

Appendix M - Biodiversity Compliance Statement



Physical Address:
15 Alexandra Road, Pinelands
7405
Cape Town
South Africa
Tel: [+27 21 514 5000](tel:+27215145000)

Postal Address: Private Bag X3,
Pinelands, 7405, Cape Town
Email: general@biovac.co.za
Website: [Contact Us – Biovac](#)

Copyright and disclaimer

The information contained in this communication is confidential and may be legally privileged. It is intended solely for the use of Biovac, and others authorized to receive it. You are hereby notified that any disclosure, copying, distribution or acting in reliance of the contents of this information is strictly prohibited and may be unlawful. We wish to ensure you that all your personal information in our possession or under our control is processed only for the purpose for which it is collected. This document and its contents are subject to our Privacy Notice available at [Disclaimer – Biovac](#) or contact our information officer at general@biovac.co.za.

**Terrestrial Plant Species and Terrestrial Biodiversity
Compliance Statement for Erven 118296, 148366,
RE/103659 and RE/24176 Cape Town & Erf 1056
Pinelands, Western Cape Province**



Prepared for Werner Nel Environmental Consulting Services

15 October 2023

CONTENTS

i. National Legislation and Regulations governing this report.....	3
ii. Appointment of Specialist	3
iii. Expertise.....	3
iv. Declaration of Independence:.....	4
v. Conditions relating to this report.....	5
vi. Terms of Reference.....	5
vii. Limitations and Assumptions	5
1. Introduction and Background.....	6
2. Study Area	6
2.1 Location.....	6
3. Methods.....	7
3.1 Approach.....	7
3.2 Relative Plant Species Theme Sensitivity	7
3.2 Relative Terrestrial Biodiversity Theme Sensitivity.....	8
4. The Vegetation	9
4.1 The Vegetation of the Study Area and its condition	9
5. Biodiversity Data.....	12
5.1 City of Cape Town Biodiversity Network (BIONET).....	12
5.2 Red Listed Ecosystems.....	13
5.3 Plant Species of Conservation Concern.....	13
6. Compliance Statement	14
7. References	14
Appendix 1. Curriculum Vitae – Dr David McDonald	16
Appendix 2: Protocol Checklist.....	18

i. National Legislation and Regulations governing this report

This is a 'specialist report' and is compiled in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014, in compliance with the Specialist Protocols (Government Gazette No. 43110. 2020).

ii. Appointment of Specialist

David J. McDonald of Bergwind Botanical Surveys & Tours CC was appointed by Werner Nel Consulting Services, Western Cape Province. The consulting services comprise a study of the vegetation of the study area to determine botanical 'Red Flags' and to provide a site sensitivity verification and terrestrial plant species and terrestrial biodiversity compliance statement in terms of the flora and vegetation.

Details of Specialist

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

iii. Expertise

[REDACTED]:

- Qualifications: BSc. Hons. (Botany), MSc (Botany) and PhD (Botany)
- Botanical ecologist with over 40 years' experience in the field of Vegetation Science and Ecology.
- [REDACTED]
- Has conducted over 800 specialist botanical / ecological studies
- Has published numerous scientific papers and attended numerous conferences both nationally and internationally.

iv. Declaration of Independence:

The views expressed in the document are the objective, independent views of Dr McDonald, and the survey was carried out under the aegis of Bergwind Botanical Surveys and Tours CC. Neither [REDACTED] and Tours CC have any business, personal, financial, or other interest in the proposed development apart from fair remuneration for the work performed.

I, [REDACTED], as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal, or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity;
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).



Signature of the specialist:

Company: Bergwind Botanical Surveys & Tours CC

Date: 15 October 2023

Curriculum Vitae: Appendix 1.

v. Conditions relating to this report

The content of this report is based on the authors' best scientific and professional knowledge as well as available information. Bergwind Botanical Surveys & Tours CC, its staff, and appointed associates, reserve the right to modify the report in any way deemed fit should new, relevant, or previously unavailable or undisclosed information become known to the author from on-going 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 the 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 refer 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.

vi. Terms of Reference

- Conduct a botanical assessment as per the Specialist Protocols (NEMA – 2020) of the proposed development of (Western Cape Province) that takes the following into consideration:
 1. Sensitive habitats;
 2. Any plant species of conservation concern;
 3. Relevant environmental regulations / policies / plans stipulated by the Department of Environmental Affairs and CapeNature in terms of, amongst others, the National Environmental Management Act (NEMA) and the National Environmental Management Biodiversity Act (NEMBA);

vii. Limitations and Assumptions

- It is assumed that all third-party information used (e.g. GIS data and species historical records) was correct at the time of generating this report.
- A site visit was undertaken during autumn on an overcast day. However, this assessment relied on broad habitat features, such as intact vegetation type. In addition, the project site is within a heavily disturbed area that has been disturbed and degraded for a long period; seasonality was therefore considered to not be an important factor in this regard.

1. Introduction and Background

Bergwind Botanical Surveys & Tours CC () was appointed to conduct a botanical site sensitivity verification for the proposed development of a laboratory facility by BioVac, at Erven 118296, 148366, RE/103659 and RE/24176 Cape Town & Erf 1056 Pinelands, Western Cape Province ('the site' or Study Area). A site visit was undertaken by on 24 May 2022 in overcast weather, but with clear visibility.

2. Study Area

2.1 Location

The proposed development would be constructed on the site that is located within an urban setting in Ndabeni, Cape Town (Figure 1). The boundary on the southeast side is a railway reserve, and on the south side, Diesel Road. To the west, the boundary is common with Erf 118296, Cape Town (Figure 2).



Figure 1. Satellite image (Google Earth Pro™) of part of the City of Cape Town with the red arrow indicating the location of the study area at Ndabeni.

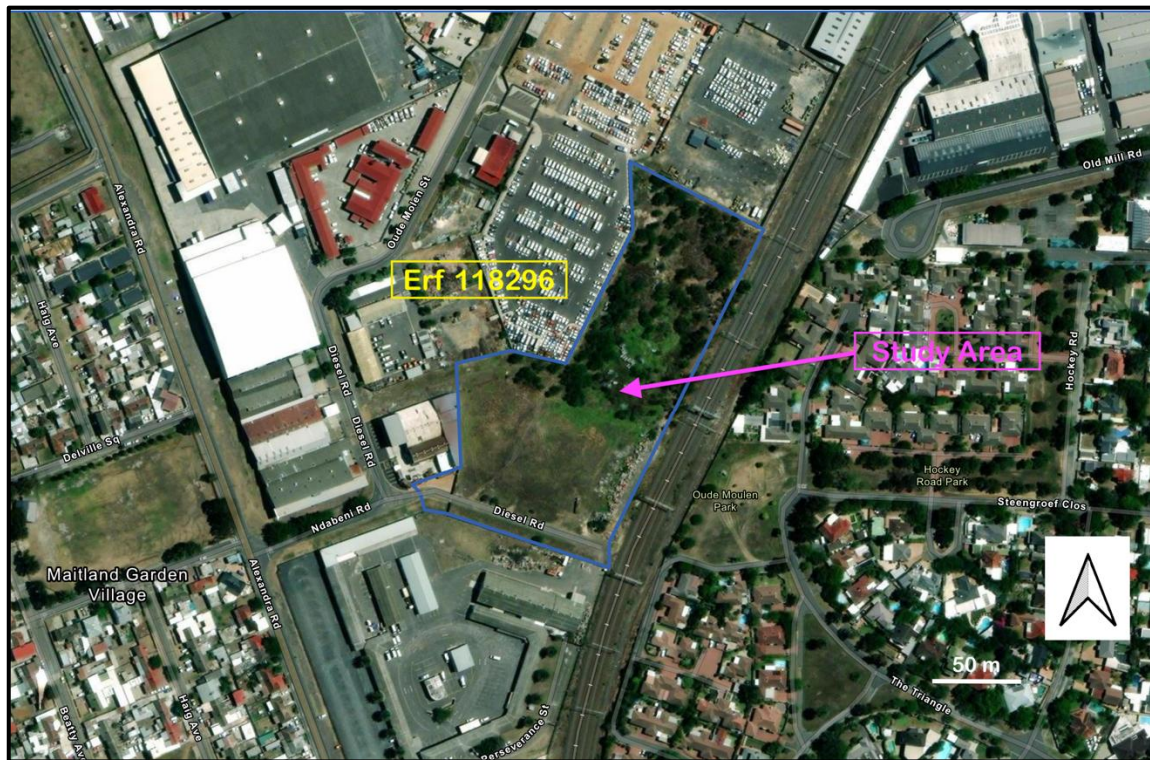


Figure 2. Aerial satellite image showing the study area (pink arrow), within the blue boundary, in relation to the surrounding properties.

3. Methods

3.1 Approach

The study site was visited and assessed on foot on 24 May 2022 for approximately 45 minutes with access from Diesel and Ndabeni roads. The site was not fenced, and access was not limited; the greatest limitation was the pools of water that had formed in depressions where soil has been removed. These depressions with pools are not seasonal wetlands.

To inform the study, the National Web-based Screening Tool ('screening tool') was applied to the site to obtain sensitivity ratings for the plant species theme and terrestrial biodiversity theme.

There were no limitations, and no assumptions were made.

3.2 Relative Plant Species Theme Sensitivity

The result of the screening tool analysis is that the site has a **Low** sensitivity, with respect to the relative plant species theme sensitivity (Figure 3).

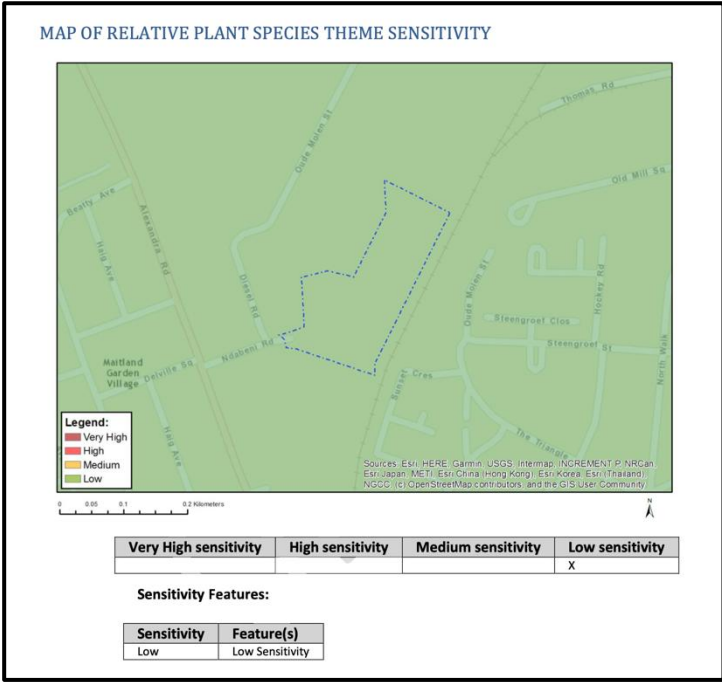


Figure 3. The output of the screening tool analysis for plant species sensitivity.

3.2 Relative Terrestrial Biodiversity Theme Sensitivity

The result of the screening tool analysis is that the site has a **Very High** sensitivity, with respect to the relative terrestrial biodiversity theme sensitivity (Figure 4). This is based on the Critically Endangered Cape Flats Sand Fynbos original occurrence. Since there is no longer any Cape Flats Sand Fynbos on the site, this analysis is misleading. The result should be **Low** (very Low!) sensitivity as determined by observations at the site.

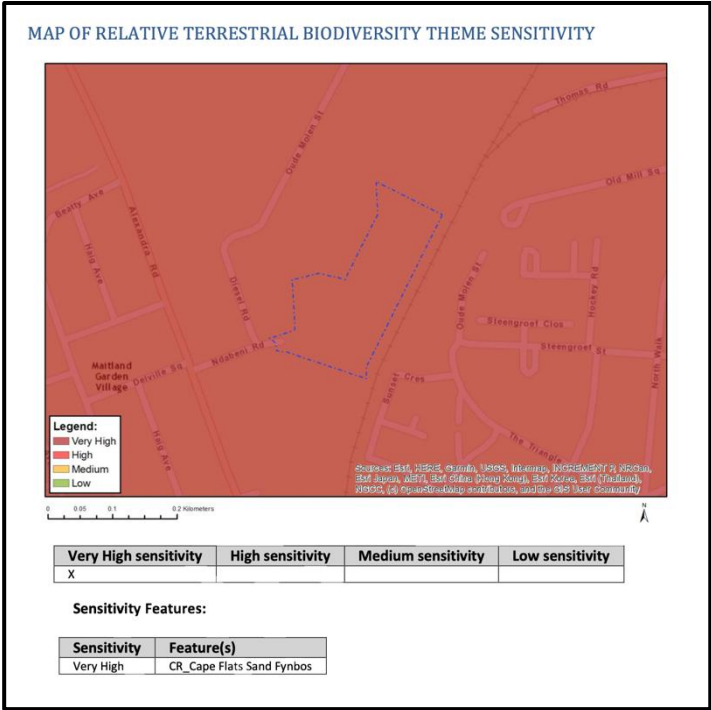


Figure 4. The output of the screening tool analysis for terrestrial biodiversity sensitivity.

4. The Vegetation

4.1 The Vegetation of the Study Area and its condition

The original vegetation type that was found at the site was Cape Flats Sand Fynbos (Figure 5) (Rebelo *et al.* in Mucina & Rutherford, 2006). This is a **Critically Endangered B1 (i), B1 (iii) plant species-rich** ecosystem (Government Gazette, 2022). However, there is no longer any of this vegetation type nor any of its constituent plant species present.



Figure 5. Cape Flats Sand Fynbos (mauve shading) is the only vegetation type that was originally found at the Ndabeni site; none remains.

The site has a long history of disturbance. It has been used for dumping discarded builders' rubble, concrete pipes, tar, wooden pallets and various other refuse. Apart from all the refuse, the site has a thriving population of alien invasive *Acacia saligna* (Port Jackson Willow) (Figures 6—9).

The site is in **extremely poor condition** and there is nothing that can be done to restore the original vegetation or a functional ecosystem. Figure 10 was taken roughly on the south boundary overlooking Erf 118296. The latter erf, also seen in Figure 11, does not have any woody alien invasive trees but is a field, grassed with exotic Kikuyu grass (*Pennisetum clandestinum*).



Figure 6. Concrete pipes, tar, bricks and other rubble have been dumped at the site.



Figure 7. Some of the dumped concrete pipes have been used by copper cable thieves for fires in which they burn off the plastic insulation.



Figure 8. Discarded concrete 'dolosse' on Erf 118296.



Figure 9. Dumped wooden pallets, alien invasive *Acacia saligna* trees and an excavated depression filled with rainwater.



Figure 10. The view from the study site over the adjacent Erf 118296 which is grassed with exotic grasses and weeds.



Figure 11. Looking over Erf 118296 would also originally have had Cape Flats Sand Fynbos vegetation. It is now grassed and has no invasive alien trees.

5. Biodiversity Data

Ecosystem-level data (GIS shapefiles) to determine the conservation status and critical biodiversity areas of the project site were assessed using several resources:

- Vegetation Map of South Africa (SANBI, 2019) (given in Figure 5 above).
- City of Cape Town Biodiversity Network (Holmes & Pugnalin, 2016).
- Red Listed Ecosystems (Skowno, 2020; Government Gazette, 2022; SANBI, 2022)
- Maps generated by overlaying the project area onto Google Earth Pro™ images were carefully examined to compare what was observed in the field with the generated maps.

5.1 City of Cape Town Biodiversity Network (BIONET)

The City of Cape Town Bionet is a database of all areas within the city that qualify for conservation based on a series of criteria related to biodiversity indicators such as critically endangered vegetation (habitat), plant species and / or animals (including birds) of conservation concern (SCC) etc. (Holmes & Pugnalin, 2016). The map of the BIONET for the study area shows that it has not been selected as a conservation-worthy site. The closest areas of conservation value are along the Black River (Swartrivier) (Figure 12).

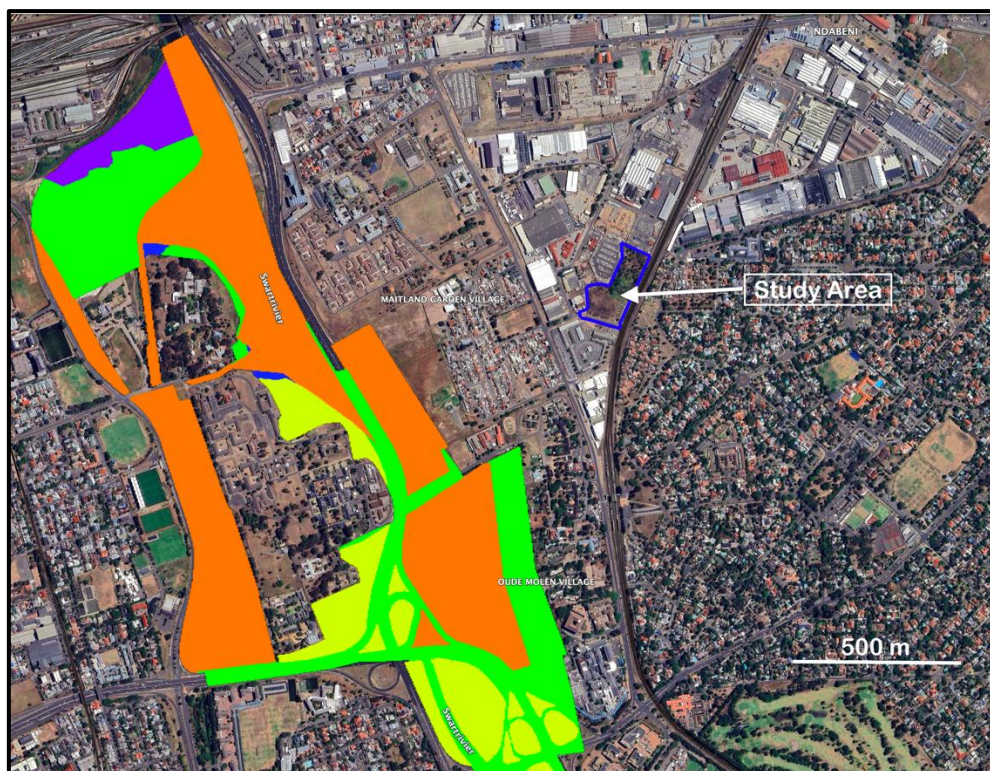


Figure 12. Part of the BIONET map for the City of Cape Town showing that the study site (red boundary and red arrow) is not selected as conservation-worthy.

5.2 Red Listed Ecosystems

In 2018 the National Biodiversity Assessment (Skowno *et al.* 2018) was updated and arising from that was the mapping of threatened ecosystems. These ecosystems are, for practical purposes, referred to as the Red List of Ecosystems (RLE) for the terrestrial realm of South Africa. This database reflects the current remaining natural extent (remnants) of 458 ecosystems. The study site is not incorporated into the database as supporting remnant of a critically endangered ecosystem (Figure 13).

The closest remnants of natural vegetation, which is Peninsula Shale Renosterveld, have been mapped along the Black River (Swartrivier). This agrees with the BIONET maps in Figure 12.

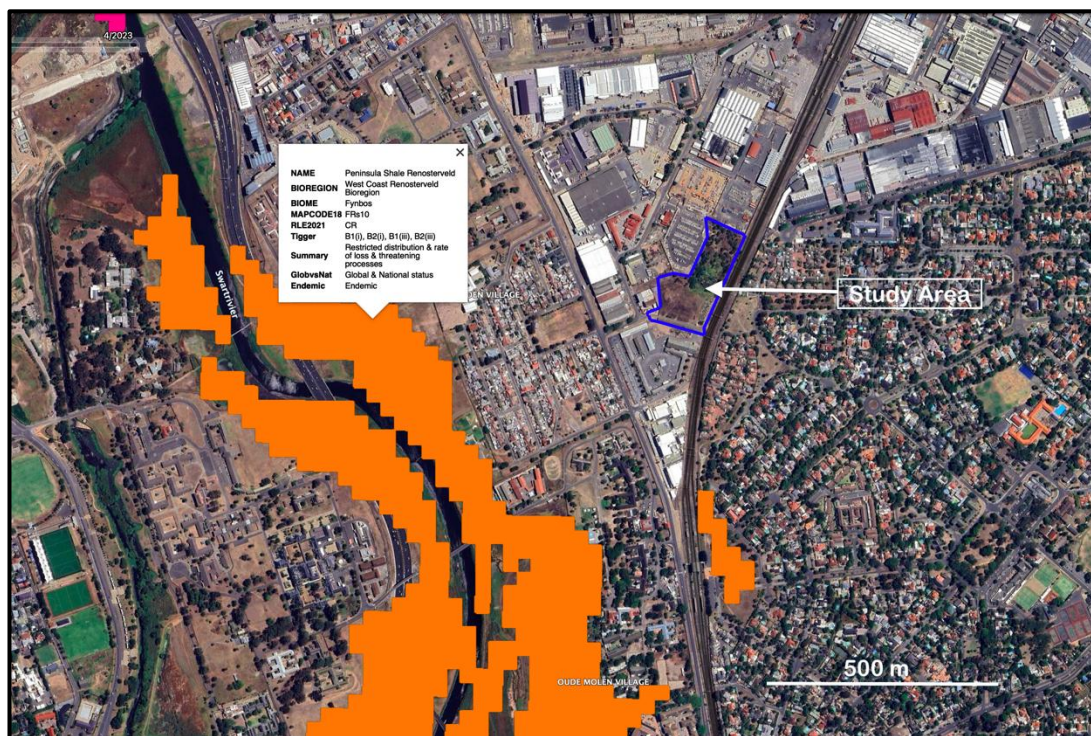


Figure 13. Overlay of the RLE map on a satellite aerial image (Google Earth Pro TM) for the site, outlined in blue. Orange-shaded areas represents remnants of Peninsula Shale Renosterveld (CR).

5.3 Plant Species of Conservation Concern

No plant species of conservation concern (SCC), as per Raimondo *et al.* (2009), are flagged for the site and no such plant or animal species were found on the site.

6. Compliance Statement

- This statement concerning the terrestrial plant species and terrestrial biodiversity is applicable to the site as described.
- Based on the available botanical information, field observations, and the heavily transformed and disturbed habitat of the site, it has a **Very Low** sensitivity for terrestrial plant species and **Very Low** sensitivity for terrestrial biodiversity, contrary to the screening tool analysis for terrestrial biodiversity.
- A single vegetation type, Cape Flats Sand Fynbos (Critically Endangered) would have originally occurred on the site. However, the site may be described as completely transformed and no longer harbours any habitat worth conserving or that could be restored.
- It is thus concluded, with a high level of confidence, that the site no longer has any conservation value and, in fact, development of the site would have a positive impact since it would curtail further anti-social behaviour.
- Development of the site is supported from both a botanical and terrestrial biodiversity perspective.

7. References

Government Gazette No. 43110. 2020. Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation.

Government Gazette No. 47526. 2022. The Revised National List of Ecosystems that are Threatened and in need of Protection.

Holmes, P., Pugnalin, A., 2016. The Biodiversity Network for the Cape Town Municipal Area C-PLAN & MARXAN ANALYSIS: 2016 METHODS & RESULTS. Environmental Resource Management Department (ERMD), City of Cape Town, June 2016.

Mucina, L., Rutherford, M.C., & Powrie, L.W. (Eds.). 2005, 2009. Vegetation map of South Africa, Lesotho, and Swaziland 1:1 000 000 scale sheet maps. South African National Biodiversity Institute, Pretoria. ISBN 1-919976-22-1.

- Mucina, L. & Rutherford, M.C. 2006. (eds.) The Vegetation of South Africa. Lesotho & Swaziland. *Strelitzia* 19. South African National Biodiversity Institute
- Rebelo, A.G., Boucher, C., Helme, N., Mucina, L. & Rutherford, M.C. 2006. Fynbos Biome. In: Mucina, L. & Rutherford, M.C. (eds.) The Vegetation of South Africa. Lesotho & Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.
- Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C., Kamundi, D.A. & Manyama, P.A. (eds) 2009. Red List of South African plants 2009. *Strelitzia* 25. South African National Biodiversity Institute, Pretoria.
- South African National Biodiversity Institute (SANBI) 2019, Vegetation Map of South Africa, Lesotho and Swaziland [vector geospatial dataset] 2018. Available from the Biodiversity GIS website <http://bgis.sanbi.org/SpatialDataset/Detail/18>.
- Skowno, A. , Poole, C.J., Raimondo, D.J., Sink, K.K., Van Deventer, H., Van Niekerk, L., Harris, L., Smit-Adoa, L.B., Tolley, K.A., Zengeya, T.A., Foden, W.B., Midgley, G.F., Driver, A. 2018. National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity. Synthesis Report. Synthesis Report. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries,
- Skowno, A. L. (2020) Land cover derived terrestrial habitat change map for South Africa (1990-2018). National Biodiversity Assessment: Technical Report. South African National Biodiversity Institute, Pretoria, South Africa.
- South African National Biodiversity Institute (SANBI) 2019, Vegetation Map of South Africa, Lesotho and Swaziland [vector geospatial dataset] 2018. Available from the Biodiversity GIS website <http://bgis.sanbi.org/SpatialDataset/Detail/18>.
- South African National Biodiversity Institute (SANBI), 2022. Red List of Ecosystems (RLE) for terrestrial realm for South Africa - remnants [Vector] 2021. Available from the Biodiversity GIS website, downloaded on 21 September 2023.

Appendix 1. Curriculum Vitae – Dr David McDonald

[REDACTED].

Name of Firm: Bergwind Botanical Surveys & Tours CC. (Independent consultant)

Work and Home Address: [REDACTED]

Mobile: [REDACTED]

E-mail: [REDACTED]

Website: www.bergwind.co.za

Profession: Botanist / Vegetation Ecologist / Consultant / Tour Guide

Date of Birth: [REDACTED]

Employment history:

- 19 years with National Botanical Institute (now SA National Biodiversity Institute) as researcher in vegetation ecology.
- Five years as Deputy Director / Director Botanical & Communication Programmes of the Botanical Society of South Africa
- Eighteen years as private independent Botanical Specialist consultant (Bergwind Botanical Surveys & Tours CC)

Nationality: South African [REDACTED]

Languages: English (home language) – speak, read and write
Afrikaans – speak, read and write

Membership in Professional Societies:

- South Africa Association of Botanists
- International Association for Impact Assessment (SA)
- South African Council for Natural Scientific Professions (**Ecological Science**, [REDACTED])
- Field Guides Association of Southern Africa

Key Qualifications :

- Qualified with a M. Sc. (1983) in Botany and a PhD in Botany (Vegetation Ecology) (1995) at the University of Cape Town.
- Research in Cape fynbos ecosystems and more specifically mountain ecosystems.
- From 1995 to 2000 managed the Vegetation Map of South Africa Project (National Botanical Institute)

- Conducted botanical survey work for AfriDev Consultants for the Mohale and Katse Dam projects in Lesotho from 1995 to 2002. A large component of this work was the analysis of data collected by teams of botanists.
- **Director: Botanical & Communication Programmes** of the [REDACTED] responsible for communications and publications; involved with conservation advocacy particularly with respect to impacts of development on centres of plant endemism.
- Further tasks involved the day-to-day management of a large non-profit environmental organisation.
- **Independent botanical consultant** (2005 – to present) over 300 projects have been completed related to environmental impact assessments in the Western, Southern and Northern Cape, Karoo and Lesotho. A list of reports (or selected reports for scrutiny) is available on request.

Higher Education

Degrees obtained

and major subjects passed:

B.Sc. (1977), University of Natal, Pietermaritzburg

Botany III

Entomology II (Third year course)

B.Sc. Hons. (1978) University of Natal, Pietermaritzburg

Botany (Ecology /Physiology)

M.Sc. - (Botany), University of Cape Town, 1983.

Thesis title: 'The vegetation of Swartboschkloof, Jonkershoek, Cape Province'.

PhD (Botany), University of Cape Town, 1995.

Thesis title: 'Phytogeography endemism and diversity of the fynbos of the southern Langeberg'.

Certificate of Tourism: Guiding (Culture: Local)

Level: 4 Code: TGC7 (Registered Tour Guide: WC 2969).

Employment Record:

January 2006 – present: Independent specialist botanical consultant and tour guide in own company:

Bergwind Botanical Surveys & Tours CC

August 2000 - 2005 : Deputy Director, later Director Botanical & Communication Programmes,
Botanical Society of South Africa

January 1981 – July 2000 : Research Scientist (Vegetation Ecology) at National
Botanical Institute

January 1979—Dec 1980 : National Military Service

Further information is available on website: www.bergwind.co.za

Appendix 2: Protocol Checklist

The site sensitivity verification for the study area concluded that the site is of low sensitivity in terms of the plant species theme and terrestrial biodiversity theme. As such, for plants, Section 5 of the Protocol for the Specialist Assessment and Minimum Reporting Requirements for Environmental Impacts on Terrestrial Plant Species (Terrestrial Biodiversity) (GN 1150 of 2020) is applicable.

PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL PLANT SPECIES

Section of Protocol	Requirement	Check	Section of Report
5	TERRESTRIAL PLANT SPECIES COMPLIANCE STATEMENT		
5.1	The compliance statement must be prepared by a SACNASP registered specialist under one of the two fields of practice (Botanical Science or Ecological Science)	X	Pages 3 & 4
5.2	5.2 The compliance statement must: 5.2.1 be applicable within the study area;	X	The area covered by the assessment is indicated in Figures 1 & 2
	5.2.2 confirm that the study area is of "low" sensitivity for terrestrial plant species; and	X	Sections 3 & 4
	5.2.3 indicate whether the proposed development will have any impact on SCC or not.	X	Section 5.3
5.3	The compliance statement must contain, as a minimum, the following information: 5.3.1 contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the compliance statement including a curriculum vitae;		Appendix 1
	5.3.2 a signed statement of independence by the specialist;		Page 4
	5.3.3 a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;		Section 3.1
	5.3.4 a description of the methodology used to undertake the site survey and prepare the compliance statement, including equipment and modelling used where relevant;		Section 3.1
	5.3.5 where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMP; ;		N/A
	5.3.6 a description of the assumptions made and any uncertainties or gaps in knowledge or data;		Section 3.1
	5.3.7 the mean density of observations/ number of samples sites per unit area and		N/A
	5.3.8 any conditions to which the compliance statement is subjected.		N/A