



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON AN ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE
PROPOSED CONSTRUCTION OF MULALO 400/132KV MAIN TRANSMISSION
SUBSTATION (MTS) AND ASSOCIATED INTEGRATION OF TRANSMISSION
AND DISTRIBUTION POWER LINES SOUTH OF SECUNDA, MPUMALANGA
PROVINCE**

For:

***NCC Environmental Services (Pty) Ltd
26 Bell Close
Westlake Business Park
Westlake
Cape Town***

REPORT NO.: AE02229V

By:

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21 September 2022

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SUBMISSION OF REPORT

Please note that the South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report.

It is the client's responsibility to do the submission via the SAHRIS System on the SAHRA website. Arrangements can however be made if necessary.

Clients are advised not to proceed with any action before receiving the necessary comments from SAHRA.

DISCLAIMER

Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites is as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Access to certain areas is also sometimes limited. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof. Any additional sites identified can be visited and assessed afterwards and the report amended, but only upon receiving an additional appointment.

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EXECUTIVE SUMMARY

Archaetnos cc was requested by NCC Environmental Services (Pty) Ltd to conduct an archaeological impact assessment (AIA) for a proposed construction of Mulalo 400/132KV main transmission substation (MTS) and associated integration of transmission and distribution power lines on the farm Brandspruit 318IS/00002.

A survey of literature was undertaken in order to obtain background information regarding the area. The field survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites, and features of cultural significance in the area of proposed development.

In the past several studies were done in the same area, and four sites of cultural heritage significance were identified within and close to the proposed project area. These four sites were confirmed and thoroughly documented in this study. During the survey one additional site of cultural heritage significance were identified within the immediate project area. Of these five sites four will be impacted on directly and one might be impacted indirectly. These are discussed and mitigation measures are proposed.

The following is recommended:

1. Of the five identified sites two are graves. Site 1 is very close to the proposed development and site 2 is located inside the proposed development and both will directly impact by the construction of the substation. Option 2 is therefore recommended for both sites. This is to exhume the mortal remains and then to have it relocated. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA.
2. As further motivation for this, ESKOM have an engineer's report (attached) indicating that the footprint of the development cannot change/move due to the underlying areas being undermined. This is in spite off Beater's (2019) recommendation that the graves should not be relocated. She of course did not have the benefit of knowing the exact layout and circumstances described here.
3. Site 3,4 and 5 received field rating of Local Grade IIIC. It means the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage

authority without a formal permit application, subjected to the granting of Environmental Authorisation.

4. The proposed development may continue only after the mitigation measures indicated above had been implemented and approved by SAHRA.
5. It should be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on site immediate cease and a qualified archaeologist be called in to investigate the occurrence.

CURRICULUM VITAE
Prof. Anton Carl van Vollenhoven

PERSONAL INFORMATION

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- Diploma Tertiary Education 1993, University of Pretoria
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- *Since 2012:* Archaeologist and heritage official, Department of Environment and Agriculture, City of Tshwane
- *Since 2015:* Extraordinary Professor of History at the North-West University

Previous:

- *1988-1991:* Fort Klapperkop Military Museum - Researcher
- *1991-1999:* National Cultural History Museum. Work as Archaeologist, as well as Curator/Manager of Pioneer Museum (1994-1997)
- *1999-2002:* City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- *2002-2007:* City of Tshwane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- *August 2007 – present –* Managing Director for Archætnos Archaeologists.
- *1988-2003:* Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.
- *2014-2015:* Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria

OTHER

- NRF C2 Research rating.
- Has published 40 peer-reviewed and 51 popular articles.
- Has written 13 books/book contributions/conference proceedings .

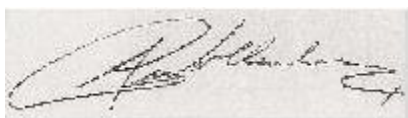
- Has been the author and co-author of over 1076 unpublished reports on cultural resources surveys and archaeological work.
- Has delivered more than 80 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 – 2006.
- Member of the South African Academy for Science and Art.
- Member of Association for South African Professional Archaeologists.
- Member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014; 2018-2021).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Editorial member of various scientific journals.
- Member of the Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2024).

A list of reports can be viewed on www.archaetnos.co.za.

DECLARATION OF INDEPENDENCE

I, Anton Carl van Vollenhoven from Archaetnos, hereby declare that I am an independent specialist within the field of heritage management.

Signed:



Date: 21 September 2022

LIST OF ACRONYMS:

AIA – Archaeological Impact Assessment
 CMP – Cultural Management Plan
 EAP – Environmental Assessment Practitioner
 EIA – Environmental Impact Assessment
 HIA – Heritage Impact Assessment
 PIA – Palaeontological Impact Assessment
 SAHRA –South African Heritage Resources Agency

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1. INTRODUCTION

Archaeos cc was requested by NCC Environmental Services (Pty) Ltd to conduct an archaeological impact assessment (AIA) for a proposed construction of Mulalo 400/132KV main transmission substation (MTS) and associated integration of transmission and distribution power lines on the farm Brandspruit 318IS/00002, south of Secunda, Gert Sibande District municipality, Mpumalanga Province (Figure 1-2).

Several studies have been done in the past (Beater 2017, 2019; Kruger 2021 and Marais 2021) and have identified sites of cultural heritage significance. This study was done to confirm and identify any other sites that might have been missed as well as a thorough documentation of the structures for the purpose of obtaining a demolition permit.

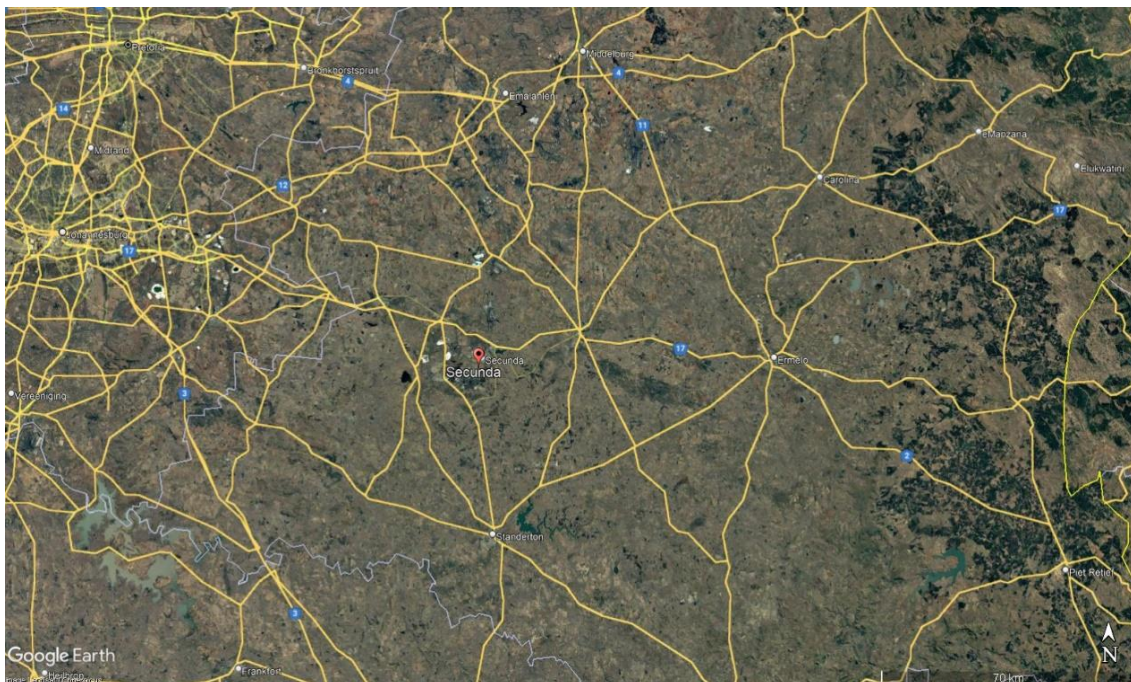


Figure 1: Location of Secunda in the Mpumalanga Province.



Figure 2: Location of proposed Main Transmission Substation (MTS) in relation to Secunda.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences, and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Document the found cultural heritage sites according to best practice standards for heritage related studies.
3. Study background information on the area to be developed.
4. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
5. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
6. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.

7. Review applicable legislative requirements.
8. Document a known historical site for the purpose of obtaining a demolition permit in terms of Sec. 34 of the NHRA.

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. The first of these are the National Heritage Resources Act (Act 25 of 1999) which deals with the cultural heritage of the Republic of South Africa. The second is the National Environmental Management Act (Act 107 of 1998) which inter alia deals with cultural heritage as part of the Environmental Impact Assessment process.

3.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, 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 (see Appendix D) 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 paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources.

A Palaeontological Impact Assessment (PIA) is an assessment of palaeontological heritage. Palaeontology is a different field of study, and although also sometimes required by the South African Heritage Resources Agency (SAHRA)¹, should be done by a professional palaeontologist. The different phases during the HIA process are described in Appendix E. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

¹ Please consult SAHRA to determine whether a PIA is necessary.

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or paleontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

Human remains that are less than 60 years old are subject to provisions of the **National Health Act (Act 61 of 2003)** and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Exhumations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the **National Health Act (Act 61 of 2003)**.

3.2 The National Environmental Management Act

This act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

4. THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARD FOR CULTURAL HERITAGE

This standard recognizes the importance of cultural heritage for current and future generations. It aims to ensure that clients protect cultural heritage in the course of their project activities.

This is done by clients abiding to the law and having heritage surveys done in order to identify and protect cultural heritage resources via field studies and the documentation of such resources. These need to be done by competent professionals (e.g., archaeologists and cultural historians). Any possible chance finds, encountered during

the project development, also needs to be managed by not disturbing it and by having it assessed by professionals.

Impacts on the cultural heritage should be minimized. This includes the possible maintenance of such sites *in situ*, or when not possible, the restoration of the functionality of the cultural heritage in a different location. When cultural historical and archaeological artifacts and structures need to be removed, this should be done by professionals and by abiding to the applicable legislation. The removal of cultural heritage resources may, however, only be considered if there are not technically or financially feasible alternatives. In considering the removal of cultural resources, it should be outweighed by the benefits of the overall project to the affected communities. Again, professionals should carry out the work and adhere to the best available techniques.

Consultation with affected communities should be conducted. This entails that such communities should be granted access to their cultural heritage if this is applicable. Compensation for the loss of cultural heritage should only be given in extra-ordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilization of cultural heritage resources should always be done in consultation with the affected communities in order to be consistent with their customs and traditions and to come to agreements with relation to possible equitable sharing of benefits from commercialization.

5. METHODOLOGY

5.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. This includes reports identified on the SAHRIS Database. Sources consulted in the regard are indicated in the bibliography. Several studies in the adjacent areas were noted, four studies have been done on the farm Brandspruit 318 IS and various others have been done in the larger area surrounding Secunda (SAHRIS database; Archaetnos database).

5.2 Field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites, and features of cultural significance in the area of proposed development. One regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.

If required, the location/position of any site was determined by means of a Global Positioning System (GPS)², while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 3).

Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage. In this instance the under footing was mostly open and the vegetation cover was low. Accordingly, both the horizontal and the vertical archaeological visibility was influenced positively. This survey took five hours to complete.



Figure 3: GPS track route for the surveyed area.

5.3 Documentation

All sites, objects, features, and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by means of the Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

² A Garmin Oregon 550 with an accuracy factor of a few metres.

5.4 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological 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
- Uniqueness of the site and
- Potential to answer present research questions.

6. CONDITIONS AND ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structures, and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).
4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.

5. All recommendations are made with full cognizance of the relevant legislation.
6. It must be mentioned that it is almost impossible to locate all the cultural resources in each area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.
7. In this case large part of the surveyed area have been disturbed by agricultural activities in the past. Accordingly, these areas are seen as a low-risk areas to reveal heritage sites.
8. The vegetation cover was low and an open under footing, which had a positive effect on both the vertical and the horizontal archaeological visibility.

7. DESCRIPTION OF THE PHYSICAL ENVIRONMENT

The proposed construction of Mulalo 400/132KV main transmission substation (MTS) is located on an open field largely utilised for grazing. The general characteristics of the surveyed area, being on the Mpumalanga Highveld, is typical Highveld consisting of grassland with isolated trees. These species are mainly foreign and therefore an indication of disturbance. The vegetation cover varies from areas with low but dense grass to areas with more open areas of vegetation (Figure 4-6). The above had a positive effect on both the horizontal as the vertical archaeological visibility. The typography is mostly flat with a man-made dam on the border of the south-eastern corner of the proposed development (Figure 7).



Figure 4: General view of the grass growth in the surveyed area.



Figure 5: Open field caused by grazing animals in surveyed area.



Figure 6: View of surveyed area with Sasol 2 and Sasol 3 in the background.



Figure 7: View of man-made dam in southeaster corner of surveyed area.

8. HISTORICAL CONTEXT

This geographical area is not well-known as one containing many prehistoric sites. One however must realize that this most likely only indicates that not much research has been done here before. On the existing SAHRA Database no such sites are indicated here. However, some historical sites, including graves, are known from previous surveys done in and around the area (SAHRA database, Archaeos database). This gives an idea of possible sites one may encounter in the area.

It also is necessary to get an understanding of the prehistory of the area as it may assist in the identification of such sites. Therefore, a background regarding the different phases of human history in the larger geographical area is given.

8.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

The greater geographical area is not known for Stone Age occurrences. No Stone Age sites are for instance indicated on a map contained in a historical atlas of this area (Bergh 1999: 4). The closest known Stone Age occurrences are Late Stone Age sites at Carolina and Badplaas, and rock painting sites close to Machadodorp, Badplaas and Carolina. Rock art is also found close to the Olifants River to the south of Witbank (Bergh 1999: 4-5).

The environment is such that it does not provide much natural shelter and therefore it is possible that Stone Age people did not settle here for long periods of time. They would have however been lured to the area due to an abundance of wildlife as the natural vegetation would have provided ample grazing and there are plenty natural water sources. One may therefore find small sites or occasional stone tools.

8.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

No Iron Age sites have been identified around the town of Witbank and Kriel, but again this may only indicate a lack of research. The closest known Iron Age occurrences to the surveyed area are Late Iron Age sites that have been identified to the west of Bronkhorstspuit and in the vicinity of Bethal. In an area around Belfast, including Lydenburg, Nelspruit, Machadodorp and Badplaas a number of 1 792 Iron Age sites have been identified (Bergh 1999: 7). These all are dated to the Late Iron Age. Sites such as these are known for extensive stone building forming settlement complexes. No indication of metal smelting was identified at any of these sites (Bergh 1999: 7-8).

It is also known that the early trade routes did not run through this area (Bergh 1999: 9). However, one should bear in mind that many of these areas may not have been surveyed before and therefore the possibility of finding new sites is always a reality.

The type of environment around Secunda definitely is suitable for human habitation. There is ample water sources and good grazing. It therefore is reasonable to expect that Iron Age people have utilized the area. This is the same reason why white settlers later on moved into this environment.

8.3 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore, and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

At the beginning of the 19th century the Phuthing, a South Sotho group, stayed to the east of the Kriel area. The Koni of Makopole stayed to the north-east and the Ndzundza Ndebele to the west. During the Difaquane they fled to the south, south-west and north-west as Mzilikazi's impi moved in from the southeast. During this time the Swazi also moved into this area (Bergh 1999: 10-11; 109). They however did not settle here.

The first white people in this area were the party of the traveler Robert Scoon in 1836 (Bergh 1999: 13). White farmers only settled here after 1850 (Bergh 1999: 16). Buildings from this era may therefore be expected in the surveyed area.

During the Anglo-Boer War (1899-1902) four known skirmishes took place in the broader geographical area of Kriel (Bergh 1999: 54). These were the Battles of Bakenlaagte (30 October 1901) – which were the only influential battle in this area, Trigaardsfontein (10 December 1901), Klippan (18 February 1902) and Boschmanskop (1 April 1904) (Bergh 1999: 251).

Some historical sites are also known from the surveys done in the surrounding area. These include ten grave sites (Beater 2017; Kruger 2021 and Marais 2021) and nine historical sites and is associated with farming activities, e.g., historical house remains (Beater 2017; Kruger 2021 and Marais 2021) (Figure 8).

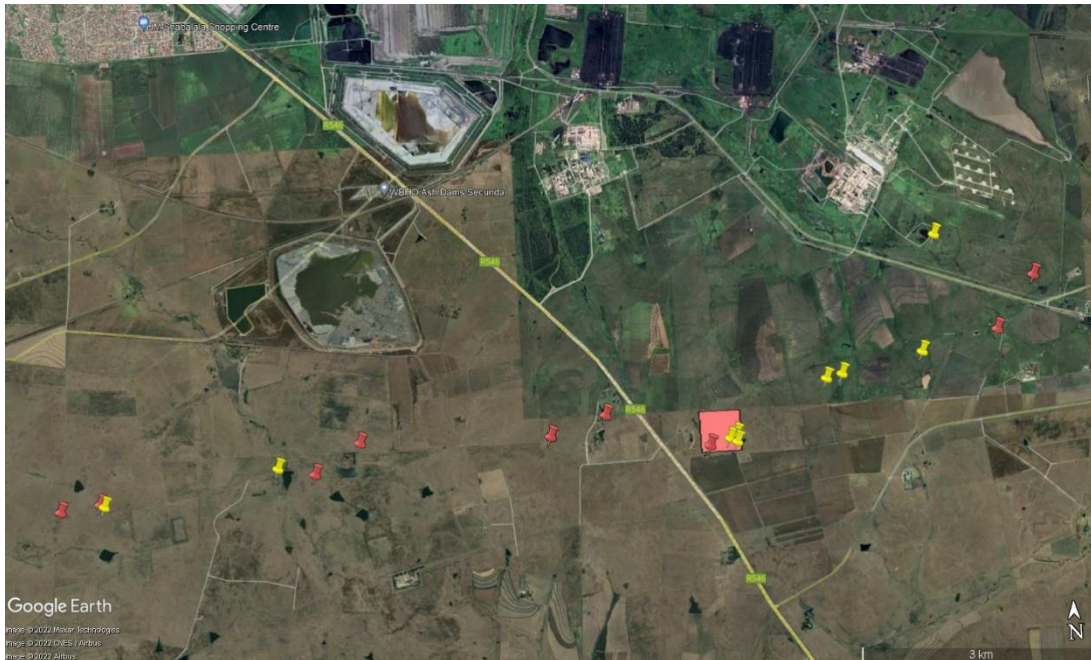


Figure 8: Known sites (graves = yellow and historical = red pins) in relation to surveyed area (Red Block).

9. DISCUSSION AND DOCUMENTATION OF SITES IDENTIFIED DURING THE SURVEY

In total five sites of cultural heritage significance was identified within and close to the proposed project area. Four of these were known from previous studies and was now confirmed and thoroughly documented in this study. During the survey one additional site of cultural heritage significance were identified within the immediate project area (site 2). All of these date to the Historical Age.

9.1 Site 1 – Graves

This is a graveyard of about 7 m long and about 4 m wide in an open patch west of a large tree, with no fence surrounding the graves. The graveyard lies about 12 m south of the proposed development area and might be impacted by the development. The graves are orientated east to west. Some foundation stones were found to the east of the graves indicating the that a wall could have surrounded the graveyard in the past. (Figure 9-10).

GPS: 26°37'13.30"S 29° 9'44.20"E

The headstones are made of granite and sandstone and the grave dressings are made of granite, cement, and gravel. There are at least four graves. All four graves are 60 years and older. Thus, no graves are younger than 60 years and no unmarked graves were found. The oldest grave belongs to Agatha Catharina Clesiena Rudolph Geb.

Potgieter 01/02/1890. The youngest grave belongs to Izak Meyer Rudolph 17/05/1939.

The legible information on the other graves that was noted is:
Anna Sophia Botha 27/06/1919.
April 1938 (name not legible)



Figure 9: View of graves at site 1.



Figure 10: Another view of the graves with the foundation remains of a stone wall at site 1.

Cultural significance Table: Site 1

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	High
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	High
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	N	
Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	N	
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	High
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	

Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		6-High

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 6(High) x 2

= 12

The site therefore receives a field rating of Local Grade IIIB. It means that these should be included in the heritage register and may be mitigated (high/ medium significance), if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority.

Two possibilities exist. The first option would be to fence the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert in order to comply with heritage protocols. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the development.

The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the development activities. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

Option 2 recommended, as the development is too close to the graves and will impact directly on this site. ESKOM indicated that the footprint of the development cannot be shifted elsewhere.

9.2 Site 2 – Graves

This site is about 3 m long and about 4 m wide and is in an open field in the western part of the surveyed area, with no fence surrounding the graves. It will be impacted by the proposed development. (Figure 11-12).

GPS: 26°37'5.62"S 29° 9'42.19"E

There are no clear indications of headstones, but the area is clearly disturbed with the grave dressings made of packed stone borders. The total number of graves is approximately 2. Both graves are unmarked which means it is handled as heritage graves (older than 60 years of age) until proven different. No other information could be found.



Figure 11: View of graves at site 2 located in the surveyed area.



Figure 12: Another view of the graves at site 2 located in the surveyed area.

Cultural significance Table: Site 2

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	High
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	High
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	N	
Its importance in exhibiting particular	N	

aesthetic characteristics valued by a community or cultural group		
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	High
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		6-High

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 6(High) x 2

= 12

The site therefore receives a field rating of Local Grade IIIB. It means that these should be included in the heritage register and may be mitigated (high/ medium significance), if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority.

Two possibilities exist. The first option would be to fence the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert in order to comply with heritage protocols. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the development.

The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the development activities. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

Option 2 recommended, as the development will impact directly on this site (it lies within the site). ESKOM indicated that the footprint of the development cannot be shifted elsewhere.

9.3 Site 3 – Historic kraal

Site 3 is in the southeaster corner of the surveyed area and will be impacted by the proposed development. This is an animal kraal constructed largely out of packed stone and is approximately 136 m long and at its widest point 109 m wide. This animal kraal is divided into five areas all pertaining to animal husbandry (e.g., feeding and loading areas, waiting camps) (Figure 13-15).

GPS: 26°37'8.87"S 29° 9'54.19"E



Figure 13: View of ramp on the west of the animal kraal at site 3.



Figure 14: West facing view of animal kraal with feeding trough at site 3.



Figure 15: South facing view of animal kraal at site 3.

Cultural significance Table: Site 3

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	N	

Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	Low
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	Low
Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	N	
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	N	
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		2-Low

Integrity scale:

1 – Bad state of preservation, but no contextual information

- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 – Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 2(Low) x 2

= 4

The site therefore receives a field rating of Local Grade IIIC. It means the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

9.4 Site 4 – Historic farmyard structures

GPS: 26°37'11.56"S 29° 9'52.82"E

Site 4 is in the southeaster corner of the surveyed area and will be impacted by the proposed development. This site consists out of six structures:

Structure 1: This structure is a loading ramp and measures 11 x 3,5 m and is constructed largely out of packed stones (Figure 16).



Figure 16: North facing view of loading ramp at site 4.

Structure 2: The second structure is the largest of the six and measures 37 x 23,4 m and consists of seven rooms or enclosures relating to animal care, feeding, or processing (e.g., milking room). The structure is constructed out of cut stone and cement. A holding kraal, measuring 13,2 x 6,5 m with a feeding trough, is located on the western side of the structure.

Two long rooms are located on the northern side with their entrances also to the north. These rooms were either used for storing space or to hold animals. The measurements are respectively 13,2 x 3,5 m and 13,2 x 4,5 m. A small storeroom on the northwestern side with its entrance to the north and one east facing window was also identified.

A second kraal like enclosure is located on the eastern side and measures 13,2 x 5 m. The next room measures 14 x 9 m with two entrances on the east. Inside the room is the remains of a low wall running the length of the room with iron loops in the wall to tie-down animal as well as a feeding trough. The last room of structures 2 could have been another room used for storage and measures 6 x 3,8 m and the entrance thereof is on the southern side (Figure 17-20).



Figure 17: North facing view of structure 2 at site 4.



Figure 18: East facing view of structure 2 at site 4.



Figure 19: South facing view of structure 2 at site 4.



Figure 20: West facing view of structure 2 at site 4.

Structure 3, 4 and 5: These structures are all constructed in a similar manner of packed stones. Structure 3 consists of two rooms with two entrances on the eastern side measuring 8 x 6 m. Structure 4 has its entrance on the east and measures 4,1 x 3 m. Structure 4 has its entrance on the north and measures 6 x 4,1m (Figure 21).

Structure 6: This is the remains of a small retaining wall next the dirt road.



Figure 21: North facing view of stone structure 3 at site 4.

Cultural significance Table: Site 4

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	N	
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	Low
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	Low
Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	N	
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	N	
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	

Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		2-Low

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

$$= 2(\text{Low}) \times 2$$

$$= 4$$

The site therefore receives a field rating of Local Grade IIIC. It means the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

9.5 Site 5 – Historic Farmhouse structures

Site 5 is in the southeaster border of the surveyed area and will be impacted by the proposed development. This site consists out of three structures:

Structure 1: This structure is constructed out of packed stone with its entrance on the north and measures 7,4 x 3,2 m. It likely was used as wagon storage or garage (Figure 22).

Structure 2: The second structure is a 2 x 2 m cement platform possibly used as a platform for an old water tower (Figure 23).

Structure 3: This is the main farmhouse and attached outer utility rooms. The house structure measures 21 x 14 m. It is constructed out cut stone, and cement with later additions build from brick and cement. The house consists of six rooms in total with no clear indications what the rooms were used for.

The outer utility rooms respectively measures 4 x 4,9 m and 7,3 x 4,9 m. They are two loose standing buildings. The first one possibly is a washup or kitchen area with

entrances to the north and south. The second structure consists of one room with three entrances, one on the north and two on the south and with a single window to the west. The structures are constructed out of cut stone and cement (Figure 24-27).

GPS: 26°37'12.77"S 29° 9'56.18"E



Figure 22: Northern view of structure 1 at site 5.



Figure 23: View of cement platform at site 5.



Figure 24: North and east facing of farmhouse view at site 5.



Figure 25: South facing view of farmhouse at site 5.



Figure 26: West facing view of farmhouse at site 5.



Figure 27: North facing view of utility rooms at site 5.

Cultural significance Table: Site 5

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	N	

Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	Low
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	Low
Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	N	
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	N	
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		2-Low

Integrity scale:

1 – Bad state of preservation, but no contextual information

- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 2(Low) x 2

= 4

The site therefore receives a field rating of Local Grade IIIC. It means the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

10.CONCLUSIONS AND RECOMMENDATIONS

The survey of the indicated area was completed successfully. As indicated five sites of cultural heritage significance were identified within the proposed project area (Figure 28).



Figure 28: Google Earth image indicating the location of the sites identified in relation to the proposed development

The following is recommended:

1. Of the five identified sites two are graves. Site 1 is very close to the proposed development and site 2 is located inside the proposed development and both will directly impact by the construction of the substation. Option 2 is therefore recommended for both sites. This is to exhume the mortal remains and then to have it relocated. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA.
2. As further motivation for this, ESKOM have an engineer's report (attached) indicating that the footprint of the development cannot change/move due to the underlying areas being undermined. This is in spite of Beater's (2019) recommendation that the graves should not be relocated. She of course did not have the benefit of knowing the exact layout and circumstances described here.
3. Site 3,4 and 5 received field rating of Local Grade IIIC. It means the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.
4. The proposed development may continue only after the mitigation measures indicated above had been implemented and approved by SAHRA.
5. It should be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on site immediate cease and a qualified archaeologist be called in to investigate the occurrence.

11. REFERENCES

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APPENDIX A

DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

Historic value:	Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.
Aesthetic value:	Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
Scientific value:	Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
Social value:	Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Rarity:	Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.
Representivity:	Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or 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 C

SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Negligible – The site has no heritage significance, although it may be older than 60 years.
- Low - A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings. A site with minimal importance which is decreased by its bad state of decay.
- Low-Medium - A site of lesser importance, which is increased by a good state of preservation and contextual importance (e.g. a specific community).
- Medium - Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- Medium-High - A site that has high importance due to its age or uniqueness, but which decreases due to its bad state of decay.
- High - Any site, structure or feature regarded as important because of its age or uniqueness. Also any important object found within a specific context.
- Very High - A site of exceptional importance due to its age, uniqueness and good state of preservation.

Heritage significance:

- Grade I Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

National Grade I significance: The site should be managed as part of the national estate, should be nominated as Grade I site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score above 50.

Provincial Grade II significance: The site should be managed as part of the provincial estate, should be nominated as Grade II site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 40 and 50.

Local Grade IIIA: The site should be included in the heritage register and not be mitigated (high significance), should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 36 and 40.

Local Grade IIIB: The site should be included in the heritage register and may be mitigated (high/ medium significance). Mitigation is subject to a permit application lodged with the relevant heritage authority. Score between 6 and 35.

Local Grade IIIC: The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation. Score below 5.

APPENDIX D

PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – grade I and II

Protected areas - an area surrounding a heritage site

Provisional protection – for a maximum period of two years

Heritage registers – listing grades II and III

Heritage areas – areas with more than one heritage site included

Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or scoping phase – establishment of the scope of the project and terms of reference.
2. Baseline assessment – establishment of a broad framework of the potential heritage of an area.
3. Phase I impact assessment – identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – if there is no likelihood that any sites will be impacted.
5. Phase II mitigation or rescue – planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III management plan – for rare cases where sites are so important that development cannot be considered.

APPENDIX F

**MOTIVATION LETTER INDICATING WHY FOOTPRINT OF SITE CANNOT MOVE
(SEE ATTACHED)**

**APPENDIX G – SECTION 34 APPLICATION FORM FOR SITE NO. 5
(SEE ATTACHED)**