Heritage impact assessment for the
PROPOSED UPGRADE OF ROAD B, DOORNKUIL 369IQ, SEDIBENG
DISTRICT MUNICIPALITY, GAUTENG PROVINCE
HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED UPGRADE OF ROAD B, DOORNKUIL 369 IQ, SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE

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Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.

J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
September 2010
EXECUTIVE SUMMARY

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED UPGRADE OF ROAD B, DOORNKUIL 369IQ, SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE

It is proposed to upgrade an existing gravel road, referred to as Road B, on the farm Doornkuil 369IQ in the Sedibeng District Municipality south of Johannesburg.

In accordance with Section 38 of the NHRA, an independent heritage consultant was therefore appointed by MSA Geoservices to conduct a Heritage Impact Assessment (HIA) survey. The aim of this survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area of the proposed development, to assess the significance thereof and to consider alternatives and plans for the mitigation of any adverse impacts.

- As no sites, features or objects of cultural heritage significance were identified in the either of the study areas, there would be no impact from the proposed development.

Therefore, from a heritage point of view it is recommended that the proposed development be allowed to continue. However, it is requested that should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

J A van Schalkwyk
Heritage Consultant
September 2010
### TECHNICAL SUMMARY

#### Property details

<table>
<thead>
<tr>
<th>Province</th>
<th>Gauteng</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magisterial district</td>
<td>Vereeniging</td>
</tr>
<tr>
<td>Topo-cadastral map</td>
<td>2627BD</td>
</tr>
<tr>
<td>Closest town</td>
<td>Ennerdale</td>
</tr>
<tr>
<td>Farm name</td>
<td>Doornkuil 369IQ</td>
</tr>
<tr>
<td>Portions/Holdings</td>
<td>Polygon</td>
</tr>
</tbody>
</table>

#### Coordinates

<table>
<thead>
<tr>
<th>No</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S 26.43559</td>
<td>E 27.91748</td>
</tr>
<tr>
<td>2</td>
<td>S 26.46686</td>
<td>E 27.90644</td>
</tr>
</tbody>
</table>

#### Development criteria in terms of Section 38(1) of the NHR Act

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length</td>
<td>Yes</td>
</tr>
<tr>
<td>Construction of bridge or similar structure exceeding 50m in length</td>
<td>No</td>
</tr>
<tr>
<td>Development exceeding 5000 sq m</td>
<td>No</td>
</tr>
<tr>
<td>Development involving three or more existing erven or subdivisions</td>
<td>No</td>
</tr>
<tr>
<td>Development involving three or more erven or divisions that have been consolidated within past five years</td>
<td>No</td>
</tr>
<tr>
<td>Rezoning of site exceeding 10 000 sq m</td>
<td>No</td>
</tr>
<tr>
<td>Any other development category, public open space, squares, parks, recreation grounds</td>
<td>No</td>
</tr>
</tbody>
</table>

#### Development

<table>
<thead>
<tr>
<th>Description</th>
<th>Upgrade of an existing gravel road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project name</td>
<td>Road B</td>
</tr>
</tbody>
</table>

#### Land use

<table>
<thead>
<tr>
<th>Previous land use</th>
<th>Farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current land use</td>
<td>Small holdings</td>
</tr>
</tbody>
</table>

#### Heritage sites assessment

<table>
<thead>
<tr>
<th>Site type</th>
<th>Site significance</th>
<th>Site grading (Section 7 of NHRA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Impact assessment

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation</th>
<th>Permits required</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
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<th>Description</th>
<th>Page</th>
</tr>
</thead>
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<td>Fig. 1</td>
<td>Location of the study areas in regional context.</td>
<td>11</td>
</tr>
<tr>
<td>Fig. 2</td>
<td>Location of the study areas, outlined in yellow.</td>
<td>18</td>
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<td>Fig. 3</td>
<td>Aerial view of the study area.</td>
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</tr>
<tr>
<td>Fig. 4</td>
<td>1944 edition of the 1:50 000 topocadastral map, showing lack of development in the region.</td>
<td>20</td>
</tr>
<tr>
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<td>The road looking south.</td>
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</tr>
<tr>
<td>Fig. 6</td>
<td>The road looking north.</td>
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<td>The southern end of the road.</td>
<td>22</td>
</tr>
<tr>
<td>Fig. 8</td>
<td>Old farm structures adjacent to the road.</td>
<td>22</td>
</tr>
</tbody>
</table>
GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 - 2.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.
- Early Stone Age: 2 000 000 - 150 000 Before Present (BP)
- Middle Stone Age: 150 000 - 30 000 BP
- Later Stone Age: 30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to Southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.
- Early Iron Age: AD 200 - AD 900
- Middle Iron Age: AD 900 - AD 1300
- Late Iron Age: AD 1300 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country

ABBREVIATIONS

ADRC    Archaeological Data Recording Centre
ASAPA   Association of Southern African Professional Archaeologists
CS-G    Chief Surveyor-General
EIA     Early Iron Age
ESA     Early Stone Age
LIA     Late Iron Age
LSA     Later Stone Age
HIA     Heritage Impact Assessment
MSA     Middle Stone Age
NASA    National Archives of South Africa
NHRA    National Heritage Resources Act
PHRA    Provincial Heritage Resources Agency
SAHRA   South African Heritage Resources Agency
HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED UPGRADE OF ROAD B, DOORNKUIL 369IQ, SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE

1. INTRODUCTION

It is proposed to upgrade an existing gravel road, referred to as Road B, on the farm Doornkuil 369IQ in the Sedibeng District Municipality south of Johannesburg.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was therefore appointed by MSA Geoservices to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to upgrade the above mention road.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied;
- A visit to the proposed development area.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

This report:

<table>
<thead>
<tr>
<th>Type of study</th>
<th>Aim</th>
<th>SAHRA involved</th>
<th>SAHRA response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage Impact Assessment</td>
<td>The aim of a full HIA investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to identify heritage resources involving site inspections, existing Provincial Heritage Resources Authority</td>
<td>Comments on built environment and decision to approve or</td>
<td></td>
</tr>
</tbody>
</table>
### Type of study

<table>
<thead>
<tr>
<th>Aim</th>
<th>SAHRA involved</th>
<th>SAHRA response</th>
</tr>
</thead>
<tbody>
<tr>
<td>heritage data and additional heritage specialists if necessary); assess their significances; assess alternatives in order to promote heritage conservation issues; and to assess the acceptability of the proposed development from a heritage perspective. The result of this investigation is a heritage impact assessment report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed development. Depending on SAHRA’s acceptance of this report, the developer will receive permission to proceed with the proposed development, on condition of successful implementation of proposed mitigation measures.</td>
<td>SAHRA Archaeology, Palaeontology and Meteorites Unit</td>
<td>not</td>
</tr>
</tbody>
</table>

### 3. HERITAGE RESOURCES

#### 3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscape;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including:
  - ancestral graves;
  - royal graves and graves of traditional leaders;
  - graves of victims of conflict;
  - graves of individuals designated by the Minister by notice in the Gazette;
  - historical graves and cemeteries; and
  - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- 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;
  - objects to which oral traditions are attached or which are associated with living heritage;
  - ethnographic art and objects;
  - military objects;
  - objects of decorative or fine art;
  - objects of scientific or technological interest; and
  - books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as
3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa’s natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa’s natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- sites of significance relating to the history of slavery in South Africa.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 1 - 2.

4.2 Methodology

4.2.1 Preliminary investigation

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted (Raper 2006, Van Schalkwyk 2005, 2007a, 2007b).

- No information relating to the study area specifically could be found.

4.2.1.2 Data bases

The Heritage Atlas Database, the Environmental Potential Atlas, the Chief Surveyor General (CS-G) and the National Archives of South Africa (NASA) were consulted.
4.2.1.3 Other sources
Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

4.2.2 Field survey
The area that had to be investigated was identified by MSA Geoservices by means of maps. The site was surveyed by walking a number of parallel transects over it.

4.3 Limitations
None at present.

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Site location and description
The study area is an approximate 4 km of existing gravel road on a section of the farm Doornkuil 3691Q located to the east of the town of Ennerdale south of Johannesburg (Fig. 1 & 2). For more information, please see the Technical summary presented above.

The topography of the area is very flat. The geology is made up of quartzite and the original vegetation is classified as Rocky Highveld Grassland. This has largely been replaced due to agricultural activities. Occupation of the area is very low and is largely made up of agricultural smallholdings. The road under investigation serves to give access to a number of such smallholdings.

5.2 Regional overview
Stone Age occupation seems to have taken place all over, especially during the Middle Stone Age. Open sites occur on rocky outcrops close to the river. The area was also populated during the Later Stone Age, as a small number of rock art sites are known to occur sporadically in the area.

Occupation of the larger region took place during the Iron Age, with sites occurring to the north in the Klipriviersberg area, as well as to the south-east in the Suikerbosrand area. These sites date to the last 300 years and have their origin in the Tswana settlement of the region.

Occupation during historic times goes back to the 1840s, when white settlers started to take up farms in the area. With the discovery of gold during the 1880, population increased and a large number of new towns were developed.
5.3 Identified sites

For more information, please see Appendix 3:

5.3.1 Stone Age

- No sites, features or objects dating to the Stone Age were identified in the study area.

5.3.2 Iron Age

- No sites, features or objects dating to the Iron Age were identified in the study area.

5.3.3 Historic period

- No sites, features or objects dating to the historic period were identified in the study areas.

6. SITE SIGNIFICANCE AND ASSESSMENT

6.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:
Heritage Impact Assessment

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable mitigation measures would allow the development activities to continue.

### 6.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

<table>
<thead>
<tr>
<th>Identified heritage resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category, according to NHRA</strong></td>
</tr>
<tr>
<td><strong>Formal protections (NHRA)</strong></td>
</tr>
<tr>
<td>National heritage site (Section 27)</td>
</tr>
<tr>
<td>Provincial heritage site (Section 27)</td>
</tr>
<tr>
<td>Provisional protection (Section 29)</td>
</tr>
<tr>
<td>Place listed in heritage register (Section 30)</td>
</tr>
<tr>
<td><strong>General protections (NHRA)</strong></td>
</tr>
<tr>
<td>structures older than 60 years (Section 34)</td>
</tr>
<tr>
<td>archaeological site or material (Section 35)</td>
</tr>
<tr>
<td>palaeontological site or material (Section 35)</td>
</tr>
<tr>
<td>graves or burial grounds (Section 36)</td>
</tr>
<tr>
<td>public monuments or memorials (Section 37)</td>
</tr>
<tr>
<td><strong>Other</strong></td>
</tr>
<tr>
<td>Any other heritage resources (describe)</td>
</tr>
</tbody>
</table>

Table 1. Summary of identified heritage resources in the study area.

### 6.3 Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.
<table>
<thead>
<tr>
<th>Heritage sites assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site type</strong></td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>Impact assessment</td>
</tr>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

Table 2. Summary of identified sites.

- As no sites, features or objects of cultural heritage significance were identified in the either of the study areas, there would be no impact from the proposed development.

7. CONCLUSIONS

The aim of this survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area of the proposed development, to assess the significance thereof and to consider alternatives and plans for the mitigation of any adverse impacts.

- As no sites, features or objects of cultural heritage significance were identified in the either of the study areas, there would be no impact from the proposed development.

Therefore, from a heritage point of view it is recommended that the proposed development be allowed to continue. However, it is requested that should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.
8. REFERENCES

8.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa
SAHRA Archaeology and Palaeontology Report Mapping Project (2009)

8.2 Literature


8.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2627BD
Google Earth
APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

**Significance**
According to the NHRA, Section 2(vi) the *significance* of heritage sites and artefacts is determined by it aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

<table>
<thead>
<tr>
<th>1. Historic value</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it important in the community, or pattern of history</td>
<td></td>
</tr>
<tr>
<td>Does it have strong or special association with the life or work of a person, group or organisation of importance in history</td>
<td></td>
</tr>
<tr>
<td>Does it have significance relating to the history of slavery</td>
<td></td>
</tr>
<tr>
<td>2. Aesthetic value</td>
<td></td>
</tr>
<tr>
<td>It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group</td>
<td></td>
</tr>
<tr>
<td>3. Scientific value</td>
<td></td>
</tr>
<tr>
<td>Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage</td>
<td></td>
</tr>
<tr>
<td>Is it important in demonstrating a high degree of creative or technical achievement at a particular period</td>
<td></td>
</tr>
<tr>
<td>4. Social value</td>
<td></td>
</tr>
<tr>
<td>Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons</td>
<td></td>
</tr>
<tr>
<td>5. Rarity</td>
<td></td>
</tr>
<tr>
<td>Does it possess uncommon, rare or endangered aspects of natural or cultural heritage</td>
<td></td>
</tr>
<tr>
<td>6. Representivity</td>
<td></td>
</tr>
<tr>
<td>Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects</td>
<td></td>
</tr>
<tr>
<td>Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class</td>
<td></td>
</tr>
<tr>
<td>Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality</td>
<td></td>
</tr>
<tr>
<td>7. Sphere of Significance</td>
<td>High</td>
</tr>
<tr>
<td>International</td>
<td></td>
</tr>
<tr>
<td>National</td>
<td></td>
</tr>
<tr>
<td>Provincial</td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td></td>
</tr>
<tr>
<td>Specific community</td>
<td></td>
</tr>
<tr>
<td>8. Significance rating of feature</td>
<td></td>
</tr>
<tr>
<td>1. Low</td>
<td></td>
</tr>
<tr>
<td>2. Medium</td>
<td></td>
</tr>
<tr>
<td>3. High</td>
<td></td>
</tr>
</tbody>
</table>
Significance of impact:
- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

Certainty of prediction:
- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

Recommended management action:
For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:
1 = no further investigation/action necessary
2 = controlled sampling and/or mapping of the site necessary
3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
4 = preserve site at all costs
5 = retain graves

Legal requirements:
Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.
APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

1. Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

2. Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

3. Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority 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 assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

1. Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

2. SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

3. 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 or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
APPENDIX 3: SURVEY RESULTS
See Appendix 1 for an explanation of the conventions used in assessing the significance of the cultural remains.

Fig. 2. Location of the study area, outlined in yellow. (Maps 2627BD: Chief Surveyor-General).

Sites identified in the study area:
Nil
APPENDIX 4: ILLUSTRATIONS

Fig. 3. Aerial view of the study area.
(Photo: Google Earth)
Fig. 4. 1944 edition of the 1:50 000 topocadastral map, showing lack of development in the region.
Fig. 5. The road looking south.

Fig. 6. The road looking north.
Fig. 7. The southern end of the road.

Fig. 8. Old farm structures adjacent to the road.