

**Phase 1 Heritage Impact Assessment: proposed
extension of a new cemetery site on the farm Nalisview
1060, Bloemfontein, Free State Province.**

Paleo Field Services
PO Box 38806
Langenhoven Park
Bloemfontein
9330

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Summary

A Phase 1 Heritage Impact Assessment was carried out for the proposed extension of a new cemetery site on the farm Nalisview 1060, near Bloemfontein in the Free State Province. The study area is located on a 15 ha section of previously used agricultural land situated on the farm Nalisview 1060, about 13 km south of the Bloemfontein CBD and 2km due east of the N6 national road, on route to Reddersburg. A foot survey of the terrain revealed no evidence for the accumulation and preservation of intact fossil material within these superficial Quaternary sediments. Outcrop visibility is generally poor along the footprint, and sandstone outcrop is rarely exposed. The likelihood of palaeontological impact is considered low, because of the low relief terrain. The survey also revealed no evidence of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. There are also no indications of rock art, prehistoric structures, graves or well-preserved building structures with historical significance older than 60 years within the boundaries of the study area. The ruins of an old homestead marked as *Toekoms* on the 1:50 000 topographical map is clearly visible at the site (GPS coordinates 29°15'27.15"S 26°14'7.03"E). Map evidence indicates that the *Toekoms* homestead existed at least as far back as 1962, along with a forerunner of an existing eucalyptus grove that is located near the ruins. It is the opinion of this author that the ruins of the homestead are assigned a site rating of *Generally Protected B (GP.B)*. The eucalyptus grove is assigned a site rating of *Local Significance, Grade 3B*. The rest of the rest of the study area is assigned a site rating of *Generally Protected C*. It is advised that for the homestead, the developer follow proper procedures as stipulated in Section 34(1) of the National Heritage Resources Act 25 of 1999 [*"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"*], by applying for a destruction permit from the Free State Heritage authority; the layout of the *Toekoms* homestead is properly mapped and photographed before destruction takes place and that the eucalyptus grove is left intact and included as a feature within the proposed development.

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Introduction

A Phase 1 Heritage Impact Assessment was carried out for a proposed extension of a new cemetery site on the farm Nalisview 1060, near Bloemfontein in the Free State Province (**Fig. 1**). The region's unique and non-renewable archaeological and palaeontological heritage sites are 'Generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. As many such heritage sites are threatened daily by development, both the environmental and heritage legislation require impact assessment reports that identify all heritage resources including archaeological and palaeontological sites in the area to be developed, and that make recommendations for protection or mitigation of the impact of the sites.

If a heritage resource is likely to be impacted by a development listed in Section 38 (1) of the NHR Act a heritage assessment will be required either as a separate HIA or as the heritage specialist component (AIA or PIA) of an EIA.

A range of contexts can be identified which typically have high or potential cultural significance and which would require some form of heritage specialist involvement. In many cases, the nature and degree of heritage significance is largely unknown pending further investigation (e.g. capped sites, assemblages or subsurface fossil remains). On the other hand, it is also possible that a site may contain heritage resources (e.g. structures older than 60 years), with little or no conservation value.

Methodology

The archaeological significance of the affected area was evaluated through a desktop study and carried out on the basis of existing field data, database information and published literature. This was followed by a field assessment by means of a pedestrian survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Relevant archaeological information, aerial photographs and site records were consulted and integrated with data acquired during the on-site inspection.

Terms of Reference:

- Identify and map possible heritage sites and occurrences using available resources.

- Determine and assess the potential impacts of the proposed development on potential heritage resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

Field Rating

Site significance classification standards as prescribed by SAHRA (2005) for archaeological sites were used for the purpose of this report (**Table 1**).

Locality data

1 : 50 000 scale topographic map: 2926 AA Bloemfontein

1 : 250 000 scale geological map 2924 Bloemfontein

The study area is located on a 15 ha section of previously used agricultural land situated on the farm Nalisview 1060, about 13 km south of the Bloemfontein CBD and 2km due east of the N6 national road, on route to Reddersburg (**Fig. 2 & 3**).

Site coordinates of area surveyed (**Fig. 2**):

29°15'19.36"S 26°13'59.96"E

29°15'23.46"S 26°14'18.73"E

29°15'32.17"S 26°14'14.54"E

29°15'31.95"S 26°13'59.26"E

Background

Palaeontology

According to the 1 : 250 000 scale geological map 2924 Bloemfontein, the site is situated within the Beaufort Group, Adelaide Subgroup (Karoo Supergroup), which is primarily represented by late Permian sedimentary rocks, made up of alternating sandstone and mudstone layers (*Pa*) associated with stream and floodplain deposits (Theron 1963; Johnson *et al.* 2006) (**Fig. 4**). Jurassic-age dolerite intrusions, in the form of sills and dykes, occur extensively around the area (*Jd*). Quaternary to recent residual deposits, comprising unconsolidated soils, alluvial sediments and sheet wash deposits, cover the underlying sedimentary rocks. The sedimentary rocks are generally accepted to be Late Permian in age and are assigned to the *Dicynodon* Assemblage Zone (Kitching 1995). The *Dicynodon* AZ is characterized by the co-occurrence of two therapsids, *Dicynodon* and *Theriognathus* as well as a diversity of

less dominant vertebrate taxa, while trace fossils of invertebrates and vertebrates as well as *Glossopteris* flora plants have also been described.

Archaeology

The Stone Age archaeological record of the Bloemfontein region spans back to the Middle Stone Age. Prehistoric archaeological remains previously recorded in the region include numerous occurrences of *in situ* Middle and Later Stone Age artefacts eroding out of the overbank sediments where they are often found in association large mammal fossil remains (Broom 1909; Churchill *et al.* 2000; Rossouw 1999, 2000, 2006). Stone tools and mammal vertebrate fossils have been recorded from various alluvial contexts along the nearby Modder River north and east of Bloemfontein. Cranial remains of *Pelorovis antiquus* have also been recorded in overbank sediments of the Tierpoort River south of the study area. The incidence of surface scatters usually decreases away from localized areas such as alluvial contexts and dolerite-shale contact zones when stone tools largely occur as contextually derived individual finds in the open veld. Stone tools are mostly made of hornfels, a fine-grained isotropic rock found in the hot-contact zone between the dolerites and shales in the area. As a result, stone tool factory sites are commonly found near dolerite-shale contact zones. The study area is located outside the south-western periphery of distribution of Late Iron Age stone-walled settlements in the Free State (Maggs 1976).

Field Assessment

The site is characterized by flat, open grassland that shows signs of past crop farming activities on modern substrate comprised of light brown to red calcareous soils of varying depth. A foot survey of the terrain revealed no evidence for the accumulation and preservation of intact fossil material within these superficial Quaternary sediments. Outcrop visibility is generally poor along the footprint, and sandstone outcrop is rarely exposed.

The survey also revealed no evidence of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. There are also no indications of rock art (engravings on dolerite outcrop), prehistoric structures, graves or well-preserved building structures with historical significance older than 60 years within the boundaries of the study area.

The ruins of an old homestead marked as *Toekoms* on the 1:50 000 topographical map is clearly visible at the site (GPS coordinates 29°15'27.15"S 26°14'7.03"E). The Deed

of Transfer for Nalisview 1060 was issued in 1912, and map evidence indicate that the *Toekoms* homestead existed at least as far back as 1962 (**Fig. 5 - 8**). The main house has been fixed up until fairly recently (**Fig. 9**). Map data also suggests that a forerunner of an existing eucalyptus grove that is located near the ruins, was already established by 1962 (GPS coordinates from 29°15'22.13"S 26°14'0.03"E to 29°15'24.20"S 26°14'9.00"E; **Fig. 10**).

Impact Statement and Recommendation

Palaeontology

The nature of the proposed development will almost certainly have an adverse affect on residual topsoils (Quaternary sediments) that are largely degraded as a result of prior farming activities. While it is considered unlikely that the proposed development will result in any significant archaeological impact, excavations related to the digging of graves may have an adverse affect on subsurface bedrock sediments and may well be of palaeontological interest. Even so, the likelihood of palaeontological impact is considered low, because of the low relief terrain. There are no major palaeontological grounds to suspend the proposed development, but in the unlikely event that fossils are encountered during such excavations, it must be protected and their locality marked. The South African Heritage Resources Agency or National Museum in Bloemfontein should then be notified immediately so that the appropriate steps can be taken to collect and remove the material.

Archaeology

The main house recorded as the old *Toekoms* homestead is possibly around 60 years old or maybe mid-20th century in origin, but its original character was altered by subsequent renovations. All structures have been severely damaged by neglect and vandalism. It is the opinion of this author that these ruins are not historically significant enough to require preservation. It is assigned a site rating of *Generally Protected B (GP.B)* (**Table 1**). The eucalyptus grove is assigned a site rating of *Local Significance, Grade 3B*. Trees associated with historical settlements or farmsteads, that are older than 60 years old, are generally protected as heritage sites with cultural significance. Their removal or destruction will require the appropriate consent and a destruction permit from SAHRA. While many of the trees appear to be younger than 60 years old, the age of several specimens may well be older. The rest of the rest of the study area is assigned a site rating of *Generally Protected C*.

It is advised that

- for the homestead, the developer follow proper procedures as stipulated in Section 34(1) of the National Heritage Resources Act 25 of 1999 [“*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*”], by applying for a destruction permit from the Free State Heritage authority;
- the layout of the Toekoms homestead is properly mapped and photographed before destruction takes place;
- the eucalyptus grove is left intact and included as a feature within the proposed development.

References

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DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference. I have no interest in secondary or downstream developments as a result of the authorization of this project and have no conflicting interests in the undertaking of the activity.

A handwritten signature in dark ink, appearing to read 'L. Rossouw', with a stylized, cursive script.

07/ 05 / 2020

Tables and Figures

Table 1. Field rating categories as prescribed by SAHRA.

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

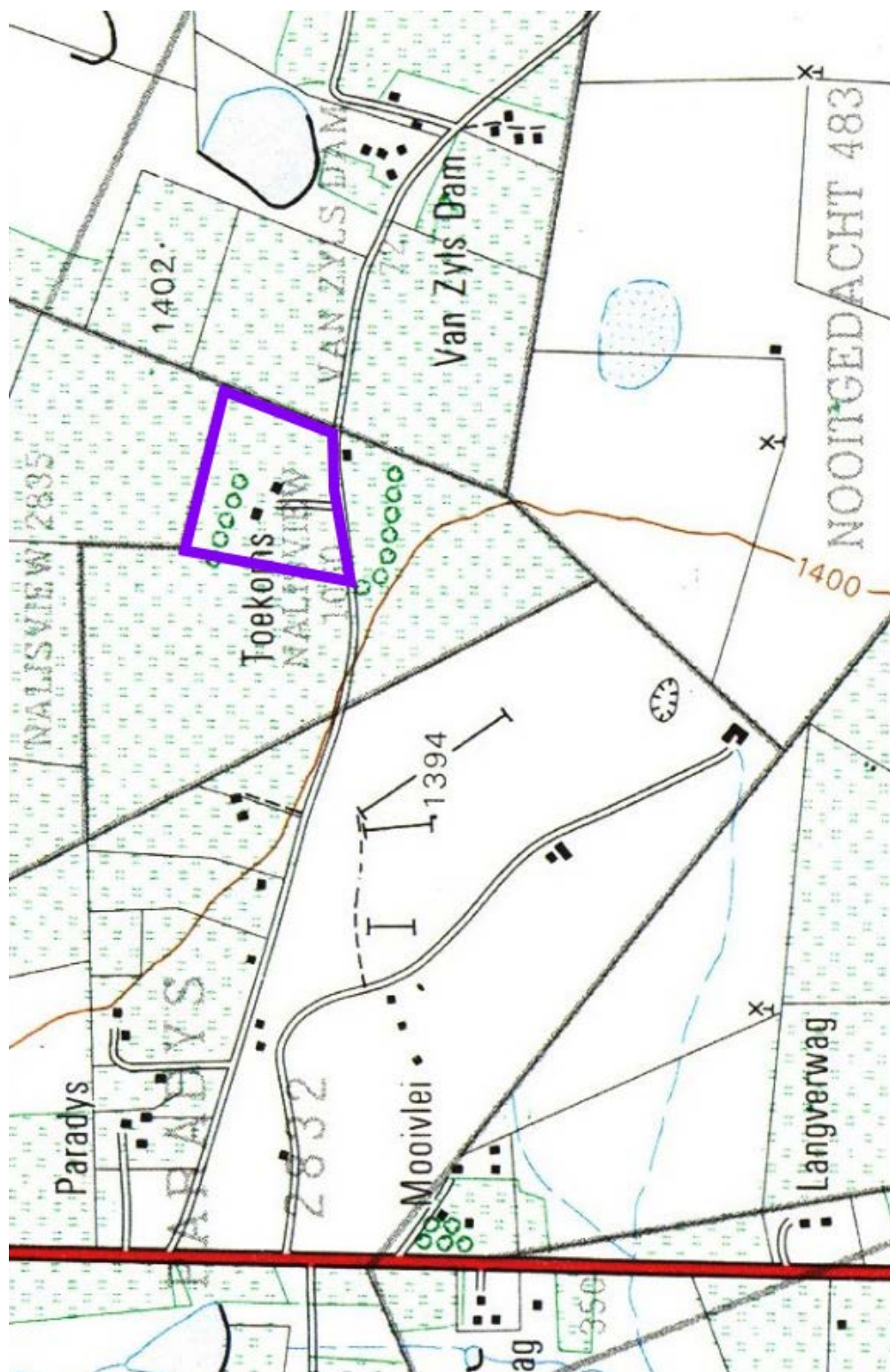


Figure 1. Map of the study area on farm Nalisview 1060 (purple polygon, portion of 1:50 000 scale topographic map 2926 AC Tierpoort Dam).



Figure 2. Aerial view of the site (yellow polygon)



Figure 3. General view of the site, looking east.



Figure 4. According to the 1 : 250 000 scale geological map 2924 Bloemfontein, the site is situated within the Beaufort Group, Adelaide Subgroup (Karoo Supergroup), which is primarily represented by late Permian sedimentary rocks, made up of alternating sandstone and mudstone layers (Pa) associated with stream and floodplain deposits



Figure 6. Western (above) and eastern (below) aspects of the main house.



Figure 7. Southern (above) and northern aspects of the main house.



Figure 8. Ruins at the Toekoms homestead.



Figure 9. Modern alterations, interior of the main house.



Figure 10. A eucalyptus grove located near the north-western boundary of the site.

Nalisview Track Log

#	Leg length	Waypoint
1	114 m	S29 15.539 E26 14.248
2	277 m	S29 15.530 E26 14.178
3	160 m	S29 15.541 E26 14.008
4	165 m	S29 15.548 E26 13.909
5	195 m	S29 15.466 E26 13.949
6	236 m	S29 15.481 E26 14.068
7	95 m	S29 15.497 E26 14.213
8	185 m	S29 15.451 E26 14.237
9	50 m	S29 15.424 E26 14.127
10	145 m	S29 15.451 E26 14.127
11	78 m	S29 15.436 E26 14.039
12	133 m	S29 15.394 E26 14.040
13	162 m	S29 15.378 E26 13.960
14	136 m	S29 15.290 E26 13.954
15	3 m	S29 15.219 E26 13.935
16	203 m	S29 15.220 E26 13.934
17	305 m	S29 15.224 E26 13.809
18	148 m	S29 15.379 E26 13.873
19	268 m	S29 15.389 E26 13.783
20	178 m	S29 15.255 E26 13.724
21	120 m	S29 15.273 E26 13.616
22	49 m	S29 15.218 E26 13.577
23	428 m	S29 15.243 E26 13.566
24	197 m	S29 15.448 E26 13.688
25	178 m	S29 15.444 E26 13.810
26	250 m	S29 15.538 E26 13.832
27	559 m	S29 15.426 E26 13.917
28	8 m	S29 15.524 E26 14.244
29	5 m	S29 15.521 E26 14.241
30	3 m	S29 15.523 E26 14.238
31	13 m	S29 15.522 E26 14.240
32		S29 15.525 E26 14.246