

McGregor Museum

Department of Archaeology



Archaeological and Heritage Phase 1 Impact Assessment for proposed upgrading of Sishen Mine Diesel Depot Storage Capacity at Kathu, Northern Cape.

David Morris
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Introduction

The author was contacted by Lidwala EPS to carry out a phase 1 archaeological and heritage impact assessment with respect to proposed upgrading of Diesel Depot Storage Capacity at the Sishen Mine, Kathu.

Lidwala Environmental and Planning Services (Pty) Ltd: P.O. Box 3585, Diamond, 8305. Tel 053-8420035. Contact: Mr Frank van der Kooy, Fvdkooy@absamail.com

The site was visited in April 2008 when Mr Werner Voigt arranged access to the areas of the mine in question.

Fieldnotes and photographs generated during the visit are lodged with the McGregor Museum, Kimberley.

Legislation

The National Heritage Resources Act (No 25 of 1999) (NHRA) provides protection for archaeological resources.

It is an offence to destroy, damage, excavate, alter, or remove from its original position, or collect, any archaeological material or object (defined in the Act), without a permit issued by the South African Heritage Resources Agency (SAHRA).

Section 35 of the Act protects all archaeological and palaeontological sites and requires that anyone wishing to disturb a site must have a permit from the relevant heritage resources authority. Section 36 protects human remains older than 60 years. In order for the authority to assess whether approval may be given for any form of disturbance, a specialist report is required. No mining, prospecting or development may take place without heritage assessment and approval.

SAHRA at national level acts on an agency basis for the Provincial Heritage Resources Agency (PHRA) in the Northern Cape, where archaeological sites are concerned. Permit applications should be made to the SAHRA office in Cape Town. In the event of any archaeological material being encountered during prospecting, SAHRA should be contacted immediately (021-4624502).

Methods and limitations

A background literature/museum database search provides indications of what might be expected in the region.

During the site visit each of the respective areas of possible impact was visited and inspected in detail.

In the unlikely event that any major feature is encountered during development, for example a burial or a cache of ostrich eggshell flasks, then work should be halted and SAHRA should be contacted immediately (021-4624502).

Background: archaeological resources in the region

The Northern Cape has a wealth of archaeological sites (Beaumont & Morris 1990; Morris & Beaumont 2004). The significance of any sites encountered in the survey area could be assessed against previous research in the region. Nearby sites of renown include Wonderwerk Cave in the Kuruman Hills, to the east (e.g. Beaumont & Vogel 2006; Chazan *et al.* 2008); Tsantsabane, an ancient specularite working on the eastern side of Postmasburg (Beaumont 1973; Thackeray *et al.* 1983); Doornfontein, another specularite working north of Beeshoek (Beaumont & Boshier 1974; Thackeray *et al.* 1983); and a cluster of important Stone Age sites in the vicinity of Kathu (Beaumont & Morris 1990; Morris & Beaumont 2004; MMK records). Additional specularite workings with associated Ceramic Later Stone Age material, and older cf. Fauresmith sites (Early Middle Stone Age) are known from Lylyfeld, Demaneng, Mashwening, King, Rust en Vrede, Paling, Gloucester and Mount Huxley, to the north (Beaumont 1973; McGregor Museum records). Rock engraving sites are known from Beeshoek and Bruce (sites were salvaged in the 1970s-90s) (Fock & Fock 1984; Morris 1992; Beaumont 1998).

Observations

Of the three alternative sites (all within existing mining boundaries), Alternative 2 is completely built-over by existing mine infrastructure, with no undisturbed heritage traces. The only substantial piece of undisturbed veld is that where Alternative 1 is proposed, and the greatest amount of time was invested there. Some undisturbed ground exists at Alternative Site 3, which was also examined. In addition a site for proposed hydrocarbon-contaminated soil storage was inspected.

Alternative Site 1

Alternative Site 1 is situated on the north side of the mine plant, between the main access road and the railway, and consists of a strip of relatively undisturbed veld, though this is covered by a thin veneer of mine debris in places, and is the site of a construction workers' camp, evidently dating from the time that the mine was being established within the last half century (David Kruger pers.comm.)

A very low incidence of Stone Age material was found on the surface (consisting of shallow soil over calcrete). Artefacts on jaspilite appear to be Middle Stone Age in

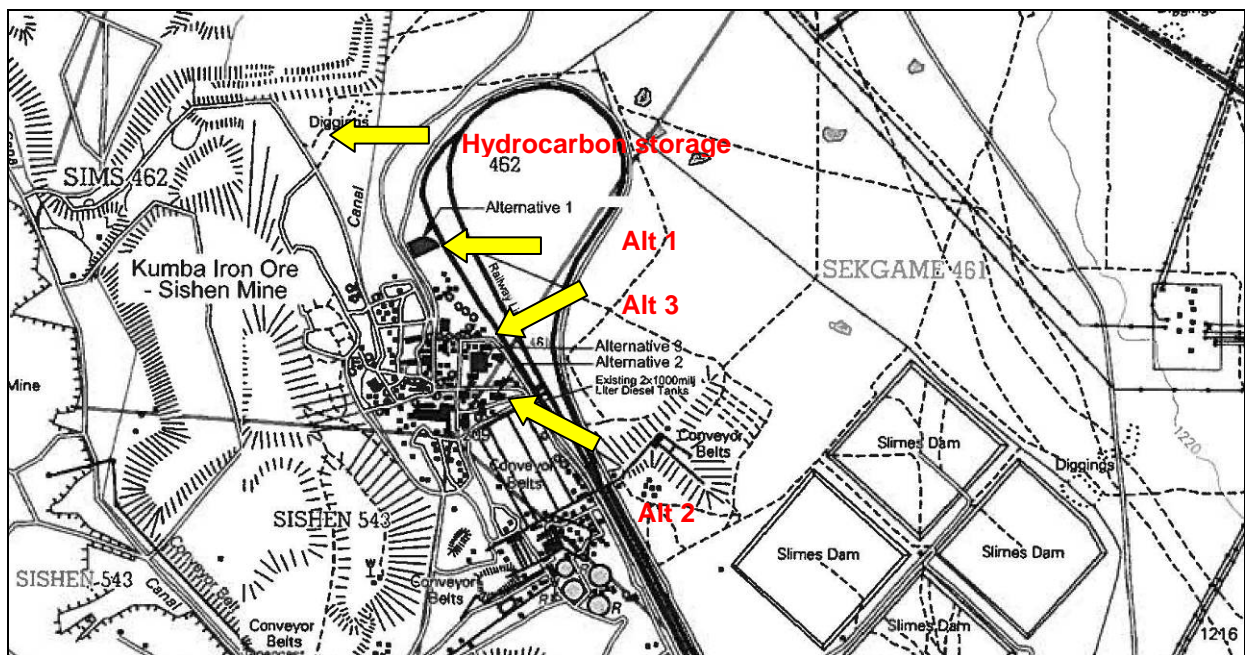
character, with a density of less than 1 per 10 x 10 m over most of the area, rising to perhaps a little over this figure at most. The only other cultural material found comprised the cement floors of prefabricated compounds in the vicinity of 27.72875° S 23.00794° E and a swathe of associated rubbish including bottles, metal cans, enamelware, toothbrushes, toothpaste tubes, battery components, etc., between 27.72792° S 23.00864° E and 27.72766° S 23.00845° E.

The development of the proposed diesel storage depot would have no negative impact on any heritage sites here.

Alternative Site 3

A portion of relatively undisturbed terrain forming part of Alternative 3 is a roughly triangular piece of veld adjacent to the railway, and in fact substantially covered by ballast used to support the railway infrastructure here. A small part of this site yielded a very low incidence of stone artefacts similar to those mentioned above, centred on 27.72714° S 23.01134° E.

Already somewhat disturbed, and lacking in any significant heritage traces, no negative impact would result if the proposed development was situated here.



Map indicating Alternative Sites 1-3

Hydrocarbon-polluted soil storage site

This site, situated to the north of Alternative 1, is partially obscured by dumps. An area of veld about 80 x 60 m in extent, with a thin veneer of sand over frequently exposed calcrete, was examined and a single artefact was found in the process, in the vicinity of 27.71965° S 23.00692° E.

Again, there would be no negative impact if the proposed storage facility was built at this point.



Cement floor of prefab construction worker housing



Remains from the workers' camp ash heap



A very low density of artefacts was noted

Recommendations

None of the Alternative Sites was found to have any significant heritage traces, other than the remains of the construction camp which could acquire greater value with time, but is currently less than 60 years old, and not a good example of its kind. The likelihood of there being any notable subsurface features also seemed remote in all instances, given the shallowness of the soil overlying bedrock.

There were no features that particularly favoured one site over any of the other Alternatives.

In the unlikely event that any subsurface feature such as a precolonial grave is encountered during development, work should cease immediately and the matter reported to SAHRA (Mrs M. Leslie/Dr A. Jerardino at 021-4624502) and the PHRA (Mr Sinthumule at 053-8074700), when a specialist should be called in to assess the find for possible mitigation.

With this proviso, it is proposed that development may go ahead as proposed, at whichever of the alternatives is decided upon.

Acknowledgements

I thank Mr Werner Voigt who provided access to the terrain, and My David Kruger who provided input on the construction worker camp.

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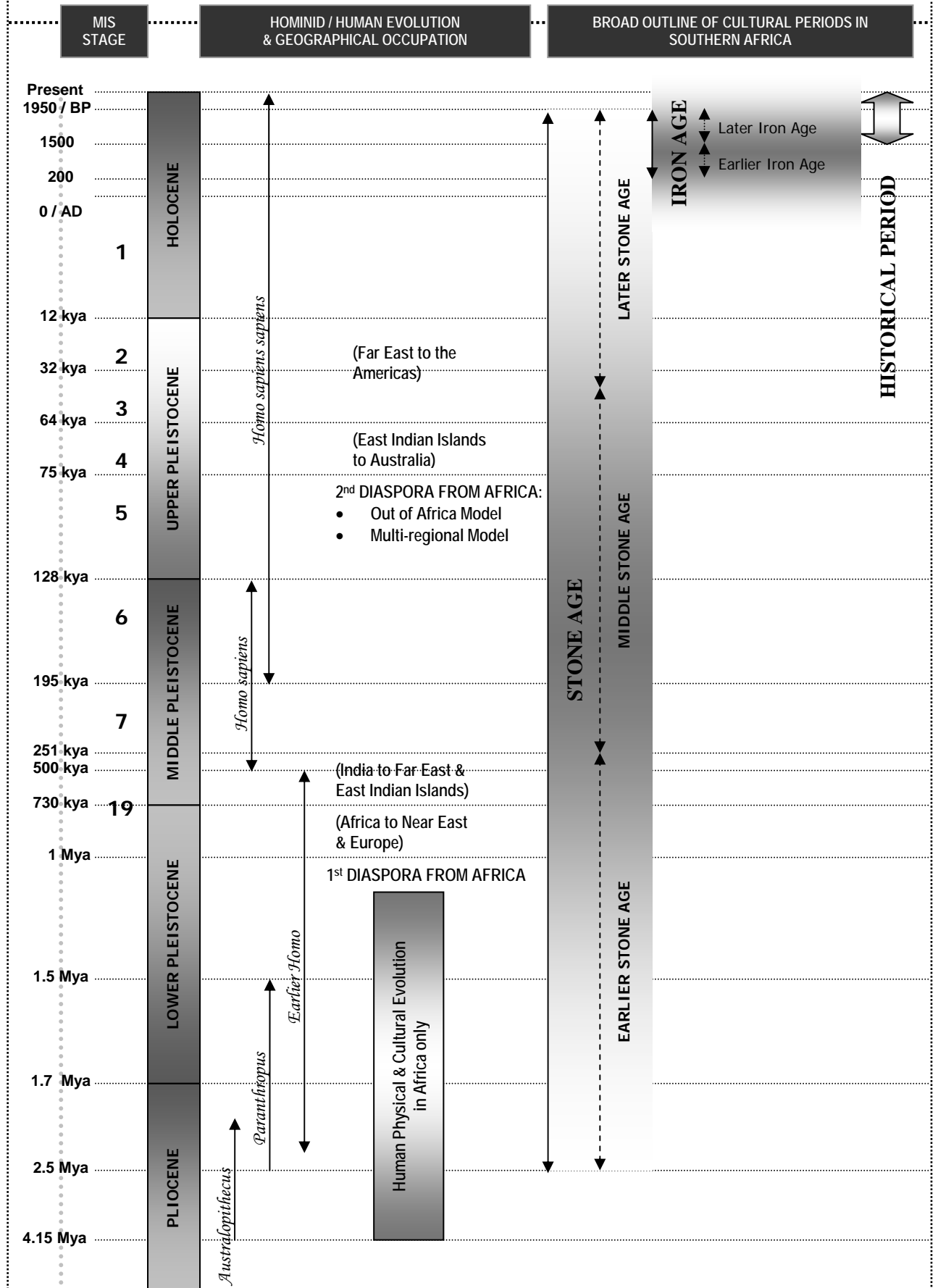
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Schematic Human Physical and Cultural Evolution in Africa



Extracts from the

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;
 - b) 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
 - f) 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 trace;
- 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

- 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 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 –
 - i. 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, PALAEOLOGY 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.
- 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 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;
 - 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.
- 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

- 3) 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.
- 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 –
 - 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.
- 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-interment 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

- 1) 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 m² 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 m² in extent; or
 - e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,
 must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.
- 2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection 1) –
 - a) 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
 - 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 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;
 - c) what 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 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 –
 - a) 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;
 - b) 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.