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PHASE 1 AIA REPORT FOR THE PROPOSED ESTABLISHMENT OF A NEW PIGGERY FOR THE HUMPRIES FARM LOCATED ON PORTION 50 OF THE FARM TWEEFONTEIN 463KR NEAR BELA-BELA IN THE LIMPOPO PROVINCE

For:

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by:

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SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Shangoni Management Services, on behalf of Humphries Boerdery, to conduct a Phase 1 AIA (including a PIA Desktop study) for the development of a new Piggery close to their existing operations, on Portion 50 of the farm Tweefontein 463KR, close to Bela-Bela in the Limpopo Province. Two alternative sites for the Piggery had to be investigated.

Background research indicates that there are a number of cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study portion falls. The assessment of the specific study area recorded no sites, features or objects of archaeological & recent historical origin and significance. The report discusses the results of both the background research and physical survey and provides a number of mitigation measures to minimize any possible negative impacts of the proposed development on any unknown heritage resources that could be located here and that was not identified during the assessment. The results of the desktop Palaeontological Impact Assessment are provided in a separate report.

Based on the findings of the AIA it is therefore recommended that the proposed development be allowed to continue, taking into consideration the recommendations put forward at the end of the report.

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1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by Shangoni Management Services, on behalf of Humphries Boerdery, to conduct a Phase 1 AIA (including a PIA Desktop study) for the development of a new Piggery close to their existing operations, on Portion 50 of the farm Tweefontein 463KR, close to Bela-Bela in the Limpopo Province. Two alternative sites for the Piggery had to be investigated.

Background research indicates that there are a number of cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study portion falls. The assessment of the specific study area recorded no sites, features or objects of archaeological & recent historical origin and significance.

The client indicated the location and boundaries of the study area and the assessment concentrated on this portion. During the field visit a representative of Humphries accompanied the specialist and indicated the approximate positions of the two alternative development locations.

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 area is situated on Portion 50 of the farm Tweefontein 463KR, close to Bela-Bela (Warmbaths) in the Limpopo Province. Two alternative Sites (1 & 2) for the development of a new Piggery were to be assessed, with Site 1 the preferred option for the client (Humphries Boerdery). There is an existing piggery located on adjacent land bordering the Site 1 location.

The topography of the study area is flat and mainly open, although the Site 2 area is much more wooded than Site 1. In certain sections of both areas the vegetation (grass, tree and shrub cover) is relatively dense, making visibility difficult. There are no rocky ridges/outcrops in the study area. The study area has been disturbed to a large degree by recent agricultural activities such as ploughing and crop growing, and if any sites or features of archaeological and other cultural heritage significance did exist here in the past it would have been disturbed or destroyed. Furthermore the area is characterized by sandy soils and building here in the archaeological past would not have been considered likely. Hilly terrain closer to Bela-Bela (Buyskop) and towards Modimolle (Nylstroom) would have been the areas where prehistorical Late Iron Age settlement would much rather have occurred.

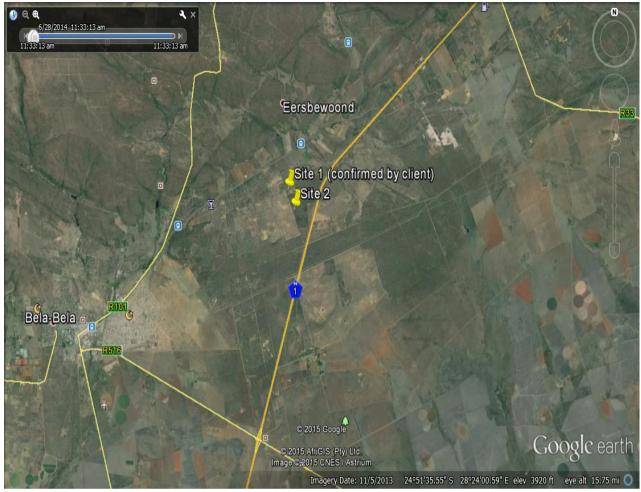


Figure 1: Location of study area (Google Earth 2015) showing the two Site alternatives.



Figure 2: View of the existing Piggery adjacent to the Site 1 location.



Figure 3: A section of the Site 1 area. Note how flat and open it is (ploughing).



Figure 4: Small sections of the Site 1 area are more densely vegetated.



Figure 5: The area is characterized by sandy soils throughout.



Figure 6: View of the area close to the Site 2 location (Based on the GPS coordinates provided).



Figure 7: View of ploughed fields adjacent to the Site 2 area.



Figure 8: The Site 2 area is much more vegetated and has fairly large wooded sections covering it.

6. **DISCUSSION**

The Stone Age is the period in human history when lithics (or stone) was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is important to note that these 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).

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

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Early Iron Age (EIA) 200 – 1000 A.D
Late Iron Age (LIA) 1000 – 1850 A.D.
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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:

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Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.
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There are no known Stone Age sites in the area, with the closest ones found east of Bela-Bela and north of Nylstroom. These sites date to between the Middle & Later Stone Ages (Bergh 1999: 4). No Stone Age artifacts were identified during the survey, and if any are to be present it would be out of context and single finds.

Again, for the Iron Age, none is known in the area (Bergh 1999: 7), and none was found during the assessment. With hardly any building material (stones) present and the area characterized by sandy soils, Late Iron stone walled settlements unlikely would have been constructed in the direct area. An early (prehistoric) trade route passed by Buyskop near Bela-Bela to the Rooiberg/Thabazimbi area (Bergh 1999: 9). At the start of the 19th century the Kgatla group was living in the general geographical area (p.10). According to the work done by Huffman on Iron Age pottery, it is possible that Iron Age sites related to the following industries could be present in the larger area. This is the Uitkomst facies of the Urewe Tradition dating to between AD1650 & 1820; the Rooiberg facies of the same dating to between AD1650 & 1750; the Madikwe facies also of Urewe (AD1500 – AD1700) and finally the Buispoort facies of Urewe dating to between AD1700 & 1840 (Huffman 2007: 171; 175; 199 & 203).

The first Europeans in the area were travellers, hunters and missionaries such as Hume in 1825; Schoon in 1836 and Livingstone in 1847 (Berg 1999: 12-13). Warmbad (Bela-Bela today) was established in 1882, while Nylstroom was established a bit earlier in 1866 (Bergh 1999: 21). During the Anglo-Boer War (1899-1902) a Concentration Camp was situated to the west of Nylstroom (Bergh 1999: 54).

The oldest map for the farm Tweefontein 463KR that could be obtained from the database of the Chief Surveyor General dates to 1891(www.csg.dla.gov.za - CSG 103P2A01). It indicates that the whole of the original farm was surveyed for one Mr. Z.J. de Beer in April 1890. No historical sites or features are visible on this map. The earliest dated map for

Portion 0 dates to 1923, and shows that this portion was framed and surveyed by J.H. Fehrsen (Land Surveyor) in November 1918 (CSG Document 101MIX01).

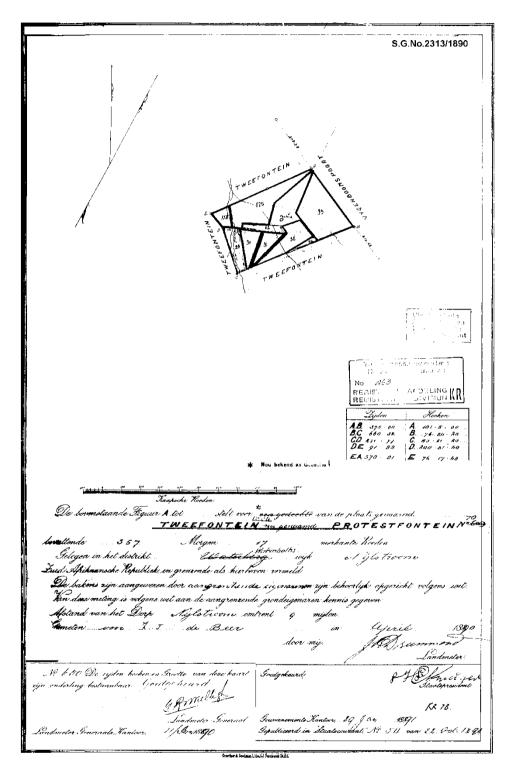


Figure 9: 1891 map of Tweefontein (<u>www.csg.dla.gov.za</u>).

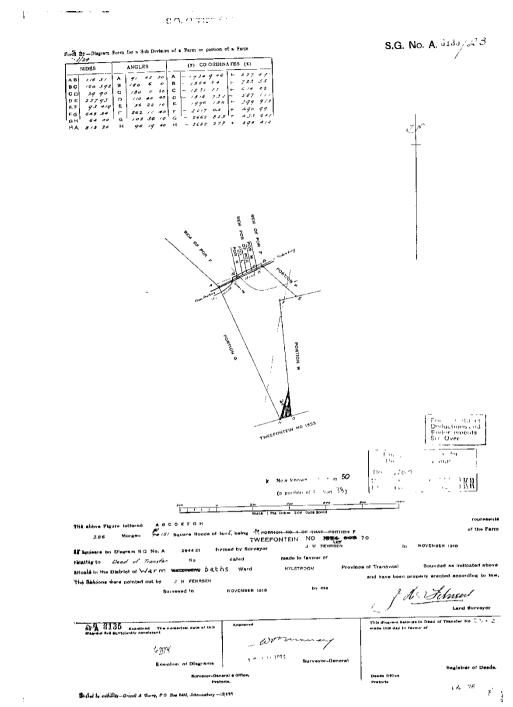


Figure 10: The 1923 map of Portion 50 of Tweefontein 463KR (www.csg.dla.gov.za).

The results of the field assessment will be discussed in the next section.

Study Area Assessment

The assessment of the study area revealed no sites, features or artifacts of cultural heritage (archaeological or historical) origin or significance. In certain sections of both areas the vegetation (grass, tree and shrub cover) is relatively dense, making visibility difficult. There are no rocky ridges/outcrops in the study area. The study area has been disturbed to a large degree by recent agricultural activities such as ploughing and crop growing, and if any sites

or features of archaeological and other cultural heritage significance did exist here in the past it would have been disturbed or destroyed. Furthermore the area is characterized by sandy soils and building here in the archaeological past would not have been considered likely. Hilly terrain closer to Bela-Bela (Buyskop) and towards Modimolle (Nylstroom) would have been the areas where prehistorical Late Iron Age settlement would much rather have occurred.

Although Site 1 is the preferred choice for the development by the client, both could therefore be utilized for the purposes of the Piggery. However, with Site 2 more wooded/vegetated, it would most likely be better from that point of view to use Site 1.

From an Archaeological (Cultural Heritage) perspective it is therefore proposed that the development be allowed to continue.



Figure 11: Aerial view of study area showing the two alternative sites for the development. Site 1 is the preferred option. The white lines show the tracks used and followed during the archaeological assessment (Google Earth 2015).

7. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it is possible to say that the Phase 1 AIA (including a PIA Desktop study) for the development of a new Piggery on Portion 50 of the farm Tweefontein 463KR, close to Bela-Bela in the Limpopo Province were conducted successfully. Two alternative sites for the Piggery had to be investigated.

Background research indicates that there are a number of cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study portion falls. The assessment of the specific study area recorded no sites, features or objects of archaeological & recent historical origin and significance.

The assessment of the study area revealed no sites, features or artifacts of cultural heritage (archaeological or historical) origin or significance. There are no rocky ridges/outcrops in the study area. The study area has been disturbed to a large degree by recent agricultural activities such as ploughing and crop growing, and if any sites or features of archaeological and other cultural heritage significance did exist here in the past it would have been disturbed or destroyed. Furthermore the area is characterized by sandy soils and building here in the archaeological past would not have been considered likely. Hilly terrain closer to Bela-Bela (Buyskop) and towards Modimolle (Nylstroom) would have been the areas where prehistorical Late Iron Age settlement would much rather have occurred.

From an Archaeological (cultural heritage point of view) the development should therefore be allowed to continue. However, the subterranean presence of archaeological or historical sites, features or objects is always a possibility. Should any be uncovered during the development process an archaeologist should be called in to investigate and recommend on the best way forward. The presence of other low stone packed or unmarked graves should also be kept in mind.

8. REFERENCES

Aerial views of study area location, alternative development sites and track paths: Google Earth 2015.

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

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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.

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.

Chief Surveyor General Database (<u>www.csg.dla.gov.za</u>): Documents 103P2A01 & 101MIX01.

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.

Aestetic 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, landuse, 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.