

Archaeological Impact Assessment

Proposed Firgrove Mts Substation Upgrade and Palmiet Stikland Loop-In Loop-Out Lines., Firgrove, Western Cape, South Africa

Version 1.0

22 March 2011

PGS Heritage & Grave Relocation Consultants

(Registration No: 2003/008940/07) Bergarend St 906, Waverley,Pretoria, 0186 PO Box 32542, Totiusdal, 0134 South Africa TEL: +27 12 332 5305, FAX:0866 580199

ACKNOWLEDGEMENT OF RECEIPT

| <u>CLIENT:</u> | Enkanyini Projects |
|-----------------|--|
| CONTACT PERSON: | Mr C Mawelela, Enkanyini Projects, |
| | P. O. Box 4983, The Reeds 0158 |
| | Tel: +27 12 657 1505, Fax: +27 12 657 0220 |
| | Email: info@enkanyiniprojects.co.za |
| | |

LEADING CONSULTANT:

PGS - Heritage & Grave Relocation Consultants

CONTACT PERSON:

Wouter Fourie

SIGNATURE:

Copyright

Copyright in all documents, drawings and records whether manually or electronically produced, which form part of the submission and any subsequent report or project document shall vest in PGS. None of the documents, drawings or records may be used or applied in any manner, nor may they be reproduced or transmitted in any form or by any means whatsoever for or to any other person, without the prior written consent of PGS.

The Client, on acceptance of any submission by PGS and on condition that the Client pays to Professional Grave Solutions(Pty) Ltd the full price for the work as agreed, shall be entitled to use for its own benefit and for the specified project only:

- i. The results of the project;
- ii. The technology described in any report ; and,
- iii. The recommendations delivered to the Client.

Executive Summary

PGS Heritage & Grave Relocation Consultants was appointed by Enkanyini Projects to undertake an Archaeological Impact Assessment that forms part of the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the Firgrove Mts Substation Upgrade and Palmiet Stikland Loop-In Loop-Out Lines., Firgrove, Western Cape.

Heritage resources are unique and non-renewable and as such any impact on such resources must be seen as significant.

In accordance with the National Heritage Resources Act (No 25 of 1999) we propose the following management points, pertaining to heritage sites, for approval by HWC. These management points will be adhered to by the developer.

- 1. Mitigation (sampling and documenting) by a qualified archaeologist with a permit issued by HWC must be done before construction commence.
- 2. An application for destruction of the site will then have to be applied for by the developer with the backing of the mitigation report prepared after mitigation as recommended in point 1.
- 3. A monitoring program / watching brief must be implemented by the developer during construction. This brief will outline the extent of the responsibilities of the developer, monitoring archaeologist and actions to be taken in the case of further finds.

If these recommendations are implemented there is no archaeological reason why the development cannot continue.

Contents

| 1. INTRODUCTION | 7 |
|--|---------------------------------------|
| 1.1 Project Background | 7 |
| 1.2 The need and justification for the proposed project | |
| 1.3 The benefits from the upgrading of Firgrove MTS substation and Pal | miet/ Stikland loop-in loop-out lines |
| 1.4. Site location | |
| 1.5 Site Selection | |
| 1.6 Legislative Framework | |
| 2. DESCRIPTION OF AFFECTED ENVIRONMENT | |
| 3. IMPACT ASSESSMEN METHODOLOGY & APPROACH | |
| 3.1. Alternative Assessment | |
| 3.2. Evaluation Methods | |
| 3.3. Methodology & Findings of Archival Work | |
| 4. FINDINGS OF SURVEY | |
| 5. ASSUMPTIONS AND LIMITATION | |
| 6. RECOMMENDATIONS | |
| 7. LIST OF PREPARES | |
| 8. REFERENCES | |

7

TABLE OF FIGURE

| Figure 1 – Locality Map of the Study Area, and four alternatives indicated | 8 |
|---|----|
| Figure 2 – Alternative 1 in relation to substation | 9 |
| Figure 3 – General view of cultivated land viewed from current substation to the west | 11 |
| Figure 4 – View of Alternative 1 from R102 | 12 |
| Figure 5 – Soil maps of Firgrove substation (red line indicate study area) | 13 |
| Figure 6 – Cleaver | 17 |
| Figure 7 – Irregular and polyhedral cores | 17 |
| Figure 8 – Large crude flakes, cores and pebble chopper | 18 |
| Figure 9 – Large boulder with visible flaking scars | 18 |

ABREVIATIONS

| Acronyms | Description |
|------------------|--|
| AIA | Archaeological Impact Assessment |
| ASAPA | Association of South African Professional Archaeologists |
| AMAFA | |
| CRM | Cultural Resource Management |
| DEAT | Department of Environmental Affairs and Tourism |
| DWAF | Department of Water Affairs and Forestry |
| EIA practitioner | Environmental Impact Assessment Practitioner |
| EIA | Environmental Impact Assessment |
| ESA | Early Stone Age |
| GIS | Geographic Information System |
| GPS | Global Positioning System |
| HIA | Heritage Impact Assessment |
| I&AP | Interested & Affected Party |
| LSA | Late Stone Age |
| LIA | Late Iron Age |
| MSA | Middle Stone Age |
| MIA | Middle Iron Age |
| NEMA | National Environmental Management Act |
| NID | Notice of Intent to develop |
| NHRA | National Heritage Resources Act |
| PHRA | Provincial Heritage Resources Agency |
| PSSA | Palaeontological Society of South Africa |
| ROD | Record of Decision |
| SADC | Southern African Development Community |
| SAHRA | South African Heritage Resources Agency |

TERMS & DEFINITION Archaeological resources

This includes:

- i. 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;
- ii. 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 10m of such representation;
- iii.
- iv. 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 as defined in the Maritimes Zones Act, 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;
- v. features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in the change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- i. construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- ii. carrying out any works on or over or under a place;
- iii. subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- iv. constructing or putting up for display signs or boards;
- v. any change to the natural or existing condition or topography of land; and
- vi. any removal or destruction of trees, or removal of vegetation or topsoil

Heritage resources

This means any place or object of cultural significance

1. INTRODUCTION

PGS Heritage & Grave Relocation Consultants was appointed by Enkanyini Projects to undertake an Archaeological Impact Assessment that forms part of the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the Firgrove Mts Substation Upgrade and Palmiet Stikland Loop-In Loop-Out Lines., Firgrove, Western Cape.

1.1 Project Background

The proposed upgrading of Firgrove MTS will cover the area of about 300m X 400m. The following activities will be undertaken during the upgrading of Firgrove substation and Palmiet/Stikland loop-in loop-out;

a. Create a substation with footprint to accommodate 4x500MVA 400/132kV transformers at Firgrove (Firgrove MTS)

- Find the site for the MTS next to the existing 132kV Firgrove Distribution substation
- Establish the Firgrove MTS as Follows:
 - Install 400kV double busbar 9x400kV bays
 - Install 2x500MVA 400/132kV Transformers(as phase 1)
 - Extend the existing 132kV busbar to accommodate the new 2 transformers and allow connection to the existing distribution busbar

b. Loop-in loop-out of the existing Palmiet-Stikland 400kV line:

- Establish a servitude for approximately 200m of 400kV double circuit line
- Cut the existing Palmiet-Stikland line at approximately 20km build approximately 200m of 1x400kV line on a double circuit tower to establish:
 - 1x400kV Firgrove Stikland line (approximately 31km)
 - 1x400kV Figrove Palmiet line (approximately 21 km)

1.2 The need and justification for the proposed project

The project is implemented to improve the current electricity supply. The 2x500MV, 400/132 kV transformers at Stikland are now existing N-1 firm limit of 500MVA during peak demand. The 132kV networks currently supplying Firgrove are running at the thermal limit during peak demand. It is also difficult to carry out maintenance work on the 132Kv networks as the existing networks no longer comply with N-1 criteria.

1.3 The benefits from the upgrading of Firgrove MTS substation and Palmiet/ Stikland loop-in loop-out lines

- Lessen electricity cut offs during maintenance periods.
- Increased electricity supply
- Create limited business opportunities during construction

The Archaeological Impact Assessment aims to inform the Environmental Impact Assessment and NID in the development of a comprehensive Environmental Management Plan and to assist the Eskom in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999) (NHRA).

1.4. Site location

The proposed upgrade alternatives is situated in the following farms; Farm number 664 remainder of Portion 7 of farm Zandvliet, farm number 664 portion 93 of farm Zandvleit, farm number 664 portion 114 of farm Zandvliet and Farm number 1101 remaining of extent of farm Zandvliet (Refer to *Figure 1*).

The preferred Alternative 1 and focus of this study is situated on Farm number 664 Remainder of Portion 7 of farm Zandvliet.

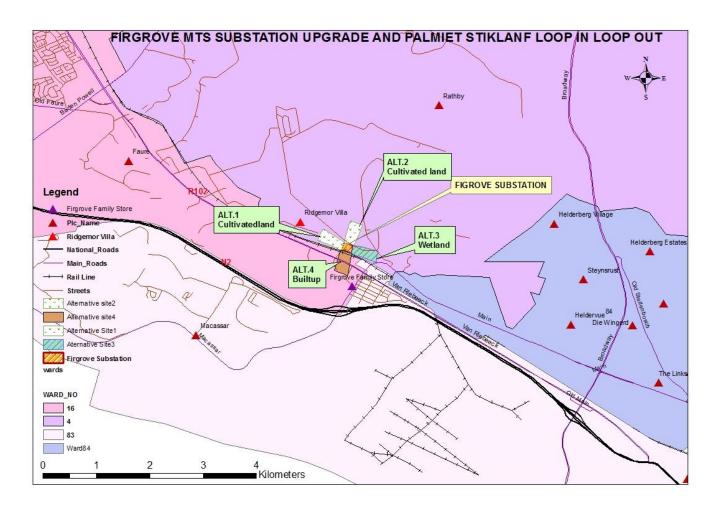


Figure 1 – Locality Map of the Study Area, and four alternatives indicated

1.5 Site Selection

The findings of the EIA in its Scoping phase were that Alternative 1 could be the most preferred option since it will only impact the existing farm. Alternative 2 will have impacts on a road, farm and the bulk water supply pipe buried on the ground that supplies raw water to the water purification plant situated upstream. Alternative 3 has a wetland whilst alternative 4 consist of residential houses, a main road and railway line.

Alternative 1 could be the most preferred positioning which is influenced by the following factors.

- The proposed project requires area coverage of about 300m X 400m and can be obtained within site 1 without tempering with any existing activities except for agricultural. See the shaded area in *Figure 2* indicated below. Moving the bulk water supply line servitude in alternative 2 could have a negative impact on the positioning of the purification a plant it itself and this will require an establishment of a new servitude. More properties will be negatively impacted.
- Wetlands are important natural resources in sustaining ecosystems and the environments. Alternative 3 could result in a disturbance of a wetland coursing a loss of the natural character of the wetland.
- R102 is one of the main roads leading to the airport and Cape Town CBD while the railway line is for public transportation used by communities in and further away from Firgrove. The surrounding houses are currently occupied by the local communities and there is a church located in the area. Alternative 4 will affect all of the above mentioned existing developments in the area and this will require more land for relocation/diversion of all these development. Cape Town has very limited land resource at this stage therefore alternative 4 could be taken as a last resort in the entire project.

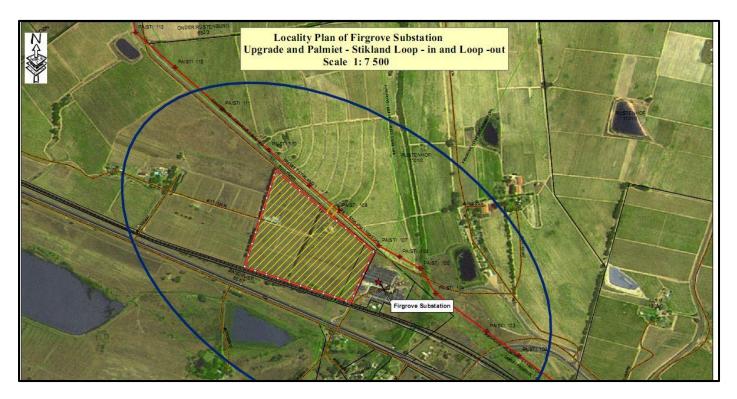


Figure 2 - Alternative 1 in relation to substation

This AIA focus on Alternative 1 as the area to be impacted on by the proposed upgrade and extension.

1.6 Legislative Framework

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

- i. National Environmental Management Act (NEMA) Act 107 of 1998
- ii. National Heritage Resources Act (NHRA) Act 25 of 1999

- iii. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
- iv. Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- i. National Environmental Management Act (NEMA) Act 107 of 1998 as promulgated in the Regulations.
 - a. Basic Environmental Assessment (BEA) Section (23)(2)(d)
 - b. Environmental Scoping Report (ESR) Section (29)(1)(d)
 - c. Environmental Impacts Assessment (EIA) Section (32)(2)(d)
 - d. Environmental Management Plan (EMP) Section (34)(b)
- ii. National Heritage Resources Act (NHRA) Act 25 of 1999
 - a. Protection of Heritage resources Sections 34 to 36; and
 - b. Heritage Resources Management Section 38
- iii. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
 - a. Section 39(3)
- iv. Development Facilitation Act (DFA) Act 67 of 1995
 - a. The GNR.1 of 7 January 2000: Regulations and rules in terms of the Development Facilitation Act, 1995.
 Section 31.

The NHRA stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34 (1) of the NHRA states that "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...". The NEMA (No 107 of 1998) states that an integrated environmental management plan should (23:2 (b)) "...identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage". In accordance with legislative requirements and EIA rating criteria, the regulations of SAHRA and Association of Southern African Professional Archaeologists (ASAPA) have also been incorporated to ensure that a comprehensive legally compatible AIA report is compiled. The heritage impact assessment criteria are described in more detail in *Annexure A*.

Assumptions and Limitations

The aim of the scoping document is to identify the possible types of heritage resources that might be present in the study area, as well as possible hotspots for the locality of such resources.

2. DESCRIPTION OF AFFECTED ENVIRONMENT

The area of Alternative 1 is currently utilised as agricultural land (*Figure 3*) and is planted with various vegetable varieties throughout the year.



Figure 3 – General view of cultivated land viewed from current substation to the west

The site slopes upwards to the west from the current substation and is bordered by the R102 and SANRAL rail to the south and farm service roads and power lines to the north (*Figure 4*). The western border is adjacent to the Ridgemore Winery.



Figure 4 – View of Alternative 1 from R102

The soil is classified as, (mdKd) Kroonstad Moderately deep (600-1 200mm), grey to brown, sandy soils overlying mottled, usually structured, hydromorphic loamy sand to clay loam sub-soils (*Figure 5*) (*Firgrove-Mitchell's Plain 400kV double circuit Transmission power line and Mitchell's Plain Substation*). This was also confirmed by Mr Adrian van Tubberg, the current farmer on Alternative 1.

The low lying section adjacent to the current substation has a localised occurrence of a pebble layer exposed by ploughing activity.

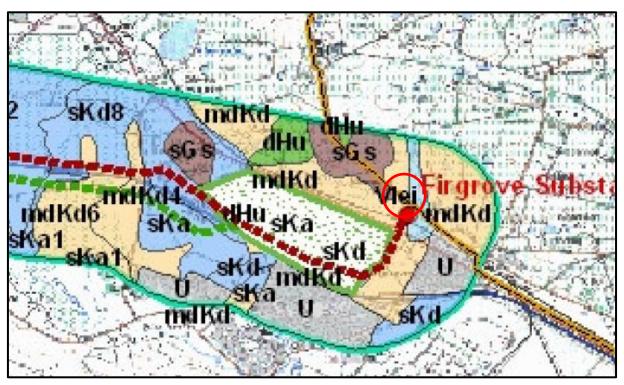


Figure 5 – Soil maps of Firgrove substation (red line indicate study area)

3. IMPACT ASSESSMEN METHODOLOGY & APPROACH

3.1. Alternative Assessment

The section below outlines the assessment methodologies that will be utilised in the final detailed study of each the proposed alignment before the construction of the substation and Power line. Refer to *Appendix A* for further information.

This chapter describes the evaluation criteria to be used for the sites listed below and to be identified during the ground thruthing of the final alignment.

The significance of archaeological sites was based on four main criteria:

- site integrity (i.e. primary vs. secondary context),
- amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter)
 - Low <10/50m2
 - Medium 10-50/50m2
 - High >50/50m2
- uniqueness; and
- potential to answer present research questions.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

- A No further action necessary;
- B Mapping of the site and controlled sampling required;
- C No-go or relocate pylon position
- D Preserve site, or extensive data collection and mapping of the site; and

E - Preserve site

Impacts on these sites by the development will be evaluated as follows

Impact

The potential environmental impacts that may result from the proposed development activities.

Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate impacts.

3.2. Evaluation Methods

Site Significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report.

| FIELD RATING | GRADE | SIGNIFICANCE | RECOMMENDED MITIGATION |
|---------------------------------|----------|-------------------------------|--|
| National Significance (NS) | Grade 1 | - | Conservation; National Site nomination |
| Provincial Significance (PS) | Grade 2 | - | Conservation; Provincial Site nomination |
| Local Significance (LS) | Grade 3A | High Significance | Conservation; Mitigation not advised |
| Local Significance (LS) | Grade 3B | High Significance | Mitigation (Part of site should be retained) |
| Generally Protected A (GP.A) | - | High / Medium Significance | Mitigation before destruction |
| Generally Protected B (GP.B) | - | Medium Significance | Recording before destruction |
| Generally Protected C (GP.A) | - | Low Significance | Destruction |

Table 2: Site significance classification standards as prescribed by SAHRA

Impact Rating

VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with a VERY HIGH significance.

HIGH

These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial. Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant. Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary change in the water table of a wetland habitat, as these systems is adapted to fluctuating water levels.

Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public. Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

Certainty

DEFINITE: More than 90% sure of a particular fact. Substantial supportive data exists to verify the assessment.PROBABLE: Over 70% certainty of a particular fact, or of the likelihood of an impact occurring.POSSIBLE: Only over 40% certainty of a particular fact or of the likelihood of an impact occurring.UNSURE: Less than 40% certainty of a particular fact or likelihood of an impact occurring.

Duration SHORT TERM: 0 to 5 years MEDIUM: 6 to 20 years LONG TERM: more than 20 years DEMOLISHED: site will be demolished or is already demolished

Example

Evaluation

| Impact | Impact Significance | Heritage Significance | Certainty | Duration | Mitigation |
|----------|------------------------|--------------------------|-----------|------------|------------|
| Negative | Moderate | Grade GP.B | Possible | Short term | В |

3.3. Methodology & Findings of Archival Work *Archival & Historical Research*

Pre-history

Archaeological work conducted in the Firgrove and great Somerset West area (Halkett 2002; Hart & Halkett, 1996; Hart, 2003) revealed in most cases localised and dispersed Early Stone Age (ESA) artefacts, in most cases exposed in old and newly ploughed farm lands. Halkett (2003) refers to "...similar sparse and extended scatters of this material..."

These finds were earlier referred to as insignificant and no further mitigation required. This thinking has changed over the past few years and recommendations such a made by Hart & Halkett (1996), for the sampling and analysis of the such clusters, has been seen as important to identify their significance and spatial distribution in the larger cultural landscape, and been recommended as standard recourse (Hart, 2010 and pers. Comms. with Hart in 2011).

4. FINDINGS OF SURVEY

| ISSUE | Impact on archaeological sites | | | |
|-------------|--|--|--|--|
| Coordinates | 234 – Large single bolder with flaking scars - S34 02 50.6 E18 46 53.2 | | | |
| | 235 – Beginning of pebble layer - S34 02 52.3 E18 46 53.1 | | | |
| | 236 – Pebble layer extending west - S34 02 52.2 E18 46 50.9 | | | |
| DISCUSSION | During the field survey a localised scatter of crude ESA artefacts consisting of | | | |
| | irregular cores, large flakes, and larger bolders with visible flaking scars, single | | | |
| | cleaver and bi-faced hand axes. | | | |





- delineated strips or blocks.
- Material must then be analysed and photographed and then re-scattered within the same area.

| Impact | Impact Significance | Heritage Significance | Certainty | Duration | Mitigation |
|----------|---------------------|--------------------------|-----------|------------|------------|
| Negative | Moderate | Grade GP.B | Definite | Demolished | В |

5. ASSUMPTIONS AND LIMITATION

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the heritage resources located there. This may be due to various reasons, including the subterranean nature of some archaeological sites and dense vegetation cover.

As such, should any heritage features and/or objects not included in the present inventory be located or observed, a heritage specialist must immediately be contacted. Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This is true for graves and cemeteries as well.

Tracklogs indicate surveyed areas while absence of tracklogs indicate vegetation covered areas within the survey area.

6. **RECOMMENDATIONS**

In accordance with the National Heritage Resources Act (No 25 of 1999) we propose the following management points, pertaining to heritage sites, for approval by HWC. These management points will be adhered to by the developer.

- 7. Mitigation (sampling and documenting) by a qualified archaeologist with a permit issued by HWC must be done before construction commence.
- 8. An application for destruction of the site will then have to be applied for by the developer with the backing of the mitigation report prepared after mitigation as recommended in point 1.
- 9. A monitoring program / watching brief must be implemented by the developer during construction. This brief will outline the extent of the responsibilities of the developer, monitoring archaeologist and actions to be taken in the case of further finds.

If these recommendations are implemented there is no archaeological reason why the development cannot continue.

7. LIST OF PREPARES

PGS Heritage and Grave Relocation Consultants have seconded the following specialist to this project: Team Leader, Evaluation and GIS Modelling – Wouter Fourie (BA(Hon) Archaeology) Archival Research and Evaluation – Nkosinathi Tomose (MSc (Archaeology))

8. REFERENCES

Halkett, D.J. 2002. Phase 1 Archaeological Assessment of the Bluedowns - Firgrove 132 kV Powerline Archaeology Contracts Office.

Hart, T.J. & Halkett, D.J. 1996. An Assessment of Heritage Resources on the AECI Site: Somerset West Archaeology Contracts Office.

Hart, T.J. 2003. Heritage Baseline Assessment of a Portion of the Remainder of Farm 681, Situated near Firgrove, Western Cape Province Archaeology Contracts Office

Hart, T.J. 2010. Archaeological Impact Assessment of Waverenskroon development: Tulbagh proposed mixed-use development. Portion 18 of farm 187 and Remainder farm 187 Kruisvallei, Tulbagh

Appendix A

Maps of heritage sites and survey log



1



Appendix B LEGISLATIVE PRINCIPLES

LEGISLATIVE REQUIREMENTS - TERMINOLOGY AND ASSESSMENT CRITERIA

3.1 General principles

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the new legislation, permits are required to damage, destroy, alter, or disturb them. People who already possess material are required to register it. The management of heritage resources are integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have interest in the graves: they may be consulted before any disturbance takes place. The graves of victims of conflict and those associated with the liberation struggle will be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the construction company's cost. Thus, the construction company will be able to proceed without uncertainty about whether work will have to be stopped if an archaeological or heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:

An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including

- -
- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;
- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video 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), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

Under the National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection, to all historic and pre-historic cultural remains, including graves and human remains.

3.2 Graves and cemeteries

Graves younger than 60 years fall under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning, or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above SAHRA authorisation.

If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws set by the cemetery authority must be adhered to.