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Margen Industrial Services

**ARCHAEOLOGICAL AND CULTURAL HERITAGE PHASE I EMP WALK
DOWN SPECIALIST REPORT FOR THE PROPOSED CONSTRUCTION OF
APPROXIMATELY 30KM 132KV POWERLINE FROM ESKOM SORATA
SUBSTATION TO WITSIESHOEK SUBSTATION LOCATED WITHIN THE
JURISDICTION OF MALUTI A PHOFUNG LOCAL MUNICIPALITY IN THE
THABO MOFUTSANYANA DISTRICT. FREE STATE PROVINCE.**

January, 2016

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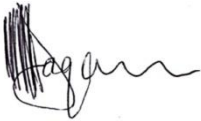
DECLARATION

ABILITY TO CONDUCT THE PROJECT

Munyadziwa Magoma is a professional archaeologist, having obtained his BA degree in Archaeology and Anthropology at University of South Africa (UNISA), an Honours degree at the University of Venda (UNIVEN), and an Masters degree at the University of Pretoria (UP). He is an accredited Cultural Resource Management (CRM) member of the Association for southern African Professional Archaeologists (ASAPA) and Amafa aKwaZulu-Natali. Munyadziwa is further affiliated to the South African Archaeological Society (SAAS), the Society of Africanist Archaeologists (SAfA), and the International Council of Archaeozoology (ICAZ). He has more than seven years' experience in heritage management, having worked for different CRM organisations and government heritage authorities. As a CRM specialist, Munyadziwa has completed well over hundred Archaeological Impact Assessments (AIA) for developmental projects situated in several provinces of the Republic of South Africa. The AIAs projects he has been involved with are diverse, and include the establishment of major substation, upgrade and establishment of roads, establishment and extension of mines. In addition, he has also conducted Heritage Impact Assessments (HIAs) for the alteration to heritage buildings and the relocation of graves. His detailed CV is available on request.

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EXECUTIVE SUMMARY

Introduction and background

Vhubvo Archaeo-Heritage Consultant Cc has been requested by Margen Industrial Services to conduct Archaeological and Cultural Heritage Phase I EMP Walk down for the proposed construction of approximately 30km 132Kv powerline from Eskom Sorata Substation to Witsieshoek Substation located within the jurisdiction of Maluti A Phofung Local Municipality in the Thabo Mofutsanyana District, Free State Province. The aim of the study was to entirely corroborate archaeological and heritage sites that were recorded during the Phase I Archaeological Impact Assessment conducted by Tomose (2013), and also to identify and document any archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed construction of pylon position, these will in turn assist the developer in ensuring proper conservation measure in line with the National Heritage Resource Act, 1999 (Act 25 of 1999).

The findings of this cultural study have been informed by desktop study and field survey. The desktop study was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments conducted in the region of the proposed development, and also for researches that have been carried out in the area over the past years. From these studies, it became clear that the landscape encompassing Maluti a Phofung where the project is located is affluent of archaeological and historical sites and it covers a long span of human history.

Need of the project

Eskom Holdings SOC Limited proposes to strengthen power loads in the area around Sorata and Witsieshoek Substation. Hence, they are proposing to construct a power line. The proposed project will consist of the following:

- A 132kV power line between the existing Sorata and Witsieshoek substations;
- A 31 m Servitude;
- A 1000m Buffer including servitude, and
- Monopole structures are proposed for the Power Lines

Receiving environment and survey of the area

As aforesaid, the proposed 132Kv Powerline is located in Thabo Mofutsanyana District Municipality which is a Category C municipality and is found in the eastern part of the province of Free State, and borders Lesotho and KwaZulu-Natal. This municipality is named after Edwin Thabo Mofutsanyana, a stalwart of the South African Communist Party (SACP). It comprises six local municipalities, of which Maluti A Phofung is where this project is located. The proposed 132Kv Powerline stretches for approximately 30km from Eskom Sorata Substation and it crossways agricultural and rural landscape



until it reaches its destination at Eskom Witsieshoek Substation. In short, this power line will traverse over a range of landscapes, including mountainous, flat and open plains, old and new agricultural fields and mixed bushveld. It also transverse over major river, wetland features as well as perennial water stream. It is important to note that it will mostly transverse parallel other existing power lines. Most of these activities highlighted have impacted negatively on the area, and subsequently destroyed or disturbed archaeological and historical sites that might have existed in the past. In order to assert that the proposed development do not negatively impact on archaeological, graves and historical sites, the walk down of all the area proposed for pylon position and servitudes was conducted, with emphasis on potential area that can yield archaeological, historical and graves sites. Thus, the walk down constitutes walking the line corridor and tower position. The area on which attention was intended included rocky outcrops and mountainous areas, erosion dongas and unnatural clusters of trees. Archaeological and historical sites are known to exist in those areas. The field survey lasted from the 18th to the 20th of January 2016. An archaeologist from Vhubvo, along with other specialists conducted the survey. The landscape of every pylon position was explained and recorded photographically (see Table 20). As above said, the aim of the survey was to express the significance of heritage resources that may be found in the proposed area, so as to be able to determine whether the proposed project was feasible or not. As a supplement to the survey, oral interview was initiated with community members, farm owners as well as farm employees. The oral interviews aim to understand the cultural landscapes and/ or intangible heritage of the proposed area.

Research background studies

Stone Age

The first and longest part of human history is the Stone Age, which began with the appearance of early humans around 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who were nomadic. Their stone tools are found in most places in southern Africa.

Late Stone Age 30 000 - until c. AD 200

Middle Stone Age 150 000 - 30 000 BP

Early Stone Age 2 000 000 - 150 000

Iron Age

Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. Since they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age AD 200 - AD 900

Middle Iron Age AD 900 - AD 1300

Late Iron Age AD 1300 - AD 1830



Historical Era

Since the arrival of the white settlers - c. 1840s - in this part of the country.

Restrictions and Assumptions

As with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resume. As a result, should any archaeological/ or grave site be observed during construction, a heritage specialist monitoring the development must immediately be notified. In the mean time, no disturbance may be made until such time as the heritage specialist has been able to make an assessment of the find in question. It is the responsibility of the contractor to protect the site from publicity (i.e., media) until all assessments are made.

Table 1: Possibility of archaeological/ Heritage materials on sites.

Landscape type	Description	Occurrence still possible	Likely occurrence
Archaeology	Early, Middle and Late Stone Age Early and Late Iron Age	Yes Yes	Unlikely Likely
Burial and Graves	Pre-colonial burials Graves of victims of conflict Graves older than 100 years Graves older than 60 years Graves younger than 60 years	Yes	Unlikely
Built Environment	Formal public spaces Historical structures Places associated with social identity/ displacement	Yes	Unlikely
Historic Farmland	Historical farm yards Historical farm workers villages Irrigation furrows Historical routes Distinctive types of planting	Yes	Unlikely
Landscape usage	Sites associated with living heritage e.g., initiation school sites, Sites of political conflict Sites associated with a historic event/person	No	No
Historic rural town	Historic mission settlements	No	No

Survey findings

The area proposed for powerline is significantly disturbed to yield any archaeological site of high significance. Despite that, several stone structures and historical objects were documented on the proposed line servitudes, none of these were documented on the exact site of the pylon. For easy reference, a table detailing the findings and recommendations have been offered on Page 34. The noted structures and objects dates to the Late Iron Age and historical era respectively and are thus the results of Iron Age people, and people of European descent. In consideration of their context, these sites have medium significance and are protected from any form of altering or demolition without a permit by Section 34 and 35 of the National Heritage Resources Act (No 25 of 1999). However, none of these



structures can be considered to be of such significance that can prevent the proposed development from proceeding. In fact, if the noted structures cannot be preserved *in situ*, they can be demolished after they have been recorded in detailed, and a permit for their demolition issued.

Recommendations

In compliance with the National Heritage Legislature, there was no observable development activities associated with the proposed project.

The noted structures are viewed to have a medium significance on a regional level. Although the noted structures are within the servitudes, they are several metres from the area proposed for pylon. As a result, tempering them can be avoided. There is however a strong possibility that these sites may be affected indirectly by accidental destruction, due to unawareness or unfamiliarity by constructors. It is on that note that the recommendation in this report should be taken with responsiveness. It is recommended that an archaeological monitoring be undertaken by an archaeologist during construction of pylon no. 20 – 21, 26 – 28, 32 – 33, 36 – 37, 88 – 89 and 94 – 95. This will ensure that no materials are destroyed or damaged.

The developer is reminded that unavailability of archaeological materials (e.g., pottery, stone tools, remnants of stone-walling, graves, etc) and fossils does not mean absentee, archaeological material might be hidden underground, and as such the client is reminded to take precautions during construction.

Pre-construction education and awareness training

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- ✚ Flaked stone tools, bone tools and loose pieces of flaked stone;
- ✚ Ash and charcoal;
- ✚ Bones and shell fragments;
- ✚ Artefacts (e.g., beads or hearths);
- ✚ Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.

In the event that any of the above are unearthed, construction on the affected pylon site should cease and the area be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. Noteworthy that any measures to cover up the suspected archaeological material or to collect any resources is illegal and punishable by



law. In the same manner, no person may exhume or collect such remains, whether of recent origin or not, without the endorsement by Free State Heritage Resources Authority (FSHRA).

Conclusions

A number of sites dating to the Late Iron Age and historical era were identified and recorded. These sites are of medium significant and monitoring should be partitioned whenever construction is happening around them. If such measures are implemented successfully, there would be no objection to the development of the proposed 30km 132Kv powerline from Eskom Sorata Substation to Witsieshoek Substation.



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ACRONYMS AND ABBREVIATIONS

AIA	Archaeological Impact Assessment
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
MIA	Middle Iron Age
EIA	Early Iron Age
HMP	Heritage Management Plan
LSA	Late Stone Age
MSA	Middle Stone Age
ESA	Early Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Authority
SAHRA	South African Heritage Resources Agency



GLOSSARY OF TERMS

The following terms used in this Archaeology are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (*Burra Charter*):

Archaeological Material: remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures.

Artefact: Any movable object that has been used, modified or manufactured by humans.

Conservation: All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

Cultural landscape: “the combined works of nature and man” and demonstrate “the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.

Cultural Resources Management (CRM): the conservation of cultural heritage resources, management, and sustainable utilization and present for present and for the future generations

Cultural Significance: is the aesthetic, historical, scientific and social value for past, present and future generations.



Chance Finds: means Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Compatible use: means a use, which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

Conservation means all the processes of looking after a place so as to retain its cultural significance.

Expansion: means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

Grave: A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place.

Heritage impact assessment (HIA): Refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Historic Material: remains resulting from human activities, which are younger than 100 years, but no longer in use, including artifacts, human remains and artificial features and structures.

Impact: the positive or negative effects on human well-being and / or on the environment.



In situ material: means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.

Interested and affected parties Individuals: communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

Interpretation: means all the ways of presenting the cultural significance of a place.

Late Iron Age: this period is associated with the development of complex societies and state systems in southern Africa.

Material culture means buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

Mitigate: The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

Place: means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Protected area: means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers.

Public participation process: A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters.



Setting: means the area around a place, which may include the visual catchment.

Significance: can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (i.e. biophysical, physical cultural, social and economic).

Site: a spatial cluster of artifact, structures, organic and environmental remains, as residues of past human activity.



1. Introduction

At the request of Margen Industrial Services, Vhubvo Archaeo-Heritage Consultant Cc conducted an Archaeological and Cultural Heritage Phase I Walk down for the proposed approximately 30km 132Kv powerline from Eskom Sorata Substation to Witsieshoek Substation which according to the demarcation board is within Maluti A Phofung Local Municipality of Thabo Mofutsanyana District, Free State Province.

2. Sites location and description

As aforesaid, the proposed 132Kv Powerline is located in Thabo Mofutsanyana District Municipality which is a Category C municipality and is found in the eastern part of the province of Free State, and borders Lesotho and KwaZulu-Natal. This municipality is named after Edwin Thabo Mofutsanyana, a stalwart of the South African Communist Party (SACP). It comprises six local municipalities, of which Maluti A Phofung is where this project is located. The proposed 132Kv Powerline stretches for approximately 30km from Eskom Sorata Substation and it crossways agricultural and rural landscape until it reaches its destination at Eskom Witsieshoek Substation. In short, this power line will traverse over a range of landscapes, including mountainous, flat and open plains, old and new agricultural fields and mixed bushveld. It also transverses over major river, wetland features as well as perennial water stream. It is important to note that it will mostly transverse parallel other existing power lines. Most of these activities highlighted have impacted negatively on the area, and subsequently destroyed or disturbed archaeological and historical sites that might have existed in the past.

Summary of Project Location Details

Province:	Free State
Local Municipality:	Maluti A Phofung
District Municipality:	Thabo Mofutsanyana
Farm Names:	--
Description of proposed development:	Establishment of powerline



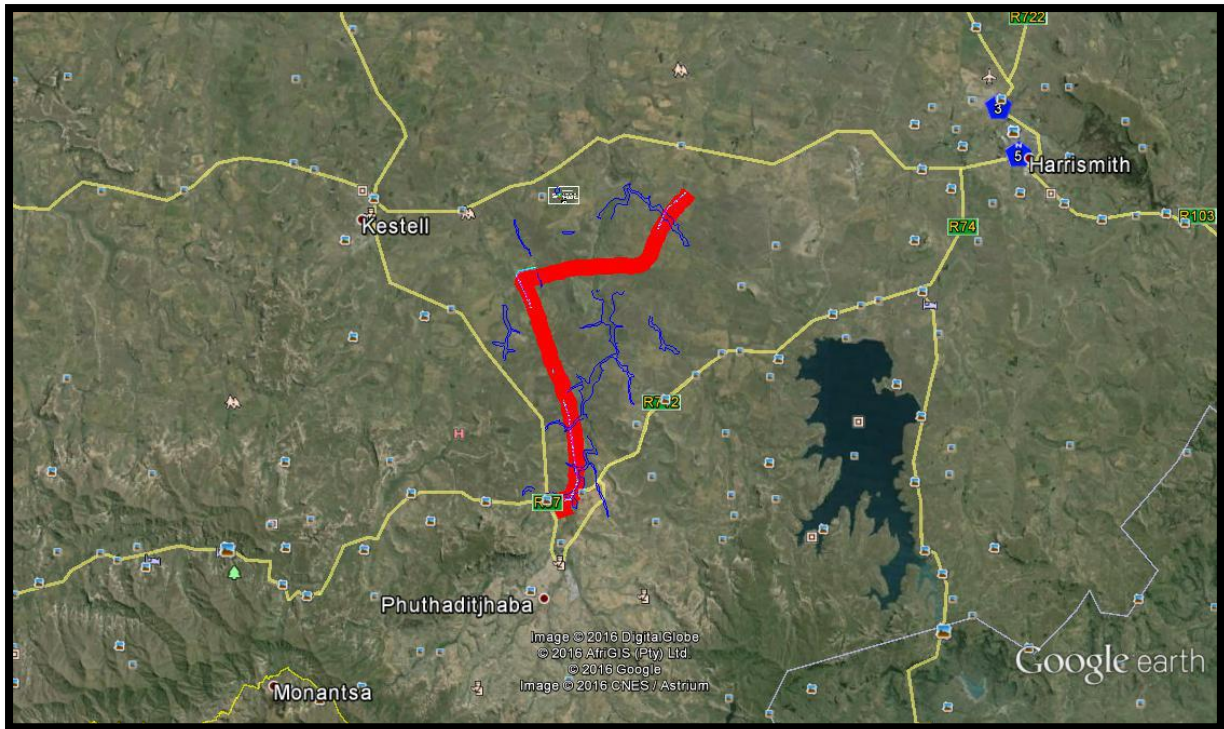


Figure 1: An overview of the area proposed for new pylon as indicated in red.



Figure 2: View of some of the section that will be impacted by the proposed Pylon.





Figure 3: An overview of some of the major river wherein the powerline will transverse.



Figure 4: An overview of some of the area proposed for construction of pylon.





Figure 5: View of some of the area that will be impacted by the proposed development.




3. Nature of the proposed project

Eskom Holdings SOC Limited proposes to strengthen power loads in the area around Sorata and Witsieshoek Substation. Hence, they are proposing to construct a power line. The proposed project will consist of the following:





- A 132kV power line between the existing Sorata and Witsieshoek substations;
- A 31 m Servitude;
- A 1000m Buffer including servitude, and
- Monopole structures are proposed for the Power Lines






Table 2: Brief description and depiction of the area proposed for development.

Tower	Description	Depiction
1 – 12	The area proposed for pylon position number 1 to 19 is fairly even and covered by grass which would be an ideal place to keep livestock for grazing. This area is disturbed significantly	
13 – 15	The proposed area is reasonably steep and is currently used for cultivation of maize.	
16	The proposed area can be summed as substantial grassland, and the topography is flat.	







17	The proposed area is reasonably flat and currently used for cultivation of maize.	
18 – 19	The area is fairly steep and concentrated of grass. Section of the site had a man made gully. Such a section was inspected and no archaeological materials were found.	
20	The proposed area is steep and is used for cultivating maize.	
21 – 25	These proposed areas are varied and comprise sections which are reasonably steep and rocky.	







<p>26 – 36</p>	<p>These proposed areas are varied and comprise sections which are reasonably flat and steep. The proposed powerline will also cross a river.</p>	
<p>37 – 42</p>	<p>The proposed pylon (s) are proposed on an area which currently is used for plantation of soya beans, the area is generally flat.</p>	
<p>43 - 45</p>	<p>The proposed site is flat and used for planting maize.</p>	



<p>46 - 51</p>	<p>The proposed site is flat and disturbed due to plantation of soya beans.</p>	
<p>52 – 53</p>	<p>The proposed area is fairly flat and currently ploughed.</p>	
<p>54 - 56</p>	<p>The proposed area is flat and currently used for plantation of soya beans'.</p>	
<p>57 - 60</p>	<p>The area is very undulating and concentrated of rocky outcrop.</p>	



<p>61 – 78</p>	<p>The proposed area is steep and rocky. N</p>	
<p>79 - 87</p>	<p>The proposed area is flat and currently used for plantation of maize.</p>	
<p>88 - 94</p>	<p>The proposed area is close to the river and is undulating.</p>	
<p>95 - 96</p>	<p>The proposed area is fairly steep and covered by grass cover.</p>	



4. Purpose of the Cultural Heritage Study

The purpose of this Archaeological and Cultural Heritage Phase I EMP Walk down Cultural Heritage Impact Assessment study was to corroborate archaeological and heritage sites that were recorded during the Phase 1 Archaeological Impact Assessment conducted by Tomose (2013), and also to identify and document other archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed construction. Impact assessments highlight many issues facing sites in terms of their management, conservation, monitoring and maintenance, and the environment in and around the site. Therefore, this study involves the following:

- Identification and recording of heritage resources that maybe affected by the proposed 132Kv pylon position of the power line,
- Providing recommendations on how best to appropriately safeguard identified heritage sites. Mitigation is an important aspect of any development on areas where heritage sites have been identified.

5. Methodology

Background study introduction

The methodological approach is informed by the 2012 SAHRA Policy Guidelines for impact assessment. As part of this study, the following tasks were conducted: 1) literature review, 2), consultations with the developer and appointed consultants, 3), completion of a field survey and 5), analysis of the acquired data, leading to the production of this report.

Physical survey

In order to assertion that the proposed development do not negatively impact on archaeological, graves and historical sites, the walk down of all the area proposed for pylon position and servitudes was conducted, with emphasis on potential area that can yield archaeological, historical and graves sites. Thus, the walk down constitutes walking the line corridor and tower position. The area on which attention was intended included rocky outcrops and mountainous areas, erosion dongas and unnatural clusters of trees. Archaeological and historical sites are known to exist in those areas. The field survey lasted from the 18th to the 20th of January 2016. An archaeologist from Vhubvo, along with other



specialists conducted the survey. The landscape of every pylon position was explained and recorded photographically. As above said, the aim of the survey was to express the significance of heritage resources that may be found in the proposed area, so as to be able to determine whether the proposed project was feasible or not. As a supplement to the survey, oral interview was initiated with community members, farm owners as well as farm employees. The oral interviews aim to understand the cultural landscapes and/ or intangible heritage of the proposed area.

Documentation

The general project area was documented. This documentation included taking photographs using cameras a 10.1 mega-pixel Sony Cybershort Digital Camera. Plotting of finds was done by a Garmin etrex Venture HC.

Restrictions and Assumptions

As with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resume. As a result, should any archaeological/ or grave site be observed during construction, a heritage specialist must immediately be notified. In addition, activities related to the conduction of geo-technical service as noted on site have significantly disturbed the area, such that certain sites could have been disturbed.

6. Applicable heritage legislation

Several legislations provide the legal basis for the protection and preservation of both cultural and natural resources. These include the National Environment Management Act (No. 107 of 1998); Mineral Amendment Act (No 103 of 1993); Tourism Act (No. 72 of 1993); Cultural Institution Act (No. 119 of 1998), and the National Heritage Resources Act (Act 25 of 1999). Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in case where a listed activity is triggered. Such activities include:

- (a) *the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) *the construction of a bridge or similar structure exceeding 50 m in length; and*
- (c) *any development or other activity which will change the character of an area of land, or water -*
 - (i) *exceeding 5 000 m² in extent;*
 - (ii) *involving three or more existing erven or subdivisions thereof; or*
 - (iii) *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*



- (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;*
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

Section 3 of the National Heritage Resources Act (25 of 1999) lists a wide range of national resources protected under the act as they are deemed to be national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (a) Places, buildings structures and equipment of cultural significance*
- (b) Places to which oral traditions are attached or which are associated with living heritage*
- (c) Historical settlements and townscapes*
- (d) Landscapes and natural features of cultural significance*
- (e) Geological sites of scientific or cultural importance*
- (f) Archaeological and paleontological sites*
- (g) Graves and burial grounds including-*
 - (i) ancestral graves*
 - (ii) royal graves and graves of traditional leaders*
 - (iii) graves of victims of conflict*
 - (iv) graves of individuals designated by the Minister by notice in the Gazette*
 - (v) historical graves and cemeteries; and*
 - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983)*
- (h) Sites of significance relating to the history of slavery in South Africa*
- (i) moveable objects, including -*
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens*
 - (ii) objects to which oral traditions are attached or which are associated with living heritage*
 - (iii) ethnographic art and objects*
 - (iv) military objects*
 - (v) objects of decorative or fine art*
 - (vi) objects of scientific or technological interest; and*
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).*

Section 3 of the National Heritage Resources Act (No. 25 of 1999) also distinguishes nine criteria for places and objects to qualify as ‘part of the national estate if they have cultural significance or other special value ...’ These criteria are the following:

- (a) Its importance in the community, or pattern of South Africa’s history*



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

Other sections of the Act with a direct relevance to the AIA are the following:

Section 34(1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority:

- *destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite*

Section 36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- *destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside formal cemetery administered by a local authority; or*
- *bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.*

7. Degree of significance

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance as it is unique for the region.

Significance rating of sites

(i) High

(ii) Medium

(iii) Low

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an



archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking, the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

High

- This is a ‘do not touch’ situation, alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele resided.
- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios, permits will be required from the South African Heritage Resources Agency (SAHRA) or the appropriate PHRA as per the legislation (the National Heritage Resources Act, no. 25 of 1999). Destruction of any heritage site may only take place when a permit has been issued by the appropriate heritage authority. The following table is used to grade heritage resources.



Table 3: Grading systems for identified heritage resources in terms of National Heritage Resources Act (Act 25 of 1999).

Level	Significance	Possible action
National (Grade I)	Site of National Value	Nominated to be declared by SAHRA
Provincial (Grade II)	Site of Provincial Value	Nominated to be declared by PHRA
Local Grade (IIIA)	Site of High Value Locally	Retained as heritage
Local Grade (IIIB)	Site of High Value Locally	Mitigated and part retained as heritage
General Protected Area A	Site of High to Medium	Mitigation necessary before destruction
General Protected Area B	Medium Value	Recording before destruction
General Protected Area C	Low Value	No action required before destruction

8. Discussion of (Pre-) History of the South Africa

South Africa has one of the longest sequences of human development in the world. The prehistory and history of South Africa span the entire known life span of human on earth. It is thus difficult to determine exactly where to begin, a possible choice could be the development of genus *Homo* millions of years ago. South African scientists have been actively involved in the study of human origins since 1925 when Raymond Dart identified the Taung child as an infant halfway between apes and humans. Dart called the remains *Australopithecus africanus*, southern ape-man, and his work ultimately changed the focus of human evolution from Europe and Asia to Africa, and it is now widely accepted that humankind originated in Africa (Robbins *et al.* 1998). In many ways this discovery marked the birth of palaeoanthropology as a discipline. Nonetheless, the earliest form of culture known in South Africa is the Stone Age. These prehistoric period during which humans widely used stone for tool-making, stone tools were made from a variety of different sorts of stone. For example, flint and chert were shaped for use as cutting tools and weapons, while basalt and sandstone were used for ground stone. Stone Age can be divided into Early, Middle and Late, it is argued that there are two transitional period. Noteworthy that the time frame used for Stone Age period is an approximate and differ from researcher to researcher (see Korsman and Meyer 1999, Mitchell 2002, Robbins *et al.* 1998).



Stone Age

Although a long history of research on the Early Stone Age period of southern Africa has been conducted (Mason 1962, Sampson 1974, Klein 2000, Chazan 2003), it still remains a period where little is known about. These may be due to many factors which includes, though not limited to retrieval techniques used, reliance on secondary, at times unknown sources, and the fact that few fauna from this period has been analysed (Chazan 2003). According to Robbins *et al.* (1998) the Stone Age is the period in human history when stone was mainly used to produce tools. This period began approximately 2.5 million years ago and ended around 200 000 years ago. During this period human beings became the creators of culture and was basically hunters and gatherers, this era is identified by large stone artefacts. In the Free State, the earliest known Early Stone Age (ESA) phase is the ‘Victoria West Industry’ which had also been noted in Northern Cape. From as early as the 1900s stone artifacts which were of peculiar character had been recorded in the area by Reginald Smith and they included hand axes and what had been referred by Smith as ‘*Tortoise Cores*’ (Smith 1919).

The Middle Stone Age overlap with the EIA and possibly began around 100 000 to about 200 000 years ago and extends up to around 35 000 years ago. This period is marked by smaller tools than in ESA. Many MSA sites have evidence for control of fire, prior to this, rock shelters and caves would have been dangerous for human habitation due to predators. MSA people made a wide range of stone tools from both coarse – and fine-grained rock types. Sometimes the rocks used for tools were transported considerable distances, presumably in bags or other containers; as such tool assemblages from some MSA sites tend to lack some of the preliminary cores and contain predominantly finished products like flakes and retouched pieces.

Microlithic Later Stone Age period began around 35 000 and extend to the later 1800 AD. According to Deacon (1984), LSA is a period when human being refined small blade tools, conversely abandoning the prepared-core technique. Thus, refined artefacts such as convex-edge scrapers, borers and segments are associated with this period. Moreover, large quantity of art and ornaments were made during this period. Very few Stone Age sites are known to



exist in the area. This might have been as a result of few researches that have been done on the larger region. As such, few published papers and studies are available. Most of the Stone Age sites known in the area dates to the Late Iron Age and vary from cave sites to open sites. An example will be rock painting which are located on the shelter of the hill in the region of the town of Warden. Scatters of Late Iron Age tools have also been noted by other AIA studies. Research into LSA ethnography (as KhoiSan history) has revolutionized our understanding of both painted and engraved (Deacon and Dowson 2001). Paintings are concentrated in the Maluti mountains, the eastern Free State, the Cape Fold Mountains, the Waterberg Plateau and the Soutpansberg mountains. Engravings on the other hand are found throughout the Karoo, the western Free State and North-West Province (Mitchell 2002).

Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce artefacts. Recently, they have been a debate about the use of the name. Other archaeologist have argued that the word “Iron Age” is problematic and does not precisely explain the event of what happen in southern Africa, as such, the word farming communities has been proposed (Segobye 1998). Nonetheless, in South Africa this period can be divided into two phases. Early (200 - 1000 A.D) and Late Iron Age (1000 - 1850 A.D). Huffman (2007) has indicated that a Middle Iron Age (900 - 1300 A.D) should be included. According to Huffman (2007:361), until the 1960s and 1970s most archaeologists had not yet recognised a Middle Iron age. Instead they began the Late Iron Age at AD 1000. The Middle Iron Age (AD 900–1300) is characterised by extensive trade between the Limpopo Confluence and the East Coast of Africa. This has been debated, with other researchers, arguing that the period should be restricted to Shashe-Limpopo Confluence.

Before the arrival of Europeans, the area was the home to Bantu-speaking peoples such as the Sotho-Tswana. During the Late Iron Age, farming was of significance in the region. These farming communities built numerous stone walled settlements throughout the Free State from the 17th century onwards. These sites are associated with the predecessors of the Sotho-Tswana, and are linked with the so-called N-, V-, R- and Z-Type of settlements which are respectively associated with Fokeng, Kwena, Kgatla and Rolong clans. According to Huffman (2007), Iron Age sites which are found in this part of the Free State are represented by Middle Iron Age sites of the Moloko branch - Urewe tradition. These sites date to AD



1500 - AD 1700. Conversely, Late Iron Age sites are represented by the Thabeng facies of the Moloko branch - Urewe tradition. These sites date to AD 1700 - AD 1840.

Historical Period

Since the arrival of the white settlers - c. AD 1840 - in this part of the country. These settlers were largely self-sufficient, relying on cattle/sheep farming and also hunting. Few towns were established and farming remains the most dominant economy. The Free State (Afrikaans: *Vrystaat*, Sotho: *Foreistata*; before 1995, the Orange Free State) is a province of South Africa. Europeans first crossed the Orange River northward to enter the area in the 18th century. Early in the 19th century the Tswana were dispersed by Zulu military campaigns, and their place was taken by the Sotho (Basotho) and Griqua peoples. At the same time, pastoral farmers of Dutch descent, called *trekboers* or Boers, began to settle the area. After 1836 came the Great Trek, a migratory movement in which larger numbers of Boer farmers seeking freedom from British rule moved north across the Orange River. In 1848 the British annexed the territory between the Orange and Vaal rivers, proclaiming it the Orange River Sovereignty over the resistance of the Boer general Andries Pretorius. The British proved unable to build an orderly administration, however, and conflicts with the Sotho convinced the British to withdraw in 1854. On February 23, 1854, under the Bloemfontein Convention, the British relinquished their sovereignty, and the local Boer settlers formed the independent Orange Free State.

9. Survey findings

The Archaeological and Cultural Heritage Phase I walk-down for the proposed 15km 50kV power line and new Transnet Traction Feeder Substation has identified several isolated tools as well as archaeological sites. However, none of these can be considered to be of such significance that can prevent the proposed development from proceeding. In fact, the noted sites can be mitigated by means of documentation and excavation, in which case SAHRA must issue a permit for such activities. The recommendation mentioned below should be considered with responsiveness, since they are meant to protect and conserve archaeological materials. A table detailing the findings, description, grading and recommendations have been offered on Page 34.



Few isolated tools found in low density (0 – 1) were documented between pylon position number one to 23, mostly on the line corridor. These tools were found in secondary positions and are graded as C (Low value).

The area around pylon position number 31 is characterised as an area which according to Morris (2006) is Dwyka tillite. This kind of terrain is a preferred source of raw materials in the production of Stone Age materials. This site extends beyond a wider area, and is graded as area A (High to Medium) - Mitigation necessary before destruction. In addition, other pylon positions wherein stone i The area proposed for powerline is significantly disturbed to yield any archaeological site of high significance. Despite that, several stone structures and historical objects were documented on the proposed line servitudes, none of these were documented on the exact site of the pylon. The noted structures and objects dates to the Late Iron Age and historical era respectively and are thus the results of Iron Age people, and people of European descent. In consideration of their context, these sites have medium significance and are protected from any form of altering or demolition without a permit by Section 34 and 35 of the National Heritage Resources Act (No 25 of 1999). However, none of these structures can be considered to be of such significance that can prevent the proposed development from proceeding. In fact, if the noted structures cannot be preserved *in situ*, they can be demolished after they have been recorded in detailed, and a permit for their demolition issued.

Table 4: Attributes of noted materials and respective significance.

Tower	Description and Relation to line	Significance	Mitigation
20 – 21	An old stone which was used in the past as a fence panel. This stone (s) resemble the earliest use of farm demarcation (Fig 6).	Low	An educational programme to construction workers is essential to avoid accidental damage.
26 – 28	There are two stone structures, the first one is located between tower 26-27 and is an <i>ovis/capra</i> kraal, while the second one is a collapsed stone walling	Medium	Archaeological monitoring must be undertaken by an archaeologist during construction.



	which extend for about 150m long and is between tower 27 and 28 (Fig 7-8).		
32 – 33	An <i>ovis/capra</i> collapsed kraal was noted on the servitudes between tower position number 32 and 33 (Fig 9).	Medium	Archaeological monitoring must be undertaken by an archaeologist during construction activities to ensure that no negative impact result on the noted structure.
36 – 37	An old stone which was used in the past as a fence panel. This stone (s) resemble the earliest use of farm demarcation (Fig 10).	Low	An educational programme to construction workers is essential to avoid accidental damage.
88 – 89	A cattle kraal was noted on the servitudes (Fig 11).	Medium	Eskom must take note of the sites and their positions and also ensure that no negative impact take place during construction. A danger tape around the site is recommended during construction.
94 – 95	Two <i>ovis/aries</i> kraal were documented, one was noted close to tower 94, while the other is nearby tower 95(Fig 12-13).	High to Medium	Monitoring by an archaeologist is recommended during construction of this pylon.



Portrait of Documented Stone Implements



Figure 6: View of an old stone which was used in the past as a fence panel.



Figure 7: View of stone structures made to host *ovis/capra*.





Figure 8: View of stone walling which extend for about 150m.



Figure 9: View of medium livestock krill.





Figure 10: View of an old stone which was used in the past as a fence panel.



Figure 11: An overview of the abandoned cattle kraal.





Figure 12: View of the medium livestock kraal.



Figure 13: Another kraal noted opposite and about 100m from the one mentioned above.



10. Recommendations

In compliance with the National Heritage Legislature, there was no observable development activities associated with the proposed project.

The noted structures are viewed to have a medium significance on a regional level. Although the noted structures are within the servitudes, they are several metres from the area proposed for pylon. As a result, tempering them can be avoided. There is however a strong possibility that these sites may be affected indirectly by accidental destruction, due to unawareness or unfamiliarity by constructors. It is on that note that the recommendation in this report should be taken with responsiveness. It is recommended that an archaeological monitoring be undertaken by an archaeologist during construction of pylon no. 20 – 21, 26 – 28, 32 – 33, 36 – 37, 88 – 89 and 94 – 95. This will ensure that no materials are destroyed or damaged.

The developer is reminded that unavailability of archaeological materials (e.g., pottery, stone tools, remnants of stone-walling, graves, etc) and fossils does not mean absentee, archaeological material might be hidden underground, and as such the client is reminded to take precautions during construction.

Pre-construction education and awareness training

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- ✚ Flaked stone tools, bone tools and loose pieces of flaked stone;
- ✚ Ash and charcoal;
- ✚ Bones and shell fragments;
- ✚ Artefacts (e.g., beads or hearths);
- ✚ Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.

In the event that any of the above are unearthed, construction on the affected pylon site should cease and the area be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the contractor to protect the site from publicity (i.e., media) until a mutual



agreement is reached. Noteworthy that any measures to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law. In the same manner, no person may exhume or collect such remains, whether of recent origin or not, without the endorsement by Free State Heritage Resources Authority (FSHRA).

11. Conclusions

A number of sites dating to the Late Iron Age and historical era were identified and recorded. These sites are of medium significant and monitoring should be partitioned whenever construction is happening around them. If such measures are implemented successfully, there would be no objection to the development of the proposed 30km 132Kv powerline from Eskom Sorata Substation to Witsieshoek Substation.



References

- Bergh, J. S., and Bergh, A. P. 1984. *Stamme and Stamryke*. Don Nelson: Kaapstad.
- Bishop, S. 1987. Early years at Thaba Nchu and friendship between the Rolong and the Voortrekkers. *CULNA* 32:3-4. Newsletter of the National Museum, Bloemfontein.
- Bishop, S. 1988. Thaba Nchu's border problems – Relationships between the Rolong and the White governments of the area. *CULNA* 34:22-23. Newsletter of the National Museum, Bloemfontein.
- Deacon, J. 1997. Report: Workshop on Standards for the Assessment of Significance and Research Priorities for Contract Archaeology. In: Newsletter No. 49, Sept. 1998. South African Association of Archaeology.
- Dreyer, J. J. B. 1992. The Iron Age Archaeology of Doornpoort, Winburg, Orange Free State. *Navorsing van die Nasionale Museum, Bloemfontein, Vol.8(7):262-390*.
- Dreyer, J. 1996. Introduction to Free State Iron Age Archaeology. In: Guide to archaeological sites in the Free State and Lesotho. Southern African Association of Archaeologists (SA3), 14th Biennial Conference, Bloemfontein, Post-conference tour 5-8 July 1996. National Museum, Bloemfontein.
- Dreyer, J. 2000. *Mountains and Rivers of the Free State - Manual for field research / Berge en Riviere van die Vrystaat – Handleiding vir veldnavorsing*. Bloemfontein: University of the Free State, Department of Anthropology, Occasional Paper No. 2.
- Dunn, E. J. 1931. *The Bushman*. London: Griffin
- Evers, T. M. 1988. *The recognition of groups in the Iron Age of Southern Africa*. D. Phil. University of the Witwatersrand, Johannesburg.



Hamilton, C. (ed.). The Mfecane Aftermath. Witwatersrand University Press.

Humphreys, A.J.B. 1986. Searching for the past. Cape Town: David Philip.

Inskeep, R. R. 1978. The Peopling of Southern Africa. David Philip, Cape Town.

Huffman, T. N. 2007. A handbook to the Iron Age: The archaeology of Precolonial Farming societies in southern Africa. University of Kwazulu-Natal Press: Pietermaritzburg.

King, T. F. 1978. The Archaeological Survey: Methods and Uses. U.S. Department of the Interior: Washington.

Lye, W. F., and Murray, C. 1980. Transformations on the Highveld: The Tswana and Southern Sotho. David Philip, Cape Town.

Maggs, T. M. 1976. Iron Age Communities of the Southern Highveld. Pietermaritzburg: Natal Museum.

Magoma M. 2012. Cultural Heritage Impact Assessment proposed Warden Bulk Water Supply on Farms Leeupoort 1795, Leeukop 1/1791, Leeukop 2/1791, Damaskus 1687, and Middelkop within Phumelela Local Municipality, which falls under the Thaba-Mofutsanyane District Municipality. Free State. *Unpublished report*: Vhubvo Archaeo-Heritage Consultant: Pretoria.

Magoma. M. 2013. Phase 1 Archaeological Impact Assessment for the Proposed Upgrade of Boshof Combined School on Portion of Erf 818, Tokolong Local Municipality, Lejweleputswa District in the Boshof administrative region, Free State Province. *Unpublished report*: Vhubvo Archaeo-Heritage Consultant: Pretoria.

Magoma M. 2013. Phase 1 archaeological impact assessment specialist study report for the proposed new Bohlokong substation and loop in loop out lines in Bohlokong Township of



Dihlabeng local municipality within Thabo Mofutsanyana district municipality. Free State province. *Unpublished report*: Vhubvo Archaeo-Heritage Consultant: Pretoria.

Mason, R. J. 1962. *The Prehistory of the Transvaal*. Witwatersrand University Press, Johannesburg.

Mason, R. J. 1986. *Origins of the Black People of Johannesburg and the Southern Western Central Transvaal AD 350-1880*. (Occasional Paper 16). University of the Witwatersrand, Archaeological Research Unit, Johannesburg.

Mitchell, P. J. 2002. *The archaeology of Southern Africa*. Cambridge: Cambridge University.

Pistorius, J. C. C. 1994. *Eskom Archaeological Site Identification Guide*. Johannesburg: Eskom.

Tomose, N. 2013. *A phase 1 heritage impact assessment study for the proposed 132kv lines - sorata-witsieshoek, phuthaditjhaba, Free State province, South Africa*.

National Heritage Resources Act (Act No 25 of 1999).

Policy Liaison Office of the South, African Council of Churches, 1999.

http://sagns.dac.gov.za/local_authorities.asp

<https://en.wikipedia.org/wiki/Pretoria>

<http://www.salanguages.com/munnames.htm>





APPENDIX 1: SITE SIGNIFICANCE

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

(a) Historic value

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?
- Does it have significance relating to the history of slavery?

(b) Aesthetic value

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

(c) Scientific value

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

(d) Social value

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

(e) Rarity

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

(f) Representivity

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?



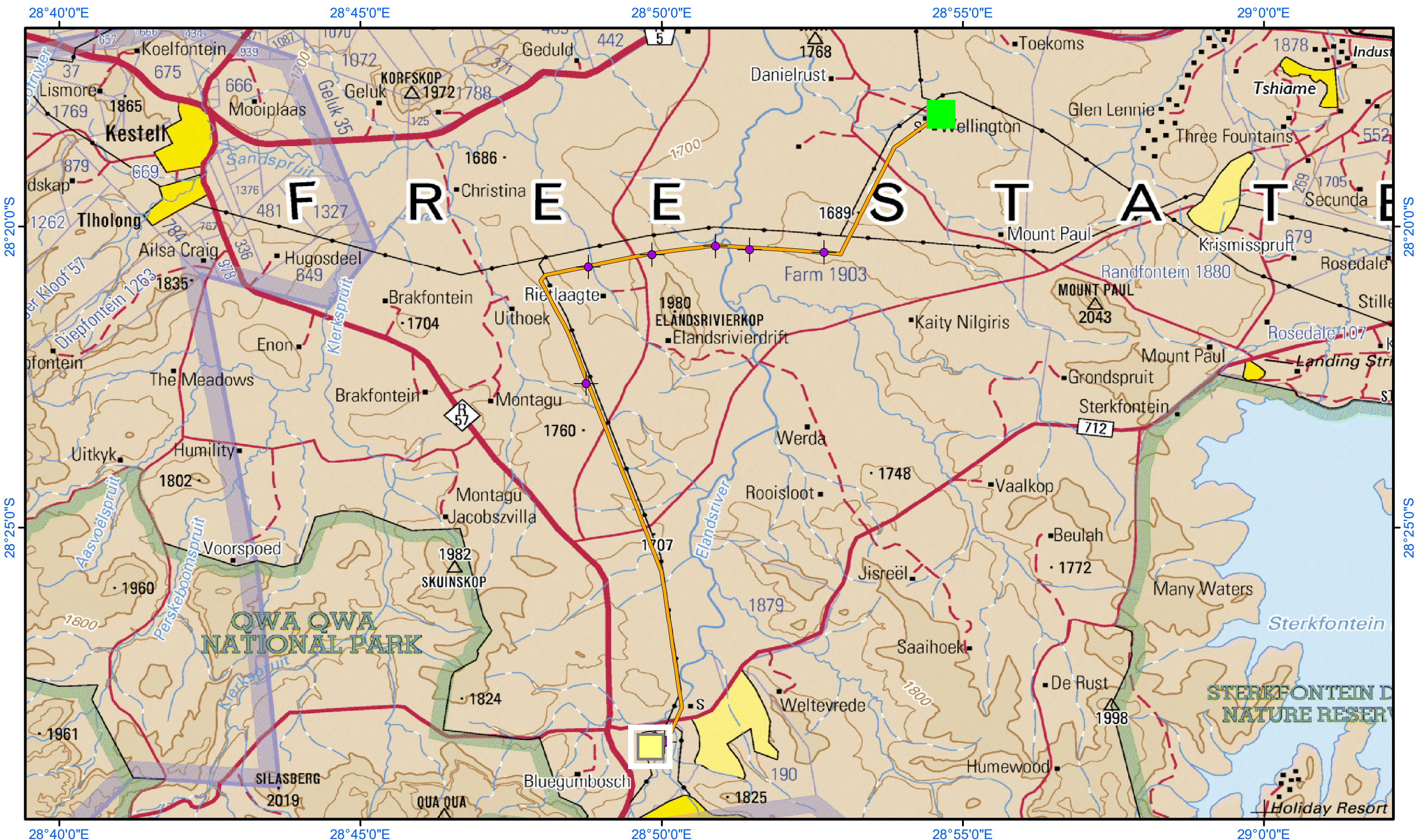
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?



APPENDIX 2: TRACK LOGS

48 | 132Kv Powerline from Eskom Sorata Substation to Witsieshoek Substation





SORATA-WITSIESHOEK NEW 132kV POWER LINE WITHIN THE FREE STATE PROVINCE

LOCALITY MAP

- Legend**
- Sorata Gantry
 - Witsieshoek Gantry
 - Heritage Findings
 - Sorata Line



African Heritage Consultants
 Suite 2
 546, 16th Road
 Midrand
 1685
 Tel: 011 312 2878

Client:



On behalf of: Eskom

Drawn By: B.M	Reviewed by: M.M
Scale on A3 1:110 000	Date: January 2019
Project Ref: Sorata	Map No.: Sorata/Locality-01
Projection: Geographic Datum Hartebeesthoek_1994 EPSG WKID:4148	
Source: Chief Directorate NGI (2828), Ecosolve, Eskom	



**SORATA-WITSIESHOEK NEW
132kV POWER LINE WITHIN THE
FREE STATE PROVINCE**

HERITAGE FINDINGS

Legend

- Heritage Findings
- Towers
- River
- Sorata Servitude
- Witsieshoek Gantry



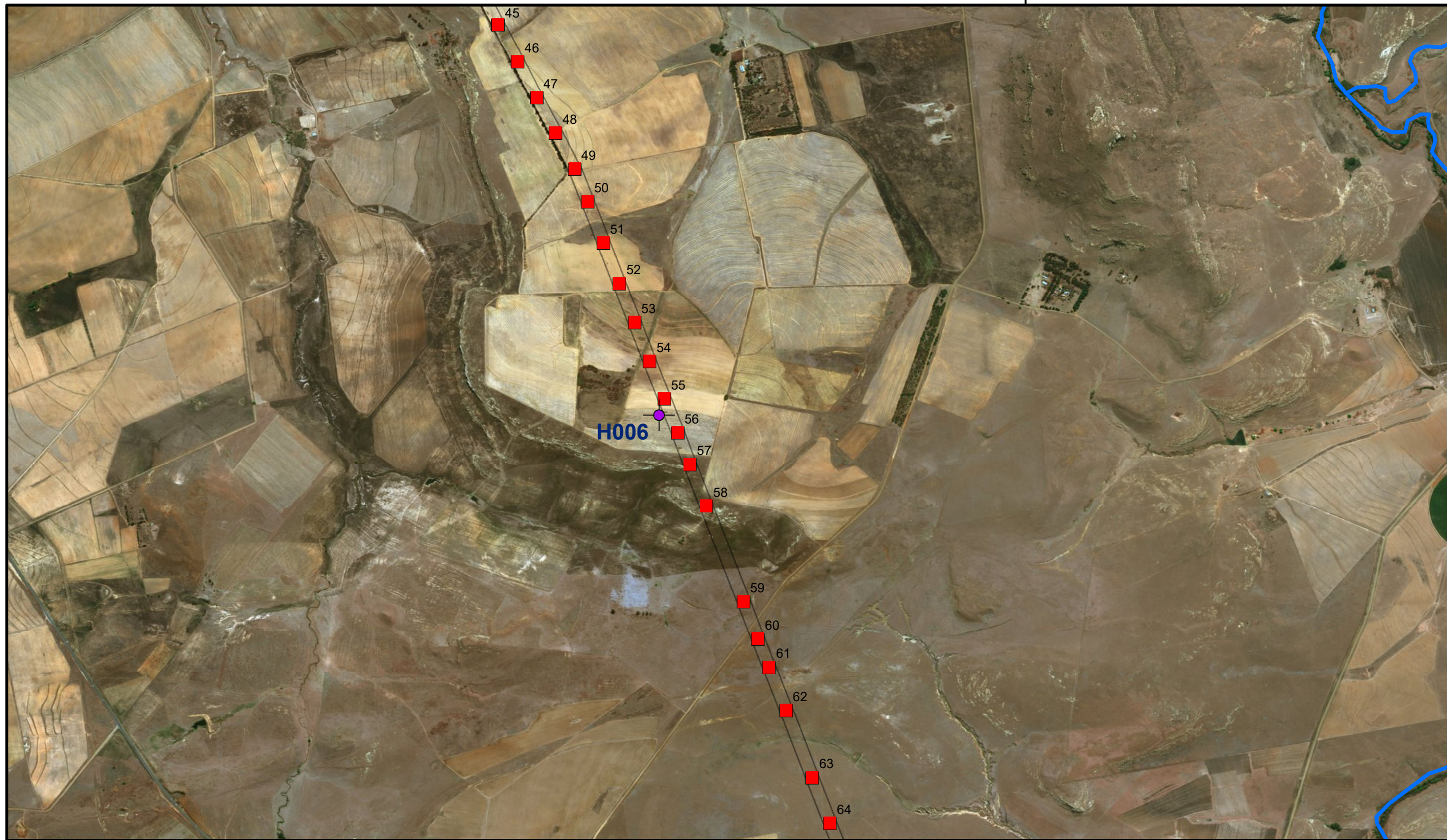
Suite 2
546, 16th Road
Midrand
1685
Tel: 011 312 2878

Client:



On behalf of: Eskom

Drawn By: B.M	Reviewed by: M.M
Scale on A3 1:15 000	Date: January 2019
Project Ref: Sorata	Map No.: Sorata/Her-03
Projection: Geographic Datum Hartebeesthoek_1994 EPSG WKID:4148 Source: Chief Directorate NGI (2828), Ecosolve, Eskom	



**SORATA-WITSIESHOEK NEW
132kV POWER LINE WITHIN THE
FREE STATE PROVINCE**

HERITAGE FINDINGS

- Heritage Findings
- Towers
- River

Legend

- Sorata Servitude



Suite 2
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Client:



On behalf of: Eskom

Drawn By:
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Reviewed by:
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Scale on A3
1:24 000

Date:
January 2019

Project Ref:
Sorata

Map No.:
Sorata/Her-02

Projection: Geographic Datum Hartebeesthoek_1994
EPSG WKID:4148
Source: Chief Directorate NGI (2828), Ecosolve, Eskom

0 0,3 0,6 1,2 km

28°20'0"S

28°50'0"E

28°20'0"S

28°50'0"E



**SORATA-WITSIESHOEK NEW
132kV POWER LINE WITHIN THE
FREE STATE PROVINCE**

HERITAGE FINDINGS

Legend

- Sorata Gantry
- Witsieshoek Gantry
- Heritage Findings
- Sorata_Servit...
- River



Suite 2
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Client:



On behalf of: Eskom

Drawn By:
B.M

Reviewed by:
M.M

Scale on A3
1:24 000

Date:
January 2019

Project Ref:
Sorata

Map No.:
Sorata/Her-01

Projection: Geographic Datum Hartebeesthoek_1994
EPSG WKID:4148
Source: Chief Directorate NGI (2828), Ecosolve, Eskom

0 0,3 0,6 1,2 km