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**Heritage Scoping Report for the proposed Grootdrink Solar (PV) Energy Facility  
East of Upington, Northern Cape Province**

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Prepared For

**Savannah Environmental (Pty) Ltd**

By



**HERITAGE**

Contracts and Archaeological Consulting

PO Box 863

Modimolle

0510

**VERSION 1.0**

10 FEBRUARY 2015

**ACKNOWLEDGEMENT OF RECEIPT**

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## EXECUTIVE SUMMARY

**Site name and location:** The Grootdrink Solar Energy Facility is proposed to be located on remaining extent of the farm Albany 405 located 50 km east of Upington within the //Khara Hais Local Municipality of the Northern Cape Province.

**1: 50 000 Topographic Map:** 2821 BC and 2821BD.

**EIA Consultant:** Savannah Environmental (Pty) Ltd.

**Developer:** Grootdrink Solar (Pty) Ltd

**Heritage Consultant:** Heritage Contracts and Archaeological Consulting CC (HCAC).

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**Date of Report:** 10 February 2015

### Findings of the Assessment:

CRM surveys and research projects conducted in the general study area, e.g. Beaumont 2005 & 2008, Van Ryneveld 2007a & 2007b, Dreyer, 2006, Van Schalkwyk 2011, Gaigher 2012 and van der Walt 2014 provides a good basis for understanding the local archaeology and the following sites can be expected in the study area:

- Archaeological sites are expected in the form of widespread stone artefact scatters mainly from the Middle Stone Age (MSA) and Later Stone Age (LSA), Early Stone Age (ESA) material is also recorded to the north west of the study area.
- A Single farmstead complex occurs in the south of the study area (but outside of the current development footprint) and might be older than 60 years. Farming infrastructure can occur throughout the study area. Structures older than 60 years are protected and will require mitigation if impacted on.
- Some stone cairns are recorded in the wider region and could be graves and similar occurrences can be expected in the study area. Family cemeteries might be found in association with farmsteads and labourer dwellings.

Based on the current information obtained for the area at a desktop level it is anticipated that any sites that occur within the proposed development area and power line corridor can be mitigated and no red flags are identified. Based on the presence of archaeological material in the area it is recommended that the study area must be subjected to a Phase 1 AIA as part of the EIA phase of the project

**Disclaimer:** *Although all possible care is taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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- » The results of the project;
- » The technology described in any report
- » Recommendations delivered to the Client.

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**ABBREVIATIONS**

|   |
|---|
| AIA: Archaeological Impact Assessment                           |
| ASAPA: Association of South African Professional Archaeologists |
| BIA: Basic Impact Assessment                                    |
| CRM: Cultural Resource Management                               |
| ECO: Environmental Control Officer                              |
| EIA: Environmental Impact Assessment*                           |
| EIA: Early Iron Age*  |
| EIA Practitioner: Environmental Impact Assessment Practitioner  |
| EMP: Environmental Management Plan                              |
| ESA: Early Stone Age  |
| GPS: Global Positioning System                                  |
| HIA: Heritage Impact Assessment                                 |
| LIA: Late Iron Age  |
| LSA: Late Stone Age   |
| MEC: Member of the Executive Council                            |
| MIA: Middle Iron Age  |
| MPRDA: Mineral and Petroleum Resources Development Act          |
| MSA: Middle Stone Age   |
| NEMA: National Environmental Management Act                     |
| PRHA: Provincial Heritage Resource Agency                       |
| SADC: Southern African Development Community                    |
| SAHRA: South African Heritage Resources Agency                  |

*\*Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

**GLOSSARY**

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (2 million to 300 000 years ago)

Middle Stone Age (300 000 to 30 000 years ago)

Late Stone Age (30 000 years ago until recent)

Historic (approximately AD 1840 to 1950)

Historic building (over 60 years old)

Lithics: Stone Age artefacts



## **1. INTRODUCTION**

Heritage Contracts and Archaeological Consulting CC was contracted by Savannah (Pty) Ltd to conduct a Heritage Scoping Report for the proposed Grootdrink Solar Energy Facility. The development is proposed to be located on the remaining extent of the farm Albany 405 located 50 km east of Upington within the //Khara Hais Local Municipality of the Northern Cape Province. The heritage scoping report forms part of the EIA for the proposed project.

The aim of the scoping report is to conduct a desktop study to identify possible heritage resources within the project area and to assess their importance within a Local, Provincial and National context. The study furthermore aims to assess the impact of the proposed project on non - renewable heritage resources and to submit appropriate recommendations with regards to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage legislation.

The report outlines the approach and methodology utilized for the Scoping phase of the project. The report includes information collected from various sources and consultations. Possible impacts are identified and mitigation measures are proposed in the following report. It is important to note that no field work was conducted as part of the scoping phase but will be conducted as part of the Impact Assessment phase of the EIA.

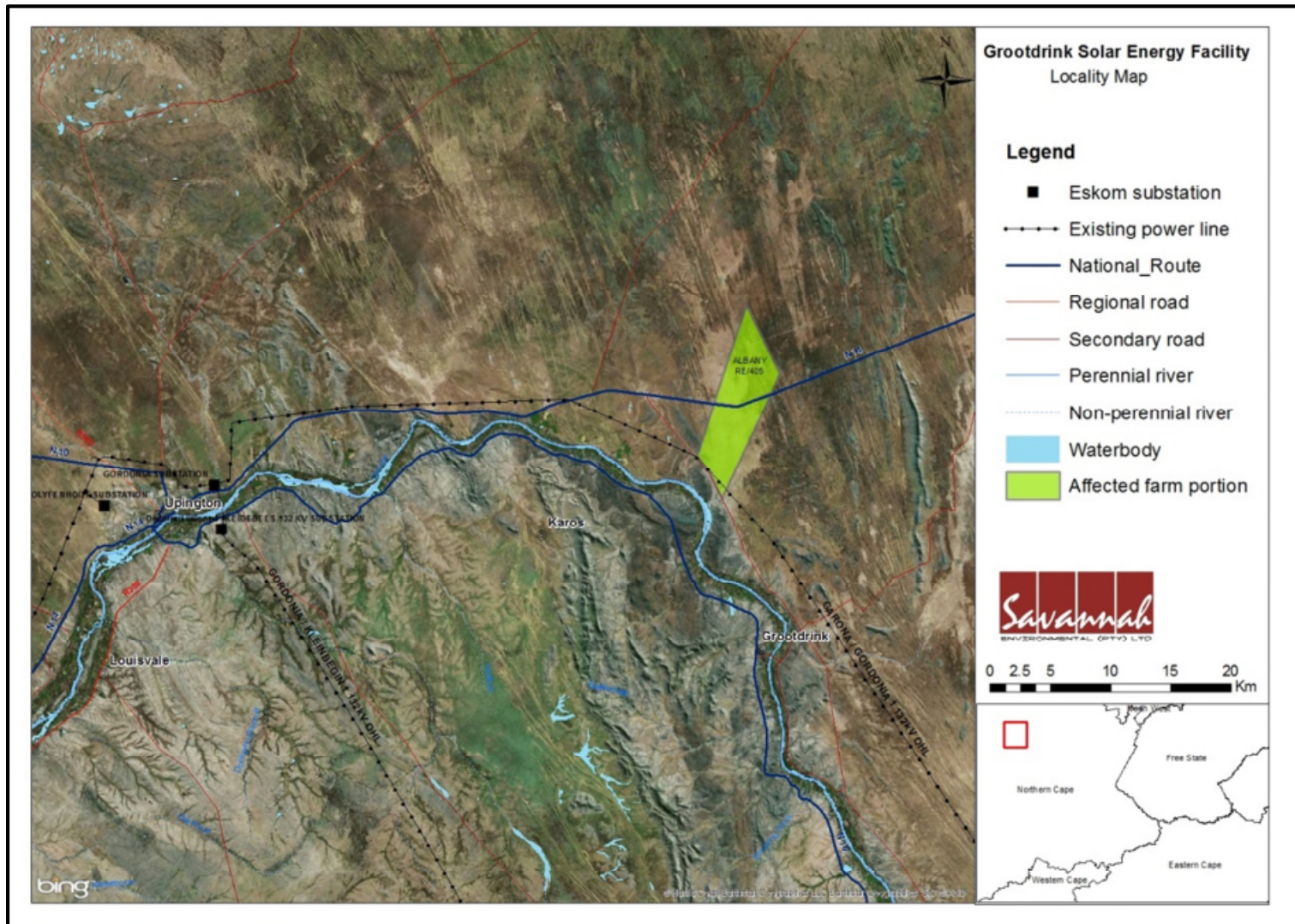


Figure 1: Locality map provided by Savannah Environmental.

## **1.1 Terms of Reference**

The main aim of this scoping report is to determine if any known heritage resources occur within the study area and to predict the occurrence of any possible heritage significant sites that might present a fatal flaw to the proposed project. The objectives of the scoping report were to:

- » Conduct a desktop study:
  - \* Review available literature, previous heritage studies and other relevant information sources to obtain a thorough understanding of the archaeological and cultural heritage conditions of the area;
  - \* Gather data and compile a background history of the area;
  - \* Identify known and recorded archaeological and cultural sites;
  - \* Determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.
  
- » Report

The reporting of the scoping component is based on the results and findings of the desk-top study, wherein potential issues associated with the proposed project will be identified, and those issues requiring further investigation through the IA Phase highlighted. Reporting will aim to identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project activity on the identified heritage resources for all 3 development stages of the project, i.e. construction, operation and decommissioning. Reporting will also consider alternatives should any significant sites be impacted on by the proposed project. This is done to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage Legislation.

## **1.2 Nature of the development**

The solar energy facility is proposed to accommodate an array of photovoltaic (PV) panels with generating capacity of up to 150 MW (to be developed in 2 stand-alone phases of 75 MW each). It is proposed to make use of either static or tracking solar panel technology for this facility. Other infrastructure associated with each phase will include:

- » Arrays of photovoltaic (PV) panels
- » Appropriate mounting structures
- » Cabling between the project components, to be laid underground where practical.
- » New on-site substation and power line to evacuate the power from the facility into the Eskom grid via the existing Garona-Gordonia 132kV power line that traverses the south western corner of the site.
- » Internal access roads and fencing.
- » Workshop area for maintenance, storage, and offices.

The overall aim of the design and layout of the facility is to maximise electricity production through exposure to the solar radiation, while minimising infrastructure, operation and maintenance costs, and social and environmental impacts.

### 1.3 The receiving environment

Grootdrink Solar Energy Facility is proposed to be located on remaining extent of the farm Albany 405 located 50 km east of Upington within the //Khara Hais Local Municipality of the Northern Cape Province. The existing Garona-Gordonia 132kV power line traverses the southern section of the study area while the N14 also traverses the study area.

There are various drainage lines in the southern portion of the farm draining the study area in a southerly direction to the Orange River. The topography of the area is relatively gentle sloping in a southerly direction towards the Orange River, apart from several small ridges in the southern section of the study area.

The climate can be described as arid to semi-arid with rainfall occurring from November to April. Historical imagery on Google earth indicates that the land has been fallow for a number of years. The study area falls within a Savannah Biome as described by Mucina et al (2006) with the vegetation described as Bushmanland Arid Grassland.

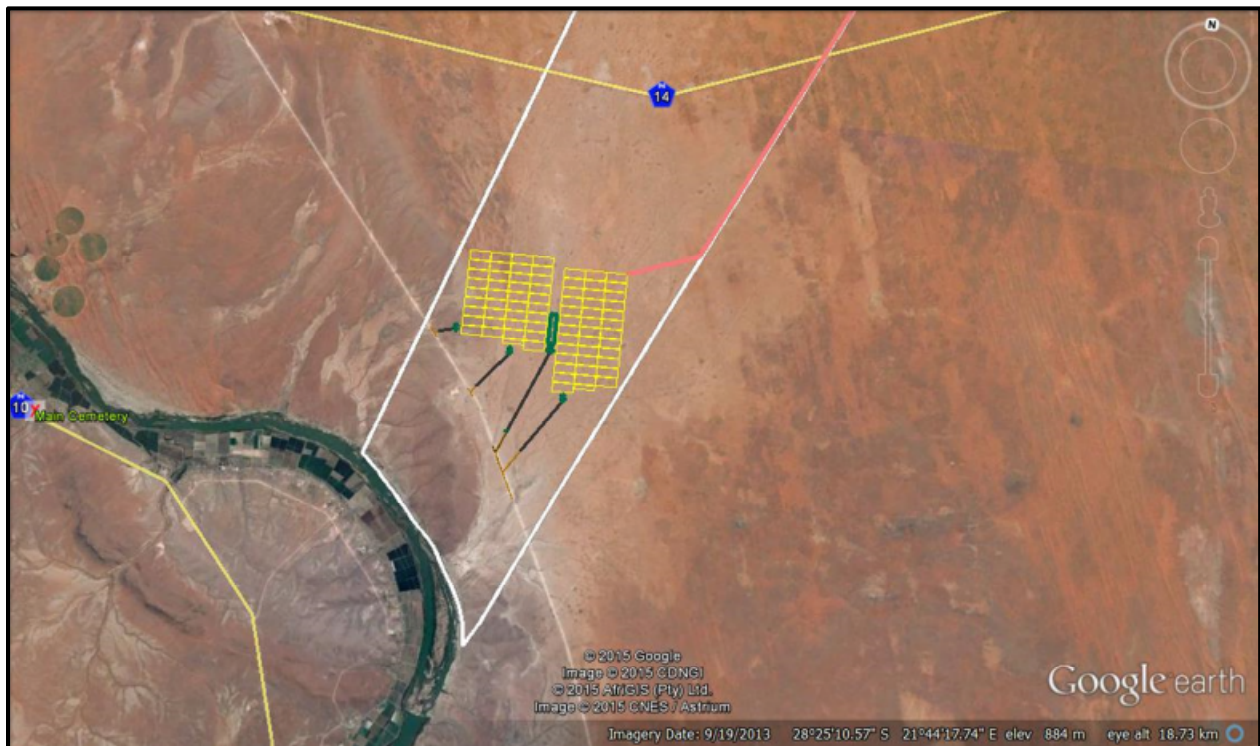


Figure 2: Google image of the study area.

## **2. APPROACH AND METHODOLOGY**

The assessment is to be undertaken in two phases, a desktop study as part of the Scoping phase and an Archaeological Impact Assessment as part of the Environmental Impact Assessment phase. This report concerns the scoping phase. The aim of the scoping phase is to cover archaeological and cultural heritage data available to compile a background history of the study area. In order to identify possible heritage issues or fatal flaws that should be avoided during development.

This was accomplished by means of the following phases (the results are represented in section 4 of this report):

### **2.1 Literature search**

Utilising data for information gathering stored in the archaeological database at Wits University, published articles on the archaeology and history of the area. The aim of this is to extract data and information on the area in question, looking at archaeological sites, historical sites and graves of the area.

### **2.2 Information collection**

The SAHRA report mapping project (Version 1.0) and SAHRIS was consulted to further collect data from CRM practitioners who undertook work in the area to provide the most comprehensive account of the history of the area where possible.

### **2.3 Public consultation**

No public consultation was conducted during this phase.

### **2.4 Google Earth and mapping survey**

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological sites might be located.

### **2.5 Genealogical Society of South Africa**

The database of the genealogical society was consulted to collect data on any known graves in the area.

### **2.6. Restrictions**

This study did not assess the impact on the palaeontological component of the project.

### 3. LEGISLATION

For this project the National Heritage Resources Act, 1999 (Act No. 25 of 1999) is of importance and the following sites and features are protected:

- a. Archaeological artefacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The national estate that includes the following:

- 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 features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

Section 34 (1) of the act deals with structures which is older than 60 years. Section 35(4) of this act deals with archaeology, palaeontology and meteorites. Section 36(3) of the National Heritage Resources Act, deals with human remains older than 60 years. Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

### 3.1 Heritage Site Significance and Mitigation Measures

The presence and distribution of heritage resources define a Heritage Landscape. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. National and Provincial Monuments are recognised for conservation purposes. The following interrelated criteria were used to establish site significance:

- » The unique nature of a site;
- » The integrity of the archaeological/cultural heritage deposit;
- » The wider historic, archaeological and geographic context of the site;
- » The location of the site in relation to other similar sites or features;
- » The depth of the archaeological deposit (when it can be determined or is known);
- » The preservation condition of the site;
- » Potential to answer present research questions.

The criteria above will be used to place identified sites with in SAHRA's (2006) system of grading of places and objects which form part of the national estate. This system is approved by ASAPA for the SADC region. The recommendations for each site should be read in conjunction with section 11 of this report.

| <b>FIELD RATING</b>          | <b>GRADE</b> | <b>SIGNIFICANCE</b>      | <b>RECOMMENDED MITIGATION</b>                |
|------------------------------|--------------|--------------------------|--|
| 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.C) | -            | Low significance         | Destruction                                  |



## **4. REGIONAL OVERVIEW**

### **4.1 General Information**

#### **4.1.1. Literature search**

Several previous heritage studies were conducted in the general study area (SAHRA report mapping project V1.0 and SAHRIS) mostly to the west and south west of the study area (.Beaumont 2005 & 2008, Van Ryneveld 2007a & 2007b, Dreyer, 2006, Van Schalkwyk 2011, Gaigher 2012 and van der Walt 2014). These studies identified Early and Middle Stone Age assemblages as well as historical structures

#### **4.1 2. Public consultation**

No public consultation was conducted by the heritage consultant during the scoping phase.

#### **4.1.3. Google Earth and mapping survey**

Google Earth and 1:50 000 maps of the area was utilised to identify possible places where archaeological sites might be located.

#### **4.1.4. Genealogical Society of South Africa**

No grave sites are indicated within the study area.

### **4.2 Archaeological and Historical Information Available on the Study Area**

It was necessary to use a wide range of sources in order to give an accurate account of the history of the. Sources included secondary source material, maps and archival documents. While it was possible to compile a more detailed history of the Gordonia area, there was limited information available on the history of the actual farm under investigation. Thus, although many sources exist on the general history it is difficult to compile histories that focus on very specific parts of the area, such as individual farms.



## **5. HISTORY OF THE AREA**

### **5.1. A Brief History of Human Settlement And Black And White Interaction In The Gordonia Area**

The discovery of human skeletons was one of the most important archaeological discoveries to be made in the area under investigation. T.F. Dreyer and A.J.D. Meiring excavated the so-called "Kakamas Burials" in June and July 1936. Dreyer and Meiring excavated an area stretching from the Augrabies Falls to Upington along the banks of the Orange River. They were, however, most active in the region between the falls and Kakamas. Eighty-two graves from the area were excavated and 56 skeletons were retained. From radiocarbon dating it is deduced that the Kakamas burials indicate an eighteenth century time span and some skeletons being interred at the beginning of the nineteenth century.

Some of the earliest known people to have lived in the Kakamas region were the Nameiqua people who lived at !Nawabdanas (today known as Renosterkop) during the late eighteenth century. In 1778 Hendrik Jacob Wikar and in 1779 Colonel R.J. Gordon came in contact with these people. The following descriptions of the Nameiqua and other groups of people that lived in this area are based on the accounts of Wikar and Gordon.

Although reference is made to the fact that Europeans started to move into this territory from at least the 1760s onwards, the first literate person to visit and describe the people living along the Orange River was H.J. Wikar. Wikar deserted the service of the Dutch East India Company and fled to the interior in 1775. He presented a report on his findings of the people he encountered in the interior to the Governor of the Cape with the hope that he would be pardoned and that he could return to live in the colony. In his report, Wikar, referred to the Khoi of the Orange River as Eynikko / Eynicqua. He divided them into four separate groups: the Namnykoa / Namikoa, who lived on the islands above the Augrabies Falls, the Kaukoa and the Aukokoa higher up the river close to Kanoneiland and the Gyzikoas in the vicinity near the present day Upington. Although these groups were closely related, the Gyzikoas were intermixed genetically and culturally with Bantu-speaking peoples from the northeast. Wikar also recorded the presence of a group of people who he called the "Klaare Kraal" people. This group of people was apparently "a strong Bushman Kraal of about twenty huts but with no cattle" (Morris, 1992)

Another European traveller that visited the same region was Colonel R.J. Gordon, who met a group of people called the Anoe Eys, roughly translated as "bright kraal" people. Gordon recorded that this group of "Bushmen catch fish and live by hunting, digging pits to trap rhinoceros at the side of the river." Morris feels it reasonable that Wikar's "Klaare Kraal" people and Gordon's "bright kraal" people are the same group (Morris, 1992). Gordon went on to describe other people living along the river too and although the spelling of the names of the various group differ between these two early travellers it can be assumed that they are indeed speaking and describing the same groups of people.

In 1813 Reverend John Campbell travelled down the Orange River and met a group of people near the Augrabies Falls but was surprised by the few inhabitants that now lived in the area. This was mainly because of a period of severe drought and there was very little water in the area to support large human settlements. In 1824 another traveller, George Thompson rode through the central Bushmanland and reached the confluence of the Hartebeest and Orange Rivers very close to the modern Kakamas. According to his writings

the whole area was deserted except for a small group of !Kora close to the Falls (Morris, 1992).

The Renosterkop settlement was on one of the large islands in the Orange River. Geographically the area that the Orange River flows through from Upington to the Au-grabies Falls is characterized by the river splitting into various loops thus forming islands in the river (Moolman, 1946). The settlement consisted of ten mat huts that housed about five to six people each. The Nameiqua herded cattle, sheep and to a lesser extent goats. Cattle were their most prized possession, both economically and ritually. They were also excellent hunters and would display the heads of rhino, hippo and buffalo in the centre of the settlement (Morris & Beaumont, 1991).

The Nameiqua people were not the only people that stayed in the area. Away from the river in areas less suitable for pastoralism lived groups such as the Noeies, Eieis and the /Xam. These groups lived mainly from hunting and gathering. The relationships between the various groups of people that lived in this area were "peripheral" and involved "varying degrees of clientship during certain seasons, with limited exchange in items such as pots". The Khoi peoples would sometimes also take San wives. Around the area of Upington lived the Geissiqua (Twin-folk) people. This was a mixed group of Korana-BaTlhaping (Tswana) group who were in regular contact with Tswana Iron Age communities to the northeast. This group of people would seemingly once a year trade with the tribes living along the river and who traded in items, such as, tobacco, ivory spoons, bracelets, knives, barbed assegais and smooth axes (Morris & Beaumont, 1991).

In the period leading up to the First Koranna War in 1869 the northwards trek of the Basters and the white farmers into the vicinity of the Orange River provided the Koranna (!Kora) people with opportunistic opportunities to steal cattle from these new settlers and flee to islands located in the river. It was inevitable that this would lead to armed conflict between these groups (De Beer, 1992). The First Koranna War was in 1869 and a second war took place from 1878 to 1879. After the second war many of the Basters went to settle north of the river. Reverend Schröder advocated for the Cape government to allow these Basters to go and settle in the area and from a buffer zone between the white settlers and the black tribes to the north of the Cape Colony (De Beer, 1992).

In 1995 there were only three Baster landowner families remaining in the Keimoes area, namely the Jansen family, the Loxtons and the Spangenberg. This fact can be attributed to the commercialisation of agricultural farming during the twentieth century and also the action taken by the state to support the capitalization of white farmers in the area (Legassick, 1996). It would seem that many of the Basters rather decided to sell their farms to emerging white farmers as their history and tradition was that of pastoralism and hunting. They were also used to being ousted by whites in the territories that they settled. Many of them did not want to be restricted by the laws and administrative regulations that came with colonial rule in the area. Thus as stated by one observer at the time "the Basters, who are good pioneers, but apparently unable to form of themselves a permanent settled community, will on the first favourable opportunity dispose of their ground and trek to some country where there will be no taxes, ... no boundary lines to farms, but on the contrary scope for unrestricted trekking and hunting, and no shops where they can run into debt and impoverish themselves by improvidence" (Legassick, 1996).

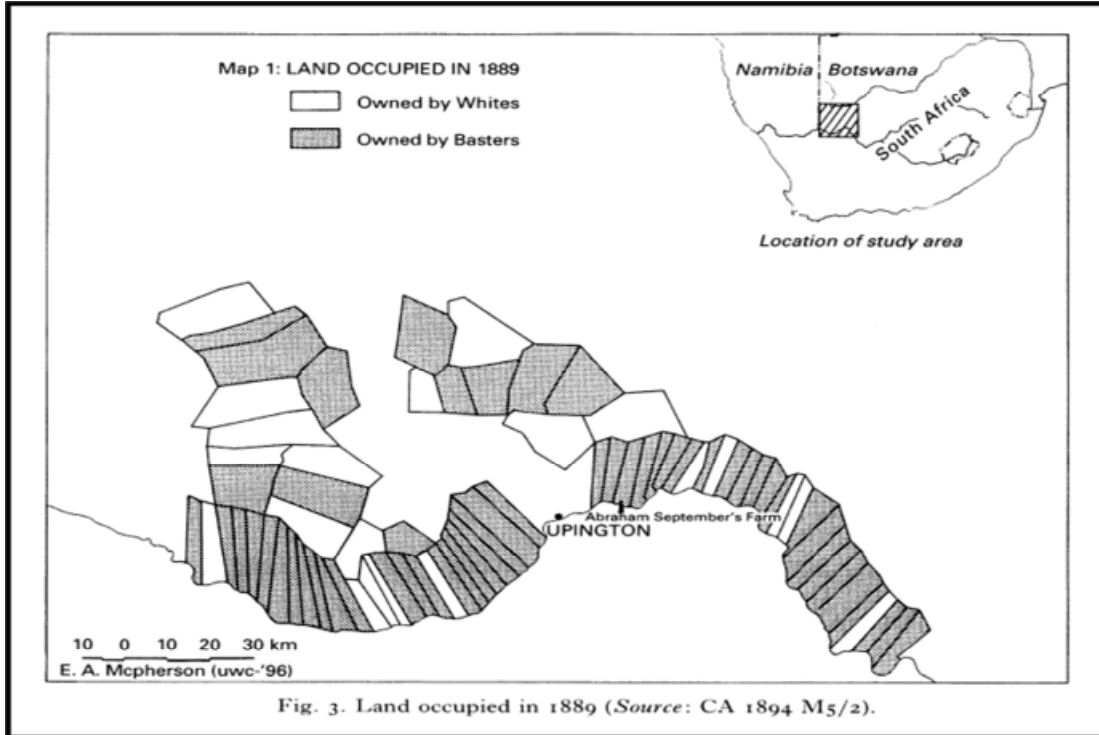


Figure 3: Showing land occupied in 1889

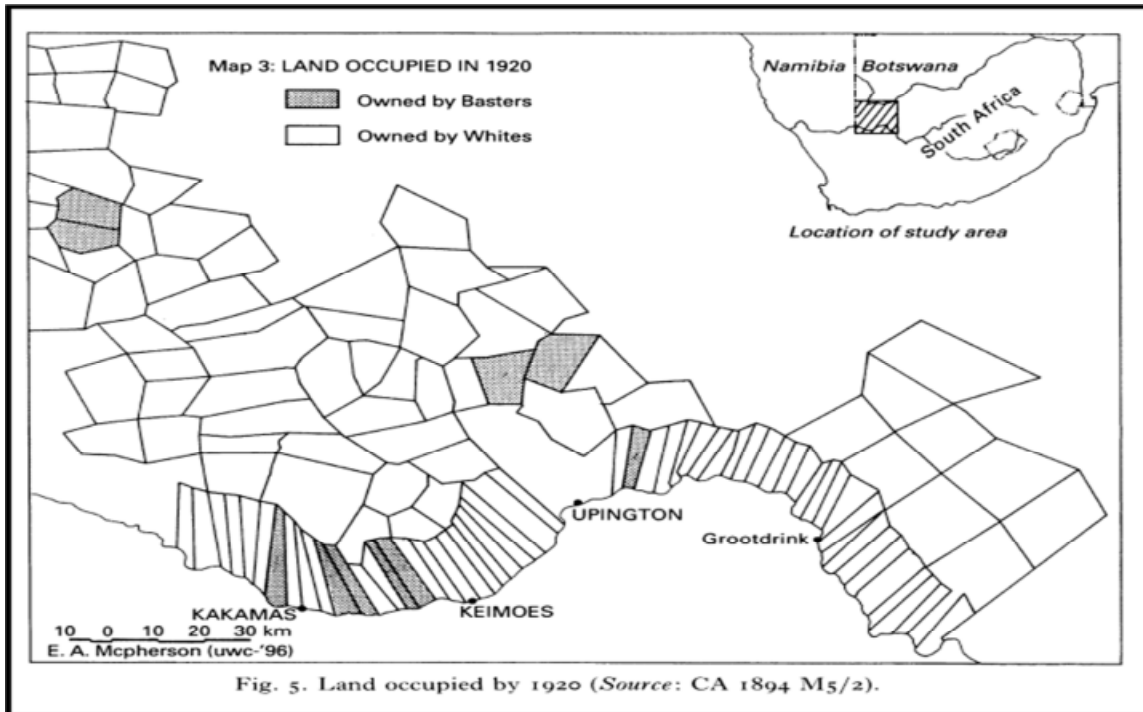


Figure 4: Showing land occupied in 1920

## 5.2. Figure 3 and 4

The above two maps indicate the transfer of land from Baster ownership to white ownership during the period 1889 to 1920. Legassick notes in his article that most of these farms were lost by the Basters due to indebtedness, the social vice of alcoholic liquor drinking and also deliberate trickery and unfair dealing by manipulative whites (Legassick, 1996).

It is interesting to note the sudden growth in the number of coloured people who settled in the Gordonia area, and especially in the years between the 1936 and the 1970 census. By 1970, coloured people still made up the vast majority of the population of the Gordonia district, as they had done in 1911. By 1970 the smallest proportion of the population of Gordonia was black people. The following table provides population numbers for the Gordonia Census District between 1911 and 1970 (De Klerk, 1985).

| Population group | Area     | 1911  | 1921  | 1936  | 1946  | 1951  | 1960  | 1970  |
|------------------|----------|-------|-------|-------|-------|-------|-------|-------|
| White            | Urban    | 1096  | 1935  | 3194  | 4095  | 5258  | 6755  | 9288  |
|                  | Rural    | 5066  | 5893  | 13607 | 13735 | 12683 | 11206 | 7035  |
|                  | Subtotal | 6162  | 7828  | 16801 | 17830 | 17941 | 17961 | 16323 |
| Black            | Urban    | 235   | 228   | 1006  | 2328  | 3405  | 5041  | 6355  |
|                  | Rural    | 597   | 753   | 1296  | 2351  | 4574  | 5273  | 4092  |
|                  | Subtotal | 832   | 981   | 2302  | 4679  | 7979  | 10314 | 10447 |
| Coloured         | Urban    | 2157  | 1716  | 3985  | 5970  | 7269  | 11567 | 31877 |
|                  | Rural    | 7595  | 7788  | 17059 | 21778 | 24390 | 32886 | 24770 |
|                  | Subtotal | 9752  | 9504  | 21044 | 27748 | 31659 | 44453 | 56647 |
| Total population |          | 16746 | 18313 | 40147 | 50259 | 57597 | 72728 | 83417 |

## 5.3. The Development Of The Gordonia Area: The Orange River Irrigation Systems.

The irrigation of the Orange River has been central to the economic existence of the area in the vicinity of Upington since the 1880s. To the north of the river lies the Kalahari and to the south lies "Bushmanland", these two areas being some of the driest land in South Africa (Legassick, 1996). Moolman attributes the beginning of irrigation in this area to the Basters who he calls: "primitive pastoral people", who had "crude" ways to divert the river water to their "little gardens" (Moolman, 1946). According to Legassick the first person to irrigate the Orange River was one Abraham September, from whose lead the Dutch Reformed Church missionary Reverend C.H.W. Scröder and John H. Scott, the Special Magistrate for the Northern Border, stationed at Upington, would have gotten the idea to start irrigating the river on a much larger scale (Legassick, 1996).

The first 81 farms to be given out to the north of the Orange River from Kheis (opposite the present Groblershoop) to the Augrabies Falls were allocated almost exclusively to Basters in 1882. The term "Baster" refers to a group of people who have moved out of the Cape Colony to avoid social oppression and could refer to people of mixed parentage, particularly white and Khoikhoi or slave and Khoikhoi and also implies an economic category that implies the possession of property and who is culturally European (Morris, 1992). The farms bordering on the river measured in sizes ranging from 4000 to 10 000 morgen, these farms were "laid out on the basis of half an hour's ride along the river and two and a half hours' ride away from the river into the 'back country'". Once the irrigation canal was completed these farms were further divided into "water-erven" for irrigation and "dry-erven" for establishing buildings and the like (Legassick, 1996).

The district of Gordonia was established on 30 September 1885 and formed part of British Bechuanaland. It was only administrated as part of British Bechuanaland from April 1889. The Cape government instructed the Special Magistrate appointed for the area to settle the territory with "Baster farmers" living on the southern side of the Orange River. The area was soon settled with Basters, a few whites at first largely related to the Basters by marriage and some Kora, San and Xhosa people (Legassick, 1996). In 1891 the first census in the area recorded 735 whites, 1429 "aboriginal natives" and 3121 "other coloured persons" living in the area (Legassick, 1996).

Christiaan H. W. Scröder was a missionary from the Nederduits Gereformeerde Kerk in Upington, and knew all the islands and areas alongside the Orange River, stretching from his missionary station, far to the east and the west along the riverbank. He was an important figure with regards to the foundation of both the towns of Keimoes and Kakamas. Interestingly, the name Keimoes means "large eye" and an eye appears on the coat of arms of the town, which was created in 1960 (De Beer, 1992). When Scröder first came to Upington in July 1883, there were already people in the area of Keimoes that used irrigation and planted fields. It is possible that the proficient Mr Scott, who was at that time the only person in "Basterland" who understood the art of channelling water to other areas, directed this irrigation project in 1882. By 1883 it was necessary to build a second furrow for irrigation, and this was done under the vigilance of C. H. W. Scröder. These furrows contributed to the advancement of the town and in the following years many families started moving to the area (De Beer, 1992).

By 1886, the committee in charge of the settlement realized the necessity of building a school for the inhabitants of Gordonia. In 1887 a school was opened, with Pieter Rossouw as its first teacher. The school was closed again in 1899, due to the start of the Anglo-Boer War (De Beer, 1992). The construction on the church at Keimoes was started in 1888 and was completed in 1889. During the construction of the church, Scröder lived in Keimoes. The church can still be seen next to the main street running through Keimoes (De Beer, 1992).

Between 1889 and 1899, more and more white people started moving to the Gordonia area and by 1900 some 13 Afrikaner families had settled at Keimoes (De Beer, 1992). After the Anglo-Boer War, many farmers were forced to move to other areas, in search of greener pastures after their farms and livelihoods were destroyed during the war. Settling next to the Orange River was an obvious choice, due to the possibility of irrigating one's crops. Many of the farmers who came to the Gordonia area opted rather to settle in Keimoes than in Kakamas, since it was only possible to buy land in the former town. When farmers did not have the means to buy properties of their own, they often became *bywoners* to other landowners, paying a rent to live and work on the land.

## **5.4. STONE AGE BACKGROUND**

### **5.4.1 Introduction**

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. Each of these phases contains sub-phases or industrial complexes, and within these we can expect regional variation regarding characteristics and time ranges. For Cultural Resources Management (CRM) purposes it is often only expected/ possible to identify the presence of the three main phases.

Yet sometimes the recognition of cultural groups, affinities or trends in technology and/or subsistence practices, as represented by the sub-phases or industrial complexes, is achievable (Lombard 2011). The three main phases can be divided as follows;

- Later Stone Age; associated with Khoi and San societies and their immediate predecessors. Recently to ~30 thousand years ago
- Middle Stone Age; associated with Homo sapiens and archaic modern humans. 30-300 thousand years ago.
- Earlier Stone Age; associated with early Homo groups such as Homo habilis and Homo erectus. 400 000-> 2 million years ago.

The following section is an extract from a report completed to the west of Upington, authored by Prof Marlize Lombard, Department of Anthropology and development studies, University of Johannesburg, commissioned by Heritage Contracts and Archaeological Consulting CC (2011).

### **5.4.2 The Later Stone Age**

#### **5.4.2.1 Hunters-with-livestock/herders**

The region is well-known as one that produced the largest sample (n = 56) of prehistoric skeletons in South Africa (Morris 1995). Excavated in 1936, known as the 'Kakamas Skeletons', and currently housed in the National Museum in Bloemfontein, they are considered the 'type' specimens of Khoi morphology (1992). Grave locations can be expected along the Gariep (perhaps up to 35 km from its shore), and on the Gariep Islands between Upington and the Au-grabies Falls. They are often marked with stone burial cairns, dug into the alluvial soil or into degraded bedrock above the alluvial margin. Graves can be isolated or grouped in small clusters, sometimes containing up to eight graves (Morris 1995).

Burial cairns can be elaborately formed, some with upright stones in their centres, but they are often disturbed. Cairns from near the Gariep Islands are often characterised by their high conical shapes, and the grave shafts filled with stones. Those closer to Au-grabies Falls, however, are low and rounded with ashes in the grave shaft (Dreyer & Meiring 1937). The placing of specularite or red ochre over the body was common, but other grave goods are rare (Morris 1995).

Where dating was possible, most of the skeletons were dated to the last 200 years-or-so, but association with archaeological material from up to about 1200 years old is possible. The grave sites show parallels to those of recent Khoi populations (Morris 1995).

Apart from the grave locations, archaeological sites of this period in the region have been further divided into Swartkop and Doornfontein sites. Doornfontein sites are mostly confined to permanent water sources. The assemblages contain a consistently large complement of thin-walled, grit-tempered, well-fired ceramics with thickened bases, lugs, bosses, spouts, and decorated necks or rims. Lithics are often produced on quartz, and dominated by coarse irregular flakes with a small or absent retouched component (Beaumont et al. 1995; Lombard & Parsons 2008; Parsons 2008). Late occurrences contain coarser potsherds with some grass temper, a higher number of iron or copper objects, and large ostrich eggshell beads. These assemblages are mostly associated with the Khoi (Beaumont et al. 1995).

#### Post-Wilton

Swartkop sites can be almost contemporaneous with, or older than, the Doornfontein sites. They are usually characterised by many blades/bladelets and backed blades. Coarse undecorated potsherds, often with grass temper, and iron objects are rare. These sites are remarkably common throughout the region. They usually occur on pan or stream-bed margins, near springs, bedrock depressions containing seasonal water, hollows on dunes, and on the flanks or crests of koppies (Beaumont et al. 1995; Parsons 2008). Some of these sites are also associated with stone features, such as ovals or circles, which may represent the bases of huts, windbreaks or hunter's hides (Jacobson 2005; Lombard & Parsons 2008; Parsons 2004). These sites are linked to the historic /Xam communities of the area who usually followed a hunter-gatherer lifeway (Deacon 1986, 1988; Beaumont et al. 1995).

#### Wilton

These assemblages are distinguished by a significant incidence of cryptocrystalline silicates (mainly chalcedony) and contain many formal tools such as small scrapers, backed blades and bladelets. A regional variation of the Wilton in the area is often referred to as the Springbokooq Industry (Beaumont et al. 1995).

#### Oakhurst

A few heavily patinated Later Stone Age clusters, that include large scrapers, may represent Oakhurst-type aggregates (Beaumont et al. 1995).

#### **5.4.2.2. The Middle Stone Age**

Previous collections of stone tools in the region include artefacts with advanced prepared cores, blades and convergent flakes or points. Most of the scatters associated with the Middle Stone Age have a 'fresh' or un-abraded appearance. They appear to be mostly associated with the post-Howiesons Poort (MSA 3) or MSA 1 sub-phases (Beaumont et al. 1995).

Substantial Middle Stone Age sites seem uncommon. However, where archaeological sites were excavated, such as only two farms west of Geelkop 456, on Zoovoorbij 458, a Middle Stone Age assemblage was excavated beneath Later Stone Age deposits (Smith 1995). This shows that, although not always visible on the surface, the landscape was inhabited during this phase. The large flake component of the lower units of Zoovoorbij Cave has Levallois-type preparation on the striking platforms, reinforcing their Middle Stone Age context.

#### **5.4.2.3. The Earlier Stone Age**

Stone artefacts associated with this phase, based on their morphology, seem moderately to heavily weathered. Scatters may include long blades, cores (mainly on dolerite), and a low incidence of formal tools such as handaxes and cleavers. Clusters with distinct Acheulean characteristics have been recorded in the area (Beaumont et al. 1995).

## **6 PROBABILITY OF OCCURRENCE OF SITES**

Based on the above information, it is possible to determine the probability of finding archaeological and cultural heritage sites within the study area to a certain degree. For the purposes of this section of the report the following terms are used – low, medium and high probability. Low indicates that no known occurrences of sites have been found previously in the general study area, medium probability indicates some known occurrences in the general study area are documented and can therefore be expected in the study area and a high probability indicates that occurrences have been documented close to or in the study area and that the environment of the study area has a high degree of probability having sites.

### » Archaeological And Cultural Heritage Landscape

*NOTE: Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface.*

*Archaeological remains dating to the following periods can be expected within the study area:*

### » Stone Age finds

*ESA: Medium Probability*

*MSA: Medium Probability*

*LSA: Medium Probability*

*LSA –Herder: Low to Medium Probability*



» Iron Age finds

EIA: *Not applicable*

MIA: *Not applicable*

LIA: *Not applicable*

» Historical finds

Historical period: *-Medium Probability*

Historical dumps: *Medium Probability*

Structural remains: *Medium Probability*

Cultural Landscape: *Low probability*

» Living Heritage

For example rainmaking sites: *Low Probability*

» Burial/Cemeteries

Burials over 100 years: *Medium Probability*

Burials younger than 60 years: *Medium Probability*

Subsurface excavations including ground levelling, landscaping, and foundation preparation can expose any number of these.

## 7. ASSUMPTIONS AND LIMITATIONS

The study area was not subjected to a field survey as this will be done in the EIA phase. It is assumed that information obtained for the wider area is applicable to the study area.

## 8. FINDINGS

The heritage scoping study revealed that the following heritage sites, features and objects can be expected within the study area.

### 8.1. Archaeology

#### 8.1.1 Archaeological finds

The brief background study indicates that an extensive range of Stone Age manifestations can be expected in the study area. Those that are most sensitive are the Later Stone Age grave sites that may be recognised by variously shaped stone cairns. Where these have been disturbed/removed variations in the soil, that may include ashy or stony patches, could signify the locations of ancient graves. Patches of soil, stained red with specularite or ochre, may also be an indication of the presence of a grave site. LSA artefact scatters can be expected around depressions that contain seasonal water and stream bed margin hat was utilised in the past (van Schalkwyk 2011, van der Walt 2014). Stone circles or ovals demarcating Later Stone Age living or activity sites, and engraved boulders or stones may occur throughout the area.

Concentrations of stone tools point to activities that took place at various stages over the past 1.5 million years, representing the different groups of people who inhabited or moved across the landscape over time.

### **8.1.2 Nature of Impact**

The construction phase of the project could directly impact on surface and subsurface archaeological sites.

### **8.1.3 Extent of impact**

The project could have a low to medium impact on a local scale.

## **8.2. Historical period**

### **8.2.1 Historical finds: I**

Historical finds include middens, structural remains and cultural landscape. The study area has been fallow for a number of years and no agricultural activities occurred on the farm. It is assumed that the farm was utilised for grazing in the past and features dating to this period associated with farming can occur and can include houses and other structures older than 60 years, farming infrastructure such as wind mills, etc. For example a farm house complex (28° 27' 00.98" 21° 42'46.22") occurs in the southern portion of the study area but outside of the current infrastructure layout.

### **8.2.2 Nature of Impact**

The construction of the project can directly impact on both the visual context and sense of place of historical sites.

### **8.2.3 Extent of impact**

The construction of the project could have a low impact on a local scale.

## **8.3. Burials and Cemeteries**

### **8.3.1 Burials and Cemeteries**

Graves and informal cemeteries can be expected anywhere on the landscape. Family cemeteries can be expected close to farmsteads while stone cairns could represent graves was recorded in the wider area (Dreyer & Meiring 1937, Morris 1995).

### **8.3.2 Nature of Impact**

The construction and operation of the proposed project could directly impact on marked and unmarked graves.

### **8.3.3 Extent of impact**

The project could have a low to medium impact on a local scale.

## **9. POTENTIAL SIGNIFICANCE OF HERITAGE RESOURCES**

Based on the current information obtained for the area at a desktop level it is anticipated that any sites that occur within the proposed development area will have a Generally Protected B (GP.B) field rating apart from graves and rock art that could have a Generally Protected A (GP.A) field rating and all sites should be mitigatable and no red flags are identified.

## 10. CONCLUSIONS AND RECOMMENDATIONS

This scoping study revealed that a range of heritage sites occur in the larger region and similar sites can be expected within the study area. Every site is relevant to the Heritage Landscape, but it is anticipated that few sites in the study area could have conservation value. The following conclusions are applicable to the following sites:

» Archaeological sites

All sites could be mitigated either in the form of conservation of the sites with in the development or by a Phase 2 study where the sites will be recorded and sampled before the client can apply for a destruction permit for these sites prior to development.

» Historical finds and Cultural landscape

It is not anticipated that the built environment will be severely impacted upon as few structures occur within the study area (based on Google Earth). This assumption will how ever have to be verified in the field. If any sites dating to the Anglo Boer War occur in the study area it is recommended that these sites are conserved.

» Burials and cemeteries

Formal and informal cemeteries as well as pre-colonial graves occur widely across Southern Africa. It is generally recommended that these sites are preserved with in a development. These sites can how ever be relocated if conservation is not possible, but this option must be seen as a last resort and is not advisable. The presence of any grave sites must be confirmed during the field survey and the public consultation process.

» General

It is recommended that as part of the public consultation process the presence of graves, archaeological and historical sites should be determined.

From an archaeological viewpoint the proposed energy project and access road is viable.

## 11. PLAN OF STUDY

With cognisance of the recorded archaeological sites in the wider area and in order to comply with the National Heritage Resources Act (Act 25 of 1999) it is recommended that a Phase 1 Archaeological Impact Assessment must be undertaken. During this study sites of archaeological, historical or places of cultural interest must be located, identified, recorded, photographed and described. During this study the levels of significance of recorded heritage resources must be determined and mitigation proposed should any significant sites be impacted upon, ensuring that all the requirements of SAHRA are met.

## **12. LIST OF PREPARERS**

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## **13. STATEMENT OF COMPETENCY**

The author of the report is a member of the Association of Southern African Professional Archaeologists and is also accredited in the following fields of the Cultural Resource Management (CRM) Section, member number 159: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. Jaco is also an accredited CRM Archaeologist with SAHRA and AMAFA.

Jaco has been involved in research and contract work in South Africa, Botswana, Mozambique, Zimbabwe, Tanzania and the DRC and conducted well over 300 AIAs since he started his career in CRM in 2000. This involved several mining operations, Eskom transmission and distribution projects and infrastructure developments. The results of several of these projects were presented at international and local conferences.

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