# McGregor Museum Department of Archaeology



## ARCHAEOLOGY SPECIALIST INPUT ON THE SITE OF THE PROPOSED POTFONTEIN PHOTOVOLTAIC CONSTRUCTION SITE NORTH OF DE AAR, NORTHERN CAPE

David Morris January 2013

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#### 1. INTRODUCTION

This report was commissioned by Jean Beater on behalf of Scatec Solar in respect of proposed development of a photovoltaic solar energy facility on Potfontein, north of De Aar in the Northern Cape.

## 1.1 Focus and Content of Specialist Report: Archaeology

The archaeology specialist study is focused on the development footprint options for the Potfontein Photovoltaic construction site. It incorporates the following information:

- » Introduction (1)
  - Focus and content of report (1.1)
  - Archaeology specialist (1.2)
- Description of the affected environment (2)
  - Heritage features of the area (2.1)
  - Description and evaluation of environmental issues and potential impacts identified in the scoping phase (2.2)
- » Methodology (3)
  - Assumptions and limitations (3.1)
  - o Potentially significant impacts to be assessed (3.2)
  - Description and evaluation of environmental issues (3.3)
  - Determining archaeological significance (3.4)
- » Observations and assessment of impacts (4)
  - Fieldwork observations (4.1)
  - Characterising the archaeological significance (4.2)
- » Conclusions (5)
- » References (6)

#### 1.2 Archaeology Specialist

The author of this report is an archaeologist accredited as a Principal Investigator by the Association of Southern African Professional Archaeologists, having previously carried out surveys and fieldwork on sites in the region (Beaumont & Morris 1990; Morris & Beaumont 2004; Morris 2011).

The author works independently of the organization commissioning this specialist input, and I provide observations within the framework of the National Heritage Resources Act (No 25 of 1999).

The National Heritage Resources Act no. 25 of 1999 (NHRA) protects heritage resources which include archaeological and palaeontological objects/sites older than 100 years, graves older than 60 years, structures older than 60 years, as well as intangible values attached to places. The Act requires that anyone intending to disturb, destroy or damage such sites, objects and/or structures

may not do so without a permit from the relevant heritage resources authority. This means that a Heritage Impact Assessment should be performed, resulting in a specialist report as required by the relevant heritage resources authority/ies to assess whether authorisation may be granted for the disturbance or alteration, or destruction of heritage resources.

#### 2. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The environment in question is a Karoo landscape adjacent to the railway north of De Aar consisting of a relatively flat plain with low relief. Shallow soil over a mostly calcrete substrate supports Karoo scrub and limited grass cover, affording relatively high visibility of surface archaeological traces. Underlying dolerite outcrops in low ridges locally, with shale in evidence in places. Stone Age traces occur at and just beneath the surface of the shallow soil. The site lies immediately south of Kalkbult where a previous survey was carried out (Morris 2011).

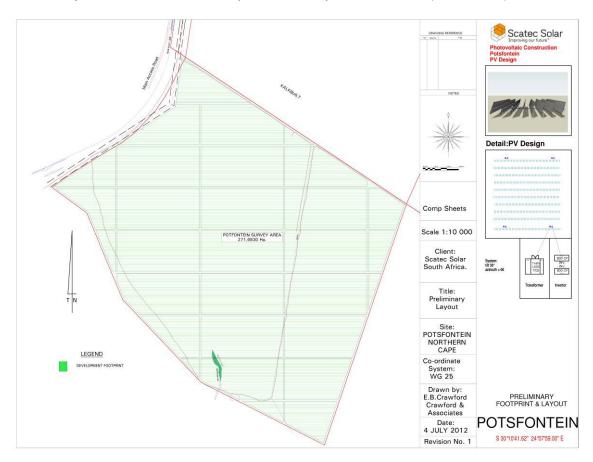


Figure 1. Location of proposed Potfontein PV construction (from diagram by Scatec Solar).

#### 2.1. Heritage features of the area

An archaeological impact assessment (Morris 2011) was carried out in the immediately adjoining property of Kalkbult, providing an indication of what might be expected on the Potfontein property. The surrounding Karoo landscape is known for its richness of Stone Age archaeological traces, both in the form of surface and sub-surface scatters of stone tools and of rock engravings on dolerite hills.

The proximity of the railway means that material traces may exist alongside relating to its construction (the line was pushed through to reach Kimberley in 1885), maintenance and use, and its protection by way of blockhouses, as the main supply line for British forces further inland during the Anglo-Boer War.

Other colonial era traces may relate to farming history.

## 2.2. Description and evaluation of environmental issues and potential impacts identified in the scoping phase

Heritage resources including archaeological sites are in each instance unique and non-renewable resources. Area and linear developments such as those envisaged can have a permanent destructive impact on such resources. The objective of an EIA would be to assess the sensitivity of heritage resources where present to assess the significance of potential impacts on them and to recommend mitigation or management measures where necessary.

Area impacts are possible in the case of the Potfontein PV construction, while power lines and access roads would represent linear impacts.

### 2.2.1. Direct, indirect and cumulative impacts (in terms of nature, magnitude and extent)

The destructive impacts that are possible in terms of heritage resources would tend to be direct, once-off events occurring during the initial construction period. In the long term, the proximity of operations in a given area could result in secondary indirect impacts resulting from the movement of people or vehicles in the immediate or surrounding vicinity.

With respect to the magnitude and extent of potential impacts, it has been noted that the erection of power lines would have a relatively small impact on Stone Age sites, in light of Sampson's (1985) observations during surveys beneath power lines in the Karoo (actual modification of the landscape tends to be limited to the footprint of each pylon), whereas a road would tend to be far more destructive (modification of the landscape surface would be within a continuous strip), albeit relatively limited in spatial extent, i.e. width (Sampson compares such destruction to the pulling out of a thread from an ancient tapestry).

### 3. METHODOLOGY

A site visit was conducted on 5 December 2012 to inspect the terrain on foot, focusing on areas of expected impact as well as evaluating the wider context. Heritage traces would be assessed in terms of their archaeological significance.

#### 3.1. Assumptions and limitations

It was assumed that, by and large in this landscape, with its sparse vegetation, some sense of the archaeological traces to be found would be readily apparent from surface observations.

A proviso is routinely given, that should sites or features of significance be encountered during construction (this could include an unmarked burial, an ostrich eggshell water flask cache, or a high density of stone tools, for instance), specified steps are necessary (cease work, report to heritage authority).

### 3.2. Potentially significant impacts to be assessed in the EIA process

Where dolerite koppies occur there is a possibility that rock engravings might be found.

- » More or less rich spreads of Stone Age artefacts may occur across this Karoo landscape with localised 'sites' having higher densities.
- » More recent heritage features of note may exist in the vicinity of railway and farm infrastructure.

## 3.3. Description and evaluation of environmental issues and potential impacts identified in the scoping phase

Any area or linear, primary and secondary, disturbance of surfaces in the development locales could have a destructive impact on heritage resources, where present. In the event that such resources of high significance are found, they are likely to be of a nature that potential impacts could be mitigated by documentation and/or salvage following approval and permitting by the South African Heritage Resources Agency and, in the case of any built environment features, by Ngwao Bošwa jwa Kapa Bokone (the Northern Cape Heritage Authority).

Disturbance of surfaces includes any construction: of a road, erection of a pylon, or preparation of a site for a plant, or building, or any other *clearance* of, or *excavation* into, a land surface. In the event of archaeological materials being present such activity would alter or destroy their context (even if the artefacts themselves are not destroyed, which is also obviously possible). Without context, archaeological traces are of much reduced significance. It is the contexts as much as the individual items that are protected by the heritage legislation.

Some of the activities indicated here have a generally lower impact than others. For example, Sampson (1985) has shown that power lines tend to be less destructive on Stone Age sites than roads since access along the route of the line during construction and maintenance tends to be by way of a 'twee-spoor' temporary roadway (not scraped, the surface not significantly modified). Individual tower positions might be of high archaeological significance (e.g. a grave, or an engraving). The impact of a 'twee-spoor' could be far greater on Iron Age sites in other parts of South Africa, where (for example) stone walling might need to be breached.

## 3.4 Determining archaeological significance

In addition to guidelines provided by the National Heritage Resources Act (Act No. 25 of 1999), a set of criteria based on Deacon (nd) and Whitelaw (1997) for assessing archaeological significance has been developed for Northern Cape settings (Morris 2000a). These criteria include estimation of landform potential (in terms of its capacity to contain archaeological traces) and assessing the value to any archaeological traces (in terms of their attributes or their capacity to be construed as evidence, given that evidence is not given but constructed by the investigator).

#### Estimating site potential

Table 1 (below) is a classification of landforms and visible archaeological traces used for estimating the potential of archaeological sites (after J. Deacon nd, National Monuments Council). Type 3 sites tend to be those with higher archaeological potential, but there are notable exceptions to this rule, for example the renowned rock engravings site Driekopseiland near Kimberley which is on landform L1 Type 1 – normally a setting of lowest expected potential. It should also be noted that, generally, the older a site the poorer the preservation, so that sometimes *any* trace, even of only Type 1 quality, can be of exceptional significance. In light of this, estimation of potential will always be a matter for archaeological observation and interpretation.

### Assessing site value by attribute

Table 2 is adapted from Whitelaw (1997), who developed an approach for selecting sites meriting heritage recognition status in KwaZulu-Natal. It is a means of judging a site's archaeological value by ranking the relative strengths of a range of attributes (given in the second column of the table). While aspects of this matrix remain qualitative, attribute assessment is a good indicator of the general archaeological significance of a site, with Type 3 attributes being those of highest significance.

Table 1. Classification of landforms and visible archaeological traces for estimating the potential for archaeological sites (after J. Deacon, National Monuments Council).

Class	Landform	Type 1	Type 2	Type 3	
L1	Rocky surface	Bedrock exposed	Some soil patches	es Sandy/grassy patches	
L2	Ploughed land	Far from water	In floodplain	dplain On old river terrace	
L3	Sandy ground, inland	Far from water	In floodplain or near feature such as hill	On old river terrace	
L4	Sandy ground, Coastal	>1 km from sea	Inland of dune cordon	Near rocky shore	
L5	Water-logged deposit	Heavily vegetated	Running water	Sedimentary basin	
L6	Developed urban	Heavily built-up with no known record of early settlement	Known early settlement, but buildings have basements	Buildings without extensive basements over known historical sites	
L7	Lime/dolomite	>5 myrs	<5000 yrs	Between 5000 yrs and 5 myrs	
L8	Rock shelter	Rocky floor	Sloping floor or small area	Flat floor, high ceiling	
Class	Archaeo-logical traces	Type 1	Type 2	Type 3	
A1	Area previously excavated	Little deposit remaining	More than half deposit remaining	High profile site	
A2	Shell or bones visible	Dispersed scatter	Deposit <0.5 m thick	Deposit >0.5 m thick; shell and bone dense	
А3	Stone artefacts or stone walling or other feature visible	Dispersed scatter	Deposit <0.5 m thick	Deposit >0.5 m thick	

Table 2. Site attributes and value assessment (adapted from Whitelaw 1997)

Class	Attribute	Type 1	Type 2	Type 3
1	Length of sequence/context	No sequence Poor context Dispersed distribution	Limited sequence	Long sequence Favourable context High density of arte/ecofacts
2	Presence of exceptional items (incl regional rarity)	Absent	Present	Major element
3	Organic preservation	Absent	Present	Major element
4	Potential for future archaeological investigation	Low	Medium	High
5	Potential for public display	Low	Medium	High
6	Aesthetic appeal	Low	Medium	High
7	Potential for implementation of a long-term management plan	Low	Medium	High

#### 4. OBSERVATIONS AND ASSESSMENT OF IMPACTS

The manner in which archaeological and other heritage traces or values might be affected by the proposed development may be summed up in the following terms: it would be any act or activity that would result immediately or in the future in the destruction, damage, excavation, alteration, removal or collection from its original position, any archaeological material or object (as indicated in the National Heritage Resources Act (No 25 of 1999)). The most obvious impact in this case would be land surface disturbance associated with infrastructure construction.

#### 4.1 Fieldwork observations

The proposed development footprint area was visited on 5 December 2012 and the author inspected the Potfontein site in company with Environmental Control Officer, Simon Bundy. In summary the findings can be reported in relation to predictions made above (see 3.2):

## 4.1.1 Possible engraving occurrences on dolerite koppies or exposures:

Dolerite koppies occur as a major feature in the surrounding area but not within the actual footprint of the proposed Potfontein development. The hill immediately alongside the proposed development was however examined and markings and engravings were found at a few places.



Hairline rock engravings (Morris 1988) were found on some of the rocks on the hill just south of the proposed development. The finely incised eland image, difficult to see, is at 30.18033° S 24.12489° E. Research in the Upper Karoo indicates that this technique could date back to mid-Holocene times.

#### 4.1.2 Occurrences of Stone Age artefacts:

A variable density of stone artefacts, mostly of Pleistocene age, was noted, very much as on the adjoining farm Kalkbult, over most of the area examined. Such occurrences exist as 'noise' over almost all of the surrounding Karoo landscape and may represent, here, mostly off-site opportunistic knapping over long periods of time, and then almost certainly

displaced both horizontally and vertically by environmental processes including collapsing of stratified sequences through erosion. Densities range from less than 1 artefact per 10x10 m to more than 5 or even 10 per m<sup>2</sup>. The latter spreads, noted at the north western part of the site, are impressive but, lacking contextual integrity and bereft of any organic remains, they are of low significance.



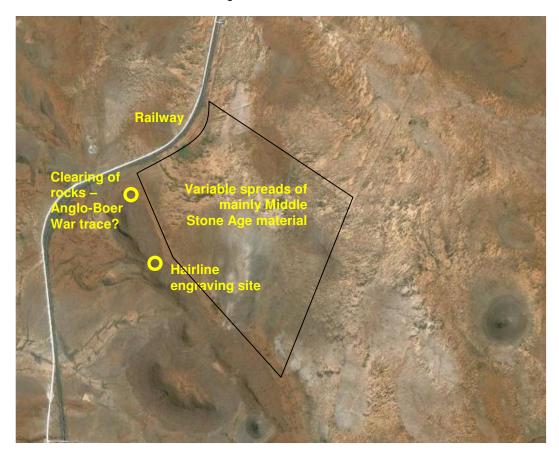
A high density of cf. Middle Stone Age tools (above and below) on the surface at  $30.17254^{\circ}$  S  $24.12327^{\circ}$  E – where however taphonomy or site formation processes having reduced their long term integrity and significance.



There are variable scatters of Later Stone Age stone tools along the foot of the hill that rises to the south of the development footprint. Again, no organic remains, e.g. ostrich eggshell, were found in association with these surface scatters and none of them presented sufficient spatial density or definition to be identified as a discrete site.



Later Stone Age artefacts at  $30.18613^{\circ}$  S  $24.12438^{\circ}$  E



Engravings on ridge and artefact scatters relative to the PV site (outlined)

### 4.1.3 Colonial heritage:

A clearing at the north western end of the hills south of the development area may have some significance relative to the block house line along the railway during the Anglo-Boer War, but it is not typical of Rice Pattern or other blockhouse forts noted elsewhere along the line. No other colonial era traces were found.

## 4.2 Characterising the archaeological significance (Refer to 3.4 above)

In terms of the significance matrices in Tables 1 and 2 under 3.4 above, all of the archaeological observations fall under Landform L3 Type 1. In terms of archaeological traces they fall under Class A3 Type 1. These ascriptions (Table 1) reflect poor contexts and low significance for these criteria.

For site attribute and value assessment (Table 2), all the observations noted fall under Type 1 for Classes 1-7, reflecting low significance, low potential and absence of contextual and key types of evidence.

On archaeological grounds, the occurrences observed can be said to be of generally low significance for the proposed development footprint. No archaeological mitigation is considered necessary.

The visual impact of the development is likely to alter the experience of this part of the Karoo for travellers on South Africa's premier tourist trains, the Blue Train and Rovos Rail (the latter traverses this section in daylight).



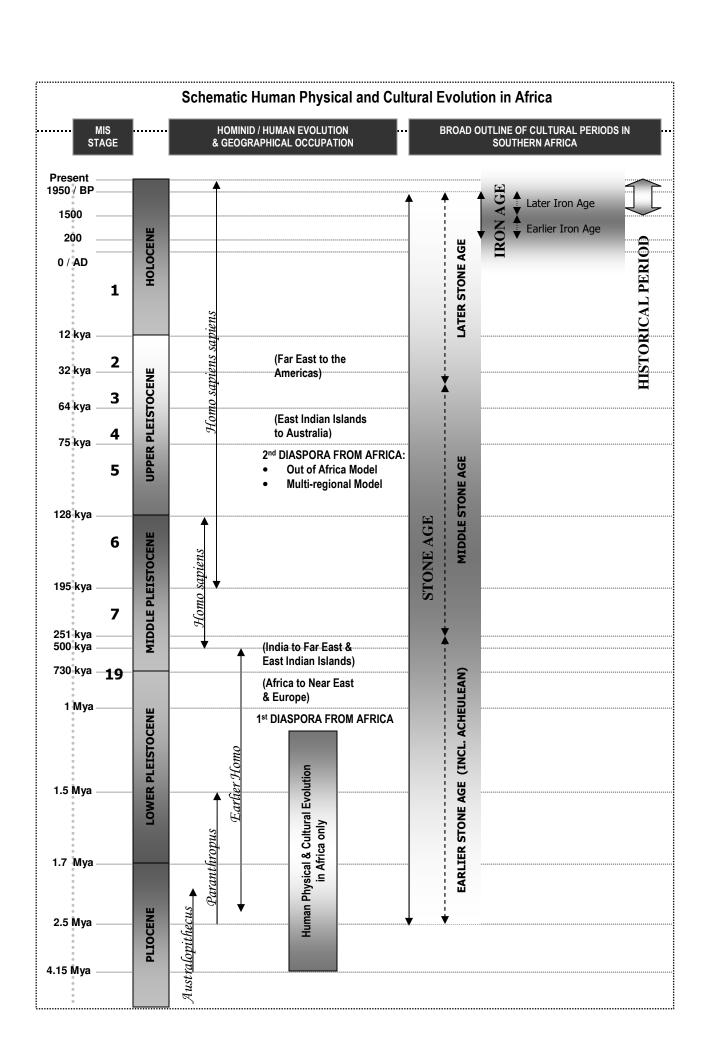
View northwards from the hills south of Potfontein to the site of the Kalkbult solar energy facility development. The railway runs to the right of the white limestone road.

#### 5. CONCLUSIONS

Archaeological surface scatters of artefacts varying from sparse to dense were found across the area of proposed PV construction. These lack stratigraphic and contextual integrity and may be displaced spatially and vertically through deflation over long periods of time. No organic remains associated with this material survive. The finds may be characterised as of low significance and no mitigation measures are considered necessary.

#### 6. REFERENCES

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

#### **DEFINITIONS**

#### Section 2

In this Act, unless the context requires otherwise:

- ii. "Archaeological" means -
  - a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures:
  - rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10 m of such representation;
  - c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic,... and any cargo, debris, or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation.
- viii. "Development" means any physical intervention, excavation or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including
  - a) construction, alteration, demolition, removal or change of use of a place or structure at a place;
  - b) carrying out any works on or over or under a place:
  - c) subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
  - d) constructing or putting up for display signs or hoardings;
  - e) any change to the natural or existing condition or topography of land; and
  - any removal or destruction of trees, or removal of vegetation or topsoil;
- xiii. "Grave" means a place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;
- xxi. "Living heritage" means the intangible aspects of inherited culture, and may include
  - a) cultural tradition;
  - b) oral history;
  - c) performance;
  - d) ritual;
  - e) popular memory;
  - f) skills and techniques;
  - g) indigenous knowledge systems; and
  - h) the holistic approach to nature, society and social relationships.
- xxxi. "Palaeontological" means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trance;
- xli. "Site" means any area of land, including land covered by water, and including any structures or objects thereon;
- xliv. "Structure" means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

#### **NATIONAL ESTATE**

### Section 3

- 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 of victims of conflict
- iv. graves of individuals designated by the Minister by notice in the Gazette;
- v. historical graves and cemeteries; and
- vi. other human remains which are not covered 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 -
  - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - ii. objects to which oral traditions are attached or which are associated with living heritage;
  - iii. ethnographic art and objects;
  - iv. military objects;
  - v. objects of decorative or fine art;
  - vi. objects of scientific or technological interest; and
  - vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

## STRUCTURES

#### Section 34

1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

## ARCHAEOLOGY, PALAEONTOLOGY AND METEORITES Section 35

- 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 offices or museum, which must immediately notify such heritage resources authority.
- No person may, without a permit issued by the responsible heritage resources authority
  - destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
  - destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
  - 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 assists 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 no 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;
  - 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;
  - 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.
- 6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

## **BURIAL GROUNDS AND GRAVES**

#### Section 36

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;
- 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
- 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.
- 4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction of any burial ground or grave referred to in subsection 3a) 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.
- 5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection 3b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority
  - made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
  - reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- 6) 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 a direct descendant to make arrangements for the exhumation and re-internment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

## HERITAGE RESOURCES MANAGEMENT

#### Section 38

- Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorised as –
  - a) the construction of a road, wall, powerline, 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 a site
    - i. exceeding 5 000 m<sup>2</sup> in extent; or
    - ii. involving three or more existing erven or subdivisions thereof; or
    - iii. involving three or more erven or subdivisions thereof which have been consolidated within the past five years; or
    - iv. the costs which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
  - d) the rezoning of a site exceeding 10 000 m<sup>2</sup> in extent; or
  - any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

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

- 2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection 1)
  - if there is 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
  - 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 2a) ...
- 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;
  - what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;

- whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
- e) whether the appointment of specialists is required as a condition of approval of the proposal.

## APPOINTMENT AND POWERS OF HERITAGE INSPECTORS Section 50

- 7) Subject to the provision of any other law, a heritage inspector or any other person authorised by a heritage resources authority in writing, may at all reasonable times enter upon any land or premises for the purpose of inspecting any heritage resource protected in terms of the provisions of this Act, or any other property in respect of which the heritage resources authority is exercising its functions and powers in terms of this Act, and may take photographs, make measurements and sketches and use any other means of recording information necessary for the purposes of this Act.
- 8) A heritage inspector may at any time inspect work being done under a permit issued in terms of this Act and may for that purpose at all reasonable times enter any place protected in terms of this Act.
- 9) Where a heritage inspector has reasonable grounds to suspect that an offence in terms of this Act has been, is being, or is about to be committed, the heritage inspector may with such assistance as he or she thinks necessary
  - enter and search any place, premises, vehicle, vessel or craft, and for that purpose stop and detain any vehicle, vessel or craft, in or on which the heritage inspector believes, on reasonable grounds, there is evidence related to that offence;
  - confiscate and detain any heritage resource or evidence concerned with the commission of the offence pending any further order from the responsible heritage resources authority; and
- c) take such action as is reasonably necessary to prevent the commission of an offence in terms of this Act. A heritage inspector may, if there is reason to believe that any work is being done or any action is being taken in contravention of this Act or the conditions of a permit issued in terms of this Act, order the immediate cessation of such work or action pending any further order from the responsible heritage resources authority.