

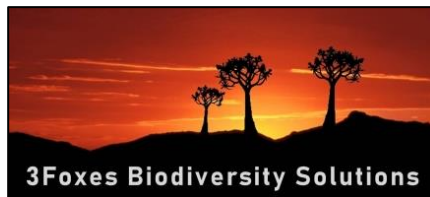
PLANT SPECIES COMPLIANCE STATEMENT:

THE DEVELOPMENT OF A 400 MW SOLAR PHOTOVOLTAIC (PV) FACILITY AND ASSOCIATED INFRASTRUCTURE (PHASE 3) ON THE REMAINDER OF FARM GOEDE HOOP 26C, PORTION 3 OF FARM GOEDE HOOP 26C AND OTHER PROPERTIES, BETWEEN DE AAR & HANOVER, EMTHANJENI LOCAL MUNICIPALITY, PIXLEY KA SEME DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE, SOUTH AFRICA.



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SHORT CV/SUMMARY OF EXPERTISE – SIMON TODD

 <p>3Foxes Biodiversity Solutions ECOLOGICAL SPECIALIST SERVICES Assessment/Management/Research</p>	<p>Simon Todd Pr.Sci.Nat Director & Principle Scientist C: 082 3326502 Simon.Todd@3foxes.co.za</p> <p>23 De Villiers Road Kommetjie 7975</p>	Ecological Solutions for People & the Environment
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Simon Todd is Director and principal scientist at 3Foxes Biodiversity Solutions and has over 20 years of experience in biodiversity measurement, management and assessment. He has provided specialist ecological input on more than 200 different developments distributed widely across the country, but with a focus on the three Cape provinces. This includes input on the Wind and Solar SEA (REDZ) as well as the Eskom Grid Infrastructure (EGI) SEA and Karoo Shale Gas SEA. He is on the National Vegetation Map Committee as representative of the Nama and Succulent Karoo Biomes. Simon Todd is a recognised ecological expert and is a past chairman and current deputy chair of the Arid-Zone Ecology Forum. He is registered with the South African Council for Natural Scientific Professions (No. 400425/11).

Skills & Primary Competencies

- Research & description of ecological patterns & processes in Nama Karoo, Succulent Karoo, Thicket, Arid Grassland, Fynbos and Savannah Ecosystems.
- Ecological Impacts of land use on biodiversity
- Vegetation surveys & degradation assessment & mapping
- Long-term vegetation monitoring
- Faunal surveys & assessment.
- GIS & remote sensing

Tertiary Education:

- 1992-1994 – BSc (Botany & Zoology), University of Cape Town
- 1995 – BSc Hons, Cum Laude (Zoology) University of Natal
- 1996-1997- MSc, Cum Laude (Conservation Biology) University of Cape Town

Employment History

- 2009 – Present – Sole Proprietor of Simon Todd Consulting, providing specialist ecological services for development and research.
- 2007 Present – Senior Scientist (Associate) – Plant Conservation Unit, Department of Botany, University of Cape Town.
- 2004-2007 – Senior Scientist (Contract) – Plant Conservation Unit, Department of Botany, University of Cape Town

- 2000-2004 – Specialist Scientist (Contract) - South African National Biodiversity Institute
- 1997 – 1999 – Research Scientist (Contract) – South African National Biodiversity Institute

A selection of recent work is as follows:

Strategic Environmental Assessments

Co-Author. Chapter 7 - Biodiversity & Ecosystems - Shale Gas SEA. CSIR 2016.

Co-Author. Chapter 1 Scenarios and Activities – Shale Gas SEA. CSIR 2016.

Co-Author – Ecological Chapter – Wind and Solar SEA. CSIR 2014.

Co-Author – Ecological Chapter – Eskom Grid Infrastructure SEA. CSIR 2015.

Contributor – Ecological & Conservation components to SKA SEA. CSIR 2017.

Relevant Studies Related to the Current Project Area

Nuweveld North, East and West WEFs. Fauna & Flora Specialist Study for EIA. Zutari 2021.

Environmental Impact Assessment for the Proposed Komsberg East and Komsberg West Wind Farms and Associated Grid Connection Infrastructure: Fauna & Flora Specialist Impact Assessment. Arcus Consulting 2014.

Rietkloof & Brandvallei Wind Farms and Associated Grid Connection Infrastructure: Fauna & Flora Specialist Impact Assessment Report. EOH 2016.

Proposed Gunstfontein Wind Farm and Associated Grid Connection Infrastructure: Fauna & Flora Specialist Impact Assessment Report. Savannah Environmental 2016.

Mainstream South Africa Dwarsrug Wind Energy Facility: Fauna & Flora Specialist Impact Assessment Report. Sivist 2014.

Phezukomoya and San Kraal Wind Energy Facilities and associated grid connection. Fauna and Flora specialist studies. Arcus Consulting 2018.

Kokerboom Wind Energy Facilities (1-4) and associated grid connections. Fauna and Flora specialist studies. Aurecon 2017.

SPECIALIST DECLARATION

I, ..Simon Todd....., as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist: _____



Name of Specialist: ____Simon Todd_____

Date: ____20 June 2022_____

1 INTRODUCTION

Soventix South Africa (Pty) Ltd is proposing the development of a 400 MW Solar Photovoltaic (PV) facility and associated infrastructure (Phase 3) on the Remainder of Farm Goede Hoop 26C, Portion 3 of Farm Goede Hoop 26C and other properties between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa. Ecologes is conducting the required EIA process for the authorisation of the development and 3Foxes Biodiversity Solutions has been appointed by Ecologes, on behalf of Soventix South Africa to provide flora specialist input on the proposed solar PV facility as part of the EIA application. The DFFE Screening Tool indicates that the site is comprised entirely of low sensitivity areas and no plant species of concern are known from the area. The low sensitivity of the site has been confirmed through the site verification study. Consequently, a Plant Species Compliance Statement is the recommended level of study for the EIA process.

2 METHODOLOGY

2.1 RELEVANT ASPECTS OF THE DEVELOPMENT

The Soventix Phase 3 site is located in the Northern Cape Province, off the N10 between De Aar and Hanover. The size of the proposed development footprint for the 400 MW solar PV facility is approximately 650 ha. This area includes four interconnected 100 MW solar PV plants (ca. 125 ha each), with associated infrastructure. The PV system will be connected via transmission lines to the authorised substation on Phase 1. The substation ties into the existing ESKOM 132 kV overhead powerlines. Existing roads will be used for main access, which may need to be enlarged to allow large equipment to access the site during construction. The location of the Soventix Phase 3 PV development is illustrated below in Figure 1.

Soventix South Africa (Pty) Ltd is proposing the development of a 400 MW Solar Photovoltaic (PV) facility and associated infrastructure (Phase 3) on the Remainder of Farm Goede Hoop 26C, Portion 3 of Farm Goede Hoop 26C and other properties, between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa.

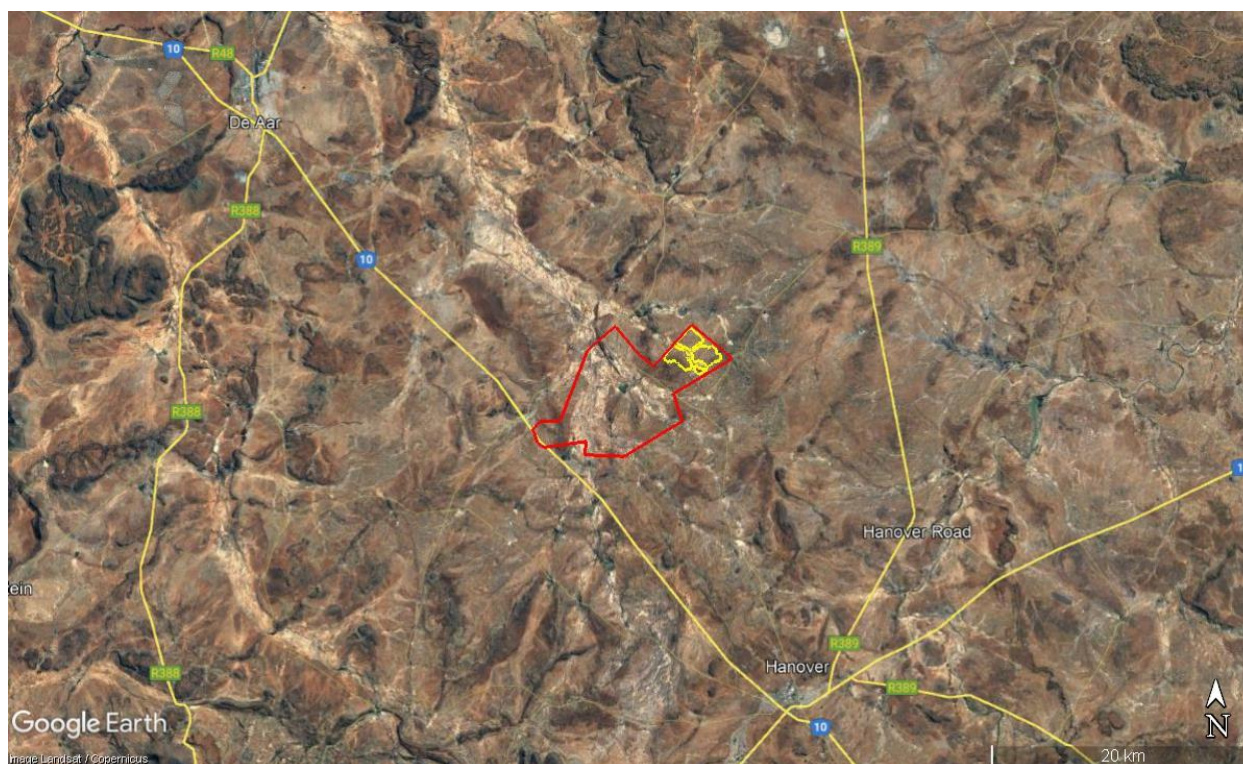


Figure 1. Satellite image showing the location of the proposed Soventix Phase 3 project located off the N10 between Hanover and De Aar in the Northern Cape. The yellow blocks indicate the footprint of the current Phase 3 project and the red, indicates the larger arm property within which the project is housed.

2.2 SITE VISITS & FIELD ASSESSMENT

The site was visited for the current Phase 3 study on the 15th and 16th of March 2022. Apart from the current site visit, the wider site, but including the Phase 3 site, was also previously sampled in March 2017 over four full days. During the field assessments, all of the access roads within the site were driven and the site was investigated at various points of interest that were observed in the field or had been identified from satellite imagery of the site. This included rocky outcrops, pans, dams and gravel patches where present. Walk-through plant surveys were conducted across the site and a total of 68 different plant species were recorded within the development footprint.

Conditions during the site visit were excellent for sampling and the vegetation of the site was very green and included a large abundance of forbs, annuals and grasses. Given the amount of time spent on-site as well as the favourable sampling conditions, the full complement of flora present is likely to have been represented, with the result, that there are considered to be few limitations with regards to the sampling of the vegetation, which has been well-characterised during the current study. As a result, sufficient time has been spent on-site to ensure that the vegetation and habitats present have been well characterised and that it is unlikely that there are any significant features present that have not been observed.

2.3 DATA SOURCING AND REVIEW

Data sources from the literature consulted and used where necessary in the study includes the following:

- Vegetation types and their conservation status were extracted from the South African National Vegetation Map (2018 update).
- Information on plant and animal species recorded for the wider area was extracted from the South African Biodiversity Information Facility (SABIF)/ SANBI Integrated Biodiversity Information System (SIBIS) database hosted by the South African National Biodiversity Institute (SANBI). Data was extracted for a significantly larger area than the study area, but this is necessary to ensure a conservative approach as well as counter the fact that the site itself has not been well sampled in the past.
- The International Union for Conservation of Nature (IUCN) conservation status of the species in the list was also extracted from the database and is based on the Threatened Species Programme, Red List of South African Plants (2021).

3 *BASELINE DESCRIPTION OF THE AFFECTED ENVIRONMENT*

3.1 VEGETATION TYPES

The national vegetation map (Mucina & Rutherford 2006 & SANBI 2018 update) for the study area is depicted below in Figure 2. The whole of the site falls within the Northern Upper Karoo vegetation type. Although there are some other vegetation types within the broader area including Besemkaree Koppies Shrubland and Eastern Upper Karoo, these are well outside of the development footprint. The vegetation within the site is described and illustrated briefly below as observed at the site.

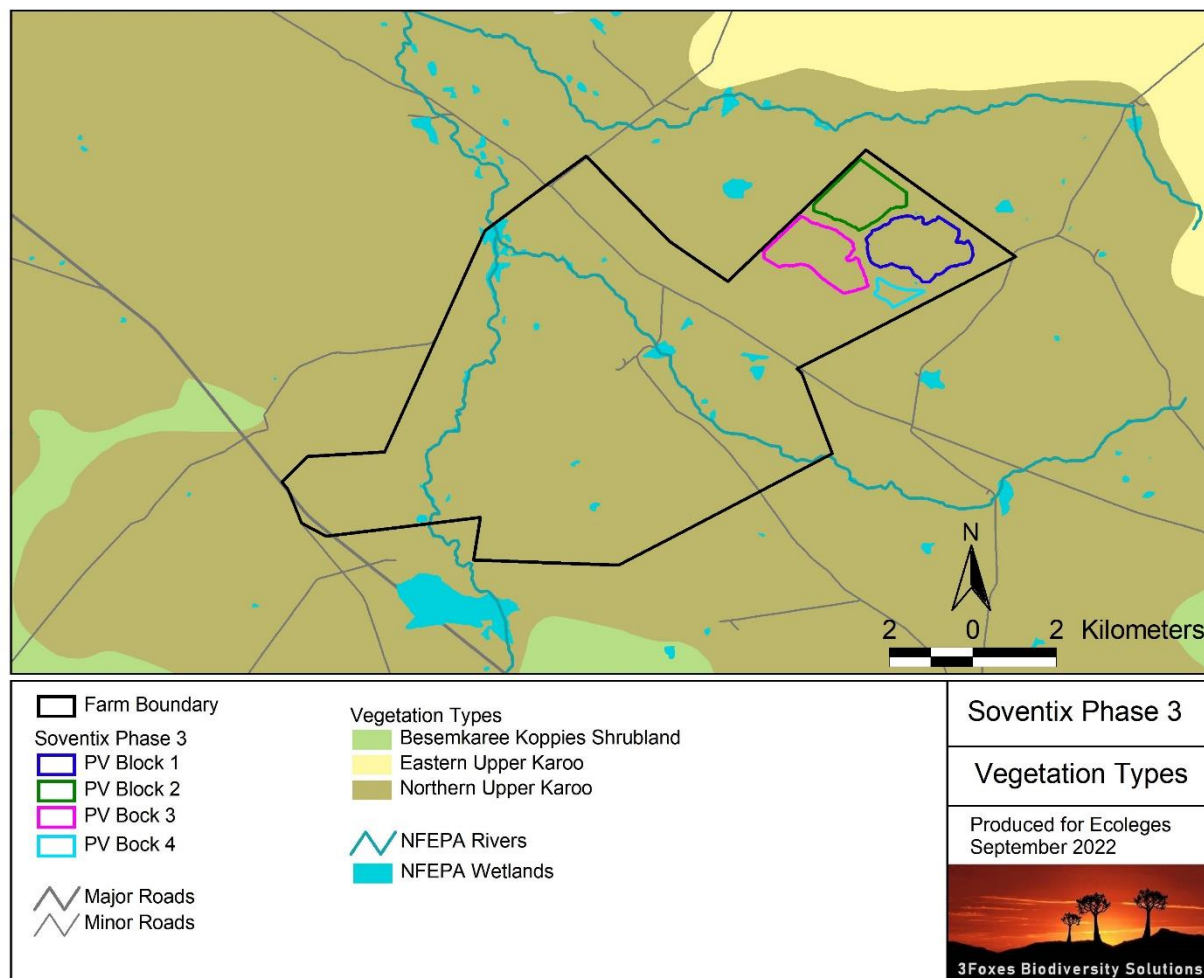


Figure 2. The national vegetation map (SANBI 2018 Update) for the Soventix Phase 3 site and surrounding area.

Northern Upper Karoo

Northern Upper Karoo is one of the most extensive vegetation types in the country and occupies over 40 000km² of the interior Karoo. This vegetation type occurs on the Upper Karoo plateau from Prieska, Vosburg and Carnarvon in the west to Phillipstown, Petrusville and Petrusburg in the east. It is bordered by Niekerkshoop, Douglas and Petrusburg in the north and by Carnarvon, Pampoenpoort and De Aar in the south. The vegetation consists of shrubland dominated by dwarf Karoo shrubs, grasses and *Acacia mellifera* subsp. *detinens*, and other low trees particularly on the sandy soils. The vegetation is flat to gently sloping with isolated hills of Upper Karoo Hardeveld in the south and Vaalbos Rocky Shrubland in the northeast and with many interspersed pans (Mucina & Rutherford 2006). Soils and geology are not very specific and consist of shales of the Volksrust formation and the Prince Albert Formation, as well as Dwyka Group diamictites, while there are also dolerite sills and sheets in places. Large areas are also covered by superficial deposits of calcrete from the Kalahari Group. Soils are variable and may be deeper sandy soils or shallow soils of the Glenrosa and Mispah forms. Land types are mainly Ae, Ag and Fc. Four

plant species are known to be endemic to the vegetation type, *Lithops hookeriana*, *Stomatium pluridens*, *Galenia exigua* and *Manulea deserticola*. Northern Upper Karoo has not been significantly affected by transformation and is still approximately 96% intact and is classified as Least Threatened.

Within the study area, the vegetation consists of a mosaic of grassy and more shrubby areas, with shrubs being more prevalent on the stony and shallow soils of the site. No indigenous trees are present within the site and the vegetation consists of low grassland shrubland. Dominant and common species include *Lycium cinereum*, *Rhigozum trichotomum*, *Rosenia humilis*, *Pentzia incana*, *Asparagus glaucus*, *Berkheya annectens*, *Eriocephalus ericoides*, *E. spinescens*, *Felicia muricata*, *Melolobium candicans*, *Pegolettia retrofracta*, *Plinthus karoicus*, *Hertia pallens*, *Aristida adscensionis*, *A. diffusa*, *Enneapogon desvauxii*, *Eragrostis lehmanniana*, *E. obtusa*, *Fingerhuthia africana*, *Tragus berteronianus* and *T. koelerioides*.

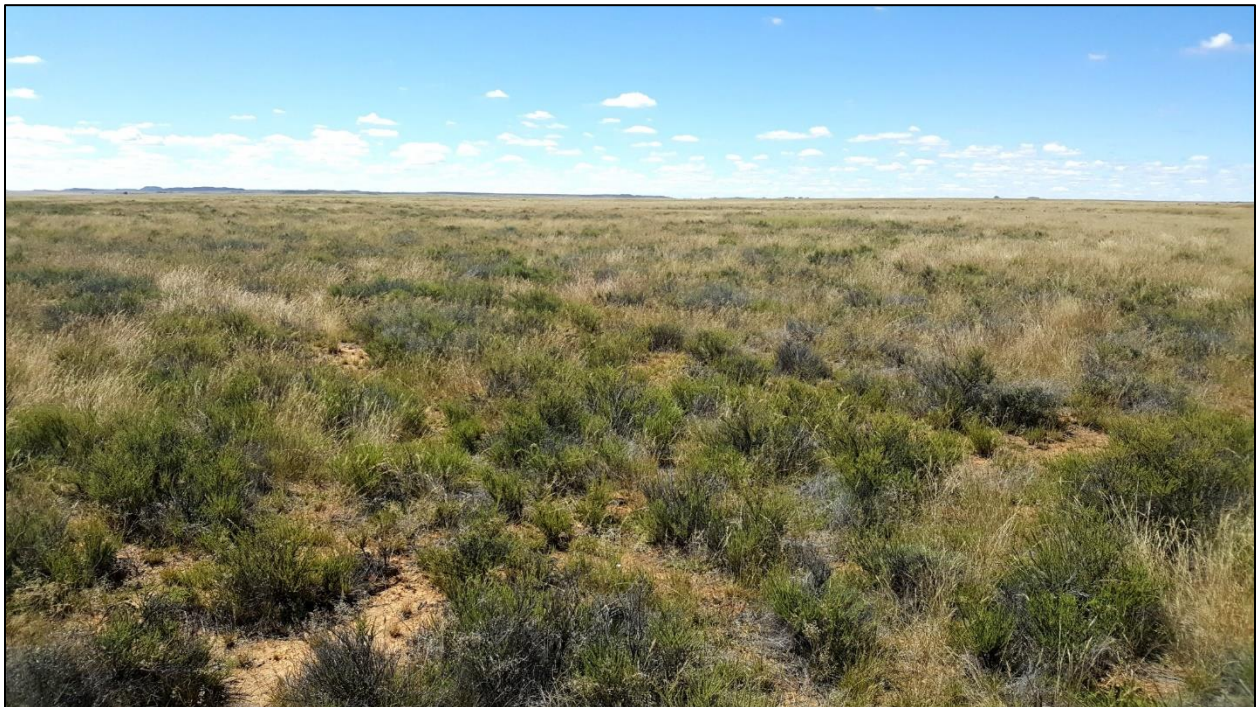


Figure 3. Typical open plains present Soventix Phase 3 study area, corresponding with the Northern Upper Karoo vegetation type. The typical plains of the study area are considered low sensitivity and considered suitable for the PV development.

4 PROPOSED IMPACT MITIGATION ACTIONS

The following avoidance and mitigation measures should be included in the EMPr for the Soventix Phase 3 PV Facility in order to reduce and manage impacts on vegetation and plant species.

- Undertake a pre-construction walk through of the development footprint to locate protected plant species that should be relocated outside of the development footprint.
- Develop an alien vegetation management plan, soil erosion management plan, revegetation and rehabilitation plan based on the site attributes and environmental constraints.
- Ensure that all vegetation-related preconstruction permits, surveys and walk-throughs have been conducted prior to the commencement of construction activity.
- Monitoring of vegetation clearing during construction by the EO to ensure that any plant SCC within the development footprint area are translocated to safety where necessary. These would be identified during the preconstruction walk-through of the facility and a guide enabling the identification of such species should be provided as an output of the walk-through study.
- Annual rehabilitation activities in line with the EMPr requirements. Any erosion problems observed on-site should be rectified as soon as possible using the appropriate revegetation and erosion control works.

5 CONCLUSION & RECOMMENDATIONS

- This compliance statement is applicable to the Soventix Phase 3 development with specific reference to the layout as provided for the assessment.
- The vegetation of the site is restricted to the Northern Upper Karoo vegetation type. There are no threatened vegetation types or specialised plant communities present within the site. There are however some habitats present such as wetlands that are considered sensitive but which are covered under the Combined Terrestrial Biodiversity Theme.
- No plant species of conservation concern were observed within the site and overall, the site is considered low sensitivity from a Plant Species Theme perspective.
- Given the low sensitivity of the development footprint and the avoidance of the sensitive habitats present at the site, there are no reasons that the development should not go ahead from a plant ecology perspective.

6 REFERENCES

- Department of Environmental Affairs and Tourism, 2007. National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004): Publication of lists of Critically Endangered, Endangered, Vulnerable and Protected Species. Government Gazette, Republic of South Africa.
- Mucina L. & Rutherford M.C. (eds) 2006. *The Vegetation of South Africa, Lesotho and Swaziland*. Strelitzia 19. South African National Biodiversity Institute, Pretoria.
- Nel, J.L., Murray, K.M., Maherry, A.M., Petersen, C.P., Roux, D.J., Driver, A., Hill, L., Van Deventer, H., Funke, N., Swartz, E.R., Smith-Adao, L.B., Mbona, N., Downsborough, L. and Nienaber, S. (2011). Technical Report for the National Freshwater Ecosystem Priority Areas project. WRC Report No. K5/1801.
- South African National Biodiversity Institute (SANBI). 2020. Species Environmental Assessment Guideline. Guidelines for the implementation of the Terrestrial Fauna and Terrestrial Flora Species Protocols for environmental impact assessments in South Africa. South African National Biodiversity Institute, Pretoria. Version 1.2020.

7 ANNEX 1. LIST OF PLANT SPECIES

List of plant species recorded from the Soventix Phase 3 site during the field assessment of March 2022.

Family	Species	Threat status
ACANTHACEAE	<i>Barleria rigida</i> Nees	LC
ACANTHACEAE	<i>Monechma incanum</i> (Nees) C.B.Clarke	LC
AMARYLLIDACEAE	<i>Boophone disticha</i>	LC
ANACARDIACEAE	<i>Searsia burchellii</i> (Sond. ex Engl.) Moffett	LC
ANACARDIACEAE	<i>Searsia erosa</i> (Thunb.) Moffett	LC
ASPARAGACEAE	<i>Asparagus glaucus</i>	LC
ASPARAGACEAE	<i>Asparagus suaveolens</i> Burch.	LC
ASTERACEAE	<i>Berkheya pinnatifida</i> (Thunb.) Thell. subsp. <i>pinnatifida</i>	LC
ASTERACEAE	<i>Chrysocoma ciliata</i> L.	LC
ASTERACEAE	<i>Eriocephalus ericoides</i> (L.f.) Druce subsp. <i>ericoides</i>	LC
ASTERACEAE	<i>Eriocephalus karooicus</i> M.A.N.Müll.	LC
ASTERACEAE	<i>Felicia filifolia</i> (Vent.) Burt Davy subsp. <i>filifolia</i>	LC
ASTERACEAE	<i>Felicia muricata</i> (Thunb.) Nees subsp. <i>muricata</i>	LC
ASTERACEAE	<i>Gazania serrata</i> DC.	LC
ASTERACEAE	<i>Geigeria filifolia</i> Mattf.	LC
ASTERACEAE	<i>Geigeria ornativa</i> O.Hoffm. subsp. <i>ornativa</i>	LC
ASTERACEAE	<i>Helichrysum asperum</i> (Thunb.) Hilliard & B.L.Burt var. <i>asperum</i>	LC
ASTERACEAE	<i>Helichrysum lucilioides</i> Less.	LC
ASTERACEAE	<i>Helichrysum zeyheri</i> Less.	LC
ASTERACEAE	<i>Hertia pallens</i> (DC.) Kuntze	LC
ASTERACEAE	<i>Osteospermum leptolobum</i> (Harv.) Norl.	LC
ASTERACEAE	<i>Pegolettia retrofracta</i> (Thunb.) Kies	LC
ASTERACEAE	<i>Pentzia incana</i> (Thunb.) Kuntze	LC
ASTERACEAE	<i>Pentzia quinquefida</i> (Thunb.) Less.	LC
ASTERACEAE	<i>Phymaspermum aciculare</i> (E.Mey. ex Harv.) Benth. & Hook. ex B.D.Jacks	LC
ASTERACEAE	<i>Pteronia incana</i>	LC
ASTERACEAE	<i>Rosenia humilis</i> (Less.) K.Bremer	LC
ASTERACEAE	<i>Tripteris aghillana</i> DC. var. <i>aghillana</i>	LC
BIGNONIACEAE	<i>Rhigozum trichotomum</i>	LC
BRASSICACEAE	<i>Heliophila minima</i> (Stephens) Marais	LC
COMMELINACEAE	<i>Commelina africana</i> L. var. <i>africana</i>	LC
CRASSULACEAE	<i>Adromischus trigynus</i> (Burch.) Poelln.	LC
CYPERACEAE	<i>Cyperus usitatus</i> Burch.	LC
EBENACEAE	<i>Diospyros austro-africana</i> De Winter var. <i>microphylla</i> (Burch.) De Winter	LC
FABACEAE	<i>Melolobium candicans</i> (E.Mey.) Eckl. & Zeyh.	LC
LAMIACEAE	<i>Salvia verbenaca</i> L.	LC
MALVACEAE	<i>Hermannia cuneifolia</i> Jacq. var. <i>cuneifolia</i>	LC
MALVACEAE	<i>Hermannia modesta</i> (Ehrenb.) Mast.	LC

MALVACEAE	<i>Hibiscus pusillus</i> Thunb.	LC
MESEMBRYANTHEMACEAE	<i>Ruschia spinosa</i>	LC
MOLLUGINACEAE	<i>Limeum aethiopicum</i>	LC
POACEAE	<i>Aristida adscensionis</i> L.	LC
POACEAE	<i>Aristida diffusa</i> Trin. subsp. <i>burkei</i> (Stapf) Melderis	LC
POACEAE	<i>Chloris virgata</i> Sw.	LC
POACEAE	<i>Cynodon dactylon</i> (L.) Pers.	LC
POACEAE	<i>Enneapogon desvauxii</i> P.Beauv.	LC
POACEAE	<i>Enneapogon scaber</i> Lehm.	LC
POACEAE	<i>Eragrostis bicolor</i> Nees	LC
POACEAE	<i>Eragrostis chloromelas</i> Steud.	LC
POACEAE	<i>Eragrostis curvula</i> (Schrad.) Nees	LC
POACEAE	<i>Eragrostis lehmanniana</i> Nees var. <i>lehmanniana</i>	LC
POACEAE	<i>Eragrostis obtusa</i> Munro ex Ficalho & Hiern	LC
POACEAE	<i>Fingerhuthia africana</i> Lehm.	LC
POACEAE	<i>Oropetium capense</i> Stapf	LC
POACEAE	<i>Sporobolus fimbriatus</i> (Trin.) Nees	LC
POACEAE	<i>Sporobolus ioclados</i> (Trin.) Nees	LC
POACEAE	<i>Tragus berteronianus</i> Schult.	LC
POACEAE	<i>Tragus koelerioides</i> Asch.	LC
SANTALACEAE	<i>Thesium hystrix</i> A.W.Hill	LC
SCROPHULARIACEAE	<i>Aptosimum marlothii</i> (Engl.) Hiern	LC
SCROPHULARIACEAE	<i>Aptosimum procumbens</i> (Lehm.) Steud.	LC
SCROPHULARIACEAE	<i>Chaenostoma halimifolium</i> Benth.	LC
SCROPHULARIACEAE	<i>Jamesbrittenia atropurpurea</i> (Benth.) Hilliard subsp. <i>atropurpurea</i>	LC
SCROPHULARIACEAE	<i>Jamesbrittenia aurantiaca</i> (Burch.) Hilliard	LC
SCROPHULARIACEAE	<i>Selago albida</i> Choisy	LC
SOLANACEAE	<i>Lycium cinereum</i> Thunb.	LC
THYMELAEACEAE	<i>Gnidia polycephala</i> (C.A.Mey.) Gilg	LC
ZYGOPHYLLACEAE	<i>Zygophyllum incrassatum</i>	LC