SITE SENSITIVITY VERIFICATION:

Vryburg Mall on Erf 11883 (a portion of erf 506), Vryburg, North West Province

PREPARED BY:
Dr David Hoare
Postnet Suite #116
Private Bag X025
Lynnwood Ridge, 0040
tel: (087) 701 7629
fax: 086 550 2053
e-mail: dhoare@lantic.net

PREPARED FOR:
HilLand Environmental cc
166 Mountview Farm,
Victoria Heights
P.O.Box 590
George, 6530
Tel: (044) 889 0229
Fax: (086) 542 5248

Declaration of Independence & Summary of Expertise

Appointment of specialist

David Hoare of David Hoare Consulting (Pty) Ltd was commissioned by HilLand Environmental CC to undertake a Site Sensitivity Verification for the site of Vryburg Mall on Erf 11883 (a portion of erf 506), Vryburg, North West Province, according to the requirements of the Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

Contact details

Dr David Hoare
David Hoare Consulting (Pty) Ltd
Postnet Suite no. 116
Private Bag X025
Lynnwood Ridge, 0040

Telephone: 087 701 7629
Cell: 083 284 5111
Fax: 086 550 2053
Email: dhoare@lantic.net

Summary of expertise

Dr David Hoare:

- Dr Hoare has majors in Botany and Zoology with distinction from Rhodes University, Grahamstown, an Honours Degree (with distinction) in Botany from Rhodes University, an MSc (cum laude) from the Department of Plant Science, University of Pretoria, and a PhD in Botany from the Nelson Mandela Metropolitan University, Port Elizabeth with a focus on grassland diversity.
- Registered professional member of The South African Council for Natural Scientific Professions (Ecological Science, Botanical Science), registration number 400221/05.
- Founded David Hoare Consulting (Pty) Ltd, an independent consultancy, in 2001.
- Ecological consultant since 1995, with working experience in Gauteng, Mpumalanga, Limpopo, North West, Eastern Cape, Western Cape, Northern Cape and Free State Provinces, Tanzania, Kenya, Mozambique, Zimbabwe, Botswana and Swaziland.
- Conducted, or co-conducted, over 500 specialist ecological surveys as an ecological consultant. Areas of specialization include general ecology, biodiversity assessments,

vegetation description and mapping, plant species surveys and remote sensing of vegetation. Has undertaken work in grassland, thicket, forest, savannah, fynbos, coastal vegetation, wetlands and Nama-Karoo vegetation.
- Published six technical scientific reports, 15 scientific conference presentations, seven book chapters and eight refereed scientific papers.
- Attended 15 national and international congresses & 5 expert workshops, lectured vegetation science / ecology at 2 universities and referee for 2 international journals.

Independence

David Hoare Consulting (Pty) Ltd and its Directors have no connection with the proponent. David Hoare Consulting (Pty) Ltd is not a subsidiary, legally or financially, of the proponent. Remuneration for services by the proponent in relation to this project is not linked to approval by decision-making authorities responsible for authorising this proposed project and the consultancy has no interest in secondary or downstream developments as a result of the authorisation of this project. David Hoare Consulting (Pty) Ltd is an independent consultant to the Environmental Assessment Practitioner and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of this specialist performing such work.

Indemnity and conditions relating to this report

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information. David Hoare Consulting cc and its staff reserve the right to modify aspects of the report including the recommendations if and when new information may become available from ongoing research or further work in this field, or pertaining to this investigation.

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of this report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

Contents

Introduction

This document presents the results of the Site Sensitivity Verification of the study site, based on a desktop and field assessment, as well as mapping from aerial imagery.

Terms of reference and approach

This site sensitivity assessment follows the requirements of The Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), published in GN. No. 320 dated 20 March 2020. This states that prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration identified by the national web based environmental screening tool must be confirmed.

1. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.
2. The site sensitivity verification must be undertaken through the use of:
    a. a desktop analysis, using satellite imagery;
    b. a preliminary on-site inspection; and
    c. any other available and relevant information.
3. The outcome of the site sensitivity verification must be recorded in the form of a report that:
4. confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;
5. contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and
6. is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations (EIA Regulations).

Desktop description of study area

This section provides a description of the location of the study area as well as an outline of the background biodiversity information known for the study area.

Study area

Location

The site is in Vryburg, in North West Province, approximately 340 km WSW of central Johannesburg (Figure 1). It is on the southern side of Vryburg, alongside the N14 national road to Kuruman and Upington (Figure 2). The site is in an open area between two developed areas, alongside a golf course. The golf course is in a valley bottom that includes a diffuse wetland area that flows into the Leeuspruit, a tributary of the Harts River, which flows into the Vaal River north-west of Barkly West. The site is within the quarter degree grid 2624DC Vryburg.

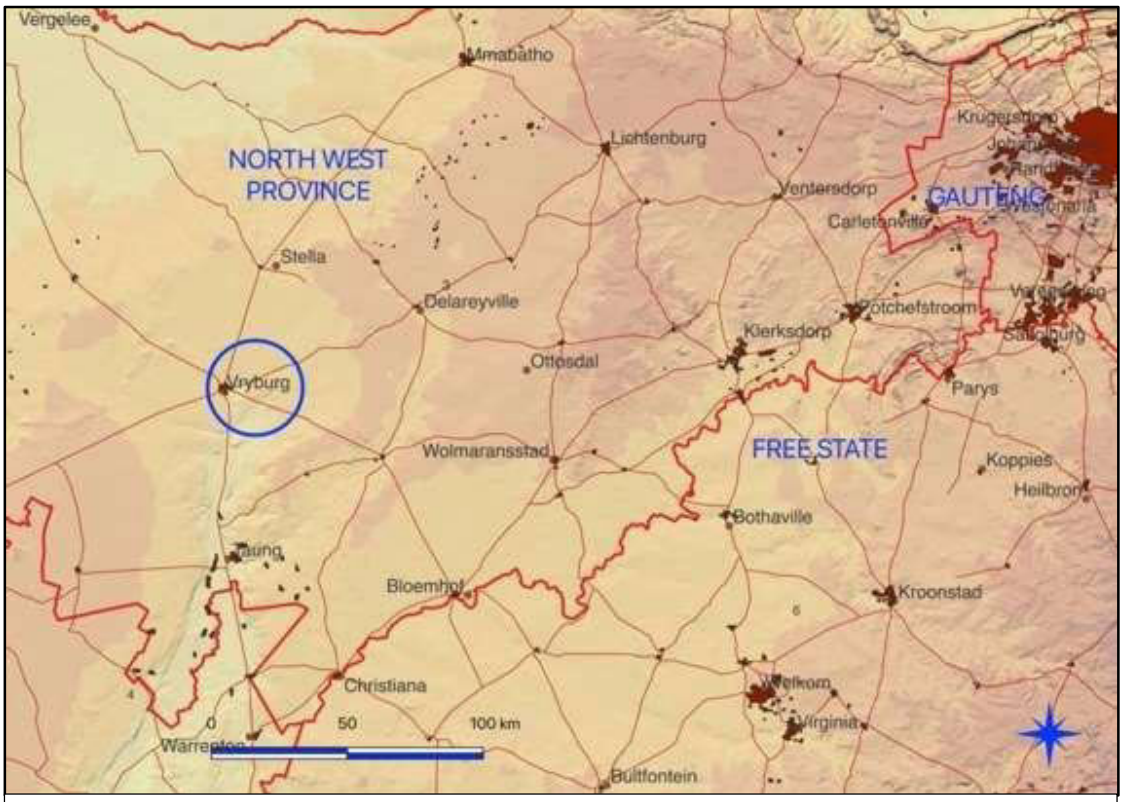

Figure 1: Location of the site.

The site is open land on the side of the road, between a development to the south, the golf course to the east, and the road to the west. The lowland part of the site contains tall shrubs / low trees, whereas the remainder of the site is a combination of grassland and disturbed areas, all with scattered shrubs. There is an old borrow pit (or similar) in the centre of the site, and recent imagery (July 2021) shows surface disturbance across much of the north-eastern quadrant of the site. In addition, there is a band of variable width adjacent to the N14 road that is historically disturbed.

Figure 2: Aerial image of the site and immediate surroundings. *Please note the incorrect cadastral information was used and resulted in survey outside of the property boundary.

Screening Tool output

The DEA Screening Tool report for the area that includes all of the specific locations indicates the following ecological sensitivities:

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Animal Species Theme				X
Aquatic Biodiversity Theme	X			
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

Aquatic Biodiversity theme

Sensitivity features are indicates as follows:

Sensitivity	Feature(s)
Very High	Aquatic CBAs

Terrestrial Biodiversity theme

Sensitivity features are indicates as follows:

Sensitivity	Feature(s)
Very High	Ecological support area 1

Regional vegetation patterns in relation to the site

A description of the regional vegetation type is provided here, because it provides an expectation of the vegetation composition in the event that remaining patches of indigenous vegetation occur on site.

According to the most recent vegetation map of the country (SANBI, 2018) the study area falls within one regional vegetation type, namely Ghaap Plateau Vaalbosveld (SVk7).

Ghaap Plateau Vaalbosveld

Distribution

Northern Cape and North-West Provinces: Flat plateau from around Campbell in the south, east of Danielskuil through Reivilo to around Vryburg in the north. Altitude 1 100–1 500 m.

Vegetation & Landscape Features

Flat plateau with well-developed shrub layer with *Tarchonanthus camphoratus* and *Acacia karroo*. Open tree layer has *Olea europaea* subsp. *africana*, *A. tortilis*, *Ziziphus mucronata* and *Rhus lancea*. *Olea* is more important in the southern parts of the unit, while *A. tortilis*, *A. hebeclada* and *A. mellifera* are more important in the north and part of the west of the unit. Much of the south-central part of this unit has remarkably low cover of *Acacia* species for an arid savanna and is dominated by the non-thorny *T. camphoratus*, *R. lancea* and *O. europaea* subsp. *africana*.

Geology & Soils

Surface limestone of Tertiary to Recent age, and dolomite and chert of the Campbell Group (Griqualand West Supergroup, Vaalian Erathem) support shallow soils (0.1–0.25 m) of Mispah and Hutton soil forms. Land types mainly Fc with some Ae and Ag.

Climate

Summer and autumn rainfall with very dry winters. MAP from about 300 mm in the southwest to about 500 mm in the northeast. Frost frequent to very frequent in winter. Mean monthly maximum and minimum temperatures for Koopmansfontein 36.3°C and –7.5°C for January and July, respectively. Corresponding values for Armoedsvlakte (near Vryburg) 36.6°C and –5.5°C for December and July, respectively.

Important Taxa

Tall Tree: *Vachellia erioloba*.

Small Trees: *Senegalia mellifera* subsp. *detinens* (d), *Searsia lancea* (d), *Vachellia karroo*, *V. tortilis* subsp. *heteracantha*, *Boscia albitrunca*.

Tall Shrubs: *Olea europaea* subsp. *cuspidata* (d), *Rhigozum trichotomum* (d), *Tarchonanthus camphoratus* (d), *Ziziphus mucronata* (d), *Diospyros austro-africana*, *D. pallens*, *Ehretia rigida* subsp. *rigida*, *Euclea crispa* subsp. *ovata*, *Grewia flava*, *Gymnosporia buxifolia*, *Lessertia frutescens*, *Searsia tridactyla*.

Low Shrubs: *Vachellia hebeclada* subsp. *hebeclada* (d), *Aptosimum procumbens*, *Chrysocoma ciliata*, *Helichrysum zeyheri*, *Hermannia comosa*, *Lantana rugosa*, *Leucas capensis*, *Melolobium microphyllum*, *Peliostomum leucorrhizum*, *Pentzia globosa*, *P. viridis*, *Zygophyllum pubescens*.

Succulent Shrubs: *Hertia pallens*, *Lycium cinereum*.

Semiparasitic Shrub: *Thesium hystrix*.

Woody Climber: *Asparagus africanus*.

Graminoids: *Anthephora pubescens* (d), *Cenchrus ciliaris* (d), *Digitaria eriantha* subsp. *eriantha* (d), *Enneapogon scoparius* (d), *Eragrostis lehmanniana* (d), *Schmidtia pappophoroides* (d), *Themeda triandra* (d), *Aristida adscensionis*, *A. congesta*, *A. diffusa*, *Cymbopogon pospischilii*, *Enneapogon cenchroides*, *E. desvauxii*, *Eragrostis echinochloidea*, *E. obtusa*, *E. rigidior*, *E. superba*, *Fingerhuthia africana*, *Heteropogon contortus*, *Sporobolus fimbriatus*, *Stipagrostis uniplumis*, *Tragus racemosus*.

Herbs: *Barleria macrostegia*, *Geigeria filifolia*, *G. ornativa*, *Gisekia africana*, *Helichrysum cerastioides*, *Heliotropium ciliatum*, *Hermbstaedtia odorata*, *Hibiscus marlothianus*, *H. pusillus*, *Jamesbrittenia aurantiaca*, *Limeum fenestratum*, *Lippia scaberrima*, *Selago densiflora*, *Vahlia capensis* subsp. *vulgaris*.

Succulent Herb: *Aloe grandidentata*.

Biogeographically Important Taxa ([GW]Griqualand West endemic, [K]Kalahari endemic, [D]Broadly disjunct distribution)

Tall Shrubs: *Lebeckia macrantha*[GW], *Nuxia gracilis*[D].

Low Shrubs: *Blepharis marginata*[GW], *Putterlickia saxatilis*[GW], *Tarchonanthus obovatus*[GW].

Succulent Shrubs: *Euphorbia wilmaniae*[GW], *Prepodesma orpenii*[GW] (endemic genus).

Graminoids: *Digitaria polyphylla*[GW], *Panicum kalaharense*[K].

Herbs: *Corchorus pinnatipartitus*[GW], *Helichrysum arenicola*[K].

Succulent Herb: *Orbea knobelii*[K].

Endemic Taxon

Herb: *Rennera stellata*.

Vegetation conservation status

National status

The conservation status of Ghaap Plateau Vaalbosveld is Least Concern.

Ghaap Plateau Vaalbosveld is not listed in The National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004).

Table 3: Conservation status of vegetation types occurring in the study area, according to Mucina et al. 2005 and the National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011).

Vegetation Type	Status (Mucina et al. 2005)	Status (NEMBA – 2011)	Status (NBA 2018)
Ghaap Plateau Vaalbosveld	Least Concern	Least Concern	Not listed

Provincial C-Plan status

The North West Biodiversity Spatial Plan (NWBSP) classifies the habitats of the province according to conservation value in decreasing value, as follows:

1. Protected Areas (PA);
2. Critical Biodiversity Areas 1 (CBA1);
3. Critical Biodiversity Areas 2 (CBA2);
4. Ecological Support Area 1 (ESA1);
5. Ecological Support Area 2 (ESA2);

The NWBSP map for the province shows that the entire site is within an area mapped as Ecological Support Area 1 (ESA1) (Figure 3). This ESA1 area extends for some distance beyond the boundaries of the site in all directions. In fact, it encompasses all non-developed areas in proximity to Vryburg. This indicates that, according to the conservation plan, the natural habitat on site and in surrounding areas is considered to be important for maintaining ecological processes.

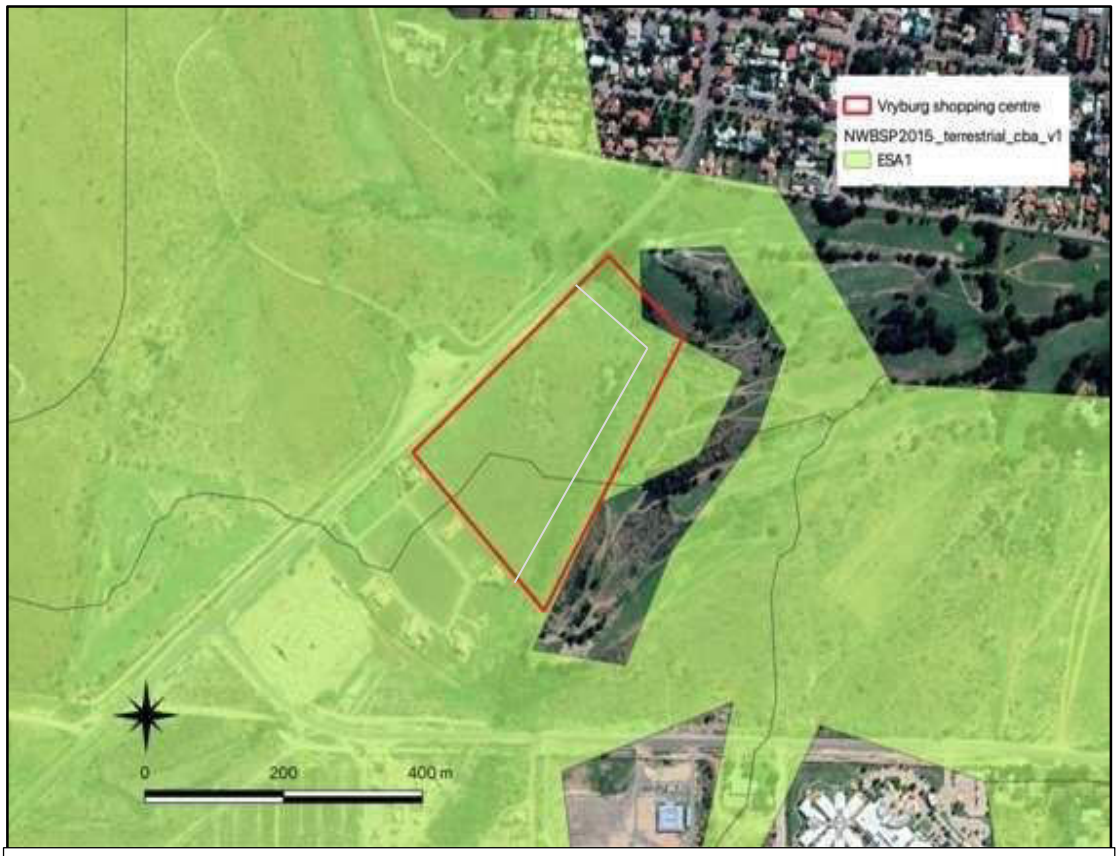

Figure 3: North West Biodiversity Spatial Plan of the site and surrounding areas. Please note the incorrect cadastral information was used and resulted in survey outside of the property boundary. The grey line indicated the approximate location of the correct eastern cadastral boundary.

Historical land-use patterns

Historical aerial photographs from 4 May 1977 (Figure 4, site boundaries in yellow) show that the borrow pits on site were already in existence at that time. An aerial photograph from 1959 also shows similar patterns of disturbance. No aerial imagery from earlier dates are digitally available.

Figure 4: Historical aerial image dated 4 May 1977 showing borrow pits. *Please note the incorrect cadastral information was used and resulted in survey outside of the property boundary. The grey line indicated the approximate location of the correct eastern cadastral boundary.

Previous authorisation for the site

In 2014 NEMA Environmental Authorisation was given for the development of a mall on the property as indicated below (extract from Final BAR

- Design and Layout of Facility

Methodology

The study commenced as a desktop-study followed by a site-specific field study. Aerial imagery from Google Earth and from the National Geospatial Information database was used to establish an ecological history of activities on site as well as to identify ecological features of interest on site. Patterns identified from satellite imagery were verified on the ground. Sources of information were as follows:

- Broad vegetation types occurring on site were obtained from Mucina and Rutherford (2006), with updates according to the SANBI BGIS website (http://bgis.sanbi.org).
- The national conservation status of the vegetation types was obtained from Mucina and Rutherford (2006) and the National List of Ecosystems that are Threatened and in need of protection (GN1002 of 2011), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004).
- The regional conservation status and Critical Biodiversity Areas were obtained from the Western Cape Biodiversity Spatial Plan (WCBSP) for the George District (Cape Nature 2017).
- There were three sources for threatened species, namely species listed according to the DEA Online Screening Tool (https://screening.environment.gov.za/screeningtool/), a species list extracted from the South African National Biodiversity Institute (http://posa.sanbi.org) for the quarter degree square/s within which the study area is situated, and from records from the iNaturalist website (https://www.inaturalist.org/) for the general area that includes the site. An updated status for all species was obtained from the SANBI website (http://redlist.sanbi.org/), as well as supplementary information on habitats and distribution.

On the basis of the information referenced above, it is considered that the current report considers national and regional conservation principles as are prescribed in the Guideline for Biodiversity Specialists (Münster, 2005).

The focus of the site visit was a reconnaissance of the site and a search for any vegetation in a natural state. A full survey of this site was conducted on **12 October 2021** during the early part of the rainfall season. At that time a checklist of species occurring on site was collected and specific areas on the site were investigated in detail. These parts of the site was traversed by foot and species listed as they were encountered. Plant names follow Germishuizen *et al*. (2005) and any taxonomic updates, as found on the SANBI website. Digital photographs were taken where features of interest were observed. The season of the survey was favourable and it is likely that most of the species present on site were identifiable at the time of the survey. The survey was of adequate duration and intensity to characterise the flora of the site.

Results of field survey of site

This section provides a description of vegetation and flora patterns found on site, as determined from the field survey in combination with mapping from aerial imagery. Historical aerial imagery was used to attempt to understand any patterns of disturbance seen on site during the field survey.

The habitat on site is in various states of disturbance. In the central part of the site is an area that was excavated, probably as a borrow pit (Figure 5). These areas are still highly disturbed and more than 2 m deep in places, surrounded by dumped rubble and mounds of material. Indigenous and exotic shrubs have invaded in places, but the area mostly has bare soil and weedy grasses.

There are areas in a band adjacent to the road that were probably disturbed during the process of constructing the road. They are now covered by a secondary vegetation cover that includes grass and weeds.

Figure 5: Excavated area in the centre of the site.

The valley in the bottom of the site is dominated by woody plants (Figure 6), including *Vachellia karroo*, *Ziziphus mucronata*, *Tarchonanthus camphoratus*, *Grewia flava*, and *Vachellia hebeclada*. The understorey in these areas is weedy and includes species such as *Glandularia aristigera**, *Chenopodium album*, *Flaveria bidentis**, and *Solanum sisymbriifolium**. There are a number of footpaths crossing this valley that appear to be used regularly.

There is a small area of grassland remaining on site that is in a natural state (Figure 7). Dominant grasses in this area included *Themeda triandra*, *Setaria sphacelata*, *Heteropogon contortus*, *Fingerhuthia africana*, *Eragrostis superba*, and *Schmidtia pappophoroides*, along with a variety of herbaceous species, including *Indigofera daleoides*, *Rhynchosia sp.*, *Hibiscus trionum*, *Sida rhombifolia*, *Moraea sp.*, *Albuca sp.*, *Aptosimum procumbens*, *Melolobium sp.*, *Blepharis sp.*, *Heliotropium steudneri*, *Macledium zeyheri*, *Helichrysum argyrosphaerum*, *Bulbine abyssinica*, *Aloe grandidentata*, *Felicia muricata*, *Trachyandra saltii*, *Asclepias melliodora*, *Chascanum hederaceum*, *Jamesbrittenia tysonii*, *Lippia scaberrima*, *Polygala hottentotta*, and *Thesium magalismontanum*.

Figure 6: Dense woodland in the valley bottom on site.

The species diversity on site is moderate. The indigenous species are mostly typical of grassland within Ghaap Plateau Vaalbosveld.

One plant species of concern was found on site, the Near Threatened *Drimia sanguinea*. This species is currently threatened by mass harvesting for the medicinal plant trade, where it is estimated that more than 400 000 bulbs are harvested annually, mostly in and around Gauteng. The small colony of bulbs seen on site (about 15 plants) is insignificant in comparison to this annually harvested number.

Three protected species (Cape Nature and Environmental Conservation Ordinance 19 of 1974) occur on site, namely *Moraea* species (all species of Iridaceae are protected), *Asclepias meliodora* (all species of Apocynaceae are protected), and *Aloe grandidentata* (All species of the genus ALOE except those specified in Schedule 3 and the species *Aloe ferox* are protected). These species are widespread and not threatened.

No protected tree species were found found on site.

Figure 7: Grassland on site.

Sensitivity assessment

There is one ecological feature on site that warrants consideration in assessing the biodiversity value of the site. This is the following:

1. Ecological Support Areas 1: The entire site is within an ESA1 area. Parts of the site still contain natural habitat (grassland and woodland) and secondary vegetation or degraded areas occur within the remaining area. Most of this could serve as ecologically functional habitat, although the natural grassland would have the highest ecological and biodivesity value.

The site is therefore considered to potentially have ecological value. However, the only remaining habitat on site in a completely natural state, and with potential biodiversity value, is the grassland, which is fragmented by surrounding land-use, and isolated from similar grassland in nearby areas. There is little intact grassland to the east of the site, and this area terminates within existing urban development. There are extensive areas of grassland to the north-west, which are also within a protected area. The relatively small fragment of grassland on site therefore has very limited ecological support value in a regional context.

Figure 8: Habitats on site. Please note the incorrect cadastral information was used and resulted in survey outside of the property boundary. The grey line indicated the approximate location of the correct eastern

Discussion

The requirements of this study were to undertake a site sensitivity verification and to evaluate whether any indigenous habitat of conservation value occurs on site. The vegetation study identified grassland, woodland, and degraded areas on site.

The site is within one regional vegetation type called Ghaap Plateau Vaalbosveld, not listed in the National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004). Parts of the site contain remaining natural grassland that is representative of this vegetation type in terms of vegetation structure and species composition.

The entire site and surrounding areas occurs within an Ecological Support Area 1. The site contains natural vegetation and degraded areas, most of which is ecologically functional (with the exception of historically excavated areas in the centre of the site). The ESA1 categorization is therefore valid. However, the ecological support value of the site is limited in the sense that natural areas terminate to the east of the site within the existing urban areas. The site itself is an isolated fragment that is not linked to the main areas of continuous habitat to the north-west of the site. Natural ecological processes on site are therefore compromised by existing disturbance and urban development, and ecological processes on site have no support value for other areas of terrestrial habitat in adjacent areas.

Historical aerial photographs show that part of the site was excavated (probably as a borrow pit) prior to 1959, and there is a band of vegetation parallel to the N14 national road that was disturbed, probably during construction of the road. In addition, more recent clearing occurred in the northern parts of the valley in which the wetland occurs. Some original vegetation therefore occurs on site but there are also degraded and secondary areas. A map of these broad habitats is provided (Figure 8).

The flora of the site consists primarily of indigenous species and overall moderate species richness, although it also includes exotic and indigenous weeds typical of disturbed areas. One species of concern (a Near Threatened species) and no protected trees occur on site. Three species protected under the Cape Nature and Environmental Conservation Ordinance 19 of 1974 occur on site, all widespread species not listed elsewhere.

Conclusion

The following conclusions can be made with regards to the site:

- There is some remaining original vegetation on site, including grassland and woodland. The remaining areas have undergone disturbance and degradation.
- There are no threatened plant or animal species that were found on site, but one Near Threatened species was found on site, listed due to harvesting for the medicinal market. Despite this occurrence, habitat on site is not considered to be important for any threatened organisms.
- The Site Sensitivity Verification indicates agreement with the sensitivity indicated in the Screening Tool in the sense that the site is within an Ecological Support Area (even though significant parts are not in an original state). However, the terrestrial habitat on site is isolated from other terrestrial habitats and consists of a relatively small fragment. It therefore has little ecological support value in a broader context. Loss of the natural habitat on site is therefore unlikely to have any significant effect on the ecological support function of the broader landscape.
- No specific measures are required to buffer sensitive features, to protect any habitat or species on site, or to retain any parts of the site in a natural state.
- A permit is required for destruction / removal / relocation of protected flora that occurs on site (*Drimia sanguinea*).

References

GERMISHUIZEN, G., MEYER, N.L., STEENKAMP, Y and KEITH, M. (eds.) (2006). A checklist of South African plants. Southern African Botanical Diversity Network Report No. 41, SABONET, Pretoria.

MUCINA, L. AND RUTHERFORD, M.C. (editors) 2006. Vegetation map of South Africa, Lesotho and Swaziland: an illustrated guide. Strelitzia 19, South African National Biodiversity Institute, Pretoria.

MUCINA, L., RUTHERFORD, M.C. AND POWRIE, I.W. (editors) 2005. Vegetation map of South Africa, Lesotho and Swaziland, 1:1 000 000 SCALE SHEET MAPS South African National Biodiversity Institute, Pretoria.

SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (2006- 2018). The Vegetation Map of South Africa, Lesotho and Swaziland, Mucina, L., Rutherford, M.C. and Powrie, L.W. (Editors), Online, Version 2018.

Appendix 1: Checklist of plant species found on site

Species	Category
Albuca sp.	
Aloe grandidentata	
Anthephora pubescens	
Aptosimum procumbens	
Asclepias meliodora	
Asparagus sp.	
Berkheya insignis	
Blepharis sp.	
Bulbine abyssinica	
Chascanum hederaceum	
Chenopodium album	
Drimia sanguinea	NEAR THREATENED, PROTECTED
Eragrostis superba	
Felicia muricata	
Fingerhuthia africana	
Flaveria bidentis	
Glandularia aristigera*	
Grewia flava	
Helichrysum argyrosphaerum	
Heliotropium steudneri	
Heteropogon contortus	
Hibiscus trionum	
Indigofera daleoides	
Jamesbrittenia tysonii	
Lippia scaberrima	
Macledium zeyheri	
Melia azeradach*	Category 1b
Melolobium sp.	
Moraea sp.	
Nidorella hottentotica	
Opuntia ficus-indica*	Category 1b
Pentzia incana	
Polygala hottentotta	
Rhynchosia sp.	
Schmidtia pappophoroides	
Searsia tridactyla	
Sida rhombifolia	
Solanum sisymbriifolium*	Category 1b
Talinum caffrum	
Tarchonanthus camphoratus	
Themeda triandra	
Thesium magalismontanum	

Trachyandra saltii	
Vachellia hebeclada	
Vachellia karroo	
Ziziphus mucronata	

Appendix 2: Flora protected under the North West Biodiversity Management Act 4 of 2016

SCHEDULE 3: Endangered Flora
As per the Cape Nature and Environmental Conservation Ordinance 19 of 1974

Scientific name	
Aloe braamvanwykii	
Anacampseros dicapitata	
Barleria media	
Blepharis angusta	
Brachystelma (all species)	
Ceropegia insignis	
Ceropegia stentiae	
Cineraria austrotraansvaalensis	
Cineraria exilis	
Cleome conrathii	
Commelina bella	
Cynodon polevansii	
Delosperma leendertziae	
Dicliptera magaliesbergensis	
Drimia sanguinea	
Euphorbia (all species except E.ingens)	
Pteridophyta (all species except Pteridium aquilinum	
Frithia pulchra	
Galdiolus filiformis	
Gnaphalium nelsonii	
Indigofera commixta	
Kniphofia typhoides	
Ledebouria atrobrunnea	
Ledebouria confusa	
Lessertia phillipsiana	
Lithops leslei subsp. leslei	
Lobelia cuneifolia var. ananda	
Miraglossum laeve	
Nerine gracilis	
Nuxia glomerulata	
Rennera stellata	
Searsia maricoana	
Senecio holubii	
Spirostachys africana	
Sporobolus oxyphyllus	

Stenostelma umbelluliferum	