

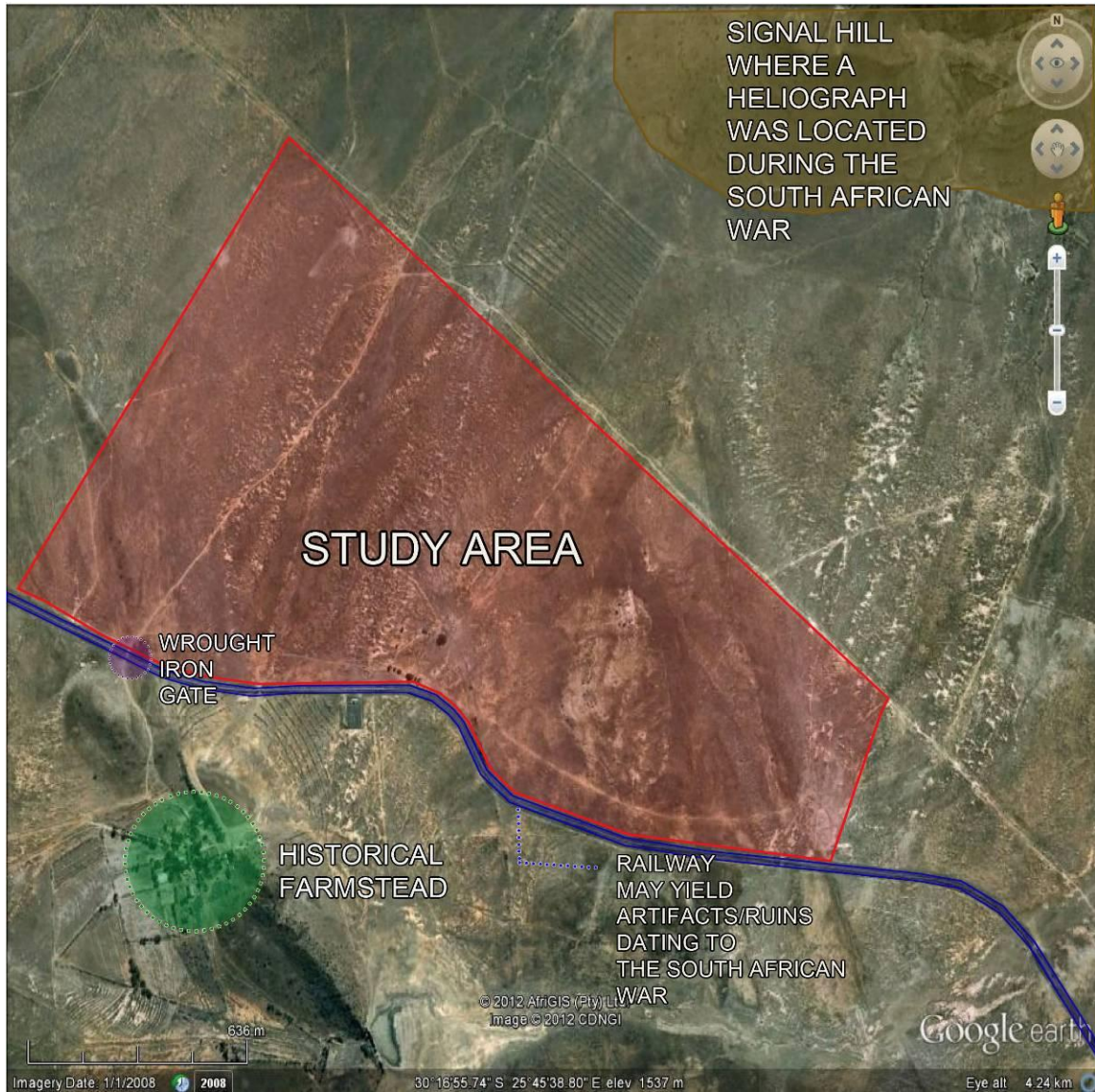
**BUILT HERITAGE IMPACT ASSESSMENT FOR
THE CONSTRUCTION OF A PHOTOVOLTAIC
POWER PLANT ON A PORTION OF THE FARM
STAPLEHURST (KNAPDAAR 14) NEAR
SPRINGFONTEIN, FREE STATE**



BUILT HERITAGE & ARCHAEOLOGY SPECIALIST REPORT
24 APRIL 2012

ROODT 

Aerial View of Site



Study area - Valleydora

Executive Summary

A PV Solar installation is planned on the farm Knapdaar 14, near Springfontein, Free State. The farms Knapdaar 14, Kuilfontein 195 and Marmalo 488 are part the family

company named Valleydora. The farm Knapdaar 14 is located near the N1 main road to the south east of Springfontein.

The land comprises a flat plain crossed by several drainage lines. The vegetation is described as Semi-arid Karoo Grassland with shrubs and bushes between the koppies and ridges. The land is also traversed by the railway line, an official water pipe line and several power lines.

No objects of archaeological significance were found during the present survey. Gates which appears to be hand made by a smithy protects the railway crossings on the farm. These features which bear witness of expert workmanship are of special interest, and should be protected and preserved in some way.

It is alleged that the original farm house was used as a hospital by the British Military Forces during the Anglo-Boer War (1899-1902).

A single tin can lid from the Anglo-Boer War (1899-1902) was found on the surface, but the solitary find is not considered as of much significance.

We recommend that further planning and development of the PV solar plant may continue.

Glossary of terminology and abbreviations

CSIR	:	Council of Scientific and Industrial Research
EIA	:	Environmental Impact Assessment
HIA	:	Heritage Impact Assessment
NHRA	:	National Heritage Resources Act
PV	:	Photo voltaic

TABLE OF CONTENTS

Section 1: Introduction

- Approach to the study
- Terms of reference
- Assumptions
- Information sources

Section 2: Description of aspects of the project that would cause impacts for heritage resources covered by the specialist study.

Section 3: Description of the affected environment relevant to heritage resources.

Section 4: Identification of issues

Section 5: Permit requirements

Section 6: Assessment of impacts and identification of management actions

Section 7: References

Section 1: Introduction

Approach to the study

The area was examined for possible archaeological and historical material and to establish the potential impact on any cultural material that might be found. The Heritage Impact Assessment (HIA) is done in terms of the National Heritage Resources Act (NHRA), (25 of 1999) and under the Environmental Conservation Act, (73 of 1989).

The study aims to locate and evaluate the significance of cultural heritage sites, archaeological material, manmade structures older than 60 years, and sites associated with oral histories and graves that might be affected by the proposed developments. The study likewise aims to assess the potential impact on archaeological and historical material and to recommend specific mitigation measures to avoid the risk of any damage or destruction of the finds during the construction and operation of the proposed developments.

Terms of reference

The aim of this scoping report is to provide an informed opinion on the heritage and archaeological contexts of the study area.

The Archaeological and Heritage Impact Assessment forms part of the Environmental Impact Assessment (EIA) undertaken by the CSIR on behalf of the applicant, who is planning to construct a 75MW Solar Energy Plant on about 150ha at the property.

The investigation provided an opportunity to examine the site proposed for the PV Solar installations. The area consists of a Semi-arid Karoo Grassland with shrubs and bushes. No limitations were experienced during site visit.

Assumptions

Heritage Impact Assessment may, depending on specific circumstances, include a wide variety of study areas. In this instance the following assumptions were made:

- Aspects of symbolic landscapes or landscapes to which special meanings are attached were not considered or investigated. The landscape does not suggest this nor was any other evidence forthcoming.
- Other study areas, e.g. visual impact assessment, would be undertaken by other specialists.
- Primary interest areas are built heritage and objects of historical interest as defined by archaeologists.
- Access routes will remain the same.
- Declaration of the historical wrought iron gates as a Grade III heritage resource will be applied for.

Information sources

Standard archaeological survey and recording methods were applied.

1. The proposed land was inspected on foot.
2. GPS points were taken and the surroundings and features were recorded on camera.

General literature on archaeological sites in the Free State as well as literature on the general history of the area was utilized.

Section 2: Description of aspects of the project that would cause impacts for heritage resources covered by the specialist study.

The CSIR has instigated the establishment of a number of solar farms to supplement the supply of electricity to the national power network. Solar power is considered a desirable energy producer without any adverse bi-products. The harnessing solar energy is relatively innocuous, compared to fossil fuel power production. It is also considered that most existing land use practices may continue with little interruption.

Photo voltaic (PV) cells will be mounted on frames placed above ground level. Rows of panels will be placed about 10m apart to allow for access during operation and maintenance. It is anticipated that minor surface related earthworks may have to be undertaken to accommodate the structures. The planning of the plant will provide for an access road, electricity distribution sub-station, offices, store rooms and ablution facilities. The installation will further include security fencing and lighting. Provision will also be made for a vehicle parking area, a temporary construction camp and permanent staff accommodation.

On the study area itself, no apparent traces of heritage worthy objects or activities were found. There is no evidence of any built structures or human settlements. Prior to the establishment of the railway lines, the area was most probably thinly populated by subsistence farmers. No traces of the original Griqua farmers or settlements are to be found in the area under scrutiny. The activities of the British soldiers during the South African War probably had the biggest impact on the area where the town is situated and the immediate environs.

According to De Swardt (2012), he could not find any reference to South African War activities on the farm "Knapdaar" (the name of the farm prior to its renaming to "Staplehurst").

Although the farmhouse and outbuildings are not situated in the study area, the farmstead and some of the outbuildings are certainly older than 60 years and might even be older than 100 years. Although the main farmstead has been substantially altered over the years, the mature trees surrounding the farmstead are a sure indication of the age of the settlement here. The pepper tree alone at the farmstead is one of the biggest pepper trees that the author has encountered anywhere in the Free State.



The farmhouse, probably extensively altered.



One of the outbuildings.

Therefore, should the developers contemplate utilizing the farmstead or outbuildings for other purposes, it is recommended that a thorough investigation of the construction and history of the site be compiled. The necessary permit for the changes, alterations or destruction of any buildings here, will have to be applied for at the Provincial Heritage Resources Authority of the Free State.

The developer is also further obliged to inform the Provincial Heritage Resources Authority of the Free State in writing of the intended development as is required according to Section 38 of the National Heritage Resources Act, No 25 of 1999 (National Heritage Resources Act 1999: 62 – 63). Should the Provincial Heritage Resources Authority deem it necessary, they could require an impact assessment report that has to contain specific information as set out in the relevant clause of the Act. In our opinion, however, this will not be necessary in this instance.

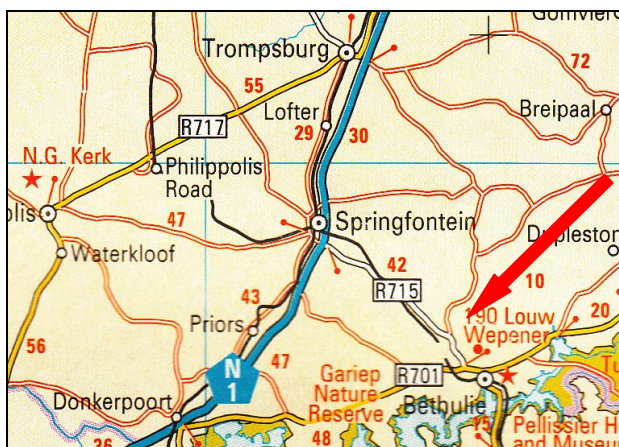
Should such an impact assessment, however, be required, the authors would be willing to assist in preparing and submitting the necessary information and/or applications.



Mature Pepper Tree at the homestead.

Section 3: Description of the affected environment relevant to heritage resources.

The proposed site is located on the Remainder of the farm Knapdaar 14, near Springfontein, Free State. The farm is situated along the R715 turn-off from the N1 (Surveyor-General 1973).



Locality of Springfontein in relation to the N1 main road and the R715 to Bethulie.

The locality of the proposed development area is indicated on the map below.

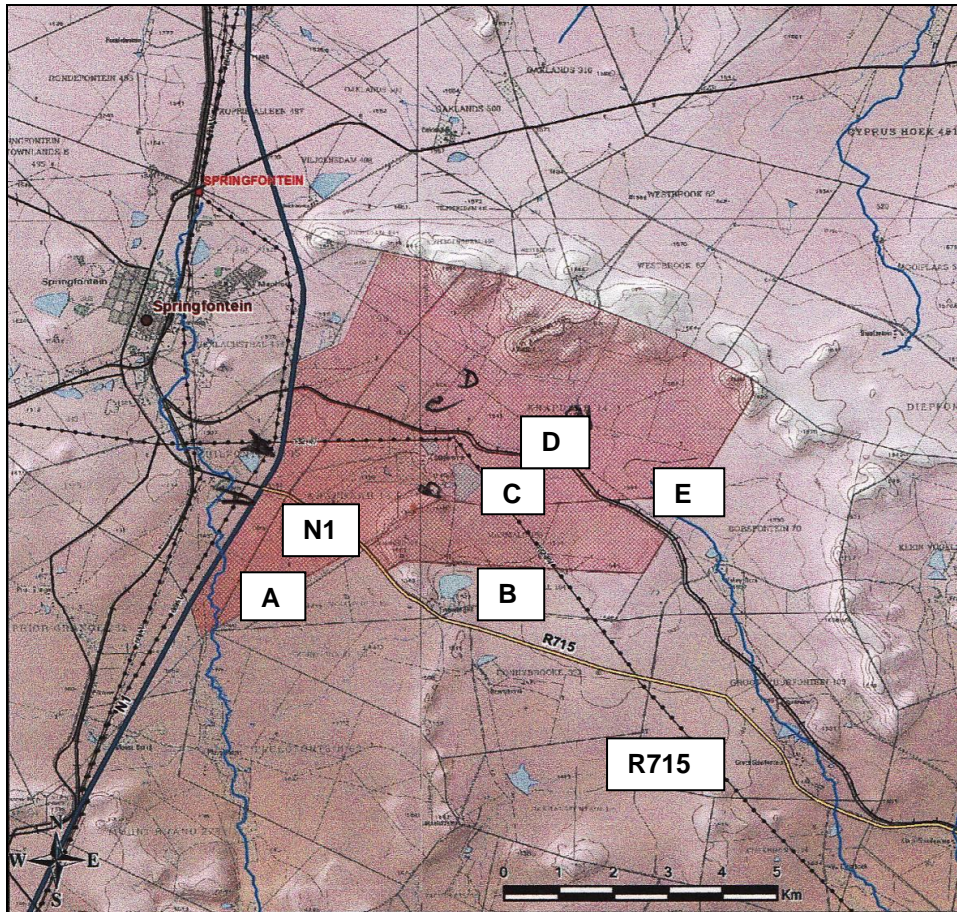


Placing of the proposed developments on a land cover map of Knapdaar 14, Springfontein (3025BC).

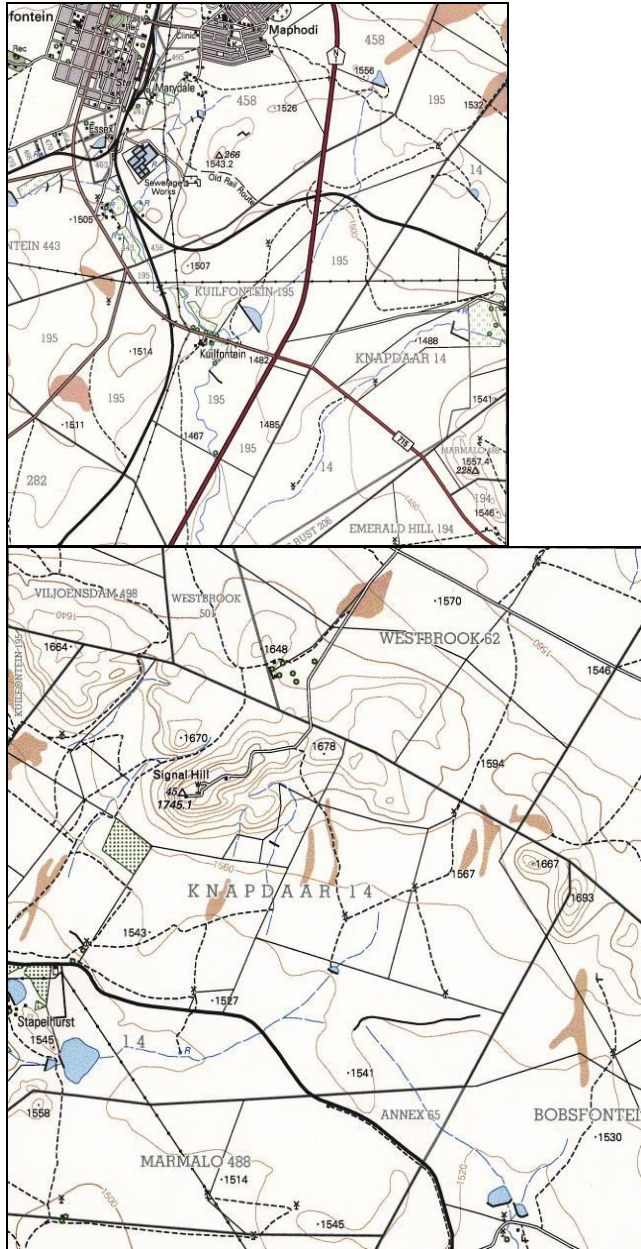
The land comprises a flat plain intersected by several flood water drainage lines. The vegetation is described as Semi-arid Karoo Grassland with shrubs and bushes between the koppies and ridges. The land is also traversed by the railway line, an official water pipe line and several power lines.

The following GPS coordinates (Cape scale) were taken (3025BC&BD).

- A 30°17'37"S 025°43'24"E Altitude 1481m
- B 30°17'00"S 025°44'57"E Altitude 1514m
- C 30°16'58"S 025°44'59"E Altitude 1514m
- D 30°16'34"S 025°45'32"E Altitude 1541m
- E 30°16'57"S 025°46'02"E Altitude 1544m



Placing of GPS coordinate points at Knapdaar 14, Springfontein (3025BC).



Locality of the farm Knapdaar in relation to the N1 and the R715 main roads (3025BC&BD).



Point A on the N1 at Knapdaar 14, Springfontein.



Point B at Knapdaar 14, Springfontein.



Point B at Knapdaar 14, Springfontein.



Point C at Knapdaar 14, Springfontein.



Point C, Knapdaar 14, Springfontein.



Point D at Knapdaar 14, Springfontein.



Point D at Knapdaar 14, Springfontein.



Point E at Knapdaar 14, Springfontein.



Point E at Knapdaar 14, Springfontein.



Water pipeline at Knapdaar 14, Springfontein.

The study area is located approximately 5km east of Springfontein and directly adjacent and north of the Springfontein / Bethulie railway line.

Springfontein was established as a town in 1904 on the farm Hartleydale, part of the farm Springfontein. Initially, the town was governed by a Village Management Board, until the town attained municipal status in 1912 (Wikipedia). In all probability, some form of settlement existed here prior to 1904, as this area is well-known for the large concentration camp that was established here during the South African War. The site on which Springfontein was established, is probably not ideal for a town, but came about thanks to the important railway junction that occurs here. The Bloemfontein / Port Elizabeth railway line connects with the railway line that serves Bethulie and other towns in the south-eastern Free State.



View across the site to the north. Signal Hill is in the background.



Panorama from the north. In the background the trees at the farmstead are visible as the power and railway lines.

The British concentration camp at Springfontein was formed in January 1901 and was the largest camp of this nature in South Africa (BCCD: n.d.).

The concentration camp is approximately 4.5km from the farmhouse at Staplehurst. Farms around Springfontein have been occupied more or less since 1854. The area was previously occupied by the Griquas, but they moved away after hostilities arose between them and the white settlers that were moving into the area. Many of these settlers were British and surnames like Butler, Willmot, Staples and Prior, are common to farm names and even descendents of original inhabitants still farm here (De Swardt 2012).

On the hill directly to the north of the study area known as Signal Hill, there was a heliograph during the South African War (De Swardt 2012). A cursory investigation near the railway line revealed a few remnants of pot shards and tins that could have been left there by British soldiers. According to De Swardt (2012) a number of block

houses were located along this Bethulie railway line and it is to be expected that traces of the activities during this period might be unearthed.

The gates at the railway crossing into the study area are made of wrought iron and are a testament to the blacksmith's art. They should be preserved.



Gate at the railway crossing.

The Iron Age archaeology of the Free State had been described by Maggs (1976) and was summarised by Dreyer (1996). Iron Age stone-walled sites are normally limited to the higher ground or hilly parts of the North and Eastern Free State and are not found in the low-lying open areas south of Bloemfontein.

Stone tools are likely to occur on these flat Karoo vegetation areas and along the foothills of mountains or against koppies and hills.

From previous Environmental Impact Assessments (EIA) in the Springfontein region, we have learnt that Anglo-Boer War remnants could be found in the vicinity of Springfontein. Some of the most possible finds could include fired cartridge shells and metal food containers displaying heavily soldered seams. Anglo-Boer War remains were found opposite the N1 and adjacent to the Kuilfontein farm stall (Dreyer 2010).

Section 4: Identification of issues

The only possible issues that could arise would be associated with the events surrounding the South African War as well as agricultural activities over the last 150 years. Events associated with older human activities than these, are well-researched and documented and are not extant on this site.

A single piece of a soldered tin canned milk container dating from the Anglo-Boer War (1899-1902) was found on the surface.



Soldered Anglo-Boer War milk tin from Knapdaar 14, Springfontein.

Over time the present farm house at Knapdaar had been renovated and extended into a modern dwelling. It is alleged that the original farm house was used as a hospital by the British Military Forces during the Anglo-Boer War (1899-1902). Judging by the large size of the trees on the farm yard it is clear that the farm could be very old.



Farm house at Knapdaar 14, Springfontein.



Trees on the farm yard at Knapdaar 14, Springfontein.

Gates which appears to be hand made by a smithy protects the railway crossings on the farm. These features which bear witness of expert workmanship are of special interest, and should be protected and preserved in some way.



Fence gate at railway line on Knapdaar 14, Springfontein.



Detail of fence gate at railway line on Knapdaar 14, Springfontein.



Detail of closing bolt of the fence gate, railway line on Knapdaar 14, Springfontein.

No other cultural and historical material or graves were found during the investigation, nor were there any stone tool material visible.

Section 5: Permit requirements

No permits will be required in terms of the NHRA (25 of 1999)

Section 6: Assessment of impacts and identification of management actions

ASSESSMENT OF IMPACT

The land is traversed by a railway line, a water pipe line and several power lines.

The Anglo-Boer War finds are not considered as of much significance.

There will be no impact on any archaeological or heritage remains of the area.

RECOMMENDATIONS

We recommend that the planning of the proposed the PV Solar installation on the farm Knapdaar 14 outside Springfontein may proceed.

MITIGATION

No mitigation measures will be needed in this area of development.

TABLE 1: RATING OF IMPACT

Direct Impacts

Mitigation	Spatial Extent	Intensity	Duration	Probability	Significance	Status	Confidence
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BUILT HERITAGE & ARCHAEOLOGY: Impact of the construction phase on this aspect

Protection of railway gates by means of declaration (Grade III: Local Heritage Resource)	Site specific	Low	Permanent	High	Low	Neutral	High
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Other impacts such as indirect and cumulative impacts are not considered relevant in this field of study.

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