

Comprehensive and Professional Solutions for all Heritage Related Matters
CK 2006/014630/23 **VAT NO.: 4360226270**

**PHASE 1 HIA REPORT FOR THE GELUKSOORD EXT.2 & 3
PHASE 3 – REPLACEMENT OF PIPELINES FROM PUMP STATION
TO UTLWANANG AND CHRISTIANA WATER TOWER
NORTHWEST PROVINCE**

For:

***AB ENVIRO CONSULT
7 Louis Leipoldt Street
Potchefstroom
2531***

REPORT: **APAC021/09**

by:

***A.J. Pelser
Accredited member of ASAPA***

February 2021

**P.O.BOX 73703
LYNNWOOD RIDGE
0040
Tel: 083 459 3091
Fax: 086 695 7247
Email: apac.heritage@gmail.com**

©Copyright

APELSE ARCHAEOLOGICAL CONSULTING

The information contained in this report is the sole intellectual property of APELSE Archaeological Consulting. It may only be used for the purposes it was commissioned for by the client.

DISCLAIMER:

Although all efforts are made to identify all sites of cultural heritage (archaeological and historical) significance during an assessment of study areas, the nature of archaeological and historical sites are as such that it is always possible that hidden or subterranean sites, features or objects could be overlooked during the study. APELSE Archaeological Consulting can't be held liable for such oversights or for costs incurred as a result thereof.

Clients & Developers should not continue with any development actions until SAHRA or one of its subsidiary bodies has provided final comments on this report. Submitting the report to SAHRA is the responsibility of the Client unless required of the Heritage Specialist as part of their appointment and Terms of Reference

A handwritten signature in black ink, appearing to be 'A. El' or similar, located at the bottom center of the page.

SUMMARY

APelser Archaeological Consulting (APAC) was appointed by AB Enviro Consult to conduct a Phase 1 HIA for the Geluksoord Extensions 2 & 3 Phase 3 – replacement of pipelines from the Pump Station to Utlwanang and Christiana Water Tower. The development and study area is located in the Dr. Ruth S. Mompati District Municipality, Lekwa-Teemane Local Municipality of the Northwest Province.

Background research indicates that there are some cultural heritage sites and features in the larger geographical area within which the study area falls. The assessment of the specific study area did not identify any sites, features or material of cultural heritage (archaeological and/or historical) origin or significance. This report discusses the results of both the background research and physical assessment.

It is recommended that the proposed development be allowed to continue, taking into consideration the recommendations put forward at the end of the report.

CONTENTS

1. INTRODUCTION	5
2. TERMS OF REFERENCE	5
3. LEGISLATIVE REQUIREMENTS	5
4. METHODOLOGY	8
5. DESCRIPTION OF THE AREA	9
6. DISCUSSION	11
7. CONCLUSIONS AND RECOMMENDATIONS	18
8. REFERENCES	19
APPENDIX A: DEFINITION OF TERMS:.....	21
APPENDIX B: DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE.....	22
APPENDIX C: SIGNIFICANCE AND FIELD RATING:	23
APPENDIX D: PROTECTION OF HERITAGE RESOURCES:.....	24
APPENDIX E: HERITAGE IMPACT ASSESSMENT PHASES.....	25

1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by AB Enviro Consult to conduct a Phase 1 HIA for the Geluksoord Extensions 2 & 3 Phase 3 – replacement of pipelines from the Pump Station to Utlwanang and Christiana Water Tower. The development and study area is located in the Dr. Ruth S. Mompati District Municipality, Lekwa-Teemane Local Municipality of the Northwest Province.

Background research indicates that there are some cultural heritage sites and features in the larger geographical area within which the study area falls. The assessment of the specific study area did not identify any sites, features or material of cultural heritage (archaeological and/or historical) origin or significance.

The client indicated the location and boundaries of the study area and the assessment concentrated on this portion.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

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

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. 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)

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological 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 palaeontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological 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 of 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.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (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 to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

3.2. The National Environmental Management Act

This act 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. METHODOLOGY

4.1. Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2. Field survey

The field assessment section of the study was conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed.

4.3. Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4. Documentation

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

5. DESCRIPTION OF THE AREA

The study & proposed development area is situated in Geluksoord Extension 2 & 3 near Christiana and the Northwest Province.

The topography of the study area is mostly flat and open with no rocky outcrops, ridges or hills present. Portions of the new water pipelines follows existing roads/servitudes and water lines in an urban setting (formal and informal settlement), while a sections follows an existing road and water pipeline from Geluksoord to the Christiana Water Tower. The area has therefore been fairly extensively impacted in the recent past and if any sites, features or material of cultural heritage (archaeological and/or historical) did exist here in the past it would have been extensively disturbed or destroyed as a result.

It has to be noted that parts of the water pipeline route could not be travelled due to the fact that the road was inaccessible as a result of heavy rains making it impossible to use. It is however unlikely that any sites, features or material of cultural heritage origin would be located here.



Figure 1: General study area (Google Earth 2021).



Figure 2: Closer view of the study area showing the new pipeline routes (Google Earth 2021).

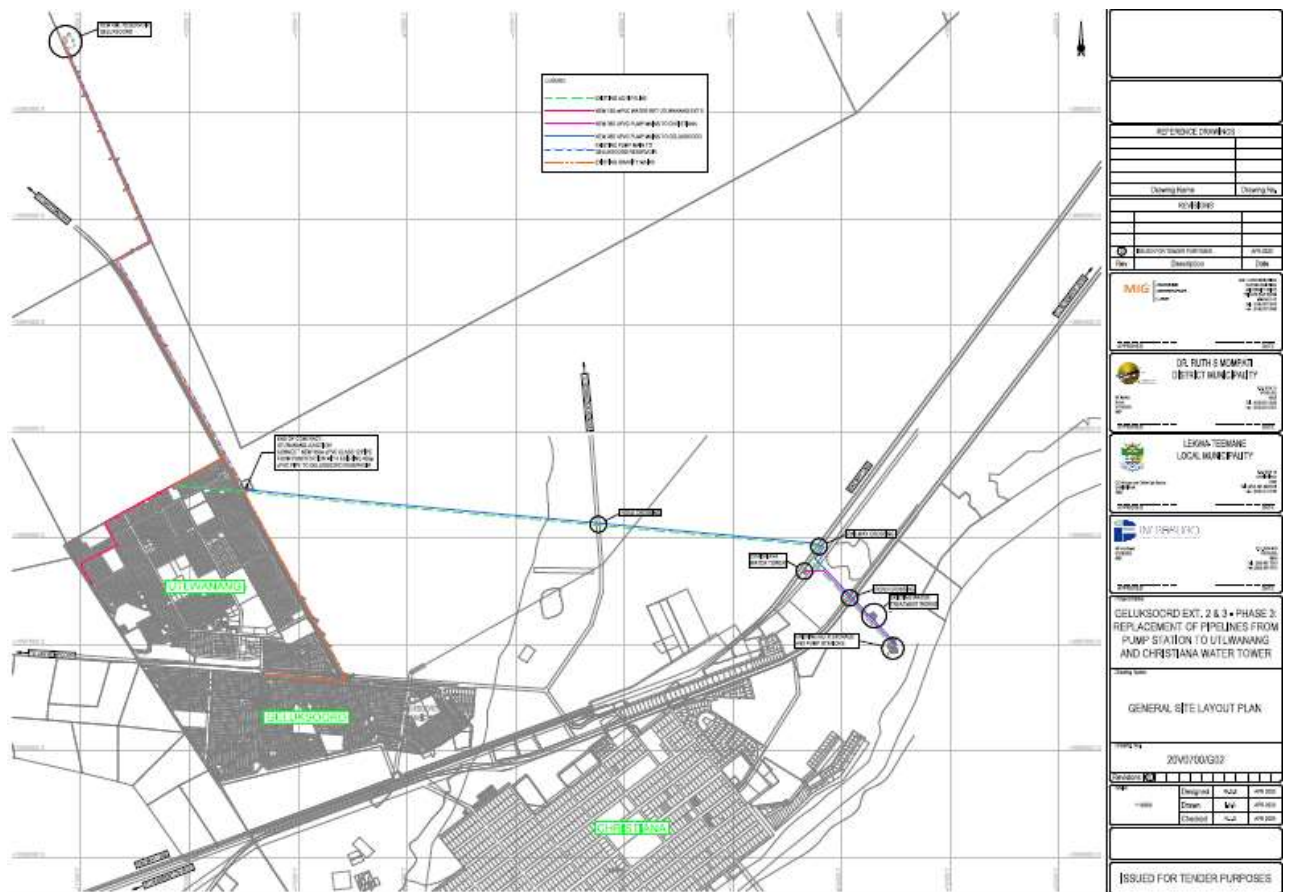


Figure 3: General layout plan (courtesy AB Enviro Consult).

6. DISCUSSION

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago

Middle Stone Age (MSA) less than 300 000 – 20 000 years ago

Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

There are no known Stone Age sites close to the study area (Bergh 1999: 4). Some single, out of context, Stone Age tools were identified in the Geluksoord area during a previous assessment for township development by the author of this report (Pelser 2017: 18; 22).

No Stone Age sites or material (stone tools) were identified in the study area during the 2021 assessment.

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

Early Iron Age (EIA) 200 – 1000 A.D.

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) indicates that a Middle Iron Age should be included. His dates, which are 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.

There are once again no known Iron Age sites close to the study area (Bergh 1999: 6-7), although this might just point to a lack of archaeological research in the region.

No Iron Age occurrences were identified in the study area during the assessment.

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. The earliest Europeans to travel through the area were the groups of Broadbent & Hodgson in 1823, Hodgson & Archbell in 1826 and later that of Krebs in 1838 (Bergh 1999:12-13). They were closely followed by the Voortrekkers (p.14).

The area in which Christiana was eventually established was initially sparsely populated due to the constant droughts and cattle diseases which made settlement very difficult. Some of the earliest inhabitants of the area were the BaTlaping, BaRolong and the Korannas. These populations were displaced during the difaqane of the 1820's – 1830's. Christiana was established in 1869, named after Christina Petronella Pretorius, the only daughter of President M.W.Pretorius. The first plots were sold in 1870, helping in the expansion of the town. The discovery of diamonds also affected Christiana. On 3 October 1904 the townlands of Christiana was declared public diggings. The Anglo-Boer War (1899-1902) also left its mark on the town, with several significant battles fought in its vicinity. A number of British soldiers who died in battle is buried in town and during the Great Influenza Epidemic of 1918 more than 60 town inhabitants died as a result (Van der Walt 2012: 20-21).

No historical sites, features or material were found in the area during the assessment.

Results of the study area assessment

As mentioned earlier no sites, features or cultural material were found in the study area during the assessment. Large parts of the proposed new water pipeline route has been transformed through both formal and informal urban settlement and related developments. This includes roads and the various water towers and waterworks in the area. The new lines also follow existing roads and water lines. Portions of the area would also have been utilized

in the historic past for agricultural purposes. As a result of these various activities if any archaeological and/or historical sites did exist here in the past they would have been extensively disturbed or destroyed.

It has to be mentioned that some sections of the route (specifically on the dirt roads) were impassable as a result of heavy rains and these sections were therefore not assessed in detail. It is however believed that the likelihood of any cultural heritage resources being present here is very small.



Figure 4: Closer view of settlement area where sections of the new water pipelines will run (Google Earth 2021).



Figure 5: Part of the new line route follows an existing dirt road and water pipeline (Google Earth 2021).



Figure 6: View of a section of the line towards the Christiana water tower and works (Google Earth 2021).



Figure 7: View of section of new line through the settlement area.



Figure 8: Another view of the line through the settlement area.



Figure 9: A view of the line towards Utlwanang Water Tower.



Figure 10: A large part of the line follows this dirt road route towards the Christiana Water Tower.



Figure 11: Another section of the new line route.



Figure 12: A view of the line towards the Christiana Water Tower.



Figure 13: Sections of the route was impassable.

It should be noted that although all efforts are made to cover a total area during any assessment and therefore to identify all possible sites or features of cultural (archaeological and/or historical) heritage origin and significance, that there is always the possibility of something being missed. This will include low stone-packed or unmarked graves. This aspect should be kept in mind when development work commences and if any sites (including graves) are identified then an expert should be called in to investigate and recommend on the best way forward.

7. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it is possible to say that the Phase 1 HIA for the Geluksoord Extensions 2 & 3 Phase 3 – replacement of pipelines from the Pump Station to Utlwanang and Christiana Water Tower was conducted successfully. The development and study area is located in the Dr. Ruth S. Mompoti District Municipality, Lekwa-Teemane Local Municipality of the Northwest Province.

Background research indicates that there are some cultural heritage sites and features in the larger geographical area within which the study area falls. The assessment of the specific study area did not identify any sites, features or material of cultural heritage (archaeological and/or historical) origin or significance. Large parts of the proposed new water pipeline route has been transformed through both formal and informal urban settlement and related developments. This includes roads and the various water towers and waterworks in the area. The new lines also follow existing roads and water lines. Portions of the area would also have been utilized in the historic past for agricultural purposes. As a result of these

various activities if any archaeological and/or historical sites did exist here in the past they would have been extensively disturbed or destroyed.

Some sections of the route (specifically on the dirt roads) were impassable as a result of heavy rains and these sections were therefore not assessed in detail. It is however believed that the likelihood of any cultural heritage resources being present here is very small.

It should be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

Finally, from a Cultural Heritage point of view the proposed Geluksoord Extensions 2 & 3 Phase 3 – replacement of pipelines from the Pump Station to Utlwanang and Christiana Water Tower should be allowed to continue taking the above into consideration.

8. REFERENCES

General and Closer Views of study area location and footprint: Google Earth 2021.

General Layout Plan: Provided by AB Enviro Consult.

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.

Huffman, T.N. 2007. Handbook to the Iron Age: **The Archaeology of Pre-Colonial Farming Societies in Southern Africa**. Scottsville: University of KwaZulu-Natal Press.

Knudson, S.J. 1978. **Culture in retrospect**. Chicago: Rand McNally College Publishing Company.

Lombard, M., L. Wadley, J. Deacon, S. Wurz, I. Parsons, M. Mohapi, J. Swart & P. Mitchell. 2012. **South African and Lesotho Stone Age Sequence Updated (I)**. South African Archaeological Bulletin 67 (195): 120–144, 2012.

Pelser, A.J. 2017. **Report on a Phase 1 Heritage Assessment for the Proposed Geluksoord Extensions 4 & 5 Township Establishment on a Portion of the Remaining Extent of Portion 1 of the farm Christiana Town & Townlands 325HO near Christiana, Northwest Province**. Unpublished Report APelser Archaeological Consulting cc APAC017/03. For: Maxim Planning Solutions. January 2017.

Republic of South Africa. 1999. **National Heritage Resources Act (No 25 of 1999)**.

Pretoria: the Government Printer.

Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.

Van der Walt. 2012. **Heritage Scoping Report proposed for the Photovoltaic (PV) solar energy facilities on the farm Hartebeestpan, near Christiana, North-West Province.** Unpublished Report Version 1. 10 January 2012. For: Savannah Environmental (Pty) Ltd.

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:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- 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.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

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:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

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 allowed.