHAEOLOGICAL/ PALAEONTOLOGICAL MITIGATION AS NECESSARY). THIS REPORT MAY BE

TAKEN ONLY AS APPROVAL IN TERMS OF SECTION 35 OF THE NATIONAL HERITAGE RESOURCES ACT. THE PROVINCIAL MANAGER OF THE HERITAGE RESOURCES AUTHORITY MUST ADVISE AS TO APPROVAL IN TERMS OF HERITAGE ISSUES ENCOMPASSED BY OTHER ASPECTS OF THE LEGISLATION, SUCH AS ISSUES OF THE BUILT ENVIRONMENT (STRUCTURES (E.G. FARM HOUSES), OVER 60 YEARS), INDIGENOUS KNOWLEDGE SYSTEMS OR OF CULTURAL LANDSCAPES AS THIS IS NOT WITHIN THE SCOPE OF THE ARCHAEOLOGIST.

APPENDIX 1

Protection of Graves

In terms of the National Heritage Resources Act (No. 25 of 1999) graves older than 60 years (not in a municipal graveyard) are protected. Human remains younger than 60 years should be handled only by a registered undertaker or an institution declared under the Human Tissues Act.

Anyone who wishes to develop an area where there are graves older than 60 years is required to follow the process described in the legislation (section 36 and associated regulations). The specialist will require a permit from the heritage resources authority:

1. Determine/ confirm the presence of the graves on the property. Normally the quickest way to proceed is to obtain the service of a professional archaeologist accredited to undertake burial relocations. The archaeologist will provide an estimate of the age of the graves. There may be a need for archival research and possibly test excavations (permit required).
2. The preferred decision is to move the development so that the graves may remain undisturbed. If this is done, the developer must satisfy SAHRA that adequate arrangements have been made to protect the graves on site from the impact of the development. This usually involves fencing the grave(yard) and setting up a small site management plan indicating who will be responsible for maintaining the graves and how this is legally tied into the development. It is recommended that a distance of at least 5m is left undisturbed between the grave and the fence around the graves and another 30m between the fence of the grave and the development.
3. If the developer wishes to relocate or disturb the graves:
 - a. A 60-day public participation (social consultation) process as required by section 36 (and regulations), must be undertaken to identify any direct descendants of those buried on the property. This allows for a period of consultation with any family members or community to ascertain what their wishes are for the burials. It involves notices to the public on site and through representative media. This may be done by the archaeologist, who can explain the process, but for large or sensitive sites a social consultant should be employed. Archaeologists often work with undertakers, who rebury the human remains.
 - b. If as a result of the public participation, the family (where descendants are identified) or the community agree to the relocation process then the graves may be relocated.
 - c. The archaeologist must submit a permit application to SAHRA for the disinterment of the burials. This must include written approval of the descendants or, if there has not been success in identifying direct descendants, written documentation of the social consultation process, which must indicate to SAHRA's satisfaction, the efforts that have been made to locate them. It must also include details of the exhumation process and the place to which the burials are to be relocated. (There are regulations regarding creating new cemeteries and so this usually means that relocation must be to an established communal rural or formal municipal cemetery.)
 - d. Permission must be obtained before exhumation takes place from the landowner where the graves are located, and from the owners/managers of the graveyard to which the remains will be relocated.
 - e. Other relevant legislation must be complied with, including the Human Tissues Act (National Department of Health) and any ordinances of the Provincial Department of Health). The archaeologist can usually advise about this.