

13. ARCHAEOLOGICAL AND HERITAGE RESOURCES

A Phase 1 archaeological survey of the site in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999) was conducted for the eight farms. This included:

- Conducting a desk-top investigation of the area
- A visit to the proposed development sites

The objectives of the survey were to:

- Identify possible archaeological, cultural and historic sites within the proposed development areas.
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources.
- Select a preferred site for the development.
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.
- Recommend further studies in the EIA, should these be required.

13.1. Definitions and Assumptions

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

- *Cultural resources* are all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.
- Sites regarded as having *low significance* have already been recorded in full and require no further mitigation. Sites with medium to high significance require further mitigation measures.
- The *latitude* and *longitude* of archaeological sites are to be treated as sensitive information by the developer and should not be disclosed to members of the public.
- *Stone Age:*
Early Stone Age (ESA): 2 000 000 - 150 000 Before Present

Middle Stone Age (MSA): 150 000 - 30 000 BP

Late Stone Age (LSA): 30 000 - until c. AD 200

- *Iron Age:*
Early Iron Age (EIA): AD 200 - AD 1000
Late Iron Age (LIA): AD 1000 - AD 1830
- *Historical Period:*
Since the arrival of the white settlers - c. AD 1840 in this part of the country
- A *core* is a piece of stone from which flakes were removed to be used or made into tools

13.2. Legislative Requirements

Aspects concerning the conservation of cultural resources are mainly dealt within two acts. These are the South African Heritage Resources Act (Act No 25 of 1999) and the Environment Conservation Act (Act No 73 of 1989).

13.2.1. South African Heritage Resources Act (Act No 25 of 1999)

- *Archaeology, palaeontology and meteorites*
In terms of Section 35(4) of this Act, no person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or material or any meteorite; 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.
- *Structures*
Section 34(1) of this Act states that no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
 - * "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 other decoration or any other means.
- *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.*

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act No 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). 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.

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13.2.2. Environment Conservation Act (Act No 73 of 1989)

This Act states that a survey and an evaluation of cultural resources should be undertaken in areas where development, which will change the face of the environment, is to be made. The impact of the development on the cultural resources should also be determined and proposals to mitigate this impact are to be formulated.

13.3. Methodology

13.3.1. Preliminary investigation

- *Survey of the literature*

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the heritage potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted.

- *Data bases*

The *Archaeological Data Recording Centre* (ADRC) housed at the National Cultural History Museum, Pretoria, as well as the *Environmental Potential Atlas* were consulted.

- *Other sources*

The topocadastral and other maps of the area were also studied.

13.3.2. Field survey

The field survey was undertaken according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. Local landowners/occupiers assisted during the field visit by acting as guides to known sites. Special attention was given to topographical occurrences such as trenches, holes, outcrops and clusters of trees. Where possible, the landowners/occupiers were interviewed in an effort to obtain information on the existence of known sites.

13.3.3. Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined by means of a *Global Positioning System* (GPS)¹ and plotted on a map (refer to Figure 13.1). This information is added to the description in order to facilitate the identification of each locality. Map datum used: Hartebeeshoek 94 (WGS84).

13.3.4. Standardised Set of Conventions Used to Assess the Impact of Projects on Cultural Resources

- *Significance of impact:*
 - * Low: where the impact will not have an influence on or require to be significantly accommodated in the project design
 - * Medium: where the impact could have an influence which will require modification of the project design or alternative mitigation
 - * High: where it would have a "no-go" implication on the project regardless of any mitigation
- *Certainty of prediction:*
 - * Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
 - * Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
 - * Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
 - * Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

¹ According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.

- *Recommended management action:*
For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, are required to be identified. This is expressed according to the following:
 - * 1 = no further investigation/action necessary
 - * 2 = controlled sampling and/or mapping of the site necessary
 - * 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
 - * 4 = preserve site at all costs
- *Legal requirements:*
Identification and listing of the specific legislation and permit requirements which could potentially be infringed upon by the proposed project, if mitigation is necessary.

13.4. Description of the Area

The areas surveyed included the following farms: Appelvlakte, Nelsonskop, Naauwontkome, Eenzaamheid, Droogeheuwel, Zongezien, Kuipersbult, and Kromdraai. All of these are located in the Lephalale district of Limpopo Province (refer to Figure 13.1).

The topography of the area is very flat, with only a few small non-perennial rivers traversing the area. The geology comprises of alternating bands of arenite and shale, with a basalt intrusion to the west of the study area. The original vegetation of the study areas consists of Mixed Bushveld, with a section to the north classified as Sweet Bushveld. Very few features (e.g. hills, outcrops or rock shelters) that usually draw people to settle in its vicinity occur in the area. The only exception is Nelsonskop.

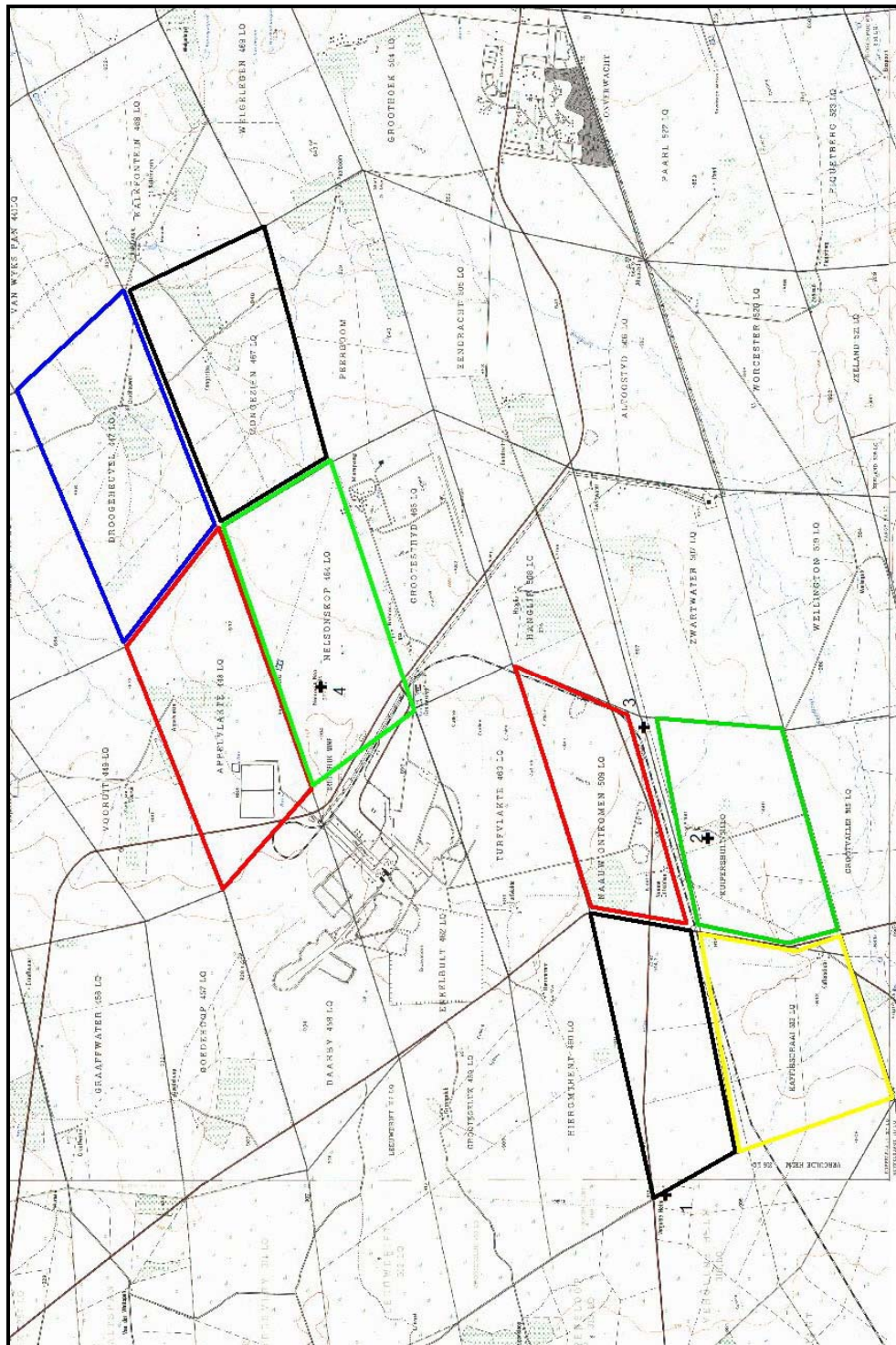


Figure 13.1: Location of the study areas and the identified heritage sites.

13.5. Survey Results²

The following section describes the sites that were identified on the farms Vergulde Helm 316 LQ, Kuipersbult 511 LQ and Nelsonskop 464 LQ during the field investigation. No sites of heritage value were identified on the remaining farms. These sites are illustrated on Figure 13.1.

13.5.1. Site number 1

- *Location:* Vergulde Helm 316 LQ
- *Description:* An informal cemetery with four graves. Two of these date back to the 1930s, and the other two date to within the last 10 years.
- *Discussion:* This site falls just outside the identified areas and is only mentioned because it is very close to the border with the farm Eenzaamheid 512 LQ.
- *Significance of impact:* Low
- *Certainty of prediction:* Definite
- *Recommended management action:* 1 = no further investigation/action necessary
- *Legal requirements:* If the relocation of this site is necessary a SAHRA permit and the relevant local government permits will need to be obtained. The descendants will also be required to be notified.

13.5.2. Site number 2

- *Location:* Kuipersbult 511 LQ
- *Description:* Single grave. Inscription: MS Moloantoa 25/5/1848 – 24/12/1953
- *Discussion:* If development takes place, this feature would have to be relocated.
- *Significance of impact:* High
- *Certainty of prediction:* Definite
- *Recommended management action:* Relocate grave if necessary.
- *Legal requirements:* If the relocation of this site is necessary a SAHRA permit and the relevant local government permits will need to be obtained. The descendants will also be required to be notified.

² See Section 13.3.4 for an explanation of the conventions used in assessing the heritage remains.

13.5.3. Site number 3

- *Location:* Kuipersbult 511 LQ
- *Description:* Small outcrop. A few small pieces of non-diagnostic Iron Age pottery occur on the site. The site could have served as rainmaking site, but no engravings of other artefacts were found here.
- *Discussion:* The site is viewed to have little significance.
- *Significance of impact:* High
- *Certainty of prediction:* Definite
- *Recommended management action:* 1 = no further investigation/action necessary
- *Legal requirements:* None

13.5.4. Site number 4

- *Location:* Nelsonskop 464 LQ
- *Description:* A small hill. Some interesting engravings of animal spoors, cupules and cut marks were identified on the southern face of the outcrop. On top of the hill, a number of small stone walled enclosures occur. The hill is in all probability a site of potency, for the making of rain, by the San and later Sotho-Tswana speaking people in the area.
- *Discussion:* Based on its uniqueness, scientific and (past?) religious value, this site has a high significance and development should not be allowed to take place on or near it.
- *Significance of impact:* High
- *Certainty of prediction:* Definite
- *Recommended management action:* 4 = preserve site at all costs
- *Legal requirements:* SAHRA permit

13.6. Discussion

Probably because of the somewhat inhospitable environment, being very flat and with few sources of surface water, people did not settle in large numbers in the area in the past. As a result, only a few sites of cultural significance are known to occur in the larger geographical area. In areas where there are outcrops, especially close to rivers, rock art sites and sites dating to the Late Iron Age have been documented. Further afield, to the south, some Early and Late Iron Age sites are known to exist. In the town of Lephalale there is a cemetery containing the graves of some of the earliest white settlers in the area. With reference to the study area, the following was identified:

13.6.1. Stone Age

Stone tools were recorded at a few select spots, predominantly at outcrops and the small watercourses. As these artefacts were found on the surface, they are not in their original context any more and can yield very little information. As a result, they are viewed to have no significance.

However, the opposite holds true for the site at Nelsonskop (refer to Section 13.5). Here some interesting engravings of animal spoors, cupules and cut marks were identified on the southern face of the hill. In addition, on top of the hill a number of small stone walled sites occur. A few non-diagnostic stone flakes and potsherds occur in the shelter.

From ethnographic sources it is known that hills or promontories, for example in the Karoo, are important features to the San because they offer vantage points in an otherwise remarkably flat landscape from which the springbok may be watched (Deacon 1988). The fact that there is a big panel (Figure 13.2) with a variety of engravings on it indicates that this is in all probability a site of potency, for the making of rain by the San and later Sotho-Tswana speaking people in the area (refer to Van der Ryst *et al*, 2004).

Although such sites are not unknown, this is currently the only known one in the larger region. Furthermore, it might even be linked with the other rock painting sites in the larger region, e.g. on the outskirts of Lephalale. A negative impact on this site would then, by extension, also have a negative impact on all the other sites. Based on its uniqueness, scientific and (past?) religious value, this site is viewed as having high significance and development should not be allowed to take place on it and further development should be prevented from taking place near it (i.e. on surrounding properties).



Figure 13.2: Some of the cupules and cut marks on the rock face at Nelsonskop.

13.6.2. Iron Age

No sites dating to the Iron Age were identified. A few pieces of pottery were found at an outcrop on the farm Kuipersbult (refer to Section 13.5). However, these did not include any diagnostic pieces and it is therefore difficult to determine its dating or identity. They are viewed as having no significance and their occurrence would not present any problem to the proposed development taking place at the site.

13.6.3. Historical period

Although a number of old farmsteads occur in the area, none are older than 60 years, or can be related to a significant event or person. Two cemeteries were identified (refer to Section 13.5). One of these falls just outside the area of proposed development and would therefore not be impacted on directly. The other consists of a single grave. This feature does not present a significant impact for the proposed development, as it would be possible to relocate it if necessary.

13.7. Identification of Risk Sources

There are few cultural heritage resources known to exist in the area. The biggest risk posed by the development would be the accidental uncovering of unknown sites.

Road making and construction activities might expose unknown sites. Curious workers might remove uncovered artefacts. Should archaeological sites be exposed during construction work, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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13.8. Conclusions

In order to determine from a heritage point of view which site would be the most suitable for development, a site preference rating system was applied. Table 13.1 and 13.2 outline the site preference rating for the power station and ancillary infrastructure sites respectively.

Table 13.1: The Site Preference Rating of the alternative Sites for the power station with regards to impact on heritage

Farm name	Site Preference Rating
Farm Appelvlakte 448 LQ	2 (not preferred)
Farm Nelsonskop 464 LQ	1 (not suitable)
Farm Naauwontkomen 509 LQ	5 (ideal)
Farm Eenzaamheid 687 LQ	5 (ideal)

Farm Naauwontkomen 509 LQ and farm Eenzaamheid 687 LQ are considered the preferred sites for the construction of the proposed power station. It should be noted that Nelsonskop 464 LQ is the least suitable for the construction of the proposed power station due to the occurrence of the Nelsonskop outcrop. Even though there were no sites of heritage value identified on the farm Appelvlakte 448 LQ, a low preference rating was given in order to reduce the impact on Nelsonskop due to its close proximity.

Table 13.2: The Site Preference Rating of the alternative sites for the ancillary infrastructure with regards to impact on heritage

Farm name	Site Preference Rating
Farm Appelvlakte 448 LQ	2 (not preferred)
Farm Nelsonskop 464 LQ	1 (not suitable)
Farm Naauwontkome 509 LQ	5 (ideal)
Farm Eenzaamheid 687 LQ	5 (ideal)
Farm Droogeheuvel 447 LQ	2 (not preferred)
Farm Zongezien 467 LQ	2 (not preferred)
Farm Kuipersbult 511 LQ	3 (acceptable)
Farm Kromdraai 690 LQ	5 (ideal)

The farms Naauwontkome 509 LQ, Eenzaamheid 687 LQ and Kromdraai 690 LQ are considered the preferred sites for the establishment of ancillary infrastructure. It should be noted that Nelsonskop 464 LQ is the least suitable for the establishment of ancillary infrastructure. Even though there were no sites of heritage value identified on the farms Appelvlakte 448 LQ, Droogeheuvel 447 LQ and Zongezien 467 LQ a low preference rating was given in order to reduce the impact on Nelsonskop due to their close proximity.

13.9. Recommendations

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the eight potential sites proposed for consideration for the new power station and its ancillary infrastructure.

Based on what was found and the associated evaluation, the potential impact on archaeological and heritage resources can be reduced on condition of acceptance of the following recommendations:

The hill known as Nelsonskop is obviously a site of high significance as it had (still has?) ritual importance for both hunter-gatherers and African farmers. It is therefore classified as a no-go area and should be avoided at all costs. In addition, the development of the surrounding properties should be avoided due to their close proximity. This will reduce the potential impact on Nelsonskop.

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The cemeteries should be avoided. Alternatively, if that is not possible, mitigation measures must be implemented by relocating the graves.

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It is recommended that a separate heritage impact assessment be undertaken for other developments associated with the proposed power station (including the conveyer belt routes, access roads, power lines, etc.).

Should archaeological sites be exposed during construction work, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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