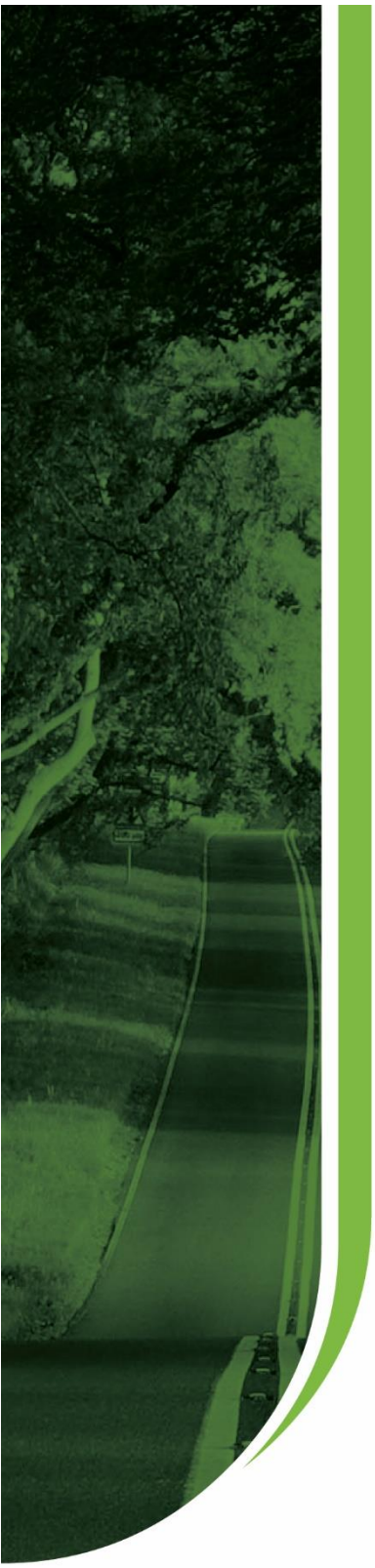

PROPOSED CONSTRUCTION OF AN OXIDATION POND SYSTEM AND TWO GRAVITY OUTFALL SEWER LINES NEAR SCHWEIZER-RENEKE, NORTHWEST PROVINCE.

Plant Species, Animal Species Compliance Statement and Terrestrial Biodiversity Theme Compliance Statement

January 2023

Prepared for:

Prepared by:
Megan Smith
Megan.smith@enviroworks.co.za
076 965 8002

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TABLES

1. Document control

1.1 Quality and revision record

1.1.1 Quality approval

	Capacity	Name	Signature	Date
Author:	Environmental Specialist (MSc Biological Sciences, UCT 2019)	Megan Smith		29/01/2023
Reviewer 2:	Ecologist (B.Sc Botany, NMU 2010) SACNASP Reg. no 400216/16	Roy de Kock		

This report has been prepared in accordance with Enviroworks Quality Management System.

1.1.2 Revision record

Revision Number	Objective	Change	Date

2. Specialist details

2.1 Details of the specialist

This Botanical Impact Assessment was prepared and compiled by Megan Smith from Enviroworks. The sections below provide the details of the Specialist and explain their expertise to prepare this assessment.

Business name of Specialist:	Enviroworks
Specialist Name:	Megan Smith
EAPASA membership	2020/2855 (Candidate EAP)
IAIAsa registered:	No. 6459
South African Association of Botanists	No. 20711
Physical address:	Unit 81, Millennium Business Park, Edison Way, Century City, Western Cape
Postal address:	Suite 1064 Private Bag X2, Century City
Postal code:	7446
Telephone:	082 598 6500
E-mail:	Megan.smith@enviroworks.co.za

2.1.1 Expertise of the specialist

Megan Smith is an Environmental Specialist at Enviroworks. Her qualifications include a M.Sc. in Biological Sciences (UCT) and over two years' experience in the environmental field. Megan has a completed several Fynbos plant identification courses.

2.1.2 Statement of independence – specialist

I, Megan Smith, **ID 9412140124080**, declare that I:

- am an Environmental Specialist at Enviroworks.
- act as an independent Environmental Consultant.
- have compiled this Botanical, Faunal and Terrestrial Biodiversity Theme Compliance Statement.
- 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.
- remuneration for services by the Proponent in relation to this proposal is not linked to approval by decision-making Authorities responsible for permitting this proposal.
- the consultancy has no interest in secondary or downstream developments as a result of the outcome of this Compliance Statement.
- Have no and will not engage in conflicting interests in the undertaking of the Activity.
- undertake to disclose to the Client and the Competent Authority any material, information that have or may have the potential to influence the decision of the Competent Authority required in terms of the Environmental Impact Assessment Regulations 2014, as amended.
- will provide the Client and Competent Authority with access to all information at my disposal, regarding this project, whether favourable or not.

Signature:

Megan Smith

2.3 Details of the review specialist

Business name of Specialist:	Blue Leaf Environmental
Specialist Name:	Roy de Kock
SACNASP	400216/16 (Pr.Sc. Nat)
Physical address:	31 Aster Avenue, Sunridge Park, Port Elizabeth, Eastern Cape, South Africa
Telephone:	+27 76 281 9660
E-mail:	roy@blueleafenviro.co.za

2.2.1 Expertise of the review specialist

Roy de Kock is an Ecological Specialist at Blue Leaf Environmental. His qualifications include a M.Sc. and over fifteen years' experience in the environmental field.

2.2.2 Statement of independence – specialist

I, Roy de Kock, **ID 7606 2205 3202 082**, declare that I:

- am an Environmental Specialist at Blue Leaf Environmental.
- act as an independent Environmental Consultant.
- have reviewed this Botanical, Faunal and Terrestrial Biodiversity Theme Compliance Statement.
- 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.
- remuneration for services by the Proponent in relation to this proposal is not linked to approval by decision-making Authorities responsible for permitting this proposal.
- the consultancy has no interest in secondary or downstream developments as a result of the outcome of this Compliance Statement.
- have no and will not engage in conflicting interests in the undertaking of the Activity.
- undertake to disclose to the Client and the Competent Authority any material, information that have or may have the potential to influence the decision of the Competent Authority required in terms of the Environmental Impact Assessment Regulations 2014, as amended.
- will provide the Client and Competent Authority with access to all information at my disposal, regarding this project, whether favourable or not.

Signature:

Roy de Kock

3. Introduction

3.1 Project description

Moedi Consulting Engineers proposes to construct an oxidation pond system and two gravity outfall sewer lines near Schweizer-Reneke, North West Province. The configuration of the existing sewer system entails that all wastewater generated in Ipelegeng gravitates to five (5) pumping stations. The current pumping system installed on site are not sufficient to convey wastewater to the Waste Water Treatment Plant (WWTP) and this results in spillages occurring due to the overloading of infrastructure. The motivation for the proposed project is twofold. Firstly, it will address the current capacity shortfall by reducing the inflow volume at pumping stations, and secondly, it will optimise the current sewer network to operate more efficiently by decreasing the pumping and repumping of sewage. It is proposed that two "cut-off" gravity outfall lines is installed to reduce the load on the pumping stations and furthermore, it is proposed that an oxidation pond are constructed to decommission Pumping Station A. Please refer to Figure 1 for the layout of the proposed construction of the two gravity outfall sewer lines and oxidation pond system.

The proposed construction of the oxidation pond system will be in the vicinity of Pumping Station A. The establishment of a pond system will ensure that wastewater accumulates in the system regardless of external factors. Thus, the construction of this pond system will eradicate sewer spillages immediately. Due to the fact that the oxidation pond system does not require any electrical or mechanical equipment, the application is considered to be the most suitable cost-effective solution for the Ipelegeng sewer lines.

The proposed development footprint is primarily zoned as Agricultural with the surrounding environment being zoned as residential areas.

The coordinates for the two outfall sewer lines are:

- 27° 12' 55.66" S and 25° 17' 31.14" E (Eastern sewer line)
- 27° 17' 49.75" S and 25° 17' 54.74" E (Western sewer line)

The coordinates for the oxidation pond system are:

- 27° 13' 4.07" and 25° 17' 47.86" E

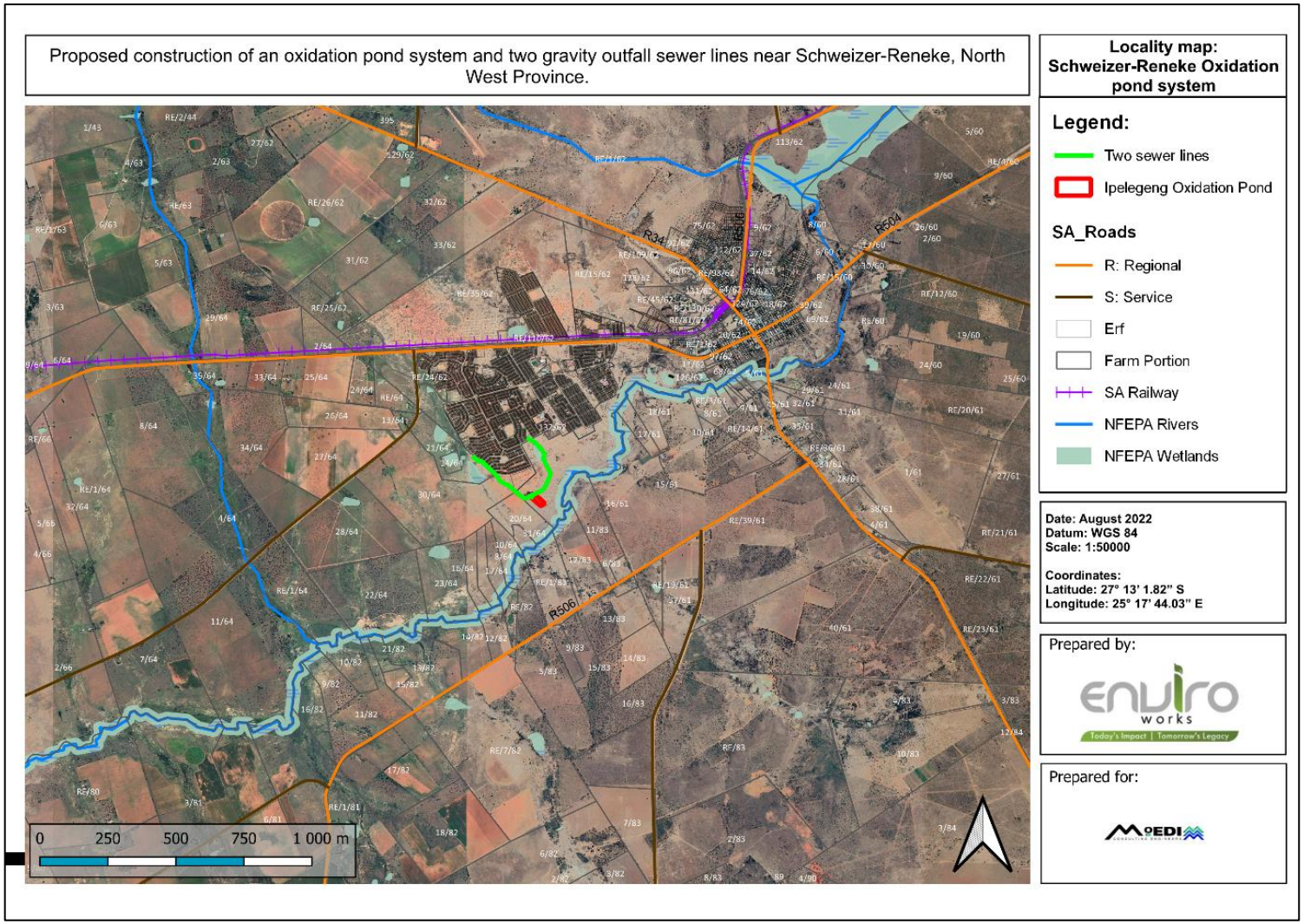

Figure 1 Locality map of the proposed oxidation pond and the two gravity outfall sewer lines near Schweizer-Reneke, North West Province

3.2 Applicable legislation

With respect to the proposed development the following table summarises the potential listed activities, which the proposed development is likely to trigger.

Table 1: Listed Activities Likely to be Triggered by the proposed development

Government Notice R 324 - Listing Notice 1 (Relates to a Basic Assessment)		
Activity Number	**Description**	**Activity**
10	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes – (i) With an internal diameter of 0.36 metres or more; or (ii) With a peak throughput of 120 litres per second or more. excluding where- (a) such infrastructure is for bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes inside a road reserve; or, (b) where such development will occur within an urban area.	It is anticipated that the sewer line will exceed 1 000 metres and will include the bulk transportation of sewage. It should however be noted that the development would not occur inside a road reserve and within an urban area, while part of the eastern sewer line will occur within an urban area. The applicability of this activity will be triggered if the internal diameter is 0.36 metres or more and if the peak throughput is 120 litres per second or more.
12	The development of – ii) Infrastructure or structures with a physical footprint of 100 square meters or more; Where such development occurs – (a) Within a watercourse; (b) In front of a development setback; or (c) If no development setback exists, within 32 meters of a watercourse, measured from the edge of a watercourse. Excluding – (cc) activities listed in activity 14 of Listing Notice 2 of 2014 or activity 14 of Listing Notice 3 of 2014, in which case that activity applies.	The construction footprint for the proposed oxidation pond will be 15, 562 square metres and from the desktop study, will be within 32 meters of watercourse. The applicability of this activity will be triggered if development occurs within the wetland. However, if the development is outside the 32 meters, then this activity will not be triggered. It is also recommended that the presence of watercourses on the site and within 32m of the development be confirmed by an Aquatic Specialist.
19	The infilling or depositing of any material of more than 10 cubic meters into, or the dredging, excavation, removal, or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic meters from a watercourse.	The total development footprint falls within a watercourse, It is anticipated that this activity will be triggered with the current development layout. Importantly, if an alternative layout can be used that will not be within the delineated boundaries of the wetland, then this activity will not be triggered.

Government Notice R 324 - Listing Notice 1 (Relates to a Basic Assessment)		
Activity Number	**Description**	**Activity**
25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic meters but less than 15 000 cubic meters.	The total Active Capacity of the oxidation pond will be 14 798 m^3 and therefore will trigger the applicability of this activity.
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.	The physical footprint of the proposed construction of the oxidation pond is 1.56 ha, thus clearance of an area of 1 hectares or more will occur and therefore this activity will be triggered.

3.3 Objective

Various environmental legislation in South Africa makes provision for the protection of our natural resources and the functionality of ecological systems to ensure sustainability. Such acts include the National Environmental Management: Biodiversity Act (Act 10 of 2004), National Forests Act (Act 84 of 1998), Conservation of Agricultural Resources Act (Act 43 of 1983), National Water Act (Act 36 of 1998), framework legislation such as the NEMA and protocols such as the 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 (GN No. 43110 of 20 March 2020).

The various components of ecological systems are all interrelated and it is therefore important that specialist studies of all such components be conducted prior to the commencement of any proposed project development. Only once the potential impacts and outcomes of proposed developments on the ecological systems of an area are understood, can informed decisions be made regarding the viability of projects to address and achieve the environmental and socio-economic needs of an area.

The proposed development could have potential impacts on the vegetation, fauna, and the surrounding environment. Vegetation will be displaced since the new development footprint will transform much of the surface area. To evaluate the level of acceptability of the impact on the natural environment a Plant Species, Animal Species, and Terrestrial Biodiversity Themes assessment was conducted. This was required to determine the potential presence of ecologically significant habitats and plant/animal species of conservation concern within the proposed project footprint. Proposed mitigation and management measures must also be recommended to attempt to reduce/alleviate the identified potential impacts.

This Compliance Statement included a vegetation and habitat survey to:

- Identify and list significant species encountered on the proposed project footprint and direct surrounds and list any protected and/or Red Data Listed species.
- Determine and discuss the condition and extent of degradation and/or transformation of the vegetation on the proposed project footprint.
- Determine any potential habitats for any protected or threatened faunal species.
- Determine and discuss the ecological sensitivity and significance of the proposed project area.
- Identify, evaluate, and rate the potential impacts of the proposed project on the natural environment.
- Provide recommendations on mitigation and management measures to attempt to reduce/alleviate these identified potential impacts.

3.4 Minimum Requirements – Screening Tool

The National Web based Environmental Screening Tool (https://screening.environment.gov.za/screeningtool/) is a geographically based web-enabled application which allows a proponent intending to submit an application for Environmental Authorisation in terms of the Environmental Impact Assessment (EIA) Regulations 2014, as amended to screen their proposed site for any environmental sensitivity.

The Screening Tool also provides site specific EIA process and review information, for example, the Screening Tool may identify if an industrial development zone, minimum information requirement, Environmental Management Framework or bio-regional plan applies to a specific area.

Further to this, the Screening Tool identifies related exclusions and/ or specific requirements including specialist studies applicable to the proposed site and/or development, based on the national sector classification and the environmental sensitivity of the site.

Finally, the Screening Tool allows for the generating of a Screening Report referred to in Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended whereby a Screening Report is required to accompany any application for Environmental Authorisation and as such the tool has been developed in a manner that is user friendly and no specific software or specialised GIS skills are required to operate this system.

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 have been gazetted (GN. R 320 of 20 March 2020). In terms of sections 24(5)(a), (h) and 44 of the National Environmental Management Act, 1998, these procedures prescribe general requirements for undertaking site sensitivity verification and for protocols for the assessment and minimum report content requirements of environmental impacts for environmental themes for activities requiring Environmental Authorisation, as contained in the Schedule therein. When the requirements of a protocol apply, the requirements of Appendix 6 of the Environmental Impact Assessment Regulations, as amended, (EIA Regulations), promulgated under

sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), are replaced by these requirements.

According to the report generated by the National Screening Tool the following three themes and their protocols will be applicable this study:

- *Terrestrial Biodiversity Theme*

  PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORTING CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL BIODIVERSITY (GN 320, 2020)

- *Plant Species Theme*

  PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL PLANT SPECIES (GN 1150, 2020).

- *Animal Species Theme*

  PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL ANIMAL SPECIES (GN 1150, 2020)

3.4.1 Terrestrial Biodiversity Theme Results

Figure 2 Terrestrial Biodiversity Theme based on the results from the National Screening Tool Report

Based on the initial Site Sensitivity Verification (Section 6.5) undertaken by the specialist on **14 November 2022,** the Terrestrial Biodiversity Theme sensitivity was confirmed to be of "Low" rather than "Very High" as identified by the screening tool in Figure 2. The protocols further specify that the content of the assessment and minimum report content requirements on terrestrial biodiversity. The requirements are listed in the table below. The relevant section of this report is linked to each of the protocol's minimum requirements.

Table 2 Content cross-reference checklist for specialist assessment and minimum report content requirements for Terrestrial Biodiversity Compliance Statement Report as per GN R 320, with corresponding section names in the report.

Requirement	Section of this report
contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;	Details of the specialist and review specialist
a signed statement of independence by the specialist	Statement of independence - specialist
a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Date and season of site visit
a baseline profile description of biodiversity and ecosystems of the site;	General Vegetation Description; Sensitive Areas
the methodology used to verify the sensitivities of the terrestrial biodiversity features on the site, including equipment and modelling used, where relevant;	Methodology
in the case of a linear activity, confirmation from the terrestrial biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase	N/A
where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMP	Overall Impact Assessment
a description of the assumptions made and any uncertainties or gaps in knowledge or data; and	Assumptions, uncertainties, and gaps in knowledge
any conditions to which the compliance statement is subjected.	Risk ratings and potential impacts

3.4.2 Plant Species Theme Results

Figure 3 Plant Species Theme based on the results from the National Screening Tool Report

Based on the initial Site Sensitivity Verification (Section 6.5) undertaken by the specialist on **14 November 2022**, the Plant Species Theme sensitivity was confirmed to be of "Low" sensitivity as identified by the screening tool in Figure 3. The protocols further specify that the content of the assessment and minimum report content requirements on the Plant Species Theme. The requirements are listed in the table below. The relevant section of this report is linked to each of the protocol's minimum requirements

Table 3 Content cross-reference checklist for specialist assessment and minimum report content requirements for Plant Species Theme Compliance Statement Report as per GN R 1150, with corresponding section names in the report.

Requirement	Section of this report
contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;	Details of the specialist and review specialist
a signed statement of independence by the specialist	Statement of independence - specialist
a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Date and season of site visit
A description of the methodology used to undertake the site verification and impact assessment and site inspection, including equipment and modelling used, where relevant;	Methodology

Requirement	Section of this report
A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations	Assumptions, uncertainties, and gaps in knowledge
a description of the mean density of observations/number of samples sites per unit area of site inspection observations	Methodology
where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMP	Overall Impact Assessment
a description of the assumptions made and any uncertainties or gaps in knowledge or data; and	Assumptions, uncertainties, and gaps in knowledge
any conditions to which the compliance statement is subjected.	Risk ratings and potential impacts

During the site verification the proposed development was surveyed, and all species encountered were recorded to detect any species of conservation concern (See Section 6.4.4).

3.4.3 Animal Species Theme Results

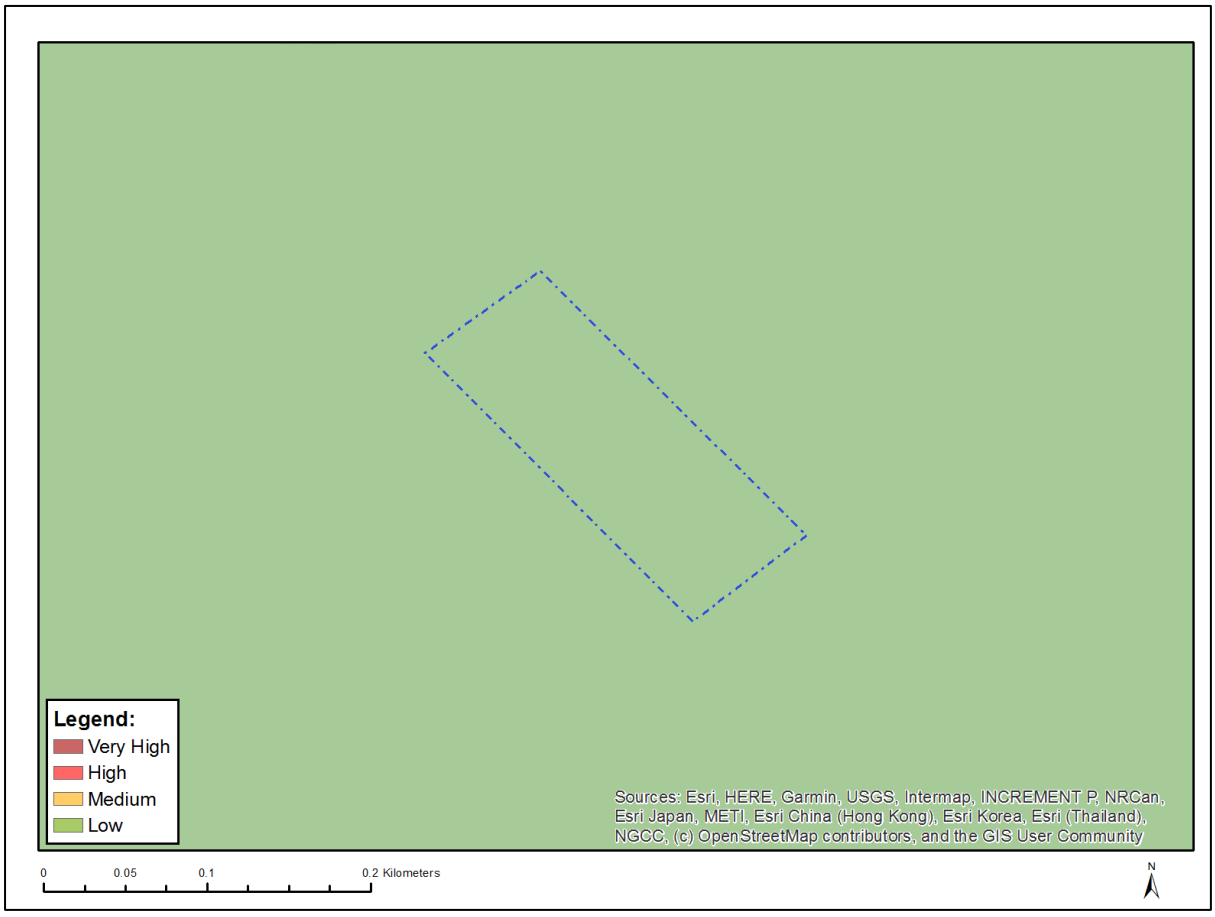

Figure 4 Animal Species Theme based on the results from the National Screening Tool Report

Based on the initial Site Sensitivity Verification (Section 6.5) undertaken by the specialist on **14 November 2022,** the Animal Species Theme sensitivity was confirmed to be of "Low" sensitivity as identified by the screening tool

in Figure 4. Based on the aforementioned, a full impact assessment will be necessary to assess the impacts of the proposed sand mine on the Animal Species Theme.

The protocols further specify that the content of minimum report content requirements on terrestrial animal species. The requirements are listed in the table below. The relevant section of this report is linked to each of the protocol's minimum requirements.

Table 4 Content cross-reference checklist for specialist assessment and minimum report content requirements for Animal Species Theme Compliance Statement as per GN R 1150, with corresponding section names in the report.

Requirement	Section of this report
contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;	Details of the specialist and review specialist
a signed statement of independence by the specialist	Statement of independence - specialist
a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Date and season of site visit
A description of the methodology used to undertake the site verification and impact assessment and site inspection, including equipment and modelling used, where relevant;	Methodology
A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations	Assumptions, uncertainties, and gaps in knowledge
a description of the mean density of observations/number of samples sites per unit area of site inspection observations	Methodology
where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMP	Overall Impact Assessment
a description of the assumptions made and any uncertainties or gaps in knowledge or data; and	Assumptions, uncertainties, and gaps in knowledge
any conditions to which the compliance statement is subjected.	Risk ratings and potential impacts

4. Methodology

4.1 Land cover, climate, and soils and geology

- Information related to land cover of the development was based on the available literature and the latest GIS data available from the Department of Environmental Affairs (Department of Environmental Affairs, 2018).
- Climate data was extracted from available literature and latest GIS data available.
- Information related to the classified Soils and Geology within the development site was based on available literature and the Environmental Potential Atlases (Department of Environmental Affairs and Tourism and University of Pretoria, 1995).

4.2 Botanical, Faunal and Terrestrial Assessment

4.3.2 Vegetation and Fauna

- Vegetation types and their conservation status were extracted from the South African National Vegetation Map (Mucina and Rutherford, 2006), the 2018 National Biodiversity Assessment Synthesis Report (South African National Biodiversity Institute (SANBI), 2019) and the National List of Ecosystems that are Threatened and in Need of Protection (GN 2747 of 18 November 2022).
- A brief discussion on the vegetation type in which the study area is situated, using available literature, in order to place the study in context.
- A broad-scale map was generated of the vegetation and habitat sensitivity of the site using available GIS data and the DFFE Screening Tool.
- A list of endemic taxon species know to occur in the area was investigated prior to the site visit (Mucina and Rutherford, 2006).
- Sightings from the area and surrounds extracted from the Global Biodiversity Information Facility and iNaturalist ("Global Biodiversity Information Facility," n.d.; "iNaturalist," n.d.), and the IUCN data base ("IUCN 2020," n.d.).
- Species and their Red Data Listing and Protected Status, occurring or expected to occur within the area were obtained from:
    - The DFFE Screening Tool,
    - Red List of South African Plants (Nick and Raimondo, 2007; South African National Biodiversity Institute (SANBI), 2016),
    - North West Biodiversity Management Act, No 4 of 2016.
    - NOTICE OF THE LIST OF PROTECTED TREE SPECIES UNDER THE NATIONAL FORESTS ACT, 1998 (ACT NO. 84 OF 1998)
    - IUCN ("IUCN 2020," n.d.),
    - National Environmental Management Biodiversity Act, 2004 (Act 10 of 2004): Critically Endangered, Endangered, Vulnerable, and Protected Species List (2007, as amended),
    - Virtual databases to determine potential faunal species that may inhabit the site:
        - Atlas of African Lepidoptera
        - Southern African Bird Atlas Project 2
        - Reptile Atlas of Africa
        - Atlas of African Spiders
        - Atlas of African Scorpions
        - Frog Atlas of southern Africa
        - Virtual Museum of African Mammals,
- List of plant and faunal species recorded during the survey. Plants and animals were identified from photographs and specimens taken on site, and
- Note that avifauna have been excluded from this assessment.

4.3.3 Sensitive areas

The North West Biodiversity Sector Plan (2015) was used to identify Critically Biodiverse Areas (Categories 1 and 2) and Ecological Support Areas (Categories 1 and 2) within the proposed development footprint, the proposed development property, and surrounding areas. The extent of the sensitive areas was mapped using the latest available GIS data.

4.3.4 Date and season of site visit

A site visit took place on **14 November 2022** to assess site for the proposed development. The methodology following during the site visit was based on the Species Assessment Guidelines (2020). The weather conditions were accommodating, where clear visibility facilitated the inspection of the facility and surrounding vegetation. November is an appropriate time to conduct botanical surveys within grasslands given that November to March is when most of the species are flowering.

Given the small area, virtually the entire site was surveyed, and care was taken to inspect representative portions of all suspected habitats on site. During the survey, vegetation units and other habitat types were roughly mapped and assessed for their ecological condition. Vegetation units were further surveyed for their dominant and typical component species. Any associations with specific soils, underlying geology, or landforms were noted. The locations of any SCC subpopulations encountered were recorded using a GPS.

4.3.5 Ecological Importance

The Site Ecological Importance (SEI) was evaluated according to the protocol outlined in the Species Environmental Assessment Guideline (2020). This protocol produces a standardised metric for identifying site-based ecological importance for species in relation to a proposed project. The SEI is a function of the biodiversity importance of a specific receptor (e.g., vegetation unit or SCC population) and its resilience to environmental impacts. The biodiversity importance is, in turn, a function of the conservation importance and functional integrity of the specific receptor.

*4.3.**Assumptions, uncertainties and gaps in knowledge***

5.1 Assumptions and uncertainties

The processes of investigation which have led to the production of this report, harbours several assumptions, which include the following:

- All information provided by the applicant to the environmental specialist was correct and valid at the time that it was provided.
- Note that avifauna have been excluded from this assessment.

- The proposed project development footprint as provided by the applicant is correct and will not be significantly deviated from.
- Strategic level investigations undertaken by the applicant prior to the commencement of the EIA process, determined that the development site represents a potentially suitable and technically acceptable location.
- The public will receive a fair and reoccurring opportunity to participate and comment during the EIA application process, through the provision of adequate public participation timeframes stipulated in the EIA Regulations (2014, as amended).
- The need and desirability of the project is based on strategic national, provincial and local plans and policies which reflect the interests of both statutory and public viewpoints.
- The EIA application process is a project-level framework, and the specialists are limited to assessing the anticipated environmental impacts associated with the operational phases of the proposed project.
- Strategic level decision making is conducted through cooperative governance principles with the consideration of sustainable and responsible development principles underpinning all decision making.

Given that an EA application process involves prediction, uncertainty forms an integral part of the process. Two types of uncertainty are associated with the EA application process, namely process-related and prediction-related.

- Uncertainty of prediction is critical at the data collection phase as final certainty will only be obtained upon implementation of the proposed development. Adequate research, experience and expertise may minimise this uncertainty.
- Uncertainty of values depicts the approach assumed during the MP application process, while final certainty will be determined at the time of decision making. Enhanced communication and widespread/comprehensive coordination can lower uncertainty.
- Uncertainty of related decision relates to the interpretation and decision-making aspect of the MP application process, which shall be appeased once monitoring of the project phases is undertaken.
- The significance/importance of widespread/comprehensive consultation towards minimising the risk/possibility of omitting significant impacts is further stressed. The use of quantitative impact significance rating formulas (as utilised in this document) can further standardise the interpretation of results and limit the occurrence and scale of uncertainty.
- The initial study was undertaken as a desktop assessment and as such, the information gathered must be considered with caution, as inaccuracies and data capturing errors are often present within these databases.
- Global Positioning System (GPS) technology is inherently inaccurate and some inaccuracies due to the use of handheld GPS instrumentation may occur. If more accurate assessments are required, the relevant areas will need to be surveyed and pegged according to surveying principles.

- The risk assessment was applied on the basis that the stipulated mitigation measures in all specialist recommendations will be implemented as recommended and therefore the results presented demonstrate the impact significance of perceived impacts on the receiving environment post mitigation.

5.2 Gaps in the knowledge

The observations and findings made during the site inspection were during a specific time frame and the condition of the proposed site may vary throughout the year. Therefore, circumstances throughout the year may differ and deliver different results. Nevertheless, the site was surveyed during a time where most species in the area are flowering (January -March) and it is expected that most of the species were identified as accurately as possible and where visible during the inspection.

5.Results

6.1 Land cover

The proposed oxidation ponds are located on natural grasslands, and the proposed sewage lines are located on fallow land & old fields, residential areas, and natural grassland. The proposed development lies adjacent to an informal settlement (Ipelegeng) (Figure 5).

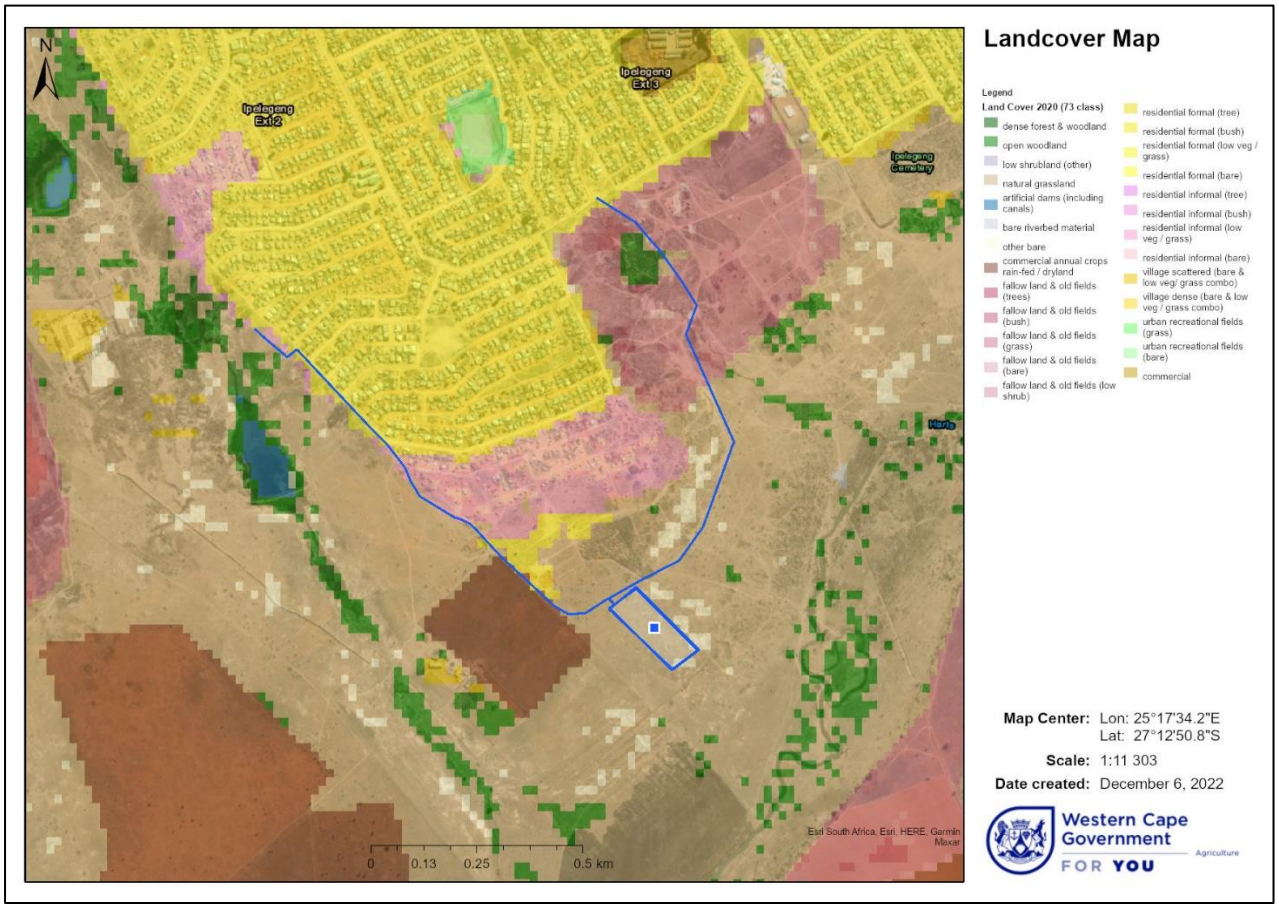

Figure 5 Landcover map for the proposed development footprint (demarcated in blue)

6.2 Climate

Schweizer-Reneke experiences rainfall peaking during the summer months. Precipitation is highest in January (± 80,6 mm) and lowest in July (± 2,3 mm). The maximum monthly temperature is approximately 32°C in the summer months (especially in January) while the minimum monthly temperature can be as low as 6°C in July (winter) (https://www.worldweatheronline.com/schweizer-reneke-weather-averages/north-west/za.aspx).

6.3 Soils and Geology

Based on the Agricultural Compliance Statement (DSA, 2022), the soil was classified as Molopo soil form and had a moderate depth of 800 mm before a restricting layer was found. The Molopo soil consists of orthic horizon overlying a yellow brown apedal, with a soft carbonate underneath. It has a medium dryland capability and a Land capability of 8 (Moderate).

6.4 Botanical, Faunal and Terrestrial Assessment

6.4.1 General Vegetation description

The proposed development site (demarcated in blue) consists of Schweizer Reneke Bushveld (Figure 6).

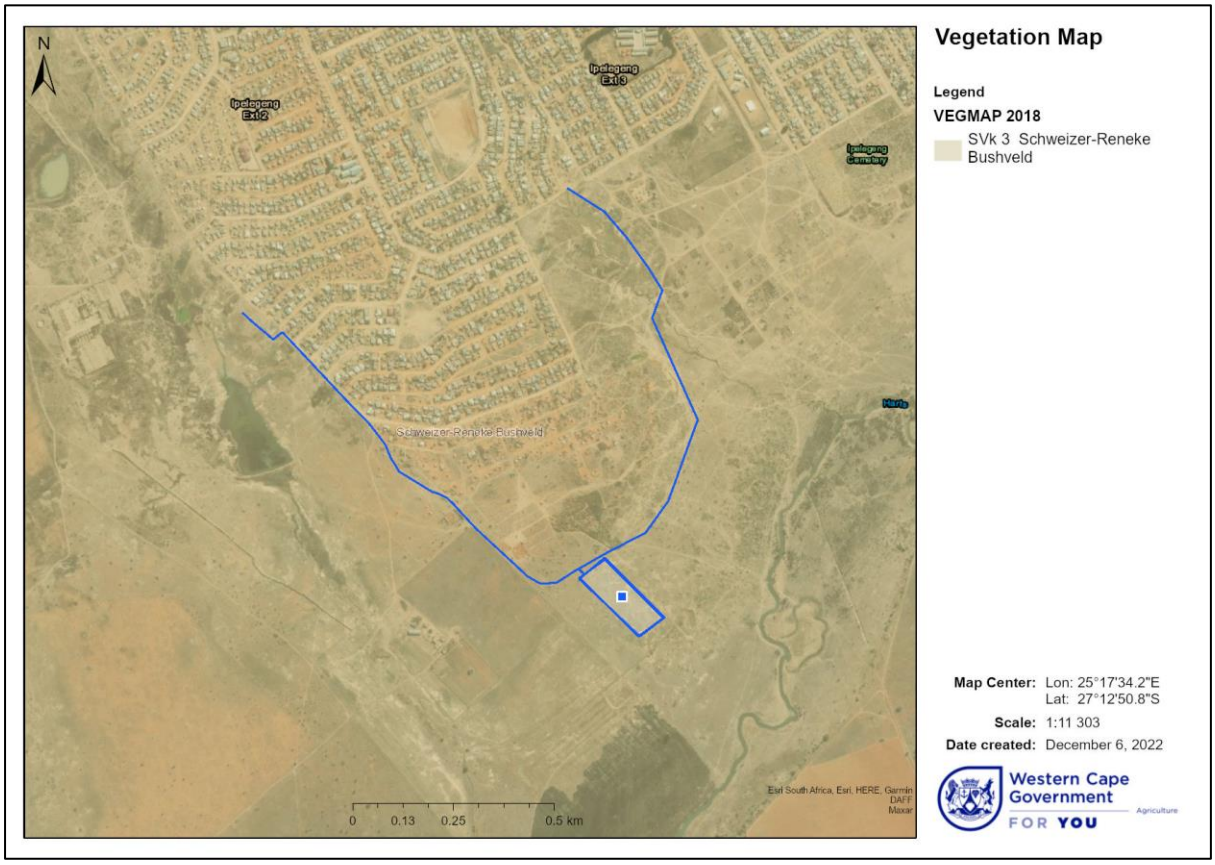

Figure 6 Vegetation types within the proposed development site (demarcated in blue)

Schweizer-Reneke Bushveld is located in the North-West Province of South Africa in an area to the east of Amalia in the west and from farming areas around Broedersput in the north to Never Mind (Christiana District) in the south. Altitude is 1250-1400 m.

Vegetation and landscape features: Plains, slightly undulating plains and some hills, supporting open woodland with a fairly dense shrub layer, with trees *Acacia erioloba, Acacia karroo, Acacia tortilis, Searsia lancea* and shrubs *Acacia hebeclada, Diospyros lycioides, Grewia flava and Tarchonanthus camphoratus.*

Geology and soils: Andesitic lavas of the Allanridge Formation of the Ventersdorp Supergroup, sometimes covered with silcrete or calcrete of the Kalahari Group. Deep (0.9-1.2 m) sandy soils, with Hutton and Clovely the dominant soil forms. Land Types:Ah and Ae and some Bc.

Important taxa of the Schweizer-Reneke Bushveld listed by Mucina & Rutherford (2006): Tall tree: Acacia erioloba. Small trees :*Acacia karroo, Acacia tortilis subsp. heteracantha, Rhus lancea. Tall shrubs: Asparagus laricinus, Diospyros lycioides subsp*. *lycioides, Grewia flava, Tarchonanthus camphoratus, Diospyros pallens, Ehretia rigida subsp. rigida, Gymnosporia buxifolia, Rhus tridactyla. Low shrubs: Acacia hebeclada subsp. hebeclada, Aptosimum decumbens, Chrysocoma ciliata, Gnidia polycephala, Pentzia viridis. Woody climber: Asparagus africanus. Graminoids: Anthephora pubescens, Digitaria eriantha subsp. eriantha, Heteropogon contortus, Stipagrostis uniplumis, Themeda triandra, Aristida congesta, Aristida stipitata var. spicata, Chloris virgata, Cynodon dactylon, Eragrostis biflora, Eragrostis rigidior, Eragrostis superba, Eragrostis trichophora, Sporobolus fimbriatus. Herbs: Barleria macrostegia, Hermannia tomentosa, Hibiscus pusillus, Indigofera daleoides, Lippia scaberrrima, Osteospermum muricatum, Pollichia campestris, Rhyncosia adenodes. Geophytic*

Schweizer Reneke Bushveld is currently listed as Vulnerable (A3) in Government Notice 2747 (November 2022). National land cover data show that Schweizer-Reneke Bushveld has experienced extensive spatial declines of approximately 51% since 1750.

6.4.2 Sensitive areas

The proposed development footprint is predominantly situated in a Critical Biodiverse Area 1 (Figure 7).

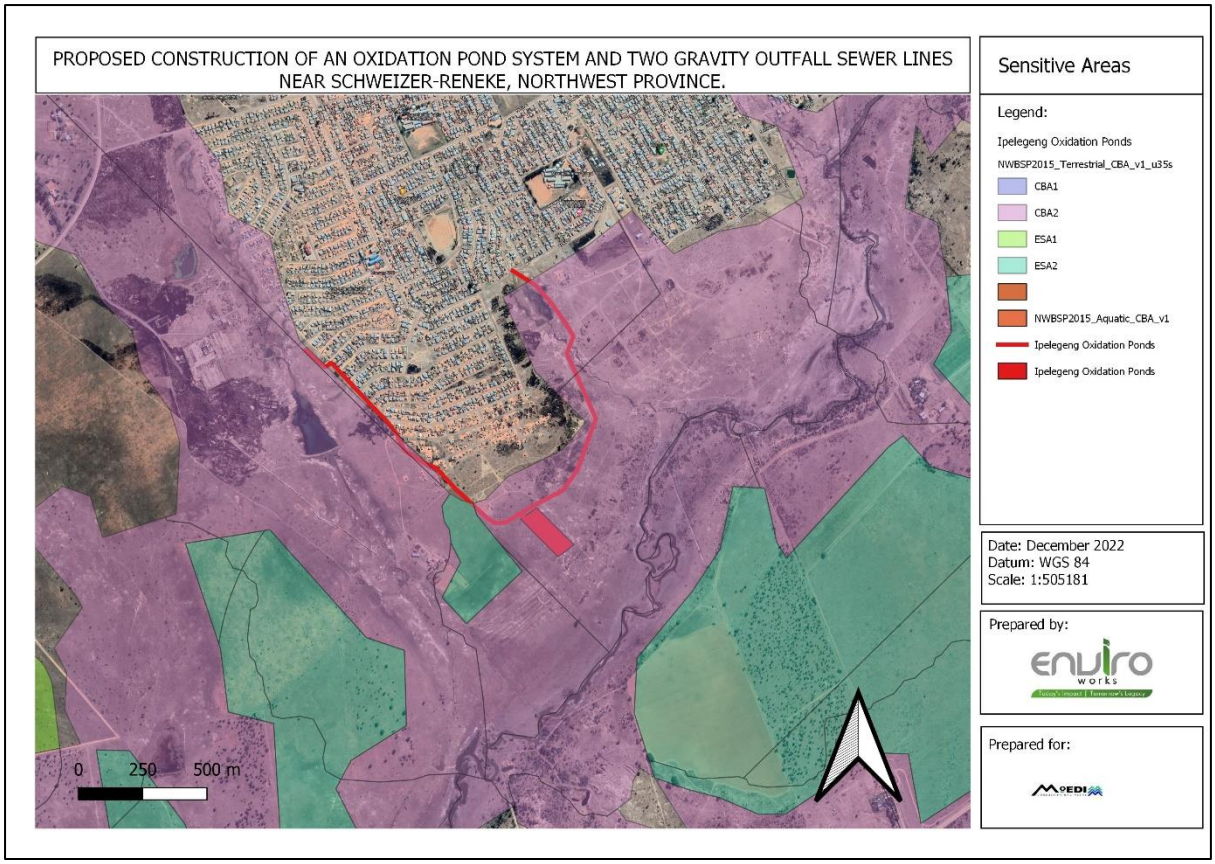

Figure 7 Sensitivity of the proposed development footprint (demarcated in red) where purple = CBA 1, Light purple = CBA 2, Light green = ESA 1, Blue/green = ESA 2.

CBAs are areas of high biodiversity and ecological value. These areas are required to meet biodiversity targets for species, ecosystems or ecological processes and infrastructure. CBAs that are likely to be in a natural condition are classified as Category 1 CBAs and those that are potentially degraded or represent secondary vegetation are classified as Category 2 CBAs. Only low-impact, biodiversity-sensitive land uses are considered appropriate within CBAs (Pool-Stanvliet et al., 2017). These areas are also to be managed for biodiversity conservation purposes, restored where required and incorporated into the Protected Area network.

Since the proposed development footprint is situated in sensitive areas identified by the North West Biodiversity Sector Plan, the development footprint is considered to hold conservation importance within these sensitive areas. To determine whether the proposed development footprint is verified to carry out the functions of the CBA as mapped, it must first be determined the reason for the CBA delineation.

The CBA has been classified as being a Critical Corridor Linkage area (CBA_T8) as well as a Corridor (CBA_T7). Therefore, the primary purpose of the sensitive area is to perform the function of a Biodiversity Corridor.

6.4.3 Site Assessment

6.4.3.1 Vegetation description

Based on the site inspection, the overall development footprint is verified to be mostly degraded with a patch of semi-intact terrestrial area on the proposed of the oxidation ponds footprint (Figure 8). The overall footprint has been subjected to disturbance via livestock grazing, improper stormwater drainage and litter. The areas surrounding the proposed development were confirmed to be informal settlements to the north and east of the proposed development. To the west of the proposed development footprint is a previously cultivated land and to the south is open land and eventually, the Harts River.

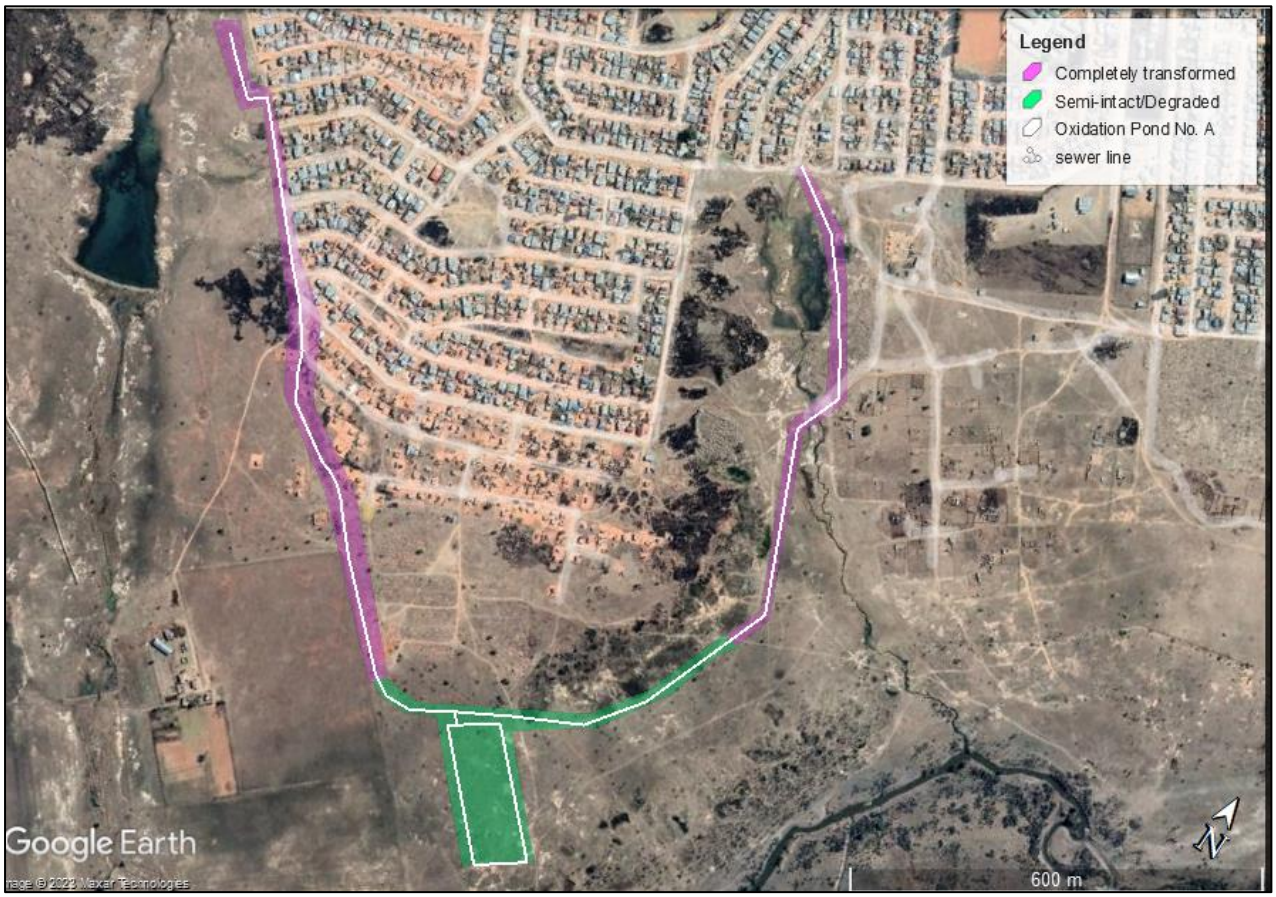

Figure 8 Habitat Units within the proposed development footprint (demarcated in white)

6.4.3.1.1 Completely degraded/transformed areas.

Areas delineated as completely transformed (Figure 8) are areas that do not represent the indigenous vegetation in function, form, and species diversity. These areas are dominated by weeds, and aliens such as *Argemone ochroleuca, Cirsium vulgare, Pseudognaphalium* sp. *Cynodon dactylon*, and *Avena fatua*. Because the area is dominated by grass and alien species, it indicates the past and current presences of heavy disturbance. This is likely due to grazing from livestock, general usage by the local residents, and illegal dumping. The area does not

represent any conservation value and is unlikely to provide habitat to any Species of Conservation Concern. See Figure 9 for a visual representation of the vegetation on the footprint.


B
14 Nov 2022 16:08:12
-27°12'36"S 25°17'49"E


C
14 Nov 2022 16:05:06
-27°12'34"S 25°17'48"E

Figure 9 Visual representation of the vegetation on the transformed areas where (a) is the north western section of the footprint; (b) is the eastern section of the footprint; (c) is the north eastern section of the footprint.

6.4.3.1.2 Degraded/Semi-Intact disturbed area.

Areas delineated as degraded (Figure 8) are areas that represent some elements of the indigenous vegetation but have important vegetation layers missing. The area does inhabit some indigenous species such as *Mestoklema tuberosum, Aloe greatheadii, Ammocharis coranica, Searsia* sp, but also shows signs of alien invasive species and weed invasion. Alien invasive/weed species on the footprint include *Cynodon dactylon* and *Argemone ochroleuca.* Although the area inhabitats tree species such as *Searsia* sp., and *Vachellia sp,* there is a distinct tree layer (an identifying feature of Schweizer Reneke Bushveld) missing. The aforementioned and the presence of alien invasive/weed species indicates past and present disturbance. This disturbance is likely to be a result of grazing, fire, and general usage by local residents. The area does not represent any conservation value and is unlikely to provide habitat to any Species of Conservation Concern.

Although the area inhabits indigenous vegetation, the area is unlikely to function the same as Schweizer Reneke Bushveld. However, the area has some ecological function given that it could provide some habitat and foraging area for various fauna. The site is unlikely to be a representation of an area of high conservation value. See Figure 10 for a visual representation of the vegetation on the footprint.

Figure 10 Visual representation of the vegetation on the degraded areas where (a) is the western section of the footprint; (b) is the eastern section of the footprint.

6.4.4 Species of conservation concern

6.4.4.1 Plant Species

No species of special concern were identified by the DFFE Screening Tool. No species of special concern were recorded on the footprint. However, the area does represent habitat for the protected tree species, *Vachellia erioloba.*

6.4.4.2 Animal Species

No species of special concern were identified by the DFFE Screening Tool. No species of conservation concern were recorded on the footprint. However, a variety of fauna were recorded on site including *Danaus chrysippus* (Plain Tiger Butterfly), *Zonocerus elegans* (Elegant Grasshopper), and dragonflies (Order: Odonata). Other common species that are likely to inhabit the area are listed in Appendix C. Given that there is potential habitat surrounding the development footprint, any faunal species that inhabits the development footprint, will likely be able to find refuge in the surrounding areas.

6.4.5 Sensitive Areas

The CBA has been classified as being a Critical Corridor Linkage area (CBA_T8) as well as a Corridor (CBA_T7). Therefore, the primary purpose of the sensitive area is to perform the function of a Biodiversity Corridor. Due to the degraded nature of the footprint and small footprint, it is expected that the development will have limited impact on the functioning of the CBA. Fauna movement and seed dispersal of the flora are expected to still occur effectively throughout the CBA should the development take place.

6.4.6 Ecological Importance

The Site Ecological Importance (SEI) of footprint was evaluated as Low and Very Low (Table 5) for each of the habitat units. The aforementioned was determined based on the low biodiversity value and ecological functioning and high recovery rate. .

Table 5 Site Ecological Importance of the different habitat units delineated within the footprint.

Habitat	Conservation Importance	Functional Integrity	Receptor Resilience	Site Ecological Importance
Semi- intact/degraded	**Low**: No confirmed or highly likely populations of Species of Conservation Concern; No confirmed or highly likely populations of range-restricted species; < 50 % of receptor contains natural habitat with limited potential to support SCC	**Medium**: Medium (>5 ha but <20 ha) semi-intact area for any conservation status of ecosystem type or > 20 ha for VU ecosystem types Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches Mostly minor current negative ecological impacts with some major impacts (e.g. established population of alien and invasive flora) and a few signs of minor past disturbance; moderate rehabilitation potential	**Medium**. Will recover slowly (~more than 10 years) to restore > 70 % of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a moderate likelihood of returning to a site once the disturbance or impact has been removed	**Low**. Minimization & restoration mitigation - Development activities of medium to high impact acceptable followed by appropriate restoration activities
Transformed	**Low**: No confirmed or highly likely populations of Species of Conservation Concern; No	**Very Low.** Very small (<1 ha) area No habitat connectivity except for flying species or flora	**High**. Habitat that can recover relatively quickly (~ 5-10 years) to restore > 70 % of the original	**Very Low.** Minimization mitigation - Development activities of medium to high

	confirmed or highly likely populations of range-restricted species; < 50 % of receptor contains natural habitat with limited potential to support SCC	with wind-dispersed seeds. Several major current negative ecological impacts	species composition and functionality of the receptor functionality, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a high likelihood of returning to a site once the disturbance or impact has been removed	impact acceptable and restoration activities may not be required

6.5 Site Sensitivity Verification of the Environmental Themes

The DFFE National Screening Tool Classified the proposed development area as “Very High” sensitivity for the Terrestrial Biodiversity theme and “Low” sensitivity for the Plant Species theme, and “High” for the Animal Species Theme.

Specific areas within the proposed development site have been classified as Critically Biodiverse Areas (CBAs) (Figure 7) as stipulated in the Section 6.4.2. These areas are degraded and do not contribute significantly to the overall functioning of the CBA. Therefore, demarcated sensitive areas are not considered to be of significant conservation value.

With reference to the vegetation description, although the footprint constitutes of the Vulnerable Schweizer Reneke Bushveld, most of the footprint is highly degraded with only select areas having some remnants of the indigenous vegetation type. No Species within the development footprint are homogenous overall and do not contain any species of special concern. The footprint is considered to be of some (albeit limited) ecological importance as it is expected to contribute to the overall ecosystem functioning of the wider area since it can provide habitat to fauna. No species of conservation concern were recorded on the footprint.

The overall proposed development footprint is degraded but does have elements of the indigenous vegetation type. No species of conservation concern were recorded on the footprint and the proposed footprint is not expected to provide habitat to these species. Based on the aforementioned site verification, the development footprint has been confirmed to be classified as “Low” for the Terrestrial Biodiversity Theme and “Low” for the Plant Species Theme, and “Low” for the Animal Species Theme.

6. Impact management outcomes or any monitoring requirements for inclusion in the EMPR

The majority of the study area has already been subjected to disturbance. The list below highlights the key integrated mitigation measures that are applicable to the proposed development to suitably manage and mitigate ecological impacts, on both fauna and flora that are associated with the footprint. Provided that all management and mitigation measures are implemented, as stipulated in this report, the overall risk to floral and faunal diversity, habitat and Species of Conservation Concern can be adequately mitigated and minimised.

- No open fires are allowed on site during operation activities.
- Sufficient fire management equipment must be on the site.
- Smoking must be restricted to designated smoking areas.
- No dumping of sewage or hazardous waste into a terrestrial ecosystem.
- All activities must remain within the designated footprint.
- All areas outside of the footprint must be considered no-go areas.

- Development and access roads should be restricted to already disturbed areas as far as practically possible.
- Alien Invasive Species (AIS) proliferation, which may affect adjacent natural habitat within surrounding areas, needs to be strictly managed adjacent to the footprint area.
- Ongoing AIS monitoring and eradication should take place throughout the operational phase of the expansion, and the footprint perimeters should be regularly checked during the operational phase for AIS proliferation to prevent spread into surrounding natural areas.
- Vehicles use must be restricted to designated roads.
- All staff must be trained to ensure that they are aware of any potential fauna may be on the footprint or surrounds.
- Vehicles must remain within a 30 km/h speed limit to avoid roadkill incidents.
- Should any faunal species need to be translocated, a faunal or avifaunal (in the case of birds) will need to be consulted.
- All personnel, during all phases of the project, must be inducted to ensure that they are aware of the environmental sensitivities on the site.
- No fauna may be caught, trapped or harmed in any way.
- Clearance of vegetation should take place in phases (where practically possible), to increase the chances of smaller faunal species potential occurring in the development footprint, moving into the adjacent area.
- Any indigenous vegetation removed from the footprint should be scattered in adjacent area of recovering natural vegetation, to preserve potential microfauna and invertebrates found in amongst the vegetation.

7. Conclusion

It is anticipated that the oxidation ponds and sewage outflow will have negligible impact on the biodiversity, fauna and botanical features identified by the Screening Tool as most of the footprint is disturbed and degraded and does not contribute significantly to the overall ecological functioning and biodiversity of the area. Most of the indigenous species identified on the footprint are non-threated and non-protected. Any fauna species that utilised the area are expected to be common to the wider and non-threatened and not protected. Should any faunal species have been impacted, individuals would have likely been able to find refuge in the surrounding open space.

Taking into consideration the expected sensitivity of the expansion footprint, sensitive features identified by the Screening Tool, the results from the expected baseline biodiversity and ecosystem of the site, which was verified by a site visit to a reference site, it can be concluded that the expansion footprint is of **low sensitivity** for the Plant Species, Animal Species and Terrestrial Biodiversity Theme. Provided that all the management outcomes are adhered to, this Compliance Statement is considered sufficient to meet the requirements for authorisation under the Plant Species, Animal Species and Terrestrial Biodiversity Theme Minimum requirements.

8. Conditions to which this statement is subjected

- This signed copy of the compliance statement must be read as an appendix to the Basic Assessment Report (BAR) for this project.
- This Compliance Statement is subject to the condition that the information supplied to the specialist regarding the project scope, design, layout, location or any other project specifications will not be significantly deviated from.
- All mitigation measures and requirements as specified in this compliance statement, the BAR and EMPr will adhered to during all project phases.

9. Assumptions, uncertainties, and gaps in knowledge

- All information provided by the Applicant, EAP and design team, to the environmental specialist, was correct and valid at the time that it was provided.
- The results of the botanical and faunal survey reflect a specific time of year. The botanical and faunal survey was conducted during early summer when some of the annual plant species may not be visually present and when certain animal species will either not be present or active.
- The initial study was undertaken as a desktop assessment and as such, the information gathered must be considered with caution, as inaccuracies and data capturing errors are often present within these databases; and,
- Global Positioning System (GPS) technology is inherently inaccurate and some inaccuracies due to the use of handheld GPS instrumentation may occur.

10. References

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13. Appendixes

Appendix A - Specialist and Review Specialist CVs.

Appendix B - List of plant species recorded on the footprint during 9 March 2022.

Appendix C - List of potential faunal species that may inhabit the site based on sightings on the footprint and immediate surrounding area.

Appendix D -. Faunal Survey Report: *Smaug giganteus* (Giant girdled lizards)

APPENDIX A

Curriculum Vitae of specialist

Name:	Megan
Surname:	Smith
Highest qualification:	MSc Biological Sciences (UCT)
South African Association of Botanists	Ordinary member since 2020
Botanical Society of southern Africa	No. 80495
IAIAsa membership	No. 6459
EAPASA membership	2020/2855 (Candidate EAP)
Years' experience conducting botanical/ecological related works in the Cape Floristic Region	>6 years

RELEVANT QUALIFICATIONS AND TRAINING

- MSc Biological Sciences (UCT): Specialising in Plant Ecology
- BSc Hons Botany (NMU)
- BSc Environmental Sciences (NMU)
- Scientific writing training led by Dr Pippin Anderson (August 2019)
- Fynbos plant identification training (July 2019)
- CDM calibration training by Renew Technologies (August 2020)
- ISO 14001:2015 Lead auditor training by SACAS (March 2021)
- Hydropedology and wetland delineation course led by WETrust and digital Soils Africa (September 2021)

WORK EXPERIENCE

- March 2015 – September 2016: Research assistant determining sustainable cultivation practices of Honeybush (*Cyclopia* spp.) at NMU
- March 2019 – April 2020: Restoration Ecology and Conservation Planning intern at SANBI
- March 2019- December 2021: Lead several Fynbos Identification courses for amateur botanists
- April 2020 – current: Environmental consultant and legal assistant at Enviroworks

PUBLISHED ARTICLES:

- Smith, M., Rebelo, A.G. 2020. The Amazing Nature Race. Veld and Flora 106: 16-21.
- Smith, M., Rebelo, A., Rebelo, A.G. 2020. Passive restoration of Critically Endangered Cape Flats Sand Fynbos at lower Tokai Park section of Table Mountain National Park, Cape Town. ReStory
- Smith, M., Rebelo, A., Rebelo, A.G. 2020. Saving Critically Endangered Peninsula Granite Fynbos from extinction at Tokai Park, Cape Town. ReStory.
- Smith, M., Rebelo, A.G. 2020. iNaturalist: your portal into nature and becoming a citizen scientist. African Wildlife and Environment 75.

BASIC ASSESSMENT

- The proposed development of a thirty-five metre (35m) telecommunication base station and associated infrastructure on Portion 42 of Farm 428, Plettenberg Bay, Western Cape Province, SBA Towers South Africa.
- The proposed development of a twenty-five metre (25m) telecommunication base station and associated infrastructure on Lorraine Farm, the Remainder of Farm 790, Phillipi Western Cape Province, SBA Towers South Africa.
- The proposed development of a desalination or reverse osmosis plant, Tormin Mine, Western Cape Province (in progress), Mineral Sands Resources
- Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods (in progress).
- Proposed expansion of the Samrand Data Centre, African Data Centres (in progress).

SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT

- Proposed mixed use development on Farm 820, Caledon (in progress).

WASTE MANAGEMENT LICENSE APPLICATION

- Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods (in progress)

WATER USE LICENSE APPLICATION

- Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods (in progress)

ENVIRONMENTAL MANAGEMENT PLANS

- The proposed development of a thirty-five metre (35m) telecommunication base station and associated infrastructure on Portion 42 of Farm 428, Plettenberg Bay, Western Cape Province, SBA Towers South Africa.
- The proposed development of a twenty-five metre (25m) telecommunication base station and associated infrastructure on Lorraine Farm, the Remainder of Farm 790, Phillipi Western Cape Province, SBA Towers South Africa.
- The proposed development of a desalination or reverse osmosis plant, Tormin Mine, Western Cape Province (in progress), Mineral Sands Resources
- Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods (in progress).
- Proposed development of a protea hotel within the Kruger National Park, Phalaborwa, Limpopo Province, South African National Parks (SANParks) (In progress).
- Proposed development of the Lendlovu Lodge, Addo Elephant Park, Eastern Cape Province, SANParks (in progress).
- Proposed expansion of the Samrand Data Centre, African Data Centres (in progress).

BOTANICAL, FAUNAL, AND TERRESTRIAL IMPACT STUDIES

- Botanical Impact Assessment: Rezoning and the development of fifteen (15) resort units on Portion 12 of the Farm Riet Valley no. 452, Hessequa Local Municipality, Western Cape Province (Faunal Compliance Statement and Botanical Impact Assessment), Hessequa Municipality.

- Botanical survey and delineation of sensitive areas for the proposed development of a six-point three kilometre (6.3km) long pipeline along Macassar Road, Macassar, Cape Town, Western Cape Province, BVi Consulting Engineers Western Cape.
- Botanical, Faunal and Terrestrial Biodiversity Compliance Statement; Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods.
- Protected tree and animal species survey, and compilation of an alien invasion management plan for Ramatlabama Poultry Farm, Mahikeng, Northwest Province, Supreme Poultry (in progress).
- Botanical, Terrestrial and Faunal Compliance Statement; Proposed development of a Battery Energy Storage Facility, Ashton, Western Cape Province.
- Botanical and Faunal Site Sensitivity: Proposed housing development on erven 2244 & 2245; Private Landowner (in progress).
- Botanical, Faunal, and Terrestrial Impact Assessment: Proposed sand mining permit on Erf 656, Schaap Kraal, located in the Wynberg Magisterial District, Atlantic Sands (in progress).

REHABILITATION IMPLEMENTATION PLANS

- Protocols for restoring Critically Endangered Cape Flats Sand Fynbos within lower Tokai Park, Cape Town, South African National Biodiversity Institute)
- Proposed development of a six-point three kilometre (6.3km) long pipeline along Macassar Road, Macassar, Cape Town, Western Cape Province, BVi Consulting Engineers Western Cape.
- Rehabilitation implementation plan and consultation services for Tormin Mine, Western Cape Province, Mineral Sands Resources (in progress)
- Rehabilitation Method Statement for 132 kV and 33 kV transmission lines, transmission substation, cabling line trenches, and access roads on Roggeveld Wind Farm, Western Cape, Raubex Infra.
- October 2021 Rehabilitation progress report: 132 kV and 33 kV tranmission lines, transmission substation, cabling line trenches, and access roads on Roggeveld Wind Farm, Western Cape, Raubex Infra.
- Reseeding Method Statement: 132 kV and 33 kV tranmission lines, transmission substation, cabling line trenches, and access roads on Roggeveld Wind Farm, Western Cape, Raubex Infra.
- November 2021 Rehabilitation progress report :132 kV transmission line, Roggeveld Wind Farm, Western Cape, Raubex Infra.
- March 2022 Rehabilitation progress report :132 kV transmission line and substation, Roggeveld Wind Farm, Western Cape, Raubex Infra.
- Reseeding training: Roggeveld Wind Farm, Western Cape, Raubex Infra.

WETLAND DELINEATIONNAD S(C) &(I) RISK MATRICES

- Residential development on portion 205 of Farm 559, Hangklip, Western Cape Province, private landowner.
- Proposed development of a community hall and associated parking lot on erven 4978 & erven 4979 on a portion of Portion 6 of the Remaining Extent (Re) of the Farm Selosesha Townlands No. 900, Thaba ‘Nchu, Free State Province, Mission Point (in progress)

ENVIRONMENTAL CONTROL OFFICER (ECO) AND AUDITING

- Environmental Control Officer: The proposed development of a backup energy centre including diesel storage and generators, on Erf 142504, Diep River, Cape Town, Western Cape Province, African Data Centres.

- The proposed construction of new and rehabilitation of existing non-motorised transport facilities in the Cape Town CBD, Western Cape Province, BVi Consulting Engineers Western Cape.
- Environmental Compliance Audit for Franki Africa Stock Yard, Durban, KwaZulu Natal Province, Franki Africa.
- The proposed development of a twenty-five metre (25m) telecommunication base station and associated infrastructure on Lorraine Farm, the Remainder of Farm 790, Phillipi Western Cape Province, SBA Towers South Africa
- The proposed maintenance of the Blue Stone Quarry Wall, Robben Island, Robben Island Museum.

MAINTENANCE MANAGEMENT PLANS

- The proposed maintenance of the Blue Stone Quarry Wall, Robben Island, Robben Island Museum.
- Proposed erosion control measures for road OP06914 on Swartvlei Lake, Sedgefield, Garden Route District Municipality.

ENVIRONMENTAL SCREENING

- Proposed upgrading of the Durbanville Public Transport Interchange, Western Cape, BVi Consulting Engineers Western Cape.
- Proposed the upgrade on national road R40 section from Hazyview (km 0.0) to Maviljan (km 32.1), BVi Consulting Engineers Western Cape.
- Proposed development of a data centre in Tatu City, Kenya, Africa Data Centre (in Progress)
- Proposed construction of a back-up data energy centre on Erf 33, Atlantic Hills Business Park, Durbanville, Africa Data Centre
- Proposed development of a data centre in Grand Bassam, Côte D'ivoire, Africa Data Centre (in progress)

ALIEN INVASIVE SPECIES MANAGEMENT PLANS

- Invasive species monitoring, control and eradication plan, Garden Route District Municipality, Western Cape Province, Garden Route District Municipality.
- Rehabilitation implementation plan and consultation services for Tormin Mine, Western Cape Province, Mineral Sands Resources (in progress)
- Protected tree and animal species survey, and compilation of an alien invasion management plan for Ramatlabama Poultry Farm, Mahikeng, Northwest Province, Supreme Poultry (in progress).

CLEAN DEVELOPMENT MECHANISM

- Calibration and advisory services for the CDM Methane Burning Plant at the Coastal Park and Bellville South Landfill Sites, Promethium Carbon (in progress)

Curriculum Vitae of review specialist

Curriculum Vitae

I worked as an environmental consultant for the past 14 years and since December 2019 have been self-employed as a botanical, agricultural and soil specialist. I have a BSc Hons in Geology, an MSc in Botany and is currently completing a PhD in Botany/Soil science. I have experience in project management and have led numerous EIAs in the Eastern Cape, Northern Cape, Gauteng, Mpumalanga, and North West Provinces. My projects include SANRAL road projects, renewable energy developments, mining applications (quarries and BPs), mixed-use developments and numerous smaller infrastructure EIAs. My largest project was a multi-million Rand Special Economic Zone (SEZ) development in Upington, Northern Cape. Before studying I worked as a financial advisor for ABSA Bank for 9 years and have 3 years high school mathematics and science teaching experience.

Personal Details

Name	Roy de Kock
Identification number	7606 2205 3202 082
Current address	31 Aster Avenue, Sunridge Park, Port Elizabeth, Eastern Cape, South Africa
Email	roy@blueleafenviro.co.za
Contact number	+27 76 281 9660
Driver's license	Code 08 (EB)
Language competencies	English (excellent verbal and writing) Afrikaans (excellent verbal and writing)

Education

Qualification	Institution	Year
PhD Botany and Soil Science	Nelson Mandela University	Current
MSc Botany	Nelson Mandela University	2010
BSc (Hons.) Geology	Nelson Mandela University	2008
BSc Botany & Geology	Nelson Mandela University	2007
Diploma in Marketing	University of Witwatersrand	2003

Skill Highlights

Project Management and Environmental Consulting	– Extensive experience in project management and have led numerous projects of various scales throughout South Africa. – Managed over 200 projects over an 11-year period. – Managed up to 15 projects at a single time.

	– My projects included SANRAL road projects, renewable energy developments, mining applications (quarries and BPs), mixed-use developments and numerous smaller infrastructure EIAs. – My largest project was a multi-million Rand Special Economic Zone development in Upington, Northern Cape. – Experience in conservation management and have developed various management plans for protected areas within the Eastern Cape and Gauteng.
Environmental Legislation	I have extensive experience in interpreting and applying the following International, National, Provincial legislation: International: – IFC Performance Standards – Equator Principles National: – National Environmental Management Act – National Environmental Management Act (EIA Regulations) – National Environmental Management Waste Act – National Environmental Management Air Quality Act – National Environmental Management Biodiversity Act – National Environmental Management Protected Areas Act – National Water Act – National Forestry Act – Conservation of Agricultural Resources Act **Provincial** I am well versed in provincial environmental legislation and regulations in the following provinces: – Gauteng – Western Cape – Eastern Cape – Northern Cape – North West – Mpumalanga
Specialist consulting	– Worked as a specialist for the last 11 years while managing projects. – Self-employed as a botanical and soil specialist since January 2020. – SACNASP registered as a Professional Natural Scientist. – Written over 50 botanical, ecological and biodiversity assessments.

	– Done over 25 agricultural and soil assessments for numerous mining (and other) EIAs throughout SA and Mozambique and even have experience drafting rehabilitation and closure plans for large mines (graphite, REEs, Iron). – In the last 2-3 years I have started drafting wetland and river assessments – Drafted a few visual assessments throughout the years. – Done numerous Water Use Licences for a variety of cliens including farmers, contractors and developers
Finance	– 9 years working experience as a financial advisor for ABSA Bank. – Consulted commercial clients to assist in cash flow issues – Done retail consulting for small businesses and private individuals
Teaching	– 3 years' experience in teaching Mathematics, Science, Biology and Geography to High School grades. – 1-year experience in teaching advance mathematics as an online course to Secondary School grades.
Environmental Auditing	– Drafted over 100 environmental and safety protocols for various developers throughout South Africa – Implemented and audited numerous environmental and safety protocols during all phases of development (Planning, construction, operations, decommissioning and closure) – Drafted numerous Environmental and Social Management Systems (ESMS) for international clients – Audited various ESMS's throughout South Africa

Work Experience

Environmental and Soil Consultant
BlueLeaf Environmental (Pty) Ltd – 12/2019 to current

- Conducting specialist studies for various projects in South Africa including:
  - Ecological assessments
  - Biodiversity studies
  - Agricultural and Soil assessments
  - Aquatic assessments
  - Visual assessments
- Water Use Licensing (abstraction, borehole, bridges & culverts)

- Plant and animal relocation permits (National and Provincial)
- Plant and animal Search and Rescue.
- Environmental Risk Assessments
- Mine Rehabilitation and Closure Plans

Principal Environmental Consultant
Employer: CES Environmental and Social Advisory Services, East London, Eastern Cape - 04/2010 to 12/2019

- Managed numerous projects of various sizes including budget management, client liaison, timeframe targets, managing junior consultants and sub-consultants.
- Prepared environmental impact assessment (EIA) reports in terms of relevant EIA legislation and regulations for development proposals including: Infrastructure projects: bulk water and waste water, roads, electrical, mining, ports, aquaculture, renewable energy (solar and wind), industrial processes, housing developments, golf estates and resorts, etc.
- Projects have also included preparation of applications in in terms of other statutory requirements, such as water-use and mining license /permit applications.

Feasibility assessments
- Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, infrastructure projects, etc.

Specialist studies
- Conducting specialist studies for various projects in both South Africa and the rest of Africa (Mozambique, Madagascar, Zambia, Malawi) including:
  - Ecological assessments
  - Agricultural and Soil assessments
  - Aquatic assessments
  - Water Use Licensing (abstraction, borehole, bridges & culverts)
  - Plant and animal relocation permits (National and Provincial), and
  - Plant and animal Search and Rescue.

Laboratory technician
Nelson Mandela University (Faculties of Botany, Zoology and Biochemistry, Port Elizabeth, Eastern Cape – 02/2009 to 03/2010

Assisting students and postgraduates in receiving, labeling, and analyzing samples, design, set-up and conducting of experiments. Designing and executing laboratory testing according standard procedures. General laboratory maintenance of equipment including calibrations, glassware, and chemicals.

School Teacher
Hananja Private School, Jeffreys Bay, Eastern Cape – 01/2007 to 12/2009
Private online tutor East London, Eastern Cape – 01/2020 to current

Teaching Grades 8 to 12 Mathematics, Geography, Biology and Science.
Online teaching Advanced Mathematics and Science Grades 4-7 (2019-current)
Financial Advisor
ABSA Bank Florida, Gauteng – 02/1995 to 12/2003

Assisting clients to determine their expenses, income, insurance coverage, financial objectives, tax status, risk tolerance, or other information needed to develop a financial plan. Answering client questions about financial plans and strategies and giving financial advice. Also worked as:

- Bankteller
- Enquiries clerk
- Administrative assistant
- Treasurer
- Retail sales consultant

Professional Registrations

- SACNASP – Registered as a professional natural scientist (Ref 400216/16)
- IAIASa – Registered as an environmental practitioner
- SAAB – South African Association of Botanists
- LaRSSA – Land Rehabilitation Society of South Africa

APPENDIX B

Plant species recorded on the development footprint are listed in Table 6.

Table 6 Plant species recorded on the proposed development footprint on 18 November 2022

Species name	Habitat Unit	Common name	Family	Redlist status	Protected Status	Alien Invasive Species Category
Argemone ochroleuca	Transformed	Mexican Poppy	PAPAVERACEAE	N/A	Not Protected	1b
Gomphocarpus fruticosus	Transformed	Wild Cotton	APOCYNACEAE	Least Concern	Not Protected	N/A
Mestoklema tuberosum	Degraded	Donkey Fig	AIZOAZEAE	Least Concern	Not Protected	N/A
Aloe greatheadii	Degraded	Spotted Aloe	ASPHODELACEAE	Least Concern	Not Protected	N/A
Ammocharis coranica	Degraded	Karoo Lily	AMARYLLIDACEAE	Least Concern	Not Protected	N/A
Ruschia ruralis	Degraded	N/A	FABACEAE	Least Concern	Not Protected	N/A
Pterodiscus sp.	Degraded	N/A	PEDALIACEAE	N/A	Provincially Protected	N/A
Schoenolirion croceum	Degraded	Yellow Sunnybell	ASPARAGACEAE	Least Concern	Not Protected	N/A
Cirsium vulgare	Transformed	Spear Thistle	ASTERACEAE	N/A	Not Protected	1b
Vachellia sp.	Degraded	N/B	FABACEAE	N/A	Not Protected	N/A
Pseudognaphalium sp.	Transformed	Cutweed	ASTERACEAE	Least Concern	Not Protected	N/A
Searsia sp.	Degraded	N/A	ANACARDIOIDEAE	N/A	Not Protected	N/A

Cynodon dactylon	Transformed	Quick Grass	POACEAE	Least Concern	Not Protected	N/A
Chrysocoma sp.	Degraded/transformed	N/A	ASTERACEAE	N/A	Not Protected	N/A
Wahlenbergia undulata	Degraded	African bluebell	CAMPANULACEAE	Least Concern	Not Protected	N/A
Gazania Sp.	Transformed	N/A	ASTERACEAE	N/A	Not Protected	N/A
Avena fatua	Transformed	Wild Oat	POACEAE	Least Concern	Not Protected	N/A

APPENDIX C

Animal species that are likely to occur on the footprint are listed in Table 7.

Table 7 Animal species likely to be found on the proposed development footprint (which have also been recorded on the footprint or surrounding area)

Species name	IUCN threat status	Protected Status
Reptiles and amphibians		
Stigmochelys pardalis	Least Concern	Not protected
Bitis arietans	Least Concern	Not protected
Pachydactylus capensis	Least Concern	Not protected
Boaedon capensis	Least Concern	Not protected
Chamaeleo dilepis	Least Concern	Not protected
Varanus albigularis	Least Concern	Not protected
Agama aculeata	Least Concern	Not protected
Pseudaspis cana	Least Concern	Not protected
Dasypeltis scabra	Least Concern	Not protected
Naja nivea	Least Concern	Not protected
Pedioplanis inornata	Least Concern	Not protected
Heliobolus lugubris	Least Concern	Not protected
Hemidactylus mabouia	Least Concern	Not protected
Psammobates oculifer	Least Concern	Not protected
Pedioplanis lineoocellata	Least Concern	Not protected
Psammophylax tritaeniatus	Least Concern	Not protected
Chismaderma carens	Least Concern	Not protected
Kassina senegalensis	Least Concern	Not protected
Cacosternum boettgeri	Least Concern	Not protected
Tomopterna tandyi	Least Concern	Not protected
Sclerophrys poweri	Least Concern	Not protected
Pyxicephalus adspersus	Least Concern	Not protected
Xenopus laevis	Least Concern	Not protected
Sclerophrys garmani	Least Concern	Not protected
Sclerophrys capensis	Least Concern	Not protected
Amietia delalandii	Least Concern	Not protected
Mammals		
Cynictis penicillata	Least Concern	Not protected
Geosciurus inauris	Least Concern	Not protected
Oryx gazella	Least Concern	Not protected
Antidorcas marsupialis	Least Concern	Not protected
Redunca arundinum	Least Concern	Not protected
Equus quagga	Least Concern	Not protected
Aonyx capensis	Least Concern	Not protected
Suricata suricatta	Least Concern	Not protected
Leptailurus serval	Least Concern	Not protected
Aepyceros melampus	Least Concern	Not protected

Raphicerus campestris	Least Concern	Not protected
Mus indutus	Least Concern	Not protected
Mastomys coucha	Least Concern	Not protected
Herpestes sanguineus	Least Concern	Not protected
Hydrictis maculicollis	Least Concern	Not protected
Genetta felina	Least Concern	Not protected
Insects and Arachnids		
Astylus atromaculatus	Least Concern	Not protected
Lycus rostratus	Least Concern	Not protected
Stegodyphus dumicola	Least Concern	Not protected
Opistophthalmus plurid	Least Concern	Not protected
Quamtana hectori	Least Concern	Not protected
Araneus apricus	Least Concern	Not protected
Thyene natalii	Least Concern	Not protected
Hersilia setifrons	Least Concern	Not protected
Monaeses austrinus	Least Concern	Not protected
Uloborus plumipes	Least Concern	Not protected
Uroplectes triangulifer	Least Concern	Not protected
Parabuthus granulatus	Least Concern	Not protected
Uroplectes carinatus	Least Concern	Not protected
Thyene bucculenta	Least Concern	Not protected
Latrodectus renivulvatus	Least Concern	Not protected
Euophrys leipoldti	Least Concern	Not protected
Ibala bulawayensis	Least Concern	Not protected
Pterotricha auris	Least Concern	Not protected
Badumna longinqua	Least Concern	Not protected
Argiope lobata	Least Concern	Not protected
Argiope australis	Least Concern	Not protected
Neoscona subfusca	Least Concern	Not protected
Hewittia gracilis	Least Concern	Not protected
Neoscona triangula	Least Concern	Not protected
Heliophanus charlesi	Least Concern	Not protected
Hogna spenceri	Least Concern	Not protected
Tibellus minor	Least Concern	Not protected
Tetragnatha bogotensis	Least Concern	Not protected
Tidarren cuneolatum	Least Concern	Not protected
Zographus plicaticollis	Least Concern	Not protected
Danaus chrysippus	Least Concern	Not protected
Hycleus oculatus	Least Concern	Not protected
Ceroplesis ferrugator	Least Concern	Not protected
Acherontia atropos	Least Concern	Not protected
Phymateus viridipes	Least Concern	Not protected
Pycnopsis brachyptera	Least Concern	Not protected
Acanthoplus discoidalis	Least Concern	Not protected

Pachylomera femoralis	Least Concern	Not protected
Zonocerus elegans	Least Concern	Not protected
Cyligramma latona	Least Concern	Not protected
Gonimbrasia belina	Least Concern	Not protected
Belenois aurota	Least Concern	Not protected
Calidea dregii	Least Concern	Not protected
Anthia cinctipennis	Least Concern	Not protected
Tithoes confinis	Least Concern	Not protected
Astylus atromaculatus	Least Concern	Not protected
Popa spurca	Least Concern	Not protected
Crossotus stypticus	Least Concern	Not protected
Oncopeltus famelicus	Least Concern	Not protected
Eristalis tenax	Least Concern	Not protected
Vanessa cardui	Least Concern	Not protected
Acanthoplus discoidalis	Least Concern	Not protected
Africallagma glaucum	Least Concern	Not protected
Hyles livornica	Least Concern	Not protected
Pontia helice	Least Concern	Not protected
Messor striatifrons	Least Concern	Not protected